SAP Audit Management

SAP

Time Management

POWERED BY SAP HANA

**A Business and Technical
Roadmap to Deploying SAP**

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INTRODUCTION

This book provides system architects, technical consultants, and IT management the tools to design system architectures to deploy SAP applications on SAP HANA. Explore production and non-production systems, deployment options, backup and recovery, data replication, high-availability, and virtualization in detail. Dive into on-premise deployment options and data provisioning scenarios. Walk through scale-up and scale-out options and data partitioning considerations. Review the advantages and disadvantages of storage and system replication options and when to use each. Clarify how to leverage HANA for single node and distributed systems. Dive into a discussion on software and hardware virtualization.

31 Time Management

In this section, you make the settings for Time Management.

Note:

Time Management is used in various components of Personnel Administration.
It is advisable to set up the entire Personnel Administration application before implementing Time Management. The following steps are particulary important: *Environment*, *Personal data* and *Organizational data*.

31.1 Work Schedules

In this section, you make the settings required for creating work schedules in your enterprise. Work schedules are shift schedules which must be generated for all employees, even those with a set working time (salaried employees) or flextime. Elements of the work schedule include daily work schedules, period work schedules, and work schedule rules.

31.1.1 Define Public Holiday Classes

In this step, you assign public holiday classes to the holidays defined in the public holiday calendar.

Example

In your collective agreement, the holiday bonus for Labor Day is higher than the bonus for Independence Day. Assign the public holiday class "1" to Labor Day and "3" to Independence Day.

Requirements

You have defined public holiday calendars.

Standard settings

In the standard SAP system, the public holiday class "1" is assigned to all public holidays except for Christmas Eve and New Year's Eve. These days are assigned public holiday class "2".

Recommendation

- Assign holiday classes to your public holidays.

- Use public holiday class "2" for Christmas Eve and New Year's Eve if you do not want these days to be processed in the same way as other public holidays.

Activities

1. Define the public holiday classes for your public holidays.

2. Call the "Change public holidays" function.

3. Select the public holiday you want to change, and choose the "Change" function.

4. On the second screen, enter the required public holiday class, and save your entry.

5. Finally, generate all your public holiday calendars.

Further notes

Changes in the public holiday calendar are not client-specific. The authorization for maintaining public holidays should not be assigned to all administrators.

If you have generated work schedules before making changes to the public holiday calendar, you must generate the work schedules again.

Public holiday classes are used only in the HR module (Personnel Administration). They are required for payroll, wage type generation, absence counting, day types, and for the rules for daily work schedule variants.

The public holiday calendar is not updated automatically when you make changes to the Customizing settings. All changes made within the public holiday calendar must be transported manually. Use your own transport connection.

In the initial screen of the public holiday calendar, choose **Calendar -> Transport** to include all the public holiday calendar data in one transport request.

Take note of the information you receive when the public holiday calendar is transported.

31.1.2 Personnel Subarea Groupings

You can use personnel subarea groupings to group your employees for work schedule rules.

31.1.2.1 Group Personnel Subareas for the Work Schedule

In this step, you group your personnel areas and personnel subareas for work schedules.

Example

In your company, personnel subareas 0001 and 0002 work according to the same work schedule rules and are both assigned the grouping 01. Personnel subarea 0003 has totally different conditions for the work schedule rule and is therefore assigned the grouping 02.

Requirements

You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains examples for grouping 01 for work schedules.

Recommendation

1. Always use grouping 01 for work schedules when first setting up your system.

2. Set up other groupings for work schedules once you have tested time data for grouping 01 for work schedules.

Activities

1. Assign grouping 01 for work schedules to your personnel areas or subareas.

2. If necessary, you can assign your personnel areas and subareas different groupings for work schedules at a later stage.

31.1.2.2 Group Personnel Subareas for the Daily Work Schedule

In this step, you assign a personnel area grouping for daily work schedules to a personnel area grouping for work schedules.

Example

Employees in personnel areas 0001 and 0002 have been assigned to personnel subarea grouping for work schedules 01. Employees in personnel area 0003 have been assigned to grouping 02. All three personnel areas are to use the same daily work schedules. You therefore assign personnel subarea grouping for daily work schedules 01 to personnel subarea groupings for work schedules 01 and 02.

Requirements

You have maintained the personnel subarea grouping for work schedules.

Standard settings

The examples in the standard SAP system represent a 1:1 relationship.

Recommendation

1. Assign personnel subarea grouping for daily work schedules 01 to personnel subarea grouping for work schedules 01.

2. Initially, always use personnel subarea grouping for daily work schedules 01 for Personnel Administration in the following steps.

3. After you have tested the time data, you can assign further groupings (other than 01) if necessary.

Activities

1. Check SAP's reference entries and do not change them for the first step.

2. You can specify new assignments later, if necessary.

Further notes

The personnel subarea grouping for daily work schedules (initially 01) which you assign at this point is also used in the subsequent steps.

31.1.3 Daily Work Schedules

The daily work schedule represents the actual working time for a particular employee on a given day. It can differ from the employee's agreed daily working time stipulated in the work contract or collective agreement.

In the following steps, you set up daily work schedules.

31.1.3.1 Define Break Schedules

In this step, you define work work break schedules for your enterprise. You can specify exactly when breaks may be taken within the daily work schedule, and whether they are paid or unpaid.

Example

One day shift has a coffee break from 9:00 to 9:15 a.m. and a lunch break from 12:30 to 1:00 p.m. (work break schedule DAY1). Another shift has a coffee break from 9:15 to 9:30 a.m. (from/to) and a 30-minute lunch break which may be taken between 12:00 noon and 1:30p.m. (break periods are specified in industry minutes). This would be work break schedule DAY2.

Requirements

- You have maintained the personnel subarea grouping for work schedules.

- You have maintained the grouping for daily work schedules.

Standard settings

The standard SAP System contains a number of sample work break schedules.

Recommendation

Use the SAP sample entries as a reference.

Activities

1. Check the standard work break schedules.

2. Create new work break schedules if necessary.

   a) Assign your work break schedules to grouping 01 for daily work schedules.

   b) Enter the name of your work break schedule in the *Work break schedule* field.

   c) Assign as many planned working time breaks as you wish to your break schedule, and a maximum of four overtime breaks, and number them sequentially.

   d) Enter the start and end times of the break in the fields provided.

   e) Specify the break duration for each break type in the *Unpaid break period* or *Paid break period* fields (in industry minutes).

   f) Use the *P* field to indicate breaks after 12 midnight during night shifts.

   g) If the break does not have to be taken at a specific time but after x hours of work, enter the number of hours in *After hrs.* The *Start* and *End* fields remain empty in this case. In the standard system, the start of planned working time is taken as the starting point for calculating dynamic breaks. You can change this in time evaluation.

   h) If you only want selected breaks to be processed in time evaluation, enter an indicator of your choice in the *Type 1* or
   Type 2 field. Use operation TFLAG to specify which breaks should be taken into account in time evaluation, according to the entries in the *Type 1* and *Type 2* fields.

   i) Enter "0" in field *Type 1* for breaks outside of planned working

time which you want the system to propose as default values when an *Overtime* (2005) record is created.

Further notes

- You can assign a work break schedule to several daily work schedules.

- If you change a break schedule after it has been assigned to daily work schedules, you must *revaluate* the daily work schedules in most cases.

31.1.3.2 Define Rules for Variants

In this step, you can define rules for daily work schedules. The rules allow you to stipulate that a variant of the daily work schedule should apply on certain days. Taking the following parameters into account, you can set up rules for daily work schedule variants:

- The public holiday class of the current day

- The public holiday class of the next day

- weekday

Example

A number of employees in your enterprise work Monday through Thursday from 8 a.m. to 4.45 p.m., and from 8 a.m. to 2 p.m. on Fridays. The daily work schedule for Fridays is derived using the daily work schedule selection rule 01 with variant A.

Requirements

Check whether there are exceptions to the normal daily working times on certain days, and how these exceptions can be depicted in rules.

Standard settings

The standard SAP system contains several examples of daily work schedule selection rules which use specific daily work schedule variants depending on public holidays and the weekday.

Recommendation

SAP recommends that you create daily work schedule selection rules if there are exceptions to the normal daily work schedule on public holidays, on days which follow a public holiday, or on certain days of the week.

Activities

1. Check the existing daily work schedule selection rules.

2. Create additional rules if necessary.

   a) Enter an identifier (numeric or alphanumeric) in the *Daily work schedule selection rule* field.
   The rules are assigned to a daily work schedule via the *Daily work schedule selection rule* field. You can use the same rules for a number of different daily work schedules.

   b) You can use the sequential number to assign several conditions for different daily work schedule variants to a selection rule.

   c) In the *Holiday class* and *Holiday class subsequent day* fields, enter an X under the relevant item for the public holiday class to indicate whether a certain variant is to apply on these days. Note the information in the field help.

   d) If your variant should only be valid on certain days of the week, indicate this by entering an X in the *Weekday* field. The positions 1 through 7 stand for Monday through Sunday.

   e) Enter the name of the variant to which the rule applies (e.g. A) in the *Variant* field.

Further notes

If you have defined rules for the variants A and B, for example, you must create daily work schedules with variants A and B. The variants define working times which are not the same as in the normal daily work schedule.

31.1.3.3 Define Daily Work Schedules

In this step, you define daily work schedules for your enterprise. By entering the planned working time, the system calculates the planned planned hours for one day, taking the break schedule into consideration.

You also define daily work schedules for availability in this step. For more information, see Determine Daily Work Schedules for Availability.

Example

- Employees in your enterprise who work the day shift on Monday work from 8:00 a.m. to 4:45 p.m. The work break schedule includes a 45-minute break. Thus, the resulting number of planned working hours for this day 8 (basic variant of the daily work schedule). You call this daily work schedule DAY1. On Friday, the same day shift only works from 8:00 a.m. to 2:30 p.m., including a 30-minute break. The work schedule for Friday is a variant of the daily work schedule DAY1. Call this daily work schedule DAY with variant A.

- Different wage types should be generated for daily work schedules that define a rotating shift. Group together the daily work schedules defining a rotating shift to the same daily work schedule class.

Requirements

- You have created work break schedules.

- You have set the Grouping for the Daily Work Schedule.

Standard settings

The standard SAP System contains a number of sample daily work schedules including those for rotating shifts and flextime.

Recommendation

- Use the SAP sample daily work schedules as your base, and call up online help for assistance with any of the individual fields.

- If you intend to use time evaluation, it is advisable to assign the same daily work schedule class to daily work schedules that you want to process similarly.

Activities

1. Copy a suitable daily work schedule from the SAP samples.

2. Change the copied daily work schedule to reflect your desired daily working time.

3. Enter a Personnel subarea grouping for daily work schedules.

4. In the *Daily work schedule* field, enter the following data:

   - ID for the daily work schedule

   - Name of a variant if the daily work schedule is a variant of an existing one

- Applicable name for the daily work schedule

5. In the *Planned working hours* field, enter the working time that an employee has to work each day.
   By entering the working time, the planned working hours are calculated by the system. Paid break times are added and unpaid breaks are deducted.

6. Select the *Planned working hours = 0* field if this daily work schedule reflects a non-working day.

7. If you want to create a basic variant of a daily work schedule, you can enter a rule number or name for a daily work schedule selection rule in the *Daily work schedule selection rule* field, from which the daily work schedule variants are determined.

8. Enter the desired working time using one of the following definitions of working time:

   a) Fixed working time

   b) Flextime

   - Enter the times you want to use to calculate the planned working hours in the *Normal working time* field. No entries should be made here for other daily work schedules.

   - Enter up to two core times in the *Core time 1* and *Core time 2* fields.

   c) Breaks

   - In the *Work break schedule* field, enter the break schedule containing your desired break times.

   d) Tolerance times

   - In the *Start of tolerance* and *End of tolerance* fields, enter the tolerance times if postings within a given tolerance timeframe should be adjusted to the start or end of planned working time in time evaluation.

9. Enter a *valuation*.
   You can use the *Minimum working time*, *Maximum working time*, *Compensation time* and *Additional hours* fields in the personnel calculation rules in time evaluation.

10. Classify the daily work schedule for time wage type selection or time evaluation using a value from 0-9.
    Based on the work schedule class, you can then specify special regulations in time wage type selection or time evaluation.

11. Select the *Automatic overtime* if you want working time that exceeds the specified planned working time to be valuated as overtime in time evaluation. The personnel calculation rule T015 calculates overtime in time evaluation.

12. If you use the *Overtime* infotype (2005), you can use the *Reaction to overtime* and *Reaction to overtime in core time* fields to set reaction indicators for flextime daily work schedules.

Further notes

- You only need to use the use the *Normal working time* and following fields if you run time evaluation and want to set up a flextime model. If this is the case, then enter a working time

frame in the *Planned working time* field and the standard working time in the *Normal working time* field.

- First specify the basic variant of a daily work schedule, by leaving the *Daily work schedule variant* field blank and then entering the name or number of a rule in the *Daily work schedule selection* field. If the daily work schedule is a variant of an existing one, enter the name of the variant (such as "A") in the **Daily work schedule variant** field. Make sure you use the variant names that are defined in the following step by the daily work schedule selection rules.

- The *Maximum working time*, *Compensation time*, and *Additional hours* fields are not used in the standard SAP System.

- Set the Grouping for the Daily Work Schedule to specify the daily work schedule for a certain personnel subarea grouping.

31.1.4 Period Work Schedules

A period work schedule is made up of a sequence of daily work schedules over a defined period.

Period work schedules can extend over one week, several weeks, or a period that is not divisible by seven.

31.1.4.1 Define Period Work Schedules

In this step, you create period work schedules by specifying the sequence of daily work schedules for a work schedule for one or more weeks.

Example

Employees on a certain shift work the first week from Monday through Friday from 8.00 a.m. to 4.45 p.m. (daily work schedule DAY1 for the first week of the period work schedule from 01 to 05 (Monday through Friday), daily work schedule OFF for 06 and 07 (Saturday and Sunday)). In the second week, they work from Monday to Friday from 2 p.m. to 9.45 p.m. (daily work schedule LATE 01 to 05, and daily work schedule OFF from 06 to 07 in the second week of the period work schedule).

Requirements

- You have defined personnel subarea groupings for work schedules.

- You have defined personnel subarea groupings for daily work schedules.

- You have created daily work schedules.

Standard settings

The standard SAP system contains a number of sample period work schedules for simple day shifts and rotating shifts.

Use SAP's sample entries as a reference.

Activities

1. Check SAP's sample entries.

2. Create period work schedules for your company.

   a) Enter 01 for the personnel subarea grouping for daily work schedules.

   b) Enter a name and a long text for the period work schedule.

   c) Enter the number of the week in the *Week number* field. Number the weeks sequentially if the period work schedule is for several weeks.

   d) Enter the names of your daily work schedules in the *01* to *07* fields (e.g. daily work schedule DAY1 under 01). The nubers 01 to 07 stand for Monday to Sunday.

Further notes

- If the number of days in a period is not divisible by seven, indicate the end of the period by entering * in the relevant column for daily work schedules.

- If you create additional period work schedules at a later stage, please define the counting class for valuating absences.
  If you use the SAP time evaluation or payroll components, you should also define the valuation class of the period work schedule for wage type generation.

31.1.5 Day Types

The day type determines the following for each day of the work schedule, regardless of the daily work schedule

1. the payment relevance for a day

2. the relevancy of the day for calculating attendances.

31.1.5.1 Define Day Types

In this step, you define the meaning of the individual day types. The day type determines the influence on payment and also the relevance of the day for calculating attendance times. It is therefore also used in Absence Counting and to determine wage types.

Example

In your enterprise, all holidays assigned public holiday classes 1 and 3 are paid days off. These public holidays are allocated day type 1 which means "off/paid". Public holidays with class 4 are unpaid days off. These public holidays are assigned day type 2 which means "off/unpaid".

Standard settings

The standard SAP system contains four sample day types.

Recommendation

Use SAP's definitions for day types and do not change them, because these day types are used by personnel calculation rules and for time evaluation and payroll in the standard system.

Activities

1. Familiarize yourself with the sample entries.

2. Create new entries if required.

Further notes

All day types which are not "blank" are days off. You define the payment modalities for all day types in payroll or time evaluation.

31.1.5.2 Define Selection Rules

In this step, you set rules according to the public holiday class to specify which day types should be assigned to public holidays on weekdays and public holidays on weekends.

Example

Certain employee groups in your enterprise have to work on holidays on weekdays if the public holiday class is 1, and other groups have the day off. Both groups are paid for the public holiday. You can use the *selection rule for day types* to differentiate between the two groups.

Requirements

Check how many different rules there are in your enterprise for working on public holidays and for the payment of public holidays.

Standard settings

The standard SAP system contains several sample day type rules.

Recommendation

Use the sample entries included in the standard system as a reference.

Activities

1. Check the sample entries in the standard system.

2. If you create new rules, create new selection rules for day types.

3. Make an entry in the *Holiday/weekday* field. For each public holiday class, you must specify which day type should be assigned to public holidays on workdays.

    The following day types and public holiday classes are defined in the standard system:

    Day type blank = Work/paid
    Day type 1   = Off/paid
    Day type 2   = Off/unpaid
    Day type 3   = Special day

    Public holiday class blank = Not a public holiday

    Public holiday class 1   = Public holiday

4. In the *Holiday/Saturday* and *Holiday/Sunday* fields, you can define day types for public holidays on Saturdays or Sundays.

Further notes

-   The *selection rule for day types* should be stored in the corresponding work schedule rule.

-   Day types for special days have higher priority than day types based on the above rules.

31.1.5.3 Define Special Days

In this step, you can assign day types to special days or bridge days on a fixed date.

By assigning a special day type to a particular day, you can define special days on which employees do not have to work for individual work schedules or individual employee groupings and personnel subarea groupings.

You can create a link to one or more work schedule rules/work schedules by means of a link between a special day and a selection rule for day types.

Example

July 5th, 1996, is a bridge day in your personnel subarea 0001. All employees should have the day off.

Standard settings

The standard SAP system contains an example for "special days".

Recommendation

Use day type 3 for special days.

Activities

1. Obtain an overview of all special days in your enterprise (bridge days, for example).

2. For each selection rule for day types, enter a date for the special day(s) (if you want to use this functionality).

Further notes

You should specify how special days are to be remunerated in payroll.

The selection rule for day types is stored in the work schedule rule.

31.1.6 Work Schedule Rules and Work Schedules

A work schedule rule is a precise description of the work schedule that specifies the working times of a group of employees.

A work schedule rule is assigned a period work schedule, which in turn is made up of daily work schedules. Rotating shifts are set up by assigning a period work schedule to several work schedule rules.

Work schedules are not stored all at once, but stored for each month. The work schedule is created regardless of the length of the period work schedule and is not person-specific.

31.1.6.1 Define Employee Subgroup Groupings

The employee subgroup grouping for work schedules allows you to group several employee subgroups and base their work schedules on the same rules.

Example

The employee subgroup "Monthly wage earners" is assigned the work schedule rule "early" for the early shift. "Hourly wage earners" work according to the same rules for the work schedule. Both employee subgroups belong to grouping 1 for work schedules.

Requirements

You must first create employee groups in the Maintain employee group step.

You must first create the employee subgroup grouping in the Define, copy, delete, check

employee subgroup step. **haben.**

The employee subgroup groupings for work schedules in the standard SAP system are 1 for industrial workers and 2 for salaried employees.

Recommendation

Use 1 for industrial workers and 2 for salaried employees if you do not require a finer distinction.

Activities

1. Choose **Define employee subgroup grouping**. Check the existing groupings.

2. Decide how you want to group your employee subgroups for work schedules.

3. Choose **Group employee subgroups for work schedules**. Define the groupings.

4. Enter the employee subgroup grouping for work schedules in the *Employee subgroup grouping* field.

31.1.6.2 Define Groupings for the Public Holiday Calendar

In this step, you define the personnel area and personnel subarea grouping for the public holiday calendar. This allows you to assign a unique public holiday calendar to a personnel area or personnel subarea.

Example

Personnel area 0001 belongs to a plant in state 1 and uses public holiday calendar 05. Personnel area 0002 belongs to a plant in state 2 (which has different public holidays) and uses public holiday calendar 07.

Requirements

- You have created a public holiday calendar.

- You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains several sample personnel subarea groupings for different public holiday calendars.

Recommendation

Use the sample entries provided by SAP as a reference.

Activities

Group your personnel areasand subareas for public holiday calendars.

31.1.6.3 Set Work Schedule Rules and Work Schedules

In this step, you define the work schedule rules that are assigned to employees in the **Planned Working Time** infotype (0007). The employee subgroup and personnel subarea groupings for work schedules and the public holiday calendar are taken into account.

Example

In your enterprise, employees in the "monthly wage earner" subgroup in personnel area 0001 work an early shift one week and a late shift the next week. The early shift work schedule is assigned the work schedule rule "2WEARL", the late shift work schedule is assigned work schedule rule "2WLATE". The period work schedule "2W" is entered in both work schedule rules.

Requirements

- You have maintained the public holiday calendar.

- You have grouped employee subgroups and personnel subareas for work schedules.

- You have defined period work schedules.

- You have defined rules for day types.

Standard settings

The standard SAP system contains a number of sample work schedule rules.

Recommendation

Use the sample entries provided by SAP as a reference.

Activities

1. Check the sample entries in the standard system.

2. If necessary, create new entries.

    a) Call the detail screen to create new work schedule rules by choosing the *New entries* function.

    b) Make entries in the *Employee subgroup grouping*, *Holiday calendar ID*, and *Personnel subarea grouping* fields, and enter an appropriate validity period.

    c) Enter a name for the work schedule rule in the *Work schedule rule* field.

    d) Enter the agreed working time per day, week, month, and year in the "Working time" block. Under *Working hours per day*, you can enter a different number of planned working hours than is specified in the daily work schedule. Your entries can be accessed in the *Planned Working Time* infotype (0007), and can be queried in *Time Evaluation* and *Payroll*.

    e) Enter the appropriate rule in the *Rule for day types* field.

    f) Enter the period work schedule for the work schedule rule in the *Period work schedule* field.

g) In the *Reference date* field, enter a date to indicate the start of your period work schedule.

h) In the *Starting point* field, enter the number of the day in the period work schedule on which you want the reference date to fall. If you want it to be the fourth day of the third week in the period work schedule, enter 2*7+4=18.

i) If you want to create a work schedule rule for reduced working hours, activate the *WS rule for RWH* field and enter the name of the RWH shift in the *Alternative*

   work schedule rule field in the relevant normal work schedule rule.

Further notes

- The *Weekly working hours* field is used to determine the basic hourly wage for tax calculation.

- The *Shift bonus* field is not used in the standard system.

31.1.6.4 Generate Work Schedules Manually

You generate work schedules in this step. You can also change or delete existing work schedules.

Example

You want to generate the "2WEARL" work schedule for two years.

Requirements

- You have grouped your employee subgroups for work schedules

- You have defined groupings for the public holiday calendar

- You have grouped your personnel subareas for work schedules

- You have created work schedule rules

Standard settings

The standard system contains several generated work schedules.

Recommendation

- Use this functionality if you want to generate, change or delete individual work schedules.

- Use the *create all* function if you want to generate more than month. Call the function via the 'Edit' menu option.

- If you want to create a work schedule from January through December of a particular year, you must include December of the previous year and January of the following year.

Activities

1. Enter the employee subgroup grouping

2. Enter the public holiday calendar ID

3. Enter the personnel subarea grouping

4. Enter the work schedule rule you want to generate

5. In the *Calendar month from - to* fields, enter the time span for which you want to generate, change or delete the work schedule.

Further notes

Use the "Create" function to generate the monthly work schedule one month at a time (with confirmation). Use the "Create all" function to generate the work schedule for the required period without confirmation.

31.1.6.5 Generate Work Schedules in Batch

In this step, you can generate work schedules by batch input.

Example

You want to generate all existing work schedules simultaneously.

Requirements

- You have grouped your employee subgroups for work schedules

- You have defined groupings for the public holiday calendar

- You have grouped your personnel subareas for work schedules

- You have created work schedule rules

Standard settings

The standard system contains several generated work schedules.

Recommendation

- Use this functionality if you want to generate a large number of work schedules.

- If you want to generate a work schedule from January through December of a particular year, you must include December of the previous year and January of the following year.

Activities

1. Enter the employee subgroup grouping

2. Enter the public holiday calendar ID

3. Enter the personnel subarea grouping

4. Enter the work schedule rule you want to generate

5. In the *Calendar month from - to* fields, enter the time span for which you want to generate the work schedule.

6. Specify the type of batch input. Refer to the online documentation for field *BTCI...*

   Further notes

If you want to generate all work schedules at once, enter the period only and leave all other input fields empty.

Batch input sessions can be processed in the background.

If you work in several clients, you must generate the work schedules in all clients.

31.1.7 Planned Working Time

The **Planned Working Time** infotype (0007) allows you to enter a work schedule to define individual working times for employees.

31.1.7.1 Set Default Value for the Work Schedule

If you are assigning a planned working time to an employee for the first time, you can use a feature to generate a default work schedule according to the employee's organizational assignment.

   Example

You wish to assign the FLEX work schedule to all employees in employee subgroup DT; NORM is the default in all other cases.

   Requirements

You have created the required work schedules by following the previous steps.

   Standard settings

In the standard system, the default work schedule is determined according to the employee group and subgroup.

   Activities

Customize the feature to cater to the requirements of your company.

Further notes

You can use the following organizational data to form a decision rule:

- Company code (BUKRS)

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

31.1.7.2 Set Which Hour Fields Are Entry Fields

When the system creates a Planned Working Time record (infotype 0007), the prerequisite is that the employee works full-time. The working hours per day, week, and year - on which the work schedule rule is based - are transferred to the infotype record. When you maintain the infotype, you can overwrite one of these values (that is, number of hours). The system can then calculate all remaining hours fields by comparing your entry to the number of hours defined originally.
You can use feature WRKHR to determine which of the four hours fields should be ready for input. You can base this on the employee's organizational assignment.

When the infotype record is created, the weekly working days are automatically taken from the work schedule rule specified in the record. This value can also be overwritten. You can use feature WRKHR to determine whether the system should use the value from the current work schedule rule or the value in the original record when the infotype record is changed or copied.

Example

1. Field ready for input
    You want to be able to enter the weekly working hours for all employees in personnel area 0001 (&WRKHR=W/ ,). Otherwise, you want the working hours per day to be ready for input (&WRKHR=D/ ,).

2. Weekly workdays

    a) When a *Planned Working Time* infotype record (0007) is changed or copied, you want the system to use the weekly working days as specified in the original record (&WRKHR=D/ ,). It does not matter if the original value was taken from the work schedule rule or entered manually.

    b) If an infotype record is changed or copied, you want the system to automatically set the value specified in the current work schedule rule (&WRKHR=D/X,). This value can be overwritten later.

Standard settings

1. In most cases, only the working hours per day can be overwritten in the standard system.

2. The system only uses the value from the work schedule rule if you explicitly delete the weekly working days entered manually in the *Planned Working Time* infotype (0007).

Recommendation

SAP recommends that you use the weekly working days from the work schedule rule if you create separate work schedules for part-time employees, and therefore want principally to use the information from the work schedule in the *Planned Working Time* infotype (0007).

If you mainly use the infotype to control the working times of part-time employees, you should use the standard settings here.

Activities

Customize the feature to cater to the requirements of your company.

Further notes

You can use the following organizational data to form a decision rule:

-   Company code (BUKRS)

-   Personnel area (WERKS)

-   Personnel subarea (BTRTL)

-   Employee group (PERSG)

-   Employee subgroup (PERSK)

-   Country grouping (MOLGA)

31.1.7.3 Define Working Weeks

You define the working week in this step. It allows you to define individual working time periods that are not based on fixed durations.

The term "working week" is flexible and is characterized by the following attributes:

-   The working week can start at any time and on any weekday

-   The length of the working week is determined by specifying a number of days

You can determine the working week for individual employees in the **Planned Working Time** infotype (0007).

Example

You want to determine overtime on the basis of the working week.

You want to cumulate time balances over a working week and compare them to value limits.

Activities

1. In the **Define working weeks** activity, specify the length of the working week

   a) Assign a two-character key to identify the working week

   b) Set the period to be determined in days

   c) Enter a starting date for the working week

   d) Enter a start time

2. In the **Activate working week entry field** activity, activate the field for the *Planned Working Time* infotype (0007). The relevant field is not visible in the standard system, and must first be activated using infotype screen control. To do this, go into the detail screen and change the attribute of the P0007-WWEEK field to the standard setting.

3. In the **Set default values for working weeks** activity, maintain feature WWEEK. You can use the feature to generate a default value for the working week automatically when you create a Planned Working Time infotype record. You can vary the value according to an employee's organizational assignment.

31.1.7.4 Set Default Value for Time Management Status

The time management status specifies whether an employee participates in time evaluation, and if so, which form. Here, you can use a feature to create a default value for the time management status in the Planned Working Time infotype. This default value is proposed when you create an infotype record. It can be determined on the basis of an employee's organizational assignment.

The following are possible values:

- 0 No time evaluation

- 1 Time evaluation - actual times

- 2 Time evaluation - PDC

- 7 Time evaluation without payroll integration

- 8 External services

- 9 Time evaluation - planned times

Example

You want employees from personnel area 0001 to participate in time evaluation, but not employees from personnel area 0002.

Requirements

You should have created the necessary organizational units.

Standard settings

The time management status field is set to 0.

Activities

Modify the feature to suit your individual requirements.

Further notes

You can use the following organizational data for an employee to structure the feature:

- Company code (BUKRS)

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

31.2 Time Data Recording and Administration

In this section, you make all the settings necessary to allow you to record working times for individual employees. This includes absences such as illness, leave, substitutions, overtime, and so on.
You define a status for Time Management which indicates whether all attendances are recorded for an employee, or only exceptions to the work schedule.
You also determine how the system should react if working time data is entered which overlaps with existing data (for example, if an illness record overlaps with a leave record).

31.2.1 Substitutions

In this section, you make system settings for infotype 2003, **Substitutions**. Substitutions are planned exceptions to an employee's work schedule for a defined period of time. Substitutions are treated as planned specifications in time evaluation.

31.2.1.1 Define Personnel Subareas for Substitution Types

In this step, you assign groupings for substitution types and availability types to your personnel areas and subareas.

Example

Personnel areas 0001 and 0002 should use the same substitution and availability types. Personnel area 0003 has different substitution and availability types.

Requirements

You have defined personnel areas and subareas.

Standard settings

The standard SAP system contains examples with grouping 01.

Recommendation

Use the personnel subarea grouping for substitution types 01.

Activities

Assign the grouping for substitution and availability types to your personnel areas and subareas.

31.2.1.2 Define Substitution Types

In this step, you define substitution types and time constraint classes for a substitution.

Example

An employee substitutes for his/her foreman on a particular day; another employee works a different shift for three days and receives different payment on these days.

Requirements

You have grouped your personnel subareas for substitution types.

Standard settings

The standard SAP system provides sample substitution types.

Recommendation

Use the SAP sample entries for substitution types.

Activities

1. Check the sample entries.

2. If necessary, create new substitution types.

3. Define a time constraint class for each substitution type. The section Specify System Reaction to Overlapping Time Infotypes contains information on defining time constraint classes.

4. Define a substitution type for shift change compensation.

5. Define RCH (reduced hours) substitution types in the appropriate field, refering to the relevant online documentation.

31.2.1.3 Set Defaults for Substitution Types

In this step, you maintain the **Define substitution type** (VTART) feature In this feature, you define which substitution type is to be the standard default in the **Substitutions** infotype (2003). You can vary the default values according to the organizational and personnel structures in your enterprise.

Example

In employee subgroup "C2", the shift substitution should always be the default substitution type in the **Substitutions** infotype (2003).

In employee subgroup "C1", the supervisor substitution should always be suggested as the default.

Standard settings

The standard system contains the default value **02-shift substitutions** without restrictions.

Activities

Set up the decision rule for default substitution types in accordance with your requirements.

31.2.2 Absences

In this section, you store all information required for defining and recording absences.
Absences are paid or unpaid planned working times during which the employee has not worked. They therefore represent an deviation to the employee's work schedule. See also the section on Work Schedule Rules and Work Schedules.

31.2.2.1 Absence Catalog

In this section, you make the settings required for recording and processing absences.

31.2.2.1.1 Group Personnel Subareas for Attendances and Absences

In this step, you group your personnel areas and subareas for

attendance and absence types.

Example

You want to assign the same attendance and absence types to personnel areas 0001 and 0002. Define the same grouping for both personnel areas.

Requirements

You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains examples for personnel subarea grouping for attendance and absence types 01.

Recommendation

When you set up your system, always use 01 as the personnel subarea grouping for attendance and absence types.

Activities

1.   Decide whether one grouping is sufficient in your enterprise.

2.   Set up further groupings if required.

Further notes

The same assignment applies for attendance types.

31.2.2.1.2 Define Absence Types

In this step, you define absence types for your different personnel subarea groupings. You can also define the checks the system performs when you enter an absence.

Example

You want to define the *Educational leave* absence type for a particular personnel subarea grouping. When this absence is recorded for an employee and the start or end date is a day off, the system should reject the entry.

Requirements

You have maintained the groupings for personnel subarea for absence and attendance types.

Standard settings

THE Standard SAP System contains examples for the *Personnel subarea groupings for attendance/absence types* '01'.

Recommendation

When you define a new absence type, copy one that has already been defined. Choose an absence type which is similar to the one you want to define.

Remember: when you copy an absence type, the system does not only copy the information you can see in this step. A number of settings that are stored in other views are also copied. Familiarize yourself with the many configuration options before you copy absence types.

Activities

1. Decide which absence types you want to define for your enterprise.

2. Decide how the system should react in each of the following situations:

    a) the first day of the absence is a day off

    b) the last day of the absence is a day off

    c) the entire period consists of days off

3. Enter the minimum duration of the absence in the *Minimum number of days* field. If you want to define an absence which can last less than one day (e.g. leave), enter **000** in this field.

4. In the *Maximum number of days* field, you can limit the duration of an absence (e.g. illness with continued pay).

    -   Default value *999* - unlimited absence

    -   Default value *000* - only absences of less than one day

5. Activate the *Second date obligatory* field, if you must specify the end date as well as the start date when you are assigning the absence type.

31.2.2.1.3 Define Grouping of Absence Types

Use

In this Customizing activity, you group the absence types for which comparable retention periods apply to an archiving subobject for the destruction of data.

Absence types are personal data with regard to data privacy and are therefore to be destroyed after a defined retention period has passed. You use the archiving object *HR: Absences* (HRTIM_ABS) to destroy the data. In the preprocessing program RPT_ABS_PRE for this archiving object, you can select the grouping of absence types that you defined as an archiving subobject in this Customizing activity. This program is then run for all data selected for this grouping of absence types.

Example

You group all leave absence types with the same retention period in an archiving subobject and all illness absence types with the same retention period in another archiving subobject.

31.2.2.1.4 Group Employee Subgroups for Time Quotas

In this step, you group your employee subgroups for time quota types.

Employee subgroups for which the same attendance and absence quota types are defined are assigned to the same grouping for time quota types.

Example

Your employee group 1 with employee subgroup DA is to be assigned to grouping 1 for time quota types.

Requirements

You have maintained employee groups and subgroups.

Standard settings

The standard SAP system contains references for grouping 1 for time quota types.

Recommendation

When you first set up your system, use grouping 1 for time quota types.

Activities

1. Decide whether one employee subgroup grouping for time quota types is adequate.

2. Group your employee groups and subgroups for time quota types.

Further notes

31.2.2.1.5 Define Illness Types

Use

In this step, you can define the sickness types relevant to your organization for the Absences infotype (2001) when "Sickness" absence type is selected.

Standard settings

Several sample entries are supplied by SAP as part of the standard delivery.

Activities

1.   Check the sample entries supplied by SAP.

2.   Modify these entries if necessary by adding and/or removing the appropriate entries.

Example

-    Influenza

-    Broken leg

-    Not specified

31.2.2.1.6 Determine Entry Screens and Time Constraint Classes

Use the *data entry screen number* for an absence to determine which screen (entry screen) is used to enter, display and maintain a record of this particular absence type.

The time constraint class controls the system reaction if a new record in the *Absences* infotype (2001) overlaps with existing time infotype records.

Example

When the system processes an absence classed as *leave*, it deducts from the *leave entitlement* quota. You should therefore assign the leave absence type to the *quota deduction* screen (2001).

Requirements

You have defined all required absence types in the Define Absence Types step.

Standard settings

The standard SAP absences types are already assigned to the appropriate screen numbers.

In the standard system, the following numbers are allocated to the screens:

1. 2000 - General absence
    This screen is used for all absences which do not require special processing (such as paid leave of absence for getting married).

2. 2001 - Quota deduction
    This screen is used for entering data on leave or time in lieu of overtime.

3. 2002 - Work incapacity
    Use this screen for all absence types where continued pay should be taken into account automatically by the system.

4. Special screens have been developed for the following absence types:
    2003 - maternity protection, parental leave
    2004 - military and non-military service
    2005 - work incapacity (Netherlands)

Recommendation

Copy the model entries from the SAP system when you define absence types. Note that non-visible entries from views are also copied. The appropriate screen numbers are already assigned in this step.

Each time you copy an entry, make sure that you only use absence types that have similar processes.

Activities

1. Check that the correct screen numbers have been assigned for all absence types. This is particularly important if you want to implement quota deduction.

2. Correct the entries if necessary.

3. Enter the time constraint class for the absence type. The section Specify System Reaction to Overlapping Time Infotypes contains concept information for defining time constraint classes.

31.2.2.1.7 Absence Counting

In this section, you make the settings for attendance/absence counting.

Business Background

When an attendance/absence is recorded, the system refers to the planned working hours in the employee's daily work schedule to calculate the attendance/absence hours. This is not always desirable.

There are times when you want to apply special regulations for counting attendances and absences, such as:

-   on specific days (public holidays, weekdays) -   for specific attendance and absence types

-   for specific daily and period work schedules

Attendance/Absence Counting

The daily duration of an absence can be counted according to the rules you define in this section. Thus, you can valuate the duration of attendances/absences differently depending on business requirements.

The duration of an attendance/absence is valuated in 5 different units in the SAP System. These units are listed in the Attendances (2002) and Absences (2001) infotypes.

- Calendar days

  The system calculates the calendar days on the basis of the actual days that have passed within an attendance/absence. Only whole attendance/ absence days are counted when attendances/absences are for a single day.

- Attendance/absence hours, attendance/absence days

  Attendance/absence hours and days are calculated on the basis of the planned hours defined in the working schedule. Thus, only the days for which the employee has planned hours are included in the calculation.

- Payroll hours/days

  Payroll hours and days are used in deduction quotas and in payroll (number field of a wage type). The calculation of payroll days and hours is carried out via the settings for attendance/absence counting. Thus, for example, the attendance/absence days on which the employee has no planned hours can also be included in the calculation.

Possible Methods of Attendance/Absence Counting There are two

principal methods of attendance/absence counting:

1. Multiplying by a fixed percentage rate.

   According to the weekday, public holiday class, or day type etc, you can use a quota multiplier to specify rules for determining payroll days and hours. These rules form the basis of quota deduction and can be processed in payroll.

2. Influencing the number of hours that are determined

   With certain full-day attendances/absences, you can influence the number of planned hours that form the basis of the calculation by assigning a different daily work schedule variant.

Note

The attendance/absence counting and leave deduction functions in the R/3 System was redeveloped for Release 4.0.

In view of this, the *Leave entitlement* (0005) infotype will be replaced by an extended version of the *Absence quotas* (2006) infotype.
During the transitional phase, two views for determining the absence counting regulations will be available to you.

You can use the new procedure to create new entries.

In the transitional phase, you can still use the old procedure to maintain existing entries.

Also use the old view for counting absences that deduct the quota type 99 (leave).

31.2.2.1.7.1 Define Counting Classes for the Period Work Schedule

In this step, you define counting classes for your period work schedules, which are used to valuate attendances and absences. You can query the class in Define Rules for Absence Counting.

Use different counting classes for period work schedules with very long daily work schedules (10 hours) and many days off. In this case, more than 1.00 leave days is calculated for each workday.

Example

According to a company ruling, one day of leave should be calculated per workday for a particular employee group. Assign counting class 1 to this group's period work schedule. Another employee group is to be credited with 1.25 leave days for each workday. Assign counting class 2 to their period work schedule.

When you maintain counting rules, you must define a separate rule for each class.

Requirements

You have set up period work schedules.

Standard settings

The standard SAP system contains a number of sample period work schedules with different counting classes.

Recommendation

Please note that this value is used to determine payroll days for all attendance and absence types.

Activities

1. Check the existing entries and add entries if required.

2. Enter 1 in the *Counting class* field for the time being.

3. Decide which counting class should be assigned to each of your period work schedules.

31.2.2.1.7.2 Rules for Absence Counting (New)

In the following steps, you determine rules for absence counting using the new views for Release 4.0.

31.2.2.1.7.2.1 Group Employee Subgroups for Time Quotas

In this step, you group your employee subgroups for time quota types.

Employee subgroups for which the same attendance and absence quota types are defined are assigned to the same grouping for time quota types.

Example

Your employee group 1 with employee subgroup DA is to be assigned to grouping 1 for time quota types.

Requirements

You have maintained employee groups and subgroups.

Standard settings

The standard SAP system contains references for grouping 1 for time quota types.

Recommendation

When you first set up your system, use grouping 1 for time quota types.

Activities

1. Decide whether one employee subgroup grouping for time quota types is adequate.

2. Group your employee groups and subgroups for time quota types.

Further notes

31.2.2.1.7.2.2 Group Personnel Subareas for Time Quotas

In this step, you group your personnel subareas with regard to the permissibility of time quota types.

Personnel subareas for which the same attendance and absence quota types are defined are assigned to the same grouping for time quota types.

Example

You want to assign the same attendance/absence quota types to personnel subareas 0001 and 0002. Both personnel subareas are assigned grouping 01.

Requirements

You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains references for grouping 01 for time quota types.

When you set up your system initially, use grouping 01 for time quota types.

Activities

1. Decide whether one personnel subarea grouping for time quota types is adequate. You can define additional groupings later, if necessary.

2. Group your personnel areas and subareas for time quota types.

Further notes

31.2.2.1.7.2.3 Define Rules for Rounding Counted Absences

In this step, you set rounding rules for absence and attendance counting.

If you specify an hours or day multiplier for counting attendances and absences, the values determined can have several places behind the decimal point. It is difficult to use these values for quota deduction and payroll. In this step, therefore, you set rules for rounding the values.

You use concrete numbers for the rounding rules and can specify whether you want:

- Only values within the specified interval to be rounded or the interval to be rolled

- The specified upper and lower limits to be included in the calculation

You can specify several subrules for a rounding rule and number them sequentially. The system runs through the subrules in sequential order until it finds one that applies.

Example

For absences, you use a counting rule that is counted using an hours multiplier of 80%. You want whole numbers (full hours) to be determined in counting. Define a rounding rule

- With a lower limit of 0.5 (inclusive)

- With an upper limit of 1.5 (not inclusive)

- With a target value of 1

You want the rule to be rolled, that is, to apply also to the following intervals:

- 1.5 - 2.4 (rounded to 2)

- 2.5 - 3.4 (rounded to 3) -   and so on.

Standard settings

The standard system contains sample rounding rules.

Activities

1. Define a rounding rule.

2. If you want to specify several subrules, number them sequentially.

3. Enter the upper and lower limit of the rounding interval.
   If you select the *Incl.* field, the value of the specified upper or lower limit is included in the rounding (greater than/equal to or less than/equal to).

4. Enter the target value to which you want the value to be rounded.

5. If you want the rounding rule to be rolled, select the *Roll.* field.

Further notes

You can also use the rounding rules you define here for other purposes, for example, to round quota entitlements that have been generated automatically.

31.2.2.1.7.2.4 Define Counting Rules

In this step, you define rules for counting attendances and absences. The rules are used to determine the payroll days and hours for an attendance or absence. The payroll days and hours that have been counted are used to control the deduction of quotas. They can be used in Payroll to valuate the absence.

See also: Absence Counting

In this step, you specify conditions for the evaluation day, the work schedule, and the attendance or absence. These conditions must be fulfilled for a counting rule to be selected. You also define default values for the counting of attendances and absences. The most important default is the percentage value used to calculate the payroll hours or days from the attendance or absence hours or days.
You enter the percentage in the *Quota multiplier* field. You can define a quota multiplier for the hours and for the days. You will normally enter the same percentage values here. However, in certain circumstances, you may want to count absences differently for quota deduction and for valuation in Payroll. You can do this as long as you use a different unit for deducting the absence than for valuating the absence in Payroll. (Absence valuation). This means that you can, for example, use the payroll hours for quota deduction, and the payroll days for absence valuation to determine average values.

Structure of the counting rules

A counting rule can comprise several individual sub-rules. The sub-rules are numbered sequentially. The system runs through the individual sub-rules until it finds a rule that applies.

You can specify several conditions that must all be fulfilled for a rule to apply. You indicate that a condition must be fulfilled by selecting the relevant field.

Example

In your enterprise, employees receive an annual entitlement of five days for further training. For each employee, an attendance quota of five days is created in the *Attendance Quotas* infotype (2007). The

attendance type *Further training* is used to deduct from the quota. Seminars are not normally held on public holidays. Some of your employees, however, must work on public holidays. You therefore do not want public holidays to be deducted from the quota for attendance type **Further training**.

You therefore select in the *Holiday class* area the *Not a public holiday* field and in the *Day type* area the *Work acc. to work schedule* field. In the *Condition for the planned hours* area, select the *Planned hours > 0* field.

1. An employee group works 40 hours a week, but not 5 days a week as usual, but 4 days a week for 10 hours a day. Like their other colleagues, they have a leave entitlement of 20 days a year. The period work schedule assigned to this employee group is allocated the *counting class for the period work schedule* 05.

    A leave day for these employees is worth 1.25 days, that is, 1.25 days must be deducted from their leave entitlement for each leave day.

    You can query the counting class of the period work schedule when you count absences. In this way, you can define a rule that only applies to work schedules assigned the *counting class for the period work schedule* 05. As well as other data on the public holiday class, weekday, and so on, you enter a *quota multiplier* for hours or a *quota multiplier* for days of 125 %.

    ### Recommendation

    Note that you must also specify a rule for attendances and absences that are counted as 100%.

    ### Activities

    1. Choose the **Counting rule** view.

    2. Specify the groupings for which the counting rule is valid.

    3. Define the counting rule. Use a name that makes it easy to identify the rule.

    4. If you want to specify several individual sub-rules for a rule, enter a sequential number.

    5. Enter the conditions for the current day if you want attendances and absences to be counted differently on certain days.

        #### Note

        -     You can select several conditions within one area (for the weekday, for example). You must select at least one condition as the rule would otherwise never apply. For a rule to apply, all conditions that you have specified within the area must apply.

    6. Specify whether you want full-day or partial-day attendances and absences to be counted using the rule. Specify which quota multiplier for days and which one for hours is used to count the attendance or absence.

        You can also define a rounding rule so that the resulting figures are manageable in further processing. Specify a multiplication and rounding sequence. You are recommended to round the values before multiplying them especially for attendances and absences of less than one day.

    7. If necessary, check the existing rounding rules in the **Rounding Rules** view and create new ones if required.

31.2.2.1.7.3 Rules for Absence Counting (Old)

In the following steps, you determine the rules for absence counting with the views used up to Release 4.0.

Only use this procedure if you want to maintain existing entries or count absences that are deducted from quota type 99.

You should use the new views for new entries.

31.2.2.1.7.3.1 Group Personnel Subareas for Absence Counting

In this step, you assign personnel area and subarea groupings for attendance and absence counting. This allows you to assign identical or different counting rules to your personnel subareas in the step Define Counting Rules for Quota Type 99 or Set Counting of Attendance Days.

Example

You want to assign the same rules for attendance and absence counting to personnel areas 0001 and 0002. Assign grouping 01 to both personnel areas.

Requirements

You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains examples for the grouping for attendance and absence counting 01.

Recommendation

Always use grouping 01 for attendance and absence counting when you first set up the system

Activities

1.   Check if one grouping is adequate for your requirements.

2.   Define additional groupings if necessary.

Further notes

You can use the counting class to distinguish between different methods of attendance and absence counting.

31.2.2.1.7.3.2 Define Counting Rules for Quota Type 99

In this step, you define rules for counting absences (which are used to determine payroll days and hours), and assign the various absence types to a grouping.

Example

Only workdays should be counted as absence days for *leave* absences.

Requirements

1. You have defined Personnel Subarea groupings for attendances and absences.

2. You have defined Employee Subgroup groupings for work schedules.

3. The Counting Classes for the Period Work Schedule are defined.

Standard settings

Attendance and absence type groupings 01 and 02 are specified in the standard system for counting attendance and absence days.

Recommendation

You should only use this old rule for counting absences that are deducted from quota type 99 (leave).

Activities

1. Choose **Set grouping for absence counting**. Assign an *attendance/absence type grouping for counting* to each absence.

2. Choose *Define rules for counting absence days*. Decide which *weekdays* are relevant to counting.

3. Check which **public holiday classes** are used in your company, and whether they should be taken into account.

4. Decide which **day types** should be counted.

5. Check which **period work schedule classes** are used in your company, and whether they are relevant to counting.
It can be useful to distinguish between different 'leave' absence types.

6. Check which **daily work schedule classes** are used in your company, and whether they are relevant to counting.

7. Enter a value in the *Quota multiplier* field. The value **100** stands for a normal leave day, and **50** for a half day.

Further notes

We recommend that you define all public holiday classes and period work schedule classes as relevant to counting.
The daily work schedule class 0 (OFF) is not relevant to counting in the standard system. You should not change this setting.

31.2.2.1.7.4 Assign Counting Rules to Absence Types

In this step, you determine which rule for attendance or absence counting should be used for each attendance/absence type.

Note: Depending on the entries made here, the attendance or absence is either counted using the old rule (T554X) or the new rule (Set counting rules).

Example

1. You want to specify the rule for counting leave absences for the *Paid leave* absence type. Use the old counting rule and enter the *Grouping of attendance/absence types for counting*.

2. You want to specify rules for counting absences that are not leave absences. In this case, you specify the relevant counting rule.

Requirements

You have defined counting rules:

-   Old: Set counting rules for quota type 99 and Define counting of attendance days

-   New: Set counting rules

You have defined the absence types and attendance types.

Recommendation

During the transitional phase, only use the old counting rule if you are processing absences that are deducted from quota type 99.

Activities

-   **Old counting rule**
    Assign the leave absence to a *grouping of attendance/absence types for counting*. You use this to group the absence types according to the requirements you have of counting.

-   **New counting rule**
    Enter the counting rule you want to use to count the attendance/absence.

31.2.2.1.7.5 Determine Daily Work Schedule Variants for Absence

In this step, you define rules for counting certain full-day absences. This affects payment of absences, and also the formation of time credits.

When you enter a full-day absence, the system automatically refers to the planned working hours in the relevant daily work schedule to determine the number of absence hours. Depending on the rules you specify in this step, you can have the system refer to a different variant of the daily work schedule which stipulates a different number of planned working hours.

Example

Employees in an enterprise work flextime with a weekly working time (fixed under collective agreements) of 37.5 hours. A single plant bargaining agreement determines that they work 40 hours a week, however. The difference of 0.5 hours per day is credited to the employees in time evaluation.

The daily work schedule FLEX (flextime) defines a 40-hour-week with a planned daily working time of 8 hours. Overtime is determined automatically once an employee has worked 8 hours.

If an employee takes time in lieu of overtime or flextime, he/she should not be credited with the 0.5 hours.

A special daily work schedule variant is defined in this case for certain absence types. The variant specifies a planned working time of 7.5 hours per day. If an absence of this type is recorded for the employee, 7.5 hours is deducted from his/her flextime balance.

Technical implementation

The system performs the following steps in order to determine a particular daily work schedule variant for an absence:

1. Determines the employee's daily work schedule from his/her personal work schedule.

2. Determines the daily work schedule rule which applies to the daily work schedule.

3. Checks whether the rules for determining variants can be applied to the relevant day and absence.

   a) Checks the daily work schedule selection rule.
      Is there a rule for determining variants for the daily work schedule rule? You specify the rules for determining variants in the activity *Create rules for daily work schedules*.
      The system selects the entries to be checked on the basis of the daily work schedule rule. It only checks entries which are key fields in the daily work schedule selection rule.

   b) Checks the day.
      Do the rules which are formulated here correspond to the conditions for the day of the absence (do the public holiday class, the public holiday class of the following day, and the weekday correspond)?

   c) Checks the absence.
      Is the recorded absence type assigned to a *grouping of absence types for determining daily work schedule variants*? If so, is the grouping taken into account in the rule for determining variants?

You should assign absence types for which you want special daily work schedule variants to be referenced, and which you want to process identically, to the same *grouping for determining daily work schedule variants*. You can do this in the activity *Assign grouping for daily work schedule variants*.

The system only selects the specified daily work schedule variant if all conditions formulated in a rule are fulfilled. If it does not find a rule which corresponds to the conditions, it selects the variant which is assigned in the employee's personal work schedule.

Requirements

You have maintained the daily work schedules and their variants in the section Daily Work Schedules. The choice of permitted rules is determined by the **daily work schedule rule**.

Standard settings

There are two standard groupings for determining daily work schedule variants:

BLANK: the variant assigned in the personal work schedule applies   on the day of the absence

2   : the variant *A* applies on the day of the absence

Activities

1. Decide whether daily work schedule variants are required for your absence types, and if so, which variants.

2. In the activity **Check variants for daily work schedule**, check whether you have alreay defined suitable daily work schedule variants. If necessary, define new variants.

3. In the activity **Assign grouping for daily work schedule variants**, group together the absence types for which you want special daily work schedule variants to be referenced. To do this, assign a *grouping of absence types for determining daily work schedule variants* to each selected absence type.

4. In the activity **Create rules for daily work schedules**, formulate the conditions which must be fulfilled in order for a certain daily work schedule variant to be referenced.

5. In the same activity, check the daily work schedule rules which are assigned to your daily work schedules.

Further notes

You can store several rules so that variant A is assigned to grouping 2 on weekdays (Monday to Friday) and variant B to grouping 2 on weekends (Saturday and Sunday), for example.

31.2.2.1.8 Define Indicators for the Personal Calendar

In this step, you determine whether or not an absence recorded in an employee's personal calendar should be assigned an absence category. The absence category is a one-character indicator that can be assigned to an an absence type.

Example

Leave is to be identified by the absence category *H* in the employee's personal calendar, and sickness by *S*.

Requirements

The preconditions are as follows:

1. You have defined the absence type.

2. You have defined personnel subarea groupings for absence and attendance types.

Standard settings

If you base your absence types on SAP sample entries, the indicator is already set.

Recommendation

Use the standard entries.

Activities

1. Find out which absence types are used in your enterprise.

2. Choose **define indicator for personal calendar**. According to the *personnel subarea grouping for attendance and absence types*, enter attendance and absence categories to be used as symbols for attendance and absences.

3. Choose **set calendar indicator for absence**. Enter the appropriate absence category.

4. When you maintain absence data, you can list the standard absence categories by choosing *Choose -> By content* and add your own ID codes if required.

5. Activate the *Relevance to personal calendar* field.

   a) Activated: Absence category is displayed on the personal calendar.

   b) Deactivated: Absence category is not displayed on the personal calendar.

Further notes

- If the absence category has to be more detailed, use the two-character indicator. This is used (in Austria, for example) to set up the national personal calendar.

31.2.2.1.9 Define Indicators for the Personal Calendar

In this step, you determine whether or not an absence recorded in an employee's personal calendar should be assigned an absence category. The absence category is a one-character indicator that can be assigned to an an absence type.

Example

Requirements

Leave is to be identified by the absence category *H* in the employee's personal calendar, and sickness by *S*.

The preconditions are as follows:

1. You have defined the absence type.

2. You have defined personnel subarea groupings for absence and attendance types.

Standard settings

If you base your absence types on SAP sample entries, the indicator is already set.

Recommendation

Use the standard entries.

Activities

1. Find out which absence types are used in your enterprise.

2. Choose **define indicator for personal calendar**. According to the *personnel subarea grouping for attendance and absence types*, enter attendance and absence categories to be used as symbols for attendance and absences.

3. Choose **set calendar indicator for absence**. Enter the appropriate absence category.

4. When you maintain absence data, you can list the standard absence categories by choosing *Choose -> By content* and add your own ID codes if required.

5. Activate the *Relevance to personal calendar* field.

   a) Activated: Absence category is displayed on the personal calendar.

   b) Deactivated: Absence category is not displayed on the personal calendar.

Further notes

- If the absence category has to be more detailed, use the two-character indicator. This is used (in Austria, for example) to set up the national personal calendar.

- **Calendar control**

  For Great Britain you may use a key of your choice in the first absence type field. The second field is used by the absence calendar generated by the SSP and SMP calculation function. For this reason it is essential that you use either **S** or **M** in the first position to distinguish between SSP and SMP relevant absences.
  SAP recommends that you use **S.** or **M.** but you may further refine the keys using the second position.

31.2.2.2 Special Absence Data

You define special absences in this section.

It may be useful enter additional data for certain absences, instead of just time data.

The SAP system therefore provides special infotypes for entry of additional absence data.
Additional data can be recorded for an absence caused by an industrial accident, for example.

The country grouping and your company-internal requirements determine which additional information
can be stored.

31.2.2.2.1 Additional Absence Data

You define types and events for additional absence data in this section.

You can use additional absence data to store additional data in the system and evaluate it for statistical
purposes. This might include absences resulting from industrial accidents, for example.

31.2.2.2.1.1 Define Types of Additional Absence Data

In this step, you define subtypes for infotype 0082, **Additional Absence Data**.

Example

You want to enter data on industrial accidents in infotype 0082, **Additional Absence Data**, subtype *0002
Accident data*.

Standard settings

The standard system contains 2 subtypes for additional absence data:

1. 0001 - sickness tracking

2. 0002 - accident data

Recommendation

Use the standard subtypes for infotype 0082 as the data which can be entered is also defined. You can
change this data if necessary in Define events for absence data.

Activities

1. Decide which absence types require additional data.

2. Assign a time constraint to the new subtype.

31.2.2.2.1.2 Create Workers' Compensation

In order to accurately track the Workers' Compensation claims made by employees in your company, you must enter the state in which the claim is being filed. This section of the implementation guide (IMG) allows you to enter those states in which you may have to file Workers' Compensation claims.

Standard settings

Each state you enter here is a subtype for the daily use of the Workers´ Compensation functionality. This means that each work session begins with the entry of the state code defining the state in which the Workers´ Compensation claim is being/has been made.

Activities

1. Determine those states or areas you need to maintain as relevant for Workers' Compensation claims and enter these.

2. Decide upon a four-character designator (numbers or letters) for each area.

3. Enter each area designator, the associated text describing the area and the corresponding time constraints.

31.2.2.2.1.3 Define Events for Absence Data

In this step, you define the events which can be stored on a subsequent screen of the *Additional Absence Data* infotype (0082).

Example

You want to store defaults for entering accident data that describe whether the accident occurred at work, on the way to or from work, or during a business trip.

Requirements

You have defined additional absence data types in Create Types of Additional Absence Data.

Standard settings

The standard system contains several event and description indicators with related control data.

Recommendation

Check whether the standard settings are adequate for your purposes.

Activities

1. Define events using the event indicator in the *control table*.

2. Describe the event in detail by defining data for the *layout options for event fields*.

    a) Data on internal medical services

    b) Text attributes
    N - user-definable numeric description of the event
    A - user-definable alphanumeric description
    T - predefined description: the description is validated against   predefined
    specifications (see point 3).

    c) Start date permitted
    Activating the *Start date* field allows you to enter the start
    date, period, or date to which the event refers/ will refer in the
    infotype

    d) End date permitted
    Activating this field allows you to enter the end date of the
    period to which the event refers in the infotype

    e) Time indicator
    Activating this field allows you to enter the time to which an
    event refers in the infotype

    f) Default values
    1 - default values are displayed only when data is created 2 -
    default values are displayed at all times

    g) Multiple
    You can allow the multiple entry of an event

3. Decide whether the description indicator can be used as a value for the events and store the
    corresponding texts if necessary.
    Use this function to store a standard description of events.

31.2.2.2.1.4 Link Absences to Additional Absence Data

In the *Additional Absence Data* infotype, you can store additional information on absence types related
to employee illness.

Example

In order to run evaluations and statistics, you want to store additional information on illnesses related to
industrial accidents.

Requirements

You have defined the absence types in the Absence Catalog step.

Standard settings

Absences for illness are not permitted for additional absence data according to the reference entries in the absence catalog.

Recommendation

Set up your own absences for additional absence data in the absence catalog.

Activities

1. Activate the *Additional absence data* field if you want to store additional information for absence types.

2. Enter the type of additional data. You can specify types for sickness tracking and accident data.

31.2.2.2.2 Maternity Protection

This section allows you to define special processing types to calculate absences absences for maternity protection and parental leave. You set up the *Maternity Protection* infotype (0080) in line with your company's requirements and with legal regulations.

You also define the absence types for maternity protection and parental leave and the specifications for calculating cut-off dates.

31.2.2.2.2.1 Set Eligibility for Infotype

In this step, you can determine whether records of the *Maternity Protection* infotype (0080) can be created for women only or for men and women alike.

Example

Men are not entitled to parental leave in your country. You therefore want to ensure that records of *Maternity Protection* infotype cannot be created accidentally for a man.

Activities

Adapt feature MASEX to suit your requirements.

Further notes

In the Define Maternity Protection Periods step, you can limit the eligibility for the infotype on a subtype level, that is, according to the absence types for maternity protection.

31.2.2.2.2.2 Define Absence Types

In this step, you define the various absence types for maternity protection and parental leave.

These absence types are used in the *Maternity Protection* infotype (0080).

Activities

The section on absences and the absence catalog in Customizing for Time Recording explains how to Define Absence Types.

31.2.2.2.2.3 Define Types of Birth

In this step, you define types of birth for each personnel subarea grouping for attendance/absence types. According to the type of birth, you can define different periods and absence durations for the maternity protection infotype (0080), under Define maternity protection periods.
The types of birth can be defined by the user.

Standard settings

The standard SAP system contains a number of reference birth types.

Activities

1. Decide on the personnel subarea groupings for attendance/absence types for which you want to define birth types.

2. Define the types of birth for each grouping. Use alphanumeric characters as indicators.

31.2.2.2.2.4 Define Maternity Protection Periods

In this step, you define periods for maternity protection and parental leave. The system uses these periods to calculate absences automatically. You can define different periods according to each personnel subarea grouping for attendance and absence types, and birth types.

You can define an allowance period for parental leave to reflect legal requirements or requirements stipulated by the collective agreement.
You can also define the latest application date (by which the employee must have put in a request for parental leave).

Example

When you enter the expected date of delivery, the system calculates the maternity protection absence automatically, and proposes default dates for parental leave.
Employees must apply for parental leave at least four weeks in advance. They can take a year's parental leave any time within the first three years following the birth.

Requirements

Ensure that you have fulfilled the following prerequisites:

1.   You have defined the absence types for maternity protection.

2.   Your personnel subareas have been grouped for attendance and absence types.

Standard settings

The standard SAP system contains a number of reference entries.

Activities

1.   Find out which absence types are used in your enterprise.

2.   Find out which legal conditions apply to maternity protection and parental leave. Decide how the system should process absences which deviate from the norm.

3.   For each combination of personnel subarea grouping for absence/attendance types, absence type and type of birth, enter the minimum and maximum values to be used by the system for calculating the absence periods.
      Define which of these periods should be proposed as the default by activating the *Default* field.

4.   Special settings for parental leave:

      a)   Enter the allowance period for parental leave. This is the period within which an employee can take parental leave.

      b)   If required, specify the latest application dates for parental leave.

5.   You can enter additional specifications under *Technical settings*. The *Gender* field allows you to indicate whether the absence type is only permitted for female employees, only for male employees, or for all employees.

31.2.2.2.2.5 Define Additional Maternity Protection Periods for Germany

Use

In Germany, you must take into account supplementary maternity periods, which are mainly concerned with the variable year (also referred to as the flexible year) in parental leave.

In this IMG activity, you define these additional periods and use entries in this additional table to control whether an absence can also be classed as part-time work in the Maternity Protection/Parental Leave infotype *(IT0080).*

You also need entries here in case of prohibition of employment, because either a complete prohibition of employment applies, or only specific activities are affected by the prohibition. For differentiation in this case, this part-time indicator is also available in the *Periods* group box of infotype *IT0080.* Part-time means in this case that only a restricted prohibition of employment applies, not a complete prohibition (for example, only no night work).

31.2.2.2.2.6 Define Default Absence Types

In this step, you define the default absence types for the maternity protection infotype (0080).

These can then be selected in the *Absence type* field under the *Possible entries* function.

You can also define the absence types whose duration should be calculated automatically by the system after the expected delivery date has been entered.

Example

When you enter an employee's expected delivery date, the *Absence types* field displays the **Maternity protection** and **Paid parental leave** options. The system calculates the absence periods for maternity protection and paid parental leave.

Requirements

1. You have defined the absence types for maternity protection.

2. Your personnel subareas have been grouped for attendance and absence types.

3. Maternity periods have been defined.

Activities

1. Find out which absence types are used in your enterprise.

2. Decide which absence types should be proposed as *Possible entries*.

3. Decide which absences the system should calculate automatically. Indicate them by activating the *Default absence type* field.

31.2.2.2.3 Military and Non-Military Service

In this section, you can define special processing types for calculating absences for military and non-military service. You set up the *Military/Non-Military Service* infotype (0081) according to your company's requirements and to legal regulations.

You also define the absence types for military and non-military service and the specifications for calculating cut-off dates.

31.2.2.2.3.1 Set Eligibility for Infotype

In this step, you can determine whether records of the *Military Service* infotype can be created for men only or for men and women alike.

Example

Only men are permitted to perform military service in your country. You therefore want to ensure that records of the *Military/Non-Military Service* infotype cannot be created accidentally for women.

Activities

Adapt feature DFSEX to suit your requirements.

31.2.2.2.3.2 Define Absence Types

In this step, you define the various absence types for military and non-military service.

You can enter these absence types in the *Military/ Non-Military Service* infotype (0081).

Example

You wish to specify that neither the start, nor the end date of the absence for a **Paid military exercise** may fall on a non-working day. The absence may not be shorter than one workday, or longer than three days.

Standard settings

The standard SAP system contains the following sample entries:

- Paid military exercise
- Military service
- Unpaid military exercise
- Military/civil defence
- Presence/civil defence
- Cadre/field exercise

Activities

The section on absences and the absence catalog under Time Recording explains how to define

absence types.

Further notes

Please note that the minimum and maximum permitted duration of the absence must be observed when you enter data for the absence type.

The **military service periods** which you set up under Define Periods may not be exceeded.

31.2.2.2.3.3 Define Default Absence Types

In this step, you define default absence types for the *Military/Non-Military Service* infotype (0081). These appear in the *Absence type* field when you select the *Possible entries* function.

You can also define which absence types should be entered by default in the *Attendance/absence type* field.

Example

The absence type **Unpaid military service** should appear in the possible entries on the field *Absence type* in the *Military/Non-Military Service* infotype. Maintain the new entry here.

This absence type should also be entered automatically in the infotype. Activate the field *Default absence type*.

Requirements

1.   You have defined absence types for military/non-military service.

2.   You have grouped your personnel subarea groupings for attendance/absence types.

Activities

1.   Find out which absence types are used in your enterprise.

2.   Decide which absence types should be proposed as defaults when the *Possible entries* function is selected.

3.   Compile a list of the absence types that the system should enter automatically on the infotype entry screen. Enter them in the *Default absence type* field.

31.2.2.2.3.4 Define Service Types

In this step, you define the types of service that the user can store as additional information in the *Military/Non-Military Service* infotype (0081).

The service types (e.g. military service) are user-definable.

Standard settings

The standard SAP system contains a number of reference service types.

Activities

1.   Assign a sequential number to the service type.

2.   Enter the name of the service type.

31.2.2.2.3.5 Define Periods

In this step, you define the maximum duration of absences for each type of service. The system validates these periods when an absence is entered in the *Military Service* infotype (0081).

The periods you enter in this view are not binding and can be exceeded. They must be observed, however, if you define a minimum or maximum number of days under Define Absence Types.

Example

A reservist should normally not be absent for more than three days (paid) for a military exercise.

Requirements

1. You have defined absence types for military and non-military service.

2. Your personnel subareas groupings for attendance and absence types have been set up in the system.

3. Types of military service have been defined.

Standard settings

The standard SAP system contains several default values.

Activities

1. Check which absence types are used in your enterprise.

2. Enter the personnel subarea grouping for attendance/absence types.

3. Enter the attendance/absence type.

4. Enter the military service type that you want to permit for the absence type. You can define different periods for each service type.

5. Define the validity period of the entry.

6. Define the required periods.

31.2.2.2.3.6 Define Military Ranks

In this step, you define military ranks which can be stored as additional information in the *Military/Non-Military Service* infotype (0081). Military ranks are user-definable.

Standard settings

Some ranks have already been defined in the standard SAP system.

Activities

1.   Assign a sequential number to the rank.

2.   Enter the name of the rank.

31.2.2.2.4 Manage Short/Long-Term Disability (STD/LTD)

In SAP HR Payroll, you can assign a special rate of remuneration to illness-related absences that are based on a short- or long-term disability plan. When you record an absence such as illness, short-term disability or long-term disability in the *Absences* infotype (2001), Payroll determines which Illness Pay Plan applies to the employee. Payroll then determines the remuneration for the absent employee over several payroll periods.

Further notes

For more information, see

-    The SAP Library: Choose Human Resources -> Payroll -> Payroll United States ->
     Gross Part of Payroll -> Short/Long-Term Disability Plans

-    The Implementation Guide for Payroll: Payroll: USA -> Absences -> Short/Long-Term Disability
     (STD/LTD) Plans

31.2.2.2.5 Manage the Family and Medical Leave Act (FMLA)

The Family and Medical Leave Act (FMLA) of 1993 places a high administrative burden on organizations. The SAP *FMLA Management* solution significantly reduces the administration involved while increasing planning security for your employees.

Further notes

For more information, see

- the SAP Library and choose Human Resources -> Payroll -> Payroll United States
  (PY-US) -> Gross Part of Payroll -> Management of Family and Medical Leave (see SAP Note
  480092)

- The Implementation Guide for Payroll: Payroll: USA -> Absences -> Family and Medical Leave
  Act

31.2.3 Attendances/Actual Working Times

Attendances are used to record the actual hours worked by an employee.

You make the settings required to enter attendance data in this section.

If attendances are recorded in detail, you can assign the hours worked by a particular employee to specific orders or cost centers, and to maintain data on business trips
It is also possible to record all attendance times manually in the *Attendances* infotype (2002). You can evaluate them using the time evaluation report.

31.2.3.1 Define Attendance Types

In this step, you define attendance types for a personnel subarea grouping for attendance/absence types. It also describes how to determine the system reaction to attendances recorded for a day or a period when the employee has time off.

Example

You want to define the business trip attendance type for a personnel subarea grouping, and want the system to reject business trip records if the start or end date of the record is a day off.

Requirements

1.   Decide which attendance types you require in your enterprise.

2.   The Personnel Subarea Groupings for Attendance and Absence Types have been maintained.

Standard settings

1.   The standard SAP system contains examples for personnel subarea 01.

2.   There are four possible system reactions if attendance records are entered on days off.
      E   - the system rejects the entry
      W   - the system accepts the entry but issues a warning message S - the
      system accepts the entry but informs the user about
            the situation BLANK- the system
      accepts the entry

Recommendation

When you define new attendance types, copy those already defined in the standard system. Select an attendance type which is similar to the one you want to create.

When you copy attendance types, please note that not only is the information in the current step copied, but also a number of settings from other views. We recommend that you are familiar with the configuration options before you copy any attendance types.

Activities

1. Create a list of the attendance types required in your enterprise.

2. Define the system reaction in the following situations.

   a) The first day of the attendance is a day off.

   b) The last day of the attendance is a day off.

   c) The entire period consists of days off.

3. Specify the minimum attendance period in the In the *Minimum number of days* field.

   If you want to specify that the attendance may last lass than one day (off-site work, for example), enter **000** in the field.

4. In the *Maximum number of days* field, you can enter the maximum permitted duration of an attendance (a seminar or training course, for example).
   Default value 999 - attendance time is not limited
   Default value 000 - only attendances of less than one day are permitted

5. Activate the *Second date obligatory* field if you want to specify that the end of the attendance record should be entered in the *Time data* or *Master data* menu.

31.2.3.2 Define Grouping of Attendance Types

Use

In this Customizing activity, you group the attendance types for which comparable retention periods apply to an archiving subobject for the destruction of data.

Attendance types are personal data with regard to data privacy and are therefore to be destroyed after a defined retention period has passed. You use the archiving object *HR: Attendances* (HRTIM_ATT) to destroy the data. In the preprocessing program RPT_ATTENDANCE_PRE for this archiving object, you can select the grouping of attendance types that you defined as an archiving subobject in this Customizing activity. This program is then run for all data selected for this grouping of attendance types.

31.2.3.3 Define Types of Overtime Compensation

In this step you define overtime compensation types.

You can specify the type of overtime compensation for the following infotypes:

Human Resources

- *Attendances* infotype (2002) for recorded attendance times

- *Attendance Quotas* infotype (2007) for permitted overtime

Payroll

- *Overtime* infotype (2005) for recorded overtime

- *EE Remuneration Info* (2010) for recording employee bonuses

In this way, you can control whether an employee's overtime is to be remunerated, or compensated with free time.

The overtime compensation type is handled differently in payroll:

1. Prior evaluation in time evaluation:

The type of overtime compensation for recorded attendance time, recorded overtime and approved overtime can be entered in the *Attendances* (2002), *Overtime* (2005) and *Attendance Quotas* infotypes (2007) respectively. You can use compensation types to determine whether an employee is remunerated and/or granted time off for working overtime.

There are various methods of processing the overtime compensation type in payroll.

2. Time Evaluation: personnel calculation rule TC40
   The main criterion for overtime compensation in time evaluation is the wage type. If the wage type according to processing class 17 indicates that the overtime should be compensated using the compensation type defined here, this specification is used when overtime records are processed in accounting.

3. Payroll: with day processing of time data (schema TC00): Sample processing personnel calculation type TC00.
   The overtime compensation type is generally evaluated in payroll.

4. Payroll without time management (EE Remuneration Info infotype) Customer-specific enhancement to personnel calculation rule X930

Example

An employee has worked five hours overtime. He or she is granted five hours off and paid an overtime bonus.

Standard settings

The standard overtime compensation types are as follows:
BLANK   Wage type determines

1   Basic pay plus overtime bonus
2   Time off plus overtime bonus
3   Time off (compensation)

Recommendation

Use the standard compensation types and do not add to them.

Further notes

-       If you do not enter the overtime compensation type in the *Attendance* infotype, the overtime
        compensation type of the overtime resulting from an overtime approval will be determined via the
        approval of attendance. If you use time evaluation and require a quota for generation of overtime,
        see the following sections on Process Manually Entered Overtime Data and Compensate Overtime.

-       If you do not enter the overtime compensation type in the *Overtime* infotype (2005), overtime is
        fully remunerated.

-       If you enter the overtime compensation type in the *EE Remuneration Info* infotype (2010), you must
        fill the time quotas for compensating overtime on a customer-specific basis.

31.2.3.4 Determine Entry Screens and Time Constraint Classes

The *Entry screen number* for an attendance determines which screen is used to enter, display and
maintain a record of a particular attendance type.

The time constraint class controls the system reaction if a new record in the *Attendances* infotype
(2002) overlaps with existing time infotype records in the system.

Example

When the system processes *approved overtime*, it reduces the attendance quota. The attendance type
approved overtime should therefore be assigned to screen *2050*.

Requirements

You have defined all required attendance types in Define Attendance Types.

Standard settings

The attendance types in the standard SAP system have already been assigned screen numbers.

The screens are numbered as follows in the standard system:

1.   2050 - quota deduction

2.   2051 - no quota deduction

Recommendation

When you set up attendance types, copy the sample entries from the SAP system. The screen numbers are copied along with the screens so that the correct screen numbers are already assigned to the new attendance types. You should only copy attendance types which are processed in a similar way to the ones you want to define.

Activities

1. Make sure that the correct screen numbers are assigned to all attendance types. This is especially important if you want to implement quota deduction.

2. Correct the entries if necessary.

3. Specify the time constaint class for the attendance type. The section Specify System Reaction to Overlapping Time Infotypes contains information on the concept of defining time constraint classes, using absences as an example.

31.2.3.5 Attendance Counting

In this section, you make the settings for counting absences and attendances.

Business background

When you enter an attendance or absence, the system references the planned hours from the day's daily work schedule in order to calculate the duration of the attendance/absence. This is not always the best method.

Special regulations for counting the duration of an attendance or absence should apply on certain days (public holidays, weekdays), and for certain absences or daily/period work schedules.

Counting absence and attendances

You can base the method of counting the daily duration of absences and attendances on rules you set in this section. You can use different methods of valuating absences and attendances according to your business requirements.

The duration of an absence or attendance is calculated in different units in the system. The units are indicated in the *Absences* (2001) and *Attendances* (2002) infotypes:

-   Calendar days
    The calendar days are calculated according to the number of days that have elapsed during the absence or attendance. Only full-day absences and attendances are counted for one-day records.

-   Absence/attendance hours, absence/attendance days
    Absence and attendance hours and days are calculated according to the planned hours in the work schedule. Only days on which the employee has planned hours are included in the calculation.

-   Payroll hours, payroll days
    Payroll days and hours are used for deducting quotas and in Payroll (number field of wage type). The payroll days and hours are calculated using the settings for absence and attendance counting. This means that absence and attendances days on which there are no planned hours can also be included in the calculation, for example.

Options for absence and attendance counting

There are two ways in which you can influence absence and attendance counting:

1. You can count an absence or attendance by multiplying it by a fixed percentage rate You use a
    quota multiplier to set rules for determining payroll days and hours based on the weekday, public
    holiday class, day type, and so on. These rules form the basis for quota deduction and can be
    accessed for processing in payroll.

2. You can change the number of hours
    For certain full-day absence and attendances, you can change the planned hours on which the
    calculation is based by specifying a different daily work schedule variant.

Note

Absence and attendance counting and leave deduction in the system were revised for Release

4.0.

You can use the new tables to define new entries in attendance counting.

During the transitional phase, you can still use the old procedure to maintain existing entries.

31.2.3.5.1 Define Counting Classes for the Period Work Schedule

In this step, you define counting classes for your period work schedules, which are used to valuate
attendances and absences. You can query the class in Define Rules for Absence Counting.

Use different counting classes for period work schedules with very long daily work schedules (10 hours)
and many days off. In this case, more than 1.00 leave days is calculated for each workday.

Example

According to a company ruling, one day of leave should be calculated per workday for a particular
employee group. Assign counting class 1 to this group's period work schedule. Another employee group
is to be credited with 1.25 leave days for each workday. Assign counting class 2 to their period work
schedule.

When you maintain counting rules, you must define a separate rule for each class.

Requirements

You have set up period work schedules.

Standard settings

The standard SAP system contains a number of sample period work schedules with different counting
classes.

Recommendation

Please note that this value is used to determine payroll days for all attendance and absence types.

Activities

1.   Check the existing entries and add entries if required.

2.   Enter 1 in the *Counting class* field for the time being.

3.   Decide which counting class should be assigned to each of your period work schedules.

Further notes

31.2.3.5.2 Rules for Attendance Counting (New)

In the following steps, you determine rules for attendance counting using the new tables for Release 4.0.

31.2.3.5.2.1 Group Employee Subgroups for Time Quotas

In this step, you group your employee subgroups for time quota types.

Employee subgroups for which the same attendance and absence quota types are defined are assigned to the same grouping for time quota types.

Example

Your employee group 1 with employee subgroup DA is to be assigned to grouping 1 for time quota types.

Requirements

You have maintained employee groups and subgroups.

Standard settings

The standard SAP system contains references for grouping 1 for time quota types.

Recommendation

When you first set up your system, use grouping 1 for time quota types.

Activities

1.   Decide whether one employee subgroup grouping for time quota types is adequate.

2.   Group your employee groups and subgroups for time quota types.

Further notes

31.2.3.5.2.2 Group Personnel Subareas for Time Quotas

In this step, you group your personnel subareas with regard to the permissibility of time quota types.

Personnel subareas for which the same attendance and absence quota types are defined are

assigned to the same grouping for time quota types.

Example

You want to assign the same attendance/absence quota types to personnel subareas 0001 and 0002. Both personnel subareas are assigned grouping 01.

Requirements

You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains references for grouping 01 for time quota types.

Recommendation

When you set up your system initially, use grouping 01 for time quota types.

Activities

1. Decide whether one personnel subarea grouping for time quota types is adequate. You can define additional groupings later, if necessary.

2. Group your personnel areas and subareas for time quota types.

Further notes

31.2.3.5.2.3 Define Rules for Rounding Counted Attendances

In this step, you set rounding rules for absence and attendance counting.

If you specify an hours or day multiplier for counting attendances and absences, the values determined can have several places behind the decimal point. It is difficult to use these values for quota deduction and payroll. In this step, therefore, you set rules for rounding the values.

You use concrete numbers for the rounding rules and can specify whether you want:

-   Only values within the specified interval to be rounded or the interval to be rolled

-   The specified upper and lower limits to be included in the calculation

You can specify several subrules for a rounding rule and number them sequentially. The system runs through the subrules in sequential order until it finds one that applies.

Example

For absences, you use a counting rule that is counted using an hours multiplier of 80%. You want whole numbers (full hours) to be determined in counting. Define a rounding rule

- With a lower limit of 0.5 (inclusive)

- With an upper limit of 1.5 (not inclusive)

- With a target value of 1

You want the rule to be rolled, that is, to apply also to the following intervals:

- 1.5 - 2.4 (rounded to 2)

- 2.5 - 3.4 (rounded to 3) -   and so on.

Standard settings

The standard system contains sample rounding rules.

Activities

1. Define a rounding rule.

2. If you want to specify several subrules, number them sequentially.

3. Enter the upper and lower limit of the rounding interval.
   If you select the *Incl.* field, the value of the specified upper or lower limit is included in the rounding (greater than/equal to or less than/equal to).

4. Enter the target value to which you want the value to be rounded.

5. If you want the rounding rule to be rolled, select the *Roll.* field.

Further notes

You can also use the rounding rules you define here for other purposes, for example, to round quota entitlements that have been generated automatically.

31.2.3.5.2.4 Define Counting Rules

In this step, you define rules for counting attendances and absences. The rules are used to determine the payroll days and hours for an attendance or absence. The payroll days and hours that have been counted are used to control the deduction of quotas. They can be used in Payroll to valuate the absence.

See also: Absence Counting

In this step, you specify conditions for the evaluation day, the work schedule, and the attendance or absence. These conditions must be fulfilled for a counting rule to be selected. You also define default values for the counting of attendances and absences. The most important default is the percentage value used to calculate the payroll hours or days from the attendance or absence hours or days.
You enter the percentage in the *Quota multiplier* field. You can define a quota multiplier for the hours and for the days. You will normally enter the same percentage values here.

However, in certain circumstances, you may want to count absences differently for quota deduction and for valuation in Payroll. You can do this as long as you use a different unit for deducting the absence than for valuating the absence in Payroll. (Absence valuation). This means that you can, for example, use the payroll hours for quota deduction, and the payroll days for absence valuation to determine average values.

Structure of the counting rules

A counting rule can comprise several individual sub-rules. The sub-rules are numbered sequentially. The system runs through the individual sub-rules until it finds a rule that applies.

You can specify several conditions that must all be fulfilled for a rule to apply. You indicate that a condition must be fulfilled by selecting the relevant field.

Example

In your enterprise, employees receive an annual entitlement of five days for further training. For each employee, an attendance quota of five days is created in the *Attendance Quotas* infotype (2007). The attendance type *Further training* is used to deduct from the quota. Seminars are not normally held on public holidays. Some of your employees, however, must work on public holidays. You therefore do not want public holidays to be deducted from the quota for attendance type **Further training**.
You therefore select in the *Holiday class* area the *Not a public holiday* field and in the *Day type* area the *Work acc. to work schedule* field. In the *Condition for the planned hours* area, select the *Planned hours > 0* field.

1. An employee group works 40 hours a week, but not 5 days a week as usual, but 4 days a week for 10 hours a day. Like their other colleagues, they have a leave entitlement of 20 days a year. The period work schedule assigned to this employee group is allocated the *counting class for the period work schedule* 05.
    A leave day for these employees is worth 1.25 days, that is, 1.25 days must be deducted from their leave entitlement for each leave day.
    You can query the counting class of the period work schedule when you count absences. In this way, you can define a rule that only applies to work schedules assigned the *counting class for the period work schedule* 05. As well as other data on the public holiday class, weekday, and so on, you enter a *quota multiplier* for hours or a *quota multiplier* for days of 125 %.

Recommendation

Note that you must also specify a rule for attendances and absences that are counted as 100%.

Activities

1. Choose the **Counting rule** view.

2. Specify the groupings for which the counting rule is valid.

3. Define the counting rule. Use a name that makes it easy to identify the rule.

4. If you want to specify several individual sub-rules for a rule, enter a sequential number.

5. Enter the conditions for the current day if you want attendances and absences to be counted differently on certain days.

   Note

   - You can select several conditions within one area (for the weekday, for example).
     You must select at least one condition as the rule would otherwise never apply.
       For a rule to apply, all conditions that you have specified within the area must apply.

6. Specify whether you want full-day or partial-day attendances and absences to be counted using the rule. Specify which quota multiplier for days and which one for hours is used to count the attendance or absence.
   You can also define a rounding rule so that the resulting figures are manageable in further processing. Specify a multiplication and rounding sequence. You are recommended to round the values before multiplying them especially for attendances and absences of less than one day.

7. If necessary, check the existing rounding rules in the **Rounding Rules** view and create new ones if required.

31.2.3.5.2.5 Assign Counting Rules to Attendance Types

In this step, you determine which rule for attendance or absence counting should be used for each attendance/absence type.

Note: Depending on the entries made here, the attendance or absence is either counted using the old rule (T554X) or the new rule (Set counting rules).

   Example

1. You want to specify the rule for counting leave absences for the *Paid leave* absence type. Use the old counting rule and enter the *Grouping of attendance/absence types for counting*.

2. You want to specify rules for counting absences that are not leave absences. In this case, you specify the relevant counting rule.

   Requirements

You have defined counting rules:

- Old: Set counting rules for quota type 99 and Define counting of attendance days

- New: Set counting rules

You have defined the absence types and attendance types.

   Standard settings

Recommendation

During the transitional phase, only use the old counting rule if you are processing absences that are deducted from quota type 99.

Activities

- **Old counting rule**
  Assign the leave absence to a *grouping of attendance/absence types for counting.* You use this to group the absence types according to the requirements you have of counting.

- **New counting rule**
  Enter the counting rule you want to use to count the attendance/absence.

Further notes

31.2.3.5.3 Rules for Attendance Counting (Old)

In the following steps, you determine rules for attendance counting with the views used up to Release 4.0.

Only use this procedure if you want to maintain existing entries. You should use the new views to create new entries.

31.2.3.5.3.1 Group Personnel Subareas for Attendance Counting

In this step, you assign personnel area and subarea groupings for attendance and absence counting. This allows you to assign identical or different counting rules to your personnel subareas in the step Define Counting Rules for Quota Type 99 or Set Counting of Attendance Days.

Example

You want to assign the same rules for attendance and absence counting to personnel areas 0001 and 0002. Assign grouping 01 to both personnel areas.

Requirements

You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains examples for the grouping for attendance and absence counting 01.

Recommendation

Always use grouping 01 for attendance and absence counting when you first set up the system

Activities

1. Check if one grouping is adequate for your requirements.

2. Define additional groupings if necessary.

Further notes

You can use the counting class to distinguish between different methods of attendance and absence counting.

31.2.3.5.3.2 Set Counting of Attendance Days

In this section you define rules for counting attendances. These rules are used to determine payroll days and hours. You also assign the various attendance types to a grouping.

Example

You only want workdays to be counted as attendances days for the attendance business trip.

Requirements

1. The Personnel Subarea grouping for attendances and absences has been defined.

2. The Employee Subgroup grouping for work schedules has been defined.

3. The Counting Classes for the Period Work Schedule have been specified.

Standard settings

Attendance and absence type groupings 01 and 02 are defined in the standard system for counting attendance and absence days.

Recommendation

Use grouping 02 for your attendance types.
This allows you to use different counting methods according to the public holiday and the counting class of the period work schedule. Refer to Define Counting Classes for the Period Work Schedule.

Activities

1. Choose **Set grouping for attendance counting**. Assign an *attendance/absence type grouping for counting* to each attendance.

2. Choose **Define rules for counting attendance days**. Decide which *weekdays* are relevant for counting.

3. Check which **public holiday classes** are used in your company, and whether they are relevant to counting.

4. Decide which **day types** should be counted.

5. Check which **period work schedule classes** you use and whether they are relevant to counting.

6. Check which **daily work schedule classes** you use and whether they are relevant to counting.

Further notes

We recommend that you define all public holiday classes and period work schedule classes as relevant to counting.
Daily work schedule class "0" (OFF) is not relevant to counting in the standard system. Do not change this setting.

31.2.3.5.4 Set Daily Work Schedule Variant for Attendance

In this step, you define rules regarding the use of a variant of the daily work schedule for attendance counting for certain full-day attendances.

You should assign all attendance types which you want to process identically to the same grouping. The grouping can be queried in the rules.

You can query the following conditions in the rules:

1. Public holiday class
   You have assigned a public holiday class to all public holidays. Valid classes must be flagged with an *X*.

2. Pubic holiday class of the following day
   Which public holiday class can be assigned to the following day for the variant to be used on the currrent day?

3. Grouping of attendance types For which groupings is the rule valid?

4. Weekday
   For which weekdays is the rule valid?

Requirements

You have maintained daily work schedules and the corresponding variants in Daily Work Schedules. The selection of all permitted rules depends on the **daily work schedule selection rule**.

Recommendation

Assign each attendance type the grouping *0*, and change the grouping if required.

Activities

1. Decide whether daily work schedule variants are required for attendance types, and if they are, which variants.

2. Check whether the variants have been defined. If not, define them in the section **Daily Work Schedules**.

3. Set the corresponding rules for daily work schedules for attendances.

4. Assign your attendance types the relevant groupings for daily work schedule variants.

5. Check the daily work schedule selection rules for your daily work schedules.

Further notes

You can specify several rules so that variant A is assigned to grouping 2 on Monday through Friday, for example, but variant B at the weekend (Saturday and Sunday).

31.2.3.6 Set Indicators for the Personal Calendar

This section allows you to define whether the attendance category should be displayed for an attendance recorded in the employee's personal calendar. The attendance category is a one-character indicator that can be assigned to an attendance type.

Example

You want the attendance category *R* to be displayed for a business trip.

Requirements

1. You have defined the attendance type.

2. The personnel subarea grouping for attendance and absence types has been maintained.

Standard settings

If you create attendance types by copying SAP's sample entries, the indicator relevant to the personal calendar is already set.

Recommendation

Use the standard entries.

Activities

1. Find out which attendance types are used in your enterprise.

2. Choose **Define indicator for personal calendar**. According to the *personnel subarea grouping for attendance and absence types*, specify the attendance and absence categories to be used as symbols for attendances and absences.

3. Choose **Set calendar indicator for attendance**. Enter the appropriate attendance category. When you maintain attendance data, you can list the standard attendance categories and add your own ID codes if required.

4. Either activate or deactivate the *Relevance to personal calendar* field.

   a) If you activate this field, the attendance category appears in the personal calendar.

   b) If you deactivate it, the attendance category does not appear in the personal calendar.

   Further notes

- If assignment of attendance category to attendance type must be very precise, use the two-character attendance category. This indicator is used in Austria to set up the national personal calendar, for example.

31.2.3.7 Define Evaluation Type for Attendances/Absences

In this step you define a free indicator for attendances. This allows you to valuate records of the *Attendances* infotype in a special (2002) way.

This means that you can avoid having to

- Create individual attendance types for a number of business requirements

- Record common bonuses individually using employee remuneration specifications or a different payment.

   Example

1. You record attendances as a number of hours, and not with clock times. You do not want to perform daily calculation of overtime in your schema, but want to store information on whether overtime has been worked directly in the infotype record.

   You therefore define the evaluation types **01-Overtime 25%** and **02-Overtime 50%** and assign them to the appropriate attendance records.

2. In your enterprise, particular bonuses are required relatively frequently, such as the bonus for work as an instructor, dirty work bonus, and the hazard bonus.
   You therefore define the evaluation types **03-Instructor's activity**, **04-Dirty work bonus** and **05-Hazard bonus**.

For both examples, you query the *evaluation type for attendances/ absences* using a personnel calculation rule in your schema and you assign a different processing type, for example, to the attendances affected. This enables you to select other time wage types for these attendances, that is, you can remunerate them in a special way.

   Requirements

You implement time evaluation or day processing of time data in payroll.

Activities

1. Define the *evaluation types for attendances/absences* that you require. Enter texts that will enable administrators to identify the evaluation type easily.

2. Add to your personnel calculation schema a processing block in which the *evaluation type for attendances/absences* is determined and the corresponding infotype records are handled in a special way.
   You can use operation VARPR in a personnel calculation rule to query the *evaluation type for attendances/absences*.

Further notes

You can use the *evaluation type for attendances/absences* in time evaluation or day processing of time data in payroll for attendances only.

31.2.4 Overtime

You make the settings for processing overtime in this section.

31.2.4.1 Define Types of Overtime Compensation

In this step you define overtime compensation types.

You can specify the type of overtime compensation for the following infotypes:

Human Resources

- *Attendances* infotype (2002) for recorded attendance times -   *Attendance Quotas* infotype

   (2007) for permitted overtime

Payroll

- *Overtime* infotype (2005) for recorded overtime

- *EE Remuneration Info* (2010) for recording employee bonuses

In this way, you can control whether an employee's overtime is to be remunerated, or compensated with free time.

The overtime compensation type is handled differently in payroll:

1. Prior evaluation in time evaluation:

The type of overtime compensation for recorded attendance time, recorded overtime and approved overtime can be entered in the *Attendances* (2002), *Overtime* (2005) and *Attendance Quotas* infotypes (2007) respectively. You can use compensation types to determine whether an employee is remunerated and/or granted time off for working overtime.

There are various methods of processing the overtime compensation type in payroll.

2. Time Evaluation: personnel calculation rule TC40
    The main criterion for overtime compensation in time evaluation is the wage type. If the wage type according to processing class 17 indicates that the overtime should be compensated using the compensation type defined here, this specification is used when overtime records are processed in accounting.

3. Payroll: with day processing of time data (schema TC00): Sample processing personnel calculation type TC00.
    The overtime compensation type is generally evaluated in payroll.

4. Payroll without time management (EE Remuneration Info infotype) Customer-specific enhancement to personnel calculation rule X930

Example

An employee has worked five hours overtime. He or she is granted five hours off and paid an overtime bonus.

Standard settings

The standard overtime compensation types are as follows:
BLANK   Wage type determines
1   Basic pay plus overtime bonus
2   Time off plus overtime bonus
3   Time off (compensation)

Recommendation

Use the standard compensation types and do not add to them.

Further notes

-   If you do not enter the overtime compensation type in the *Attendance* infotype, the overtime compensation type of the overtime resulting from an overtime approval will be determined via the approval of attendance. If you use time evaluation and require a quota for generation of overtime, see the following sections on Process Manually Entered Overtime Data and Compensate Overtime.

-   If you do not enter the overtime compensation type in the *Overtime* infotype (2005), overtime is fully remunerated.

-   If you enter the overtime compensation type in the *EE Remuneration Info* infotype (2010), you must fill the time quotas for compensating overtime on a customer-specific basis.

31.2.5 Availability

You make the settings required to define attendances for availability in this section.

31.2.5.1 Group Personnel Subareas for Availability Types

In this step, you assign groupings for substitution types and availability types to your personnel areas and subareas.

Example

Personnel areas 0001 and 0002 should use the same substitution and availability types. Personnel area 0003 has different substitution and availability types.

Requirements

You have defined personnel areas and subareas.

Standard settings

The standard SAP system contains examples with grouping 01.

Recommendation

Use the personnel subarea grouping for substitution types 01.

Activities

Assign the grouping for substitution and availability types to your personnel areas and subareas.

Further notes

31.2.5.2 Define Availability Types

In this step, you define availability types for a personnel subarea grouping for substitution/availability types.

Example

You want to create an on-call duty for the personnel subarea grouping for substitution/availability types 01. Define the availability type *On-call* for this grouping.

Requirements

You have defined personnel subarea groupings for substitution and availability types

Standard settings

There are a number of reference availability types in the standard SAP system.

Recommendation

Use the standard types.

Activities

1. Consider which types of availability are common in your enterprise.

2. Decide which personnel subareas should be assigned availability types.

3. Check whether the time constraint class for the *Availability* infotype (2004) meets your requirements. If necessary, make changes to the existing time constraints. The different time constraint classes and how to customize them are described in Specify System Reaction to Overlapping Time Infotypes .

Further notes

In particular, be aware of collisions, especially collisions with *Absences* infotype records, when setting up collision checks. You should make sure that absences that delimit availabilities or are used to enter absences are deleted.
In this context, it is recommended that you set up your own absence types for absences on availability days, so that payment and attendance counting are regulated.

31.2.5.3 Define Availability Types

In this step you define availability types for personnel subarea groupings for substitution types/availability types.

Example

You want to create an on call record for the personnel subarea grouping for substitution types/availability types 01. Define the availability type *On call* for the grouping in this step.

Requirements

The personnel subarea groupings for substitution types/availability types must be defined.

Standard settings

There are a number of availability types defined in the standard system. They differ in the rate of remuneration.

Recommendation

Use the standard availability types.

Activities

1. Think about which types of availability are common in your enterprise.

2. Decide which personnel subareas you wish to assign availability types.

3. Check if the time constraint class for the *Availability* infotype (2004) is adequate for your requirements. If necessary, you can make changes to the existing time constraints. The meaning and of the time constraint classes and how to modify them is explained in the section Define reaction when time infotypes overlap.

4. The following points are relevant only to payroll for the public sector in Germany.

    a) Define the internal key. The system refers to the key to determine the type of availability duty.

    b) Assign the appropriate internal key to the availability type.

31.2.5.4 Determine Daily Work Schedules for Availability

In this step you can carry out the following:

-   Determine daily work schedules for availabilities

-   Indicate the daily work schedules permitted for availabilities

You enter availabilities based on the daily work schedule in the *Availability* infotype (2004). The daily work schedules you indicated in this step are then proposed in the *Daily work schedule* as possible entries.

Daily work schedule processing for availabilities is unique in the following ways:

1. Breaks are not included when processing availabilities. For this reason, you do not need to create breaks for daily work schedules for availabilities

2. The SAP System determines the start and end of an availability during processing:

    -   For work schedules with fixed start and end times according to the *Planned working time* fields.

    -   For flextime work schedules according to the *Normal working time* fields.

3. Specifications for the daily work schedule selection rule (see Define Rules for Variants) are not included during processing.

4. Absences with an availability recorded for the period are not counted during processing using the function Determine Daily Work Schedule Variants for Absence.

Example

An availability with the daily work schedule **OC** (on-call duty) can be recorded.

Activities

1. To get an overview of the daily work schedules set up for your enterprise, see **Create and Check Daily Work Schedules** in Customizing.

2. Create daily work schedules for availabilities. For more information, see Define Daily Work Schedules.

3. In **Indicate Daily Work Schedules for Availabilities** activate the *Availability* field for the daily work schedules that are permitted for an availability.
    Note:
    If you only use availabilities based on a work schedule rule, you do not need to indicate that the daily work schedules based on the period work schedule are permitted for an availability.

31.2.5.5 Define Work Schedule Rules for Availability

In this step, you define which work schedule rules are permitted for an availability.

You can enter an availability in the *Availability* infotype (2004) that is based on a work schedule rule. In this way, you can create availabilities based on the period work schedule.

When you display possible entries for the *Work schedule rule* field, only those work schedule rules you indicated as as permitted in this step are displayed.

Work schedule rule processing for availabilities is unique in the following ways:

1. Breaks are not included when processing availabilities.

2. The SAP System determines the start and end of an availability during processing:

    -   For work schedules with fixed start and end times according to the entries in the *Planned working time* field.

    -   For flextime work schedules according the the entries in the *Normal working time* field.

3. Specifications for the daily work schedule rule are included during processing for generating the work schedule, but not for counting absences.

For more information, see:
Define Rules for Variants
Determine Daily Work Schedule Variants for Absence

Example

You want to enter an availability based on the work schedule rule **OC** (on-call duty).

Requirements

You have set up the required work schedule rules. Any daily work schedules belonging to the period work schedule do not have to be indicated as permitted for an availability.

Standard settings

A number of work schedule rules are already indicated as permitted for an availability in the standard SAP system.

Activities

1. Determine what work schedule rules are used in your enterprise.

2. Activate the *Availability* field for the work schedule rules that are permitted for an availability.

31.2.6 Managing Time Accounts Using Attendance/Absence Quotas

In this section, you make the settings for controlling the processing of absence and attendance quotas.

Time quotas (time off entitlements and attendance approvals) can be grouped or refined

according to the following factors:

- Employee subgroups for time quotas (type of employee)

- Personnel subareas for time quotas (where is the employee assigned?)

- If you use time evaluation: Personnel subareas for time recording (time type determination)

- For generating absence quotas: quota type selection rule group (which conditions and rules apply when absence quotas are generated)

An **Absence quota** specifies an employee's entitlement to time off for a limited period. It is dependent on an absence quota type.
You can use the *Absence Quotas* infotype (2006) to manage all employees' time off entitlements and leave types. The infotype's special functions ensure that an employee can only claim the leave days stipulated in the contract as the absence type *Leave*.
When you record an absence in the *Absences* infotype, the system checks whether the employee possesses sufficient time off entitlement.

An **Attendance quota** specifies a limited period in which an an employee has approval for certain activities. It is dependent on an attendance quota type. Typical uses for attendance quotas:

- Employee-specific approval for working overtime

- Situations in which the employee is not physically in the company, but id still carrying out company duties, for example, educational leave or business trip

-       Special approvals for working hours that exceed the maximum permitted working hours for one day

Attendance approvals are deducted when attendances are recorded or during time evaluation.

A variety of methods and procedures are available for accruing, deducting and valuating absence quotas. For further information, see the online documentation under **Quotas**.

31.2.6.1 Setting Groupings for Time Quotas

In this section, you group your employee subgroup grouping and the personnel subareas together based on the time quota types permitted.

31.2.6.1.1 Group Employee Subgroups for Time Quotas

In this step, you group your employee subgroups for time quota types.

Employee subgroups for which the same attendance and absence quota types are defined are assigned to the same grouping for time quota types.

Example

Your employee group 1 with employee subgroup DA is to be assigned to grouping 1 for time quota types.

Requirements

You have maintained employee groups and subgroups.

Standard settings

The standard SAP system contains references for grouping 1 for time quota types.

Recommendation

When you first set up your system, use grouping 1 for time quota types.

Activities

1.   Decide whether one employee subgroup grouping for time quota types is adequate.

2.   Group your employee groups and subgroups for time quota types.

31.2.6.1.2 Group Personnel Subareas for Time Quotas

In this step, you group your personnel subareas with regard to the permissibility of time quota types.

Personnel subareas for which the same attendance and absence quota types are defined are assigned to the same grouping for time quota types.

Example

You want to assign the same attendance/absence quota types to personnel subareas 0001 and 0002. Both personnel subareas are assigned grouping 01.

Requirements

You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains references for grouping 01 for time quota types.

Recommendation

When you set up your system initially, use grouping 01 for time quota types.

Activities

1. Decide whether one personnel subarea grouping for time quota types is adequate. You can define additional groupings later, if necessary.

2. Group your personnel areas and subareas for time quota types.

31.2.6.2 Time Quota Types

In this section you define the attendance and absence quota types that you wish to use for managing time accounts. You specify how attendances and absences are to be deducted from the employees' quotas.

31.2.6.2.1 Create Number Range Intervals

If you want to use attendance or absence quotas, you must create intervals for two number ranges. To deduct attendances and absences from the quotas, you must clearly identify attendance/absence records and attendance/absence quota records by assigning them a number.

Activities

Create an interval called "01" containing the number range 1 to 9999999999999999.

Further notes

If the number range intervals have already been set up, you should not change them.

31.2.6.2.2 Define Absence Quota Types

In this step, you define the valid absence quota types (entitlement to time off and leave types) for your *employee subgroup and personnel subarea groupings for time quota types*.

Example

You want to define the entitlement to time off **time off for overtime** for your employee subgroup 1 and personnel subarea 01.

Requirements

You have maintained employee subgroup and personnel subarea groupings.

Standard settings

The standard SAP system contains references for employee subgroup grouping 1 and personnel subarea grouping 01.

Activities

1. Decide which types of entitlement to time off your employees have.

2. Define the absence quota types you want to use based on the groupings. Use the SAP standard entries as a guide. If necessary, define additional absence quota types.

3. In the field *Unit of Time/Measurement* define whether you want the entitlement to time off to be maintained in hours or in days.

4. Assign a time unit to the quota type.

5. If you define an absence quota type with a time unit in **hours**, you can enter default values for the start and end times. These are proposed in the *Absence Quotas* infotype when you enter absence quotas.
   Example: In your enterprise, employees are only allowed to take **time off for overtime** in the afternoon. Enter 12:00 (noon) to 24:00 (midnight) as the default values for start and end times.

6. Enter the time constraint class for the absence quota type. The step Specify System Reaction to Overlapping Time Infotypes contains information on the concept of defining time constraint classes.

7. In the field *Negative deduction to*, specify whether and to what extent there can be negative deduction of entitlement to time off.

8. In the *Rounding* field, specify how absences of less than one workday should be deducted from a quota which is maintained in whole days.

31.2.6.2.3 Define Absence Quota Types and Indicate Leave

Standard settings

The absence quota types "standard annual leave" and "additional leave for challenged persons" are indicated as leave.

Activities

In the first view, create the absence quota types as described in Define absence quota types step.

In the second view, indicate the absence quotas that are used to indicate leave entitlement.

Further notes

Indicate quota as leave

This indicator (ID) is required for payroll and time evaluation.

Leave accrual

Partial-year accrual is calculated as a reduced percentage of the remaining entitlement of the leave quotas. The full remaining entitlement is accrued for the other quota types.

-   Statements

-   Tax calculation for double taxation agreement (DBA)

31.2.6.2.4 Define Absence Quota Types and Indicate Leave

In this step, you define the absence quota types. You must indicate those absence quota types that are used in your system for the representation of leave entitlement.

The report RPCURLA1 (Reserves for Remaining Leave) requires the indication of absence quota types as leave in order to create leave reserves.

Standard settings

The absence quota types **Leave owed** and **Additional leave for NS** (heavy labor on the night shift) are already indicated as leave entitlement.

Activities

1. If required, you can created other absence quota types in the first view as described in the IMG section Define Absence Quotas Types.

2. In the second view, indicate all absence quota types that represent leave entitlement.

31.2.6.2.5 Define Attendance Quota Types

In this step, you define the attendance quota types which are valid for the employee subgroup and personnel subarea groupings for time quota types.

Example

- You want to assign the **approved overtime** attendance quota type to employee subgroup 1 and personnel subarea 01.

- You have agreed in your enterprise that **approved overtime** may only be worked at certain times. Default values for the start and end times may be 5 p.m. and 7 p.m., for example.

Requirements

The Employee Subgroup and Personnel Subarea groupings have been maintained.

Standard settings

The standard SAP system contains examples for employee subgroup grouping 1 and personnel subarea grouping 01.

Activities

1. Decide which attendance quota types you want to define for your enterprise.

2. Decide which attendance quota types you want to use for which combination of personnel subarea and employee subgroup groupings for time types.

3. Assign attendance quota types to the different combinations.
   Use the SAP standard entries. If these are not sufficient for your requirements, define additional ones.

4. In the field *Unit of time/measurement* define whether you want the attendance quota to be maintained in hours or days.
   If you create an attendance quota type with the time unit **hours**, you can define default values for the start and end times. The system proposes these defaults when you enter attendance quotas in the *Attendance Quotas* infotype (2007).

5. Assign a time constraint class for the attendance quota type. Information on the concept of defining time constraint classes can be found in Specify System Reaction to Overlapping Time Infotypes.

6. Specify whether you want the attendance quota to be deducted by time evaluation or in dialog.

7. The field *Negative deduction to* relates to the lower limit for time quota deduction. The value indicates to what extent negative deduction by attendances is permitted for the relevant time quota type.

31.2.6.3 Calculating Absence Entitlements

In this section you make the settings required for the automatic accrual of absence quotas.

31.2.6.3.1 Automatic Accrual of Absence Quotas

In this section, you specify how time off entitlements are generated in the Absence Quotas infotype (2006). You can choose between two procedures:

1. Generating default values
   Time off entitlement is generated either for multiple employees using the *Generate Absence Quotas* report (RPTQTA00) or online when you create an infotype record.

2. Automatic accrual
   Time off entitlement is generated automatically during time evaluation.

31.2.6.3.1.1 Permit Generation of Quotas in Time Evaluation

In this step, you specify that an absence quota is accrued automatically during time evaluation.

Entitlements van be accrued in the *Absence Quotas* infotype in one of two ways:

1. The system calculates the entitlement anew each time and overwrites the existing value in the *Absence Quotas* infotype (2006). These quota types are referred to as those that are **replaced**.
   Note: Absence quotas that are replaced should be processed by time evaluation once only, that is, these should be able to be updated only by function QUOTA, only by a time transfer, or only by operation UPDTQ. In any other case, the quota number cannot be determined as you require.

2. The system calculates the entitlement acquired during the current accrual period and adds this value to the existing infotype record. These quota types are referred to as those that are **increased**.

The quota number determined during time evaluation cannot be changed in the *Absence Quotas* infotype (2006). You can use the *Quota Corrections* infotype (2013) to correct the quota number of quotas that are increased, but not of quotas that are replaced.

   Example

You want your employees's leave entitlement to be determined on a monthly basis (pro rata) during time evaluation. You want the new value to be added to the existing entitlement in the *Absence Quotas* infotype (2006). You select the *Increase* field for the relevent quota type in the view.

Standard settings

In the standard system, the *No generation* field is selected for all absence quota types.

Activities

1. Decide which absence quota types you want to accrue automatically.

2. For these quota types, specify:

    a) Whether you want the entitlement in the *Absence Quotas* infotype to be increased by the results of quota generation

    b) Whether you want the entitlement in the *Absence Quotas* infotype to be replaced by the results of quota generation

3. Create new absence quota types, if necessary.

    a) Define the required absence quota types according to the groupings. Use the SAP standard entries to assist you.

    b) Specify whether the entitlement in the *Absence Quotas* infotype (2006) is to be increased or replaced.

    c) Specify whether negative deduction is permitted for the quota, and if so, how much.

    d) Specify the time constraint class for the absence quota type. For information on the definition of time constraint classes, see the step Specify system reaction to overlapping time infotypes.

31.2.6.3.1.2 Permit Quota Generation Without Time Evaluation

In this step, you enable an absence quota to be:

-   Granted using default values when a record is created for the *Absence Quotas* infotype (2006)

-   Generated using the *Generate Absence Quotas* report (RPTQTA00)

-   Defined manually in the infotype

Absence quotas generated using these methods can be changed online in the *Absence Quotas* infotype (2006).

Example

You only want to grant employees certain time off entitlements in special situations. You therefore do not want these time off entitlements to be accrued automatically. Instead, you want the time data administrator to grant the entitlements manually. To do so, select the *No generation* field for this time off entitlement.

Standard settings

In the standard system, the *No generation* field is selected for all absence quotas.

Activities

1. Decide which absence quota types you want to grant according to the above criteria.

2. Check whether the *No generation* field is selected for these quota types.

3. Create new absence quota types, if necessary.

   a) Define the required absence quota types according to the groupings. Use the SAP standard entries to assist you.

   b) Select the *No generation* field.

   c) Specify whether negative deduction is permitted for the quota, and if so, how much.

   d) Specify the time constraint class for the absence quota type. For information on the definition of time constraint classes, see the Specify System Reaction to Overlapping Time Infotypes step.

31.2.6.3.2 Rules for Generating Absence Quotas

In this section, you specify the rules governing the generation of time off entitlements.

31.2.6.3.2.1 Specify Rule Groups for Quota Type Selection

In this step, you determine which groupings are used to access the table for absence quota type selection when absence quotas are generated.

Absence quota type selection is based on the employee's organizational assignment and is determined by the *Quota type selection rule group*.

Specific rules for quota selection can be defined using different quota type selection rule groups.

You can define the quota type selection rule group in several ways:

1. **Feature QUOMO**:
   The feature QUOMO can be used when generating default values during recording, in report RPTQTA00, and in time evaluation. This feature allows you to determine quota type selection rule

groups depending upon a variety of employee organizational assignments. If you generate the absence quotas in time evalation, the value from the feature is automatically queried by the system.

2. **In time evaluation (standard schemas XMOD, TM04, TM01 and TQTA)**:
   Function MOD calls a personnel calculation rule that has been adapted to the requirements of the schema (TMON, MODT and so on). The *employee subgroup grouping for the personnel calculation rule* is queried in this rule using operation PAYTP. Using operation MODIF Q=xx, you can then determine for each of these groupings which quota type selection rule group should be used in time evaluation to access the entries in the *Absence Quota Type Selection* table for the relevant employees.

3. **Using a specially designed personnel calculation rule in the time evaluation schema**:
   In this case, you also determine the quota type selection rule group using operation MODIF Q=xx.

   Example

1. When creating records in the *Absence Quotas* infotype (2006), you want to see different default values for hourly wage earners as for salaried employees. Use feature QUOMO to store other quota type selection rule groups for the appropriate employee subgroup groupings.

2. You want to use other organizational assignments in time evaluation to determine quota selection rule group than those that are used for groupings in time wage type selection and time type determination.
   Depending on your individual requirements, create a new personnel calculation rule or use feature QUOMO.

3. You want to have the determination of quota selection rule group dependent on the same organizational assignements as the groupings for time wage type selection and time type determination. To do so, add operation MODIF Q=X to the personnel calculation rule under function MOD (TMON, MODT and so on).

   Activities

1. Decide which procedure you want to use to determine the quota type selection rule group.

2. Set up the personnel calculation rule or feature accordingly.

31.2.6.3.2.2 Set Base Entitlements

In this step, you set rules for determining the total entitlement (base entitlement) to an absence quota type. The base entitlement forms the basis for calculating the prorated leave or absence entitlement for each accrual period.

If you determine the base entitlement according to the employee's age or seniority, you enter a constant expressed in days or hours.

If you use time evaluation to generate absence quotas, you can make the rule more specific.

You may want to do this if the differentiation based on an employee's age or seniority is not sufficient for your purposes, or if you want to use other criteria to determine the base entitlement. You can do this by incorporating personnel calculation rules in the time evaluation schema. In the rules, you fill a special time type with the base entitlement according to the employee's organizational details or the results of time evaluation. You store the special time type, which the system reads in order to determine the entitlement, in this view.

If you want to vary the base entitlement according to age or seniority interval, you can distinguish between the various entitlements by numbering them sequentially.

The base entitlement is set for a specific period. You have three options for determining the base period:

- According to employee-independent periods:
  The base period can relate to the calendar year, the time evaluation period, or an individually specified period in the *Period Parameters* table.

- According to employee-dependent periods
  You can determine the base period according to the payroll period or a period relating to a date type from the *Date Specifications* infotype (0041).

  Using date specifications
  Some collective agreements and company agreements stipulate that the base entitlement must be determined in relation to the period of employment. They state that, after a base period, employees must receive the exact base entitlement. To comply with this requirement, you must use a date type.
  Example: You accrue entitlements on a daily basis. One employee joined your company on February 15, 2000, another employee on March 1, 2000. Both employees have a base entitlement of 20 days per year. After the employees have been with your company for exactly a year, the first employee's generated entitlement is slightly too high, the second employee's slightly too low, because of the leap year. The reason for this is that the following data was used as a basis for the calculation:

  - In 2000, because of the leap year, 366 days for 20 days' entitlement

  - In 2001, 365 days for 20 days' base entitlement
  Note: The differences in the amount of entitlement calculated are only relevant for the requirements mentioned above.

  - According to the accrual period
  In this case, the period over which you generate employee's quota entitlements is used as the base period (base period = accrual period).

Example

1. You want to determine the base entitlement to an absence quota on the basis of your employees' seniority. New employees are entitled to 25 days. Employees who have been with the enterprise longer than two years get 27 days, and so on. Enter the relevant seniority interval in this view and specify a constant.

2. You want to grade your employees' base entitlement according to their employee subgroup. In this case, you query the employee subgroup in a personnel calculation rule. Based on the result, you then fill a special time type with a value defined in the personnel calculation rule. You enter the time type in this view.

Requirements

You have set up the absence quota types you want to define for the base entitlement.

Activities

1. Under **Define base entitlement**, determine the employee groupings for which you want to specify a base entitlement.

2. Define a rule for the base entitlement

3. Enter a sequential number if you want to create a number of different rules for determining the base entitlement according to the age or seniority interval

4. If applicable, enter the age or seniority intervals to which you want the base entitlement to apply; the intervals are inclusive
   If you do not make any entries here, the base entitlement is determined independently of the employee's age or seniority

5. Enter a constant for the base entitlement, or if you use time evaluation, a day or period balance from which the system can read the base entitlement

6. Enter the base period; this is the period for which the base entitlement is valid

7. If you want the base entitlement to be calculated during time evaluation, create the prerequisites:
   Use the **Refine calculation of base entitlement** activity to create a personnel calculation rule in which you specify the entitlement according to further organizational assignments, for example. Use the **Adapt schema** activity to insert the personnel calculation rule in your time evaluation schema before functions CUMBT and QUOTA.

Further notes

You can specify the key date as of which the change in seniority or age should be taken into account in the Define generation rules for quota selection step.

31.2.6.3.2.3 Determine Validity and Deduction Periods

In this step, you decide which validity and deduction periods you want to be valid for an *Absence Quotas* infotype record (2006) created by the system. You do this for each absence quota type.

The deduction from and deduction to dates define the period in which the absence quota can be reduced by an absence. It need not be identical to the validity period, and can exceed it.

You only specify a validity period for absence quotas that are generated during time evaluation. Fields for entering the validity period are therefore only available for absence quotas for which you have selected *replace* or *increase* in the Generating quotas allowed in time evaluation step.

The validity period represents the period for which the time off entitlements are filled in one infotype record. If no entitlement of this type has been generated or if the validity period has been exceeded, a new record is created.
You have a certain amount of flexibility in defining validity periods. The validity period can be:

- A fixed period such as a calendar year or the time evaluation period

- Employee-dependent period, such as the payroll period or the date type

- A period defined in the quota selection rule, such as the accrual period

- A period you have defined in Customizing, such as the period parameter

Example

1. You want the absence quota type *Automatically generated leave* to be created for each calendar year. Select the *Calendar year* field under Valid from and Valid to. You want to be able to deduct from the quota from January 1 of the current calendar year through March 31 of the following year. Select the *Validity interval* field under Deduction from and Deduction to. Also enter 3 months in the *Relative position* field under *Deduction to*. The deduction to date is then extended by 3 months relative to the validity interval.

2. You want the absence quota type *Non-working shift entitlement* to be updated monthly. Select the period parameter *monthly* for determining the validity period. You always want to be able to deduct from the quota one month after the deduction to date. Choose the validity interval as the deduction interval and enter 1 in the *Relative position* field under Deduction from and Deduction to.

Requirements

You have set up absence quota types.

Recommendation

Always use the same deduction (and validity) intervals for absence quota types that have similar characteristics from a business point of view. In this way, you can keep an overview of the entitlements.

Activities

1.   Decide which absence quota types you want to generate automatically.

2.   Enter the deduction intervals for the absence quotas for which you want to set default values or
       which you want to be generated by report RPTQTA.

3.   Enter the validity and deduction intervals for the absence quotas that you want to be generated
       during time evaluation.

31.2.6.3.2.4 Define Rules for Reducing Quota Entitlements

In this step, you specify the conditions under which you want a generated absence quota to be reduced.

You can use reduction rules to set special regulations for part-time employees. You may want to reduce
the entitlement in proportion to the activity level, for example.

Days on which an employee is not active may also make it necessary to reduce the entitlement. Inactive
days are usually as a result of employees joining or leaving the company. You can specify a percentage of
inactive days after which you want a reduction rule to be implemented.

Certain absences such as unpaid leave can also be counted as inactive days. In this case, the reduction
quotient is determined by counting the number of payroll days in relation to the accrual period.

Example

1.   A part-time employee has an activity level of 50%. Accordingly, you want this employee to get 50%
       of the entitlement.

2.   If less than 25% of the days within an accrual period are inactive days, you do not want the
       entitlement to be reduced. If more than 25% of the days are inactive, however, you want the
       entitlement to be reduced proportionally.
       In the *Percentage of inactive calendar days* field, enter 25%. Under *Below percentage value*,
       select the *No reduction* field. Under *Above percentage value*, select the *Proportional reduction*
       field.

Activities

1.   Decide which conditions should lead to the quota being reduced

2.   Under *Define reduction rules*, create appropriate reduction rules. Assign names that make it easy to
       identify the rules in the selection rule for absence quota types. If necessary, specify whether (and
       how) the quota should be reduced for part-time employees.
       By entering a key date to determine part-time data, you specify the date from which you want the
       system to account for a change in working times. Basic pay splits and planned work splits are only
       taken into account if each individual day is checked to ascertain a change in working times.

3. If necessary, specify which reduction rules should apply for inactive days

4. Under *Assign reduction indicators for absences*, specify which absence types should cause the entitlement to be reduced.
   Select the *Reduce quota accrual* field if you want absences of this type to be treated as inactive days.
   If necessary, limit the reduction relevance of the absence by assigning a lower limit / upper limit for the payroll days.

31.2.6.3.2.5 Define Rules for Rounding Quota Entitlements

In this step, you specify rules for rounding the quota entitlement calculated. You can use a rounding rule in the selection rule for absence quotas, for accrual entitlements, and for quota entitlements from the *Absence Quotas* infotype (2006).

If you use time evaluation to generate absence quotas, values with several decimal places are often the result of calculating accrual entitlements. Because these values are difficult to deduct from, you can define rules to round entitlements, for example, to the nearest whole or half number.

You set the rounding rules with reference to concrete numbers. You can specify whether

- You only want the entitlement to be rounded within the given interval or whether the interval should be a rolling interval

- You want the specified upper and lower limits to be included in the calculation

You can specify several subrules for a rounding rule and differentiate between them by assigning sequential numbers. The system runs through the subrules in sequential order until it finds one that applies.

Example

1. You have defined a rounding rule to round an accrual entitlement that is greater than/equal to 0.5 and less than 1.5 to 1
   The system calculates a value of 1.335 when it determines the accrual entitlement for an employee; this value is rounded to 1

2. If the system calculates an accrual entitlement greater than/equal to 1.5 and less than 3, it should be rounded to 2
   You want the rule to be rolled, therefore the following applies for the following intervals

   - 3-4.5 (round to 3.5)

   - 4.5-6 (round to 5)

   - and so on
   The difference between the upper and lower limits always remains the same with rolling intervals, as does the difference between the target values.

3. You generally want the intervals to be rolled. You want a special subrule to apply for the interval 4.5 to 5.5, however.

Enter the subrule for the interval 4.5-5.5 with the sequential number 01, the subrule you want to roll with the sequential number 02. The system runs through subrule 01 first. If the rule applies, the special rounding can be implemented. If the rule does not apply, subrule 02 will definitely apply since the rolling intervals cover all possible values.

Standard settings

The standard system provides several sample rounding rules.

Recommendation

Note the following if you use rounding rules for accrual periods: When you define the accrual periods you should remember that considerable rounding differences can occur, especially with short rounding periods. SAP therefore recommends that you define long accrual periods if you use rounding rules.

Activities

1. Define a rounding rule

2. If you want to define several subrules, enter a sequential number

3. Enter the upper and lower limits of the rounding interval. If you select the *Incl.* field, you determine that the value of the upper or lower limit is accounted for in the rounding (greater than/ equal to or less than/equal to).

4. Enter the value to which you want the entitlement to be rounded

5. If you want the rounding rule to be a rolling rule, select the *Roll.* field

31.2.6.3.2.6 Define Rules for Transferring Quota Entitlements

In this step, you define the rules used to transfer leave and absence quotas from accrual to entitlement by entering transfer IDs and descriptions.

Subsequently, you assign each rule to a quota type and set up the conditions associated with each rule. To do this, you:

- Configure the step Define Generation Rules for Quota Selection in Customizing for *Personnel Time Management*

- Configure the section Quota Accruals Transfer to Entitlement in Customizing for *Payroll Australia* and *Payroll New Zealand.*

Activities

Enter the transfer IDs and short descriptions you require.

Subsequently, configure the rule conditions in the Customizing activities stated above.

31.2.6.3.2.7 Define Generation Rules for Quota Type Selection

In this step, you define rules for automatically accruing absence entitlements for your employees.

Note: If you want to set up rules for generating absence quotas using the report RPTQTA00 or for determining default values, you can now use a restricted view of the Customizing table. All non-relevant fields for this method remain hidden. The system knows which view of the Customizing table to display according to your specifications made in the Permit Quota Generation Without Time Evaluation activity.

Requirements

You have carried out the following steps:

- Define Absence Quota Types

- Set Validity and Deduction Intervals

- Define Base Entitlements

- If you want to generate absence quotas on the basis of accountable attendance times, you must have first:

- Defined the required Time Types: One time type to determine the attendance times and one to determine the factor with which the prorated base entitlement is multiplied

- Added a personnel calculation rule into your time evaluation schema to complete the time types.

Standard settings

The standard SAP System includes several sample solutions.

Activities

1. Specify the employee groupings for which you want to create a selection rule for absence

   quota types.

2. Create a selection rule and choose an easily recognizable name.

3. Specify what absence quota type you want to accrue in this rule.

4. In the **Applicability** section, enter the start of the earliest accrual date, the entry date, and details on the employee's disability (challenge), if relevant.
    If you do not want to differentiate using the above criteria, leave the fields blank or use a greater period for the entry date (01/01/1800 - 2/31/9999, for example).

5. In the **Accrual period** section, specify the period for which you want employee quota entitlements to be generated proportionate to the base period.
    In this section you can use calendar-based periods, or you can base the period on the employee's employment period. For the latter option, you use a date type from the *Date Specifications* infotype (0041) and specify your own length. If you already used a date type for determining the base period, you should specify the same date type here.

6. In the **Base entitlement** section, enter the base entitlement to be used to calculate the accrual entitlement.
    If the base entitlement is determined according to age and seniority, enter a key date for determining the employee's age or seniority.
    You can also use the Personnel Administration functions for calculating the employment period by entering a calculation process.
    For more information about calculating the employment period, see the SAP Library under mySAP Human Resources -> Personnel Management -> Personnel Administration -> Procedures in Personnel Administration -> Calculation of Employment Period.

7. In the **Accrual entitlement** section, enter specifications for processing the accrual entitlements. How accrual entitlements are processed further in time evaluation is determined by the entries made here. Make sure to take into account the accrual period you entered. If you want to generate the accrual entitlements on the basis of accountable attendance times, enter either a day balance or period balance in the **Multiplication by time balance** section. You can use alternative quotas to manage the capping differences that result from deduction or from the maximum entitlement being exceeded. Determine whether you want to store the capping differences and assign the applicable quota types.

8. If you have implemented SAP Time Evaluation: In the **Transfer time** section, specify when you want the entitlements to be transferred to the **Absence Quotas** infotype (2006) and made available for deduction. The transfer time can depend on a date type. The date type is read from the **Date Types** infotype (0041). You do not have to specify the year. In this way, you can specify that leave entitlement is to be transferred each year on the date the employee joined the company. If required, enter a minimum value for the accrual entitlements in the *Transfer packages* field. The system does not update the **Absence Quotas** infotype (2006) until the minimum value has been reached.

9. In the **Total entitlement** section, specify how you want to process entitlements that are transferred to the **Absence Quotas** infotype (2006). Quota entitlements in the **Absence Quotas** infotype (2006) are rounded or checked depending on your entries here. If necessary, they can be capped to adhere to a maximum value.

31.2.6.3.2.8 Develop Enhancements for Quota Type Selection

You can use the SAP enhancement **HRPTIM03** for **quota type selection**.

You can use the enhancement to refine the criteria available for creating absence quotas in the following areas:

1. Applicability of the selection rule EXIT_SAPLHRV_001

2. Defaults for processing accrual entitlements determined by time evaluation EXIT_SAPLHRV_002

3. Rules for reducing quota entitlements EXIT_SAPLHRV_003

4. Defaults for determining base entitlements EXIT_SAPLHRV_004

5. Default for transfer: Change results of quota generation EXIT_SAPLHRV_005

6. Processing individual regulations for determining the employee's entry and leaving dates
    EXIT_SAPLHRV_006

Example

In your enterprise, employees who work with a high level of noise pollution or a particularly heavy
workload should receive an extra 5 days time off entitlement. The workplace should also be taken into
consideration when you are creating absence quotas. To refine the conditions of the applicability of a
rule, use the enhancement
EXIT_SAPLHRLV_001. In this enhancement, enter the work center as an additional condition, which
must be fulfilled by using a selection rule.

Activities

1. Create your enhancement. To do this, either create a new project or use an existing project.

2. Add your own elements to the standard SAP program code.
    SAP provides the necessary function modules with short texts, interfaces, and
    documentation. The function exits contain the SAP includes. Create the includes,
    and enter the required enhancements.

3. Activate the project. Only then does the system run through the ABAP program code. The
    enhancements do not take effect before you activate the project.

Further notes

Unlike modifications, enhancements are not overwritten when there is a release upgrade since they are
made in a name range reserved for the customer rather than in the standard delivery.

The exact procedure for creating enhancements is described in the documentation *Enhancements to SAP
Transactions*. To access the documentation, choose *Help -> Application Help* in the enhancement
transaction.

There is documentation on each enhancement and user exit. To access the documentation on the user
exits, choose *Display SAP documentationdocumentation* in the enhancement transaction.

31.2.6.3.2.9 Maintain Sick Leave Entitlement

In this step, you maintain the sick leave entitlement for an employee (Infotype 2006).

Sick Leave is divided into 2 categories: Cat 1 and Cat 2. An employee is entitled 2 days of sick leave a month. They are first accumulated in Cat 1 until the entitlement is reached, whereby the remaining monthly entitlements are accumulated in Cat 2.

This feature sets the maximum values for the sick leave entitlement for both categories.

Standard settings

In the standard system, the sick leave entitlement for Category 1 is 36 days, and for Category 2 is 84 days.

Activities

Check that the feature reflects the requirements for sick leave entitlement for the company.

31.2.6.3.2.10 Vacation allowance time types

In this IMG step, you insert the PVAT rule in a Time Management scheme in order to fill in the time types with the number of leave days the employee has acquired in the accrual period.

Requirements

If have not used time management up to now, you must copy the **TQTA** scheme.

Activities

- If you already use time management:

    a)   Insert the PVAT rule in the existing scheme <u>before</u> the line **CUMBT**

    b)   Save your entry.

- If you are using time management for the first time:

    a)   Copy the TQTA scheme

    b)   Insert the line **CUMBT** before the QUOTA function

    c)   Insert PVAT <u>before</u> the line **CUMBT**

    d)   Save your entries.

31.2.6.3.2.11 Define Absence Quota Groups

Use

In this Customizing activity, you create an absence quota group. This is a prerequisite for maintaining the *Absence Quota Group* infotype (IT3355).

You use this infotype when the feature *QUOMO* does not evaluate the fields that you require for your business case.

To display the fields that *QUOMO* evaluates, use transaction *PE03*. Enter *QUOMO* as the feature, choose *Attributes* and select *Display*. In the next screen, choose the *Structure* pushbutton.

Requirements

- The quota type selection rule group has been maintained in Define Generation Rules for Quota Type Selection.

- The report *RPTQTA00* is used for generating absence quotas and the report *RPTIME00* is used for time evaluation.

Activities

In this Customizing activity you determine the following for a quota type selection rule group:

Short text and description for each grouping of employee subgroups and personnel subareas according to time quota types or time recording.

The quota type selection rule groups are available in the Customizing activity Define Generation Rules for Quota Type Selection.

If an absence quota group is no longer valid, select the hide indicator for this group. Thereby, the absence quota group is no longer available in the input help when creating or changing the infotype *Absence Quota Group* (IT3355).

More Information

For more information about the *Absence Quota Group* infotype (IT3355), see the following:

- SAP Note 1816423

- SAP Help Portal at *http://help.sap.com -> SAP Business Suite -> SAP Enterprise Resource Planning -> SAP ERP -> Application Help -> SAP ERP Central Component*

-> Human Resources -> Personnel Time Management (PT) -> Time Data Recording and Administration -> Time Management Infotypes -> Time Management Master Data -> Absence Quota Group (Infotype 3355).

31.2.6.3.2.12 Check Customizing Settings for Quota Generation

Use

In this activity you can check your Customizing settings for the calculation of absence entitlements by using the RPTQUOTA_CHECK report (Overview of Customizing Settings for Quota Generation).

Requirements

You have made Customizing settings for the calculation of absence quotas.

Activities

Run the RPTQUOTA_CHECK report for the required time-management groupings or employees.

31.2.6.3.3 Setting up Methods for Quota Accrual

In this section, you make the settings required in Customizing to set up the following options for generating absence quotas:

-   Automatic accrual of time off entitlements using time evaluation

-   Automatic accrual of time off entitlements using the report RPTQTA00 **Generating Absence Quotas**

-   Determining default values by creating time off entitlements in the **Absence Quotas** infotype (2006).

31.2.6.3.3.1 Activate Automatic Accrual for Time Evaluation

In this step, you customize time evaluation so that absence quotas are generated automatically.

This is done in the time evaluation schema using function QUOTA, which accrues time off entitlements according to the generation rules for quota selection. Using time evaluation to generate quotas automatically has the advantage that you can define rules to control the time of transfer to the infotype.

If you do not use time evaluation in your enterprise, or if you do not use it for all employees, you can still take advantage of time evaluation for accruing quotas. You can use schema TQTA, which only generates absence quotas.

Example

Using the standard time evaluation schema:
Generates absence quotas using current time data such as the productive hours or overtime worked in one payroll period.

Using schema TQTA:
Generates absence quotas using simpler situations such calculating entitlements proportionately per payroll period, month or year.

Requirements

You must carry out the steps in the Rules for Generating Absence Quotas section.

If you want to use the time evaluation schema TQTA, you must make the following settings in Customizing to be able to run time evaluation:

- Schedule time evaluation

- Set modifier for earliest recalculation date

- Set earliest recalc. date for pair formation/time evaluation

- Determine time evaluation periods

- Set personnel subarea groupings for time recording

All employees to be evaluated using schema TQTA must be assigned the *Time Management status* 7 (time evaluation without payroll integration *Planned Working Time* infotype (0007).

Activities

1. Use the **Determine absence quotas for accrual** activity to check whether all the time off entitlements that you want time evaluation to accrue are assigned the *Increase* or *Replace* indicator.

2. Use the **Adapt schema** activity to modify the schemas:

   a) Standard time evaluation schemas:
      Check whether function QUOTA is active in your schema.
      Insert it, if necessary. It must be entered in day processing after function CUMBT so that you have access to the current day and period balances.

b) Schema TQTA:
Carry out the aforementioned Customizing steps to implement time evaluation.

31.2.6.3.3.2 Set Up Automatic Accrual Using Report RPTQTA00

In this step, you set up the automatic accrual of time off entitlements using report RPTQTA00: Generate Absence Quotas.

Example

-   You want to generate the general annual leave for a group of employees. You want the leave to be based on the employees' seniority.

-   For another group of employees, you want the annual leave to be accrued periodically. You generate the time off entitlements proportionately at the end of a payroll period.

Requirements

You must carry out the steps described in the section Rules for Generating Absence Quotas.

Feature QUOMO must be maintained for the employee groups using the Specify Rule Groups for Quota Type Selection step.

Recommendation

If you want to determine time off entitlements proportionately, you should plan the report to run periodically.

Activities

1. Use the **Determine absence quota types for accrual** activity to check whether all time off entitlements that you want to accrue with the report have the *No generation* indicator.

2. Use the **Set up report variants for absence quota accrual** activity to implement the required report variant.

3. If you want to determine time off entitlements proprtionately, use the **Schedule quota accrual** activity to schedule backround processing for the report to run periodically.

4. If you want the validity periods of the quota records to be determined automatically, use the **Specify validity interval for quota accrual** activity to create the required interval specifications.

31.2.6.3.3.3 Determine Default Values for Hiring

In this step, you make the necessary settings to enable you to use the functions for generating absence quotas to determine default values even when you manually create records for the *Absence Quotas* infotype (2006).

You can use a special list entry function for the automatic determination of default values when maintaining infotypes such as time data (transaction PA61) or actions (transaction PA40). In this step, you ensure that the list entry function is called when a user creates an infotype record.

Example

Your employees are granted 20 days of general annual leave in advance for each calendar year. The *Absence Quotas* infotype (2006) is integrated in the Hiring action for new employees.

Paul Mayer joins your enterprise on 07/01/1999. When you create the *Absence Quotas* infotype, the system proposes standard annual leave with quota number and validity and deduction periods for Paul Mayer.
The proposed quota is halved in relation to the entire entitlement for the calendar year; it is therefore 10 days. The deduction period does not start until Paul Mayer has completed his probationary period.

Paul Mayer's time data administrator can overwrite the proposed values, if necessary.

Standard settings

1. You must carry out the steps in the Rules for Generating Absence Quotas step.

2. You must maintain feature QUOMO for the employee groups using the Specify Rule Groups for Quota Type Selection step.

Activities

1. Use the **Determine absence quotas for default values** activity to check whether all the time-off entitlements that you want to use as default values for the *Absence Quotas* infotype (2006) are assigned the *No generation* flag.

2. If necessary, use the **Change group for Hiring action** activity to check whether the *Absence Quotas* infotype (2006) is integrated in the Hiring action (infogroup 10) and/or other actions. If necessary, integrate the infotype in the action.

3. If you want to have the validity periods of new quota records to be determined automatically, carry out the following steps:

   a) In the activity **Check Infotype Properties**, check that the fields *Create w/o strt* and *Create w/o end* have the parameter *Infotype dependent, in general no default* (= blank).

   b) In the activity **Determine Infotype Screen Control**, ensure that the list entry function is called for creating infotype records.
      Check that the following table entries exist for the module pool, and add them if necessary:

Line 1: Screen = 2250, feature = P2001, variable key = BLANK, alternative screen = 2250, subsequent screen = 0

Line 2: Screen = 2250, feature = BLANK, variable key = 2251, alternative screen = 2251, subsequent screen = 2251

c) In the activity **Modify Feature P2001**, customize the feature to suit your requirements. For the screen number (DYNNR) **2250**, enter report RPQTASCR, which sets the list entry screen.

d) In the activity **Set Validity Interval for Quota Accrual**, enter your required data.

31.2.6.4 Quota Deduction Using Attendances/Absences

In the following steps, you specify rules for deducting quotas.

31.2.6.4.1 Define Deduction Rules for Absence and Attendance Quotas

In this step, you define the rules according to which attendances and absences are to be deducted from the attendance/absence quotas.

Quota deduction does not depend on individual attendance/absence types, but is determined by the *Counting rule for attendance/absences* that is assigned to an attendance/absence type. There are two variants of these counting rules:

1. Deduction rules used for deducting quotas until existing entitlement is used up.

2. Deduction rules used for deducting quotas over and above the existing entitlement when the quota named in bullet point #1) is used up.

   See also: Assigning deduction rules to counting rules

The following functions are available for defining deduction rules:

- Sequence with which attendances/absences are deducted from quotas, can be defined using the following criteria:

- Attendance/absence quota types

- Start and end of validity period of the quotas

- Start or end of quota deduction period (only valid for absence quotas) These criteria can be

  specified even further as follows:

- *Quota Sequence:*
  A distinction exists between a special sequence of up to 100 quota types and a **Sequence for the next deduction**.

If you enter a quota directly here, then this quota is deducted first following the sequence entered. After which, the other quotas for the employee can be deducted according to the sequence for next deduction.

For the sequence of next deduction, you must specify whether the quota types should be accounted for in ascending or descending order.

- *Deduction Priority:*
  Here you enter the criteria, according to which sequence the system should sort existing employee quotas to make them available for deduction. You can enter the priority levels 1 to 5 for the criteria **quota type**, **start of validity period**, **end of validity period**, **start of deduction period** and **end of deduction** period (see example).

For date-based criteria, you can differentiate between ascending and descending sorts. If you do not enter a priority for an attribute, then if will not be taken into account when sorting the time quotas for deduction.

Example

You choose the priority "1" for your attribute **end of validity period** and priority "2" for the attribute **quota type**. In this case, then first all existing quota records, regardless of their type, will be sorted according to their end of validty periods. If two or more records have the same end of validity period, then these records will be sorted according to the special sequence of quota types (insofar as it exists) and then according to the sequence for next deduction.

Note

If you do not enter a priority for the attribute **quota type** then neither the special sequence nor the quota sequence for next deduction is taken into account. Furthermore, the quota type sequence is only taken into account for valid priority entries if all previous sort criteria has been included.
A deduction rule is unvalid, if none of the available attributes (by the priority entry) is indicated as relevant. In this case, the deduction sequence is determined by a "standard rule" defined as follows:
All available time quota records of the same type (atendance quota or absence quota) are deducted in ascending order according to their deduction end date, then according to their deduction start date and then finally accordibng to their quota type.

- Deduction rules are only valid for quotas that have the entered time unit (day or hours).

Example

The absence quota of an employee should be used up in the way that makes most sense. This especially means the time off entitlement that the employee worked each month and which only has a deduction period of one month to use, should be the first deducted.

To set this up, enter the absence quota type *01= Day off entitlement* in the *Absence quota types* section of the screen and leave all of the other fields blank.

Other quotas that the employee has should also be able to be deducted from and sorted in ascending order according to absence quota type. These quotas do not need to be entered explicitly.

Select only the *Sort all other quota types in ascending order* in the *Quota type sequence for next deduction* section of the screen

For the deduction priority, enter the absence quota type as priority "1" so that the day off entitlement is deducted first in any case. The other quotas should be processed so that those which are next deduction are the ones that are sequentially closest. To do so, enter priority "2" as the end of deduction period. By selecting the *Ascending* field, all quotas which follow are sorted so that those with the date farthest in the future are deducted first. As priority "3" you can then specify the *Start of validity period*. If you also activate the *Ascending order* field here, you make sure that in the third priority, the quota with the start of validity period furthest in the future is deducted.

Requirements

All attendance/absence quota types to be deducted are created in the Define attendance quota types and Define absence quota types steps.

If you want to define special deduction rules that enable deduction over and above entitlement, then you should specify for each *quota type* and *Personnel subarea grouping for time quotas* the lowest limit for negative deduction.

Standard settings

The standard SAP System contains a number of deduction rules.

Activities

1. Enter the *Employee subgroup grouping* and the *Personnel subarea grouping for time quota types* for which you want the deduction rule to be valid.

2. Enter the deduction rule. Use an easy to recognize name so that you can easily remember your rule. Make sure to specially Indicate deduction rules that can be used to enable deduction over and above entitlement. This will make it easier to assign deduction rules to the counting rules.

3. Enter the unit for the attendance/absence quota types that are to be deducted using this rule.

4. If required, enter the attendance/absence quota types that should be deduction using this rule.

Note

a) If you do not enter an attendance/absence quota here, then the system deducts all additional quotas of the employee that also have the same time unit (day or hours).

b) To check the quota types entered here, the system includes the valid quota definition for the start date of the deduction rule.

> If you later change the time unit of a quota type, then an error can occur. To prevent this from happening, you should check all of the deduction rules that follow when changing a time unit of an attendance/absence quota type at a later time, whether the changed quota is used in those rules. It is recommended that a new quota type be created in situations such as these.

5. Determine whether other quotas are to be deducted if all of the quotas displayed in the *Absence quota types* window are used up.
   If you do not want this to be the case, activate the *No further deduction* field. If you do want this to happen, enter whether the quota should be sorted ascending order (01, 02, 03) or descending order (99, 98, 97).

6. Enter the deduction priorities and the type of sorting you require.

Further notes

Quota deduction is indicated *to a key date* in the transparent table PTQUODED, so that "Undos" are carried out in the correct order.
A quota deduction record of this type contains a link to the attendance or absence it represents and to the quota record that was deducted. This link takes place using the document number DOCNR that is stored with the attendance/absence and the quota number QUONR that is stored with the quota record.

31.2.6.4.2 Assign Deduction Rules to Counting Rules

In this step, you assign quota deduction rules to counting rules. All absences and attendances with quota deduction that are counted using the selected counting rule are processed using these deduction rules.

As well as a deduction rule for deducting the employee's quotas with an entitlement greater than 0, you can also specify a deduction rule for all quota types for which the corresponding infotype records can be deducted over and above the entitlement.

Note: You can define your own deduction rules for quota deduction over and above the entitlement. You can also use the existing deduction rules twice.
If you specify the same deduction rule for deduction until the quota is used up and deduction

over and above the entitlement, the system proceeds as follows:
First, all the employee's quotas are deducted in full. Next, the quotas that allow deduction over and above the entitlement are used up.
To make a deduction over and above the entitlement, the employee must have at least one quota within the validity period with a quota type that has a negative lower deduction limit.

Note: If the *Quota deduction* field is selected for an attendance or absence type but no deduction rule is specified, *no* time quota is deducted for the employee. You can see this by the fact that the *Quota used* field is not shown on the entry screen.

Example

1. Using the same deduction rule for deduction over and above the entitlement

According to a company agreement, employees are to receive time in lieu of overtime. The relevant absence quota type, *Time off entitlement* is generated in time evaluation. Regardless of the accrued entitlement, employees should be allowed to take at least one day off in lieu (this has to be approved).

Define the absenc quota type *Time off entitlement* with a limit of -1 for a negative deduction. Then define a deduction rule that controls the deduction of quotas over and above the entitlement. In this rule, enter the quota type *Time off entitlement* as the first quota to be deducted.

You enter the relevant deduction rule in the *Over entitlement* field under *Attendance quotas*.

2.   Using a special deduction rule for deduction over and above the entitlement

Your employees are entitled to 20 days paid sick leave. All illness- related absences longer than 20 days are not paid. You define two absence quota types:

-    Once for paid sick leave with an entitlement of 20 days

-    One for unpaid sick leave with an unlimited entitlement

You define a deduction rule and assign it to the relevant fields in the counting rule. You also customize Absence Valuation to suit your requirements (see Valuation of Absences with Quota Deduction).

Requirements

You have created the counting rules in the Define counting rules step.

You have created the deduction rules in the Define deduction rules for absence and attendance quotas step.

Activities

To get a better overview, you can access a view cluster in this step. This allows you to check the entries you have made so far.

1.   Call the **Counting Rule** view. To do this, choose *Counting rule* under *Navigation*.

2.   Choose the required counting rule.

3.   Under *Quota deduction*, enter the deduction rule that applies until the employee's quota entitlements have been used up.

4.   If required, enter the deduction rule for the absence and attendance quota types that can be deducted over and above the entitlement.

The deduction rules in the *Within entitlement* and *Over entitlement* fields must deduct absence and attendance quotas using the same time unit. This applies to all sequential numbers of a counting rule.

The deduction rules for absence and attendance quotas can deduct in different time units.

31.2.6.5 Processing Absence Quotas in Payroll

In this section, you define regulations for valuating absences using quota deduction and for compensating time off entitlements in Payroll.

31.2.6.5.1 Valuation of Absences with Quota Deduction

Absences that are deducted from absence quotas should sometimes be valuated according to different criteria than other absences. For this reason, you can tailor the normal method of valuating absences to include absences with quota deductions. This enables you to deal with the following business requirements:

Absence should be valuated according to the quota from which it is deducted

An absence can be deducted from several quotas. If the quotas from which the deductions are made have different values, it may be necessary to valuate each period differently.

Examples:

- An absence has been deducted, first from the additional vacation for challenged persons, then from the standard annual leave. The additional vacation for challenged persons is valuated at a higher rate than standard annual leave.

- Employees may also claim absences in excess of paid entitlement. If the paid entitlement has been used, the absence is deducted from a quota valuated as unpaid. In some countries, this is the case with standard sick leave, for example.

Absence should be valuated according to the validity period of the quota

This situation arises if the deduction period for the annual leave spills into the following year, for example. In such cases, the absence should be valuated according to the remuneration for the leave year, rather than for the current year. The relevant basic wage for the employee at the start of the quota's validity period may, for example, be the basis for this valuation.

31.2.6.5.1.1 Valuate Absences Using Quota Deduction

In this step, you define the special rules for differentiated valuation of absences with quota deduction.

You can use the following criteria to assign a new absence valuation rule for valuating absences:

- Dependent on deducted absence quota

- Dependent on deducted absence quota and accompanying validity period (= leave year) The start date for the validity period of an absence quota is always taken into account with this option. You can use a sequential number to assign different absence valuation rules, depending on the validity period of an absence quota. The individual entries will run through the program until a corresponding entry is found.

Examples

1. Leave for challenged persons is to be valuated at a higher rate than standard leave. You want to reduce the amount of work for your administrator and therefore you use only one absence type. This absence type makes the deduction from the leave quota for the employee and is assigned to absence valuation rule 01.
When the absence is entered, the system uses your Customizing settings, which specify how the quota is structured and deducted. The system automatically determines whether the leave is for a challenged person, or whether it is standard leave or another type of leave. To valuate both absences using a different rate, you create an entry for the absence valuation rule 01 in this step. You can assign, for example, the absence valuation rule 12 to the quota for additional leave for challenged persons. You continue to valuate the other leave types for the employee using the absence valuation rule 01.

2. You want to valuate sick leave without pay after the annual entitlement has been deducted. To do this, create two absence quota types: one for the paid sick leave and one for the unpaid sick days. You then create an absence valuation rule for unpaid sick days in addition to the absence valuation rule for paid sick days.
In this step you create an entry by assigning an absence valuation rule for unpaid sick days to the quota type for unpaid sick days under the absence valuation rule for paid sickness days.

3. You want to valuate the remaining leave from the previous year based on the employee's basic pay at the start of the previous year. To do this, create an entry for the **Leave paid** quota type and assign an absence valuation rule for each leave year. Enter a wage type that is valuated with the employee's average basic pay for the leave year to be valuated.

Requirements

1. You must make the required settings for absences and also for the structure and deduction of absence quotas within Customizing.

2. The absence valuation rules for the valuation of absences must also be set up. This

   includes the special rules for the valuation of absences with quota deduction.

3. If the corresponding country-specific standard processing functions are not available, you must first set up appropriate personnnel calculation rules to retrieve the information on the previous year(s) remuneration.

4. In your payroll schema, parameter 3 from the RAB function must be filled with **X**.

Standard settings

Recommendation

Absences with the same quota deduction rule should usually be valuated in the same way (time value = monetary value).

Activities

1.   Enter the absence valuation rule that you want to differentiate further for the valuation of absences with quota deduction.

2.   Enter the accompanying groupings and the absence quota types to which you want to assign the new absence valuation rule.

3.   If you want to store several entries for an absence quota type, enter a sequential number. Please note that the system will run through the entries until it finds a suitable entry. For this reason, you should give the special entries a low sequential number and the general entries a high sequential number.

4.   Enter the validity period for the entry. Please note that the system selects the rule that is valid for the payroll run when the the absence valuation rule is selected.

5.   If required, specify the leave year for which the new absence valuation rule should be assigned.

   a)   In the *Comp* field, enter the following data for the leave year:

   -    Relating to the specified single values, for
        example, the leave year

   -    A sequence of values from the previous year -

        A sequence of values from the following year

   b)   Enter the leave year(s) to be valuated using the new absence valuation rule. Different methods are available for calculating the leave year:

   -    Enter the difference between the leave year and the year in which the current payroll period started.
        You can use this method to make general statements on the processing of leave in the current year or the previous year. The reference date is the start date of the payroll period.
        If changes are subsequently made to the collective agreement, you can delimit individual entries using the validity period for the entry.

   -    Enter calendar year:

        Specify the leave year directly. The disadvantage of this method is that you must maintain the entries for each leave year.

   Example:

Comp.	Diff	Year	Meaning
=	-	1998	Leave year 1998
=	0	-	Current leave year (start date of payroll period)
=	-1	-	Previous year leave
<	0	-	Leave for prev. year
-	-	-	Always

6.   Specify the new absence valuation rule to be assigned for the absence quota type.

   Further notes

31.2.6.5.2 Time Quota Compensation

You can use time quota compensations to remunerate time off entitlements (in particular, leave entitlements) that are managed in absence quotas.

Determine the time quota compensation types for your enterprise in the Time Quota Compensations infotype (0416).

Specify whether you want wage types to be generated from the absence quotas in Payroll, and the conditions for generating wage types.

31.2.6.5.2.1 Define Time Quota Compensation Methods

In this step you define the time quota compensation methods. These are subtypes of the *Time Quota Compensation* infotype (0416). You specify the data that an administrator must enter in the infotype in order to record a compensation.

With time quota compensation, you can compensate entitlement to time off, in particular leave entitlement, which is maintained in absence quotas.
You can create absence quotas in Managing Time Accounts with Attendance/Absence Quotas.

Requirements

If you want to assign wage types, refer to the Time Quota Compensation section in the IMG for Payroll.

Standard settings

The SAP standard system contains several models for time quota compensation types.

Activities

1. Check the SAP model entries. Add new entries according to your requirements.

2. Choose *New entries*.

3. In the *Subtype* field, enter a 4-digit subtype key for your absence quota compensation method, beginning with a letter.

4. In the *Name* field, enter the subtype name for your absence quota compensation method. Choose a relevant name. This will help the administrator when selecting the desired compensation method.

5. Carry out one of the following actions:

   - Either assign a *quota deduction rule* to the absence quota compensation type. The quota deduction is then carried out in accordance with a quota deduction rule. In this case, the administrator must only enter the number of quotas that are to be deducted. See also: Define Deduction Rules for Attendance/ Absence Quotas

        -    Or assign an *absence quota type* to the absence quota compensation type. The quotas of this type are then deducted. In this case, the administrator must only enter the number of quotas that are to be deducted.

        -    Or carry out no assignment. In this case, define a **free deduction**.

6.   Delete entries that are not required.

31.2.6.5.2.2 Wage Types

In this section you define wage types.

You determine the behaviour and characteristics of wage types for employee data maintenance.

You do not decide or determine anything in relation to the behavior of wage types in Payroll.

31.2.6.5.2.2.1 Create Wage Type Catalog

In this step, you generate your own wage types for the *Compensation* infotype (0416), by copying the model wage types in the standard system.

These copies are the wage types you can use in further processing. You can also modify them to suit your requirements. Only wage types for use in the *Compensation* infotype (0416) are offered in this step.

    Note

-    For information on setting up customer wage types using prototypes or by copying the wage type catalogs in the standard system, see the steps "Create Wage Types Using Wage Type Catalogs" and "Create Wage Types Using Prototypes".

-    Note that copies of model wage types (your wage types) have the same characteristics as the SAP model wage types as regards processing in dialog as well as in payroll. You can check and, if necessary, change the characteristics of your wage types in the subsequent steps.

    Caution

Only use the name range reserved for your customer wage types (wage types that begin with a number). Do not copy wage types to the area reserved for SAP model wage types (those that begin with a letter or a symbol).

    Activities

Generate your copy wage types for *Time quota compensation* infotype (0416), using the steps

-    Copy Wage Type Catalog and

-    Create Prototype Wage Types

For more detailed information on the copy procedure, see *Help -> Extended help* in the maintenance view.

31.2.6.5.2.2.2 Check Wage Type Group 'Time Quota Compensation'

In this step you assign your wage types to a wage type group.

SAP has already grouped the model wage types into wage type groups.

Example

If you want to be able to enter a wage type which SAP had only intended for this infotype in additional infotypes, you have to complete this step.

Requirements

You have already defined the wage types in the wage type catalog.

Standard settings

In the standard system, certain wage types (e.g. vacation allowance, Christmas bonus) have been assigned.

Activities

Check your wage types and add new wage types, if required.

Further notes

If you have also added a wage type to another wage type group in this step, you have to complete the next step as well.

31.2.6.5.2.2.3 Checking the Wage Type Catalog

In this section you can change the characteristics of the wage types you have just created from the model wage types.

The characteristics only relate to the way wage types behave when entries are made, not to their behavior within Payroll.

31.2.6.5.2.2.3.1 Check Wage Type Text

In this step you can change the texts of the model wage types that you just copied to your wage type area.

Requirements

You have created your own wage type areas.

Recommendation

Use meaningful texts..

Activities

Modify the wage type texts, if required.

Further notes

The wage type short texts are used when the payroll account is printed.

31.2.6.5.2.2.3.2 Check Permissibility of Entries for Each Infotype

In this step, you determine when wage types are to be entered in this infotype.

Example

The wage type "Non-standard bonus" may only be entered up to 31.12.95.

Requirements

-       You have defined your wage type catalog.

-       You have decided which wage type can be entered in which infotype.

Activities

1.   Determine the validity period for entries.

2.   Determine whether multiples of a wage type can exist at any one time.

31.2.6.5.2.2.3.3 Check Wage Type Characteristics

In this step you define characteristics for wage types.

These characteristics refer to the entry of wage types, and not the role of wage types in Payroll.

Example

The maximum wage type amount is $1.000,00, the minimum $10.00.

The maximum wage type number is 100, the minimum 1.

The wage type amount may not be included in the totals line of basic pay.

You must enter a wage type amount.

Only the number should be entered for a wage type.

A unit of time/measurement should be defaulted for the number.

You want to valuate wage types indirectly.

Requirements

You have set up your wage type catalog in the previous step.

You have set up your pay scales in the previous steps.

You have defined the wage type catalog and have familiarized yourself with the characteristics of your wage types.

Standard settings

The standard SAP System contains several model wage types.

Recommendation

If you intend to use Payroll, become acquainted with its functionality. You may be setting up wage types that are automatically generated there.

Activities

1.   Adapt wage types according to your requirements.

   a)   Define the country grouping for the wage type(s) you want to process.

   b)   Position your cursor on an entry whose title roughly or exactly describes what you wish to define.

   c)   Decide whether you want to copy this wage type under a new number or create new entries (without a copy model).

   d)   Define the number and name of the wage type.

   e)   Define the validity period for the entry.

   f)   Define the operation indicator.

   g)   Define the mimimum and maximum amount of the wage type, if necessary.

   h)   If you want to edit a wage type for the *Basic pay* infotype (0008), specify whether the wage type amount should be included in the basic pay total.

   i)   If required, define the default time/measurement unit, minimum and maximum number.

   j)   Define the input combination for number and amount.

k) If required, set up indirect valuation and define its characteristics. Indirect valuation is possible for the following infotypes:

Basic pay   (0008)
Recurring payments/deds. (0014)
Additional payments   (0015)
Wage maintenance   (0052)

l) If you intend to use *Time Management*, specify whether the wage type is a bonus or basic hourly pay.

2. Delete any unnecessary wage types.

Further notes

Define only the wage types that are to be entered in infotypes; wage types which are generated during the payroll run do not need to be defined in this step.

31.2.6.5.2.2.4 Define Employee Subgroup Grouping for Primary Wage Type

This section allows you to combine employee subgroups for primary wage types, i.e. you group the employee subgroups already named to groups.

You can use these groupings to specify which wage types may be entered for which employee subgroups.

Example

The "bonus" wage type should only be entered for 'executive' employee subgroups, of which there are two.

Both employee subgroups are assigned to grouping "9".

Requirements

Employee groups and subgroups must be defined.

Determine which wage types may be entered for which employee subgroups in your company.

Standard settings

The standard system contains groupings for primary wage types which can be used as a reference.

Activities

Assign your employee groups and subgroups to a primary wage type grouping.

31.2.6.5.2.2.5 Define Personnel Subarea Grouping for Primary Wage Type

In this section you define your personnel subareas for primary wage types, i.e. you group together the personnel subareas you have already defined.

You can use these groupings to specify which wage types may be entered for which personnel subareas.

Example

The wage type "share of turnover" should only be entered for the personnel areas "Headquarters" and "Production".

Both personnel areas are assigned to grouping "9".

Requirements

Personnel areas and subareas must be defined.

Determine which wage types may be entered for which personnel subareas in your company.

Standard settings

The standard system contains personnel subareas for primary wage types which can be used as a reference.

Activities

Assign your personnel subareas to primary wage type groupings.

Further notes

This activity is not mandatory and should be carried out only if you want to limit the entry of wage types to certain personnel subareas.

31.2.6.5.2.2.6 Specify Wage Types Permitted for Each PSG and ESG

In the previous two steps, you grouped your employee groups and subgroups and personnel subareas for primary wage types.

In this section, you can define which wage types may be entered for your groupings.

Example

You want to allow the "bonus" wage type only for employee subgroup grouping "9". These employee groups and subgroups were defined in the previous but one step. Set this indicator in column "9" of the "Admissibility for employee subgroup grouping" block for your groupings.

You want to allow the "share of turnover" wage type only for personnel subarea grouping "9". These personnel subareas were defined in the previous step. Set this indicator in column "9" of the "Admissibility for personnel subarea grouping" block for your groupings.

Requirements

- Employee groups and subgroups must be defined.

- Personnel areas and subareas must be defined.

- Employee groups, subgroups and personnel areas must be defined for primary wage types.

- The wage type catalog must be defined.

Standard settings

The indicator described in the above example must be "1", if you define this wage type as permissible without the system issuing a note or a warning. The indicator must be "2" if the user receives a system warning when he/she enters a wage type.

A blank signifies that the wage type may not be entered.

Recommendation

Use this functionality to effect more extensive plausibility checks when wage types are entered.

Activities

Assign the appropriate indicators to your wage types.

Further notes

If you have no employee group, subgroup or personnel subarea groupings, blanks in the permissibility string mean no permissibility checks are carried out.

31.2.6.5.2.3 Assign Wage Types to the Quotas to be Compensated

In this step, you define which wage types are formed for compensating time quotas.

The rules to determine which wage types are checked are defined according to the employee subgroup grouping for time quota types, the personnel subarea grouping for time quota types, the absence quota type, and the quota compensation method. The rules are checked in the order of the sequence number.

For conceptual information on the formation of wage types, see the SAP library, by choosing Time Management -> Time Data Recording and Administration -> Quotas -> Deduction of Absence Quotas -> Time Quota Compensation.

Example

Standard annual leave, absence quota 11, is deducted using compensation type 1011. You want wage type M165 to be generated if the valid from date of the quota is in the current payroll year, and wage type M166 for standard leave for the previous year.

Requirements

You must define the wage types that you want to assign.

Standard settings

The standard system contains model entries.

Activities

1. Decide on the employee subgroup grouping for time time quota types, the personnel subarea grouping for time quota types, the absence quota compensation type, and the absence quotas to which you want the rule to apply.
   Enter the appropriate data. Enter a validity period for the rule.

2. Assign the wage type that is to be created in the *WGTYPE* field.

3. Decide whether you want the wage type to be generated in all cases. If so, leave the *Comp.* field blank.

4. Decide whether you want the the year of start of validity of the quota to be before, after, or identical to the comparison year for the wage type to be generated.

   a) Choose the comparison $<, =, >$.

   b) Enter the comparison year in the field *Year*. If you want the comparison to be made with the payroll period during the payroll run leave the field blank.

   c) Enter in the *Diff.* field the number of years to be added or subtracted from the comparison year.

5. In the field *% fact* enter the percentage of the quota number. The number that is multiplied by this percentage is stored in the wage type.

If you want to create further wage types according to this rule, copy the rule and assign it a new sequential number.

Further notes

If compensation is recorded in the *Quota Compensation* infotype with a wage type, the rules are not processed.

31.2.6.6 Quota Overview

The quota overview displays all information and program functions in the attendance and absence quota administration environment.

In this section you can define header information and report variants for the quota overview.

31.2.6.6.1 Determine Header Data

In this section, you can modify the heater for the quota overview (Transaction PT50) to suit your requirements. The header is the first three lines of the overview.

Example

You want to display a photograph of the employee whose quotas are currently being processed.

Activities

1. Choose the **Define Header** activity. Decide which header grouping is most suited to your quota overview.

2. Choose the **Specify Header Modifier** activity and enter the country for which you want to define the header. .

3. Under the *Screen Header 05* entry, enter the header modifier that you want to use. Note that you must use screen header 05 for the quota overview.

4. Choose the **Define Header** activity.

5. Specify the names and the positions of the fields which you want to display in the header.

6. Specify whether it is a field label, field contents or the text for field contents. Note that such texts are not available for every field. The SAP System only gives you this option for a limited number of fields.

7. Specify a conversion for editing the field contents.
   SAP recommends that you avoid conversion if possible.

8. Save the table entries. The reports */1PAPAXX/HDR_mmmnnc* are now generated, where 'mmm' stands for the current client, 'nn' for the header modifier and 'c' for the transaction class.
   Note that the SAP System generates these reports after a delay. if you want to force immediate generation, choose *Generate*.

9. If you want to display passport photos in the infotype header, enter **PIC** in the *Fldtp* field (field type) for the *PERNR* field (personnel number) for the desired infotype. Note that all lines are used for the field type 'PIC' and so the system ignores the line numbers.

Also note that the specification of infotypes is only needed as an authorization check. SAP recommends that you enter the *Personal data* infotype (0002) for the passport photo in the *ITyp* (infotype) field.

10. If required, choose the **Add Photo** activity. Enter the document type in which you want to create the passport photos in the optical archive.

11. If you want to fine-tune the data in the header, choose the **Define Header Data Selection**

   Time activity.

12. If you want to use customer-specific key fields and long texts, choose the **Indicate Field Name if Different from Entry in Data Dictionary** activity.
   Then, in the *Define Header* step, enter your customer-specific key fields in the *Keyword* field.

31.2.6.6.2 Assign Report Variants

In this step, you create the variants for the reports that are used by time data administrators in the *Quota overview* (transaction PT50).

These variants can be accessed automatically using feature LLREP. You can define different report variants for each administrator, personnel subarea, and so on.

Standard settings

In the standard system, standard variants for the time statement (RPTEDT00) and for time evaluation (RPTIME00) are defined in feature LLREP.

Activities

1. If necessary, create variants for the specified reports.

2. Maintain feature LLREP according to your requirements. The documentation on the feature contains the abbreviation for each report.

31.2.6.6.3 Define Selection Intervals

Use

In this Customizing activity, you have a switch (*TIMGT/PT50*) to define the default selection interval for the deduction, validity, and generation periods in the transaction *PT50* (*Quota Overview*).

Standard settings

In the standard delivery this switch is empty, that is it is off.

When this switch is on, users can maintain the parameter *HR_TIMGT_PT50* to enter their own default selection interval if the one maintained in this switch does not meet their requirements. To maintain the parameter, choose *System -> User Profile -> Own Data*, tab *Parameters*.

The switch is off when you do not enter a value in this field. If the switch is off, the following

applies: o The default selection interval for *PT50* is *Current Period*. o   Any settings made for

the parameter *HR_TIMGT_PT50* are ignored.

Activities

To turn on this switch and activate the function, enter one of the following values:

o *FROM_TODAY* (From Today) o

   CUR_PERIOD (Current Period) o

   CUR_YEAR (Calendar Year)

o *ALL* (All. For an active employee the
selection interval displayed for the
deduction, validity, and generation
periods starts with the employee's lowest
entry date and ends with the system high
date, 9999.12.31. For an employee with
a leaving date, this date is displayed as
the end date for the selection interval.)

Example

Switch TIMGT/PT50 is On with the Value All Today is

2013.12.23.

You have an employee with an entry date 2000.01.01 and a leaving date 2013.03.31.

You have entered the value *All* for your selection interval.

When you call up transaction *PT50*, the selection interval 2000.01.01 - 2013.03.31 is displayed for the deduction, validity, and generation periods.

When there is no known leaving date, the selection interval is from the employee entry date to the system high date, 9999.12.31.

Switch TIMGT/PT50 is Off (is Empty) Today is

2013.12.23.

In the Customizing table *T549Q*, you have maintained the value *01* (Monthly) for the period parameters.

You have an employee with an entry date 2000.01.01 and a leaving date 2013.03.31.

You have not maintained any entries in this Customizing activity meaning that the switch is off.

When you call up transaction PT50, the deduction, validity, and generation periods are displayed with the selection interval 2013.12.01 - 2013.12.31, that is the selection interval *Current Period*.

31.2.6.6.4 Activate Combined Output List for RPTQTA10

Use

In this Customizing activity, you have a switch (*TIMGT/TPOOL*) to activate the combined output list for *RPTQTA10* (*Display Absence Quota Information*).

Standard settings

The *T77S0* switch *TIMGT TPOOL* (RPTQTA10: Combined Output List) is available for activating the feature *Combined Output List*.

When this feature is activated, the checkbox *Combine Quotas and Transfer Pools* is available for selection on the selection screen. When this checkbox is selected, this feature offers a complete picture of employee entitlements in one single output list. The output list displays:

-      Quota entitlements from IT2006 in the column *Entitlement*

-      Entitlements in the transfer pool (from cluster B2) in the column *Transfer Pool*

-      Entitlements from the transfer pool and quota entitlements in the column *Overall Total*

-      Entitlements from the transfer pool and quota entitlements on the given key date for entitlement in the column *Overall Total on Key Date*

When the feature is active, the column *Overall Total* is visible in the output list and *Overall Total on Key Date* can be inserted into this list.

Notes on Report Behavior when switch is activated

Suppression of zero lines

When the entire report line comprises zero values, this line is suppressed from display. If you need to see these zero lines, deselect the checkbox *Combine Quotas and Transfer Pools* and run your report again.

Empty cells in the columns Rem. on Key Date and Total Remaining

In the columns *Rem. on Key Date* and *Total Remaining*, an empty cell represents one of the following:

- A zero, that is the calculation has resulted in a zero entry

- No value, that is no values are available for calculation

Empty cell is a zero

In a report line, when one of the columns *Rem. on Key Date* or *Total Remaining* contains a value, the empty cell in the other column represents a zero.

Empty cell indicates that there is no value

In a report line, when both the columns *Rem. on Key Date* AND *Total Remaining* contain empty cells, this indicates that there is no value.

When this switch is on (value X) you can form subtotals of number fields interactively for one or more columns. You do not have to select the checkbox *Combine Quotas and Transfer Pools* for this feature to work.

You can turn on the *TIMGT TPOOL* switch by setting it to #X#, using one of the following options:

- In the transaction *SM30*, using for example, the *T77S0* table

- With the Customizing transaction *OO_PT_TPOOL*

- In Customizing under *Personnel Time Management -> Time Data Recording and Administration -> Managing Time Accounts Using Attendance/Absence Quotas -> Quota Overview*.

Example

Example, when switch **TIMGT TPOOL** is activated

You want an overview of all deductible absence quotas for the employees in a particular personnel subarea, including any totals that are in the transfer pool in one single output list. You also want to see the subtotals for the transfer pool quotas.

1. You have activated the *TIMGT TPOOL* switch as described in the section "Combined Output List" .

2. Call the selection screen for report *RPTQTA10*.

3. Choose *Current year* as the period.

4. Under *Selection*, enter the relevant personnel subarea in the *Personnel subarea* field.

5. Under **Quota selection**, enter the current year as the *Deduction period*.

6. Flag *Combine Quotas and Transfer Pools*.

7. Choose *Execute*.

8.   Select the **Personnel Number** column in the list, and choose **Subtotal...**.

31.2.6.7 Managing Leave Using Leave Entitlement Infotype (0005)

In this section, you make the settings for managing leave using the *Leave Entitlement* infotype (0005).

This is a function that was replaced in Release 4.0 by Managing Time Accounts with Attendance/Absence Quotas, a considerably more flexible function containing new and improved functionality.

If you are setting up your system from the start, use the new functions.

31.2.6.7.1 Leave Quota

In this section you define leave types which describe the absence quota type "leave" in more detail.

The SAP System contains a special absence quota type for the leave quota. This absence quota type is number **99** and always refers to an employee's leave.
Quotas of this type are assigned in the **Leave Entitlement** infotype (0005), and not in the **Absence Quotas** infotype (2006).
You can set a number of default values in infotype 0005 to allow greater differentiation when assigning quotas to individual employees.

31.2.6.7.1.1 Group Personnel Subareas for Leave Types

In this step, you group your personnel areas and subareas for leave types.

Example

Personnel subareas 0001 and 0002 work with the same leave types. You assign grouping *01* to both. Personnel subarea 0003 uses different leave types, and you want to add the "company anniversary" leave type. You assign grouping *02* to personnel subarea 003.

Requirements

You have defined personnel areas and subareas.

Standard settings

The standard SAP system provides examples with grouping 01.

Recommendation

When you first set up your system, use the personnel subarea grouping for leave types 01.

Activities

Assign the groupings for leave types to your personnel areas and subareas.

31.2.6.7.1.2 Define Leave Types

In this step, you can use attributes to define the admissibility of certain leave types for individual personnel subareas, challenge groups etc. You can also control the generation of leave types to which employees are entitled only after they have fulfilled certain work requirements.

Examples

You want to define a leave type which is only valid for certain challenge groups.

Standard settings

The following entries are defined in the standard SAP system:

Leave type	Meaning
01	standard annual leave
02	leave for challenged persons

Activities

1. Check SAP's sample entries.

2. Create new leave types if necessary.

    a) Enter the grouping for leave types.
        As a rule, use the personnel subarea grouping for leave types *01*. If you have defined different personnel area groupings, you must specify the permitted leave types for each of these groupings.

    b) Create the new leave type and corresponding text.

    c) Use the *deduction above entitlement* field to define whether leave deduction may exceed leave entitlement.

    d) The *special rule for leave deduction* is used only for the building and construction industry. A *W* leave type may only be taken in the winter (12/01 - 03/31).

    e) Specify whether the leave type should only be valid for challenged persons.

    f) Use the *Challenge group* field to indicate whether a leave type is permitted for certain challenge groups.

    g) Set the generation indicator if you want the system to adjust the employee's entitlement to the leave type automatically in time evaluation. This procedure is useful if you define leave types to which employees are entitled only after they fulfil certain

        work requirements.

Read the section **Adjust leave entitlement**.

Example: After 100 hours of night work, employees are granted one additional day of leave. Input values:

+   - new entitlement is added to old entitlement

=   - old entitlement is replaced by new entitlement *SPACE* - entitlement is not adjusted automatically

31.2.6.7.1.3 Set Default Values for Leave Control

In this step you define default values for the *Leave Entitlement* infotype (0005).

When you create a record, you can let the system propose several leave types, the validity periods of the leave record and the deduction periods of the individual leave types.

The default value for the validity period of a leave record can be determined in two ways:

1. For one particular person, using the *Date Specifications* infotype (0041). If values exist in this infotype for an employee, they have priority.

2. For all selected employees, using feature VACxx.

You also have the option of using feature VACxx to make employees' leave entitlement dependent on their age or seniority, for example. The standard system uses the end date of the leave record and the employee's entry date to calculate seniority. You can also determine regulations for individual employees in the *Date Specifiations* infotype. The standard system uses date type 01 = technical entry date to determine the start date for calculating seniority, and date type 26 to determine the key date for calculating seniority. You can change these standard settings by customizing switch RP_SW_P0005 in table TRMAC to conform to your desired date types.

Example

You want 01 to be the default leave type when a new record is created for infotype 0005, *Leave Entitlement*.

Requirements

You should know how to maintain features.

Standard settings

You can use the following features to control the default values for infotype 0005, *Leave Entitlement*.

- LVTYP, LVNUM

  Feature *LVTYP* is used to propose the leave type, and *LVNUM* the leave entitlement. According to the country grouping, the system calls the same subfeature, *VACxx*, for both features. The return codes are &LVTYP for the leave type and &LVNUM for the leave entitlement. xx stands for the country grouping.

- VACBE

Feature *VACBE* proposes the date as of which the infotype record is valid. The day and month in feature *VACBE* and the year to which the leave entitlement is assigned make up the date proposed as the valid from date of the infotype record. The valid to date is the same day of the following year.
Both default values are adjusted automatically, according to the date on which the employee joined or left the company.

- UABEG, UAEND
  Features *UABEG* and *UAEND* propose the start and end dates for deduction. The system calls the subfeature *BEGxx* or *ENDxx* according to the country grouping. xx stands for the country grouping.

- I0005
  You can define a number of control paramters for the default values for leave entitlement in feature *I0005*.

Recommendation

- Set default values in the country-specific subfeatures.

- If there are no subfeatures for your country grouping, copy those of another country grouping and make any necessary changes in the copied versions.

Activities

1. Check whether features *LVTYP*, *LVNUM*, *UABEG* and *UEND* allow you to call the appropriate subfeatures according to your country grouping. Enhance this facility, if necessary.

2. Determine the default leave type in feature *VACxx* using &LVTYP and the default leave entitlement using &LVNUM.

3. Maintain feature *VACBE*. Use feature &VACBE to determine the day and month as of which the record is valid.

4. Determine the start of deduction in feature *BEGxx*. Specify how many months before or after the valid from date deduction should start.

5. Determine the end of deduction in feature *ENDxx*. Specify how many months before or after the valid to date deduction should end.

6. In feature *I0005*, specify control parameters for creating **Leave Entitlement** infotype records online.

Further notes

- If the validity period of the infotype record is reduced by a manual change, the default leave entitlements are also reduced automatically.

- If the default values are maintained in such a way that manual corrections are not necessary, leave entitlements can be generated automatically before the start of a new leave year using report RPTLEA30.

31.2.6.7.1.4 Set Start of Leave Year

The start of an employee's personal leave year can be recorded in infotype 0041, **Date Specifications**. The date is stored under a date type. The day, month and year for which the leave entitlement record is to be created form a default value for the valid from date of the record. This replaces the default value from feature VACBE.

Example

The start of a particular employee's leave year should be determined using a method which is different to the standard method.

Requirements

You have read the step Set default values for leave control.

Standard settings

In the standard system, the date type **25** is used to determine the start of the leave year for individual employees.

Recommendation

Change feature DATAR so that the appropriate date type is proposed by default when a record is entered for infotype 0041, *Date Specifications*.

Activities

1. Create a new date type if you do not wish to use the standard one. To do this, choose **Define date types**.

2. Choose **Assign date type to absence quota type**. Enter the date type for absence quota type **99**.

3. Change the feature under **Feature DATAR - Default value for date specifications**.

31.2.6.7.1.5 Control Leave Deduction

In this step, you decide the leave types from which you can deduct a leave absence. You can also specify the order in which you want the leave types to be deducted.
You can use this function to determine that absences deducted from the absence quota type 99 are automatically deducted from the individual leave types in the order you have specified.

Example

You want additional leave for severely challenged persons to be deducted first by a leave absence. You enter it as the first leave type to be deducted.

Requirements

The relevant absence types have been defined and are deducted from absence quota type 99.

Activities

1.   Assign the desired absence types to the quota type 99.

2.   Decide which leave types should be deducted in which order.
     If the order is not important, or is important only for certain leave types, you can indicate the next leave types to be deducted by entering *. These leave types are then deducted according to the specifications in the *Deduction sequence* field.

31.2.6.7.1.6 Allow Manual Leave Deduction

In this step, you define whether the deduction of recorded leave from the leave quota may be changed manually for the **leave** absence type.

Example

You have set up your system so that leave days are deducted from special leave and leave for challenged persons first. However, you want to specify a different rule for some employees. Entitlement to standard annual leave should be reduced first for these employees.

Requirements

The absence catalog already contains the absence types for leave. You have set up the catalog according to your requirements in Define Absence Types.

Standard settings

In the standard system, manual changes to quota distribution for **leave** are not permitted in the entry screen.

Recommendation

Change the standard settings only if you really need to change the quota distribution manually. Please note that the system cannot recalculate the absence record after manual changes have been made. The changes you made manually may have to be changed again if there is a collision which is not permitted.

Activities

In the *Manual leave deduction* field, specify whether changes to quota distribution should be permitted and if so, what type of changes. You have three options:

-        BLANK = Quota distribution may not be changed manually.

-     1   = Only number fields can be overwritten.
         When you enter an absence, you can change only the days or   hours in the
   quota distribution.

-     2   = All quota distribution fields can be changed.

Further notes

The quota deduction can only be changed manually for the quota type **99** (leave).

31.2.6.7.2 Leave Accrual Using Batch Input

You can generate your employees' leave entitlement for the coming year on the basis of their time data
from the past year. The required system settings are made in this section.

Please note that the following settings have nothing to do with the
default values which can be defined when leave entitlement is recorded
manually. The customizing activities required for recording entitlement
in dialog are explained in the section Leave Quota.

31.2.6.7.2.1 Define Date Type for Initial Entry

If you use infotype 0041 **Date Specifications** to determine entry dates for your employees, you must
inform the leave cumulation program in this step of the date type that you used. If you do not do this, the
entry date is determined automatically using the Actions infotype (0000).

The date type that is used can be different for each employee, depending on the organizational
assignment.

Example

You record the entry date in date type 01 for all employees.

Standard settings

In the standard SAP delivery system, the entry date is recorded in date type 01.

Activities

Customize feature **HDATE** to meet your requirements.

Further notes

The date type that you choose for the entry date of your employees can be dependent on the following:

- Company code (BUKRS)

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

The return value of the feature is a two-character code that includes the relevant date type.

If you do not use infotype 0041 **Date Specifications** to determine the entry date, you must use BLANK as the return value. The entry date is then determined directly using the **Personnel Actions** infotype (0000).

31.2.6.7.2.2 Determine Leave Year

This step enables you to determine the FROM date of the leave year for each employee. The data that you enter in this step can influence the time data evaluation period and the deduction intervals of the individual leave types.

Example

In your enterprise, the leave year starts on April 1 of the current year for all employees assigned to personnel area 0001. The leave year starts on January 1 for all other employees.

Standard settings

In the standard delivery system, the leave year is the same as the calendar year.

Activities

Modify feature **LVYEA** to cater to the requirements of your enterprise.

Further notes

You can set up the system so that the following data influences the leave year that is specified for your employees:

- Company code (BUKRS)

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

- Personnel subarea grouping for leave types (MOURA)

The return value of the feature follows the pattern XXy where XX contains the number of months by which the FROM date of the leave year must be changed relative to the FROM date of the calendar year. The values + and -, which indicate the direction of change for the FROM date of the leave year, are both allowed for y.

The TO date of the leave year is calculated automatically on the basis of the FROM date.

31.2.6.7.2.3 Determine Total Entitlement

In this step, you define an employee's maximum entitlement to each leave type. You can then specify steps how the entitlement should be changed by reduction or rounding rules in the next steps.

Example

You want to assign your employees leave entitlement according to the length of their service with the enterprise (seniority). All persons who have been employed for up to 10 years are assigned 30 days. Employees who have been with the company for more than 10 years are to be granted an extra 2 days.

Standard settings

In the standard system, all employees who have been with the company for up to 10 years are entitled to 30 days for leave type '01'. The entitlement for employees who have been in service for over 10 years is 32 days.

Recommendation

Depict your enterprise's rules for assigning leave entitlement in a decision tree.

Activities

Customize feature **LVACC** in line with these rules.

Further notes

The assignment of leave entitlement can be based on:

- Company code (BUKRS)
- Personnel area (WERKS)
- Personnel subarea (BTRTL)
- Employee group (PERSG)
- Employee subgroup (PERSK)
- Country grouping (MOLGA)
- Personnel subarea grouping for leave types (MOURA)

- Leave type (URART)

- Challenge group (SBGRU)

- Degree of challenge (SBPRO)

- Age in years (AGEJJ)

- Seniority in years (DAUER)

- Pay scale type (TRFAR) -   Pay scale area (TRFGB)

- Pay scale group (TRFGR)

- Pay scale level (TRFST)

The return code of the feature has to be a number with a maximum of two decimal places. Decimal numbers should always have a decimal point - 28.50 for example.

31.2.6.7.2.4 Set Earliest Date for Deduction

In this step, you set the earliest date for using up leave entitlement.

Example

Your employees have 5 days' special leave each calendar year, but are only allowed to take it from April 1st.

Requirements

The amount of leave entitlement has been defined for the relevant leave type.

Standard settings

In the standard system, the earliest date for using up leave entitlement is the first day of the entitlement year.

Activities

Customize feature **LVBEG** for your various leave types.

Further notes

The earliest date for using up leave entitlement can be set according to:

- Company code (BUKRS)

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

- Personnel subarea grouping for leave types (MOURA)

- Leave type (URART)

- Challenge type (SBGRU)

- Degree of challenge (SBPRO)

- Age in years (AGEJJ)

- Seniority in years (DAUER)

- Pay scale (TRFAR) -   Pay scale (TRFGB)

\-

      Pay scale (TRFGR)

      Pay scale (TRFST)

The return code of the feature is XXy, where XX is the number of months by which the earliest date for using up entitlement should be changed relative to the start of validity. The values **+** and **-** are permitted for y, and specify whether the earliest date for using up entitlment should be brought forward or put back.

31.2.6.7.2.5 Set Latest Date for Deduction

In this step, you set the latest date for using up leave entitlement.

Example

Your employees are entitled to 30 days' leave each calendar year. They are permitted to use this entitlement up to March 31st of the following calendar year.

Requirements

The leave entitlement has been defined for the relevant leave type.

Standard settings

In the standard system, the rules for leave type '01' are the same as in the above example. For all other leave types, the entitlement can be used until the end of the same calendar year.

Activities

Customize feature **LVEND** for each leave type, in line with your own particular requirements.

Further notes

The latest date for using up leave entitlement can depend on the employee's:

-     Company code (BUKRS)

-     Personnel area (WERKS)

-     Personnel subarea (BTRTL)

-     Employee group (PERSG)

-     Employee subgroup (PERSK)

-     Country grouping (MOLGA)

-

- Personnel subarea grouping for leave types (MOURA)

- Leave type (URART)

    Challenge group (SBGRU)

    Degree of challenge (SBPRO)

- Age in years (AGEJJ)

- Seniority in years (DAUER)

- Pay scale type (TRFAR) -   Pay scale area (TRFGB)

- Pay scale group (TRFGR)

- Pay scale level (TRFST)

The return code of the feature is XXy, where XX is the number of months by which the latest date of deduction should be changed relative to the end of validity. Both **+** and **-** are permitted for y, and determine whether the latest date of deduction should be brought forward or extended.

31.2.6.7.2.6 Specify Reduction Methods

In this step, you set reduction rules for processing your employees' total leave entitlement.

Example

An employee starts working for your enterprise on July 1st, and is entitled to the maximum annual leave entitlement of 30 days only as of January 1st the following year. Since the employee will be employed for six months of the current year, he/she is entitled to 15 days' leave - exactly half of the full entitlement.

Requirements

Leave entitlement has been defined for the relevant leave type.

Standard settings

In the standard system, entitlement to leave type 01 is reduced according to how many hours employees actually worked in comparison to their planned hours.

Activities

Customize feature **LVCUT** for your various leave types.

Further notes

-

The deduction end (latest date of deduction) for your leave types can depend on the following:

- Company code (BUKRS)

  Personnel area (WERKS)

  Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

- Personnel subarea grouping for leave types (MOURA)

- Leave type (URART)

- Challenge group (SBGRU)

- Degree of challenge (SBPRO)

- Age in years (AGEJJ)

- Seniority in years (DAUER)

- Pay scale type (TRFAR) -   Pay scale area (TRFGB)

- Pay scale group (TRFGR)

- Pay scale level (TRFST)

There are six methods of reducing leave entitlement. You can activate the required method by placing an 'X' in the return code of the feature, at one of the following positions:

Position	Reduction method
1	Reduce entitlement according to number of hours worked
2	Reduce entitlement according to number of days worked
3	Reduce entitlement according to number of months worked (including part months) 4 Reduce entitlement according to number of months worked (part months are not taken into account)
5	Reduce entitlement according to employment percentage in infotype 0007 (Planned Working Time)
6	Reduce entitlement according to difference between number of weekly working days in infotype 0007, and number in table T510I, *Standard Working Hours*

If you do not choose one of the above reduction methods, employees are granted the full leave entitlement.

31.2.6.7.2.7 Specify Rounding Methods

In this step, you set rules for rounding leave entitlement.

Example

You maintain leave in hours and want to store leave entitlement to the nearest whole hour in the system, even if the rules for rounding would give rise to values in minutes.

Standard settings

In the standard system, entitlement to leave type 01 is rounded up or down to the nearest whole day or hour. All other leave entitlement records are rounded to the nearest half unit.

Activities

Customize feature **LVRND** for your various leave types.

Further notes

Leave entitlement can be rounded according to the following criteria:

- Company code (BUKRS)

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

- Personnel subarea for leave types (MOURA)

- Leave type (URART)

- Challenge group (SBGRU)

- Degree of challenge (SBPRO)

- Age in years (AGEJJ)

- Seniority in years (DAUER)

- Pay scale type (TRFAR) -   Pay scale area (TRFGB)

- Pay scale group (TRFGR)

- Pay scale level (TRFST)

The return code of the feature is **nnnR** where:

nnn is a decimal number with one place before and two behind the decimal point (3.50 would be 350 for example).

R is the indicator specifying the direction of the rounding:

< number is rounded up

> number is rounded down

* number is rounded up or down to the nearest whole number

Starting from the value 0.00, the number bar is divided into intervals of length **nnn** and the number is rounded to the initial value ('<') or the end value ('>'), or to the nearest whole number ('*'), i.e. to the initial or end value of the respective interval.

If you do not specify a rule for rounding a leave type, the amount of entitlement remains unchanged.

31.2.6.7.2.8 Specify Method for Processing Remaining Leave

In this step, you specify how your employees' remaining leave should be processed at the end of a calendar year.

Example

An employee has 10 days' unused leave at the end of the calendar year. You want to take these 10 days over to the new calendar year so that the entitlement does not become invalid.

Standard settings

In the standard system, unused entitlement to leave type 01 is taken over to the new year and stored in leave type 10, **Remaining leave from previous year**. Otherwise, employees are paid for any unused entitlement via infotype 0083, **Leave Compensation**.

Activities

Customize feature **LVDEF** for your various leave types.

Further notes

Unused leave entitlement can be processed according to the following:

- Company code (BUKRS)

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

- Personnel subarea grouping for leave types (MOURA)

- Leave type (URART)

- Challenge group (SBGRU)

- Degree of challenge (SBPRO)

- Age in years (AGEJJ)

- Seniority in years (DAUER)

- Pay scale type (TRFAR) -   Pay scale area (TRFGB)

- Pay scale group (TRFGR)

- Pay scale level (TRFST)

The return code of the feature is **12nn**:

If you place an 'X' in the column marked **1**, all unused entitlement is taken over to the new year. You can enter the leave type to be counted towards remaining leave in the **nn** columns.
If you do not enter a value here, the current leave type is retained and the new entitlement increased by the remaining entitlement.

If you place an 'X in the column marked **2**, the employee is compensated for unused entitlement via infotype 0083 (Leave Compensation). You can also assign a numeric key in both **nn** columns to specify the type of compensation. The assignment of wage types and other processing steps can then be effected according to the compensation type.

31.2.6.7.2.9 Determine Entitlement Limits

In this step, you specify an employee's maximum leave entitlement. You can either make general specifications which apply to all entitlements, or set individual limits for each leave

type.

Example

You do not want entitlement to leave type 01, including any unused entitlement from the previous calendar year, to exceed 45 days.

Standard settings

In the standard SAP system, the regulations for leave type '01' are the same as in the above example. There are no limit values for other leave types.

Activities

Customize the feature **LVMAX** for your various leave types.

Further notes

You can define limit values according to:

- Company code (BUKRS)

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Country grouping (MOLGA)

- Personnel subarea grouping for leave types (MOURA)

- Leave type (URART)

- Challenge group (SBGRU)

- Degree of challenge (SBPRO)

- Age in years (AGEJJ)

- Seniority in years (DAUER)

- Pay scale type (TRFAR) -   Pay scale area (TRFGB)

- Pay scale group (TRFGR)

- Pay scale level (TRFST)

The return code of the feature is **12NNN.MM**, where **NNN.MM** is a decimal number with three places before and two behind the decimal point. Numbers should be entered with a period, not a comma - 123.45 for example.

Columns **1** and **2** both affect the comparison value:

- If you place an 'X' in the **1** column, the system checks whether the total new leave entitlement would exceed the figure specified under **NNN.MM**. If the answer is yes, the entitlement is reduced accordingly.

- If you enter an 'X' in the **2** column, the system checks whether the entitlement to the leave type being processed is greater than specified under **NNN.MM**. If this is the case, the entitlement is likewise reduced.

31.2.6.7.2.10 Specify Method of Processing Leave Types with Zero Entitlement

In this step, you specify whether leave types which have a value of zero once the new entitlement has been calculated should be taken into account for generating the infotype record.

Example

You want to generate the maximum permitted number of leave types for all employees, and do not enter any restrictions on the report selection screen when you specify which leave types are to be generated. The system attempts to determine each (selected) employee's entitlement to each leave type. Not every employee qualifies for each leave type; several entitlement records are therefore assigned the value zero. You can use this feature to prevent such records being saved in the system for each leave type.

Standard settings

In the standard SAP system, only leave records for leave type 01 are saved if the entitlement is zero. Records for all other leave types are rejected.

Activities

Customize feature **LVZER** for each leave type according to your requirements.

Further notes

The transfer of leave types with a zero entitlement can depend on the following:

- Company code (BUKRS)
- Personnel area (WERKS)
- Personnel subarea (BTRTL)
- Employee group (PERSG)
- Employee subgroup (PERSK)
- Country grouping (MOLGA)
- Personnel subarea grouping for leave types (MOURA)
- Leave type (URART)
- Challenge group (SBGRU)
- Degree of challenge (SBPRO)
- Age in years (AGEJJ)
- Seniority in years (DAUER)
- Pay scale type (TRFAR)
- Pay scale area (TRFGB)
- Pay scale group (TRFGR)
- Pay scale level (TRFST)

If you do not want leave types with a zero entitlement to be taken into account, the return code of the feature should remain empty. Otherwise, enter any one-character identification code.

31.2.6.7.2.11 Develop Enhancement for Leave Accrual

If the previous options for customizing leave calculation were not sufficient for your purposes, you can use SAP's enhancement concept to call a **function exit** where you can store your own rules for calculating leave.

If you intend to carry out this step, read the online documentation.

Requirements

A good knowledge of ABAP/4 programming language is required to operate the function exit.
You can store your own coding at specially reserved positions; SAP cannot be liable for this. All data made accessible to the application program via the fixed interface is stored consistently in the system. If the data is not correctly processed, it is ignored.

Standard settings

The function exit is not activated in the standard system.

Recommendation

Use the function exit only if you have already exhausted all modification possibilities using features.

Activities

1. Create an enhancement project.

2. Assign the SAP assignment **HRPTIM02** to your project.

3. Process the function exit **EXIT_RPILVA00_001**.

4. Document your project.

5. Activate the project. The enhancement will not become effective until you have activated the project.

Further notes

Store your coding in include **ZXPLAU01** when you process the function exit. This is a customer-specific name range and is not overwritten when there is a release upgrade.

You can use the following data for the evaluation:

Variable	Meaning
PPERNR	Personnel number
LEAVE_YEAR	Entitlement year of new leave
SENIORITY	Seniority in years
AGE	Age in years
HIRE_DATE	Hiring date
FIRE_DATE	Date of notice
ACT_WRKHRS	Hours worked in past year

PLN_WRKHRS	Planned hours in past year
ONLY_NEW	Only generate new entitlement?
ONLY_OLD	Only take over remaining leave?

Tabelle	**Meaning**
PP0000	Personnel Actions
PP0001	Organizational Assignment
PP0004	Challenge
PP0005	Leave Entitlement
PP0007	Planned Working Time
PP0008	Basic Pay
PPSP	Personal work schedule in past year

The internal table **VACATION** must be filled by the user, and is structured as follows:

LVTYP	Leave type
LVNUM	Leave entitlement (3 places before, 2 behind decimal point)
LVBEG	Deduction start
LVEND	Deduction end
OPERA	Operation indicator

The operation indicator can have one of the following values. The effect on the present leave balance depends on the specification assigned:

- **A** Entitlement calculated is increased/reduced **D**
  Specified leave record is deleted
  R Leave record is replaced by data specified

If you do not enter a value for the operation indicator, processing is as for **R**.

31.2.7 Specify System Reaction to Overlapping Time Infotypes

In this step, you determine how the system reacts if existing time infotype records overlap with new time infotype records.

Such collision checks are also performed for subtypes. The concept of a time constraint class was developed so that you do not have to define a time constraint reaction for each subtype with regard to all other infotypes or subtypes within an infotype.

Subtypes within an infotype (attendance/absence type, attendance/absence quota type, availability type and substitution type) that have the same time constraint reaction are grouped together by the time constraint class.

Example
In the standard system, the absence types "sickness with certificate", "cure", and "industrial accident" are grouped together in time constraint class 01, and the absence types "leave", "bridge day", and "flextime offset" are grouped together in time constraint class 02.

The time constraint reaction is determined by a reaction indicator. The reaction indicator is set for each time constraint class of an infotype or subtype with regard to the time constraint classes of all other infotypes or subtypes.

The system can react to a collision in one of four ways, each of which you can determine using a reaction indicator.

1. *A:* the old record is delimited, ie. the part of the old record that overlaps with the new record is deleted. One or two new records can be derived from the old record.

2. *E:* the new record cannot be created. The system displays an error message.

3. *W:* the new record can be created without the old record being changed. The system displays a warning.

4. *N:* the new record can be created without the old record being changed. The system does not display a warning.

Example

1. You want to prevent the absence types **sickness with certificate** and **leave** from being entered for the same period. To do this, assign time constraint class 02 to the absence type **sickness with certificate**, time constraint class 01 to the absence type **leave** and then define time constraint reactions in case these two time constraint classes collide.

    -   If a sickness record has already been entered for the period, you should not be able to enter a leave record. For this reason, this combination is assigned time constraint reaction **E**.

    -   If a leave record has already been entered for the period, and you then enter a sickness record, the leave record should be delimited. For this reason, this combination is assigned time constraint reaction **A**. One or two new records are derived from the old record. Example:

    -   old: Jan 02 1997 - Jan 20 1997 paid leave

    -   new: Jan 10 1997 - Jan 01 1997 sickness with certificate Result: The old record is delimited and a new leave record is created.

    -   Jan 02 1997 - Jan 09 1997 paid leave

    -   Jan 10 1997 - Jan 12 1997 sickness with certificate

    -   Jan 13 1997 - Jan 20 1997 paid leave

2. A substitution record is entered for a period for which an absence record **leave** already exists. An employee cannot act as a substitute if he or she is absent, which means that this combination is assigned reaction indicator **E** (error message).

3. A substitution record is entered for a period for which an overtime record already exists. This combination is allowed; however, the substitution could give rise to changed working times under certain circumstances. For this reason, this combination is assigned reaction indicator **W** (warning message) to give you an opportunity to recheck your entries.

4. An absence quota record is entered for a period for which an attendance record already exists. Attendances and absence quotas are not mutually exclusive. For this reason, this combination is assigned reaction indicator **N** (create without warning message).

Note

When you enter infotype records, the system may react in a different way to how you specify in Customizing:

1. Special features for full-day infotype records

2. Special features for infotype records of less than one day

3. Special features for infotype records which encompass several days

1. Special features for full-day records

1. Case 1:
    An absence, attendance or overtime record collides with a substitution which has priority over the employee's personal work schedule (not a position substitution or a time substitution combined with a position). The reaction indicator A is defined in the system settings.
    Since the substitution record is taken as the basis for valuating the absence or overtime, the record cannot be delimited. Instead, the system displays an error message.

Case 2:
An absence with quota deduction collides with another absence, also with quota deduction. Both absences are deducted from the same quota. The reaction indicator A is defined in the system settings for this particular combination.
Since the first absence with quota deduction (e.g. leave) has already been deducted from the quota, the system cannot delimit the records. This would create errors in the quota deduction, so an error message is displayed.

Case 3:
An absence with quota deduction collides with an absence with quota deduction which has been maintained manually. It is not possible to delimit the records, so the system displays an error message.

2. Special features for infotype records of less than one day

Case 1:
A record of less than one day for which clock times have been entered collides with a record of less than one day specifying a number of hours only. Reaction indicators A or E are defined in Customizing for these combinations.
As the system cannot delimit records in this example, or the records do not collide in certain circumstances, the system displays a warning message.

1. Case 2:

    A   record of less than one day specifying clock times or a number of hours collides with a full-day record or a record which encompasses several days. Reaction indicator A is defined in Customizing for this combination.
    Since the system cannot delimit records in this example, the new record cannot be created. The system displays an error message.

2. Case 3:
    A   record of less than one day which specifies a number of hours collides with a record of less than one day for which a number of hours or clock times have been entered. Reaction indicators A and E are defined in Customizing.

These records might not overlap depending on the circumstances, so the system merely displays a warning message rather than delimiting the old record, or preventing the new record from being created.

Case 4:
Two records collide that both last less than one day and for which clock times have been entered.

3. If both records cover the same period, the system reaction depends on the system settings.

4. If the periods covered by the records do not overlap, the new record can be created irrespective of the system settings. The system does not display a warning message.

5. If the periods covered by the records overlap, the system reacts as follows:
    If the reaction indicator in the system settings is E or W, the system reacts as specified. If, however, the reaction indicator is A, the system displays an error message.

3. Special features for records which encompass several days

If there is a record for the previous day which extends into the current day (a full-day record or one of less than a day with clock times), and if there is a record for the current day (a full-day record or one of less than one day with clock times), the system reacts as follows:

1. The record for the previous day overlaps with the current day's record. The conditions that apply in this case are the ones desribed under special features for records of less than one day.

2. The record for the previous day does not overlap with the current day's record. If you have defined the reaction indicators A and W for this scenario in the customizing settings, the system uses reaction indicator W.

Note about the Time Events infotype

The *Time Events* infotype (2011) is available as well, and can be used to set up collision checks. As a rule, it is not pertinent to check for a collision with time events, as time evaluations have differing processing possibilities.
Due to consistency reasons, the infotype is in the list; you should leave all the reaction indicator entries unchanged with the setting **N**. Collision checks with the *Time Events* is no longer expected.

Requirements

You must define time constraint classes for the following:

-   Define Substitution Types

-   Determine Entry screens and Time Constraint Classes (for absences)

-   Define Absence Quota Types

-   Determine Entry Screens and Time Constraint Classes (for attendances)

-   Define Attendance Quota Types

-   Define Availability Types

Standard settings

The time constraint reaction is already set for the time constraint classes used by SAP.

Recommendation

Try to make the standard time constraint classes suffice in your enterprise and to change the reaction indicators only.

Activities

1. If time infotypes overlap, check that the system reaction meets your requirements.

2. If necessary, change the reaction indicators for a time constraint class.

31.2.8 Limit Employee Status for Time Management

The **Time Management status** indicator shows whether or not an employee takes part in time evaluation. If you want an employee's time data to be evaluated using the time evaluation driver, you can use the indicator to specify the method of evaluation.

A Time Management status is assigned to the employee in the *Planned Working Time* infotype (0007). In this step, you can limit the choice of specifications which is available to the user.

Example

Actual times are recorded for all employees in your company. Only the specifications 1 and 2 should be permitted for the **Time Management status**.

Standard settings

The following are the standard specifications for the **Time Management status**:

-   0 - No time evaluation

-   1 - Evaluation of actual times

-   2 - Evaluation of actual times and plant data collection (PDC)

-   8 - External services

-   9 - Evaluation of planned times (recording of exceptions to the work schedule)

Activities

Delete all entries you do not require.

Further notes

The **Time Managements status** is evaluated in time evaluation. The section on setting controls for time evaluation explains how to use the Time Management status in the schema with function **CHECK**.

31.2.9 Permit Attendances/Absences to be Recorded Without Clock Times

You can use a special schema in time evaluation (that is, TM04) to process attendances and absences of less than one workday which have been recorded without specific clock times, for example, with a number of hours only. **Feature HRSIF** can be used to specify whether time data can be recorded without clock times, or whether the employee's personal work schedule should be referenced to generate clock times.

Standard settings

The standard system does not allow you to record absences and attendances without clock times.

Activities

Enter 1 as the return code of the feature if you want to record time data without clock times.

The decisions made using the feature can be based on the following:

- Personnel area (WERKS)

- Personnel subarea (BTRTL)

- Employee group (PERSG)

- Employee subgroup (PERSK)

- Employee status for Time Management (ZTERF)

- Work schedule rule (SCHKZ)

31.2.10 Business Add-Ins (BAdIs)

31.2.10.1 BAdI: Enhancement of Business Logic for Time Data

You can use this Business Add-In (BAdI) to influence how time data is processed by the HR_BLP_MAINTAIN_TIMEDATA function module (*Valuate Time Data*). HR_BLP_MAINTAIN_TIMEDATA is used by various programs to read time data, valuate it, and store it in the Time Management infotypes. It is used in the Business Logic Processor of the *Time Manager's Workplace* (TMW).

The function module processes the data records of various personnel numbers sequentially. In the text below, references to dependencies between data records always represent data records of the same personnel number.

Example

Examples for the implementation of the BAdI are available as standard implementations. For more information, see the *Standard settings* section.

Requirements

If you create your own implementations of the BAdI, you must take account of the following aspects, otherwise there may be data inconsistencies or malfunctions in the program flow:

The time data that the system processes in the program flow is transferred to you using the IF_EX_PT_BLP_USER interface with ABAP object references of type REF TO IF_PT_TD_CONTROL.

The actual data object is hidden behind the DATA attribute of the IF_PT_TD_CONTROL interface. The DATA attribute always represents a reference to the IF_PT_TD_BASE interface (*Basis Interface for Time Data*).

You can reach the actual data objects by using a corresponding type casting on one of the interfaces listed below:

- General infotype: IF_PT_TD_INFOTYPE

- Infotype (not implemented): IF_PT_TD_IT*nnnn*, where **nnnn** represents the four-figure number of the infotype.

- Infotypes 2001 to 2011: IF_PT_TD_IT20*nn*, where **nn** represents the last two figures of the four-figure infotype number.

- Infotype 0416: IF_PT_TD_IT0416

- Personal calendar entry: IF_PT_TD_CALE

- Quota/leave deduction: IF_PT_TD_DEDUCTION

- Time pair data from cluster tables B1 and B2: IF_PT_TD_TIMPAIR

- Results of time evaluation: IF_PT_TD_TIMRES

- Personal work schedule: IF_PT_TD_PWS

- Time evaluation messages: IF_PT_TD_WLIST

You can find out the category and type of a data object from the instance attributes IF_PT_TD_BASE~CATEGORY and IF_PT_TD_BASE~TYPE.

Not all of the data types above are modifiable. The Business Logic Processor differentiates between buffer objects and runtime objects. You can change the buffer objects if they are listed in one of the non-generic interfaces from the above list, that is, any of the them except the IF_PT_TD_IT*nnnn* interfaces.

The system forms the runtime objects during the program flow for reading. This affects all objects in the above list that implement the IF_PT_TD_TIMRES and IF_PT_TD_PWS interfaces. They are not administered by the database buffer and therefore cannot be saved.

You cannot change the content of these objects. The following rule applies: A data object is not modifiable if the IF_PT_TD_BASE~READ_ONLY attribute has the value CL_PT_TMW_CONST=TRUE.

Standard settings

In processing time data using the HR_BLP_MAINTAIN_TIMEDATA function module, several defined time points exist, which each represent a particular processing state of a data record:

-    PPR: *Define standard values in data records.* Data records are still unchanged when they reach this point.

-    DEP: *Form dependencies between data records*

-    ENR: *Supplement data records.* This point is not part of the process in the standard system.

-    SRP: *Check and valuate data records*

-    RET: *Retro accounting reconition in Payroll Status infotype(0003)*

-    SAV: *Data records saved; rollback possible*

-    PSV: *Data records saved; rollback not possible*

You can create a separate implementation of the BAdI for each of these time points to influence the processing of the data records when they have attained the desired processing status. The time points that are especially suited to customer implementations are PPR, SRP, and DEP.

The following implementations exist in the standard system:

-    PT_BLP_SAMPLE_PPR (*Select Particular Time Management Infotypes*)

-    PT_BLP_SAMPLE_DEP (*Read Other Absence Data for the Absences Infotype (2001)*)

-    PT_BLP_SAMPLE_ENR (*Overtime Start Time Equal to End Time of Daily Work Schedule*

-    PT_BLP_SAMPLE_SRP (*Illnesses: Applicable Days; Substitutions; Different Payment*

-    PT_BLP_SAMPLE_PSV (*Output Customer-Specific Message After Saving*) For more

     information, see the documentation of the IF_EX_PT_BLP_USER interface.

Recommendation

In your implementations for the individual time points, create separate methods for processing the various data types that are called (dynamically) by the PROCESS_DATA initial method according to the data type. This means that you have separate control over activities for the individual data types in relation to their operations and processing states.

Activities

After calling up the IMG activity, a dialog box appears, in which you can enter a name for the implementation.

If you have already made other implementations for this BAdI, another dialog box appears, in which the existing implementations are displayed. In this case, choose *Create*, and proceed as follows:

1. In the dialog box, enter a name for the BAdI implementation in the *Implementation* field, and choose *Create*.
   The screen for creating BAdI implementations is now displayed.

2. Enter a short text for the implementation in the *Short text for implementation* field.

3. From the tab index, choose *Interface*.
   The *Name of implemented class* field is already filled on the tab page, as a class name was automatically assigned to the implementation when you named it.

4. Save your entries, and assign the implementation to a development class.

5. Place the cursor on the method, and double-click to enter method processing.

6. Enter the code for the implementation between the statements `method <Interface name> ~ <Name of method>` and `endmethod`.

7. Save and implement your code. Return to the *Edit Implementation* screen.

8. Save the entries on the *Edit Implementation* screen.
   Note: You can also create an implementation, and then activate it at a later time. In such a case, end the processing stage at this point.

9. Choose *Activate*
   The code you stored in the method will be run when the application program is executed.

31.2.10.2 BAdI: Multiply Payroll Hours and Payroll Days

Use

You can use this Business Add-In (BAdI) to multiply values for an employee's payroll hours and payroll days by a factor in order to generate new values through customer-specific calculations. The new values are then incorporated in counting and any resultant quota deduction. You can determine the calculation factor using the employee's working time data, which is available as an import parameter of the BAdI methods.

The BAdI is called during evaluation of data in the *Absences* (2001) and *Attendances*(2002) infotypes for each day that is between the start date and end date of the infotype record being processed. When the BAdI is called, the system outputs the country grouping (MOLGA) of the employee whose data is being processed.

You can define only the values for payroll hours and payroll days using customer-specific calculations.

If you want to generate new values for payroll hours and days, but using a factor is not sufficient for your requirements, you can use the PT_ABS_ATT_COUNTRY BAdI (*Free Determination of Payroll Hours and Payroll Days*).

Standard settings

There are no implementations of the BAdI in the standard system.

Activities

After calling up the IMG activity, a dialog box appears, in which you can enter a name for the implementation.

If you have already made other implementations for this BAdI, another dialog box appears, in which the existing implementations are displayed. In this case, choose *Create*, and proceed as follows:

1. In the dialog box, enter a name for the BAdI implementation in the *Implementation* field, and choose *Create*.
   The screen for creating BAdI implementations is now displayed.

2. Enter a short text for the implementation in the *Short text for implementation* field.

3. From the tab index, choose *Interface*.
   The *Name of implemented class* field is already filled on the tab page, as a class name was automatically assigned to the implementation when you named it.

4. Save your entries, and assign the implementation to a development class.

5. Place the cursor on the method, and double-click to enter method processing.

6. Enter the code for the implementation between the statements `method <Interface name> ~ <Name of method>` and `endmethod`.

7. Save and implement your code. Return to the *Edit Implementation* screen.

8. Save the entries on the *Edit Implementation* screen.
   Note: You can also create an implementation, and then activate it at a later time. In such a case, end the processing stage at this point.

9. Choose *Activate*
   The code you stored in the method will be run when the application program is executed.

31.2.10.3 BAdI: Free Determination of Payroll Hours and Payroll Days

Use

You can use this Business Add-In to recalculate values for an employee's payroll hours and payroll days. You can determine the values on the basis of the employee's working time data that is available as an import parameter of the BAdI.

If you only want to multiply the payroll hours and days by a factor to generate new values, we recommend that you use the TIM00ATTABSCOUNTING BAdI (*Multiplication of Payroll Hours and Payroll Days*). In this BAdI, however, you can determine the payroll hours and days freely.

During evaluation of data in the *Absences* (2001) and *Attendances* (2002) infotypes, the BAdI is called for each day that is between the start date and end date of the infotype record being processed. When the BAdI is called the system transfers the country grouping (MOLGA) of the employee whose data it is processing.

You can only define the values for payroll hours and payroll days using customer-specific calculations.

Standard settings

There are no implementations of the BAdI in the standard system.

Activities

After calling up the IMG activity, a dialog box appears, in which you can enter a name for the implementation.

If you have already made other implementations for this BAdI, another dialog box appears, in which the existing implementations are displayed. In this case, choose *Create*, and proceed as follows:

1. In the dialog box, enter a name for the BAdI implementation in the *Implementation* field, and choose *Create*.
    The screen for creating BAdI implementations is now displayed.

2. Enter a short text for the implementation in the *Short text for implementation* field.

3. From the tab index, choose *Interface*.
    The *Name of implemented class* field is already filled on the tab page, as a class name was automatically assigned to the implementation when you named it.

4. Save your entries, and assign the implementation to a development class.

5. Place the cursor on the method, and double-click to enter method processing.

6. Enter the code for the implementation between the statements `method <Interface name> ~` `<Name of method>` and `endmethod`.

7. Save and implement your code. Return to the *Edit Implementation* screen.

8. Save the entries on the *Edit Implementation* screen.
    Note: You can also create an implementation, and then activate it at a later time. In such a case, end the processing stage at this point.

9. Choose *Activate*
    The code you stored in the method will be run when the application program is executed.

31.2.11 Country-specific settings: Hungary

31.2.11.1 Leave quota category long texts

31.2.11.2 Use infotype Leave quota

31.2.11.3 Controlling leave quotas

31.2.11.4 Generating leave quotas

31.2.11.5 Reduce leave quotas

Use

In this customizing task, you can set the system so that in the case of particular absence types, annual leave quotas of an employee shall be reduced.

You can reduce those employee leave quotas that are defined in settings task Controlling leave quotas as reducible based on validity period.

Activities

You can define the following settings:

- Grouper of personnel subarea for absences

- Absence type for which the system executes reduction

- Rule's valid from and valid to date

- The absence duration: if the absence is longer than the duration specified here, the system proportionally reduces the leave quotas (you can define this setting also so that if in such case the complete period shall diminish the leave quotas)

- Substitute absence type
  You can specify an absence as substitute absence type if a rule already exists for it. In this case, the system uses for the given absence the rule already specified by the user for the substitute absence. This means that the system behaves as if the substitute absence would have been entered in infotype *Absences* (2001).

- If reducing absences shall be collected also if they are not directly subsequent, but there are gaps between them

- Whether reducing absences shall be collected in the current year only

Example

You want to set in the system that if an employee takes unpaid leave longer than 30 days, the system shall proportionally reduce the total reducible annual leave quotas of the employee by the number of days exceeding 30 days.

In your system, absence type 0164 stands for unpaid leave, therefore, you enter the following rule:

PSA	A/P t.	Valid from	Valid to	Quantity	Unit of measure
21	0164	01.01.2009.	31.12.9999.	30	days

According to this rule, if an employee belonging to personnel subarea 21 takes unpaid leave (absence type 164), the system proportionally reduces the reducible leave quotas of the employee by the number of days of unpaid leave above 30 days within the validity period of the rule.

31.2.11.6 Leave quota conflict

31.3 Personnel Time Events

In this section, you make all settings required within the SAP system to connect your subsystem and to control communication.

You make the settings for processing personnel time events as well as those for processing employee expenditures.

More information on distribution (ALE) is located in the Connection with External Time Recording Systems using HR-PDC section.

31.3.1 General Settings

In this section, you make the general settings necessary to enable communication with the time recording systems.

Check the settings and keep in mind that these settings also affect the operation of Plant Data Collection. You can thus make general settings in the PDC section as well.

31.3.1.1 Specify Communication Parameters

In this step, you specify the parameters that are used for the communication between the SAP system and the time recording system.

Here you determine whether you want to work with the *Plant Data Collection: Employee Times and Expenditures* interface (HR-PDC) or with *Communication Channel 1* (CC1).

Standard settings

The HR-PDC interface is set up.

Activities

Active HR-PDC Version

- Enter an administrator who should receive notification that an error occurs. From this notice, the administrator can jump to the Time Management pool in Time Management.

- Specify in *Number of records* how many personnel time events should be processed at one time.

Active CC1 Version and Parallel Operation

Make the following entries in addition to those two listed above:

- In the *Upload parameter* section, indicate that Post immediately should take place.

- In the *Parameter for updating* section, enter the validity period for which you want to download the HR mini-master to the time recording system. If you want to transfer attendance/absence reasons and employee expenditures (external wage types) at the same time during the download of the master tables, activate the appropriate fields accordingly.

Further notes

Active CC1 Version

If you want to use the CC1 version, you can still use Transaction PT41.

You can also schedule the following reports as batch jobs:

- SAPCDT42 (Transfer HR Mini-Master to PDC System)

- SAPCDT43 (Transfer Master Data to PDC System)

- SAPCDT44 (Batch Report to Upload Time Events from the Subsystem)

- SAPCDT45 (Post Personnel Time Events from CC1)

31.3.1.2 Create Number Range for Time Events and Acct Assignment Data

In this step, you define the number range for the number range object *PD_SEQ_NR*.

The number range object is used in Human Resources and Logistics. It is used for time events and in all tables which are required for the interface between Human Resources (HR) and Controlling (CO), Materials Management (MM), Plant Maintenance (PM), and Project System (PS).

A number is assigned

- For every time event

- For every confirmation from Logistics

- For every record being transferred

- To secondary cost allocation

- To primary cost allocation

- To external services management

Note

Only internal number assignment is possible; the number range "01" has been predefined for the number.

Note: The settings can also be made in the sections on person time events and plant data collection.

Standard settings

The maximum number range is set in the standard SAP system.

Recommendation

We recommend that you do not change the standard settings.

Activities

Create a number range with the interval '01'. The number assignment must take place internally.

31.3.1.3 Group Personnel Time Event Types

In this step, you determine which posting types are allowed for your employees.

Example

You want one employee group to be able to use all options offered by the time recording system - that is, they should be able to enter off-site work themselves at the time recording terminal - whereas another employee group should only be allowed to make clock-in and clock-out entries.

You want another employee group to be able to post the start and end of orders.

Standard settings

In the standard system, the relevant table only contains one grouping indicator with all known time event types.

Note

You can make the settings in the Personnel Time Events section or the Plant Data Collection section.

Recommendation

If you do not want to make a distinction between different employee groups, you should leave the standard settings as they are. This ensures that no enhancements have to be made if new requirements arise.

Activities

1. Decide which time event types your various employee groups should be allowed to enter at the subsystem

2. Create a separate personnel time event type group for each employee group, and assign the allowed time event types

Further notes

The functionality described above is often supported by the front-end time recording system or PDC system. If this is the case, you do not have to make a further distinction the Time Management system.

31.3.1.4 Set Groupings for Connections to the Subsystem

In this IMG activity, you determine the groupings you want to use for supplying subsystems.

Groupings for subsystems are used to group objects together (for example, HR master records, work centers) for the transfer to underlying systems. They allow a directed data distribution to the subsystems in which this data is to be kept, for example, for checks.
The corresponding objects are allocated to such a grouping (for subsystems) within the master data maintenance.

Activities

Create the required groupings.

Further notes

You can define filters in ALE Customizing under *Cross-Application Components -> Distribution (ALE)*, *Distribution model*, Maintain distribution models.

31.3.1.5 Enhancement for Link to Time Recording Systems (HR-PDC)

The SAP Enhancement HRPTIM05 is available for setting up the connection with external time management systems (HR-PDC).

Activities

1.   Create the enhancement.
        To do so, either create a new enhancement project, or use an existing project.

2.   Activate the project.
       Your enhancement must be activated before it takes effect.

Further notes

Enhancements, in contrast to modifications, are independent of release. Enhancements are not made in the standard SAP System, but in a name range specifically reserved for customers.

For more information on the procedures for creating enhancements, see the online manual from the enhancement transaction.

Each enhancement is individually documentated. This documentation can be found by choosing "Display documentation" from the enhancement transaction.

31.3.2 Personnel Time Events

In this section you make the settings that are required for processing personnel time events recorded by external time recording systems.

31.3.2.1 Set Up Attendance/Absences Groupings for the Subsystem

In this step, you set the groupings for attendances and absence reasons at the subsystem.

The grouping for employee attendance/absence reasons is assigned in the Time Recording Info infotype (0050).

Example

A group of employees are allowed to post their off-site work times at a time recording terminal. Another group of employees is not permitted to do so.

31.3.2.2 Maintain Attendance/Absence Reasons

In this step, you determine the attendance and absence reasons that employees may enter at the time recording terminal.

Example

Your employees should be able to enter an absence reason at the terminal for flextime in lieu.

Requirements

Carry out the Set up the attendance/absences groupings for the subsystem step.

Activities

1. Decide for which attendance/absence groups each attendance/absence reason is permitted.

2. Decide for which employee subgroup grouping for the work schedule and which personnel subarea grouping for the attendance/absence type may be used for each attendance/absence reason.

3. Define a code for each attendance/absence type that can be entered in the time recording system. This code is entered in the *A/AR* field.

4. Enter a corresponding attendance/absence text (name).

5. Determine if the attendance/absence should be assigned to the subsequent day.

6. Enter the key for the attendance/absence type.

7. If the attendance/absence is for a partial day and is entered with the first or last posting of the day, then you have to specify how the system should delimit start/end time of the attendance/absence.

31.3.2.3 Determine Data to be Displayed at the Terminal

In this step, you decide which data should be displayed to the employee at the time recording system.

Example

You want employees to see their remaining leave and flextime balance, and the key date to which the following data refers.

Requirements

-   You have defined personnel subarea groupings for time recording.

-   The time recording system must support data display. You must already have specified the time types which you want to display at the time recording system.

Standard settings

The standard system contains reference entries which you can modify for your own purposes.

Recommendation

Before you make entries here, check how many different types of data your time recording system can display.

Activities

1.   Specify the employee subgroup and personnel subarea groupings for which you want to display information.

2.   Decide what information should be displayed. Enter the required indicator in theInfo field field.

3.   Determine the order in which data is to be displayed.

4.   Specify the validity interval.

&ADDITIONAL HINTS&

Please note that the *Store for time accounts* field must be selected in the step Define time types for the time types you want to display at the time recording system.

31.3.2.4 Set Groupings for Access Control

In this step you create access control groups for your personnel subarea groupings. The time recording system can carry out time-restricted access control by referencing the access control groups.

The access control group is assigned to the employee in infotype 0050, **Time Recording Information**.

Example

You want your administration department employees to be able to come to work between 8 a.m. and 5 p.m. and your production employees between 6 a.m. and midnight. You must therefore create two access control groups and assign the employees to the appropriate one in infotype 0050, **Time Recording Information**.

Requirements

- You have defined personnel subarea groupings for time recording.

In order to perform time-restricted access control, the time recording system must be able to determine the relevant time profile by means of the access control group. The time recording system must support this functionality.

Recommendation

Before you make entries here, please check whether your time recording system supports time-restricted access control.

Activities

1. Also check whether a further subdivision is necessary for time- restricted access control in addition to the personnel subarea grouping for time recording.

2. Assign the access control groups to the personnel subarea grouping for time recording.

31.3.2.5 Set Up Background Jobs

In this section you can set up background jobs for the reports used to process personnel time events, and upload or download data to the external time recording system.

31.3.2.5.1 Upload

In this step, you schedule jobs to upload personnel time events.

Example

You want to upload personnel time events recorded in the time recording system to SAP Time Management each day at some point in the night.

Activities

1. Decide which parameters should be used to start report RPTCC106. Then define an applicable variant for the report.

2. Define a job to start report RPTCC106 to process the session as follows:

- Choose the applicable *job name*.

- Choose the applicable *job class*.

- Enter the name of the variant you created in the *Variant* field.

Further notes

A job you schedule in the test system is not transported to the production system. You have to schedule the job again in the production system.

31.3.2.5.2 Processing

In this step, you schedule jobs for processing personnel time events.

Example

You want to process the personnel time events recorded in the time recording system in SAP Time Management each day at some point each night.

Notes

Processing of personnel time events can be started by a specific event. To do so, schedule the starting time *After event* in *Create session to run background job* in report SAPCDT45. Use the event SAP_KK1_UPLOAD_FINISHED with the parameter 1.

Activities

1. Decide which parameters should be used to start the reports. Then define applicable variants for these reports.

2. Define jobs to start the reports to process the sessions as follows:

- Choose the applicable *job names*.

- Choose the applicable *job classes*.

- Enter the names of any variants that you created in the *Variant* field.

Further notes

A job you schedule in the test system is not transported to the production system. You have to schedule the job again in the production system.

31.3.2.5.3 Download

In this step, you schedule jobs jobs to download data to the time recording system. The data is required in the time recording system to allow personnel times to be recorded.

Example

You want to download data to the time recording system each day at some point each night.

Notes

The download for the HR mini-master and the time event type groupings only has to be scheduled once. Carry out this step in either the section on personnel time events or employee expenditures in the Implementation Guide (IMG) for Personnel Time Events.

Activities

1. Decide which parameters should be used to start the reports. Then define applicable variants for these reports.

2. Define jobs to start the reports to process the sessions as follows:

- Choose the applicable *job names*.

- Choose the applicable *job classes*.

- Enter the names of any variants that you created in the *Variant* field.

Further notes

A job you schedule in the test system is not transported to the production system. You have to schedule the job again in the production system.

31.3.3 Employee Expenditures: External, Cafeteria, Service Station

In this section you make the settings that are required for processing employee expenditures that are recorded by external systems.

An **invoice** is not created in the SAP System because no sales tax code is transferred.

Notes

So that the units entered at the time recording system can be correctly converted to employee expenditures, maintain the Create units of time/measurement step in Customizing for Personnel Administration.

31.3.3.1 Determine Grouping for Employee Expenditures at the Subsystem

In this step, you determine the groupings for employee expenditures for use at the subsystem.

In the Time Recording Info infotype (0050), you define to which grouping for employee expenditures the employees are assigned.

Example

You have two company cafeterias. In Cafeteria 1, employees pay cash for their purchases. In Cafeteria 2, however, employees use their time recording ID card to purchase items. By swiping their cards at a recording terminal, they effect electronic postings which are then written to the SAP system via record type **P50**.

31.3.3.2 Maintain Wage Types

In this step you create internal wage types for Payroll.

In a second step, you define employee expenditures for recording systems. Each employee expenditure is assigned an internal wage type as an attribute.

Example

There are four employee expenditures (**Service station/parking**, **Cafeteria/food**. **Cafeteria/drink**, and **Cafeteria/breakfast**), all of which are assigned the internal wage type **Net deduction for cafeteria/service station = 9725**.

Employee expenditure		Internal wage type
Svc station/parking	**= TAPA**	**--> 9725**
Cafeteria food	**= ESKA**	**--> 9725**

Cafeteria drink	**= TRKA**	**--> 9725**
Cafeteria breakfast	**= FRKA**	**--> 9725**

Requirements

- Groupings for subsystems have been defined.

Recommendation

Choosing more detailed specifications for the external wage types enables you to use report RPIEWT01 to list more exact information about individual postings per employee. The correspondingly high volume of data in the database table for individual postings can be reorganized at regular intervals.

Define as few internal wage types as possible. The line items, of which there is usually a large number, are then summarized in just a few infotype records.

Activities

1. Make copies of sample wage type **M725** to create as many internal wage types as required and write an explanatory text for each of them.

2. Create external wage types and assign them the internal wage types you have just created. **Further**

   notes

- Each internal wage type can also be created manually using the **Employee Remuneration Information** and **Additional Payments** infotypes.

- Long texts can only be maintained for internal wage types.

- For additional information on the wage type concept, refer to the Payroll Data -> Wage type concept section in the Implementation Guide (IMG) for **Personnel Administration**. Here you can find a detailed description of the procedure for copying by choosing **Help -> Application help**.

31.3.3.3 Set Up Background Jobs

Further notes

In this section you can set up background jobs for the reports used to process employee expenditures, and upload or download data to the external time recording system.

31.3.3.3.1 Upload

In this step, you schedule jobs to upload employee expenditures.

Example

You want to upload employee expenditures recorded in the time recording system to SAP Time Management each day at some point in the night.

Activities

1. Decide which parameters should be used to start report RPTCC109. Then define an applicable variant for the report.

2. Define a job to start report RPTCC109 to process the session as follows:

- Choose the applicable *job name*.

- Choose the applicable *job classe*.

- Enter the name of the variant you created in the *Variant* field.

Further notes

A job you schedule in the test system is not transported to the production system. You have to schedule the job again in the production system.

31.3.3.3.2 Processing

In this step, you schedule jobs for processing employee expenditures.

Example

You want to process the employee expenditures recorded in the time recording system in SAP

Time Management each day at some point each night.

Notes

You can start the processing of employee expenditures by a specific event. To do so, schedule the starting time *After event* in the *Create session to run background job* in report RPIEWT00. Use the event SAP_KK1_UPLOAD_FINISHED with parameter 2.

Activities

1. Decide which parameters should be used to start the reports. Then define applicable variants for these reports.

2. Define jobs to start the reports to process the sessions as follows:

- Choose the applicable *job names*.

- Choose the applicable *job classes*.

- Enter the names of any variants that you created in the *Variant* field.

Further notes

A job you schedule in the test system is not transported to the production system. You have to schedule the job again in the production system.

31.3.3.3.3 Download
In this step, you schedule the jobs to download data to the recording system. The recording system requires this data to enable employee expenditures to be recorded.

Example

You want to download data to the recording system each day at some point in the night.

Activities

1. Decide which parameters should be used to start the reports. Then define applicable variants for these reports.

2.   Define a job for starting a session to run reports as follows:

-    Choose the applicable *job names*.

-    Choose the applicable *job classes*.

-    Enter the names of any variants that you created in the *Variant* field.

Further notes

On of scheduled jobs in the test system is not transported to the productive system. You have to schedule this job again.

31.4 Plant Data Collection

In this section, you make all the settings required to set up plant data collection and thereby all settings required for integration with Logistics.

First check the general settings. They control communication with the subsystems.

Then work through the relevant sections depending on whether time events or *working time durations* are transferred from Logistics.

31.4.1 General Settings

In this section, you make general settings to guarantee communication with the subsystems.

Check the settings and remember that they also affect the use of time events. You can also make general settings in the section on time events.

31.4.1.1 Create Number Range for Time Events and Acct Assignment Data

In this step, you define the number range for the number range object *PD_SEQ_NR*.

The number range object is used in Human Resources and Logistics. It is used for time events and in all tables which are required for the interface between Human Resources (HR) and Controlling (CO), Materials Management (MM), Plant Maintenance (PM), and Project System (PS).

A number is assigned

- For every time event

- For every confirmation from Logistics

- For every record being transferred

- To secondary cost allocation

- To primary cost allocation

- To external services management

Note

Only internal number assignment is possible; the number range "01" has been predefined for the number.

Note: The settings can also be made in the sections on person time events and plant data collection.

Standard settings

The maximum number range is set in the standard SAP system.

Recommendation

We recommend that you do not change the standard settings.

Activities

Create a number range with the interval '01'. The number assignment must take place internally.

31.4.1.2 Group Work Time Event Types

In this step, you determine which posting types are allowed for your employees.

Example

You want one employee group to be able to use all options offered by the time recording system - that is, they should be able to enter off-site work themselves at the time recording terminal - whereas another employee group should only be allowed to make clock-in and clock-out entries.

You want another employee group to be able to post the start and end of orders.

Requirements

Standard settings

In the standard system, the relevant table only contains one grouping indicator with all known time event types.

Note

You can make the settings in the Personnel Time Events section or the Plant Data Collection section.

Recommendation

If you do not want to make a distinction between different employee groups, you should leave the standard settings as they are. This ensures that no enhancements have to be made if new requirements arise.

Activities

1. Decide which time event types your various employee groups should be allowed to enter at the subsystem

2. Create a separate personnel time event type group for each employee group, and assign the allowed time event types

Further notes

The functionality described above is often supported by the front-end time recording system or PDC system. If this is the case, you do not have to make a further distinction the Time Management system.

Example

Requirements

Standard settings

Recommendation

Activities

Further notes

31.4.1.3 Set Groupings for Subsystem Connection

In this IMG activity, you determine the groupings you want to use for supplying subsystems.

Groupings for subsystems are used to group objects together (for example, HR master records, work centers) for the transfer to underlying systems. They allow a directed data distribution to the subsystems in which this data is to be kept, for example, for checks.
The corresponding objects are allocated to such a grouping (for subsystems) within the master data maintenance.

Activities

Create the required groupings.

Further notes

You can define filters in ALE Customizing under *Cross-Application Components -> Distribution (ALE)*, *Distribution model*, Maintain distribution models.

31.4.1.4 Settings for the Logistics System

This section describes the settings required in the Logistics system to enable integration with Time Management.

31.4.1.4.1 Activate HR Integration

Notes

If you want to transfer work time events or working time durations from the Logistics components to HR, you must not select the *No HR update* indicator in the Define confirmation parameters step.

Report CORUPROC (Process chain for confirmation, collective background processing) must be started in the Logistics System. The *HR Data transfer* option must be activated.

You can schedule the report periodically in the Define time for confirmation processing step in Customizing for Logistics.

31.4.1.4.2 Maintain Standard Value Keys (PP)

Keys for the default values are determined in **Production Planning and Control (PP)** for individual work centers. Choose *Production -> Master Data -> Work Centers -> Work Center -> Create or Change*. These settings are no longer made in Customizing for PP as of Release 4.5.

Example

You want to retrieve confirmations from **Production Planning and Control (PP)**. You want the actual and target times that are specified in the confirmations for the activity type "labor time" to be stored in the relevant time ticket fields in Incentive Wages.

Recommendation

In PP, you can use a maximum of six activity types to represent the activities performed as part of an operation.

An operation is PP can be assigned a specific work center at which the operation is carried out. A standard value key is assiged for each work center. The standard value key determines which activities (or activity types) can be carried out at the respective work center. Up to six activity types can be defined for each standard value key, and you can also specify whether (and how) you want them to be adapted to the five activity types in Incentive Wages.

31.4.2 Work Time Events from Logistics

You must make settings in this section if work time events are transferred from Logistics.

31.4.2.1 Schedule Background Jobs

In this section you can set up background jobs for the reports used to process work time events from Logistics.

31.4.2.1.1 Process Work Time Events

In this step, you schedule jobs to post work time events and transfer the corrected actual times to Logistics.

Example

You want to process work time events once daily, overnight.

Standard settings

Notes

Posting work time events can be started by a specific event. To do so, schedule the starting time *After event* in the *Create session to run background job* in report SAPCDT46. Use the event SAP_KK1_UPLOAD_FINISHED with parameter 3.

Activities

1. Decide which parameters should be used to start the reports. Then define appropriate variants for the reports.

2. Define a job to start the reports to process the session as follows:

- Choose an appropriate *job name*.

- Choose an appropriate *job class*.

- In the *Variant* field, enter the name of the variant you have created.

Further notes

- A job you schedule in the test system is not transported to the production system. You must schedule the job again in the production system.

31.4.2.2 Data Transfer to Incentive Wages

You must make settings in this section if you want the time tickets generated in Time Management to be passed on to Incentive Wages.

This is the case if you want the employee's pay to be performance-based (for example, in piecework or premium wages).

31.4.2.2.1 Settings for Pair Formation

In this step, you determine if and when the time tickets generated in Time Management are posted to Incentive Wages

You can also specify whether corrected actual times should be available in the interface to Logistics.

Notes

You can also maintain the Define settings for pair formation step in the Time Evaluation section of the IMG.

Activities

Check that the correct reaction is entered for both the **Posting time tickets** and **Providing actual times to Logistics** statuses.

31.4.3 Working Time Durations from Logistics

You must make settings in this section if working time durations are transferred from Logistics.

31.4.3.1 Schedule Background Jobs

In this section you can set up background jobs for the reports used to process working time durations from Logistics.

31.4.3.1.1 Transfer Confirmations to Attendances

In this step, you schedule jobs for transferring confirmations to Attendances.

Activities

1. Decide which parameters you want to use to start the reports. Then define appropriate

   variants for the reports.

2. Define a job to start the reports to process the session. Proceed as follows:

- Choose the *Job name*.

- Choose the *Job class*.

- Enter the name of the variant you created in the *Variant* field.

Further notes

A job you schedule in the test system is not transported to the production system. You have to schedule the job again in the production system.

31.4.3.1.2 Transfer of Confirmations to Incentive Wages

In this step, you schedule jobs for transferring confirmations to Incentive Wages.

Activities

1. Decide which parameters should be used to start the reports. Then define applicable variants for the reports.

2. Define a job to start the reports to run the session as follows:

-   Choose the applicable *job name*.

-   Choose the applicable *job class*.

-   Enter the name of the variant you created in the *Variant* field.

Further notes

A job you schedule in the test system is not transported to the production system. You have to schedule the job again in the production system.

31.5 Time Evaluation

Time evaluation evaluates the attendance and absence times that have been recorded for or by your employees. The system uses the results of time evaluation to form time balances and time wage types, and to update attendance and absence quotas.

There are three potential evaluation scenarios, depending on the type of data recorded:

1. Only exceptions to the work schedule such as leave or sickness are recorded. In this case, time data is usually evaluated in payroll.

2. All attendance times are recorded electronically at a front-end time recording system, not just exceptions to the work schedule. The time data is then uploaded to the SAP system to be evaluated.

3. As in point 2), all attendance times are recorded, but manually in the *Attendances* infotype (2002). You should use this method if cost distribution data is to be recorded along with the attendance.

31.5.1 General Settings

In this section, you make the settings for working with time evaluation.

31.5.1.1 Define Settings for Pair Formation

In this step, you can specify how pair formation should react to certain situations.

Example

An employee is absent and makes a clock-out entry. You can either cancel processing and issue an error message or generate an open pair without information on the start time.

Standard settings

There is a reaction set for all processing statuses in the standard system. If you want to obtain information on the reaction of pair formation for specific statuses, please use the F1 help documentation for the **Status** field or the F4 help documentation for the **Reaction** field.

Recommendation

You should make modifications only in exceptional cases. Use the F4 or F1 help to display possible reactions.

Activities

1. Decide if the different reactions of the pair formation function are sufficient for your company's requirements.

2. Decide for which personnel subarea grouping for time recording you want to make a modification.

3. Change the system reaction if necessary. To do this, enter the return code in line with the documentation in the **Reaction** field.

Further notes

If there is no reaction specified under the relevant personnel subarea grouping for time recording, a standard reaction is used.

31.5.1.2 Schedule Time Evaluation

You schedule a job to perform time evaluation in this step.

Example

You want the recorded time data to be evaluated automatically every night.

Requirements

You should be familiar with the basics of the SAP Basis system.

Recommendation

- Choose an appropriate job name, for example time evaluation.

- If you record time data at a front-end time recording system, choose the start date so that time evaluation is not started until after the time events have been uploaded.

Activities

1. Specify the parameters for starting the time evaluation report.
   It is usually best to make an entry in the *Evaluation schema* field only. You should delete the entry in the field *Evaluation up to*.

2. Define a variant.

3. Define a job for performing time evaluation. The program is called RPTIME00.

4. Enter the name of the variant you have created in the *Variant* field.

   Further notes

- A job scheduled in the test system is not transported to the production system: you have to schedule it again in the production system. Note that the required variant must also be created in the production system.

- You do not necessarily have to link the start of time evaluation with the job for uploading time events.

31.5.1.3 Set Modifier for Earliest Recalculation Date

You can set modifiers to determine the earliest recalculation date in this step.

An earliest recalculation date can be specified for:

- Recording time events and pair formation

- Time evaluation

- Time statement form

- Recording incentive wage time tickets

Note that the same modifiers are used for all areas.

The earliest recalculation date determines the earliest date for which you can enter data or for which recorded data is evaluated.
The system refers to existing data, any errors which have occurred in evaluation, changes made to employee data, and so on to determine how far back the recalculation must be made for the data to to be evaluated correctly.
You can use the earliest recalculation date to define the earliest date for an automatic recalculation trigger. The data evaluated before this date should not be recalculated even if there are changes which are relevant.
For more information see the SAP library for Time Management, using the index entry **Earliest recalculation date**.
You can use the modifier to specify different earliest recalculation dates according to:

- Company code

- Personnel area

- Personnel subarea

- Employee group

- Employee subgroup

-        and/or country grouping

Example

For organizational reasons, you want to define a longer recalculation period for personnel subarea 0004 than for your other personnel subareas.

Create two modifiers. Assign modifier 02 to personnel subarea 0004, and 01 to all other personnel subareas.

Requirements

You should know how to create decision trees and features

Standard settings

01 is the only modifier used in the standard system.

Activities

Modify feature TIMMO as required if you want to be able to specify more than one earliest recalculation date.

31.5.1.4 Set Earliest Recalculation Date for Pair Formation/Time Evaluation

In this step, you set the earliest dates from which pair formation or time evaluation can be rerun. Recalculations cannot be performed for periods before this date.

Example

When changing employee time data, you do not want a recalculation to go any further back than January 1st of the current year.

Requirements

You have set the Modifier for earliest recalculation date.

Activities

Change the date specifications for the earliest recalculation date for pair formation and time evaluation according to the **Modifiers** you have defined.

31.5.1.5 Determine Time Evaluation Period

In this activity, you specify dates for the time evaluation periods. You enter the start and end dates for all periods.

If you intend to use a monthly periodicity for payroll and have already made the appropriate system settings, you can omit this step.

Example

You specify the evaluation periods for monthly periodicity for the years 2004 to 2008, where the periods correspond to calendar months.

Recommendation

Define time evaluation periods for several years at a time.

We strongly advise against using a periodicity other than a monthly one.

Activities

1. For monthly periodicity, enter the value **01** as the period parameter.

2. Assign a start and end date and a previous period to each evaluation period.

31.5.2 Time Evaluation Settings

In this section, you make the settings which form the basis of time evaluation.

The system forms time pairs from the recorded time data in time evalation. A time type and processing type are assigned to the time pairs in the course of further processing. Time types represent a semantic summary of periods of time. Balances which have been formed in time evaluation from absence and attendance times are written to time types. The processing type indicates how the time pair should be processed in wage type generation.

You should define employee groupings for the time evaluation rule in order to set different regulations for different groups of employees. Employees are assigned to one of these groupings in infotype 0050, *Time Recording Information*.

You can flag specific absence quotas to indicate that they may only be changed in time evaluation. You cannot make an entry in the number field of infotype 2006, **Absence Quotas**, for the quotas you have flagged.

Example

Flextime balances are stored in time type 0005, "Flextime balance". Overtime for which the employee is compensated with time off plus an overtime rate is stored in time type 0043, "Overtime: basic wage/ time off".

31.5.2.1 Set Personnel Subarea Groupings for Time Recording

You group your personnel subareas for time recording in this step.

You can group personnel subareas for the following:

- Time transfers -   Access control

- Time types and time type determination

- Error processing

Example

You want to set different specifications for the processing of time transfers for personnel area 0001 than for personnel area 0002.

Define two groupings.

Requirements

You have maintained personnel areas and subareas.

Standard settings

The standard SAP system contains a reference for the *personnel subarea grouping for time recording* 01.

Recommendation

Use grouping 01 when you set up the system.

Activities

1. Decide whether one grouping is sufficient for your enterprise.

2. Define additional groupings if required.

31.5.2.2 Group Employee Subgroups for the Personnel Calculation Rule

Use

In this activity, you group your employee subgroups for the personnel calculation rule. This grouping is valid for both Payroll and Time Evaluation.

Standard settings

Grouping of employee subgroups for the personnel calculation rule:

- 1 = Hourly wage

- 2 = Periodic payment (such as monthly wage earners)

- 3 = Salary/Pension

- 4 = Pay (Public Sector Germany)

- 5 = Pension (Public Sector Germany)

Recommendation

The meanings of the groupings for the personnel calculation rule are fixed and, therefore, they should not be changed.

Activities

Determine the grouping for the personnel calculation rule for each employee subgroup.

31.5.2.3 Set Employee Groupings for the Time Evaluation Rule

In this step, you can make a further subdivision of your employees for time evaluation by defining employee groupings for the time evaluation rule.
The groupings defined are assigned to employees in infotype 0050, **Time Recording Information**, and can be queried during time evaluation.

Example

You want it to be possible for some of your employees - but not others - to accumulate compensation time credit. You do not intend to create different daily work schedules for these employee groups. This can be effected by assigning a grouping for the time evaluation rule.

Standard settings

The relevant table contains reference entries in the standard system, but note that there are no actual functions assigned to the parameters.

Activities

1. Decide whether you require further subdivisions.

2. Create a new employee grouping for the time evaluation rule for each required subdivision. Store the semantic meaning in a text.

Further notes

- This indicator is not used for time evaluation in the standard SAP system. If you want to base further regulations upon it, you must store them in personnel calculation rules.

- The field contents can be queried using operation OUTTI and parameter ABART.

31.5.2.4 Maintain the Input Help for the Additional Indicator Field

Use

In this activity you define the *Additional Indicators* that are relevant for your company.

The user can find the entries in the input help (F4) for the *Additional Indicators* field (ZUSKZ) in the maintenance view of the infotype *Time Recording Information* (0050).

Requirements

The input help is available only if you have activated the TIMGT ADDTL switch in table T77S0 (system table). For more information, see SAP Note **2146965**.

Standard settings

No values are defined in the standard delivery. There is no input help for the field available to the user.

Activities

- Create the entries for the additional indicators used in your company.

- For each entry, enter a text that describes the indicator.

- Assign each indicator to a *Personnel Subarea Grouping for Time Recording*. In this way, you can display the input value for additional indicators depending on the employee's personnel area or subarea.

31.5.2.5 Define Time Types

In this step, you define time types, day balances, and period balances for your company. Time types are semantic groupings of time spans. The balances formed in time evaluation are posted to time types. They determine whether balances should be cumulated in a particular time type on a daily or monthly basis.

Example

Employees in a certain personnel subarea grouping are scheduled to work 8 hours a day. The collective agreement specifies an average daily working time of 7.5 hours. Employees can accumulate compensation time from the difference. Define the time type "Compensation time".

Requirements

You have defined personnel subarea groupings for
time recording.

Standard settings

The standard SAP system contains the most common time types. You can add your own entries if these are not sufficient.

The meaning of the time types is taken from time evaluation's personnel calculation rules. The standard time types are as follows:

- 0002 - Planned working time from daily work schedule

- 0003 - Skeleton time (times which qualify as planned work)

- 0005 - Flex balance (difference between 0003 and 0002)

- 0010 - Attendance (generated or from time events)

- 0020 - Recorded absences (infotype 2001)

- 0030 - Recorded attendances (infotype 2002)

- 0040 - Overtime worked

- 0050 - Productive hours (total of 0010, 0030 and 0040)

The steps on forming balances from time data with clock times and forming balances without clock times contain more information on the formation of balances.

Recommendation

You should only create new entries if the standard time types are not sufficient for your purposes.

Activities

1. Decide which additional time types are required.

2. Specify the personnel subarea groupings for time recording for which the time types are valid.

3. Decide if the time type should be cumulated on a daily or period basis.

4. Specify whether the balance from the previous period or year should be taken over at the start of a new period or year, or whether the cumulation should start from zero. If you use display objects to display balances in the *Time Manager's Workplace*, you should note also the information given in the Define Reporting Quota Types IMG activity.

5. Decide whether the cumulated value of the time type is transferred to another time type at the start of a new period or year.

6. Decide whether you want the value of the time type to be transferred to the subsystem. Enter "1" in the *Transfer to cluster B1* field if required.

Further notes

Please make all your entries in the name range reserved for customers. Otherwise your entries may be overwritten by a release upgrade. Changing standard SAP entries is similar to making program changes.

31.5.3 Time Evaluation With Clock Times

In this section, you set up time evaluation according to the specific requirements of your company.

Time evaluation is controlled by means of a schema which specifies the functions to be carried out. The functions in the schema are processed sequentially. You can store additional rules for certain functions which affect the result of the function.

The standard system contains various schemas to cater for a number of different requirements. The preconditions and the way in which the time data is evaluated varies from schema to schema.

Unlike the section Time Evaluation Without Clock Times, schema **TM00** sets the following preconditions and objectives:

Employees' working times are generally recorded at at subsystem in the form of clock-in and clock-out entries. Time pairs are then formed from the time events. Any times not recorded using this method, but which count as working time, are entered as absences and attendances in infotypes 2001 and 2002.

Clock times are of relevance to time data. They are compared with the specifications in the daily work schedule (core times, break times, start/end tolerances) to determine whether or not the employee worked the correct hours, when time should be deducted for breaks and which time qualifies as overtime.

The following steps explain the functions in the standard schema and how to modify them to suit your own requirements. You will also learn how to create and change personnel calculation rules.

31.5.3.1 Initial Steps

In this section, you specify the general control parameters for time evaluation and set the groupings for reading various tables.

Example

-   You want the retroactive accounting indicator to be set for payroll if the results of time evaluation change for periods that have already been processed by the payroll driver.

-   You want to set different regulations for generating time wage types for employees in grouping 1 for personnel calculation rules than for employees in grouping 2.

31.5.3.1.1 Set Controls

In this step, you can make settings for time evaluation which apply to all employees.

Example

You only want to select employees with a particular Time Management status in infotype 0007, **Planned Working Time** for time evaluation.

Standard settings

In the standard system, the retroactive accounting indicator is set for payroll if time evaluation results change for periods already processed by the payroll driver. If payroll is being run or is at the correction stage and the retroactive accounting indicator is set, assimilation into matchcode "W" is performed.

Recommendation

Only change the default setting if you do not intend to use time evaluation results for payroll within the SAP system.

Activities

1. Check whether you want to make one or more of the following settings for time evaluation:

    -   PON   (Positive or Negative)
        The system selects all employees who have a Time
        Management status other than "0" in infotype

        0007, **Planned Working Time**.

    -   TRC   (Time ReCording)
        The system only selects employees whose Time Management   status in
        infotype 0007 is "1".

    -   PDC   (Plant Data Collection)
        The system only selects employees whose Time Management   status in
        infotype 0007 is "2".

    -   NEG   (NEGative)
        The system only selects employees whose Time Management   status in
        infotype 0007 is "9".

    -   FUT   (FUTure)
        Evaluation of future dates also: the last day to
        be evaluated is specified   when starting the time
        evaluation driver.   The system does not check whether
        the date   lies in the future.

    -   RPR   (Recalculation PayRoll)
        The retroactive accounting indicator is set for   payroll if
        results change for periods which have   already been processed by
        the payroll driver.

    -   INFT   (INFotypes)
        The system checks whether the following infotypes   are
        processed in the schema:

Absences, Attendances, Availability, Overtime and Time Transfer Specifications. If not, these are not imported for performance reasons.

- NOTR (NO Time Recording)

Infotype 0050, **Time Recording Information**, is not imported. This means that time evaluation can be run without **Time Recording Information** records (infotype 0050).

If you do not use parameter NOTR, there must be a valid record in infotype 0050, **Time Recording Information** for each day being evaluated.

- BP (Basic Pay)

Infotype 0008, **Basic Pay**, is imported and entered in the internal table WPBP. The basic pay data can then be queried in personnel calculation rules using operation _OUTWP_.

- NOB1 (NO B1 cluster)

No B1 cluster is imported or exported during time evaluation. This parameter only used when evaluating the data of employees for whom times are not recorded automatically.

2. If you want to make additional specifications, insert a new line after CHECK RPR MACO. Insert function _CHECK_ in this line. As the second parameter, enter the appropriate code code from the above list, e.g. "BP".

3. If you want to make further settings, repeat point 2.

Further notes

- The selection of data is not limited by the above conditions in the standard system. All employees who have a Time Management status other than 0 or 9 in infotype 0007, **Planned Working Time**, are selected for time evaluation.

31.5.3.1.2 Define Groupings

In this step, you set the groupings which the payroll driver uses to access tables during processing.

Example

You want to set different regulations for time wage type generation for employees in employee subgroup grouping 1 for the personnel calculation rule than for employees in grouping 2.

Requirements

You have grouped employee subgroups for the personnel calculation rule.

Standard settings

In the standard system, the employee grouping for absence valuation is assigned the value 01 for reading the **Valuation of absences** table; the employee subgroup grouping for the personnel calculation rule is immaterial.
For reading the **Time wage type selection rule** table, the time wage type selection rule group is assigned the value of the employee subgroup grouping for the personnel calculation rule. The value of the time type determination group is not dependent on the employee subgroup grouping for the personnel calculation rule and is always 01.

Recommendation

Only make changes here if you want the payroll driver to use different methods to access tables for different employee subgroup groupings for the personnel calculation rule. You must have entered a code in the relevant tables for the respective grouping.

Activities

1. Decide which groupings you want to use for which employee subgroup grouping for the personnel calculation rule to access the following tables: **Time wage type selection rule**, **Time type determination** and **Valuation of absences**.

2. Copy the standard personnel calculation rule MODT to ZMOD.

3. Set the appropriate values for the groupings where

   - "W" stands for time wage type selection rule group,

   - "T" for time type determination group, and

   - "A" for employee grouping for absence valuation.

4. If you have more than 3 employee subgroup groupings for the personnel calculation rule, insert additional lines based on the example of groupings 1-3.

5. Change the name of personnel calculation rule from MODT to ZMOD GEN.

Further notes

- This function may only be used in the initialization block (between functions BINI and EINI).

- Please note that not all options for processing overtime are available to you if you use time type determination group 03.

31.5.3.2 Providing Time Data

In this section, you set up the functions which make time data available to the time evaluation driver for further processing.

This includes basic data, time events and manual entries (absences and attendances, for example) which are relevant to time evaluation.

31.5.3.2.1 Work Schedule and Time Events

In this section, you specify how basic data (work schedules and time events) is imported.

Work schedules are compared with time events and data which has been entered manually in order to generate the correct time identifier for each time pair.

31.5.3.2.1.1 Determine Breaks for Import

In this step, you can set regulations to determine which breaks in the break schedule are imported by the time evaluation program. If you do not make any settings here, the system imports **all** breaks stipulated in the break schedule which is assigned to the daily work schedule.

The following explains how to customize the system so that only breaks during planned working time or only breaks of a certain break type are read in time evaluation.

Example

-   There are certain breaks which you want to be taken into account only on public holidays.

-   You only want breaks uring planned working time to be evaluated.

Requirements

You have assigned a break type to the breaks that you only want imported under certain conditions.

Standard settings

All breaks are imported in the standard SAP system, irrespective of the break type.

Activities

1. You can use the standard personnel calculation rule TD00 if you only want to import breaks during planned working time. Insert TD00 in the day processing block formed by functions BDAY and EDAY. It must come before the daily work schedule is imported, i.e. before functions P2000 and P2011. Use function ACTIO to call TD00.

2. Decide whether you only want to import selected breaks, i.e. exclude certain breaks from the import.

3. Flag the breaks to distinguish the ones which should be imported.

4. Copy personnel calculation rule TD00 to ZD00 and store the conditions for importing the breaks. Use operation TFLAGB to indicate which breaks you want imported.

5. Call your personnel calculation rule using function ACTIO before the daily work schedule is imported (function P2000 or P2011).

31.5.3.2.1.2 Import Work Schedule and Time Events

In this step, you set up the function which imports the daily work schedule and the time pairs generated from the day's time events.

If you do not record time events automatically or in infotype 2011, *Time Events*, please read the section entitled Import work schedules.

Example

You want attendance time pairs to be delimited by the imported time pairs if data overlaps.

Standard settings

Pairs which have already been imported remain unchanged, even if there are overlaps with new

pairs.

Activities

1. Decide whether you wish to import time pairs which have identical clock-in and clock-out times. If you do, enter the value ALL as the first parameter in schema **TM00** in function **P2011**.

2. Determine how the time pairs to be imported should be merged with those which have already been imported. To do this, enter the second parameter in function **P2011** as follows:

   - blank   Existing time pairs remain   unchanged.

   - xy   Only time pairs whose pair type is listed
     (in this case x or y) are delimited by   the pairs being
     imported.

   - *   Every existing time pair is delimited if   it
     collides with a new time pair.

3. Decide whether the core time specified in the daily work schedule is relevant for further processing. If not, enter an "N" as the third parameter in function **P2011**.

Further notes

- The pair type of a time pair in time evaluation specifies whether the employee is at work or absent. The pair types are as follows:

- "1" - attendance

- "2" - recorded absence

- "3" - off-site work

- The time pairs imported by this function are assigned pair type 1 (attendance pairs) and origin indicator E.

- If a time pair has been formed on the basis of time events relevant to cost distribution, the system sets the appropriate split indicator. If there is a substitution with cost distribution on the day being

evaluated, the cost distribution split is set. If there is already a C1 split for the pair on the basis of the time events, the system displays an error message and processing is cancelled.

- This functionality is characteristic for schema TM00 - attendances from subsystem.

31.5.3.2.1.3 Import Work Schedule

In this step, you set up the function which imports the daily work schedule and, if necessary, generates time pairs (on the basis of the daily work schedule) which correspond to the planned working time. If you record time events automatically or in infotype 2001, *Time Events*, you do not have to make any settings in this step but in Import work schedule and time events.

Example

You want the daily work schedule to be imported but do not want planned pairs to be generated on the basis of the daily work schedule.
You require this functionality if you record all attendance times using infotype 2002, *Attendances*.
If you only record exceptions to the daily work schedule, you want to valuate the planned working time as attendance time. You therefore generate an attendance time pair on the basis of the planned working time specified in the daily work schedule.

Standard settings

The daily work schedule is imported and planned pairs are generated for employees who are assigned the Time Management status 9 in infotype 0007, *Planned Working Time*. The daily work schedule is imported for employees with the Time Management status 1 or 8, but the system does not generate planned pairs.
After the attendances have been imported, all time pairs with pair type 3 are converted to pair type 1 for these employees.

Recommendation

If you want to print the start and end of the planned working time pairs on the time statement form, enter SAVE as the fourth parameter of function P2000 under ELSE.

Activities

1. Decide whether the core time specified in the daily work schedule is relevant for further processing. If not, enter N as the third parameter of function P2000 at both positions in the scchema.

2. Decide if you want to generate a planned pair on days which are not assigned day type 0 or SPACE. If necessary, enter EVER as the first parameter of function P2000 under ELSE.

3. Decide whether you want to save the generated time pairs in the pair table in time evaluation's result cluster. If you do, enter SAVE as the fourth parameter of function P2000 under ELSE.

Further notes

Personnel calculation rule TD01 is used to convert pair type 3 to 1.

31.5.3.2.1.4 Dynamic Assignment Based on Clock-In Entries

The following steps introduce the methods of assigning daily work schedules dynamically.
Dynamic assignment of the daily work schedule can be based on the day's first clock-in entry

or on the overlap of the actual times with the planned specifications in the daily work schedule.

31.5.3.2.1.4.1 Assign Daily Work Schedule Dynamically

In this step, you can assign employees dynamically (according to their clock-in entry) to a daily work
schedule, depending on their period work schedule.

Example

A particular daily work schedule is to be assigned to employees who work according to the M3 period
work schedule (3-shift operation 4W) depending on their clock-in time. e.g.: clock-in between   5
a.m. and 7 a.m. --> F11 (early shift)   2 p.m. and 3 p.m. --> S11 (late shift)
           10 p.m. and 11 p.m. --> N11 (night shift)

Requirements

No substitution may exist for the employee.

Standard settings

If there is no substitution data and the employee participates in the dynamic assignment of daily work
schedules, the daily work schedule is determined dynamically.

Recommendation

You need only perform these actions if the daily work schedule is determined according to the actual
clock-in time, and not on the basis of the period work schedule.

Activities

1. Decide which personnel subarea grouping for the daily work schedule and which period work
    schedule should be assigned dynamically to a daily work schedule.

2. Enter '01' in the **Type** field if you do not require further details.

3. Decide within which date interval and at which times a particular daily work schedule should be
    assigned dynamically.

4.   Enter the daily work schedule that should be assigned dynamically in the **DWS** field. Decide whether you want the daily work schedule variants to be taken into account. If you do, you can use one of the following three options:

   a)   You can enter a variant in the **Variant** field.

   b)   You can select the **VarSt** field if you want the variant to assigned using the Rules for determining variants view during work schedule generation. For more information, refer to the section Define rules for variants.

   c)   You can select the **OrigVar** field if you want to adopt the original daily work

      schedule variant from the personal work schedule.
      Note that in this case, the original variant for the daily work schedule to be dynamically assigned may not exist within time evaluation. In such a situation, the daily work schedule is not dynamically assigned, and the personal work schedule remains unchanged.

   Further notes

-   If dynamic assignment of the daily work schedule is only to be carried out for specific employees, please read the documentation on personnel calculation rule TD30.

-   If you require further refinements for the dynamic assignment of daily work schedules (different assignment for different employee groups despite identical period work schedule, for example), you can make a different entry in the **Type** field. You must also modify personnel calculation rule TD30 accordingly.

31.5.3.2.1.4.2 Dynamic Assignment Based on Planned/Actual Overlap

In this step, you can assign the employee a einen daily work schedule dynamically on the basis of his or her period work schedule. This new daily work schedule is determined from a group of daily work schedules that show an optimum overlap of the planned specifications with the actual times.

You can assign a daily work schedule dynamically within time evaluation using the Time Management function DYNWS. The assignment is made if the only time pairs for the employee on the day being evaluated come from time events or from the *Attendances* (2002), *Overtime* (2005) or *Availability* (2004) infotypes.
You can use the **Type** field to determine different groups of daily work schedules to be considered for dynamic assignment for the same personnel subarea grouping for daily work schedules and the same period work schedule. You can set the **Type** field in time evaluation using operation MODIF.
Unlike dynamic daily work schedule assignment using personnel calculation rule TD30 - that is, based on the first clock-in entry - this form of dynamic assigment cannot be carried out within pair formation.

   Example

You want one of the daily work schedules F-11, S-11 or N-11 to be assigned dynamically for employees who work according to the period work schedule M3 (3 shift operation 4W). You want the one where the actual times best match the planned specifications to be assigned. You enter the three daily work schedules for the **Type** blank and number them in ascending order.

For some of the employees who work according to the period work schedule M3, you only want to allow daily work schedules F-11 and S-11 for dynamic assignment. You enter F-11 and S-11 for the **Type** 01 and number them in ascending order.

Standard settings

The standard system contains sample entries for the above example.

Activities

1. Decide which personnel subarea groupings for daily work schedules and which period work schedules you want to use this form of dynamic daily work schedule assignment for.

2. For each period work schedule, specify the group of daily work schedules that should be considered for dynamic assignment.

    a) Only enter values in the **Type** field if you want to specify different groups of daily work schedules to be considered for dynamic assignment for the period work schedule. Please note that you must set the type within a personnel calculation rule using operation MODIF in order to guarantee correct access.

    b) If you want to make several entries for a personnel subarea grouping for daily work schedules, a period work schedule, and a type, number them in ascending order in the **No.** field.

    c) Enter the daily work schedules in the **Daily WS** field. Decide whether you want to take account of daily work schedule variants. If you do, you can either indicate this in the **Variant** field, or select the **Var. ctrl** field to specify that you want the variant to be assigned when the work schedule is generated using the Rules for Determining Variant view. For more information, please see the step Define rules for variants.

3. If you have used the **Type** field, you create a personnel calculation rule in which you set the type within time evaluation using MODIF S. You can set the type before or during day processing. If you want to set it before day processing, proceed as described in the step Set groupings. If you want to set the type during day processing, create a new personnel calculation rule and add it to your time evaluation schema after function ACTIO. It should be called before function DYNWS.

4. Add function DYNWS to your time evaluation schema. It should come after the data has been imported but before the error checks.

Further notes

-   If you want to take account of the *Substitutions* infotype (2003) or the daily work schedule in the personal work schedule when assigning the daily work schedule dynamically, please see the documentation on function DYNWS.

-   For information on setting the type within a personnel calculation rule, please see the documentation on operation MODIF.

31.5.3.2.1.5 Process Time Events with Attendance/Absence Reason

In this step, you determine how the system should process time events which specify an attendance or absence reason.

Example

An employee goes to the doctor's in the afternoon and enters the appropriate absence reason

when he/she clocks out. You want the system to take account of this information in time evaluation, and generate a corresponding absence time pair automatically.

Requirements

You have assigned your attendance and absence reasons to attendance and absence types.

Standard settings

An time pair is generated according to the attendance or absence reason and a locked infotype record is generated.

Recommendation

Use this function if your employees are permitted to enter attendances and absences at the terminal.

Activities

Decide whether your employees should be permitted to enter attendances and absences at the terminal. If not, deactivate function **PTIP TD80 GEN**.

Further notes

- The system displays an error message if an employee clocks in and enters an attendance or absence reason that would generate a full-day attendance or absence record for the following day.

- Any records which have been generated automatically have to be unlocked. The day has only been accounted provisionally and a recalculation indicator has been set.

31.5.3.2.2 Absences

In this section, you specify how absence data which has been recorded manually should be imported and valuated.

Manually entered absence data includes leave and sickness, i.e. subtypes of infotype 2001, **Absences**.

Valuation involves adjusting absences relative to the attendance pairs and shortening absences which last less than one workday.

In the last step you can determine whether "flextime offset" and "overtime offset" absences (i.e. time in lieu of accumulated flextime or overtime hours) should be deducted from the flextime/ overtime balance.

31.5.3.2.2.1 Provide Absence Data

In this step, you determine how the time evaluation driver imports absences which have been entered manually, that is infotype 2001 data. Absences are imported in the schema using function **P2001**.

If you record time data with clock times, the absences may collide with other imported data. Function P2001 allows you to adjust absence times so that there are no overlaps. This is of no relevance if clock times are not recorded.

Example

You want absences which have been entered manually to cancel out any parallel attendances. The following time data is available:

- 8am - 5pm   (time pair based on daily work schedule)

- 10am - 12 noon (absence for doctor's appointment) The following times should be evaluated:

- 8am - 10am   at work

- 10am - 12 noon   absent

- 12 noon - 5pm   at work

Standard settings

Function **P2001** imports the data recorded in the **Absences** infotype (2001).

1. Records for a period of less than one working day are imported with the recorded time interval or number of hours.

2. For full-day attendances, the system generates a time pair based on the normal working times in the daily work schedule (planned working time, if a normal working time is not specified).

3. Absences are imported without overlapping time pairs being changed.

Recommendation

You should only make settings here if you do not wish to used the standard ones. Do not delete this function from the schema.

Activities

4. Decide how existing time pairs should be delimited. The following options are possible: blank
   Existing time pairs remain   unchanged xy   Only time pairs whose pair type is listed
   (here: x or y) are delimited by   the imported absence pairs

   *   Every time pair is delimited if it   collides with an
   absence time pair Enter the appropriate value as parameter 2 of
   function **P2001**.

The following section Import attendances explains how infotype 2002 attendances are imported. If you want time data to be delimited using the second parameter of function P2001, it may be useful to import attendances before absences.

31.5.3.2.2.2 Provide Full-Day Absences Recorded at Terminal

In this step, you define how the system should react to full-day attendances and absences entered by employees at the subsystem terminal.

Example

An employee wants to take a day off tomorrow as compensation for accumulated flextime hours and enters the absence reason at the terminal today. On the basis of the daily work schedule, the system generates a full-day absence record which is locked.

Requirements

- The absence reason has been assigned to an absence type, and the attendance to an attendance type. For more information, see the Maintain Attendance/Absence Reasons step.

- You have processed the time events with attendance/absence reasons.

Standard settings

The system generates a planned time pair based on the daily work schedule for full-day attendances/absences entered at the terminal.
If there is only one absence created by the system for the day in question, it is accounted provisionally. However, a recalculation is set for the day and the record still has to be unlocked for the final evaluation. If there are several such records, the system displays an error message.

Recommendation

Only use this function if your employees are allowed to enter their own full-day attendances and absences at the terminal.

Activities

Decide whether your employees are allowed to enter full-day attendances/absences for the following day at the terminal. If not, deactivate function **ACTIO TD90**.

31.5.3.2.2.3 Adjust Absence Data

If there are partial-day absences for the employee, you must check whether the absence and attendance data match time-wise. If they do not, the system displays an error message or adjusts the absence relative to the attendance.

Example

- An employee is at work until 1.30 p.m. A doctor's appointment has been entered for him/her as of 1.00 p.m. The system adjusts the time pairs so that the "doctor's appointment" absence begins at 1.30 p.m., and displays a message.

- An employee is at work until 1.00 p.m. A doctor's appointment has been entered for him/her as of 1.30 p.m. Since there is a period of time between attendance and absence which is not documented, the system displays an error message.

- An employee is at work until 1.20 p.m. A doctor's appointment from 1.30 p.m. is recorded. The time between the end of the attendance and the start of the absence is within the tolerance interval. The start of the absence is brought forward to 1.20 p.m.

Standard settings

If there are overlaps, partial-day absences are adjusted as shown in the example. If there are less than 20 minutes (end tolerance) between the end of the attendance and start of the absence, the start of the absence is adjusted to be identical to the end of the attendance. If the absence is before an attendance, there is a start tolerance of one minute between the end of the absence and the start of the attendance. If attendance and absence do not overlap even when the tolerance intervals are taken into account, the system displays an error message.

If a full-day absence is entered for the employee but he/she is in fact at work, the time pair with the time identifier "overtime" (unapproved) is assigned.

Recommendation

Customize the tolerance limits to suit the requirements of your enterprise.

Activities

1. Decide upon tolerance ranges within which the start or end of the absence should be extended to be the same as the end or start of the attendance.

2. Copy personnel calculation rule TE10 to ZE10.

3. In operation **INSTPA2001**, change the figures 20 and 01 to the value of the end tolerance or start tolerance. Specifications are in minutes.

4. Change the name of personnel calculation rule TE10 to ZE10 in the schema.

Further notes

If you want to use error codes other than those in the standard system or set different rules for adjusting absences of less than one day, you must make further modifications to personnel calculation rule ZE10. Please refer to the documentation on TE10.

31.5.3.2.3 Attendances

In this section, you determine how the system should import and valuate special attendance data.

Special attendances are attendances which are not recorded at the front-end time recording system, but entered manually in infotype 2002, **Attendances**, and include business trips, periods of off-site work, courses or company meetings. Data entered manually in infotype 2005, Overtime, is a further example.

If you do not use an automatic time recording system, you can enter all attendance records in infotype 2002, *Attendances*.

31.5.3.2.3.1 Provide Attendance Data

In this step, you specify how the system should import attendances which have been entered manually, that is infotype 2002 data. Attendances are imported in the schema using function **P2002**.

If you record time data with clock times, the attendances may collide with other imported data. Function P2002 allows you to adjust attendance times so that there are no overlaps. This is of no relevance if clock times are not recorded.

Example

An employee is on a partial-day course This has been entered in infotype 2002, **Attendances**, and you want the data to be processed in time evaluation.

- You record all your employees' attendance times in infotype 2002, **Attendances**. They can be recorded with or without clock times.

Standard settings

Function **P2002** imports the data entered in infotype 2002, **Attendances**.

1. Records for periods of less than one working day are imported with the time interval or number of hours specified.

2. For full-day attendances, the system generates a time pair based on the normal working time (or planned working time) in the daily work schedule.

3. If the imported attendances overlap with existing time pairs, they remain unchanged.

Recommendation

You should not deactivate function **P2002** for importing attendances.

Activities

1. Decide how the system should process attendance time pairs which overlap with existing time pairs. Possible options are as follows:

- blank   Existing time pairs remain   unchanged

- xy   Only time pairs whose pair type is listed
  in parameter 2 (here: x or y) are delimited by   the
  imported attendance pairs

- *   Every time pair is delimited if it   collides
  with an attendance time pair.

2. If you want the system to delimit time data which has already been imported, enter the appropriate
   value for parameter 2 in function **P2002**.

31.5.3.2.3.2 Provide Full-Day Attendances Recorded at Terminal

In this step, you define how the system should react to full-day attendances and absences entered by
employees at the subsystem terminal.

Example

An employee wants to take a day off tomorrow as compensation for accumulated flextime hours and
enters the absence reason at the terminal today. On the basis of the daily work schedule, the system
generates a full-day absence record which is locked.

Requirements

- The absence reason has been assigned to an absence type, and the attendance to an attendance type.
  For more information, see the Maintain Attendance/Absence Reasons step.

- You have processed the time events with attendance/absence reasons.

Standard settings

The system generates a planned time pair based on the daily work schedule for full-day
attendances/absences entered at the terminal.
If there is only one absence created by the system for the day in question, it is accounted provisionally.

However, a recalculation is set for the day and the record still has to be unlocked for the final evaluation.
If there are several such records, the system displays an error message.

Recommendation

Only use this function if your employees are allowed to enter their own full-day attendances and
absences at the terminal.

Activities

Decide whether your employees are allowed to enter full-day attendances/absences for the following day
at the terminal. If not, deactivate function **ACTIO TD90**.

Further notes

31.5.3.2.3.3 Import Manually Recorded Overtime Data

In this step, you determine how the system should import overtime data which has been entered manually.

Example

Overtime which has been recorded manually should cancel out any parallel absence data. Absence time pairs which have already been imported are assigned pair type 2, "recorded absence".

To import overtime data which has been entered manually and delimit any absence pairs already imported, activate function **P2005** with the value 2 as parameter 2.

Requirements

You also record overtime data manually in infotype 2005, **Overtime**.

Standard settings

Function **P2005** for importing overtime is deactivated.

Recommendation

Only activate the function if you want to record overtime manually in infotype 2005, **Overtime**, as well as generating it automatically from the attendance time pairs.

Activities

1. Decide if you want to enter overtime manually.

2. Decide how the system should process overtime pairs which overlap with existing time pairs. The options are as follows:

    -   blank   Existing time pairs remain unchanged

    -   xy   Only time pairs whose pair type is listed in
        parameter 2 (in this case x or y) are delimited   by the
        imported overtime pairs

    -   *   Every time pair is delimited if it   collides with a time
        pair for overtime.

3. Activate function **P2005** or insert it in the schema after function **P2001**, and enter parameter 2 according to the above guidelines.

Further notes

- Overtime pairs generated by function **P2005** are assigned pair type 1 (attendance), origin indicator O (overtime from infotype 2005, **Overtime**) and the compensation type for overtime as entered in the infotype. If cost distribution or alternative payment data has been specified for the overtime, the system sets the appropriate split indicators. If breaks have also been entered for the overtime, corresponding break pairs are generated; the length of a break pair depends on the duration of the break and not on the time interval. The following time identifiers are assigned:

- overtime pair: "01"

- unpaid overtime break: "07"

- paid overtime break: "08".

- To ensure that the overtime is taken into account correctly for wage type generation, processing type M (overtime) must be assigned to the time pair for time data processing. The assignment is made in personnel calculation rule **TD40** which is described in the step on calculating overtime.

31.5.3.2.3.4 Process Work Center Substitutions

In this step, you define how work center substitutions are valuated, that is substitutions which specify a position/work center key. The substitutions are valuated in the schema using function **A2003**.

Example

An employee is assigned to a full-day work center substitution which involves a different rate of payment. All time data, and all time wage types generated from the time data in the further course of processing, affected by the substitution period should be assigned the information on the position; the information can then be evaluated in payroll.

Standard settings

Function A2003 is active.

Activities

1. Decide whether your employees are likely to perform work center substitutions which involve a different rate of payment.

2. If not, deactivate funcktion **A2003**.

3. If they are, decide which time data should be assigned information on the work center substitution. This is decided by the position of function A2003 in the schema. A2003 passes on the information on the work center substitution to all imported time data. A different rate of pament for attendances and absences can be specified in infotypes 2002 and 2001. If the information on the work center substitution is only relevant for attendance times imported using function P2000 or P2011, function

A2003 must come before functions P2001 and P2002. Position function A2003 accordingly in your schema.

Further notes

If several different payments should be assigned to a time pair in time evaluation, the system issues an error message and processing is terminated for the respective employee.

31.5.3.2.4 Reduced Working Hours

In this section, you specify a method of processing reduced hours in time evaluation. The **Reduced Hours** infotype (0049) is referenced when the personal monthly work schedule is generated. A different daily work schedule is is used for days on which reduced hours are worked.
You can also set the system reaction should reduced hours and leave records overlap.

31.5.3.2.4.1 Import Reduced Hours Data

In this step, you determine whether the system should take infotype 0049, **Reduced Hours**, into account for generating the personal daily work schedule.

Example

A group of employees works reduced hours. The daily work schedule from infotype 0049, Reduced Hours, is to form the basis for time evaluation on days on which reduced hours apply.

Standard settings

In the standard system, function **DKG** is active in order to import data from infotype 0049,

Reduced Hours.

Recommendation

We recommend that you do not deactivate function **DKG**. This will save you having to make changes to the time evaluation schema if reduced hours are ever introduced in your company.

Activities

1. Decide whether you want to take infotype 0049, **Reduced Hours**, into account for time evaluation. This is mandatory if reduced hours are worked in your enterprise.
    If you do not want to take the data into account, you should deactivate function **DKG**.

2. Decide which substitutions are relevant on days on which reduced hours apply.

    -   If you only want to allow one substitution type, enter the number of the RWH (reduced working hours) substitution as parameter 2 of function **DKG**.

- If you want to allow more than one substitution for reduced hours, you should not make any entries for parameter 2 but flag the permitted substitutions in the table.

31.5.3.2.4.2 Process Overlapping Leave/Reduced Hours Data

In this step you determine how the system should react if there is an overlap between reduced hours data and leave data.

Example

An employee takes leave on a day when he is supposed to work reduced hours. Further processing on this day is to be based on the work schedule rule in infotype 0007, **Planned Working Time**.

Requirements

Function **DKG** must be processed first in your schema.

Standard settings

If leave data and reduced hours data coincide, the work schedule rule in infotype 0007, **Planned Working Time**, is used for further calculations.

Recommendation

Do not deactivate this function. This will save you having to change the Time Management schema if reduced hours are ever introduced in your company.

Activities

1. Decide whether the processing of reduced hours should be active in the schema. If not, deactivate function **ACTIO TD60**.

2. If you use reduced hours substitutions other than substitution type 03 (RWH substitution), you must modify personnel calculation rule TD60 accordingly.
To do this, copy personnel calculation rule TD60 to ZD60 and enter the checks for further reduced hours substitution types in ZD60.

3. Change the name of personnel calculation rule TD60 to ZD60 in the schema.

31.5.3.2.5 Checking Time Data

This section explains how to use the *Test Procedures* infotype (0130) in time evaluation.

You determine if and how you want to check the data read in time evaluation.

31.5.3.2.5.1 Use Test Procedures Infotype in Time Evaluation

In this step you determine whether the data processed by time evaluation must be released in the *Test Procedures* infotype (0130).

Example

Employees in your enterprise enter their attendance times using a self- service application.

You want the times to be checked by a time data administrator before time off entitlements or wage types are generated in time evaluation.

Activities

1. Create the required test procedures and assign them the infotypes and subtypes you want checked. For more information, see Test Procedures.

2. Decide which test procedures you want to use in time evaluation and how you want to react to infotypes and subtypes that have not been checked.
    Use personnel calculation rule TMAP as a template. Copy it to personnel calculation rule ZMAP and modify the new rule as required.

3. Call personnel calculation rule ZMAP using function ACTIO in the day processing part of your time evaluation schema.

4. Make sure that the administrators who run RPTIME00 have authorization to read the *Test Procedures* infotype (0130).

31.5.3.3 Time Data Processing

In this section, you determine how the system processes the imported time data.

As a first step, the imported data is compared with the daily work schedule. On the basis of this comparison, a time type and a processing type are assigned to every time pair according to its time identifier.

The data is then examined to ascertain which time pairs should be valuated as overtime pairs. Various solutions are suggested here, which you may have to customize to suit the particular requirements of your company.

31.5.3.3.1 Compare Daily Work Schedule with Actual Times

This step explains how the system compares time pairs with the daily work schedule and adjusts them if necessary.

Standard settings

The time pairs which have been imported up to this point are compared with the clock times in the daily work schedule. The system creates a new time pair for each resulting combination of clock time and time pair. A time type and a processing type are assigned to the time pair. You have specified how this assignment should be made in Time type determination.

Function **TIMTP** is activated.

Further notes

You have set the time type determination group for making the assignment in Set groupings.

31.5.3.3.2 Set Time Type Determination

In this step, you determine how time types and processing types are assigned to individual time identifiers.

The time identifier explains the relation of the time interval to the work schedule as a whole, i.e. if it is fill time, core time, core time break, fill time break, etc.
The term "overtime" refers to times outwith the daily work schedule; times outside of core time but within planned working time are known as fill time.

Example

The time type "overtime off-site work" is to be generated for employees who work off-site at times outwith the daily work schedule (overtime).

Requirements

-       You have defined personnel subarea groupings for time recording.

-       You have defined the time types which you intend to assign to the various time identifiers.

Standard settings

The standard system contains the common assignment of time identifiers to time types and procesing types for three time type determination groups. The meanings of the time type determination groups are as follows:

-       01 - Time type determination for the processing of time data in time   evaluation, if attendances are usually recorded automatically.

-       02 - Time type determination for the processing of time data in   payroll or in time evaluation, if only exceptions   to the work schedule are recorded.

- 03 - Time type determination for the processing of time data in time   evaluation, if all attendances are recorded manually.

Recommendation

Only change the entries here if you want to use different assignments than are supported in the standard system. Please note that you must make these entries under a different time type determination group. You must then specify the time type determination group in time evaluation.
Information can be found in the step Set groupings.

Activities

1. Assign a new time type determination group for a new assignment of time identifiers to time types.

2. Specify the personnel subarea grouping for time recording to which the assignment applies.

3. Specify which time types should be assigned to the time pairs for an attendance, absence, recorded absence or off-site work record. This can be based on the time identifier.

4. Also on the basis of the time identifier, specify how the time pairs should be processed for an attendance, absence, recorded absence or off-site work record.

    - "-" : the pair is deleted at a later stage

    - " " : the time pair is not evaluated as productive time

    - "S" : the pair is included in the daily calculation of planned   time; a maximum daily working time is not taken into account

    - "P" : the pair is evaluated as an attendance pair, i.e. the time   is included in daily calculation of planned time

    - "A" : the pair is evaluated as an absence pair, i.e. the time   is included in the daily calculation of planned time

    - "M" : the pair is evaluated as an overtime pair; the time is not   included in the daily calculation of planned working time

    - "K" : core night work

Further notes

Please note that entries which you change in the SAP name range can be overwritten by a release upgrade.

31.5.3.3.3 Break Processing

The following explains the various methods of processing breaks in time evaluation.

31.5.3.3.3.1 Determine Break Times

In this step, you determine how breaks in the daily work schedule should be evaluated.

Example

According to the daily work schedule, an employee has a one-hour unpaid break which he can take during core time between 12 o'clock and 2 p.m. He takes a break at 12.30 and resumes work at 1.30 p.m. Before the breaks are evaluated, the resulting time pairs (12.00 - 12.30, 12.30 - 1.30, and 1.30 to 2 o'clock) all have the time identifier "Core time break". After break evaluation, the pairs 12.00 - 12.30 and 1.30 - 2 o'clock have the time identifier "Core time", and the pair 12.30 - 1.30 is assigned the identifier "Core time break".

Requirements

Function **TIMTP** must come before break evaluation in the schema.

Standard settings

This function starts by determining which pairs belong to the respective break. Non-recorded absences before and after the break are included in the calculation, that is if (in the above example) the employee goes at 11.55 and comes back at 12.55, the time pair is calculated as a break. Non-recorded time pairs are processed first - the system attempts as far as possible to assign the break to non-recorded times. Further processing is done chronologically. The corresponding break (paid or unpaid) is generated up to the duration specified in the work break schedule. The remaining time is converted to fill time or core time.

Recommendation

Deactivate the function if you use fixed breaks only, i.e. breaks at fixed times.

Activities

1. Decide on the sequence in which the different categories of time types should be filled with break time.

    -   1   non-recorded times first   (pair type = 0)   and the rest chronologically

    -   2   recorded absences first   (pair type = 2)   non-recorded times   (pair type = 0)   and the rest chronologically

    -   3   recorded absences first   (pair type = 2)   attendances or off-site work   (pair type = 1,3)   and the rest chronologically

    -   4   non-recorded times first   (pair type = 0)   recorded absences   (pair type = 2)   and the rest chronologically

2. Enter one of the above values as parameter 2 of function **PBRKS**.

3. Decide how non-recorded absences before and after the break are to be taken into account.

    -   blank   Only times during the break are counted

- AFT   Non-recorded absences after the break   are included in
  the calculation

- ALL   Non-recorded absences before and after the break   are
  included in the calculation

- BEF   Non-recorded absences before the break   are included
  in the calculation

4.   Enter one of the above values as parameter 3 of function **PBRKS**.

Further notes

You can also use a personnel calculation rule to control break evaluation. Enter the personnel calculation rule as the first parameter of function **PBRKS**.

31.5.3.3.3.2 Set Start of Break Dynamically

You can use function DYNBR to set the position of dynamic breaks in the daily work schedule.

Dynamic breaks are breaks for which no start/end time is specified in the break schedule.
Instead, a number of hours is stipulated in the *After hrs.* field. The employee can take a break

after completing this number of hours.

Example

The breaks should be set according to the employee's first time event: a half-hour break after 4 hours of work and quarter of an hour after 6 hours. The actual clock-in time recorded at the terminal should be taken as the time at which the employee started work, and not the planned working time start as stipulated in the daily work schedule.

Requirements

A break schedule consisting exclusively of dynamic breaks is assigned to the employee in the daily work schedule. In the above example, these are: unpaid   paid   after hrs.   1st break:
0.50   4.00
  2nd break: 0.25   6.00

Standard settings

In the standard SAP system, the start of planned work in the daily work schedule is taken as the starting point for setting dynamic breaks. You can change this using function DYNBR: If you activate function DYNBR TF10, the start time of the first time pair of the day is taken as the starting point for setting dynamic breaks. The exception is public holidays, when the start of planned working time is taken.

Recommendation

If the options for setting the starting point are not adequate for your
purposes, you can create a personnel calculation rule and use it to fix the
starting point.

Activities

1. Decide whether the position of dynamic breaks should be determined in relation to the start of
    planned working time. If it should, you do not have to carry out further actions here.

2. If not, you should decide on a starting point for setting dynamic breaks. The options are as follows:

-   P - start of planned working time

-   N - start of normal working time

-   K - start of core working time

-   other - start time of first time pair and if this does not exist,   start of planned working time

3.   Activate function DYNBR and enter one of the above values as the second parameter.

Further notes

-   The starting time for setting dynamic breaks is entered in the time type **Start time dynamic breaks**
    (T001). If you specify a personnel calculation rule in the first parameter of function DYNBR, you
    can change this time type and thus the starting point for setting dynamic breaks.

-   You will find more information in the system documentation.

31.5.3.3.3.3 Generate Breaks for Overtime on a Public Holiday

In this step, you determine whether the breaks specified in the daily work schedule should be taken into
account for attendances on a public holiday.

Example

An employee is at work on a day of day type 1. The breaks specified in the employee's current daily work
schedule should count for the employee's attendance times, from which overtime on a public holiday is
generated.

Requirements

A planned pair based on the daily work schedule must be generated on the public holiday.

There is further information on this subject in Check for day with errors

Standard settings

In the standard SAP system, breaks are not deducted from attendance times for determining overtime on
public holidays.

Activities

1. Decide upon the employee groupings for time recording for which the breaks based on the daily work schedule should be taken into account on days of day type 1.

2. Enter "B" in the *Rec.abs.* field for these groupings under the appropriate time type determination group and the time identifiers "04" and "05".

3. Insert function COPY with TOB0 as the first parameter directly before overtime calculation.

31.5.3.3.3.4 Determine Minimum Breaks Based on Hours Worked

Some working time regulations stipulate that minimum break times must be observed, depending on the working hours actually performed. Subschema *TF20* enables you to check that the minimum break duration is observed, to report violations of the break duration, and to effect an additional break deduction.

Example

Working time of between 6 and 9 hours requires a minimum break of 30 minutes, and working time in excess of 9 hours requires a minimum break of 45 minutes.

The term "working time" is used to mean the hours actually worked rather than the target hours in the daily work schedule.

This means that specifying fixed break schedules in the daily work schedule does not always guarantee that the minimum break duration is observed; see Evaluate break data. Furthermore, you might want to use the daily work schedule to facilitate individual interruptions of working time which are then considered break time, rather than specifying fixed breaks.

Standard settings

Subschema TF20 is *not* included in the standard schema. If subschema TF20 is included in the time evaluation schema, the regulation described in the above example is put into practice.

Activities

Such break regulations require an exact definition of the times involved. You must, therefore, perform an exact analysis of the break regulation that you require.

1. Clarify the following:

- How is working time calculated that is used together with limits to determine minimum break duration? (Are only actual times included? Is the period included between first starting and finally finishing work?)

- How are times determined that can be counted as breaks already taken? (Unrecorded times, recorded absences, break times stored in the daily work schedule and already accounted using PBRKS?)

- If the minimum break regulation is not observed, do you want the administrator to be informed? Do you require an additional break deduction?

- How is the additional break deduction determined?

Please analyse the following situations:

- At work: 10 am - 4:12 pm => 6.20 hours.
  Additional break deduction 0.50 or 0.20 hours?
  Make a comparison with an employee who was at work from 10 am to 4 pm and did not receive a break deduction.

- At work: 8 am - 5:12 pm => 9.20 hours.
  Additional break deduction 0.75 or 0.20 + 0.50 = 0.70 hours?
  Make a comparison with an employee who was at work from 8 am to 5 pm.

- At work: 10 am - 12 noon => 2.00 hours.
  At work: 12 noon - 12:15 pm => 0.25 hours.
  At work: 12:15 pm - 4:03 pm => 3.80 hours.
  Is an additional break deduction required? If so, how big should the deduction be? Examples of practical values are 0.50 - 0.25 = 0.25 hours or 0.20 hours.

In the standard version of TF20, the latter values are deducted.

2. Include subschema TF20 in your time evaluation schema. It must be accessed after function PBRKS (or after function TIMTP if you do not use function PBRKS). The subschema is accessed by function COPY TF20.

   Further notes

- The system documentation on subschema TF20 and its personnel calculation rules describes practical options for adapting this procedure.

31.5.3.3.4 Indicate Planned Working Time Pairs

This step explains how the system determines the planned working times from the available data. The system checks that only pairs within the maximum working time are flagged as planned time pairs. You can specify how the system should react if the maximum daily working time is exceeded. The maximum daily working time is either defined in the daily work schedule or taken from the constant table.

   Example

You wish to assign the time identifier overtime (unapproved) to time pairs which exceed the maximum daily working time.

   Requirements

- Function **TIMTP** must be processed to determine time types.

- Time type determination groups 02 and 03 should not be used to
  determine time types using function **TIMTP**.

Standard settings

A new processing type "S" (planned working pair) is assigned to all time pairs within the maximum daily working time with processing type "A" (planned working pair: absence) or "P" (planned working pair: attendance). Time pairs which exceed the maximum daily working time retain their time identifier.

Activities

1. Decide which time identifier you wish to assign to time pairs which exceed the maximum daily working time.

2. In function **DEFTP**, enter the required time identifier as the second parameter.

3. If you have not set a maximum daily working time in the daily work schedule, set the maximum daily working time as a constant for all daily work schedules.

Further notes

- The function also fills two time types:

- 0000 Interim planned working time

- 0001 Interim attendance time during planned working time
  The time types are determined on the basis of the processing type assigned by function **TIMTP**.

- The times of all pairs with processing type "A" or "P" which have become planned working time pairs are cumulated in time type 0000.

- The times of all pairs with processing type "P" which have become planned working time pairs are cumulated in time type 0001.
  Both time types are used in determining overtime and shortening absences.

31.5.3.3.5 Process Daily Work Schedule Tolerances

You determine how the time pairs are processed in this step, taking account of the tolerances specified in the daily work schedule.

Example

If an employee clocks in during the start tolerance stipulated in the daily work schedule, the clock-in entry is adjusted to correspond to the start time according to the daily work schedule.
Planned working time: 8 a.m. - 5 p.m., start tolerance: 7.50 a.m. - 8.05 a.m., clock-in entry:
8.03 a.m., after processing: clock-in entry 8.00 a.m.

Requirements The function is only effective if you have specified a start/end tolerance in Define daily work schedules.

Standard settings

Function **DPTOL** is active. Pairs that come within the tolerance time are not deleted. In the above example, this would be a pair with clock-in entry 7.52 a.m. and clock-out entry 8.02 a.m. The function modifies all time pairs irrespective of the pair type (attendance, recorded absence, off-site work).

Recommendation

The tolerance period should be kept as short as possible.

Activities

1. Decide whether you wish to adjust the start or end of time pairs to correspond to the start or end of the planned working time, if the start or end of the time pair falls within the start or end tolerance. If not, deactivate function **DPTOL**.

2. Decide whether you wish to delete pairs that come within the tolerance time. If you do, enter "D" as the second parameter in function **DPTOL**.

3. Specify whether or not the absence pairs should be modified by the function. If necessary, enter "A" as the third parameter of function **DPTOL**.

Further notes

If there are several entries within the tolerance period, they are not rounded: this prevents inconsistent time pairs.

31.5.3.3.6 Round First and Last Time Pair

In this step, you determine whether the clock-in or clock-out time of the first or last pair of the day should be rounded if it falls within the working time frame.

Example

An employee's planned working time starts at 8 a.m. He arrives 5 minutes late, however, which means that he clocks in at 8.05 a.m. You wish to deduct 15 minutes for late arrival, i.e. the system should process the first time pair as if the employee had clocked in at 8.15
a.m.

Standard settings

For the employee subgroup grouping DI "hourly wage earners", the clock-in time of the first time pair is rounded up to the nearest quarter of an hour and the clock-out time is rounded down to the nearest quarter of an hour.

Recommendation

- Use this function if you want to round the clock-in/clock-out time of the first/last pair up (or down) to the nearest quarter of an hour or half hour.

- It is not recommended to use this functionality if you record all attendances manually in infotype 2002, *Attendances*, as you will already have rounded time data before you entered it.

Activities

1. Decide whether you wish to round the clock-in/-out time of the first or last pair. If you do, activate function **PTIP TL10**.

2. Decide on the employee subgroup groupings for which times should be rounded.

3. Decide on a rounding factor (nearest quarter hour, for example).

4. Copy personnel calculation rule TL10 to ZL10 and make the necesary modifications on the basis of the above points.

5. Edit the schema and change the name of personnel calculation rule TL10 of function **PTIP** to ZL10.

31.5.3.3.7 Shorten Absences of Less Than One Day

In this step, you determine whether partial-day absences should be shortened if a positive flextime balance is accrued on the same day.

The flextime balance is the difference between the planned time worked by the employee to date, and the number of planned hours in the daily work schedule.

Example

- An employee has a planned working time of eight hours. He or she has a 3-hour doctor's appointment and then works for 6 hours. A flextime excess of one hour would result from this data due to the doctor's appointment. The employee should not be given credit for the doctor's appointment as it is not time worked and is charged to the employer.

- If the employee in the above example is absent on 3 hours' leave rather than at the doctor's, the absence should not be shortened. When a 'leave' absence is recorded, it is deducted from a time account (the employee's leave entitlement) and must therefore be acknowledged as working time without being shortened.

Requirements

You have defined the relevant absence types.

Standard settings

Absences of less than one working day are shortened using personnel calculation rule **TP10** in the standard system.

All absences with a **time evaluation class** of 01 are shortened, making it impossible to accrue a positive flextime balance on account of an absence.

Recommendation

Assign all absences of less than one day that are charged to the employer (e.g. doctor's appointment) class 01 for time evaluation. Absences that are deducted from a time account are assigned a different value.

Activities

Decide which absences of less than one day you want to shorten. Enter 01 in the *Time class* field.

Further notes

You can create additional classes for time evaluation and use them to control processing in personnel calculation rule TP10. Please refer to the documentation on TP10.

31.5.3.3.8 Determine Core Night Work

In this step, you determine whether the system should check time pairs to detect core night work.

Standard settings

A check is performed to see if there is a time pair spanning 24:00, or one time pair that ends at 24:00 and a new one that begins at 24:00. The system also checks whether the time pair has processing type "S", "M" or "K" and that it is not an absence pair. If this is the case, the indicator for core night work is assigned.

Activities

1. Deactivate the function if core night work does not feature in your company.

2. Determine which time pairs should be checked for core night work. If the processing type is other than "S","M" or "K", you must enter it as the third parameter of function
    KNTAG.

Further notes

-   Processing type "K" is used to denote times which are not planned work or overtime, but which are relevant to the decision on core night work (break times for example).

-   If you have implemented Payroll and Time Management, the time evaluation period must be identical to the payroll period so that string KNTAG is correct.

31.5.3.3.9 Determining Overtime

The objective of this section is to determine which times qualify as overtime and flag them with a special processing type.

The processing type is then used to generate special time wage types.

A number of methods can be used to determine overtime. The period of time can differ

(overtime can be calculated on a daily or weekly basis), as can the type of overtime approval.

The following sections introduce several standard overtime regulations. Not all of them are active in the delivery system.

31.5.3.3.9.1 Determine Overtime from Attendance Quotas

In this step, you specify how overtime from attendance quotas (infotype 2007) is approved and evaluated.

Example

An employee works flextime. His/her working times are as follows:
Planned working time: 8am - 7pm
Break: 12 noon - 1pm
Planned working hours: 8 hours
Maximum daily working time: 10 hours
Current day: 11am - 11pm

According to the daily work schedule, the time from 11am to 7pm (8 hours) counts as working time. The other time does not qualify automatically - only if there is an attendance approval. An attendance approval of 7pm - 10.30pm is assigned to the employee. Only the approved times can be counted as overtime. The following conditions are also checked:

Since the employee has not yet completed the 8 planned hours covered by the basic wage at 7pm, overtime is only calculated as of 8pm. By 10pm the employee has completed the maximum daily working time of 10 hours. Overtime is generated for the times from 8pm to 10pm.

Requirements

- You have created the attendance quotas.

- Time types 0000 and 0001, which are formed using function DEFTP, have to be filled. They are required in order to be able to compare the interim planned hours and the hours which count towards the maximum daily working time with the specifications in the daily work schedule.

Standard settings

The attendance quotas for the current day (infotype 2007) with subtype 01 and 02 are compared with the time pairs. Which times come into question for overtime depends on the attendance approval. The possibilities are as follows:

- Specification of a time interval:

- If there is no time interval specified for the attendance approval, the times before the start of planned working time and after the end of planned working time count as approved attendance times. These times are assigned time identifier 01 (unapproved overtime) by function TIMTP.

- If there is a time interval, the attendance times within the interval are included in overtime calculation. The time interval can overlap with or encompass the planned working time frame, which can be useful for flextime schedules. Time pairs are split in some cases. Absences and break times are not taken into account for overtime calculation.

- Specification of a number of hours:

- If a quota amount (x hours) is entered, a maximum of x overtime hours is determined during the validity period of the quota.

- If you do not specify a number of hours, only the time interval has to be observed in overtime calculation.

The approved time pairs are passed on to personnel calculation rule TO20 and the following conditions are checked:

- Overtime is only allowed after the employee has completed the number of planned hours (covered by the basic wage) in the daily work schedule.

- Overtime is only credited up to the maximum daily working time.

- The time pairs are sorted in descending order to calculate overtime in the standard system.

Activities

1. Decide whether overtime approvals are granted in the form of quotas in your enterprise. If not, deactivate functions **GOT TO20 01** and **GOT TO20 02**.

2. Decide which quotas should be processed. Insert function **GOT TO20 nn** for each quota, where "nn" is the quota type.

3. Decide whether it is necessary to customize personnel calculation rule TO20. It must be customized if you do not want to validate the maximum daily working time for (special) attendance approvals. Eliminate the queries after TGMAX in personnel calculation rule TO20. To do this, copy personnel calculation rule TO20 to ZO20 and change the name of the rule in your schema.

4. Decide on the order in which the approved times should be referenced to calculate overtime. Modify parameter 3 of function GOT using ASC, if required. Please see the system documentation on function GOT.

5. Decide if break times only should be processed in personnel calculation rule TO20. If necessary, insert BRK as the fourth parameter.

Further notes

- Time pairs which have already been flagged as overtime pairs with processing type 'M' are passed on unchanged.

- Absence times (pair type 0 or 2) are passed on unchanged.

- Please see Define log time type for overtime quotas for further information.

31.5.3.3.9.2 Set Log Time Type for Overtime Quotas

In this step, you decide which time types should be used to log overtime worked on the basis of a quota.

Example

You want to post overtime worked according to the "approved overtime" quota to the time type "overtime worked". Any overtime which has been worked over and above the quota should be logged in the time type "overtime in excess of quota".

Requirements

The attendance quotas which you intend to use in time evaluation have been determined.

Recommendation

- For all attendance quotas you wish to use as overtime quotas, decide which time type should be used to log approved overtime, and which for overtime which has been worked in excess of the quota.

- Use time type 0040 (overtime worked) or 0411 (overtime in excess of quota).

Activities

1. Decide which quotas you want to use for processing overtime in time evaluation.

2. For each of these quotas, specify which time type should be used to log approved overtime and enter it in the **Time type**.

3. Decide for each of these quotas which time type should be used to log overtime hours in excess of the quota. Enter this time type in the **Alt.time type** field.

31.5.3.3.9.3 Determine Overtime from General Overtime Approvals

Determine overtime from attendance quotas explained how working time outside of the specifications in the daily work schedule can be approved. The approval can vary from person to person, and can also vary in length.

In the following step, you can assign general overtime approvals or no approvals at all. The procedure described for calculating overtime is not active in the standard system.

Example

1. You want to assign certain employees approval for overtime worked

outwith their planned working time. This approval should be valid over a
longer period.

2. You want to assign general overtime approval to all employees who are allocated
    a particular daily work schedule.

3. It is not necessary to assign these employees overtime approval. All hours worked
    outside of planned working time are recognized as overtime.

The following conditions always apply to overtime calculation, however:

-   The employee has completed the planned hours in the daily work schedule.

-   Overtime is credited only up to the maximum daily working time.

Standard settings

The following options are provided in the standard system to cover the above requirements:

1. Evaluation of the **General overtime** field in the **Time Recording
    Information** infotype (0050). The field is evaluated in personnel calculation
    rule TO10.

2. Evaluation of the **Automatic overtime** field in the daily work schedule. The
    field is evaluated in personnel calculation schema TO15.

3. Personnel calculation schema TO16 calculates overtime **without** validating it
    against an approval.

Activities

1. Decide whether general overtime approvals are to be used in your enterprise.
    Activate or delete the relevant lines in the schema.

2. The conditions for overtime (planned hours completed, maximum daily
    working time observed) can be customized in personnel calculation rule
    TO11 if necessary.

Further notes

If you want all time worked outside of planned working time to be acknowledged as overtime, with no
conditions, you can use function TIMTP. You can enter processing type 'M' and time type 0040 for
time identifier 01 (unapproved overtime) in the **time type determination** table. Please see
Compare daily daily work schedule with actual times and Define time type determination.

31.5.3.3.9.4 Process Manually Entered Overtime Data

In this step, you determine whether the system should process overtime data which has been entered
manually.

Example

An employee works overtime from 7 - 8 o'clock; this data has been entered in infotype 2005, **Overtime**. You want the information to be taken into account for calculating overtime.

Requirements

Before function **PTIP TD40 GEN** can be processed, any manually entered overtime data must be imported.

Standard settings

Time pairs with time identifier 01 (unapproved overtime) which come from infotype 2005, **Overtime**, are assigned processing type "M" (overtime). The number of hours is logged in time type 0040 **Overtime worked**. The function is deactivated.

Recommendation

You only need this function if you intend to enter overtime data manually. This is not common if you record all attendance times.

Activities

1. Decide whether overtime is to be entered manually (with exact dates and times) in infotype 2005, **Overtime**.

2. If it is, activate function **PTIP TD40 GEN**.

31.5.3.3.9.5 Round Overtime Pairs

This is a special function which you can use if the standard functions are not sufficient for your purposes.

In this step, you can determine whether overtime hours should be rounded down to a certain number. Overtime generation then takes place entirely in this step.

Example

An employee has worked 35 minutes overtime. You want this to be rounded down to the nearest half hour, to 30 minutes in this case.

Requirements

You have not already processed overtime on the basis of general overtime approval or quotas. Functions **PTIP TO10**and **GOT TO20** must be deactivated in the main schema.

Standard settings

You can use subschema TO00 which processes personnel calculation rules TO30, TO40 and TO50.

Personnel calculation rule TO30 is an alternative to TO20, which generates overtime on the basis of an attendance quota. Unlike TO20, overtime is not generated immediately for time pairs that fulfill the condition for overtime, but the system sets processing type "U" (provisional overtime).

In the following personnel calculation rule TO40, time pairs flagged with "U" are rounded down to the nearest half hour. Overtime is then generated in TO50 for the time pairs which have been rounded, and logged in the specified time type.
References: Overtime approval from quotas and and Define log time type for overtime quotas.

Recommendation

If you want to round down overtime to the nearest half hour or whole hour, activate function **COPY TO00** in the main schema. It is not necessary to modify the subschema.

Activities

1. Decide whether time pairs for overtime should be rounded down in your enterprise.

2. If they should, activate function **COPY TO00**.

3. Copy personnel calculation rule TO40 to ZO40 and change constant TMRND to ZMRND in personnel calculation rule ZO40.

4. In schema TO00, change the name of personnel calculation rule TO40 of function **ACTIO** to ZO40.

5. Decide on a time interval for rounding overtime (to the nearest half hour or hour, for example).

6. Copy constant TMRND to ZMRND and enter the appropriate value for constant ZMRND.

31.5.3.3.9.6 Analyze Overtime on a Weekly Basis

You can use this special function if the standard functions are not sufficient for your requirements.

In this step you can decide whether you want to analyze overtime on a weekly basis. This is necessary if overtime is not generated until the weekly planned working time has been completed.

Example

An employee has approval to work 2 hours of overtime each day and has a planned working

time of 40 hours each week. He or she works for 9 hours on two days of the week, 7 hours on one day, and 8 hours on the remaining days. One hour is deducted from the overtime for the deficient planned working time. The employee is therefore compensated for one hour of overtime.

Requirements

The weekly planned working time must be specified in the work schedule rule.

The time type in which the correction specification is stored and which is processed using operation GOTC must be set up in Customizing. Make sure that the time type is saved as a **day balance without prior cancellation**.
See also: *Store as day balance* field in the *Time Types* view (V_T555A).

Standard settings

In the standard system, subschema TPOW is used for weekly overtime analysis. The subschema is not active in the standard schema TM00.

Activities

Decide whether you want to use overtime to make up for deficient weekly planned working time.
If you do, activate function **COPY TPOW**.

Further notes

- The overtime analysis is based on a week beginning on a Monday and ending on a Sunday. If you want to choose another framework for the week, you can use feature LDAYW. For information on how to modify schema TPOW to accommodate the change, see Calculate Overtime on the Basis of General Periods.

- For an exact description of overtime generation based on attendance quotas, see Determine Overtime from Attendance Quotas.

31.5.3.3.9.7 Calculate Overtime on the Basis of General Periods

In this step, you can set up an analysis of overtime for a general period. If too much overtime has been generated, you can cancel it at the end of the general period.

You can thus carry out an overtime analysis for the following periods:

- A different framework for the week

- The employee's working week

- Periods of your choice. You define the length of the periods by storing a period parameter in the *Payroll Periods* table.

Example

An employee has approval to work 2 hours of overtime each day and has a planned working time of 40 hours each week. Overtime should only be generated if the employee works more than 80 hours within two weeks.
The employee works for 9 hours on two days of the first week, 7 hours on one day of the second week, and 8 hours on the remaining days. One hour is deducted from the overtime for the deficient planned working time. The employee is therefore compensated for one hour of overtime.

In the SAP standard delivery, the analysis in the above example is set up in subschema TPOP. The subschema is not contained in the standard schema.

Requirements

The planned working time within the overtime period being analyzed must be specified in Customizing or calculated in the schema.

The options are as follows:

- You specify the planned working time in the daily work schedule.

- Average values for the daily, weekly, and monthly planned specifications are defined in the work schedule rules.

- You can also store planned specifications in the *Payroll Constants* view (T511K).

You can access all of the above values in time evaluation using operation HRS.

The analysis periods must be defined. You can query the relative days and the first and last days of a period in a personnel calculation rule using operation VARST.

Standard settings

In the SAP standard delivery, the above two-weekly analysis of overtime is set up in subschema TPOP. The subschema is not contained in the standard schema.

Activities

If you require an analysis of overtime for a time frame other than weekly (SAP standard schema TPOW) or two-weekly (SAP standard schema TPOP), carry out the following steps:

1. Copy personnel calculation rule TPP3 (Provide Correction Time Type) to ZPP3, and change the parametrization of operation SUM according to the required period.

2. Change the totaling period of the log time types by copying personnel calculation rule TPOD to ZPOD, and choosing the appropriate period parametrization each time operation SUM is called.

3. Copy personnel calculation rule TPP6 (Determine Missing Planned Time) to ZPP6, and change the parametrization of operation VARST according to the end of the required

   period. In the HRS?TWEHRS comparisons in ZPP6, replace the constant TWEHRS by a constant that is suitable for your analysis period. Then change the call of TPOD in ZPP6 to ZPOD.

4. Copy personnel calculation rule TPP7 (Trigger Internal Recalculation) to ZPP7, and choose suitable period parameters for operation GOTC to obtain a recalculation trigger for the chosed period.

5. Copy subschema TPOP to ZPOP, and change the calls of personnel calculation rules TPP3, TPP6, and TPP7 to ZPP3, ZPP6, and ZPP7.

6. Add your subschema ZPOP to the time evaluation schema using COPY ZPOP.

31.5.3.3.9.8 Process Guaranteed Overtime

This is a special function which you can use if the standard functions are not sufficient for your purposes.

In this step, you can determine whether overtime should be determined in isolation from the work schedule rule. You can also specify a method for processing guaranteed overtime hours.

Example

According to the collective agreement, an employee is guaranteed 3 hours of overtime per week. This fact should be taken into account in time evaluation.

Standard settings

The function is deactivated in the standard SAP system. Please refer to the documentation on subschema TG00 and personnel calculation rules TG01 and TG11 for explanations on the mode of operation.

Recommendation

Activate the function if your collective agreement makes provisions for guaranteed overtime hours.

Activities

1. Decide whether guaranteed overtime will be included in your collective agreement.

2. If necessary, activate function **COPY TG00**.

Further notes

-   If the calculations in the personnel calculation rules of schema TG00 are not adequate for your purposes, please modify the personnel calculation rules. Copy the rules which have to modified and make any changes in the copied versions. Note that the names of the copied personnel calculation schemas should begin with "Z". Enter the modified personnel calculation rules in schema TG00.

31.5.3.3.9.9 Compensate Overtime Worked on a Public Holiday

This is a special function which you can use if the standard functions do not suffice for your purposes.

You can determine how overtime worked on a public holiday should be compensated in this step.

Example

An employee works for 9 hours on a public holiday. The employee's daily planned working time on a normal day would be 8 hours. You wish the employee to be paid as follows:

-   payment for lost time   (here: 8 hours)

- payment for work on public holiday (here: 9 hours)

- overtime bonus for the time exceeding the theoretical planned working time
  (here: 1 hour)

Requirements

- Overtime pairs have been generated from an attendance quota, i.e. function **GOT TO20** must be
  active, for example.
  Determine overtime from attendance quotas contains further notes on this.

- You have determined grouping parameters for wage type generation. Please refer to Set groupings
  for more information.

Standard settings

The system calls subschema TOH0. As a first step, the time pairs for overtime which overlap with the
generated planned working time pairs are flagged with procesing type "X" in personnel calculation rule
TO90. Wage type generation is then performed for all time pairs flagged with processing type "X". The
function is deactivated.

Activities

1. Decide whether you want to remunerate work on public holidays as suggested in the above example.

2. If so, activate function **COPY TOH0**.

Further notes

- If you do not activate the subschema, overtime is generated for all time worked on public holidays
  and remunerated with the appropriate bonuses.
  In the above example, the employee would receive a bonus for 9 hours of overtime.

- Wage type generation takes place at at later stage for time pairs which are not flagged with "X", that
  is time pairs outside of the theoretical planned working time.

31.5.3.3.10 Off-Site Work

In this section, you determine how the system should process automatically delimited off-site work
records that would lead to a flextime excess.

31.5.3.3.10.1 Shorten Automatically Delimited Off-Site Work Records

In this step, you determine how the system should process automatically delimited off-site work records
which would cause a flextime excess.

Example

An employee's normal working time is 9 a.m.- 5 p.m. with an hour's break. On one particular day, he clocks in at 7 a.m. and clocks out at 12 noon to work off-site. There is no entry made to confirm the end of the off-site work. The system automatically delimits the off-site work record to correspond with the end of the employee's normal working time. This would result in a flextime excess of 2 hours.

You want the off-site work to be delimited such that a maximum of 1 hour is credited to the employee's flextime balance.

Requirements

You must assign your employees the authorization to enter off-site work records. You can do this either in Define work time event type groups or in Decide which att./abs. reasons can be entered at the terminal. It is also possible to assign the authorization to individual employees in infotype 0050, **Time Recording Information**.

Standard settings

If there is an automatically delimited off-site work record and the flextime balance is greater than the value of constant TEDEG, the system shortens the record so that the employee's working time equals the sum of the planned hours plus the value of constant TEDEG. The function is deactivated in the standard SAP system.

Activities

1. Decide whether you want to shorten off-site work records so that the employee's flextime balance does not exceed a certain amount.

2. If necessary, copy personnel calculation rule TB11 to ZB11 and TB10 to ZB10.

3. Change the constant from TEDEG to ZEDEG in personnel calculation rules ZB11 and ZB10. In ZB10, change the call to sub personnel calculation rule TB11 to ZB11.

4. You should decide if you want the system to take account of times outside of the planned time. RESET N2

    a) If you do, activate function **COPY TB00** in schema TM00 and change the name of personnel calculation rule TB10 of function **PTIP** to ZB10 in schema TB00.

    b) If not, edit schema TM00, change the name of personnel calculation rule TB10 of function **PTIP** to ZB10 and activate ZB10.

5. Set constant ZEDEG to the maximum value which the flextime balance may assume when off-site work records are entered. Copy constant TEDEG to ZEDEG and enter the value for constant ZEDEG.

Further notes

You do not require this functionality if you record all attendances in infotype 2002, **Attendances**.

31.5.3.4 Time Wage Type Selection and Overtime Compensation

In this section, you determine how time wage types are generated from time pairs. The time wage types are used later in payroll.

Define the rules for assigning time wage types to time pairs; the assignment depends on the processing class of the time pairs.

In the schema, insert the function which makes the assignment according to the rules defined.

Time wage types chosen on the basis of overtime are stored separately from time wage types generated from planned work. This enables you to compensate time wage types from overtime individually.

You must also specify how the overtime wage types should be compensated. There are two possibilities:

- The type of compensation (remuneration, time off) is determined by the wage type.

- If the wage type does not determine the type of compensation, it depends on the specifications in infotypes 2007, **Attendance Quotas** and 2005, **Overtime**.

31.5.3.4.1 Define Valuation Classes for Period Work Schedules

In this step, you assign valuation classes for time wage type selection to period work schedules. This means that time wage type selection can be based on the period work schedule.

Example

You want employees who work rotating shifts to receive higher bonuses than employees on normal shifts. Assign different valuation classes to the period work schedules. In the Define generation rules step, only allow the relevant wage type to be selected for the corresponding valuation classes.

Requirements

You have defined period work schedules.

Recommendation

Only make entries here if you want to base time wage type selection on the period work schedule.

Activities

1. Decide which period work schedules should be handled in the same way for time wage type selection.

2. Assign these period work schedules the same number.

Further notes

If you want the period work schedules to be taken into account for time wage type selection as specified here, you must customize the system accordingly in the Define generation rules step.

31.5.3.4.2 Define Groupings

In this step, you set the day grouping. It determines which rules are used for wage type selection.

Example

You want to use the rules for day grouping 01 on workdays. For
further notes, see Define generation rules.

Standard settings

If the current day is a workday, the system reads the rules for day grouping 01; if it is a Sunday or public holiday, the rules for day grouping 02 are read.

Recommendation

Under no circumstances should you deactivate this function: wage type selection cannot take place without it.

Activities

1. Enter the day grouping whose rules you want to use if the day is a workday as the first parameter of function **DAYMO**.

2. Enter the day grouping whose rules you want to use if the day is a Sunday as the second parameter of function **DAYMO**.

3. Enter the day grouping whose rules you want to use if the day is a public holiday, but not a Sunday, as the third parameter of function **DAYMO**.

4. Enter the day grouping whose rules you want to use if the day is a public holiday on a Sunday as the fourth parameter of function **DAYMO**.

Further notes

If the four categories are not specific enough for your purposes, it is also possible to set the day grouping in a personnel calculation rule using operation **MODIF**.

31.5.3.4.3 Define Processing Types

In this step, you define the processing types which can be assigned to a time pair. Time wage types are selected in time evaluation according to the processing type.

Example

You want overtime to be processed on a weekly basis. To do this, you need a processing type U, "provisional overtime". As a result, it is possible to check at the end of the week which provisional time pairs for overtime (processing type U) need to be converted into time pairs for overtime (processing type M) or into planned working time pairs (processing type S).

Standard settings

The standard system contains the processing types required for selecting time wage types. You may not change or delete these.

Recommendation

- You need only make entries here if the distinctions made between planned work, overtime, and absence are not sufficient for selecting time wage types. Usually, you will not make entries here.

- If you change the processing type of a time pair, it is not validated against the entries made here. It is still advisable to enter the processing type here however, since the semantic meaning of the processing type is derived from the table and you can also use the processing type in time wage type selection.

Activities

1. Decide whether you need additional processing types to represent the way of working in your company.

2. Assign a letter or a number to the processing type and enter it in the table.

31.5.3.4.4 Create Wage Type Catalog

In this step, you create your own wage types for **time wage type selection**, by copying the model wage types in the standard system.

These copies are the wage types that you can use in further processing. You can also modify these copies to suit your requirements. Only wage types for use in **time wage type selection** are proposed in this step.

Note

- For information on setting up customer wage types using prototypes or by copying the wage type catalogs in the standard system, see the steps Create wage types using wage type catalogs and Creating wage types using prototypes in the Implementation Guide for **Personnel Administration**.

- Please note that the copies of model wage types have the same characteristics as the model wage types with regard to processing in dialog as well as in payroll. You can check and, if necessary, change the characteristics of your wage types in the subsequent steps.

Caution

Only use the name range reserved for your customer wage types (wage types that begin with a number). Do not copy wage types to the area reserved for SAP model wage types (those that begin with a letter or a symbol).

Activities

Now create your copy wage types for time wage type selection using the steps

- Copy wage type catalog

- Create prototype wage types

For more detailed information on the copy procedure, choose *Help => Extended help*.

31.5.3.4.5 Define Generation Rules

In this step, you determine how time wage types are formed for TIP entries.

You have specified the rules to be checked in the Time Wage Type Selection Rule Group and the Day Grouping. These rules are checked according to the sequence of the sequential numbers.

The check starting point is the processing type that originated with the TIP entry. The remaining conditions are essentially split up into three groups:

- Conditions regarding the day:
  This is where you specify the conditions for wage type generation relating to a day, based on the public holiday class, the daily work schedule class, the day type, and so on.

- Conditions regarding time:
  This is where you specify whether the wage type should be generated only after a certain number of hours or whether the relevant TIP entry must be within a specific time interval.

- Control:
  You can determine whether the system should carry on checking the rules after it has found one which applies. It is also possible to generate the wage type with a fixed value depending on the duration of the TIP entry, if this rule applies.

Example

- The wage type MM10, overtime 25%, should be generated for processing type "M" (overtime). The wage type should be generated if the overtime was done on a workday and the current day is not a public holiday.

- If the employee worked more than two overtime hours, the wage type MM10 (Overtime 25%) should be generated for the first two hours. For the remaining hours, the wage type MM20 (Overtime 50%) should be generated.

Requirements

The wage types that you want to assign in time evaluation have been defined.

Standard settings

The standard system contains sample entries.

Recommendation

Count up from the current rule number in increments of ten. In this way, it is easy to add

further rules at a later time.

If you activate the switch **TIMGT T510S** in your system for table T77S0 (system table), a button with a function that lets you check for overlapping entries in the view *Time Wage Type Selection Rule* (V_T510S) becomes available. For more information, see SAP Note **2177959**.

Activities

1. At the start of the evaluation schema, you determined how employees should be grouped for assigning TIP entries to wage types. You can check the assignment in the *Check Assignment of Time Wage Type Selection Rule* activity.

2. For TIP entries that originated from absences, time wage types are generated only if the absences are valuated according to the "as if" principle. In the *Absence Valuation: Check "As If" Principle* activity, check for which *Absence Valuation Rules* the *Time Wage Type Selection* field needs to be selected.

3. In the *Define Generation Rules* action, set the rules for time wage type selection:

    a) Decide here to which time wage type selection rule group you want this rule. Enter the group in the *Time Wage Type Selection Rule Group* field.

    b) The rules for time wage type selection can vary according to day grouping. Decide for which day groupings you want to create your own rules and enter the grouping numbers in the *Day Grouping* field.

    c) There can be multiple rules to check for each of the two groups mentioned above. Enter the sequential number of the rule in the *SNo* field.

    d) Decide from which processing types the wage type is to be generated. Enter the wage type in the *Wage Type* field, and the processing types from which this wage type is to be generated in the *Valid Processing Types* fields.

    e) Decide for which weekdays you want to generate this wage type. Enter a a checkmark in the Weekdays field for each day of the week: "1" for Monday, "2" for Tuesday, and so on.

    f) Decide which public holiday class must apply on the previous, current and next day for this wage type to be generated.

    g) Decide for which of the period work schedule and daily work schedule classes you want to generate the wage type.

    h) Decide for which day type this wage type may be generated.

    i) Decide whether the wage type is only to be generated if the TIP entry lies within a certain interval. Enter this time interval in the *Start Time* and *End Time* fields.

j) Decide whether you want to generate the relevant wage type only if a specific number of hours exist for the processing type. Enter the value in the *Min. Hours* field. If the upper limit corresponds to the number of planned hours per day, enter an "S" in the *Symb.* field, if the lower limit corresponds to the planned hours per day, enter a "T," if the planned hours per day corresponds to 100% employment percentage, and enter a "U," if the average working hours per day should correspond to the work schedule rule.

k) Consider whether you only want to generate this wage type for the first hours of a

certain processing type. Enter the value in the *Max. Hours* field. If the upper limit corresponds to the number of planned hours per day, enter an "S" in the *Symb.* field, if the upper limit corresponds to the planned hours per day, enter a "T," if the planned hours per day corresponds to 100% employment percentage, and enter a "U," if the average working hours per day should correspond to the work schedule rule.

l) If you have defined an upper or lower limit, you can specify processing types for the total of which the condition should be checked. Enter these processing types in the *Count PTypes* field.

m) If you have defined an upper and lower limit as well as a time interval, you can determine whether the condition should only apply to TIP entries that are found in this specific interval. In this case, activate the *Interval* field.

n) If a TIP entry is between clock-in and clock-out time, it is possible to generate the wage type with a fixed value, that is independently of the duration of the TIP entry. Enter the required value in the *Fixed Value* field.

o) If the rule is met for a TIP entry, you can stop processing the rule and start processing the next rule in the time wage type selection. To do so, select the *Exit Rule* field.

p) If the rule is met for a TIP entry, you can also exit the time wage types selection. To do so, select the *Exit Time Wage Type Selection* field.

Further notes

- The fields in the "Conditions Regarding Time" section are optional.

- If you have filled the *Min. Hours* or *Max. Hours* field, but have not made an entry in the *Count Ptypes* field, the system includes the processing type specified in parameter 2 when function GWT is called.

- You can apply the following example for exiting the time wage type selection if a generation rule applies:

  Your employees are paid according to day records. If an employee works more than 4 hours, a full day record is paid, otherwise half of the day record is calculated. You can use fixed values to determine a time wage type with number 1 or 0.5 (displayed schematically) as follows:

Processing Types	Min.	Max.	Fixed Val.	End	Wage Type
S	4.00	1.00	X	abcd	
S	0.00	4.00	0.50	abcd	

If the employee works 5 hours, for example, the first rule applies. The wage type abcd is generated with number 1 and processing is stopped. If the employee works only 3 hours, the condition on the lower limit for the first rule is not fulfilled, so the second rule applies. Wage type abcd is filled with the fixed value 0.5.
Wage type abcd is now available in payroll with the correct number for valuation with the day record.

Note that the sequence of the generation rules is important in the example shown above.

31.5.3.4.6 Perform Time Wage Type Selection

In this step, you determine according to the processing type the time pairs for which wage types are generated and how these are internally buffered.

Example

You wish to generate time wage types for all time pairs with processing type "M" (overtime) and buffer them in the internal table for overtime wage types.

Requirements

You must have defined the generation rules, the day grouping, and the selection rule group for time wage types which are used to access the generation rules.

Standard settings

In the standard SAP system, function **GWT** is called twice. Firstly, time wage types are generated for the planned working time pairs (time pairs with processing type "S" - planned work) and buffered internally in the time wage type table.
In the second step, time wage types are formed for the overtime time pairs (time pairs with processing type "M" - overtime) and buffered internally in the overtime wage type table.

The archiving mechanism of the buffer handler is switched on when online, and off when in the background.

Recommendation

Only make changes here if you want to generate wage types for time pairs with other processing types. Do not change the existing call for function **GWT** but insert function **GWT** with the appropriate parameterization.

Activities

1. You can generate wage types for time pairs which have a specific processing type. Determine the processing types for which you want to generate wage types, and for each of these processing types, insert function **GWT** in the schema with the processing type as the first parameter.

2. Decide where the time wage types are to be buffered. There are two options:

- in the table of daily time wage types (DZL)

- in the table of time wage types generated from time pairs for overtime (ZML) Enter DZL or ZML as the second parameter of function **GWT**.

3. If you want to change the archiving mechanism of the buffer handler, the following options are available:

- "BTH" - archiving occurs both online and in the background

- " " - archiving occurs online but not in the background

- "NTR" - archiving occurs neither online nor in the background If you wish to use one of these values, enter it as the fourth parameter.

Further notes

- You should only buffer wage types generated from overtime pairs in table ZML.

- The wage types are assigned an information type for evaluation; this information type indicates the type of time as follows:

- "S" - planned work

- "M" - overtime

- "A" - absence

31.5.3.4.7 Generate Higher Bonuses on a Weekly Basis

In this step, you determine whether a higher bonus should be paid for overtime exceeding a certain number of hours weekly.

Example

The employee is to receive a higher overtime bonus if he/she works more than ten hours of overtime weekly.

Requirements

- The wage types for overtime bonuses have been defined.

- You must have already performed time wage type selection for overtime using function **GWT M ZML**.

Standard settings

Subschema TW00 is called in schema TM00; it processes personnel calculation rules TW10, TW20 and TW30.

Time type 0901 (weekly overtime) is initialized. The system sets the time type to zero on Mondays. On all other days of the week, the overtime hours worked so far are cumulated in time type 0901 (weekly overtime).

As of the tenth weekly overtime hour, a 50% bonus is generated in personnel calculation rule TW20 for all overtime wage types instead of a 25% bonus.

Weekly overtime is then updated in personnel calculation rule TW30.

Recommendation

It is generally sufficient to modify the threshold value as of which an increased bonus is to be generated, and the wage types which describe the bonus.

Activities

1. Decide whether you want to generate a higher bonus after a certain number of overtime hours.

2. Decide which overtime wage type is to be converted to another.

3. Copy personnel calculation rule TW20 to ZW20.

4. Edit personnel calculation rule ZW20. Replace wage type "MM10" by your wage type with a lower bonus, and wage type "MM202" by your wage type with a higher bonus. Replace the number 10 by your threshold value. The following section of personnel calculation rule shows exactly where you should make these replacements:

```
       DOUTOTWGTYP
**** ADDOT *
MM10 ADDDB0000ZHRS=10,00 HRS-D0901 HRS>0     HRS<D0000 NEXTR
MM10 1 GENOWB* ADDOT MM20HRS=D0000 ADDDB0901 MM20
ADDDB0901 ADDOT *
```

5. Change the name of personnel calculation rule TW20 to ZW20.

6. Activate function COPY TW00 in your schema.

31.5.3.4.8 Compensate Overtime

In this step, you determine how overtime wage types are compensated.

The options are to remunerate overtime hours, or to grant the employee time off for working overtime and possibly cumulate the overtime in special time types.

The type of compensation can be predefined for each individual wage type. You can also control overtime compensation by means of the overtime compensation type in the **Attendances** (2002), **Attendance Quotas** (2007), or **Overtime** (2005) infotypes. In this case, the compensation can be varied according to the individual employee and time period.

Example

- A wage type MM10 is generated for overtime hours and means that the employee's working time is valuated with the basic wage plus a bonus. Overtime is generally remunerated and cannot be compensated by time off. Enter "A" in processing class 17 of the wage type.

- A wage type MM10 is generated for overtime hours and means that the employee's working time is valuated with the basic wage plus a bonus. This wage type is usually passed on to payroll to be remunerated. You also want it to be possible to credit the employee with time off instead of payment. Enter "D" in processing class 17 of wage type MM10.

- You want the night bonus for overtime to be remunerated regardless of the compensation type in the **Attendance Quotas** infotype (2007), without being added to the overtime time types. Enter 0 in processing class 17 of the wage type **Night bonus 35%**.

Requirements

- You have defined your overtime wage types.
  See the Create Wage Type Catalog step for additional information.

- You have already generated the overtime wage types using function **GWT M ZML**. For more information, see the Perform Time Wage Type Selection step.

Standard settings

Compensation depends on the value of processing class 17 of the overtime wage type. Processing class 17 is evaluated by function **POVT TC40 GEN** in the standard SAP system, and the specifications are as follows:

 0   Remuneration without relevance for overtime time types
A   Remuneration with cumulation in overtime time type
B   Compensation (time off) on a 1:1 ratio, bonuses paid
C   Compensation (time off) using factor from % rates of wage type
D   Depends on compensation type. Default as for A
E   Depends on compensation type. Default as for B F   Depends on compensation type. Default as for C

If you use 0, A, B, or C, the method of compensation is defined once only and cannot be

overridden by the overtime compensation type.

If you use D, E, or F, compensation depends on the overtime compensation type specified in the **Attendance Quotas** (2007) and **Overtime** (2005) infotypes. The compensation is different for D, E and F only if no compensation type has been specified (default setting).

Compensation (time off) for overtime involves multiplying the overtime hours by a factor, and crediting them to a compensation account. The factor is derived from the total of percentage rates specified in the overtime wage type:

```
  % rate of base wage type         / 100
+ % rate of 1st derived wage type   / 100
+ % rate of 2nd derived wage type   / 100
  ---------------------------------------------------
```

= factor with which the hours are credited to the   compensation account

In the standard system, the compensation account is maintained in time type 0410 (time off for overtime). Absence quota 02 in infotype 2006 is also updated in parallel by the evaluation of the day balance of time type 0410 by the QUOTA function.

The following time types are maintained in order to count the number of overtime hours worked:
  0041 - Compensation (time off) with factor from % rates of wage type
  0042 - Remuneration with cumulation in overtime time type
  0043 - Compenation (time off) on a 1:1 ratio, bonuses paid

Night bonuses from overtime are a common example of wage types from overtime that do not fill these time types.

Recommendation

To use the compensation rules mentioned above, you do not have to modify personnel calculation rule TC40. Instead, assign the appropriate specification to the overtime wage type.

Activities

1.   Decide whether the type of compensation should be determined by the wage type, the specifications in infotypes 2007, **Attendance Quotas** and 2005, **Overtime**, or if there should be no options at all for the wage type.

2.   Consider how you want to compensate overtime wage types and enter the appropriate specification in processing class 17.

Further notes

Overtime compensation is performed in the standard system using function **POVT TC40 GEN** and specifications A - F for processing class 17.

Alternatively, you can use the **POVT TC20 GEN** or **POVT TC20 GEN** function.

The TC20 personnel calculation rule updates the absence quota 02 in the case of compensation (time off) for overtime. It uses the **UPDTQ** operation, not the QUOTA function to do so. The prerequisite is that you have previously created a corresponding quota record manually.

The TC10 rule works in a similar way to TC20 for processing quotas, but interprets the numerical specifications of processing class 17. The main difference to specifications A through F is that the compensation factor is specified explicitly in the TC10 rule, not determined from the percentage rates of the wage type.

31.5.3.5 Time in Lieu and Split Leave

In this section you are shown all the activities you need in order to set up 'Time in lieu', '??' leave' and 'Leave entitlement transfer' in your system.

31.5.3.5.1 Time in Lieu

This section takes you through all the steps necessary for implementing time in lieu in your company.

This involves:

- Modifying the table entries for time management personnel calculation rule TMOO

- Payroll constants

- Wage types

We suggest the following default values to set up your system:

1. Overtime hours are any hours over 39 hrs per week (constant OVTWL)

2. All overtime hours over 39 hrs are paid using wage type MM10

3. Overtime hours generate entitlement to time in lieu at a rate of 50% of the overtime hours worked (constant OVTWH). This takes effect after 42 hours have been worked per week.

4. When the annual maximum of 130 overtime hours has been reached (constant OVTWY), entitlement to time in lieu is generated for the amount of actual overtime hours worked.

5. Units of 8 hours of entitlement to time in lieu make up the time in lieu quota 0891, which remains valid until the end of the month after next (Technically speaking, when the month changes, time type 0891 becomes 0892, 0892 in turn becomes 0893 and the original 0893 is then invalid).

6. Personnel calculation rule TW43 will prevent time type 0893 from becoming invalid when the month changes if the balance revision 0895 for the current month shows the number of hours to be anything other than zero. The actual amount of hours shown here is irrelevant, because the balance revision is only being used as a switch to avoid the time type becoming invalid.

7. If absence time type 0950 is entered, the time in lieu quotas can be reduced in the sequence 0893, 0892, 0891. If there are more absence hours than quota available, an error message will appear in rptime00, but rptime00 will not be cancelled (personnel calculation rule TW4D).

8. At the end of the business year, the hours remaining in time type 0951 are stored in the wage type table ZL under wage type MM20 (personnel calculation rule TW49).

9. Time type 0952 contains the cumulated hours of overtime for the current year, time type 0953 shows weekly working time, while the accumulated entitlement to time in lieu is stored in time type 0951.

Other details:

- The business year is the calendar year.

- Monday is the beginning of the week.

- Time type 0952 for annual hours of overtime is initialized on the first day of the business year.

31.5.3.5.1.1 Activate Time in Lieu

In this step, you activate subschema TW40 in schema TM00.

Example

Your employees are receiving time in lieu as compensation for working overtime.

Recommendation

Infotype 2007 (absence quota) should not be recorded for employees who do overtime on a weekly basis. This would cause function GOT to assign processing type M, which is, of course, not compatible with a weekly view. If infotype 2007 is not recorded, function GOT will not be processed, so it does not matter if it remains in the schema.

This enables you to map the following subject matter:

1. Any hours over 39 hours a week count as overtime (constant OVTWL).

2. Overtime of over 39 hours a week is paid by wage types MM10 and MM20.

3. Half of all the overtime that exceeds 42 hours a week is generated as entitlement to time in lieu (constant OVTWH).

4. When an annual limit of 130 overtime hours is reached (constant OVTWY), the system generates an entitlement to time in lieu equal to the amount of overtime hours.

5. Quota 0891 for time in lieu is generated in units of 8 hours from the entitlement to time in lieu and remains valid until the end of the month after next. Technicaly speaking, this means that, when the month changes, time type 0891 becomes 0892, time type 0892 becomes 0893, and the old time type 0893 is cancelled.

6. If you do not wish to have time type 0893 cancelled when the month changes (calculation rule TW43), enter the hours for the current month's balance revision (0985) as any number other than zero. The actual number of hours entered here is not important, because the mere fact that a balance revision exists acts as a flag to prevent cancellation.

7. Absence 0950 allows the quotas for time in lieu to be deducted from time types 0893, 0892 and 0891 (in that order). If the absence hours exceed the quota, an error message appears in rptime00, but the program (calculation rule TW4D) is not cancelled.

8. At the end of the fiscal year, anything that remains in time type 0951 is transferred to table ZL with wage type MM70 (calculation rule TW49).

9. The overtime accumulated in the current year is found in time type 0952, weekly working hours are in time type 0953 and the generated entitlement to time in lieu in time type 0951.

Further details:

-   The fiscal year is the calendar year.

-   The calendar week begins on Monday.

-   Time type 0952 for annual overtime is initialized on the first day of the fiscal year.

Activities

Insert schema TW40 into schema TM00 in front of function KNTAG. Work through the suggested activities in the order given.

Further notes

If infotyp 2005 is used to record overtime, personnel calculation rule TD40 enables you to assign a processing type to these overtime hours. You may assign any letter here that has not yet been used (e.g. 'Z'), but not the letter 'M', because the weekly view which it provides makes it unclear at this point whether these hours will be counted as overtime at all.

From a business point of view, it makes more sense not to record infotype 2005 at all, and to use infotype 2002 with a suitable subtype instead. In this case, the processing type assigned is controlled either by the view for the time ID - time type and processing type (T555Z) or by the view for processing type and time type according to attendance and absence (T555Y). See the documentation on function TIMTP for further details.

31.5.3.5.1.2 Time in Lieu with Absence Quotas

In this step, you activate subschema TW41 in schema TM00.

Example

Your employees are receiving time in lieu as compensation for working overtime.

Recommendation

Infotype 2007 (absence quota) should not be recorded for employees who do overtime on a weekly basis. This would cause function GOT to assign processing type M, which is, of course, not compatible with the weekly view. If infotype 2007 is not recorded, function GOT will not

be processed, so it does not matter if it remains in the schema.

This enables you to map the following subject matter:

1. Any hours over 39 hours a week count as overtime (constant OVTWL).

2. Overtime of over 39 hours a week is paid by wage types MM10 and MM20.

3. Half of all the overtime that exceeds 42 hours a week is generated as entitlement to time in lieu (constant OVTWH).

4. When an annual limit of 130 overtime hours is reached (constant OVTWY), the system generates an entitlement to time in lieu equal to the amount of overtime hours. From this entitlement, the system generates a time-in-lieu quota (0955) in days and uses it to determine an absence quota (infotype 2006). The deduction period for the quota is defined in Customizing under Define generation rules for quota selection.

5.   At the end of the fiscal year, anything that remains in time type 0951 is transferred to table ZL with wage type MM70 (calculation rule TW49).

6.   The overtime accumulated in the current year is found in time type 0952, weekly working hours are in time type 0953 and the generated entitlement to time in lieu is in time type 0951.

Further details:

-    The fiscal year is the calendar year.

-    The calendar week begins on Monday.

-    Time type 0952 for annual overtime is initialized on the first day of the fiscal year.

Activities

Insert subschema TW41 into schema TM00 in front of function KNTAG. Work through the suggested activities in the order given.

Further notes

If infotyp 2005 is used to record overtime, personnel calculation rule TD40 enables you to assign a processing type to these overtime hours. You may assign any letter here that has not yet been used (e.g. 'Z'), but not the letter 'M', because the weekly view which it provides makes it unclear at this point whether these hours will be counted as overtime at all.

From a business point of view, it makes more sense not to record infotype 2005 at all, and to use infotype 2002 with a suitable subtype instead. In this case, the processing type assigned is controlled either by the view for the time ID - time type and processing type (T555Z) or by the view for processing type and time type according to attendance and absence (T555Y). See the documentation on function TIMTP for further details.

31.5.3.5.1.3 Modify Overtime Wage Types

Time-in-lieu calculation uses model wage types which you replace with the wage types you have created.

Example

The model wage types for overtime are MM10, MM20 and MM70.

Requirements

You must already have created your own wage types for overtime.

Activities

Copy the default personnel calculation rules T*** to $*** and replace model wage types MM10, MM20 or MM70 with your customer wage types.

31.5.3.5.1.4 Maintain Constants

Please check the constants for calculating the additional free days that are generated by overtime.

Example

Minimum: Minimum weekly working time before overtime is generated
Maximum: Maximum hours before generation of time in lieu starts
Annual maximum: Maximum amount before more time in lieu is generated

Standard settings

Minimum: 39 hours   OVTWL
Maximum: 42 hours   OVTWH
Annual maximum: 130 hours   OVTWY

Activities

These constants are normally stipulated by law. Please make any necessary adjustments.

31.5.3.5.2 Split Leave

31.5.3.5.3 Transfer Leave Entitlement to Payroll

31.5.3.6 Processing Balances

The time types which have been assigned to the time pairs do not yet feature in the table of day balances. In this section, you specify the day balances to which the time pair should be posted. The assignment depends on the time type allocated to the time pair. It is also possible to transfer and adjust balances.

The system then updates the day balances and period balances which are to be saved to the databse.

Example

- All time pairs assigned time type "Fill time Attendance" (0110), should be included in the calculation of day balances under time type "Fill time Attendance" (0110) and time type "Skeleton time" (0003).

- You wish to transfer part of an employee's flextime balance to his/her compensation time account.

- If the flextime balance is greater than a certain maximum value, it should be set to the maximum value, the remaining amount logged in the time type "Flextime excess/deficit" and transferred to the time type "Compensation time".

31.5.3.6.1 Balance Formation

In this section, you specify how day and period balances are formed from the time types.

The meaning of the time types is derived from the personnel calculation rules in time

evaluation. The main balances in the standard system are: -   0002 - Planned working time

from daily work schedule

- 0003 - Skeleton time as total of:
         0110 - Attendance during fill time
         0220 - Attendance during core time
         0120 - Recorded absence during fill time
         0220 - Recorded absence during core time
         0130 - Off-site work during fill time
         0230 - Off-site work during core time
         0411 - Overtime hours in excess of quota
         0540 - Paid break times

- 0005 - Flextime balance determined from
         0003 - Skeleton time minus   0002 -
     Planned working time

- 0010 - Attendance as total of:
         0110 - Attendance during fill time   0210 -
     Attendance during core time

- 0020 - Recorded absences as total of:
         0120 - Recorded absence during fill time
         0220 - Recorded absence during core time

- 0030 - Off-site work (recorded absence from infotype 2002) as total of:
         0130 - Off-site work during fill time   0230 -
     Off-site work during core time

- 0040 - Overtime worked as total of:
         0041 - Overtime to compensate with time off
         0042 - Overtime to remunerate
         0043 - Overtime to compensate with time off plus an   overtime
     bonus

- 0050 - Productive hours as total of:
         0010 - Attendance
         0030 - Off-site work (recorded absences from infotype 2002)
         0040 - Overtime

The following menu options explain how you can intervene to influence the formation of these balances.

31.5.3.6.1.1 Form Day Balances

A time type was assigned to each time pair in the previous steps. You specify here how the number of hours in the respective time pair is added to various time types in order to form day balances.

Example

You want to cumulate the number of hours in time pairs assigned the time type "core time attendance" in the following time types: "core time attendance", "skeleton time", "attendance" and "core time".
This gives the total skeleton, attendance and core time.

Standard settings

The rules for forming day balances are specified in personnel calculation rule TR10. The time type to be assigned is defined in the first column. The time type in which time should be cumulated is specified in the following columns after operation **ADDDB**. An asterisk after operation **ADDDB** denotes that the time is added to the initial time type. Please refer to Define time types for the most important rules.

Recommendation

Modifications are displayed here only if you have changed the standard settings in Set time type determination, or defined and assigned your own time types to the time pairs in the course of processing.

Activities

1. Select the time types to which you wish to add the number of hours in the time pairs on a daily basis, depending on their time type.

2. Copy personnel calculation rule TR10 to ZR10.

3. Specify the time types to which the values should be added, on the basis of the time type of the time pair.

4. Change the call of personnel calculation rule TR10 to ZR10.

Further notes

Please note that the number of hours in the time pair is not set in the table of day balances as soon as a time type is assigned to a time pair.

31.5.3.6.1.2 Award Time Bonuses/Deductions

In this step you determine whether data such as time travelled to work should also be referenced to determine working time (in addition to times recorded manually or at the time recording terminal), and if so, how is should be processed.

Example

An employee's travelling time is to be taken into account in time evaluation. You should increase the number of planned hours in time type 0003, and should be able to specify travelling times for each employee individually.

Standard settings

There is no standard personnel calculation rule for processing time bonuses.

You can enter a time bonus in the 'Time bonus/deduction' field in the **Time Recording Information** infotype (0050), or in the field for additional hours in the daily work schedule.

The system documentation on operation **HRS** explains how you can let the time evaluation driver read the entries in infotype or table fields.

You can use operation **ADDDB** to cumulate and maintain the contents of these fields in time types.

Recommendation

In the simplest scenario, the time bonus is posted directly to a time type. This can be done using operations HRS and ADDDB.

Activities

1.   Decide which rules you want to depict.

2.   Decide which data from infotypes, customizing tables or balances you want to evaluate. See the documentation on operation HRS.

3.   Create a personnel calculation rule and give it a name which starts with Z.

4.   Call the personnel calculation rule in the schema. Function ACTIO is usually used to call the rule, but this depends on how you determine time bonuses.

Further notes

Compensation time credit is also relevant to balance formation.

31.5.3.6.1.3 Total Flextime Balance, Overtime, and Productive Hours

This step introduces a personnel calculation rule which determines the flextime balance by subtracting the planned time from the skeleton time, as well as the overtime worked and the productive hours.

Example

An employee has to work 8 planned hours according to the daily work schedule, and is at work for 11 hours. He/she should be credited with overtime after 10 hours. The following time balances should be formed:

-      0002 = 8 hours (planned hours according to daily work schedule)

-      0040 = 1 hour (overtime)

-      0003 = 10 hours (planned work)

-      0005 = 2 hours (flextime - difference between planned work and   number of planned hours covered by basic wage)

-     0050 = 11 hours (productive hours)

Requirements

Before this function is called, the day balances must have been formed, particulary time types 0010, 0030 and 0003.

Time types 0041, 0042 and 0043 must have been formed. This is done in Compensate overtime.

Standard settings

1. **Time type 0002**: time type 0002 (planned work) is formed according to the number of planned hours in the daily work schedule.

2. **Time type 0005**: the flextime balance (time type 0005) is determined by subtracting the value of time type 0002 from time type 0003 (skeleton time). Time type 0003 has been formed in the step Daily balances.

3. **Time type 0040**: the overtime worked is calculated by adding time types 0041 (overtime to compensate), 0042 (overtime to remunerate) and 0043 (overtime basic wage/time off), and the value is stored in time type 0040.

4. **Time type 0050**: the productive hours are derived from the total attendance times (time types 0040, 0010 and 0030) and are stored in time type 0050 (productive hours).

Recommendation

You need only make changes here if you want to include other time types in the calculation of the flextime balance, overtime or productive hours.

Activities

1. Decide whether you want to include other time types in the calculation of the flextime balance, overtime and productive hours.

2. If necessary, copy personnel calculation rule TR30 to ZR30.

3. Make the required changes in personnel calculation rule ZR30.

4. Change the call of personnel calculation rule TR30 to ZR30

31.5.3.6.1.4 Balance Limits

In this step, you set rules for checking the balances determined in time evaluation. The rules allow you to check the time balances to see if they exceed or fall short of individually defined value limits or specifications in working time regulations, and to determine appropriate system reactions. There is a flexible Customizing table that you can use to fulfil the following requirements.

Examples of use

- Setting value limits based on fixed values or the employee's master data and transaction data (for example, number of planned hours, maximum working time)

- Checking value limits within periods you can define yourself (for example, 50 days, 13 weeks, and so on)

- Issuing messages, also as an advance warning, when the value is approaching the value limit (that is, the value limit has not yet been exceeded)

- Transferring the surplus to another time balance or wage type

- Limiting the validity of the rule according to the employee's age

- Transferring time balances to another time type for periods you can define yourself, for example, week balances

Procedure for checking the time balances

You can set balance rules for checking day balances and period balances. Function LIMIT, which checks the time balances during time evaluation, can process the balances in the following ways:

- **Cumulation**: Function LIMIT cumulates the day or period balances over a certain processing period and compares the cumulated value with the value limit. Example: Productive hours cumulated over a week.

- **Find maximum**: Function LIMIT views the day or period balances, finds the maximum value within the processing period, and compares this value with the value limit. In this case there is no cumulation. If you want to use cumulated balances for the comparison, you have to formulate them in a personnel calculation rule.
  Example: You want to find out whether an employee had 60 hours off at once in one week.

- **Find minimum**: Function LIMIT views the day or period balances, finds the lowest value within the processing period, and compares this value with the value limit.

Processing periods and check points

You can use different processing periods and check points depending on whether you are processing day or period balances. The check point is the time at which the system uses the rule, for example, at the end of the payroll period.

1. Processing day balances
   The balances for the day being evaluated from table TES (individual day balances, day processing in time evaluation) are processed together with the balances from table ZES (individual day balances, cluster B2) As before when using personnel calculation rules, they are processed during day processing in time evaluation.
   Note the effect on system performance of using long cumulation periods and regular check points (for example, daily).

2. Processing period balances
   Here, you specify rules that always refer to a time evaluation period.

The processing period always amounts to one or more time evaluation periods. The check point must be at the end of a time evaluation period - or at the end of two time evaluation periods, or three, and so on.

The balances from table SALDO are taken into account. They are processed during final processing in the schema.

All checks related to time evaluation periods and period balances should also be made using period balances. Check all the data you have entered in the step Define time types again, and make changes if required.

Function LIMIT is accessed both in the day processing block and in the final processing block in the schema.

Processing Customizing entries

Please note that all changes to balances are made in time evaluation. The system runs through the rules in consecutive order according to the specified key. If you want to set several value limits for a balance, you should number the rules so that the ones with the highest value limits are referenced first (for example, a rule with the value limit 30 for flextime balance 0005 is assigned the number 020, a rule with the value limit 20 the number 021, and so on). You should avoid circular relationships (that is, posting in one rule from balance 0005 to balance 0006, and in another from balance 0006 to balance 0005).

Example

1. You want the flextime balance to have a maximum of +/-10 hours at the end of the quarter, and a maximum of +/- 20 hours in other months. If the value limits are exceeded, you want the balance to be capped and the surplus moved to a wage type or time type.

2. You want to check legal working time regulations or regulations stipulated by the collective agreement on a daily basis. These working time regulations may depend on the employee's age. If you detect working time violations of any kind, you want to output messages.

3. You want to check for core time violations and report any you find.

4. Once an employee has built up 20 compensation hours, you want to output a message to check the deduction of the employee's time in lieu (time off) credit.

5. You want to make sure that your employees do not work more than 520 planned hours (incl. substitutions) and 585 productive hours (planned and overtime hours) within a 13-week period. For each balance, create a rule for checking the relevant value limits. Then select the *Duration* field under *Day balance processed over*, and enter 13 weeks as the period. Enter **Weekly** (end of period) as the *check point* so that the system always calculates back 13 x 7 days from the day of the evaluation and cumulates the relevant balances. Have the system issue messages if the value limits are reached or exceeded.

Requirements

You have already set up the time types for which you want to set value limits or use to calculate value limits in the step **Define time types**.

Standard settings

The standard system provides sample solutions.

Activities

1. Decide which value limits you want to check, and how you want to check them.

2. Choose **Define limits for time balances**.

3. Specify the personnel subarea grouping for time recording, the time balance group, and the balance rule.

4. Set the value limit:

   a) You can either set it as a fixed value, or using the parameters for operation 'HRS=yzzzzz', where 'y' is the origin indicator and 'zzzzz' is the parameter. Using this method, you can access employee-specific value limits from the infotypes (for example, *Time Recording Information* (0050)).

   b) Indicate whether the value limit represents an upper or lower limit.

5. Specify which time balance should be used in the comparison:

   a) Specify the time type for which you want the balance to be checked.

   b) Specify the processing period. You can use either day balances or period balances as a basis.
   In day processing for time evaluation, you can process the current day's balance or the total or maximum or minimum of the day balances for a defined period (time evaluation period, payroll period, working week, or other period) can be used, including the values for previous periods if required. You can also determine a certain length of period up to the evaluation date for balance formation, for example, the last 2 weeks.
   In final processing, the time balance is taken from the (time evaluation) period balances; previous periods can also be included.
   Depending on your choice, you can only choose the check points (see below) from

   day or final processing.

6. Specify which processing steps should be carried out if the balance exceeds or falls short of the value limit.

   a) Decide if you want a message to be issued and specify the type of message.

   b) Decide whether the time type on which the balance is based should be capped to observe the value limit.

   c) Decide if you want the surplus to be placed in a time balance or time wage type.

7. If the value limit is reached but not exceeded, a message can be issued. Depending on the tolerance, a note can also be output when the value is approaching the value limit.

8. If required, determine the time type in which you want the system to save the value it used to check the value limit.

9. Decide when you want the value limit to be checked. Depending on whether you are processing a day balance or a period balance, the check point must be in day processing or end processing. Note that the system can only process the rules if function LIMIT is also inserted in the day processing or end processing areas of the schema.

10. Determine the age restriction for employees to whom you want the value limit to apply. You can also leave the interval limits open.

11. If required, enter new error long texts under **Define messages for checking value limit** .

12. Choose **Adapt personnel calculation rule - MODT or TMON**. In your copy of the personnel calculation rule, determine the time balance rule group using operation MODIF L=xx.

13. Choose **Modify schema**. Check whether your copy of personnel calculation rules MODT or TMON is specified for function MOD.

14. If necessary, add function LIMIT to day processing **and** final processing.

31.5.3.6.1.5 Deduct Absences from Time Balances

In this step you determine how time accounts are reduced by absences.

Example

Your employee has accumulated a flextime balance of 5 hours. A 3 hour absence has been recorded for the current day, with the absence type for compensation for accumulated flextime hours. 3 hours should therefore be deducted from the flextime balance.

Requirements

- You have created the absence types to be deducted from time accounts.

- You have defined the time types which should be reduced.

Standard settings

Only the time credits "flextime balance" and "overtime compensation" are reduced in the standard system.

- **Absence type 0900** (compensation for accumulated flextime hours) reduces time types 0005 (flextime balance) and 0007.

- **Absence type 0910** (overtime compensation) reduces time types 0410 (time off for overtime) and 0407.

Time types 0007 and 0407 keep track of time deducted on account of a recorded absence.

Activities

1. Decide whether you want other time balances to be reduced by absences.

2. Decide which absence types should reduce balances.

3. Copy personnel calculation rule TP20 to ZP20.

4. Store your own regulations in personnel calculation rule ZP20. Base them on existing entries.

5.   Change the name of personnel calculation rule TP20 to ZP20 in the schema.

&ADDITIONAL HINTS&

The rule for offsetting absence times against time balances is called in the schema using function RTIPA.

31.5.3.6.1.6 Maintain Absence Quotas

You can maintain time credits in the Absence Quotas infotype (2006) in time evaluation, as well as in the form of time types. It is possible to change the 'Entitlement' field in an existing absence quota record using operation **UPDTQ**.

When you enter an absence, it can be validated against an absence quota to ensure that employee is entitled to take the time off.

Example

Employees in your company are permitted to take time off for working overtime. A quota is set up to keep track of how much time off the employee is entitled to in lieu of overtime. The quota is reduced by the 'time off for overtime' absence. The account for time in lieu of overtime may not assume a negative value, and should be checked by the system when a 'time off for overtime' absence is recorded.

Requirements

Standard settings

The absence quota '02' (time off for overtime) is supported in the standard system. The employee's entitlement to time off for overtime is maintained in time type 0410. If there is a subtype 02 record for an employee in infotype 2006, the time off entitlement is maintained in this infotype record in time evaluation, in the same way as in time type 0410. This is done in personnel calculation rule TC20, see the section on overtime compensation.

Absence type 0910 references quota type 02 in the standard. When a 'time off for overtime' absence is recorded (0910), it is validated against absence quota 02 and the quota is updated.

Recommendation

Activities

1.   Decide whether you want to maintain time credits to be validated when a relevant absence is recorded.

2.   You can create additional quotas if the standard ones are not sufficient for your purposes, and maintain them using your own personnel calculation rules. To do this, perform the following steps, following the example of the standard system and of personnel calculation rule TC20.

3.   If you want absence quotas to be updated in time evaluation, you should flag them accordingly. The entitlement to these quotas cannot be changed manually. This is important to ensure that recalculations are performed correctly. Check the quota types, and flag them accordingly.

4.   Absences which should be deducted from the quota should reference the relevant quota types.

5.   Maintain the time credits as time types, as described for balance formation in the previous sections. Each time the time type is changed by operation ADDDB, you have to decide if the absence quota 'xx' should also be updated. Use operation UPDTQAxx if you want to update the quota. Follow the example of rule TC20 (with TC21 and TC22).

Further notes

The time evaluation program can only update existing Absence Quota records; no new records are created.

Information from absence quotas can be queried in time evaluation using function **P2006** and operation HRS=Qxxxxx. Please see the system documentation on P2006 and HRS.

Compare this section to the automatic adjustment of leave entitlement in time evaluation.

31.5.3.6.1.7 Update Cumulated Balances

As well as the day balances which are assigned to the individual days evaluated, time balances can be cumulated per period and stored in a separate table (cumulated balances).

You decide the following in this step:

-   which time balances should be cumulated per period

-   which time types should be stored on the database in the table of day balances or cumulated balances.

Example

You want the time type "flextime balance" to be cumulated per period. Both the day balance and the period balance of the time type "flextime balance" are to be stored.

Requirements

If you want time types to be cumulated per period and their value for the period or day to be saved to the database, enter an appropriate value in the **Save as day balance** or **Cumulate in period balance** field when you define time types.

Standard settings

Function **CUMBT** interprets the transfer indicators assigned to time types.

Time types which are intended for transfer to the day total are passed on to the table which is to be stored.

Time types which are to be cumulated are cumulated in the appropriate time type per period and stored in the table of cumulated balances.

Recommendation

On no account should you deactivate function **CUMBT**; if you do, time balances and time wage types are not saved to the database.

Activities

Check the coding of the time types wich are to be saved as day balances or cumulated balances, and modify the relevant indicators if necessary in Define time types.

Further notes

Certain time types are only required as utility values in time evaluation, for evaluating an individual day. Utility time types 0000 and 0001, for example - do not have to be saved to the database.

31.5.3.6.1.8 Update Leave Balance

In this step, you determine whether the system should maintain leave entitlement, leave taken, and remaining leave in time types.

Example

You want to print remaining leave on the time statement form. To do this, you need to know the amount of remaining leave in a time type.

Standard settings

Data from the **Leave Entitlement** infotype (0005) is evaluated in personnel calculation rule **TR10**. The following time types are filled:

- 0097 - leave entitlement

- 0098 - leave taken

- 0099 - remaining leave (difference between 0097 and 0098)

The system takes account of all records in the **Leave Entitlement** infotype which are deductible up to the date of evaluation. Please note that the deduction interval and the validity interval may not be identical.

To determine leave taken, the system evaluates the 'leave' absences up to the date of evaluation; leave records which have already been entered in the system, but for periods beyond the evaluation date, are not considered. Compensation records from infotype 0083 are taken into account as well as leave data in infotype 2001.

Recommendation

You need this function if you want to print leave data on the time statement form.

Activities

You should decide whether you want to cumulate leave entitlement, remaining leave and leave taken in time types. If not, deactivate function **ACTIO TS10**.

1. If you want to maintain leave balances separately for different leave types, you can extend personnel calculation rule TS10: copy TS10 to your own rule, ZS10. If you set the parameter HRS=HEN xx for operation HRS, the system does not read the leave entitlement for leave type xx.
   Refer to the system documentation for possible parameters for HRS=H. You may also have to define additional time types.

31.5.3.6.2 Time Transfer

You can change balances manually using the Time Transfer Specifications infotype (2012).

You define time transfer types, the corresponding transfer rules and the transfer procedure in this section.

31.5.3.6.2.1 Define Time Transfer Types

In this step, you define the time transfer types you want to use when entering data for the Time Transfer Specifications infotype (2012).
This allows you to make changes to time balances, wage types, and absence quotas that have been determined by the system.

Example

- You want to transfer 5 hours from the flextime balance to compensation time. Define a time transfer type "flextime to compensation time", and determine corresponding transfer rules.

- You want to transfer flextime credit to a time in lieu balance at the end of the period. Define a transfer type "flextime balance to fixed value, transfer to time in lieu", which sets the time type "flextime balance" to the fixed value specified in the infotype (here: 0), providing the flextime balance was positive, and determine corresponding transfer rules.

Requirements

- The personnel subarea groupings for time recording have been defined.

- If you want to set the time types which are not contained in the standard SAP system to a fixed value, you must first of all create them.

Recommendation

State in the text for the time transfer type whether it sets a time type to a fixed value.

Activities

1. Decide which transfer rules you want to use. Create a time transfer type for each transfer rule.

2. Decide whether you want the time transfer type to set a time type to a fixed value. If necessary, enter the time type in the *Time type* field.

3. Decide if a specific condition should determine the setting of a time type to a fixed value. If the time type is only to be set to the fixed value if it is greater than or less than the fixed value, enter ">" or "<" in the *Condition* field.

Further notes

You should set the transfer rules regardless of whether or not the time transfer type sets the time type to a fixed value.

For more information, see also:

Set rules for transfer to time types
Set rules for transfer to wage types Set
rules for transfer to absence quotas.

31.5.3.6.2.2 Define Rules for Transfer to Time Types

In this step, you determine the time types to which a specific time transfer type should be posted.

Example

-   You want to transfer time from the "flextime balance" time type (0005) to the "compensation time" time type (0800).

-   You want to make a transfer as described above. You should check that the transfer does not lead to a negative flextime balance or a compensation time balance in excess of 10 hours.

Requirements

-   You have defined the time transfer type for which you want to set transfer rules.

-   If you want to use time types that are not contained in the standard system, you must first define them.

Recommendation

Please note that a transfer actually means adding time to one time type and subtracting from another time type.

Activities

1. Decide which time types you want the time transfer type to be posted to.

2. Enter the time types in the *Time type* field. Make a separate table entry for each time type.

3. Decide whether you want time to be added to or subtracted from the time type. Enter "+" or "-" in the *+/-* field.
   If you want to set a time type to a fixed value through the time transfer type and have specified this when you set up the time transfer type, you must enter "+" here for the time type.

4. Decide what percentage of the correction amount should be posted to the time type. If the time transfer type sets the time type to a fixed value, the posting amount is the amount required to attain the fixed value. If the time type is not set to a fixed value, the amount transferred is the amount specified in the *Time Transfer Specifications* infotype (2012).

5. Define the condition to which you want the transfer to be subject. Enter the minimum or maximum allowed value of the time type after the transfer in the *Min* or *Max* field. If you do not want to set a condition for the transfer, enter "-999.99" and "999.99" in the *Min* or *Max* field.

Further notes

The transfer is only made if all conditions set for a time transfer type are fulfilled. If a condition is not fulfilled, there is no transfer to wage types or absence quotas either.

31.5.3.6.2.3 Define Rules for Transfer to Wage Types

In this step, you determine the wage types to which a certain time transfer type should be posted.

Example

You want to make a transfer from the flextime balance to the compensation time balance, and want a particular wage type to be generated for the hours transferred.

Requirements

- You have defined the time transfer specifications for which you want to make transfers to wage types.

- You have defined the wage types you want to use.

Activities

1. Decide which time transfer types should generate wage types.

2. Specify which wage types should be generated for which time transfer types.

3. Decide whether the transferred amount should be added to or subtracted from the wage type. Enter "+" or "-" in the *+/-* field.

4. In the *%* field, enter the percentage of the transferred amount that should be posted to the wage type.

5. Enter a processing type for each wage type so that payroll can recognize which type of time it was generated from. Enter one of the following indicators in the *Info* field:

-     "S" = planned work

-     "M" = overtime

-     "A" = absence

Further notes

If any of the conditions you set for transferring a particular time transfer type to time types are not fulfilled, there is no transfer to wage types either.

31.5.3.6.2.4 Define Specifications for Transfer to Absence Quotas

In this step, you determine the absence quotas to which a certain time transfer type should be transferred.

Example

You want to transfer a certain amount from the flextime balance to the absence quota *time off from PDC.*

Requirements

You have defined the absence quotas to which you want to make transfers.

Activities

1. Decide which time transfer types should be posted to absence quotas, and enter the relevant absence quotas for each time transfer type.

2. Decide what proportion of the transferred amount should be added to or subtracted from the absence quota. Enter the percentage figure in the *%* field, and the transfer sign in the *+/-* field.

Further notes

-     There must be an **Absence Quotas** infotype record (2006), otherwise it is not possible to make transfers to absence quotas during processing.

-     If any of the conditions you set for transferring a particular time transfer type to time types are not fulfilled, there is no transfer to absence quotas either.

31.5.3.6.2.5 Perform Time Transfers

In this step, you set controls for time transfers.

Example

An employee has a flextime balance of 5 hours, but his or her compensation time balance is 3 hours short. In the **Time Transfer Specifications** infotype (2012), you enter a transfer specification of 3 hours that posts flextime to compensation time. You want to use the transfer rules you defined in the Time Transfer section.

Requirements

You have set the rules for time transfer types in the Time Transfer section.
See also Set rules for transfer to time types, Set rules for transfer to wage types, and Set rules for transfer to absence quotas.

Standard settings

In the standard system, transfer is controlled according to the rules you defined in the Time Transfer section.

Activities

1. Decide whether you want to control the transfer of time balances using the rules set in the "Time Transfer Types" section, or using a personnel calculation rule.

2. If you want to use a personnel calculation rule, enter the name of the personnel calculation rule as the first parameter of function **P2012**.

Further notes

Personnel calculation rule TR20 is a reference for time transfer processing. You can modify TR20 as you require. Please copy personnel calculation rule TR20 to ZR20, and make any necessary modifications in the copied version.

31.5.3.6.3 Period-End Processing

The balances formed in time evaluation often have to be checked periodically and adjusted if necessary.

The time evaluation period is commonly taken as a basis. This period is generally one month long. The result cluster for time evaluation is maintained with this period. The end of the time evaluation period can be determined using function **IF EOM**. The block formed by IF EOM ... ENDIF usually comes in the final processing part of the schema. Table SALDO (period balances) can be changed in this block using personnel calculation rules .

The common steps in period-end processing are introduced in the next sections.

The payroll period can also be used, but only if it does not coincide with the time evaluation period, which is usually monthly. The last day of the payroll period can be determined using function **IF EOP**. The block formed by IF EOP ... ENDIF for period-end processing has to come within the day processing part of the schema. This is explained in more detail in Period-End Processing.

31.5.3.6.3.1 Convert Flextime Credit to Overtime

In this step, you determine whether the flextime balance should be transferred automatically at the end of the period if it exceeds a maximum value, and there is an attendance quota for overtime or auxiliary work.

Example

An employee has an attendance quota of 10 overtime hours per period. His/her flextime balance is 14 hours. The maximum permitted value of the flextime balance is 8 hours. The flextime balance is reduced at the end of the period to 8 hours, and the absence quota 'Time off for overtime' is increased by 6 hours.

Requirements

Attendance quotas 01 (approved overtime) and 02 02 (approved auxiliary work) must have been created, as well as
Absence quota 02 (time off entitlement from BDE).

Standard settings

If attendance quotas 01 (approved overtime) or 02 (approved auxiliary work) exist at the end of the period, the excess flextime is transferred to absence quota 02 (time off entitlement from BDE). The transfer is logged in time type 0410 (time off for overtime). The function is deactivated in the standard SAP system.

Activities

1. Decide whether the flextime balance should be transferred automatically at the end of the period to absence quota 02 (time off entitlement from BDE) if it exceeds the maximum permitted value, and the employee has a sufficient attendance quota.

2. If necessary, activate function **P2007 TS20 GEN**.

3. Set a maximum value for the flextime balance and enter it in constant GLMAX.

Further notes

The maximum value of the flextime balance is the same as in Adjust flextime balances.

31.5.3.6.3.2 Adjust the Flextime Balance

In this step, you determine how the system should react if the flextime balance exceeds or falls short of a defined value at the end of the period.

Example

An employee has a flextime balance of 20 hours at the end of the period, although he/she is allowed a maximum of 15. The system sets the flextime balance to 15 hours and transfers the extra 5 hours to time type 0006, "Flextime excess/deficit".

Standard settings

The flextime balance is compared to the minimum or maximum permitted value. If the flextime balance is greater than the maximum permitted value, it is adjusted to this maximum, and the remaining number of hours is transferred to time type 0006, "Flextime excess/deficit".
If the balance is smaller than the minimum permitted value, it is adjusted to this minimum, and the wage type M730 (flextime deficit) is generated for the difference. The deficit is logged in time type 0006, "Flextime excess/deficit".

Activities

1. Decide whether you want to delimit the flextime balance if it exceeds a certain value, or make a wage deduction if it falls short of a minimum value. If not, deactivate function **ACTIO TS30**.

2. Otherwise, set the maximum or minimum permitted value for the flextime balance.

Further notes

-   Please note that time type 0006, "Flextime excess/deficit", is not transferred to the subsequent period.

-   In the standard SAP system, the maximum and minimum values of the flextime balance are constants which apply to all employees.
    If you want to set flextime limits for individual employees in infotype 0050, **Time Recording Information**, copy personnel calculation rule TS30 to ZS30 and replace operation CGLMIN by VFLMIN, and operation CGLMAX by VFLMAX.

31.5.3.6.3.3 Accrue Leave Entitlement

Leave entitlement for infotype 0005 can be adjusted automatically in time evaluation. It is possible to add a value to the existing entitlement, or to reset the entitlement each time the time evaluation program is run.

The leave entitlement is adjusted in a personnel calculation rule, using operation **UPDLE**.

The automatic adjustment of leave entitlement in time evaluation is of particular use if the entitlement depends on the employee's actual working time.

Example

The standard annual leave is 30 days. The employee's current leave entitlement is calculated at the end of each payroll period by comparing the number of productive hours worked in the current year to the number of annual planned hours specified in the work schedule, and multiplying the difference by 30.

Requirements

Standard settings

Leave entitlement is not adjusted automatically in the standard system. You can refer to personnel calculation rules TS15, TS11 or TS14 to see how to implement automatic leave adjustment.

Personnel calculation rule TS15 functions as described in the above example.

Recommendation

Activities

1.   Decide whether you want leave entitlement to be adjusted automatically.

2.   If you do, set rules for calculating leave entitlement. It is important to decide whether the value calculated should be added to or replace the previous entitlement.

3.   Specify the leave types for which you want entitlement to be adjusted automatically. In the standard system, an automatic update is permitted for leave types 06 and 07, for example. If required, you can define new leave types and indicate that they should be adjusted automatically in time evaluation.

4.   Use personnel calculation rules TS11, TS15 or TS14 as examples to define your own rules. The exact procedure is explained in the system documentation on these rules. There are two steps to the rules: the new entitlement is calculated in the first step and stored in time type 0090 or 0091. The leave entitlement is then updated in personnel calculation rule TS12 or TS13 using operation UPDLE. The parameter set for the operation determines which leave type is to be updated. Rule TS11 is for final processing, and rule TS15 for day processing.

5.   Whereas the rules for determining leave entitlement will generally be very customer-specific, you only have to make settings regarding which leave types should be updated in rules TS12 and TS13.

6.   Copy TS11, TS14 or TS15 to your own personnel calculation rule and make your changes in the copied version.

7.   Insert the name of your personnel calculation rule in the schema, using function ACTIO.

Further notes

Absence quotas (infotype 2006) are calculated in time evaluation using operation **UPDTQ**.

31.5.3.7 Message Output

There are two types of error in time evaluation:

1.   Errors determined during pair formation

2.   Errors which arise when time events are processed in time evaluation.

You can determine how errors are processed in this section. This includes:

-   Defining your own error codes and methods of processing the errors.

-   Setting error checks in the schema.

- Deciding whether the administrator responsible should receive a mail when an error occurs which he can use to correct the error.

Please note that changing the standard settings can affect balance formation.

31.5.3.7.1 Create Message Descriptions

In this step, you define your own message types and specify how you want the system to handle the message types.

Example

You set the number of the message type xx in a personnel calculation rule using operation COLER xx. Here you define the meaning of message type xx.

Requirements

The personnel subarea groupings for time recording must be defined.

Standard settings

The message types used in the standard SAP system are already defined.

Activities

1. Check whether you used your own numbers of message types with operation COLER xx. If so, assign the message type a semantic meaning.

2. Decide whether you want to inform the employee of the error that has occurred. If so, store the value that is to be available to the subsystem as the mail indicator in the mini-master record, in the *Mail* field.

3. If you use the *Time Management pool* (transaction PT40), you can control who processes a message by entering the appropriate value in the *Listl* field.

4. In the case of some errors, displaying balances at the time recording does not make sense. If you do not want balances to be displayed at the time recording terminal in the case of particular errors, set an **X** in the *Balance* field.

5. If you do not want notes and information to be issued in the case of a recalculation, activate the *Generate once* field.

31.5.3.7.2 Transfer Pair Formation Errors

This step explains how the system responds to errors which occur during pair formation.

Example

An employee's clock-out entry is missing. A time pair cannot be formed. The error is copied to the time evaluation error table.

Standard settings

The system checks to see whether errors occurred during pair formation. Any errors are transferred to the time evaluation error table.

Recommendation

Function **PERT TD20** is mandatory if you record attendances using a front-end time recording system. Modifications should be made in the personnel calculation rule only in exceptional cases.

31.5.3.7.3 Check If Daily Work Schedule Has Ended

The time evaluation program may not be run for an employee who is still working according to the daily work schedule. This step explains how to check this.

Example

An employee works from 4 p.m. - 12 midnight according to the daily work schedule. Time evaluation is run at 10 p.m. The data for this particular employee is not processed in the current run of time evaluation, but in the next run.

Standard settings

The system compares the time of the evaluation run with the end time in the daily work schedule. The tolerance interval is also taken into account. If it is still earlier than the end time in the daily work schedule plus the tolerance, schema processing is terminated for the employee for that day.

If the error occurs on the first day of a period, a recalculation is not set for transferring wage types to a third-party payroll system.
Final processing is not carried out on the last day of a period.

Activities

1. Copy personnel calculation rule TD10 to ZD10 and change the constant
    TETOL to ZETOL in personnel calculation rule ZD10.

2. Change the name of personnel calculation rule TD10 of function **ACTIO** to
    ZD10.

Determine a tolerance period for checking the end of working time. Copy
constant TETOL to ZETOL and enter the appropriate value.

Further notes

You can control the recalculation by modifying personnel calculation rule TD10. Please refer to the documentation on personnel calculation rule TD10 and operation **TEXIT**.

31.5.3.7.4 Check for Days with Errors

This step explains the error checks for the day to be accounted.

Example

An employee is not at work on a workday. No absence has been recorded for him/her. The system draws your attention to this fact by displaying an error message: "Employee not at work".

Requirements

Standard settingss

Several constellations are checked in personnel calculation rule TE20 to ascertain whether an employee is at work or absent with permission.
The day type determines whether the system should display an error, generate a planned pair, or process the day as if it were a day off for the employee.
Refer to the source text of personnel calculation rule TE20 for the exact rules.

Recommendation

It is not generally advisable to change the checks which are supported in the standard system.

Activities

1. Decide whether you require further validations. Modify the personnel calculation rule if

    necessary.

2. To do this, copy personnel calculation rule TE20 to ZE20.

3. Modify personnel calculation rule ZE20.

4. Change the call of personnel calculation rule TE20 to ZE20.

31.5.3.7.5 Determine Time Events with Errors

This step explains how the system checks the time pairs being accounted for errors.

Example

There is a clock-out entry for an employee at 4.30 p.m. There has been no clock-in entry since the last clock-out entry. The following error message is displayed: "Clock-in entry cannot be delimited".

Standard settings

The checks in personnel calculation rule TE30 are based on the pair formation status, which tells you whether a pair could be formed.

If necessary, open time pairs are delimited and a recalculation is initiated the next day. Refer to the source text of personnel calculation rule TE30 for the exact rules for performing checks.

Recommendation

It is not generally advisable to change the checks which are suported in the standard system.

Activities

1. Decide whether you want further checks of the time pairs. Modify the personnel calculation rule if necessary.

2. To do this, copy personnel calculation rule TE30 to ZE30.

3. Make your changes in ZE30.

4. Change the name of personnel calculation rule TE30 to ZE30.

31.5.3.7.6 Print Other Messages

This step explains how the system checks whether or not the minimum daily working time has been observed.

Example

According to the daily work schedule, an employee should work at least 8 hours daily, but works only 7 hours on a certain day. No absences are recorded. The system displays the following error message: "Minimum working time not completed".

Requirements

The *Minimum working time* field must be filled in the daily work schedule.

Standard settings

The employee's attendance time is compared to the minimum daily working time. An error message is displayed if the minimum daily working time has not been completed.

Activities

Decide whether you want to compare the attendance time to the minimum daily working time and display a message, if necessary. If not, deactivate function **ACTIO TR40**.

31.5.3.7.7 Define Mail Connection to Notify Administrator of Messages

In this step, you determine whether any errors that occur are automatically forwarded by mail to the relevant time administrator.

Example

An error occurs for a particular employee during time evaluation. This employee's time administrator receives a mail with the title "Error in RPTIME for personnel no. 102030".

Requirements

The time administrator's mail address must be maintained.

Standard settings

If errors occur during time evaluation, the time administrator responsible receives a mail stating all errors for the persons under his/her jurisdiction.

Recommendation

If only a few errors occur, it is recommended that you send the time administrator one mail for each personnel number with an error.

Activities

1. You should decide whether you want to work with the SAP mail function. If not, deactivate function **OPTT MAIL**.

2. Decide what type of mail the time administrator should receive. The following options are available:
   "1" - the time administrator receives exactly one mail regardless   of the number of persons for whom errors occur.
   "2" - the time administrator receives exactly one mail for each person   for whom an error occurs. The title of the mail specifies   the personnel number for which the error occurred.
   "3" - the administrator can determine how many errors must occur   before they are all put into one mail. The administrator   stores the threshold value in parameter MKZ.

3. Enter the value of the second parameter according to the above information.

31.5.3.8 Storing Evaluation Results

In this section, you determine whether the time evaluation driver should store the results of time evaluation on the database. We recommend that you do not save data when testing.

31.5.3.8.1 Sort Cumulated Balances

In this step, you determine whether the table of cumulated balances is sorted before it is stored.

Standard settings

The table of cumulated balances is sorted before it is stored.

Recommendation

We recommend that the sorting function be set at all times. This means that the data is always sorted for subsequent evaluation programs.

Activities

Decide whether you want to sort the cumulated balance table before storing it. If not, deactivate function **SORT MBT**.

Further notes

The function should be at the end of schema.

31.5.3.8.2 Store Evaluation Results

In this step, you determine whether the results of time evaluation should be exported to the appropriate files.

Example

You carry out a simulation and do not want the results of time evaluation to be exported. Deactivate function **EXPRT**.

Standard settings

Function **EXPRT** is active.

Recommendation

If you want to carry out a simulation, it is advisable to copy the productive schema under another name and deactivate function **EXPRT** in the copied schema.

Activities

You should decide whether you want to carry out a simulation with the schema. If you do, deactivate function **EXPRT**.

Further notes

Using function **EXPRT**, the time evaluation driver exports data to the files PAnnnn, PCL1 and PCL2, where nnnn is the number of an infotype.

31.5.3.9 Special Problems and Solutions in Time Evaluation

This section deals with certain business administration problems which do not feature in the standard schema, but for which sample subschemas and personnel calculation rules are already provided. There is a step-by-step guide to the activities necessary to activate the samples.

This section is revised regularly in order to include new reference solutions for general problems which are not incorporated in the standard schemas.

31.5.3.9.1 Weekly Overtime Analysis for Part-Time Employees

For part-time employees, overtime should not be valuated with bonuses as soon as the standard reduced working time is exceeded, but only if the standard weekly working time of a full-time employee has been exceeded. Until this limit is reached, you only want to generate time wage types for overtime. The time wage types are valuated in payroll according to the employee's basic remuneration.

This means that full-time employees are not at a disadvantage. According to weekly overtime regulations, they only receive bonuses if they have completed the standard weekly working time.

Example

A part-time employee with 6 planned hours per day works 43 hours in one calendar week as follows:

        Mo Tu We Th Fr Sa Su Working hours 9 9 9 8
8   - -

The weekly working time according to the collective agreement is 40 hours.

Your employees are assigned a general overtime approval which means that hours worked outside of the planned working time are automatically recognized as overtime.

You only want to generate overtime with bonuses for part-time employees if they have completed the standard weekly working time. In the above case, this means that overtime wage types are generated from Monday through Thursday without bonuses. A wage type with the corresponding bonuses is not generated for 2 hours of overtime until Friday, once the employee has worked more than the 40 weekly hours.

Independently of the above procedure, the excess planned working time is recorded for each workday in the time type **Overtime worked**. The balance of the time type increases by 13 hours in the working week described above.

Standard settings

In the standard SAP delivery, the rule described in the example is implemented in subschema TOW2. This schema is not contained in the standard schema.

Overtime which is worked before the weekly working hours have been completed is assigned the processing type **N**. Once the employee has completed his/her weekly working hours, the overtime pairs are assigned the processing type **M**.

Activities

If you wish to use this type of functionality, you must carry out the following processing steps:

1. In the standard system, the standard weekly working time is taken as the basis for the number of hours to be worked weekly. The value is stored in table T510I. If you wish to use a different value, copy personnel calculation rule TOWC to ZOWC and change the initialization of time type **0908** accordingly. You must then change the name of the personnel calculation rule in schema TOW2.

2. Call subschema TOW2 with function COPY directly before function GWT.

3. Insert function GWT N ZML in your schema after function GWT M ZML.

4. Define processing type N.

5. Set generation rules for time wage types for the new processing type N. For more detailed information, please see the section on Time Wage Type Selection and Overtime Compensation.

31.5.3.9.2 Convert from Summertime to Wintertime and Vice-Versa

In this step, you deal with the problems which arise due to the time difference when the clocks change from wintertime to summertime and vice-versa. This applies to all employees who have to work on the days affected by the time change; the actual time worked is not the same as the time span between the first clock-in entry and the last clock-out entry.

Example

On the day on which the clocks are put forward from wintertime to summertime, an employee works from 22:00 to 06:00. At 2:00, the clocks are put forward by one hour to 3:00, meaning that the employee has actually worked an hour less than it appears from his/her clock-in and clock-out times.

When the time changes from summertime to wintertime, the clocks are put back by an hour at 03:00. This means that the employee in the above example would work 9 hours, although the time span between his/her clock-in and clock-out times would be 8 hours.

Activities

1. **Converting from wintertime to summertime**

    a) Define a work break schedule which includes a 1-hour unpaid break from 2:00 to 3:00.

    b) Create variants for the daily work schedules which are affected by the time change, and assign them your work break schedule.

    c) Using the Substitutions infotype (2003), assign this daily work schedule to your employees for the day on which the clocks go forward. In this way, their planned working times are correct both for time evaluation and payroll.

2. **Converting from summertime to wintertime**

    a) Define variants for the daily work schedules which are affected by the time change and assign them a special daily work schedule class.

    b) Create generation rules for time wage types which take account of this daily work schedule class. Based on this criterion, you can generate special bonus wage types for

    the extra hour worked on the day on which the clocks go back.

    c) Via the **Substitutions** infotype (2003), assign this daily work schedule to your employees for the day on which the clocks go back.

31.5.3.9.3 Special Solutions for Time Account Accrual

Specific solutions concerning **time account structures** are explained in this section.

31.5.3.9.3.1 Accrue Compensation Time Account

In this step, you make the system settings required to set up a compensation time account for your employees which is updated on a daily basis. Certain absences can then be deducted from the time accumulated in the account.

Example

Shorter working hours are introduced in your enterprise. Employees are to continue working their 8 hours a day, but are assigned a time credit of 0.5 hours for each day they work. If an employee is absent for less than one workday, the time credit is reduced by half.

Requirements

You have created the absence types which will be deducted from the compensation time account.

Standard settings

In the standard SAP system, the rule described in the example is realized in personnel calculation rule TR15. Cumulated compensation time is stored in time type **0800**.

This calculation rule is not contained in the standard system.

Activities

1. **Setting up the time account**

   a) Specify the daily compensation time for the relevant daily work schedules.

   b) Copy personnel calculation rule TR15 to ZR15 and make any necessary modifications.

   c) Call personnel calculation rule TR15 before function CUMBT in the day processing section of your schema with function ACTIO.

2. **Deducting absences from the time account**

   a) Decide which absence types should be deducted from the compensation time.

   b) Copy personnel calculation rule TP20 to ZP20 and define rules for deduction in ZP20.

   c) Change the name of the personnel calculation rule in the schema from TP20 to ZP20.

31.5.3.9.3.2 Accrue Absence Entitlement By Comparing Actual Times and Planned Specs

You want to determine your employees' absence entitlements by comparing the planned working time in their work schedules with the actual productive hours worked. You use function **QUOTA** to generate the entitlement.

This step contains a sample solution in which the quota entitlement is determined by comparing the employee's actual times with the planned specifications for each payroll period.

Example

Your enterprise has a two-weekly payroll period with a planned working time of 80 hours. Your employees are entitled to 8 hours of leave each payroll period on the condition that they complete their planned working time.

As a result of unpaid absence times, an employee has only accumulated 60 hours of productive time in the course of the two weeks. His or her quota entitlement is therefore increased only by 6 hours.

Requirements

You have made the required Customizing settings in the Define Generation Rules for Quota Selection step.

Standard settings

You can set up the above example using subschema **TQPP**.

Activities

1. Modify personnel calculation rule **TQP0** so that the relevant productive hours are collected as a balance in a time type.

2. Change personnel calculation rule **TQP1** if your employees are allowed to accrue more than the base entitlement if they exceed their planned specifications.

3. Add subschema **TQPP** to your schema before function CUMBT.

4. Assign the time type formed in personnel calculation rule **TQP1** as the multiplier for determining the accrual entitlement in your generation rule.

31.5.3.9.3.3 Transfer Remaining Absence Quota

Some collective agreements and plant bargaining agreements allow employees to carry over unused leave at the end of a leave year.

Based on an example, this step describes how to allow employees to carry over leave.

Example

You want to allow employees to carry over their total remaining absence quota at the end of a leave year. You want the transferred leave to be collected in a special absence quota.

Requirements

You have made the required Customizing settings in the Define Generation Rules for Quota Selection step.

Standard settings

You can reproduce the above example using personnel calculation rule **TQTR**.

Activities

1. Modify personnel calculation rule **TQTR** so that the transferred quota is collected as a balance in a time type. You can also specify that you want the remaining quota to be transferred only to certain quota types.

2. Use function **P2006** to call TQTR before function CUMBT in your schema.

3. Assign the time type formed in personnel calculation rule **TQP1** to the relevant quota type as the base entitlement.

31.5.3.9.3.4 Maintain overtime

In this IMG step, you configure a time management scheme so that overtime is taken into account when calculating the **employee's** vacation allowance.

The activities you must carry out and a short description of each of them are described below under Activities.

Recommendation

- If you use positive time evaluation (with time clock), you must configure **TM00**

- If you use negative time evaluation (without time clock), you must configure **TM01**.

Activities

1. For POSITIVE TIME EVALUATION

   a) If you are using Time Management for the first time, copy TM00 scheme

   b) To import **Overtime** (infotype 2005), remove the asterisc from line **P2005**

   c) To assign processing type M to records imported from infotype 2005 remove asterisc from line **PTIP TD40 GEN**

   d) To create wage types /65A and /65B, which are used in the report HR-PT: Overtime Communication, insert the line **PTIP PCTP GEN** in the time wage type generation block.

   e) To use value 01 for "Day grouping for wage type generation", replace line DAYMO 01 02 02 02 by **DAYMO 01 01 01**

   f) To have the time wage types configured according to the portuguese configuration of Overtime, replace line POVT TC40 GEN by **POVT PC20 GEN**

   g) To copy the values of the time wage types to time types (APT1 through APT4), insert **PZL PC25 M** after calling the calculation rule PC20.

   h) Save your entries.

2. For NEGATIVE TIME EVALUATION

   a) If you are using Time Management for the first time, copy scheme **TM01** (do not use TM00)

   b) Perform the same activities described above for Positive Time Evaluation, starting from **step d** (skip steps a, b and c)

   c) Save your entries.

3. Regardless of the type of time evaluation (positive or negative) you use,

   a) Insert an asterisc in the line **PCC1** in the scheme PT00

   b) Save your entry.

31.5.4 Time Evaluation Without Clock Times

In this section, you set up time evaluation according to the particular requirements of your

company.

The time evaluation program is controlled by a schema, which specifies which functions should be processed. The functions are processed sequentially. You can store additional rules for certain functions, which influence their result.

There are several standard schemas to cater for a range of different customer requirements. The preconditions vary, as do the methods of evaluation.

This section differs from Time Evaluation With Clock Times in that **schema TM04** works with the following preconditions and objectives:

Recording time data:

- The time actually worked by the employee is recorded in infotype 2002 (Attendances) and not in the form of clock-in and clock-out entries.

- Clock times are not significant. A number of hours is recorded for an attendance or absence but the start and end times are not required; only the hours are evaluated to form balances. The clock times which can be specified in the daily work schedule are equally unimportant. Only specifications such as number of planned hours or minimum daily working time are evaluated.

- Both negative recording (only exceptions to the work schedule) and positive recording (all attendances and actual times) are supported. If you work with negative recording, the planned hours are generated on the basis of the daily work schedule. Any recorded absences and certain attendance times are then deducted.

Overtime calculation

- All recorded times qualify as working time. The following types of regulation are applied to calculate overtime:

- Overtime begins after x working hours daily

- Overtime begins after y working hours weekly

- Overtime begins after z consecutive workdays

Additional features

- You can also define regulations with regard to the payroll period. The payroll period can differ from one employee to the next, and does not have to correspond to the time evaluation period.

- The maximum daily working time is not validated when planned working time and overtime are calculated in schema TM04.

The functions of the standard schema are explained in the following steps, and you are told how to customize them in line with your own particular requirements. You also learn how to create and change personnel calculation rules.

31.5.4.1 Initial Steps

In this section, you define general control parameters for time evaluation and specify groupings

for reading the essential rule tables in time evaluation.

Example

- You want the retroactive accounting indicator to be set for Payroll if time evaluation results change for periods that have already been processed by Payroll.

- You want to use different rules for generating time wage types for hourly wage earners than for monthly wage earners.

31.5.4.1.1 Set Controls

In this step, you can make specifications which are valid for all employees for the entire time evaluation run. The specifications regard mainly who is to be selected by the time evaluation program, the importing of certain infotypes, and the interaction with payroll, and are defined in the schema using function **CHECK**.

Example

You only want employees with the *Time Management status* '1' in the Planned Working Time infotype (0007) to be accounted with using the schema.

Standard settings

1. All employees with a Time Management status other than 0 in infotype 0007, Planned Working Time, are selected for time evaluation.

2. The retroactive accounting indicator is set for payroll if time evaluation results change for periods that have already been processed by the payroll driver.

3. Data is incorporated in matchcode "W" if the evaluation program is still running or at the correction stage, and the retroactive accounting indicator is set for payroll.

4. The Basic Pay infotype (0008) is not evaluated in the standard time evaluation program.

5. The time evaluation driver does not evaluate data beyond the current system date.

Activities

1. Decide whether you wish to make one or more of the following specifications for time evaluation:

    - PON   (Positive Or Negative)
              The system selects all employees with a Time Management
        status other than '0' in the Planned Working Time   infotype (0007).

    - TRC   (Time ReCording)

> The system only selects employees with a Time
> Management status of '1' in the Planned Working
>
> Time infotype (0007).

- PDC (Plant Data Collection)
  The system only selects employees with a Time
  Management status of '2' in the Planned Working   Time infotype
  (0007).

- NEG (NEGative)
  The system only selects employees with a Time
  Management status of '9' in the Planned Working   Time infotype
  (0007).

- FUT (FUTure)
  Evaluations also possible for the future: The last
  day to be evaluated is specified   when the time
  evaluation driver is started.   The system does not check
  whether this is a   future date.

- RPR (Recalculation PayRoll)
  The retroactive accounting indicator is set for
  payroll if results change for periods   that have already been
  processed by the payroll   driver.

- INFT (INFotypes)
  The system checks whether the following infotypes   are
  processed in the schema:
  Absences, Attendances, Availability,   Overtime
  and Time Transfer Specifications.   If not, they are not
  imported for performance   reasons.

- NOTR (NO Time Recording)
  The Time Recording Information infotype (0050)   is not
  imported. This infotype does not have to be   created for time
  evaluation to be run.   Without parameter NOTR, there has to be
  a valid   infotype 0050 record for each day being accounted.

- BP (Basic Pay)
  The Basic Pay infotype (0008) is imported and stored   in
  the internal table WPBP. The basic pay data can   then be queried in
  personnel calculation rules   using operation OUTWP.

- NOB1 (NO cluster B1)
  No B1 cluster is imported or exported when time
  evaluation is run. This parameter is only useful   for evaluating
  employees whose times are not   recorded automatically.

The listed abbreviations, e.g. 'BP', are the parameter options for function CHECK.

2.   If there are standard specifications which you do not wish to use, you can delete the relevant lines
     from the schema using function CHECK.

3. If you wish to make specifications other than the standard ones, insert a new line after CHECK RPR MACO. Enter function CHECK in the new line. As the second paramter, enter an appropriate abbreviation from the above list.

4. If you want to make further specifications, repeat point 2.

5. You can delete any *Time Management status* values which you do not intend to use.

Further notes

Exceptions to the standard settings can be defined if the results of time evaluation are not used for payroll in the SAP system, or if you create your own personnel calculation rules to evaluate data from the Time Recording Information or Basic Pay infotypes.

Function CHECK can come at any point in the schema.

31.5.4.1.2 Define Groupings

In this step, you specify which groupings the time evaluation driver should use to access certain tables when processing a particular personnel number. The tables referred to are three central rule tables which control:

a) Time wage type generation (table **Time wage type selection rule**)

b) Absence valuation (table **Valuation of absences**)

c) Balance formation (table **Processing type and time type**).

The groupings for a personnel number are set according to aspects of the employee's organizational assignment.

They are set in personnel calculation rule **TMON** using operation MODIF. The rule is called using function **MOD**.

Example

Different regulations should apply for generating time wage types for hourly wage earners than for monthly wage earners. Hourly wage earners are assigned the value '1' for the employee subgroup grouping for the personnel calculation rule, monthly wage earners have the value '2'.

Requirements

You have defined employee subgroup groupings for the personnel calculation rule.

Standard settings

1. In the SAP standard delivery, the selection rule group for time wage types 01, 02 or 03 is assigned to the employee subgroup grouping for the personnel calculation rule 1, 2 or 3. This means that you can define different regulations for wage type generation for different calculation rule groupings in the **Time wage type selection rule** table, see Time wage type selection.

2. The value of the employee grouping for absence valuation for reading the **Valuation of absences**
    table is set to '01' in the standard system, regardless of the employee subgroup grouping for the
    personnel calculation rule. The table is read during wage type generation in order to decide whether
    a time wage type should be formed in time evaluation for a particular absence, see Time wage type
    selection.

3. The value of the time type determination group is set to '02' in the standard system, regardless of the
    employee subgroup grouping for the personnel calculation rule. The time type determination group
    is evaluated in Assign time types and processing types.

Recommendation

One value per schema is usually sufficient for the time type determination group, i.e.
organizational differences are unimportant. The standard value of '02' may have to be changed. This is the
case if you have to make modifications in the **Processing type and time type** table, using a value from
the customer name range for the time type determination group. You make this decision in the section
Assign time types and processing types.

Activities

1. Decide whether you wish to use other organizational criteria to define regulations for wage type
    generation, absence valuation and time type determination, other than the employee subgroup
    grouping for the personnel calculation rule.
    The fields in the Organizational Assignment (0001) and Planned Working Time (0007) infotypes
    are examples of additional criteria. This data can be read in time evaluation if you set the
    appropriate parameters for operation OUTWP.

2. Copy personnel calculation rule TMON to ZMON. Customize ZMON for your groupings
    for the personnel calculation rule: create decision trees depicting the organizational criteria which
    you want to use to differentiate your employees. The three groupings are set in the individual
    branches using operation MODIF. The parameters have the following specifications:

    -   "W" - time wage type selection rule group

    -   "A" - employee grouping for absence valuation

    -   "T" - time type determination group

3. If you use more than 3 employee subgroup groupings for the personnel calculation rule, add
    additional rules based on the groupings 1-3.

4. Change the name of the personnel calculation rule from TMON to ZMON GEN.

Further notes

- Function MOD may only be used in the initialization block (between functions BINI and EINI).

31.5.4.2 Providing Time Data

In this section, you set up the functions which supply the time evaluation driver with time data for further
processing.

This includes information on the employee's planned working times, as well as recorded time data in the form of attendances and absences.

31.5.4.2.1 Import Work Schedule and Time Events

In this step, you set up the functions that are used to load the daily work schedule and to import the time pairs generated from the day's time events to table TIP. The system presumes that clock times are not used for the TIP entries that are generated from the day's time events. Only durations (using rules of the form 'after x hours') are used in the evaluation.

Example

The time evaluation report should be run for all employees regardless of whether you record their actual times, or only exceptions from their planned working times. Recording actual times involves recording all hours worked by an employee and all absences. The daily work schedule is taken as a basis in the other case, and only exceptions from it are recorded.

Standard settings

Function **P2011** is used to import the daily work schedule and the time pairs formed from the day's time events for employees assigned the Time Management status '1' or '2' in the Planned Working Time infotype (0007). The Time Management status '1' or '2' is determined using function IF POS.

If an employee is assigned the Time Management status '9', the system only imports the daily work schedule, and generates a time pair based on the normal working time, which is valuated for the employee as attendance time.

Activities

1. Decide whether the schema should support both methods of time recording (recording actual times and recording exceptions). If you only use one method, the IF condition is not applicable.

2. If you generate a planned working time pair using function P2000, you can print its start and end time on the time statement form. Insert parameter SAVE in function P2000.

Further notes

1. If you just use one method of time recording, you may also be able to use only one of the values '1' or '9' for the Time Management status. The section Set controls explains how to limit the options for time evaluation using function CHECK.

2. A planned pair based on the daily work schedule is generated only on days of day type 0 (non-working days) in the standard system. On days of type 1 (paid, non-working days), the pair is generated in personnel calculation rule TE20, see Check for days with errors.

3. IF you do not process time events from a time recording system, function **P2011** only imports the daily work schedule. For further information on function **P2011**, see the section Import work schedule and time events.

4.   If you permit attendance and absence reasons for the time events, you can process them by incorporating personnel calculation rules TD80 and TD90 in the schema:

     PTIP TD80 GEN   Process attendance and absence reasons
     ACTIO TD90   Process generated locked records

     Insert these lines after the attendances and absences have been imported, that is, after functions P2001 and P2002. For more details on the processing of attendance and absence reasons, see the sections:

     -    Process time events with attendance/absence reason -

          Load full-day absences recorded at terminal.

5.   When time events are used, TIP entries that have been formed from time events may overlap with other time data that has been recorded with clock times. If you want to process this situation, incorporate the personnel calculation rule
     PTIPA TE10 GEN   Adjust absences in your schema after all time data has been loaded.

31.5.4.2.2 Determine Breaks for Import

In this step, you can set regulations to determine which breaks in the break schedule are imported by the time evaluation program. If you do not make any settings here, the system imports **all** breaks stipulated in the break schedule which is assigned to the daily work schedule.

The following explains how to customize the system so that only breaks during planned working time or only breaks of a certain break type are read in time evaluation.

Example

-    There are certain breaks which you want to be taken into account only on public holidays.

-    You only want breaks uring planned working time to be evaluated.

Requirements

You have assigned a break type to the breaks that you only want imported under certain conditions.

Standard settings

All breaks are imported in the standard SAP system, irrespective of the break type.

Activities

1.   You can use the standard personnel calculation rule TD00 if you only want to import breaks during planned working time. Insert TD00 in the day processing block formed by functions BDAY and EDAY. It must come before the daily work schedule is imported, i.e. before functions P2000 and P2011. Use function ACTIO to call TD00.

2.   Decide whether you only want to import selected breaks, i.e. exclude certain breaks from the import.

3.   Flag the breaks to distinguish the ones which should be imported.

4.   Copy personnel calculation rule TD00 to ZD00 and store the conditions for importing the breaks.
       Use operation TFLAGB to indicate which breaks you want imported.

5.   Call your personnel calculation rule using function ACTIO before the daily work schedule is
       imported (function P2000 or P2011).

Further notes

31.5.4.2.3 Provide Absence Data

In this step, you determine how the time evaluation driver imports absences which have been entered
manually, that is infotype 2001 data. Absences are imported in the schema using function **P2001**.

If you record time data with clock times, the absences may collide with other imported data. Function
P2001 allows you to adjust absence times so that there are no overlaps. This is of no relevance if clock
times are not recorded.

Example

You want absences which have been entered manually to cancel out any parallel attendances. The
following time data is available:

-      8am - 5pm   (time pair based on daily work schedule)

-      10am - 12 noon (absence for doctor's appointment) The following times should be evaluated:

-      8am - 10am   at work

-      10am - 12 noon   absent

-      12 noon - 5pm   at work

Standard settings

Function **P2001** imports the data recorded in the **Absences** infotype (2001).

1.   Records for a period of less than one working day are imported with the recorded time interval or
       number of hours.

2.   For full-day attendances, the system generates a time pair based on the normal working times in the
       daily work schedule (planned working time, if a normal working time is not specified).

3.   Absences are imported without overlapping time pairs being changed.

Recommendation

You should only make settings here if you do not wish to used the standard ones. Do not delete this function from the schema.

Activities

4. Decide how existing time pairs should be delimited. The following options are possible: blank Existing time pairs remain   unchanged xy   Only time pairs whose pair type is listed (here: x or y) are delimited by   the imported absence pairs *   Every time pair is delimited if it   collides with an absence time pair Enter the appropriate value as parameter 2 of function **P2001**.

The following section Import attendances explains how infotype 2002 attendances are imported. If you want time data to be delimited using the second parameter of function P2001, it may be useful to import attendances before absences.

31.5.4.2.4 Provide Attendance Data

In this step, you specify how the system should import attendances which have been entered manually, that is infotype 2002 data. Attendances are imported in the schema using function **P2002**.

If you record time data with clock times, the attendances may collide with other imported data. Function P2002 allows you to adjust attendance times so that there are no overlaps. This is of no relevance if clock times are not recorded.

Example

An employee is on a partial-day course This has been entered in infotype 2002, **Attendances**, and you want the data to be processed in time evaluation.

- You record all your employees' attendance times in infotype 2002, **Attendances**. They can be recorded with or without clock times.

Standard settings

Function **P2002** imports the data entered in infotype 2002, **Attendances**.

1. Records for periods of less than one working day are imported with the time interval or number of hours specified.

2. For full-day attendances, the system generates a time pair based on the normal working time (or planned working time) in the daily work schedule.

3. If the imported attendances overlap with existing time pairs, they remain unchanged.

Recommendation

You should not deactivate function **P2002** for importing attendances.

Activities

1. Decide how the system should process attendance time pairs which overlap with existing time pairs. Possible options are as follows:

    - blank   Existing time pairs remain   unchanged

    - xy   Only time pairs whose pair type is listed
      in parameter 2 (here: x or y) are delimited by   the
      imported attendance pairs

    - *   Every time pair is delimited if it   collides
      with an attendance time pair.

2. If you want the system to delimit time data which has already been imported, enter the appropriate value for parameter 2 in function **P2002**.

31.5.4.2.5 Deduct Attendances/Absences from Generated Planned Time Pair

If you only record exceptions from your employees' planned specifications, as opposed to all attendance times, function P2000 refers to the daily work schedule to generate a time pair, see Import work schedule. Recorded absences (and attendances, in certain cases) replace the specifications in the daily work schedule rather than adding to them.

Example

After the attendances and absences have been imported, they may have to be deducted from the planned pair. This is done in subschema **TP01**.

According to the daily work schedule, an employee has to work 8 planned hours on a particular day, and is at the doctor's for 2 hours.

The system generates 8 attendance hours (function P2000) and 2 absence hours (function P2001). 2 hours now have to be deducted from the 8 attendance hours.

Requirements

Function P2000 generates a planned pair (for certain employees) based on the specifications in the daily work schedule.

Standard settings

If a planned pair has been generated by referencing the daily work schedule, any recorded absences and attendances with a **time class** value of '01' are deducted from it.

Recommendation

If you do not use function P2000 to generate a planned pair from the specifications in the daily work schedule (see Import daily work schedule), you can delete subschema TP01 from your schema.

Activities

1. Enter '01' as the **Time class** of attendance subtypes (infotype 2002) which you want to deduct from the planned pair.

2. If you want other time classes to effect a reduction of the planned pair, enhance personnel calculation rule TP06 using time class '01' as an example. Copy personnel calculation rule TP06 to ZP06, and change the name to ZP06 in schema TP01.

Further notes

Subschema TP01 is only useful if you record time data without clock times (i.e. specifying a number of hours only), or if clock times are recorded but are of no relevane in time evaluation.

If time data is generally recorded with clock times, the planned pair can be reduced in Import absence data or in Import attendance data by setting appropriate parameters for functions P2001 and P2002.

31.5.4.2.6 Process Work Center Substitutions

In this step, you define how work center substitutions are valuated, that is substitutions which specify a position/work center key. The substitutions are valuated in the schema using function **A2003**.

Example

An employee is assigned to a full-day work center substitution which involves a different rate of payment. All time data, and all time wage types generated from the time data in the further course of processing, affected by the substitution period should be assigned the information on the position; the information can then be evaluated in payroll.

Requirements

Standard settings

Function A2003 is active.

Recommendation

Activities

1. Decide whether your employees are likely to perform work center substitutions which involve a different rate of payment.

2. If not, deactivate funcktion **A2003**.

3. If they are, decide which time data should be assigned information on the work center substitution. This is decided by the position of function A2003 in the schema. A2003 passes on the information on the work center substitution to all imported time data. A different rate of pament for attendances and absences can be specified in infotypes 2002 and 2001. If the information on the work center substitution is only relevant for attendance times imported using function P2000 or P2011, function A2003 must come before functions P2001 and P2002. Position function A2003 accordingly in your schema.

Further notes

If several different payments should be assigned to a time pair in time evaluation, the system issues an error message and processing is terminated for the respective employee.

31.5.4.2.7 Use Test Procedures Infotype in Time Evaluation

In this step you determine whether the data processed by time evaluation must be released in the *Test Procedures* infotype (0130).

Example

Employees in your enterprise enter their attendance times using a self- service application.

You want the times to be checked by a time data administrator before time off entitlements or wage types are generated in time evaluation.

Activities

1. Create the required test procedures and assign them the infotypes and subtypes you want checked.
    For more information, see Test Procedures.

2. Decide which test procedures you want to use in time evaluation and how you want to react to
    infotypes and subtypes that have not been checked.
    Use personnel calculation rule TMAP as a template. Copy it to personnel calculation rule ZMAP
    and modify the new rule as required.

3. Call personnel calculation rule ZMAP using function ACTIO in the day processing part of your time
    evaluation schema.

4. Make sure that the administrators who run RPTIME00 have authorization to read the *Test
    Procedures* infotype (0130).

31.5.4.3 Time Data Processing

In this section, you specify how the imported time data is processed.

The main objective is to assign a time type and processing type to the imported time data. This classifies
the recorded times before they are valuated.

The **time type** is used later to form time balances: see Processing Balances. The **processing type** controls
the generation of time wage types from the recorded hours. This is explained in Time Wage Type
Selection and Overtime Compensation.

The recorded hours can be classified for further processing by their attendance or absence type in some
cases. Certain valuations (the decision which hours to count as overtime) require more complex
regulations, however. Determining overtime is a central theme in the following. Various examples of
solutions are introduced, which may have to be customized in line with your individual requirements.

31.5.4.3.1 Assign Time Types and Processing Types

Function **TYPES** reads the **processing type and time type** table and assigns a time type and processing
type to the imported time data. The assignment is made according to the **processing type/ time type class**
and the **pair type** allocated to the imported times.

The time types are the smallest units used later to cumulate the main time balances in the section on
balance formation.

Various different time wage types can be formed from the recorded times in time wage type selection,
according to the processing type.

Example

- Separate balances should be formed for
- Periods of leave
- Periods of illness
- Other absences

  The absence types included in the various categories can be grouped together via the **processing type/time type class**. Class '02' is assigned to the absence types 'doctor's appointment', 'sickness of up to 2 days', 'sickness of longer than 2 days', 'health spa stay', for example. Absences are allocated pair type 2. TYPES can be used to assign the time type 1202, which then takes these periods of illness into account.

- Overtime should not be detected (exclusively) via personnel calculation rules, but recorded explicitly using special attendance types in infotype 2002. An attendance type is set up for 'overtime' with a processing type/time type class which is assigned the processing type 'M' via the **processing type and time type** table. Overtime wage types are generated on the basis of this attendance type.

Requirements

The valid time type determination group for reading the **processing type and time type** table has been defined in Set groupings.

Standard settings

The following pair types are assigned when time data is imported:

- '1' (at work), function P2000 or P2011

- '2' (recorded absence), function P2001

- '3' (recorded attendance), function P2002.

In the standard system, one of the following processing types is assigned to all recorded times using function TYPES:

- 'S' for planned work

- 'M' for overtime

All recorded times are acknowledged as time worked in the standard system, and are included in time wage type selection.

Processing type/time type classes '01' - '05' are evaluated in the standard. This class is assigned to each absence/attendance type. The specifications of classes '01' to '05' in the standard system are:

- '01' leave types or general attendance hours

- '02' periods of illness

- '03' time off for overtime

- '04' other absences

- '05' overtime

The value '00' is used for time data with an initial processing type/ time type class.

The naming convention for time types is 1yzz, where y is the pair type and zz is the processing type/time type class.

Activities

1. Decide which absence and attendance types in infotype 2001 or 2002 you want to differentiate for balance formation and wage type generation.

2. Group the absence/attendance types by assigning them appropriate values in the **processing type/time type class**.

3. If new time types are required, they have to be defined in Define time types. 9yzz is recommended as a naming convention, where y is the pair type and zz is the processing type/time type class.

4. If you have to make modifications to the **processing type and time type** table, copy the standard entries for time type determination group '02' to a value in the customer range '99' for example. Make all modifications in the customer range. Use operation **MODIF T** to change the time type determination group in the section Set groupings.

5. Customize the assignment of processing type and time type in the customer range, using the standard entries for reference.

6. If new time types are created, time type cumulation should be enhanced in Form daily balances.

7. The value '00' is used for times with an initial processing type/ time type class. A different default value can be assigned by changing the second parameter of function TYPES.

Further notes

If there is no time type stored in the **processing type and time type** table, function TYPES deletes the corresponding time data for further processing. If the processing type is '*', the present processing type of the time pair is retained.

Some of the processing types assigned using function TYPES are only provisional and are changed in the further course of time evaluation using personnel calculation rules. This is necessary to determine overtime subject to bonuses, which is not recorded explicity, but should be detected by the system by analyzing all times according to special overtime rules.

31.5.4.3.2 Determine Break Times

In this section, you specify how the breaks stipulated in the daily work schedule are evaluated.

The breaks are evaluated in the schema using function **PBRKS**. There are various methods of processing breaks, depending on whether they are recorded and evaluated with clock times.

If you record time data with clock times, it is better to specify begin and end times for breaks.

If you record and evaluate time data without clock times (specifying only a number of hours), you can use the following methods of interpreting the breaks in the daily work schedule:

1. The breaks in the daily work schedule are only evaluated for time data recorded with clock times, or in the form of full-day records. Time data without clock times is passed on unchanged.

2. Only breaks without clock times ('after x hours) are specified in the work schedule, and the duration is deducted from the recorded hours.

Example

The employee should have a half hour break after being at work for 4 hours.

Requirements

Break regulations have been defined in the section Define work break schedules and assigned to the daily work schedules.

Standard settings

The breaks are evaluated as in example 1.

Activities

1. If you have **not** stored break schedules in your daily work schedules, you can deactivate or delete function PBRKS in the schema. This makes sense if you record time data with a number of hours only, and no clock times.

2. If you wish to evaluate breaks, use the 4th parameter of function PBRKS to specify how the breaks are determined:

    a) blank: All time data is expected to stipulate from and to times.   The breaks in the break schedule are defined by time   intervals. The intervals are adjusted to determine the   break times.
        OWTI : The breaks stored are only applied to time data which specifies clock times. Time data with a number of hours only is   passed on unchanged.
        NOTI : The daily work schedule should only contain 'after x   hours' breaks. The duration of the break is deducted   from the recorded hours.

3. Decide the order in which the various times should be assigned breaks. There are various sorting options available if you customize the 2nd parameter of function PBRKS. Please refer to the online documentation on function PBRKS.

Further notes

The section Evaluate break data explains in detail the various methods of evaluating breaks if clock times feature.

31.5.4.3.3 Determine Interim Planned Working Time

The interim planned working hours are required at certain stages in time evaluation: to shorten absences (see Shorten absences of less than one working day) or to calculate overtime, for example. This value is maintained in the utility time type 0000 and is filled using personnel calculation rule **TP09**.

Planned working time is time which qualifies as working time, and to which the planned specifications stored in the daily work apply.

Example

5 attendance hours, 4 absence hours and 3 overtime hours have been recorded. The attendance and absence hours are assigned processing type 'S' using function TYPES, the overtime hours are assigned 'M'. The number of interim planned working hours stored in time type 0000 is 9.

Requirements

A processing type has been assigned to the time data. This is usually done using function TYPES, see Assign time types and processing types.

Standard settings

Hours with processing type 'S' (planned working time) are cumulated in time type 0000.

Activities

If you differentiate planned working times in greater detail, and use other processing types apart from 'S' ('A' for eligible absences, for example), you should customize rule TP09 in line with the example of processing type 'S'.

Further notes

Time type 0000 can also be filled using function DEFTP. DEFTP is a useful function if you specify a maximum daily working time which should be taken into account in time evaluation. This procedure is used in the standard schema TM00, and explained in the section Flag planned working time pairs.

31.5.4.3.4 Shorten Absences of Less Than One Day

In this step, you determine whether partial-day absences should be shortened if a positive flextime balance is accrued on the same day.

The flextime balance is the difference between the planned time worked by the employee to date, and the number of planned hours in the daily work schedule.

Example

- An employee has a planned working time of eight hours. He or she has a 3-hour doctor's appointment and then works for 6 hours. A flextime excess of one hour would result from this data

due to the doctor's appointment. The employee should not be given credit for the doctor's appointment as it is not time worked and is charged to the employer.

- If the employee in the above example is absent on 3 hours' leave rather than at the doctor's, the absence should not be shortened. When a 'leave' absence is recorded, it is deducted from a time account (the employee's leave entitlement) and must therefore be acknowledged as working time without being shortened.

Requirements

You have defined the relevant absence types.

Standard settings

Absences of less than one working day are shortened using personnel calculation rule **TP10** in the standard system.

All absences with a **time evaluation class** of 01 are shortened, making it impossible to accrue a positive flextime balance on account of an absence.

Recommendation

Assign all absences of less than one day that are charged to the employer (e.g. doctor's appointment) class 01 for time evaluation. Absences that are deducted from a time account are assigned a different value.

Activities

Decide which absences of less than one day you want to shorten. Enter 01 in the *Time class* field.

Further notes

You can create additional classes for time evaluation and use them to control processing in personnel calculation rule TP10. Please refer to the documentation on TP10.

31.5.4.3.5 Determining Overtime

This section aims to detect the times which qualify as overtime and assign them a special processing type.

The processing type is then used to generate specific time wage types for these times (bonuses, basic overtime remuneration). This is explained in Time Wage Type Selection and Overtime Compensation,

A number of regulations can apply for determining overtime. The next section introduces the following type of regulation:

- Overtime begins after the employee has worked x hours.

- Overtime begins after the employee has worked y hours in a week.

- Overtime begins after the employee has worked for z consecutive days.

This type of regulation is common if you only record the number of hours worked by your employees and not exactly when they were worked.

Different overtime rules can be combined so that several regulations are validated.

This section is only relevant if you want the time evaluation driver to detect overtime according to this type of rule, rather than relying on special attendance types which are recorded manually.

31.5.4.3.5.1 Determine Overtime on the Basis of FLSA Regulations

In the following steps, you set up overtime regulations to meet the requirements of the US-specific **Fair Labor Standard Act** (FLSA).

The following three scenarios are feasible:

- Overtime after 8 working hours per day

- Overtime after 40 working hours per working week

- Overtime after 6 successive workdays per week

The above scenarios are not mutually exclusive; a combination of the three is quite feasible. For example, if you have a combination of daily and weekly overtime regulations in your enterprise, you can incorporate the first two scenarios into your time evaluation schema (as described in the corresponding Customizing steps). This ensures that overtime granted in line with the daily overtime regulation is not included in the weekly overtime analysis.

If required, you can make certain employees exempt from the FLSA overtime regulations or subject to other regulations. There are two ways of doing this:

- You can specify that the employee's job within your enterprise is exempt from the FLSA regulations. Use the **EXEMPT** indicator (cf. Define jobs step).

- You can use the **Additional time indicator** field in the *Planned Working Time* infotype (0007) to indicate whether or not an employee is exempt from the overtime regulations.

Example

In the first week, an employee works regularly Monday through Thursday from 8 am to 5 pm and on Friday from 8 am to 4 pm. In the second week, the employee's working hours are the same Monday through Thursday but Friday is a day off. The employee is not generally required to work on Saturday or Sunday.

The productive hours are as follows:

```
        Su Mo Tu We Th Fr Sa
Week 1    - 9  9  9  9  8  -
Week 2    - 9  9  9  9  -  -
```

In the first week, the employee totals 44 working hours, and 36 working hours in the second week. If overtime was granted after 40 working hours per week, the employee would accumulate 4 hours of overtime for the first week although he or she had only worked 80 hours over the two weeks.

To represent this regular working time pattern, you define a working week that is adapted to the situation described above. It starts at 12 noon on Friday and is 7 days long. The productive hours are now distributed as follows:

```
            Fr  Sa  Su  Mo  Tu  We  Th  Fr
Working week 1   -   -   -   9   9   9   4
Working week 2   4   -   -   9   9   9   -
```

In this way, the employee totals exactly 40 productive hours per working week.

This working time model is customary in the USA and is known as a **9x80 flex schedule**.

Activities

1. If you do not want employees who are exempt on account of their job to be subject to the overtime regulations, choose **Modify schema**, add function **IF** before the overtime regulations with parameter 1 the same as personnel calculation rule **TOEX**, and function **ENDIF** after the overtime regulations.

2. If you have used the **Additional time indicator** field in the *Planned Working Time* infotype (0007) to indicate employees who are not subject to the overtime regulations, choose **Modify personnel calculation rule: TOEX**, copy personnel calculation rule **TOEX** to **ZOEX**, and modify the copy accordingly. You can query the **Additional time indicator** field in a personnel calculation rule using operation **OUTWPATIND**. Then add function **IF** before the overtime regulations with parameter 1 the same as personnel calculation rule **TOEX**, and function **ENDIF** after the overtime regulations.

Further notes

Please note that the above scenarios meet the requirements of the FLSA. If you use other overtime regulations in your enterprise, which are more favorable to your employees than the FLSA standard, you are still fulfilling the FLSA standard.

31.5.4.3.5.2 Determine Overtime on a Daily Basis

The following section is concerned with daily overtime calculation.

Typical formulations are as follows:
'Overtime commences once x number of hours have been worked per day'.

The objective is to record periods of overtime in the system and then to use a special processing type to indicate that they are actually recognized as overtime.

Example

Typical daily overtime regulations are as follows:

- If the employee works on a paid public holiday, ie. a day on which the employee is not actually required to work, the entire attendance is valuated as overtime (for which a bonus must be paid).

- If the employee works on a day off (daily work schedule with 0 target hours), overtime commences after 8 hours. The first 8 hours of working time are recorded as planned working time and included in a weekly overtime analysis.

- On a working day, overtime commences after x hours where x is a maximum value that results from 8.00 and the target hours stored in the daily work schedule. A precise analysis is required of exactly which hours can be credited to the x hours threshold. Consider the following examples:

- Only work that has actually been carried out counts towards the x number of hours that must be worked. Absences, including paid absences, do not count towards the overtime hours threshold (x = 8):
  An employee has 4 hours leave and is then at work for 9 hours. 1 hour of overtime is performed on this day.

- Your company considers overtime to have been performed once an employee has worked 8 'target hours' on one day. The absences recorded in infotype 2001 also count towards the target hours.
  This means that 5 hours of overtime have been performed in the above example.

- All actual times and some absence times (such as leave, but not sickness) can be credited to the x hours threshold.

Requirements

The times that are recognized as planned working time must be assigned a special processing type.

Standard settings

In the standard system, overtime is calculated by subschema **TW15** on the basis of the number of working hours performed per day.

Daily overtime calculation is carried out in two steps:

1. In personnel calculation rule **TO01**, the hours threshold is calculated for the day to be accounted and then stored in utility time type 0900. In the standard system, the following daily overtime thresholds are calculated: - on a paid public holiday   : after 0 hours
   - on a day off   : after 8 hours
   - on a workday   : no daily overtime calculation
   The system includes a deactivated alternative, whereby the maximum resulting from 8 hours and the target hours specified in the daily work schedule is suggested as an hour-based threshold.

2. In personnel calculation rule **TO02**, the daily overtime threshold stored in utility time type 0900 is evaluated. The working time that has actually been performed is credited to the hours threshold (ie. absences are ignored). Once the daily overtime threshold has been reached, actual times are assigned processing type 'M' and overtime time type 0040.

Activities

1. If you do not want to use a daily overtime regulation, change the schema so that it no longer accesses subschema **TW15**.

2. If you use daily overtime regulations, decide which overtime thresholds must be used on which days. If you do not want to use the standard settings described above, make a copy of personnel calculation rule TO01, rename it ZO01, and then change the rule that is accessed by schema TW15 accordingly. Now adjust rule ZO01. If you want overtime to be calculated on a normal workday once the target number of hours specified in the daily work schedule, or a fixed hours threshold (eg. 8.00), have been reached, activate the line
      0 N   HRS=S   HRS>8,00 ADDDB0900Z   "WORKING DAY and delete the line
      0 N   HRS=99,00 ADDDB0900Z   "WORKING DAY.

3. Apart from hours that are specified explicitly (eg. 10.00), any value can be used that is made available by the parameter settings for operation **HRS**. Typical examples are as follows:

   - via **Cxxxxx** the value xxxxx from the table of constants

   - via **S** the planned target hours of the daily work schedule.
   Unlike hours that are specified explicitly, constants can be adapted dependent on time. Please ensure that you choose constant names within the customer name range. Further options are described in the documentation on operation HRS.

4. The hours threshold is evaluated in personnel calculation rule **TO02**. If (certain) absences can be credited to the hours threshold, as described in the second example, ADDDB0904 must be added to increase time type 0904 for times with processing type 'S' (target time), pair type '2' (recorded absence), and any other restrictions. Operation **VARAB** can be used to query information on the absence, such as the absence type or time evaluation class. If

   you need to adjust the personnel calculation rule, make a copy of rule TO02, rename it ZO02, and change schema TW15 so that it accesses this rule instead.

Further notes

If the target hours determined by the daily work schedule are not chosen as the hours threshold for the calculation of overtime, or if certain times are paid but do not count towards the calculation of overtime, an excess of creditable target hours could be recorded for one day. In the first example, 4 excess hours would be recorded if 8 target hours were stored in the daily work schedule.

This difference from the target hours is recorded within time evaluation in time type 0005. If there are no hourly wage earners, please note that the excess is not included in basic pay and must be settled by Time in lieu or remuneration.

31.5.4.3.5.3 Determine Overtime According to the Working Week

The following section describes how overtime is calculated once y target hours have been worked during a working week.

The term "working week" can be given a flexible definition and is characterized as follows:

-   The starting point can be on any weekday and at any time.

-   The length is determined by specifying a number of days.

Example

An employee works as follows:

```
Weekday:            Su Mo Tu We Th Fr Sa
Attendance hours:    -  6 12 12 12  8  -
Absence hours:       -  2  -  -  -
```

Your company considers overtime to have been performed once an employee has worked 40 hours in a working week. Only work that has actually been performed counts towards these 40 hours. Absences, including paid absences, do not count towards the 40 hours threshold.

The working week on which this example is based starts each Sunday at midnight and is 7 days long.

In this example, 2 hours of overtime are performed on Thursday and 8 on Friday.

Requirements

The times that are recognized as planned working time must be assigned a special processing type.

Standard settings

In the standard system, overtime is calculated by subschema **TW30** on the basis of the weekly

working hours performed. The weekly hours threshold is stored in the constant **OVERT**.

Activities

1. If you do not use a regulation for the week-based calculation of overtime, change the schema by deactivating or deleting the line that accesses subschema TW30.

2. If you want to use overtime regulation TW30, you must first define the working weeks that are required:

    a) Assign a two-character key of your choice to enable you to identify the working week.

    b) Define the periodicity in days.

    c) Set the date on which the working week commences.

    d) Determine the start time.

3. Infotype 0007 **Planned Working Time** is used to assign a working week to an employee. The appropriate field is not, however, displayed in the standard delivery system and must be activated using **infotype screen control**. Once you have accessed the detail screen, change the characteristic of the field **P0007-WWEEK** to **Standard setting**.

4. When you create infotype 0007 Planned Working Time, you can create a default value for the working week automatically. You can alter this value depending on your employee's organizational assignment. Feature **WWEEK**, which you must adapt to meet your requirements, is responsible for this.

5. If you want to perform further adjustments to the overtime regulation in **TW30**, make a copy of the TWxx personnel calculation rule in question, and rename it ZWxx. Then change subschema TW30 so that it accesses the appropriate rules.

6. If a different hours threshold must be used to calculate overtime instead of the number of hours stored in constant OVERT, the value COVERT in personnel calculation rule **ZW04** must be replaced. As well as numbers of hours that are explicitly determined, such as 50.00, any value can be used that is made available by the parameter settings of operation **HRS**. Typical examples are as follows:

   - via **Cxxxxx** the value xxxxx from the table of constants

   - via **TWEHRS** the average number of weekly hours to be worked in accordance with the work schedule.
   Further options are described in the documentation on operation HRS.

7. If (certain) absences can be credited to the hours threshold, ADDDB0903 must be added to increase time type 0903 for times with processing type 'S' (target time), pair type '2' (recorded absence), and any other restrictions. This adjustment must be made in personnel calculation rule **ZW06**. Operation **VARAB** can be used to query information on the absence, such as the absence type or time evaluation class.

   Further notes

   - If you want all your working weeks to be based on the start day rather than the start time, you can either use the procedure described above by defining the working weeks without times, or you can replace subschema TW30 with subschema **TW20**. The latter is an example for a working week that commences on a Sunday. The advantage of using schema TW20 is that you do not have to explicitly assign a working week to your employees via infotype 0007 **Planned Working Time**.

   - The further notes included in Calculate overtime on a daily basis are also valid when applied to the weekly situation described in this step.

31.5.4.3.5.4 Determine Overtime According to Days Worked

The following section explains how overtime is calculated after the employee has worked on z consecutive days within a week.

Example

If an employee has worked on 6 consecutive days within a week and also works on the 7th day, the hours on the 7th day are valuated as overtime. The base working week always begins on a Sunday.

Requirements

A special processing type has been assigned to the times which count towards planned work, see Assign time types and processing types.

Standard settings

Subschema **TW10** is used to calculate overtime for employees who work more than six days consecutively. TW10 is not active in the standard system.

If subschema TW10 is activated, it functions as described in the above example.

Activities

1. Activate subschema TW10 if you wish to calculate overtime on the basis of days worked consecutively.

2. If the base working week does not begin on Sunday, please customize rule TW00.
    Operation VARSTWDY x indicates the start of the week using number x of the weekday. Different working weeks can be represented, if required, by distinguishing between organizational criteria.

3. If the limit for overtime calculation should be other than 6 days, please customize rule
    TW00 and change the standard value of 6.00. As well as direct specifications (e.g. 5.00),

    you can use any value entered by operation HRS.

4. Customize the customer-specific personnel calculation rules. Copy TW00 to ZW00 and change the name of the rule accordingly in subschema TW10.

31.5.4.4 Time Wage Type Selection and Overtime Compensation

In this section, you determine how time wage types are generated from time pairs. The time wage types are used later in payroll.

Define the rules for assigning time wage types to time pairs; the assignment depends on the processing class of the time pairs.

In the schema, insert the function which makes the assignment according to the rules defined.

Time wage types chosen on the basis of overtime are stored separately from time wage types generated from planned work. This enables you to compensate time wage types from overtime individually.

You must also specify how the overtime wage types should be compensated. There are two possibilities:

-   The type of compensation (remuneration, time off) is determined by the wage type.

-   If the wage type does not determine the type of compensation, it depends on the specifications in infotypes 2007, **Attendance Quotas** and 2005, **Overtime**.

31.5.4.4.1 Define Valuation Classes for Period Work Schedules

In this step, you assign valuation classes for time wage type selection to period work schedules. This means that time wage type selection can be based on the period work schedule.

Example

You want employees who work rotating shifts to receive higher bonuses than employees on normal shifts. Assign different valuation classes to the period work schedules. In the Define generation rules step, only allow the relevant wage type to be selected for the corresponding valuation classes.

Requirements

You have defined period work schedules.

Standard settings

Recommendation

Only make entries here if you want to base time wage type selection on the period work schedule.

Activities

1. Decide which period work schedules should be handled in the same way for time wage type selection.

2. Assign these period work schedules the same number.

Further notes

If you want the period work schedules to be taken into account for time wage type selection as specified here, you must customize the system accordingly in the Define generation rules step.

31.5.4.4.2 Define Groupings

In this step, you set the day grouping. It determines which rules are used for wage type selection.

Example

You want to use the rules for day grouping 01 on workdays. For
further notes, see Define generation rules.

Requirements

Standard settings

If the current day is a workday, the system reads the rules for day grouping 01; if it is a Sunday or public
holiday, the rules for day grouping 02 are read.

Recommendation

Under no circumstances should you deactivate this function: wage type selection cannot take place
without it.

Activities

1. Enter the day grouping whose rules you want to use if the day is a workday as the first parameter of
   function **DAYMO**.

2. Enter the day grouping whose rules you want to use if the day is a Sunday as the second parameter
   of function **DAYMO**.

3. Enter the day grouping whose rules you want to use if the day is a public holiday, but

   not a Sunday, as the third parameter of function **DAYMO**.

4. Enter the day grouping whose rules you want to use if the day is a public holiday on a Sunday as the
   fourth parameter of function **DAYMO**.

Further notes

If the four categories are not specific enough for your purposes, it is also possible to set the day grouping
in a personnel calculation rule using operation **MODIF**.

31.5.4.4.3 Define Processing Types

In this step, you define the processing types which can be assigned to a time pair. Time wage types are
selected in time evaluation according to the processing type.

Example

You want overtime to be processed on a weekly basis. To do this, you need a processing type U,
"provisional overtime". As a result, it is possible to check at the end of the week which provisional time
pairs for overtime (processing type U) need to be converted into time pairs for overtime (processing type
M) or into planned working time pairs (processing type S).

Standard settings

The standard system contains the processing types required for selecting time wage types. You may not change or delete these.

Recommendation

- You need only make entries here if the distinctions made between planned work, overtime, and absence are not sufficient for selecting time wage types. Usually, you will not make entries here.

- If you change the processing type of a time pair, it is not validated against the entries made here. It is still advisable to enter the processing type here however, since the semantic meaning of the processing type is derived from the table and you can also use the processing type in time wage type selection.

Activities

1. Decide whether you need additional processing types to represent the way of working in your company.

2. Assign a letter or a number to the processing type and enter it in the table.

31.5.4.4.4 Create Wage Type Catalog

In this step, you create your own wage types for **time wage type selection**, by copying the model wage types in the standard system.

These copies are the wage types that you can use in further processing. You can also modify these copies to suit your requirements. Only wage types for use in **time wage type selection** are proposed in this step.

Note

- For information on setting up customer wage types using prototypes or by copying the wage type catalogs in the standard system, see the steps Create wage types using wage type catalogs and Creating wage types using prototypes in the Implementation Guide for **Personnel Administration**.

- Please note that the copies of model wage types have the same characteristics as the model wage types with regard to processing in dialog as well as in payroll. You can check and, if necessary, change the characteristics of your wage types in the subsequent steps.

Caution

Only use the name range reserved for your customer wage types (wage types that begin with a number). Do not copy wage types to the area reserved for SAP model wage types (those that begin with a letter or a symbol).

Activities

Now create your copy wage types for time wage type selection using the steps

- Copy wage type catalog

- Create prototype wage types

For more detailed information on the copy procedure, choose *Help => Extended help.*

31.5.4.4.5 Define Generation Rules

In this step, you determine how time wage types are formed for TIP entries.

You have specified the rules to be checked in the Time Wage Type Selection Rule Group and the Day Grouping. These rules are checked according to the sequence of the sequential numbers.

The check starting point is the processing type that originated with the TIP entry. The remaining conditions are essentially split up into three groups:

- Conditions regarding the day:
  This is where you specify the conditions for wage type generation relating to a day, based on the public holiday class, the daily work schedule class, the day type, and so on.

- Conditions regarding time:
  This is where you specify whether the wage type should be generated only after a certain number of hours or whether the relevant TIP entry must be within a specific time interval.

- Control:
  You can determine whether the system should carry on checking the rules after it has found one which applies. It is also possible to generate the wage type with a fixed value depending on the duration of the TIP entry, if this rule applies.

Example

- The wage type MM10, overtime 25%, should be generated for processing type "M" (overtime). The wage type should be generated if the overtime was done on a workday and the current day is not a public holiday.

- If the employee worked more than two overtime hours, the wage type MM10 (Overtime 25%) should be generated for the first two hours. For the remaining hours, the wage type MM20 (Overtime 50%) should be generated.

Requirements

The wage types that you want to assign in time evaluation have been defined.

Standard settings

The standard system contains sample entries.

Recommendation

Count up from the current rule number in increments of ten. In this way, it is easy to add further rules at a later time.

If you activate the switch **TIMGT T510S** in your system for table T77S0 (system table), a button with a function that lets you check for overlapping entries in the view *Time Wage Type Selection Rule* (V_T510S) becomes available. For more information, see SAP Note **2177959**.

Activities

1. At the start of the evaluation schema, you determined how employees should be grouped for assigning TIP entries to wage types. You can check the assignment in the *Check Assignment of Time Wage Type Selection Rule* activity.

2. For TIP entries that originated from absences, time wage types are generated only if the absences are valuated according to the "as if" principle. In the *Absence Valuation: Check "As If" Principle* activity, check for which *Absence Valuation Rules* the *Time Wage Type Selection* field needs to be selected.

3. In the *Define Generation Rules* action, set the rules for time wage type selection:

    a) Decide here to which time wage type selection rule group you want this rule. Enter the group in the *Time Wage Type Selection Rule Group* field.

    b) The rules for time wage type selection can vary according to day grouping. Decide for which day groupings you want to create your own rules and enter the grouping numbers in the *Day Grouping* field.

    c) There can be multiple rules to check for each of the two groups mentioned above. Enter the sequential number of the rule in the *SNo* field.

    d) Decide from which processing types the wage type is to be generated. Enter the wage type in the *Wage Type* field, and the processing types from which this wage type is to be generated in the *Valid Processing Types* fields.

    e) Decide for which weekdays you want to generate this wage type. Enter a a checkmark in the Weekdays field for each day of the week: "1" for Monday, "2" for Tuesday, and so on.

    f) Decide which public holiday class must apply on the previous, current and next day for this wage type to be generated.

    g) Decide for which of the period work schedule and daily work schedule classes you want to generate the wage type.

    h) Decide for which day type this wage type may be generated.

    i) Decide whether the wage type is only to be generated if the TIP entry lies within a certain interval. Enter this time interval in the *Start Time* and *End Time* fields.

    j) Decide whether you want to generate the relevant wage type only if a specific number of hours exist for the processing type. Enter the value in the *Min. Hours* field. If the upper limit corresponds to the number of planned hours per day, enter an "S" in the *Symb.* field, if the lower limit corresponds to the planned hours per day, enter a "T," if the planned hours per day corresponds to 100% employment percentage, and enter a "U," if the average working hours per day should correspond to the work schedule rule.

k)   Consider whether you only want to generate this wage type for the first hours of a certain processing type. Enter the value in the *Max. Hours* field. If the upper limit corresponds to the number of planned hours per day, enter an "S" in the *Symb.* field, if the upper limit corresponds to the planned hours per day, enter a "T," if the planned hours per day corresponds to 100% employment percentage, and enter a "U," if the average working hours per day should correspond to the work schedule rule.

l)   If you have defined an upper or lower limit, you can specify processing types for the total of which the condition should be checked. Enter these processing types in the *Count PTypes* field.

m)   If you have defined an upper and lower limit as well as a time interval, you can determine whether the condition should only apply to TIP entries that are found in this specific interval. In this case, activate the *Interval* field.

n)   If a TIP entry is between clock-in and clock-out time, it is possible to generate the wage type with a fixed value, that is independently of the duration of the TIP entry. Enter the required value in the *Fixed Value* field.

o)   If the rule is met for a TIP entry, you can stop processing the rule and start processing the next rule in the time wage type selection. To do so, select the *Exit Rule* field.

p)   If the rule is met for a TIP entry, you can also exit the time wage types selection. To do so, select the *Exit Time Wage Type Selection* field.

Further notes

-    The fields in the "Conditions Regarding Time" section are optional.

-    If you have filled the *Min. Hours* or *Max. Hours* field, but have not made an entry in the *Count Ptypes* field, the system includes the processing type specified in parameter 2 when function GWT is called.

-    You can apply the following example for exiting the time wage type selection if a generation rule applies:

Your employees are paid according to day records. If an employee works more than 4 hours, a full day record is paid, otherwise half of the day record is calculated. You can use fixed values to determine a time wage type with number 1 or 0.5 (displayed schematically) as follows:

Processing Types	Min.	Max.	Fixed Val.	End	Wage Type
S	4.00		1.00	X	abcd
S	0.00	4.00	0.50		abcd

If the employee works 5 hours, for example, the first rule applies. The wage type abcd is generated with number 1 and processing is stopped. If the employee works only 3 hours, the condition on the lower limit for the first rule is not fulfilled, so the second rule applies. Wage type abcd is filled with the fixed value 0.5.
Wage type abcd is now available in payroll with the correct number for valuation with the day record.

Note that the sequence of the generation rules is important in the example shown above.

31.5.4.4.6 Perform Time Wage Type Selection

In this step, you determine according to the processing type the time pairs for which wage types are generated and how these are internally buffered.

Example

You wish to generate time wage types for all time pairs with processing type "M" (overtime) and buffer them in the internal table for overtime wage types.

Requirements

You must have defined the generation rules, the day grouping, and the selection rule group for time wage types which are used to access the generation rules.

Standard settings

In the standard SAP system, function **GWT** is called twice. Firstly, time wage types are generated for the planned working time pairs (time pairs with processing type "S" - planned work) and buffered internally in the time wage type table.
In the second step, time wage types are formed for the overtime time pairs (time pairs with processing type "M" - overtime) and buffered internally in the overtime wage type table.

The archiving mechanism of the buffer handler is switched on when online, and off when in the background.

Recommendation

Only make changes here if you want to generate wage types for time pairs with other processing types. Do not change the existing call for function **GWT** but insert function **GWT** with the appropriate parameterization.

Activities

1. You can generate wage types for time pairs which have a specific processing type. Determine the processing types for which you want to generate wage types, and for each of these processing types, insert function **GWT** in the schema with the processing type as the first parameter.

2. Decide where the time wage types are to be buffered. There are two options:

    -   in the table of daily time wage types (DZL)

    -   in the table of time wage types generated from time pairs for overtime (ZML) Enter DZL or ZML as the second parameter of function **GWT**.

3. If you want to change the archiving mechanism of the buffer handler, the following options are available:

- "BTH" - archiving occurs both online and in the background

- " " - archiving occurs online but not in the background

- "NTR" - archiving occurs neither online nor in the background If you wish to use one of these values, enter it as the fourth parameter.

Further notes

- You should only buffer wage types generated from overtime pairs in table ZML.

- The wage types are assigned an information type for evaluation; this information type indicates the type of time as follows:

- "S" - planned work

- "M" - overtime

- "A" - absence

31.5.4.4.7 Generate Higher Bonuses on a Weekly Basis

In this step, you determine whether a higher bonus should be paid for overtime exceeding a certain number of hours weekly.

Example

The employee is to receive a higher overtime bonus if he/she works more than ten hours of overtime weekly.

Requirements

- The wage types for overtime bonuses have been defined.

- You must have already performed time wage type selection for overtime using function **GWT M ZML**.

Standard settings

Subschema TW00 is called in schema TM00; it processes personnel calculation rules TW10, TW20 and TW30.

Time type 0901 (weekly overtime) is initialized. The system sets the time type to zero on Mondays. On all other days of the week, the overtime hours worked so far are cumulated in time type 0901 (weekly overtime).

As of the tenth weekly overtime hour, a 50% bonus is generated in personnel calculation rule TW20 for all overtime wage types instead of a 25% bonus.

Weekly overtime is then updated in personnel calculation rule TW30.

Recommendation

It is generally sufficient to modify the threshold value as of which an increased bonus is to be generated, and the wage types which describe the bonus.

Activities

1. Decide whether you want to generate a higher bonus after a certain number of overtime hours.

2. Decide which overtime wage type is to be converted to another.

3. Copy personnel calculation rule TW20 to ZW20.

4. Edit personnel calculation rule ZW20. Replace wage type "MM10" by your wage type with a lower bonus, and wage type "MM202" by your wage type with a higher bonus. Replace the number 10 by your threshold value. The following section of personnel calculation rule shows exactly where you should make these replacements:

```
     DOUTOTWGTYP
**** ADDOT *
MM10 ADDDB0000ZHRS=10,00 HRS-D0901 HRS>0      HRS<D0000 NEXTR
MM10 1 GENOWB* ADDOT MM20HRS=D0000 ADDDB0901 MM20
ADDDB0901 ADDOT *
```

5. Change the name of personnel calculation rule TW20 to ZW20.

6. Activate function COPY TW00 in your schema.

Further notes

31.5.4.4.8 Compensate Overtime

In this step, you determine how overtime wage types are compensated.

The options are to remunerate overtime hours, or to grant the employee time off for working overtime and possibly cumulate the overtime in special time types.

The type of compensation can be predefined for each individual wage type. You can also control overtime compensation by means of the overtime compensation type in the **Attendances** (2002), **Attendance Quotas** (2007), or **Overtime** (2005) infotypes. In this case, the compensation can be varied according to the individual employee and time period.

Example

-   A wage type MM10 is generated for overtime hours and means that the employee's working time is valuated with the basic wage plus a bonus. Overtime is generally remunerated and cannot be compensated by time off. Enter "A" in processing class 17 of the wage type.

-   A wage type MM10 is generated for overtime hours and means that the employee's working time is valuated with the basic wage plus a bonus. This wage type is usually passed on to payroll to be

remunerated. You also want it to be possible to credit the employee with time off instead of payment. Enter "D" in processing class 17 of wage type MM10.

-   You want the night bonus for overtime to be remunerated regardless of the compensation type in the **Attendance Quotas** infotype (2007), without being added to the overtime time types. Enter 0 in processing class 17 of the wage type **Night bonus 35%**.

Requirements

-   You have defined your overtime wage types.
    See the Create Wage Type Catalog step for additional information.

-   You have already generated the overtime wage types using function **GWT M ZML**. For more information, see the Perform Time Wage Type Selection step.

Standard settings

Compensation depends on the value of processing class 17 of the overtime wage type. Processing class 17 is evaluated by function **POVT TC40 GEN** in the standard SAP system, and the specifications are as follows:

 0 Remuneration without relevance for overtime time types
A   Remuneration with cumulation in overtime time type
B   Compensation (time off) on a 1:1 ratio, bonuses paid
C   Compensation (time off) using factor from % rates of wage type
D   Depends on compensation type. Default as for A
E   Depends on compensation type. Default as for B F   Depends on compensation type. Default as for C

If you use 0, A, B, or C, the method of compensation is defined once only and cannot be overridden by the overtime compensation type.

If you use D, E, or F, compensation depends on the overtime compensation type specified in the **Attendance Quotas** (2007) and **Overtime** (2005) infotypes. The compensation is different for D, E and F only if no compensation type has been specified (default setting).

Compensation (time off) for overtime involves multiplying the overtime hours by a factor, and crediting them to a compensation account. The factor is derived from the total of percentage rates specified in the overtime wage type:

     % rate of base wage type   / 100
   + % rate of 1st derived wage type   / 100
   + % rate of 2nd derived wage type   / 100

   = factor with which the hours are credited to the   compensation
account

In the standard system, the compensation account is maintained in time type 0410 (time off for overtime). Absence quota 02 in infotype 2006 is also updated in parallel by the evaluation of the day balance of time type 0410 by the QUOTA function.

The following time types are maintained in order to count the number of overtime hours worked:
  0041 - Compensation (time off) with factor from % rates of wage type
  0042 - Remuneration with cumulation in overtime time type
  0043 - Compenation (time off) on a 1:1 ratio, bonuses paid

Night bonuses from overtime are a common example of wage types from overtime that do not fill these time types.

Recommendation

To use the compensation rules mentioned above, you do not have to modify personnel calculation rule TC40. Instead, assign the appropriate specification to the overtime wage type.

Activities

1. Decide whether the type of compensation should be determined by the wage type, the specifications in infotypes 2007, **Attendance Quotas** and 2005, **Overtime**, or if there should be no options at all for the wage type.

2. Consider how you want to compensate overtime wage types and enter the appropriate specification in processing class 17.

Further notes

Overtime compensation is performed in the standard system using function **POVT TC40 GEN** and specifications A - F for processing class 17.

Alternatively, you can use the **POVT TC20 GEN** or **POVT TC20 GEN** function.

The TC20 personnel calculation rule updates the absence quota 02 in the case of compensation (time off) for overtime. It uses the **UPDTQ** operation, not the QUOTA function to do so. The prerequisite is that you have previously created a corresponding quota record manually.

The TC10 rule works in a similar way to TC20 for processing quotas, but interprets the numerical specifications of processing class 17. The main difference to specifications A through F is that the compensation factor is specified explicitly in the TC10 rule, not determined from the percentage rates of the wage type.

31.5.4.5 Time in Lieu

This section takes you through all the steps necessary for implementing time in lieu in your company.

This involves:

-   Modifying the table entries for time management personnel calculation rule TMOO

-   Payroll constants

-   Wage types

We suggest the following default values to set up your system:

1. Overtime hours are any hours over 39 hrs per week (constant OVTWL)

2. All overtime hours over 39 hrs are paid using wage type MM10

3. Overtime hours generate entitlement to time in lieu at a rate of 50% of the overtime hours worked (constant OVTWH). This takes effect after 42 hours have been worked per week.

4. When the annual maximum of 130 overtime hours has been reached (constant OVTWY), entitlement to time in lieu is generated for the amount of actual overtime hours worked.

5. Units of 8 hours of entitlement to time in lieu make up the time in lieu quota 0891, which remains valid until the end of the month after next (Technically speaking, when the month changes, time type 0891 becomes 0892, 0892 in turn becomes 0893 and the original

    0893 is then invalid).

6. Personnel calculation rule TW43 will prevent time type 0893 from becoming invalid when the month changes if the balance revision 0895 for the current month shows the number of hours to be anything other than zero. The actual amount of hours shown here is irrelevant, because the balance revision is only being used as a switch to avoid the time type becoming invalid.

7. If absence time type 0950 is entered, the time in lieu quotas can be reduced in the sequence 0893, 0892, 0891. If there are more absence hours than quota available, an error message will appear in rptime00, but rptime00 will not be cancelled (personnel calculation rule TW4D).

8. At the end of the business year, the hours remaining in time type 0951 are stored in the wage type table ZL under wage type MM20 (personnel calculation rule TW49).

9. Time type 0952 contains the cumulated hours of overtime for the current year, time type 0953 shows weekly working time, while the accumulated entitlement to time in lieu is stored in time type 0951.

Other details:

-   The business year is the calendar year.

-   Monday is the beginning of the week.

-   Time type 0952 for annual hours of overtime is initialized on the first day of the business year.

31.5.4.5.1 Activate Time in Lieu

In this step, you activate subschema TW40 in schema TM00.

Example

Your employees are receiving time in lieu as compensation for working overtime.

Recommendation

Infotype 2007 (absence quota) should not be recorded for employees who do overtime on a weekly basis. This would cause function GOT to assign processing type M, which is, of course, not compatible with a

weekly view. If infotype 2007 is not recorded, function GOT will not be processed, so it does not matter if it remains in the schema.

This enables you to map the following subject matter:

1. Any hours over 39 hours a week count as overtime (constant OVTWL).

2. Overtime of over 39 hours a week is paid by wage types MM10 and MM20.

3. Half of all the overtime that exceeds 42 hours a week is generated as entitlement to time in lieu (constant OVTWH).

4. When an annual limit of 130 overtime hours is reached (constant OVTWY), the system

    generates an entitlement to time in lieu equal to the amount of overtime hours.

5. Quota 0891 for time in lieu is generated in units of 8 hours from the entitlement to time in lieu and remains valid until the end of the month after next. Technicaly speaking, this means that, when the month changes, time type 0891 becomes 0892, time type 0892 becomes 0893, and the old time type 0893 is cancelled.

6. If you do not wish to have time type 0893 cancelled when the month changes (calculation rule TW43), enter the hours for the current month's balance revision (0985) as any number other than zero. The actual number of hours entered here is not important, because the mere fact that a balance revision exists acts as a flag to prevent cancellation.

7. Absence 0950 allows the quotas for time in lieu to be deducted from time types 0893, 0892 and 0891 (in that order). If the absence hours exceed the quota, an error message appears in rptime00, but the program (calculation rule TW4D) is not cancelled.

8. At the end of the fiscal year, anything that remains in time type 0951 is transferred to table ZL with wage type MM70 (calculation rule TW49).

9. The overtime accumulated in the current year is found in time type 0952, weekly working hours are in time type 0953 and the generated entitlement to time in lieu in time type 0951.

Further details:

-   The fiscal year is the calendar year.

-   The calendar week begins on Monday.

-   Time type 0952 for annual overtime is initialized on the first day of the fiscal year.

Activities

Insert schema TW40 into schema TM00 in front of function KNTAG. Work through the suggested activities in the order given.

Further notes

If infotyp 2005 is used to record overtime, personnel calculation rule TD40 enables you to assign a processing type to these overtime hours. You may assign any letter here that has not yet been used (e.g. 'Z'), but not the letter 'M', because the weekly view which it provides makes it unclear at this point whether these hours will be counted as overtime at all.

From a business point of view, it makes more sense not to record infotype 2005 at all, and to use infotype 2002 with a suitable subtype instead. In this case, the processing type assigned is controlled either by the view for the time ID - time type and processing type (T555Z) or by the view for processing type and time type according to attendance and absence (T555Y). See the documentation on function TIMTP for further details.

31.5.4.5.2 Modify Overtime Wage Types

Time-in-lieu calculation uses model wage types which you replace with the wage types you have created.

Example

The model wage types for overtime are MM10, MM20 and MM70.

Requirements

You must already have created your own wage types for overtime.

Activities

Copy the default personnel calculation rules T*** to $*** and replace model wage types MM10, MM20 or MM70 with your customer wage types.

31.5.4.5.3 Maintain Constants
INCLUDE 'OHTF0102' OBJECT DSYS ID SIMG

31.5.4.6 Processing Balances

In Assign time types and processing types, you assigned a time type to the recorded time data. Balances are now formed by cumulating these units. The balances are maintained in the **day balance** table TES.

You can also transfer and adjust balances.

It is also possible to cumulate day balances over a period. The **cumulated balances** are maintained in table SALDO.

The system then checks which of the balances formed should be saved to the database.

Example

- All absence times should be cumulated in time type 0020 and all overtime in time type 0040. All times which count towards planned working time are cumulated in time type 0003, 'skeleton time'.

- You want to transfer part of an employee's flextime balance to his/her compensation time account.

- The flextime balance should be cleared at the end of the period, and any excess/deficit logged in time type 0006.

31.5.4.6.1 Balance Formation

In this section, you specify how **day balances** and **period balances** are formed on the basis of time types.

The meaning of the time types is taken from the personnel calculation rules in time evaluation. The most important balances for evaluating time data (without actual clock times) in the standard are:

- 0002 - planned working hours from daily work schedule

- 0003 - skeleton time (time which counts towards the planned working   time) as the total of:
  0010 - attendances (pair type 1)
       0020 - recorded absences from infotype 2001
       0030 - recorded attendances from infotype 2002
       0411 - overtime hours in excess of quota
       0540 - paid breaks

- 0005 - flextime balance, i.e. the difference between the planned   working hours, and the actual hours worked which have been   counted as planned work   0003 - skeleton time minus
       0002 - planned working hours from daily work schedule

- 0010 - attendances as the total of time types
       11xx - attendance with processing type/time type class xx

- 0020 - recorded absences from infotype 2001, as the total of:
       12xx - absences with processing type/time type class xx

- 0030 - recorded attendances from infotype 2002, as the total of: 13xx - recorded attendances with processing type/time type   class xx

- 0040 - overtime as the total of:
       0041 - overtime to compensate with time off
       0042 - overtime to remunerate   0043 - overtime to compensate with time off   plus an overtime bonus

- 0050 - productive hours, as the total of:
    - 0010 - attendances (pair type 1)
    - 0030 - recorded attendances from infotype 2002
    - 0040 - overtime

The following menu options describe how you can make settings to influence the formation of these balances.

31.5.4.6.1.1 Form Day Balances

In the previous steps, a time type was assigned to the time date being evaluated. On the basis of the time types (the smallest units which differentiate the times for balance formation), you now specify how the respective hours are cumulated to form time balances.

Example

Times which count as completed planned working time are totaled in the time type 'skeleton time'.

The actual productive hours worked by the employee (planned working time and overtime, no absences) should be credited to the time type 'productive hours'.

All absences should be counted in time type 0020. Leave and illness should also be maintained in separate time types.

Requirements

Time types have been assigned to the imported time data. This is done mainly using function TYPES, see Assign time types and processing types. Time types have been changed if necessary in Overtime calculation.

Standard settings

The essential balances from the recorded times are cumulated using personnel calculation rule **TR11** in the standard system.

The time types assigned to the times to be evaluated are stored in the day balances table. The time balances 0010, 0020, 0030, 0003 and 0500 - as described in Balance Formation - are also formed by cumulation.

Customize rule TR11 to depict the standard process for forming balances: The time type for processing is in the first column. Operation **ADDDB** cumulates the hours assigned this time type in the time types which are given as parameters. A star after operation ADDDB indicates that the values are added to the initial time type, which is then stored in the internal table TES.

Activities

1. If you have assigned non-standard time types (based on time types 1yzz) in the section Assign time types and processing types, you will have to customize personnel calculation rule TR11.

2. Copy personnel calculation rule TR11 to ZR11.

3. Stipulate the time types in which the values should be cumulated, according to the time type which is assigned to the time pair.

4. Change the name of the personnel calculation rule in the schema from TR11 to ZR11.

31.5.4.6.1.2 Grant Time Bonuses/Deductions

In this step you determine whether data such as time travelled to work should also be referenced to determine working time (in addition to times recorded manually or at the time recording terminal), and if so, how is should be processed.

Example

An employee's travelling time is to be taken into account in time evaluation. You should increase the number of planned hours in time type 0003, and should be able to specify travelling times for each employee individually.

Requirements

Standard settings

There is no standard personnel calculation rule for processing time bonuses.

You can enter a time bonus in the 'Time bonus/deduction' field in the **Time Recording Information** infotype (0050), or in the field for additional hours in the daily work schedule.

The system documentation on operation **HRS** explains how you can let the time evaluation driver read the entries in infotype or table fields.

You can use operation **ADDDB** to cumulate and maintain the contents of these fields in time types.

Recommendation

In the simplest scenario, the time bonus is posted directly to a time type. This can be done using operations HRS and ADDDB.

Activities

1. Decide which rules you want to depict.

2. Decide which data from infotypes, customizing tables or balances you want to evaluate. See the documentation on operation HRS.

3. Create a personnel calculation rule and give it a name which starts with Z.

4. Call the personnel calculation rule in the schema. Function ACTIO is usually used to call the rule, but this depends on how you determine time bonuses.

Further notes

Compensation time credit is also relevant to balance formation.

31.5.4.6.1.3 Total Flextime Balance, Overtime, and Productive Hours

This step introduces a personnel calculation rule which determines the flextime balance by subtracting the planned time from the skeleton time, as well as the overtime worked and the productive hours.

Example

An employee has to work 8 planned hours according to the daily work schedule, and is at work for 11 hours. He/she should be credited with overtime after 10 hours. The following time balances should be formed:

- 0002 = 8 hours (planned hours according to daily work schedule)

- 0040 = 1 hour (overtime)

- 0003 = 10 hours (planned work)

- 0005 = 2 hours (flextime - difference between planned work and   number of planned hours covered by basic wage)

- 0050 = 11 hours (productive hours)

Requirements

Before this function is called, the day balances must have been formed, particulary time types 0010, 0030 and 0003.

Time types 0041, 0042 and 0043 must have been formed. This is done in Compensate overtime.

Standard settings

1. **Time type 0002**: time type 0002 (planned work) is formed according to the number of planned hours in the daily work schedule.

2. **Time type 0005**: the flextime balance (time type 0005) is determined by subtracting the value of time type 0002 from time type 0003 (skeleton time). Time type 0003 has been formed in the step Daily balances.

3. **Time type 0040**: the overtime worked is calculated by adding time types 0041 (overtime to compensate), 0042 (overtime to remunerate) and 0043 (overtime basic wage/time off), and the value is stored in time

   type 0040.

4. **Time type 0050**: the productive hours are derived from the total attendance times (time types 0040, 0010 and 0030) and are stored in time type 0050 (productive hours).

Recommendation

You need only make changes here if you want to include other time types in the calculation of the flextime balance, overtime or productive hours.

Activities

1. Decide whether you want to include other time types in the calculation of the flextime balance, overtime and productive hours.

2. If necessary, copy personnel calculation rule TR30 to ZR30.

3. Make the required changes in personnel calculation rule ZR30.

4. Change the call of personnel calculation rule TR30 to ZR30

Further notes

31.5.4.6.1.4 Balance Limits

In this step, you set rules for checking the balances determined in time evaluation. The rules allow you to check the time balances to see if they exceed or fall short of individually defined value limits or specifications in working time regulations, and to determine appropriate system reactions. There is a flexible Customizing table that you can use to fulfil the following requirements.

Examples of use

- Setting value limits based on fixed values or the employee's master data and transaction data (for example, number of planned hours, maximum working time)

- Checking value limits within periods you can define yourself (for example, 50 days, 13 weeks, and so on)

- Issuing messages, also as an advance warning, when the value is approaching the value limit (that is, the value limit has not yet been exceeded)

- Transferring the surplus to another time balance or wage type

- Limiting the validity of the rule according to the employee's age

- Transferring time balances to another time type for periods you can define yourself, for example, week balances

Procedure for checking the time balances

You can set balance rules for checking day balances and period balances. Function LIMIT, which checks the time balances during time evaluation, can process the balances in the following ways:

- **Cumulation**: Function LIMIT cumulates the day or period balances over a certain processing period and compares the cumulated value with the value limit. Example: Productive hours cumulated over a week.

- **Find maximum**: Function LIMIT views the day or period balances, finds the maximum value within the processing period, and compares this value with the value limit. In this case there is no cumulation. If you want to use cumulated balances for the comparison, you have to formulate them in a personnel calculation rule.
  Example: You want to find out whether an employee had 60 hours off at once in one week.

- **Find minimum**: Function LIMIT views the day or period balances, finds the lowest value within the processing period, and compares this value with the value limit.

Processing periods and check points

You can use different processing periods and check points depending on whether you are processing day or period balances. The check point is the time at which the system uses the rule, for example, at the end of the payroll period.

1. Processing day balances
   The balances for the day being evaluated from table TES (individual day balances, day processing in time evaluation) are processed together with the balances from table ZES (individual day balances, cluster B2) As before when using personnel calculation rules, they are processed during day processing in time evaluation.
   Note the effect on system performance of using long cumulation periods and regular check points (for example, daily).

2. Processing period balances
   Here, you specify rules that always refer to a time evaluation period.
   The processing period always amounts to one or more time evaluation periods. The check point must be at the end of a time evaluation period - or at the end of two time evaluation periods, or three, and so on.
   The balances from table SALDO are taken into account. They are processed during final processing in the schema.
   All checks related to time evaluation periods and period balances should also be made using period balances. Check all the data you have entered in the step Define time types again, and make changes if required.

Function LIMIT is accessed both in the day processing block and in the final processing block in the schema.

Processing Customizing entries

Please note that all changes to balances are made in time evaluation. The system runs through the rules in consecutive order according to the specified key. If you want to set several value limits for a balance, you should number the rules so that the ones with the highest value limits are referenced first (for example, a rule with the value limit 30 for flextime balance 0005 is assigned the number 020, a rule with the value limit 20 the number 021, and so on). You should avoid circular relationships (that is, posting in one rule from balance 0005 to balance 0006, and in another from balance 0006 to balance 0005).

Example

1. You want the flextime balance to have a maximum of +/-10 hours at the end of the quarter, and a maximum of +/- 20 hours in other months. If the value limits are exceeded, you want the balance to be capped and the surplus moved to a wage type or time type.

2. You want to check legal working time regulations or regulations stipulated by the collective agreement on a daily basis. These working time regulations may depend on the employee's age. If you detect working time violations of any kind, you want to output messages.

3. You want to check for core time violations and report any you find.

4. Once an employee has built up 20 compensation hours, you want to output a message to check the deduction of the employee's time in lieu (time off) credit.

5. You want to make sure that your employees do not work more than 520 planned hours (incl. substitutions) and 585 productive hours (planned and overtime hours) within a 13-week period.
   For each balance, create a rule for checking the relevant value limits. Then select the *Duration* field under *Day balance processed over*, and enter 13 weeks as the period. Enter **Weekly** (end of period) as the *check point* so that the system always calculates back 13 x 7 days from the day of the evaluation and cumulates the relevant balances. Have the system issue messages if the value limits are reached or exceeded.

Requirements

You have already set up the time types for which you want to set value limits or use to calculate value limits in the step **Define time types**.

Standard settings

The standard system provides sample solutions.

Recommendation

Activities

1. Decide which value limits you want to check, and how you want to check them.

2. Choose **Define limits for time balances**.

3. Specify the personnel subarea grouping for time recording, the time balance group, and the balance rule.

4. Set the value limit:

    a) You can either set it as a fixed value, or using the parameters for operation 'HRS=yzzzzz', where 'y' is the origin indicator and 'zzzzz' is the parameter. Using this method, you can access employee-specific value limits from the infotypes (for example, *Time Recording Information* (0050)).

    b) Indicate whether the value limit represents an upper or lower limit.

5. Specify which time balance should be used in the comparison:

    a) Specify the time type for which you want the balance to be checked.

    b) Specify the processing period. You can use either day balances or period balances as a basis.
    In day processing for time evaluation, you can process the current day's balance or the total or maximum or minimum of the day balances for a defined period (time evaluation period, payroll period, working week, or other period) can be used, including the values for previous periods if required. You can also determine a certain length of period up to the evaluation date for balance formation, for example, the last 2 weeks.
    In final processing, the time balance is taken from the (time evaluation) period balances; previous periods can also be included.
    Depending on your choice, you can only choose the check points (see below) from day or final processing.

6. Specify which processing steps should be carried out if the balance exceeds or falls short of the value limit.

    a) Decide if you want a message to be issued and specify the type of message.

    b) Decide whether the time type on which the balance is based should be capped to observe the value limit.

    c) Decide if you want the surplus to be placed in a time balance or time wage type.

7. If the value limit is reached but not exceeded, a message can be issued. Depending on the tolerance, a note can also be output when the value is approaching the value limit.

8. If required, determine the time type in which you want the system to save the value it used to check the value limit.

9. Decide when you want the value limit to be checked. Depending on whether you are processing a day balance or a period balance, the check point must be in day processing or end processing. Note that the system can only process the rules if function LIMIT is also inserted in the day processing or end processing areas of the schema.

10. Determine the age restriction for employees to whom you want the value limit to apply. You can also leave the interval limits open.

11. If required, enter new error long texts under **Define messages for checking value limit** .

12. Choose **Adapt personnel calculation rule - MODT or TMON**. In your copy of the personnel calculation rule, determine the time balance rule group using operation MODIF L=xx.

13. Choose **Modify schema**. Check whether your copy of personnel calculation rules MODT or TMON is specified for function MOD.

14. If necessary, add function LIMIT to day processing **and** final processing.

Further notes

31.5.4.6.1.5 Deduct Absences from Time Balances

In this step you determine how time accounts are reduced by absences.

Example

Your employee has accumulated a flextime balance of 5 hours. A 3 hour absence has been recorded for the current day, with the absence type for compensation for accumulated flextime hours. 3 hours should therefore be deducted from the flextime balance.

Requirements

- You have created the absence types to be deducted from time accounts.

- You have defined the time types which should be reduced.

Standard settings

Only the time credits "flextime balance" and "overtime compensation" are reduced in the standard system.

- **Absence type 0900** (compensation for accumulated flextime hours) reduces time types 0005 (flextime balance) and 0007.

- **Absence type 0910** (overtime compensation) reduces time types 0410 (time off for overtime) and 0407.

Time types 0007 and 0407 keep track of time deducted on account of a recorded absence.

Recommendation

Activities

1. Decide whether you want other time balances to be reduced by absences.

2. Decide which absence types should reduce balances.

3. Copy personnel calculation rule TP20 to ZP20.

4. Store your own regulations in personnel calculation rule ZP20. Base them on existing entries.

5. Change the name of personnel calculation rule TP20 to ZP20 in the schema.

&ADDITIONAL HINTS&

The rule for offsetting absence times against time balances is called in the schema using function RTIPA.

31.5.4.6.1.6 Maintain Absence Quotas

You can maintain time credits in the Absence Quotas infotype (2006) in time evaluation, as well as in the form of time types. It is possible to change the 'Entitlement' field in an existing absence quota record using operation **UPDTQ**.

When you enter an absence, it can be validated against an absence quota to ensure that employee is entitled to take the time off.

Example

Employees in your company are permitted to take time off for working overtime. A quota is set up to keep track of how much time off the employee is entitled to in lieu of overtime. The quota is reduced by the 'time off for overtime' absence. The account for time in lieu of overtime may not assume a negative value, and should be checked by the system when a 'time off for overtime' absence is recorded.

Standard settings

The absence quota '02' (time off for overtime) is supported in the standard system. The employee's entitlement to time off for overtime is maintained in time type 0410. If there is a subtype 02 record for an employee in infotype 2006, the time off entitlement is maintained in this infotype record in time evaluation, in the same way as in time type 0410. This is done in personnel calculation rule TC20, see the section on overtime compensation.

Absence type 0910 references quota type 02 in the standard. When a 'time off for overtime' absence is recorded (0910), it is validated against absence quota 02 and the quota is updated.

Activities

1. Decide whether you want to maintain time credits to be validated when a relevant absence is recorded.

2. You can create additional quotas if the standard ones are not sufficient for your purposes, and maintain them using your own personnel calculation rules. To do this, perform the following steps, following the example of the standard system and of personnel calculation rule TC20.

3. If you want absence quotas to be updated in time evaluation, you should flag them accordingly. The entitlement to these quotas cannot be changed manually. This is important

    to ensure that recalculations are performed correctly. Check the quota types, and flag them accordingly.

4. Absences which should be deducted from the quota should reference the relevant quota types.

5. Maintain the time credits as time types, as described for balance formation in the previous sections. Each time the time type is changed by operation ADDDB, you have to decide if the absence quota 'xx' should also be updated. Use operation UPDTQAxx if you want to update the quota. Follow the example of rule TC20 (with TC21 and TC22).

Further notes

The time evaluation program can only update existing Absence Quota records; no new records are created.

Information from absence quotas can be queried in time evaluation using function **P2006** and operation HRS=Qxxxxx. Please see the system documentation on P2006 and HRS.

Compare this section to the automatic adjustment of leave entitlement in time evaluation.

31.5.4.6.1.7 Create Technical Wage Types from Time Balances

Personnel calculation rule **TR33** is used to form wage types from certain time balances.

Example

Regulations for valuating time wage types in payroll have to be defined according to the number of productive hours worked. The payroll driver should be able to read the contents of time type 0050.

Standard settings

In the standard system, the contents of the following wage types are stored in wage types:

-        Time type 0050 (productive hours)   in wage type MI01

-        Time type 0020 (absence hours)   in wage type MI02.

Rule TR33 is inactive in schema TM04. It is primarily used as an example of how time wage types can be formed directly from amounts that have already been calculated. This is particularly interesting when the wage types are of a more technical nature and regulations for forming time wage types are less dependent on the day currently being processed in comparison to the options provided by Time Wage Type Selection.

Activities

1.   Find out whether you require information for payroll that can be derived from time types.

2.   If you do require this type of information, you can refer to personnel calculation rule
            TR33 to form time wage types using operation ADDZL. SAP recommends this procedure

      if the information is also maintained in time types.

3.   Copy personnel calculation rule TR33 to ZR33, and make your changes in ZR33. Change the name of TR33 to ZR33 in the schema and activate the schema access of ZR33.

31.5.4.6.1.8 Update Cumulated Balances

As well as the day balances which are assigned to the individual days evaluated, time balances can be cumulated per period and stored in a separate table (cumulated balances).

You decide the following in this step:

- which time balances should be cumulated per period

- which time types should be stored on the database in the table of day balances or cumulated balances.

Example

You want the time type "flextime balance" to be cumulated per period. Both the day balance and the period balance of the time type "flextime balance" are to be stored.

Requirements

If you want time types to be cumulated per period and their value for the period or day to be saved to the database, enter an appropriate value in the **Save as day balance** or **Cumulate in period balance** field when you define time types.

Standard settings

Function **CUMBT** interprets the transfer indicators assigned to time types.

Time types which are intended for transfer to the day total are passed on to the table which is to be stored.

Time types which are to be cumulated are cumulated in the appropriate time type per period and stored in the table of cumulated balances.

Recommendation

On no account should you deactivate function **CUMBT**; if you do, time balances and time wage types are not saved to the database.

Activities

Check the coding of the time types wich are to be saved as day balances or cumulated balances, and modify the relevant indicators if necessary in Define time types.

Further notes

Certain time types are only required as utility values in time evaluation, for evaluating an individual day. Utility time types - 0000 and 0001, for example - do not have to be saved to the database.

31.5.4.6.1.9 Update Leave Balance

In this step, you determine whether the system should maintain leave entitlement, leave taken, and remaining leave in time types.

Example

You want to print remaining leave on the time statement form. To do this, you need to know the amount of remaining leave in a time type.

Requirements

Standard settings

Data from the **Leave Entitlement** infotype (0005) is evaluated in personnel calculation rule **TR10**. The following time types are filled:

- 0097 - leave entitlement

- 0098 - leave taken

- 0099 - remaining leave (difference between 0097 and 0098)

The system takes account of all records in the **Leave Entitlement** infotype which are deductible up to the date of evaluation. Please note that the deduction interval and the validity interval may not be identical.

To determine leave taken, the system evaluates the 'leave' absences up to the date of evaluation; leave records which have already been entered in the system, but for periods beyond the evaluation date, are not considered. Compensation records from infotype 0083 are taken into account as well as leave data in infotype 2001.

Recommendation

You need this function if you want to print leave data on the time statement form.

Activities

You should decide whether you want to cumulate leave entitlement, remaining leave and leave taken in time types. If not, deactivate function **ACTIO TS10**.

1. If you want to maintain leave balances separately for different leave types, you
   can extend personnel calculation rule TS10: copy TS10 to

   your own rule, ZS10. If you set the parameter HRS=HEN xx for operation HRS, the
   system does not read the leave entitlement for leave type xx.
   Refer to the system documentation for possible parameters for HRS=H. You
   may also have to define additional time types.

Further notes

31.5.4.6.2 Time Transfer

You can change balances manually using the Time Transfer Specifications infotype (2012).

You define time transfer types, the corresponding transfer rules and the transfer procedure in this section.

31.5.4.6.2.1 Define Time Transfer Types

In this step, you define the time transfer types you want to use when entering data for the Time Transfer Specifications infotype (2012).
This allows you to make changes to time balances, wage types, and absence quotas that have been determined by the system.

Example

- You want to transfer 5 hours from the flextime balance to compensation time. Define a time transfer type "flextime to compensation time", and determine corresponding transfer rules.

- You want to transfer flextime credit to a time in lieu balance at the end of the period. Define a transfer type "flextime balance to fixed value, transfer to time in lieu", which sets the time type "flextime balance" to the fixed value specified in the infotype (here: 0), providing the flextime balance was positive, and determine corresponding transfer rules.

Requirements

- The personnel subarea groupings for time recording have been defined.

- If you want to set the time types which are not contained in the standard SAP system to a fixed value, you must first of all create them.

Standard settings

Recommendation

State in the text for the time transfer type whether it sets a time type to a fixed value.

Activities

1. Decide which transfer rules you want to use. Create a time transfer type for each transfer rule.

2. Decide whether you want the time transfer type to set a time type to a fixed value. If necessary, enter the time type in the *Time type* field.

3. Decide if a specific condition should determine the setting of a time type to a fixed value. If the time type is only to be set to the fixed value if it is greater than or less than the fixed value, enter ">" or "<" in the *Condition* field.

Further notes

You should set the transfer rules regardless of whether or not the time transfer type sets the time type to a fixed value.

For more information, see also:

Set rules for transfer to time types
Set rules for transfer to wage types Set
rules for transfer to absence quotas.

31.5.4.6.2.2 Define Rules for Transfer to Time Types

In this step, you determine the time types to which a specific time transfer type should be posted.

Example

- You want to transfer time from the "flextime balance" time type (0005) to the "compensation time" time type (0800).

- You want to make a transfer as described above. You should check that the transfer does not lead to a negative flextime balance or a compensation time balance in excess of 10 hours.

Requirements

- You have defined the time transfer type for which you want to set transfer rules.

- If you want to use time types that are not contained in the standard system, you must first define them.

Standard settings

Recommendation

Please note that a transfer actually means adding time to one time type and subtracting from another time type.

Activities

1. Decide which time types you want the time transfer type to be posted to.

2. Enter the time types in the *Time type* field. Make a separate table entry for each time type.

3. Decide whether you want time to be added to or subtracted from the time type. Enter "+" or "-" in the *+/-* field.
   If you want to set a time type to a fixed value through the time transfer type and have specified this when you set up the time transfer type, you must enter "+" here for the time type.

4. Decide what percentage of the correction amount should be posted to the time type. If the time transfer type sets the time type to a fixed value, the posting amount is the amount required to attain

the fixed value. If the time type is not set to a fixed value, the amount transferred is the amount specified in the *Time Transfer Specifications* infotype (2012).

5. Define the condition to which you want the transfer to be subject. Enter the minimum or maximum allowed value of the time type after the transfer in the *Min* or *Max* field. If you do not want to set a condition for the transfer, enter "-999.99" and "999.99" in the *Min* or *Max* field.

Further notes

The transfer is only made if all conditions set for a time transfer type are fulfilled. If a condition is not fulfilled, there is no transfer to wage types or absence quotas either.

31.5.4.6.2.3 Define Rules for Transfer to Wage Types

In this step, you determine the wage types to which a certain time transfer type should be posted.

Example

You want to make a transfer from the flextime balance to the compensation time balance, and want a particular wage type to be generated for the hours transferred.

Requirements

- You have defined the time transfer specifications for which you want to make transfers to wage types.

- You have defined the wage types you want to use.

Standard settings

Recommendation

Activities

1. Decide which time transfer types should generate wage types.

2. Specify which wage types should be generated for which time transfer types.

3. Decide whether the transferred amount should be added to or subtracted from the wage type. Enter "+" or "-" in the *+/-* field.

4. In the *%* field, enter the percentage of the transferred amount that should be posted to the wage type.

5. Enter a processing type for each wage type so that payroll can recognize which type of time it was generated from. Enter one of the following indicators in the *Info* field:

    - "S" = planned work

    - "M" = overtime

- "A" = absence

Further notes

If any of the conditions you set for transferring a particular time transfer type to time types are not fulfilled, there is no transfer to wage types either.

31.5.4.6.2.4 Define Specifications for Transfer to Absence Quotas

In this step, you determine the absence quotas to which a certain time transfer type should be transferred.

Example

You want to transfer a certain amount from the flextime balance to the absence quota *time off from PDC.*

Requirements

You have defined the absence quotas to which you want to make transfers.

Standard settings

Recommendation

Activities

1. Decide which time transfer types should be posted to absence quotas, and enter the relevant absence quotas for each time transfer type.

2. Decide what proportion of the transferred amount should be added to or subtracted from the absence quota. Enter the percentage figure in the *%* field, and the transfer sign in the *+/-* field.

Further notes

- There must be an **Absence Quotas** infotype record (2006), otherwise it is not possible to make transfers to absence quotas during processing.

- If any of the conditions you set for transferring a particular time transfer type to time types are not fulfilled, there is no transfer to absence quotas either.

31.5.4.6.2.5 Perform Time Transfers

In this step, you set controls for time transfers.

Example

An employee has a flextime balance of 5 hours, but his or her compensation time balance is 3 hours short. In the **Time Transfer Specifications** infotype (2012), you enter a transfer specification of 3 hours that posts flextime to compensation time. You want to use the transfer rules you defined in the Time Transfer section.

Requirements

You have set the rules for time transfer types in the Time Transfer section.
See also Set rules for transfer to time types, Set rules for transfer to wage types, and Set rules for transfer to absence quotas.

Standard settings

In the standard system, transfer is controlled according to the rules you defined in the Time Transfer section.

Recommendation

Activities

1. Decide whether you want to control the transfer of time balances using the rules set in the "Time Transfer Types" section, or using a personnel calculation rule.

2. If you want to use a personnel calculation rule, enter the name of the personnel calculation

    rule as the first parameter of function **P2012**.

Further notes

Personnel calculation rule TR20 is a reference for time transfer processing. You can modify TR20 as you require. Please copy personnel calculation rule TR20 to ZR20, and make any necessary modifications in the copied version.

31.5.4.6.3 Period-End Processing

The balances formed in time evaluation often have to be checked periodically and adjusted if necessary.

The time evaluation period is commonly taken as a basis. This period is generally one month long. The result cluster for time evaluation is maintained with this period. Processing steps at the end of the time evaluation period are explained in Period-end processing.

The payroll period can also be used, but only if it does not (always) coincide with the time evaluation period, i.e. if different payroll periods are used.

The last day of the payroll period can be determined using function **IF EOP**. The following sections contain information on processing steps which commonly feature in the schema, in a block formed by functions IF EOP ... ENDIF.

31.5.4.6.3.1 Compare Balances

The following section explains how the principal balances (time in lieu, for example) can be checked and adjusted if necessary.

The check is expected to be made at the end of the payroll period.

Example

Employees in your company can take time off (time in lieu) for working overtime. The time in lieu balance is maintained in time type 0410. The time in lieu accumulated during the current payroll period can only be used up in the same period. If there is an excess at the end of the period, a message should be issued and the hours should be remunerated.

Standard settings

The flextime and compensation (time off for overtime) balances are capped at the end of the payroll period: the last day of the payroll period is determined in the schema using functions **IF EOP** and **ENDIF**. The schema block formed contains the following personnel calculation rules:

1. **TR90** checks the flextime balance (0005) accumulated in the current payroll period. This

   shows the difference between work actually performed, and planned working time according to the work schedule. If the employee receives a basic wage for the working time stipulated in the work schedule, this difference must be taken into account before the employee is remunerated. TR90 is used to form wage types for the difference, so that an excess can be remunerated separately in payroll, or pay can be deducted if there is a shortfall. In each case, the system issues an appropriate message.

2. **TR91** checks the compensation account (0410), and functions as described in the above example.

Activities

1. If you do not wish the flextime and compensation balances to be adjusted, but to remain as they are after the end of the period, deactivate or delete the appropriate personnel calculation rules TR90 or TR91 in the schema.

2. You can set a limit for the balances, and transfer a value up to this limit to the subsequent period. If you choose this option, you have to customize personnel calculation rules TR90 or TR91. The limit values can be stored as constants in the constant table and read using operation HRS.

Further notes

The flextime balance is capped in final processing, using personnel calculation rule TS30, by comparing it to the constants GLMAX and GLMIN. This rule is described in the section Adjust the flextime balance (period-end).

31.5.4.6.3.2 Accrue Leave Entitlement

Leave entitlement for infotype 0005 can be adjusted automatically in time evaluation. It is possible to add a value to the existing entitlement, or to reset the entitlement each time the time evaluation program is run.

The leave entitlement is adjusted in a personnel calculation rule, using operation **UPDLE**.

The automatic adjustment of leave entitlement in time evaluation is of particular use if the entitlement depends on the employee's actual working time.

Example

The standard annual leave is 30 days. The employee's current leave entitlement is calculated at the end of each payroll period by comparing the number of productive hours worked in the current year to the number of annual planned hours specified in the work schedule, and multiplying the difference by 30.

Standard settings

Leave entitlement is not adjusted automatically in the standard system. You can refer to personnel calculation rules TS15, TS11 or TS14 to see how to implement automatic leave adjustment.

Personnel calculation rule TS15 functions as described in the above example.

Activities

1. Decide whether you want leave entitlement to be adjusted automatically.

2. If you do, set rules for calculating leave entitlement. It is important to decide whether the value calculated should be added to or replace the previous entitlement.

3. Specify the leave types for which you want entitlement to be adjusted automatically. In the standard system, an automatic update is permitted for leave types 06 and 07, for example. If required, you can define new leave types and indicate that they should be adjusted automatically in time evaluation.

4. Use personnel calculation rules TS11, TS15 or TS14 as examples to define your own rules. The exact procedure is explained in the system documentation on these rules. There are two steps to the rules: the new entitlement is calculated in the first step and stored in time type 0090 or 0091. The leave entitlement is then updated in personnel calculation rule TS12 or TS13 using operation UPDLE. The parameter set for the operation determines which leave type is to be updated. Rule TS11 is for final processing, and rule TS15 for day processing.

5. Whereas the rules for determining leave entitlement will generally be very customer-specific, you only have to make settings regarding which leave types should be updated in rules TS12 and TS13.

6. Copy TS11, TS14 or TS15 to your own personnel calculation rule and make your changes in the copied version.

7. Insert the name of your personnel calculation rule in the schema, using function ACTIO.

Further notes

Absence quotas (infotype 2006) are calculated in time evaluation using operation **UPDTQ**.

31.5.4.7 Message Output

There are two types of error in time evaluation:

1. Errors determined during pair formation

2. Errors which arise when time events are processed in time evaluation.

You can determine how errors are processed in this section. This includes:

-   Defining your own error codes and methods of processing the errors.

-   Setting error checks in the schema.

-   Deciding whether the administrator responsible should receive a mail when an error occurs which he can use to correct the error.

Please note that changing the standard settings can affect balance formation.

31.5.4.7.1 Create Message Descriptions

In this step, you define your own message types and specify how you want the system to handle the message types.

Example

You set the number of the message type xx in a personnel calculation rule using operation COLER xx. Here you define the meaning of message type xx.

Requirements

The personnel subarea groupings for time recording must be defined.

Standard settings

The message types used in the standard SAP system are already defined.

Activities

1. Check whether you used your own numbers of message types with operation COLER xx. If so, assign the message type a semantic meaning.

2. Decide whether you want to inform the employee of the error that has occurred. If so, store the value that is to be available to the subsystem as the mail indicator in the mini-master record, in the *Mail* field.

3. If you use the *Time Management pool* (transaction PT40), you can control who processes a message by entering the appropriate value in the *Listl* field.

4. In the case of some errors, displaying balances at the time recording does not make sense. If you do not want balances to be displayed at the time recording terminal in the case of particular errors, set an **X** in the *Balance* field.

5. If you do not want notes and information to be issued in the case of a recalculation, activate the *Generate once* field.

31.5.4.7.2 Check for Days with Errors

This step explains the error checks for the day to be accounted.

Example

An employee is not at work on a workday. No absence has been recorded for him/her. The system draws your attention to this fact by displaying an error message: "Employee not at work".

Requirements

Standard settingss

Several constellations are checked in personnel calculation rule TE20 to ascertain whether an employee is at work or absent with permission.
The day type determines whether the system should display an error, generate a planned pair, or process the day as if it were a day off for the employee.
Refer to the source text of personnel calculation rule TE20 for the exact rules.

Recommendation

It is not generally advisable to change the checks which are supported in the standard system.

Activities

1. Decide whether you require further validations. Modify the personnel calculation rule if necessary.

2. To do this, copy personnel calculation rule TE20 to ZE20.

3. Modify personnel calculation rule ZE20.

4. Change the call of personnel calculation rule TE20 to ZE20.

31.5.4.7.3 Print Other Messages

This step explains how the system checks whether or not the minimum daily working time has been observed.

Example

According to the daily work schedule, an employee should work at least 8 hours daily, but works only 7 hours on a certain day. No absences are recorded. The system displays the following error message: "Minimum working time not completed".

Requirements

The *Minimum working time* field must be filled in the daily work schedule.

Standard settings

The employee's attendance time is compared to the minimum daily working time. An error message is displayed if the minimum daily working time has not been completed.

Activities

Decide whether you want to compare the attendance time to the minimum daily working time and display a message, if necessary. If not, deactivate function **ACTIO TR40**.

31.5.4.7.4 Define Mail Connection to Notify Administrator of Messages

In this step, you determine whether any errors that occur are automatically forwarded by mail to the relevant time administrator.

Example

An error occurs for a particular employee during time evaluation. This employee's time administrator receives a mail with the title "Error in RPTIME for personnel no. 102030".

Requirements

The time administrator's mail address must be maintained.

Standard settings

If errors occur during time evaluation, the time administrator responsible receives a mail stating all errors for the persons under his/her jurisdiction.

Recommendation

If only a few errors occur, it is recommended that you send the time administrator one mail for each personnel number with an error.

Activities

1.   You should decide whether you want to work with the SAP mail function. If not, deactivate function **OPTT MAIL**.

2.   Decide what type of mail the time administrator should receive. The following options are available:

"1" - the time administrator receives exactly one mail regardless of the number of

persons for whom errors occur.
"2" - the time administrator receives exactly one mail for each person for whom an error occurs. The title of the mail specifies the personnel number for which the error occurred.
"3" - the administrator can determine how many errors must occur before they are all put into one mail. The administrator stores the threshold value in parameter MKZ.

3. Enter the value of the second parameter according to the above information.

31.5.4.8 Storing Evaluation Results

In this section, you determine whether the time evaluation driver should store the results of time evaluation on the database. We recommend that you do not save data when testing.

31.5.4.8.1 Sort Cumulated Balances

In this step, you determine whether the table of cumulated balances is sorted before it is stored.

Example

Requirements

Standard settings

The table of cumulated balances is sorted before it is stored.

Recommendation

We recommend that the sorting function be set at all times. This means that the data is always sorted for subsequent evaluation programs.

Activities

Decide whether you want to sort the cumulated balance table before storing it. If not, deactivate function **SORT MBT**.

Further notes

The function should be at the end of schema.

31.5.4.8.2 Store Evaluation Results

In this step, you determine whether the results of time evaluation should be exported to the appropriate files.

Example

You carry out a simulation and do not want the results of time evaluation to be exported. Deactivate function **EXPRT**.

Requirements

Standard settings

Function **EXPRT** is active.

Recommendation

If you want to carry out a simulation, it is advisable to copy the productive schema under another name and deactivate function **EXPRT** in the copied schema.

Activities

You should decide whether you want to carry out a simulation with the schema. If you do, deactivate function **EXPRT**.

Further notes

Using function **EXPRT**, the time evaluation driver exports data to the files PAnnnn, PCL1 and PCL2, where nnnn is the number of an infotype.

31.5.4.9 Special Solutions for Time Account Accrual

Specific solutions concerning **time account structures** are explained in this section.

31.5.4.9.1 Accrue Compensation Time Account

In this step, you make the system settings required to set up a compensation time account for your employees which is updated on a daily basis. Certain absences can then be deducted from the time accumulated in the account.

Example

Shorter working hours are introduced in your enterprise. Employees are to continue working

their 8 hours a day, but are assigned a time credit of 0.5 hours for each day they work. If an employee is absent for less than one workday, the time credit is reduced by half.

Requirements

You have created the absence types which will be deducted from the compensation time account.

Standard settings

In the standard SAP system, the rule described in the example is realized in personnel calculation rule TR15. Cumulated compensation time is stored in time type **0800**.

This calculation rule is not contained in the standard system.

Activities

1. **Setting up the time account**

    a)   Specify the daily compensation time for the relevant daily work schedules.

    b)   Copy personnel calculation rule TR15 to ZR15 and make any necessary modifications.

    c)   Call personnel calculation rule TR15 before function CUMBT in the day processing section of your schema with function ACTIO.

2. **Deducting absences from the time account**

    a)   Decide which absence types should be deducted from the compensation time.

    b)   Copy personnel calculation rule TP20 to ZP20 and define rules for deduction in ZP20.

    c)   Change the name of the personnel calculation rule in the schema from TP20 to ZP20.

31.5.4.9.2 Accrue Absence Entitlement By Comparing Actual Times and Planned Specs

You want to determine your employees' absence entitlements by comparing the planned working time in their work schedules with the actual productive hours worked. You use function **QUOTA** to generate the entitlement.

This step contains a sample solution in which the quota entitlement is determined by comparing the employee's actual times with the planned specifications for each payroll period.

Example

Your enterprise has a two-weekly payroll period with a planned working time of 80 hours. Your employees are entitled to 8 hours of leave each payroll period on the condition that they complete their planned working time.

As a result of unpaid absence times, an employee has only accumulated 60 hours of productive time in the course of the two weeks. His or her quota entitlement is therefore increased only by 6 hours.

Requirements

You have made the required Customizing settings in the Define Generation Rules for Quota Selection step.

Standard settings

You can set up the above example using subschema **TQPP**.

Activities

1. Modify personnel calculation rule **TQP0** so that the relevant productive hours are collected as a balance in a time type.

2. Change personnel calculation rule **TQP1** if your employees are allowed to accrue more than the base entitlement if they exceed their planned specifications.

3. Add subschema **TQPP** to your schema before function CUMBT.

4. Assign the time type formed in personnel calculation rule **TQP1** as the multiplier for determining the accrual entitlement in your generation rule.

31.5.4.9.3 Transfer Remaining Absence Quota

Some collective agreements and plant bargaining agreements allow employees to carry over unused leave at the end of a leave year.

Based on an example, this step describes how to allow employees to carry over leave.

Example

You want to allow employees to carry over their total remaining absence quota at the end of a leave year. You want the transferred leave to be collected in a special absence quota.

Requirements

You have made the required Customizing settings in the Define Generation Rules for Quota Selection step.

Standard settings

You can reproduce the above example using personnel calculation rule **TQTR**.

Activities

1. Modify personnel calculation rule **TQTR** so that the transferred quota is collected as a balance in a time type. You can also specify that you want the remaining quota to be transferred only to certain quota types.

2. Use function **P2006** to call TQTR before function CUMBT in your schema.

3. Assign the time type formed in personnel calculation rule **TQP1** to the relevant quota type as the base entitlement.

31.5.5 Evaluations and the Time Management Pool

In this section, you determine how the time balances calculated by the time evaluation driver are printed. You also make the settings for integrated error handling.

31.5.5.1 Time Statement Form

To configure the time statement form, you can choose between two technologies:

- Time Statement Using the Time Statement report (RPTEDT00)
  You create the time statement form using the Time Management form editor. This user interface was developed especially for the creation of Time Management forms. You also have the options of customizing tables to configure the form.

- Time Statement Using the HR Forms Workplace
  You create the time statement form using the HR Forms Workplace, which is based on SAP Smart Forms technology. To be able to use this technology, you must have activated the *SAP Enterprise HR Extension*.

31.5.5.1.1 Set Up Time Statement Using Form Editor

The time management **Form Editor** is used to maintain all form-based database tables in a simple graphic user interface. Here you can use all of the settings available in the time statement form driver (RPTEDT00).

For detailed information on how to use the form editor, choose Help -> Application help from the form editor.

31.5.5.1.1.1 Form Editor

The Time Management form editor is a user-friendly graphical interface for maintaining form tables in which all placement information for tests and single fields is stored. The editor features all the options available in the time statement (form driver RPTEDT00).

Using the form editor

You can navigate to the maintenance transaction for a window by double-clicking on it.

You can create a field or insert a previously selected field by double-clicking on the position where you want to insert it.

You can display the properties of a single field by double-clicking on it.

You can enter texts or fields (using possible entries help if necessary) directly in all fields that are ready for input. They are automatically generated as a "text element", for example.

You can move the contents of individual lines in the window editor in the same way as body text.

31.5.5.1.2 Set Up Time Statement Form with Views (Old Procedure)

You can make the settings to create a time statement form in this section. It is advisable to copy one of the reference forms and modify it as necessary.

31.5.5.1.2.1 Copy the Form Template

In this step, you copy a reference form and customize it according to the particular requirements of your enterprise.

Example

You want a list of all your employees' time data for a day. Copy form TF00 and modify it as required.

Standard settings

The following forms are contained in the standard SAP system:

- TF00 -   Daily list of most important data

- TF01 -   Daily list of all data, letter header with address
        additional information

- TF02 -   Daily list of most important data with a layout   which
    can have a color format

TFL1 - Overview list of time balances cumulated per period

- TFL2 - Overview list of time balances cumulated per period,
  Print is only carried out under certain conditions

Recommendation

Print the time statement list with different standard forms, copy the standard form which is most suitable for your requirements and make your changes in the copied form.

Activities

1. Decide which form is most suitable for your requirements.

2. Decide whether the form is to be copied in the current client or to another client. If you have not yet edited a form in your country and language, copy one from the country grouping 99.

3. If you copy the form, choose a name starting with "$".

Further notes

- Please remember that you have to select the form ID for the copy from the name range provided for the customer. Otherwise, your changes may be overwritten during the next release upgrade.

31.5.5.1.2.2 Set the Fields to be Printed

The time evaluation driver fills a sequence of internal tables for each personnel number and payroll period. You can print these tables on your form. This step provides an overview of the fields that can be printed.

Standard settings -
Special Information

VACATION	Leave, w/conversion	AG - Leave entitlmnt
		AB - Leave accrued
		RG - Rem. curr. date

-

RE - Rem. on 12/31

VG - Leave taken

QUOTAA   Absence quota info

QUOTAP   Attendance quota info

up to key date; in wage

types field enter either

the quota type

(2-character)

or for accrual of all

existing att./absence

quotas the key word "DAYS"

or "HOUR" for entering the

quota unit, with

conversion   CF - Fut. quota comp

CO - Quota comp.

DF - Quota taken

ET - Quota entitlmnt

EV - Quota calc.

OR - Quota requested

RD - Quota rem.

RF - Fut. quota rem.

US - Quota used

WEEKDAY	Weekday
CDATUM	Date of current day to be evaluated
PAGE	Number of current page to be printed
BEGINN	Start date of current period

- **General Information**

PERNR-PERNR	Personnel number
P0001-ENAME	Name of person
P0001-SACHZ	Time recording administrator
P0001-SACHP	Personnel administrator
P0001-SACHA	Payroll administrator

WPBP (Work Center/Basic Pay)

WPBP-BEGDA	Valid from date
WPBP-ENDDA	Valid to date
WPBP-MASSN	Action type
WPBP-MASSG	Reason for action
WPBP-STAT1	Status 1 - customer-specific
WPBP-STAT2	Status 2 - employment
WPBP-STAT3	Status 3 - special payment
WPBP-AKTIVJN	Indicator: active
WPBP-BUKRS	Company code
WPBP-WERKS	Personnel area
WPBP-BTRTL	Personnel subarea
WPBP-KOSTL	Cost center
WPBP-PERSG	Employee group
WPBP-PERSK	Employee subgroup
WPBP-ABART	Employee subgroup grouping for PC rule
WPBP-PLANS	Position/work center
WPBP-GSBER	Business area
WPBP-VDSK1	Organizational key

-
      WPBP-ANSVH   Terms of employment
      WPBP-ORGEH   Organizational unit
      WPBP-STELL   Job key
      WPBP-ZTERF   Time Management status
      WPBP-SCHKZ   Work schedule rule

- **PSP** (Personal Work Schedule)
      PSS DATUM   Date
      PSS MOTPR   Personnel subarea grouping for DWS
      PSS TPROG   Daily work schedule
      PSS TAGTY   Day type
      PSS FTKLA   Public holiday class
      PSS VARIA   Daily work schedule variant
      PSS TPKLA   Daily work schedule class
      PSS ZMODN   Period work schedule
      PSS STDAZ   Number of hours field
      PSS ACTIV   Activity indicator

-

PT (Time Pairs)

PT-LDATE	Date
PT-BEGTM	Start time
PT-ENDTM	End time
PT-BGCOD	General code for clock-in entry
PT-EGCOD	General code for clock-out entry
PT-BTERM	PDC terminal ID of clock-in entry
PT-ETERM	PDC terminal ID of clock-out entry
PT-BSART	Time event pair start time
PT-ESART	Time event pair end time
PT-STAT1	Status from pair formation
PT-STAT2	Status from time evaluation
PT-PTYPE	Pair type
PT-AESTA	Change status

- **AB** (Absences)

AB-AWART	Absence or attendance type
AB-ABART	Employee subgroup grouping for PC rule
AB-CNTR1	National split
AB-CNTR2	National split
AB-CNTR3	National split
AB-ENDDA	Valid to date
AB-BEGDA	Valid from date
AB-VTKEN	Previous day indicator
AB-BEGUZ	Start time
AB-ENDUZ	End time
AB-ABWTG	Absence and attendance days

-

AB-STDAZ	Absence hours
AB-ABRTG	Payroll days
AB-ABRST	Payroll hours
AB-KALTG	Calendar days
AB-KLBEW	Absence valuation class
AB-PSARB	Percentage work capacity
AB-OBEGD	Old start date
AB-OENDD	Old end date

ANWES (Attendances)

ANWES-ENDDA	Valid to date
ANWES-BEGDA	Valid from date
ANWES-BEGUZ	Start time
ANWES-ENDUZ	End time
ANWES-VTKEN	Previous day indicator
ANWES-AWART	Attendance type
ANWES-ABWTG	Attendance days
ANWES-STDAZ	Attendance hours
ANWES-ABRTG	Payroll days
ANWES-ABRST	Payroll hours
ANWES-KALTG	Calendar days
ANWES-VERSL	Overtime compensation type
ANWES-LGART	Wage type

- **ZL** (Time Wage Types)

ZL-DATUM	Date
ZL-BEGUZ	Start time
ZL-ENDUZ	End time
ZL-LGART	Wage type

-

    ZL-IFTYP   Information type (S/M/A)

    ZL-ANZHL   Number of hours per wage type

- **ANK** (Attendance Quotas)

ANK-INFTY	Infotype
ANK-SUBTY	Subtype
ANK-OBJPS	Object ID
ANK-SEQNR	Number of an infotype record
ANK-ENDDA	Valid to date
ANK-BEGDA	Valid from date
ANK-BEGUZ	Start time
ANK-ENDUZ	End time
ANK-KTART	Attendance quota type
ANK-ANZHL	Amount of quota
ANK-ZEINH	Time unit
ANK-VERSL	Overtime compensation type
ANK-KVERB	Quota used
ANK-KREST	Remaining quota

ABK (Absence Quotas)

ABK-INFTY	Infotype
ABK-SUBTY	Subtype
ABK-OBJPS	Object identification
ABK-SEQNR	Number of an infotype record
ABK-ENDDA	Valid to date
ABK-BEGDA	Valid from date
ABK-VTKEN	Previous day indicator
ABK-BEGUZ	Start time
ABK-ENDUZ	End time

-

ABK-KTART	Absence quota type
ABK-ANZHL	Amount of quota
ABK-ZEINH	Time unit
ABK-KVERB	Quota used
ABK-KREST	Remaining quota

- **MEHR** (Overtime)

MEHR-ENDDA	Valid to date
MEHR-BEGDA	Valid from date
MEHR-BEGUZ	Start time
MEHR-ENDUZ	End time
MEHR-VERSL	Overtime compensation type
MEHR-PBEG1	Start of break
MEHR-PEND1	End of break
MEHR-PBEZ1	Paid break duration
MEHR-PUNB1	Unpaid break duration
MEHR-PBEG2	Start of break
MEHR-PEND2	End of break
MEHR-PBEZ2	Paid break duration
MEHR-PUNB2	Unpaid break duration
MEHR-PBEG3	Start of break
MEHR-PEND3	End of break
MEHR-PBEZ3	Paid break duration
MEHR-PUNB3	Unpaid break duration
MEHR-PBEG4	Start of break
MEHR-PEND4	End of break
MEHR-PBEZ4	Paid break duration
MEHR-PUNB4	Unpaid break duration

-
- **SKO** (Time Transfer Specifications)

SKO-ENDDA	Valid to date
SKO-BEGDA	Valid from date
SKO-ZTART	Time transfer specification
SKO-ANZHL	Number of hours in a time
SKO-ATIME	Time for time evaluation

  RUFB (On-Call Duty)

RUFB-ENDDA	Valid to date
RUFB-BEGDA	Valid from date
RUFB-VTKEN	Previous day indicator
RUFB-BEGUZ	Start time
RUFB-ENDUZ	End time
RUFB-STABY	Subtype for availability
RUFB-ZEITY	Employee subgroup grouping for work schedules
RUFB-MOFID	Public holiday calendar key
RUFB-MOSID	Personnel subarea grouping
RUFB-SCHKZ	Work schedule rule
RUFB-MOTPR	Personnel subarea grouping
RUFB-VARIA	Daily work schedule variant
RUFB-TPROG	Daily work schedule

- **TP** (Specific Day Time Pairs)

TP-BEGTM	Start time
TP-ENDTM	End time
TP-ANZHL	Number
TP-PTYPE	Pair type
TP-ORIGS	Origin indicator
TP-SUBTY	Subtype
TP-TEXT	Text field

- **ADRS** (Address)

ADRS-LINE0	Address line
ADRS-LINE1	Address line
ADRS-LINE2	Address line
ADRS-LINE3	Address line
ADRS-LINE4	Address line
ADRS-LINE5	Address line

-

ADRS-LINE6   Address line

ADRS-LINE7   Address line

ADRS-LINE8   Address line

ADRS-LINE9   Address line

ADRS-LINEK   Address line

ADRS-LINED   Address line

FEH (Time Evaluation Errors)
FEH-LDATE   Date
FEH-LTIME   Time
FEH-ERRTY   Error type

    1 Error set by operation COLER   2
User error from pair formation
3   Technical error from pair formation
4   Technical error from time evaluation
5   Warnings and notes generated in time evaluation
FEH-ERROR   Error number

FEH-MESTY   Message type

E   Error
F   Warning
 I Information
 # Note

FEH-HISTF   History indicator
FEH-UTEXT   User text

FEH-PDSNR   Sequential number for PDC messages

-   **VS** (Variable Balances)
VS-DATUM   Date

VS-VARIA   Comment

VS-ANZHL   Number of day balance

VS-IDENT   Identifier for variable balances

-   **CVS** (Cumulated Variable Balances)
CVS-VARIA   Comment
CVS-ANZHL   Number daily time balance
CVS-IDENT   Identifier for variable balances

-
ALP (Different Payment)

ALP-ALZNR	Indicator for different payment
ALP-BEGDA	Valid from date
ALP-ENDDA	Valid to date
ALP-BEGUZ	Start time
ALP-ENDUZ	End time
ALP-ANZHL	Number
ALP-ZEINH	Unit of measurement
ALP-BWGRL	Valuation basis
ALP-OTYPE	Object type
ALP-PLANS	Position/work center key
ALP-PRAKN	Premium number
ALP-PRAKZ	Premium indicator
ALP-AUFKZ	Extra pay indicator
ALP-BETRG	Amount
ALP-TRFGR	Pay scale group
ALP-TRFST	Pay scale level
ALP-VERSL	Overtime compensation type

- **C1** (Cost Assignment)

C1-C1ZNR	Pointer to cost assignment
C1-BUKRS	Company code
C1-GSBER	Business area
C1-KOKRS	Controlling area
C1-KOSTL	Cost center
C1-AUFNR	Order number
C1-KSTRG	Cost object
C1-POSNR	Work breakdown structure element (WBS element)

-
     C1-NPLNR   Network number for account assignment

     C1-POHRS   Number of hours for activity allocation

Activities

Decide which fields you want to print on the time statement form.

31.5.5.1.2.3 Define the Format of the Output Data

The following is an overview of all conversions and rules for formatting the data printed on your form.

Example

```
 Form SType No     Offset Length      WType       Field name   Conversion   Rule
---------------------------------------------------------------------
```

TF00 HD	03	016	08		PERNR-PERNR	
TF00 HD	03	034	25		P0001-ENAME	
TF00 HD	03	071	06		WPBP-PERSG	
	!	!	!		!	
	-------------			!		
		!			!	Output
	Output position				Output fieldsprocessing	
		!			!	
!						
	-------------		time types	!	---------	
	!	!	!	!	!	!
!						
TF00 E1	01	000	01	!	WEEKDAY	TS
TF00 E1	01	004	10	!	PT-PTYPE	TP
TF00 E2 LL	01	004	22	!	THOLT-KTEXT	
TF00 E2 TP	01	027	22	!	TEXT-TP	
TF00 E2 HD	02	004	11	!	PSS TAGTY	TD
:	:	:	:	:	!	:
:	:					
:	:	:	:	:	!	:
:	:					
TF00 EP	01	024	03	!	TP-PTYPE	TP
TF00 EP FD	01	027	05	!	TP-BEGTM	UZ
TF00 EP FD	01	033	05	!	TP-ENDTM	UZ
TF00 EP FD	01	038	07	!	TP-ANZHL	
TF00 EP LL	01	046	07	0003		

Recommendation

Do not carry out any activities during the first reading. It is possible to access this section at all stages where you work with conversions and rules.

Activities

1. **Output texts:**
   There are three ways to print a text on the form:

   a) By directly entering the text in the **Field name** column, in inverted commas.

   b) By entering the key word **TEXT-XY** in the **Field name** column. The precise text to be printed is identified by the two-digit identifier "XY".
   You inform the program of this by making a corresponding entry in the place where you have also defined the group headers. This entry must adhere to the following conventions:

   Fnst GR K D < ....+....1....+....2....+....3....+....4....+....5..

```
        -------------------------------------------------------------------
        TE XT X Y Text that you want to specify via the identification code XY
```

c) If you enter a field name (a one-digit identification code), this can be converted into a text by using the conversion T$, where "$" is any alphanumeric character. You define the corresponding text as before.

If you want to print each employee's Time Management status, for example, you must evaluate the WPBP-ZTERF field. This can assume the following values:

0 : No time evaluation
1 : Time evaluation (ACTUAL times)
2 : PDC time evaluation
8 : External services
9 : Time evaluation (PLANNED times) Enter "TZ" as the conversion. The necessary text elements are:

```
        Fnst GR K D < ....+....1....+....2....+....3....+....4....+....5..
        -------------------------------------------------------------------
        TE   XT Z 0   No time evaluation
        TE   XT Z 1   Time evaluation (ACTUAL times)
        TE   XT Z 2   PDC time evaluation
        TE   XT Z 8   External services TE   XT Z 9   Time evaluation (PLANNED times)
```

2. **Special field names:**

a) SKIP : Print a blank line

b) VACATION
Possible conversions:
  AG : Print leave entitlement without deduction
  RG : Print remaining leave (in days)
  VG : Print leave taken
  AB : Print accounted leave   RE : Print remaining leave at end of year other : Print remaining leave for each period

c) VACATION5
Possible conversions as for VACATION
5 places before the decimal point and 5 decimals

d) QUOTAA/QUOTAP
Attendance and absence qupta information
- for current key date- in the wage type field, enter either   the quota type (2 characters), or
- for accrual of all existing attendance/absence quotas
  the keyword 'DAYS' or 'HOUR'
  to specify the quota unit,
- with conversion   CF - Quota compensation for future

                          CO - Quota compensation for key date
                         DF - Quota 'taken'
                         ET - Quota entitlement
                         EV - Quota accounted
                         OR - Quota requested
                         RD - Quota remainder for key date
            RF - Quota remainder for future   US - Quota used

e) WEEKDAY
Possible conversions:
 TW : Print weekday text
    A number between 1 and 7 is assigned to every day of the   week with the key word WEEKDAY.
    (1=Monday, 2=Tuesday ... , 7=Sunday)
    You must assign the appropriate weekday text to each of these numbers just as you do when creating a text element:

```
        Fnst GR K D < ....+....1....+....2....+....3....+....4....+....5..
```

```
------------------------------------------------------------------
TE   XT W 1   Monday
TE   XT W 2   Tuesday
TE   XT W 3   Wednesday
TE   XT W 4   Thursday
TE   XT W 5   Friday
TE   XT W 6   Saturday
TE   XT W 7   Sunday
```

TS : If no time pair exists for a day of the week, this day does   not appear on the form.
    You must also enter a text for each day of the week on which   this conversion shold be carried out; the text is a predefined   key word in this case.
    If you do not want to print weekends with no time pairs, for example, the necessary entries are as follows:

Fnst GR K D < ....+....1....+....2....+....3....+....4....+....5..

```
------------------------------------------------------------------
TE   XT S 6   $SKIP_NO_PAIRS
TE   XT S 7   $SKIP_NO_PAIRS
```

3.   **General conversions:**
    10 : Suppression of leading zeros
    13 : Date format is DD/MM/YYYY
    26 : Conversion of the administrator ID from infotype 0001,   **Organizational Assignment**, to the administrator name
    AD : Conversion of the short form of address from infotype 0002,   **Personal Data**, to form-of-address text
    CP : Decimal format with 2 places after the decimal point
    DM : Print the day for a date

    HM : Print times in the form of hours and minutes
    NU : Formatting as a numeric field
    NZ : Suppression of all zeros
    RT : Conversion of times of more than 24 hours into times   that are feasible (for example 29:33 -> 05:33 05:33) UZ : Time expressed in HH:MM:SS
    DZ : Time expressed in HH:MM:SS with non-decimalized times
    LT : Long text for an entity
    ST : Short text for an entity

4.   **Rule specifications:**
    FL : Field is only printed in the first line of a day
    LL : Field is only printed in the last line of a day
    FD : Field is not printed for full-day records
    TP : Field is only printed if there are no time pairs   for the current day
    SU : For days with substitution, field is processed as FD,   otherwise it is not printed
    HD : Field is only printed on public holidays
    WD : Field is only printed on workdays
    AB : Field is only printed on days on which there is a recorded   absence; only printed in the first line of a day

31.5.5.1.2.4 Set Address Type

By using different subtypes in the infotype Addresses, you can assign different addresses to your employee. In this step, you determine which Address you want to be printed on the time statement formular.

Example

In addition to the employee's permanent residence, you can also store addresses for the employee's temporary residence or a mailing address. You can decide to always print the mailing address, if this has been stored in the system. On the other hand, you can stipulate that the employee's permanenet residence is output.

Standard settings

If you miss this step out, the system will automatically use the employee's main address for address editing.

31.5.5.1.2.5 Format Headers

You define the header data of your form in this step.

There are two parts to the header layout:

- The **Form background** refers to data which should be printed in the same way on every form.

- The **Form contents** contains employee-related information.

Example

SAP AG, Walldorf   Time statement list   Page : 1
=====================

Personnel no. : 12345678   Name: Mustermann Martin   E.group : 1 Personnel area : 0001   Cost center: 0001   E.subgroup: DT

Evaluation period: 199408 from 08/01/1994 - 08/31/1994   WS rule: FLEX

Information that is presented as the form background is characterized as follows:

- The information is printed at the same point on every time statement.

- The same information is printed on every time statement.

The form contents are defined as follows:

- The information is printed at the same point on every time statement.

- The information is employee-specific, i.e. different on each time statement.

Standard settings

The standard form TF00 contains headers in line with the above example.

Recommendation

1. Draw the outline of the form to scale on a sheet of squared paper.

2. Mark the individual lines and columns of the outlined form by numbering them in ascending order, starting with "1".

3. Enter the information which is required on the time statement at the appropriate points on the form.

4. Decide how you want the requested information to be displayed.

Activities

1. Determine the form background:

   a) Enter the language key, the country grouping and the name of the form to be processed on the selection screen.

   b) Specify the line number in which the entry should be printed.

   c) Enter the background text.

   d) You can move to the end of a line using the SHIFT buttons.

2. Then enter the header contents:

    a)   Enter the country grouping and the name of the form to be processed on the selection screen.

    b)   Choose page type "HD" (Header).

    c)   Decide exactly where the entry is to be printed. Do this by entering the line number and the distance from the side of the left page.

    d)   Determine which Data field you wish to print.

    e)   Choose a Conversion in which the output field should be formatted.

Further notes

1.   When you specify the form background, please note that blank lines are generally not printed. If you want to ensure that a blank line is printed, enter the control parameter *SKIP* at the line of the form background where you wish to set the blank line.

2.   If you create an overview list of the time balances - cumulated on a period basis - which is similar to the SAP standard forms TFL1 and TFL2, you can branch from the screen display of the form to the time statement of daily time balances by placing the cursor on the requested personnel number. You can use control parameter *SELECT-FORM=* when you create the form background to determine which subsequent form the System should access.
If you wish to access form TF01 for example, enter *SELECT-FORM=TF01* in the last line of the form background instead of a text.
If you do not use this control parameter, you branch automatically to the standard form TF00 if you use cursor selection on a personnel number.

31.5.5.1.2.6 Format Group Headers

The individual results are printed in different groups, always in tabular form:

-    ED :   printout of daily results
-    PD :   printout of interim daily results
-    LP :   printout of totals overview
-    SK :   printout of time transfers
-    ZL :   printout of time wage types
-    ZM :   printout of cumulated time wage types for the period
-    AB :   printout of absence quotas
-    AN :   printout of attendance quotas
-    FE :   printout of time evaluation errors
-    V0, V1 ...:   printout of variable balances
-    C0, C1 ...:   printout of cumulated variable balances
-    CB :   printout of cumulated balances for all employees

At the beginning and end of each of these groups, you can print an additional text which can take the form of a header or column definition. The procedure is always identical.

Example

A heading for the group ED might look as follows:

```
        Individual results
        ==================
Day Text In   Out  Start End Rec.  Skel.time Flex. CVio. Overtime
------------------------------------------------------------------------
```

The correct positions of the column headers are derived from the position of the time balances which you create in the next step.

Standard settings

In the SAP standard forms, group headers are defined as in the above example.

Recommendation

Using the parameter *NEW-PAGE*, include a line change in the first line of the group ED so that the time statement form starts on a fresh page for each new personnel number.

Activities

1. Define a header:

   a) Enter the language key and the name of the form you want to edit in the selection screen

   b) Choose the window identifier you want to edit (ED, LP, SK, ZL, and so on)

   c) Choose indicator B

   d) Specify the number of the line in which you want the text to be printed

   e) Enter the header text

   f) You move to the end of a line using the shift symbols

2. Define a final output:

   a) Position the cursor on the name of the form you want to edit

   b) Choose the group you want to edit (ED, LP, SK, and so on)

   c) Choose indicator E

   d) Specify the number of the line in which you want the text to be printed

   e) Enter the text

Further notes

You can use the following two special functions in addition to normal text entry:

- As for form backgrounds, you can print a blank line using the control parameter *SKIP*.

- You can force a page break feed using the control parameter *NEW-PAGE*.

31.5.5.1.2.7 Format Statement of Time Balances

In this step, you specify how you want the daily time balances to be printed on your form. You can choose to print time types directly, or other information which is available for the day in question, such as the daily work schedule.

Each day defines a window for all the daily results in an evaluation period. Several time pairs are assigned to an individual day. The day window is therefore divided into several time pair windows, each of which can be several lines long.

Each time pair window contains several levels that are written on top of each other. If information at different levels is written to the same position, a level with a letter that comes later in the alphabet overwrites the previous ones. Empty fields are generally not printed, and therefore do not overwrite any data.

Processing is carried out in the following order:
    Period -> day -> time pair -> level

The time pair data can come from different infotypes, which is why certain fields are not defined for many time pairs. For example, the terminal identifier is defined only for time pairs from infotype 2011, **Time Events**, the compensation type only in infotype 2005, **Overtime**, and so on. It would not be a problem here to complete the same position of the time pair window at different levels with both sets of data.

In other examples, it is rare that two different items of information overlap, e.g. off-site work as the first time pair on a public holiday. In this case, the public holiday text and the "off-site work" text occupy the same position in the window. (You have specified which text has priority if the attendance falls on a public holiday.)

There are also fields which appear in all time infotypes (for example, start and end time), or which correspond to each other (such as absence text and attendance text) but can never appear in the same time pair.

There is a table called TP (time pairs) containing the fields that appear in all time infotypes. This means that you do not have to create a separate level in the window for each conceivable origin of a clock time. Table TP is filled for each day, sorted, and then processed. For each time pair, the system positions on the corresponding pair in time evaluation.

Example

Individual Results
==================

```
Day   Text         In     Out   Start End       Rec.  ST      Flex  CViol.
-----------------------------------------------------------------------
02    leave                                            0.00  7.60- 0.00

03    leave                                            0.00  7.60- 0.00

04                              07:3217:01 9.48   8.48  0.48  0.00

05                              08:1522:21 14.10 8.75   0.75  0.00

06    Hl.3 Cologne       EE not at work          5.20  0.00  0.00
off
09    business trip                              8.00  0.00  0.00

10                              08:5517:51 8.93

10    doctor's visit  11:0013:00 2.00   0.00    8.00- 0.00
< 1  day
11                              06:5917:59 11.00 10.00 2.00   0.00

12                              09:5914:29 4.50 3.50 4.50-2.50

13                              07:0023:01 16.02 8.50 3.30   0.00
16       accident en-route to work
16       on call                20:0023:00 3.00 0.00 7.60-0.00
```

Requirements

You have set up the group header for the group ED.

Standard settings

In the SAP standard forms, the individual results are printed as in the above example.

Activities

1. Enter the name of the form you want to edit on the selection screen.

2. Decide which fields you want to print.
    If you want to print several time types in one line (see columns 8 to 10), do not make an entry under **Field**. Instead, enter the time type you want to print in the special position (offset, length) in the **Wage type** field.
    Besides the block for time wage types "ZT", which is processed for each day once the "E*" blocks have been processed, there is another method of printing time wage types within the time balance block: If you enter a wage type code instead of a time type code in the **Wagetype** field, the relevant wage type number field from table ZL is printed in this position. If you enter both codes (for the time type and the wage type), the time type is printed.

3. Specify the level in which you want the field to be printed. To do this, enter "E*" in the **SType** field. The "*" stands for any alphanumeric character. Note that the further on the alphanumeric character is in the alphabet, the higher the level. Do not enter "EP" or "EN" in the **SType** field.

4. Specify where on the form you want the entry to be printed.

5. Choose a conversion for formatting the output field.

6.   Choose a rule according to which you want the information to be printed.

Further notes

The page types "EN" and "EP" have fixed meanings:

EN   The level is only processed for personnel numbers with
            Time Management status '9'
EP   The level is only processed for personnel numbers with
            Time Management status '1' or '2'

31.5.5.1.2.8 Set Up the Output of Interim Balances

Errors can occur during time evaluation for which the recalculation date is set, however processing continues as normal. This means that daily balances are still calculated afer the day with errors, and can be corrected the next time the program is run.

You can display the interim balances on your form by using page types "P*." You proceed in the same was as before in the Format Statement of Time Balances section. The settings are identical except for the page type.

Example

You record a time event type with an Attendance reason. A locked record is generated in the system and has to be unlocked manually by the administrator. The recalculation date is set as the day on which the time event was recorded, and all subsequent days are evaluated as normal.
The balances calculated are only provisional since the days are reprocessed the next time the time evaluation program is run, and could be entirely different when the generated absence record is unlocked.

Requirements

The Group heading must be defined for group PD.

Further notes

Page types "PN" and "PP" have fixed meanings: PN   The level is only processed for personnel numbers   with '9' as their status for time management.   PP
The level is only processed for personnel numbers   with '1' or '2' as their status for time management.

31.5.5.1.2.9 Format Overview of Totals

At the end of an evaluation period, you can display an overview of the time types you allowed for period totaling in the Define time types steps. You can display an overview for each employee.

You can also summarize the totals time types in additional time types, which you can print on the form.

The overview is not printed until all the day results have been processed.

Example

Totals Overview
===============

Type Unapp.	Working time	O/time
Balance previous period	10.00	25.10
Planned time	163.75	
Working time	173.67	

Correction	0.00	0.00
Balance	10.00	45.52
Excess/deficit	0.00	
Remaining leave	14.00	

Requirements

You have set up the group header for the group LP.

Standard settings

In the SAP standard forms, the totals overview is defined as in the above example.

Recommendation

Provide an explanatory text for the time types. You can do this using "TEXT-XY" entries, as described in the Define the format of the output data step.

Activities

1. Decide whether you want to further summarize the totals time types calculated by the time evaluation driver. If you do, proceed as follows:

    a) Enter the name of the form you want to edit on the selection screen

    b) Enter the time type you want to use for the summarization

    c) Enter the time type you want the value to be added to or subtracted from

    d) If you want to subtract from the target time type, for example, enter a minus sign in the **+/-** column

2. Decide which time types you want to display:

    a) Enter the name of the form you want to edit on the selection screen

    b) Choose the page type LP

    c) Specify the position at which you want the entry to be printed

    d) In the Wage type column, enter the key of the totals time type you want to display

    e) Choose a conversion for formatting the output field

    f) Choose a rule for displaying the information

Further notes

If you create an overview list similar to the standard forms TFL1 and TFL2, you can validate a time type against a threshold value.
If, for example, you want an overview of all employees who have a negative balance in time type 0005, enter "< 0.00" in the **Field name** column for time type 0005. Only personnel numbers that satisfy this condition are selected.
It is important that a blank character separates the comparison operator from the value to be checked. The following comparisons are allowed: "<", ">", "=" and "*" (not equal to). The threshold value may be any decimal number.

31.5.5.1.2.10 Set Up the Ouput of Time Wage Types

As well as the time balances, the time evaluation driver stores the time wage types that have been derived from an employee's time data.

You can summarize the generated time wage types in additional wage types, and print them on the form.

This step shows you how to print the time wage types on your form.

Example

```
            Time wage types
            ===============
Day         Wage type                                    Number      M/S/A
---------------------------------------------------------------------
01          MI10 Normal hours                            7.50 S
01          MQ10 Overtime bonus 25%         0.50         M
```

Requirements

You have created the group header for the group ZL.

Standard settings

In the standard SAP system, time wage types are printed as in the example.

Activities

1. Decide whether you want to summarize the time wage types calculated by the time evaluation driver. To do so, proceed as follows:

    a)   Enter the name of the relevant form on the selection screen.

    b)   Enter the wage type to be used for the cumulation.

    c)   Specify which wage type the time wage types should be added to or subtracted from.

    d)   If you want to subtract from the target wage type, enter a minus sign in the **+/-** column. Otherwise, enter a plus sign.

2. Specify which data should be printed:

    a)   Enter the name of the relevant form on the selection screen.

    b)   Choose page type ZL.

    c)   Decide where on the form the entry should be printed.

    d)   Decide which data field you want to print.

    e)   Choose a conversion for formatting the output field.

    f)   Choose the rule according to which the information should be printed.

Further notes

-   You can print the corresponding text for the time wage type by entering "T512T-LGTXT" under *Field.*

-   If the wage type has been derived from an absence, you can print the absence text by entering "T554T-ATEXT" under *Field.*

-   If the generated time wage types feature a reference to an absence, account assignment data or an alternative payment (split indicator), the corresponding tables **AB, C1** or **ALP** are also positioned, enabling the relevant data to be printed.

-   Apart from the time wage types, you can also print at the end of an evaluation period after every day that is to be evaluated by using page type **ZT**. There are two ways of doing this. You can either print every entry in table ZL on a line-by-line basis, during which all corresponding tables are positioned. You can also print several time wage types from one line. To do so, you must define the required wage type that you want to print with offset and length at a specific position in the field "lgart." In doing so, the individual time wage types are cumulated for each day and all corresponding data is not positioned.

-   Apart from printing time wage types in subblocks **ZT**, you can also print directly in **E*** blocks (please refer to Create time account statements.)

-   You can also print time wage types that have been **cumulated over a period** at the end of an evaluation period. To do so, you must use page type **ZM**. You must also create a Group header for **ZM**. As for block **ZT**, you can either print several cumulated time wage types per line without text, or you can print each wage type from every individual line with text.

31.5.5.1.2.11 Set Up Output of Time Transfer Specifications

If you enter time transfer specifications for your employees using the **Time Transfer Specifications** infotype (2012), the time evaluation driver stores them in a table. You can print the time transfers on your form.

Example

```
        Time transfers
        ==============
From      To                    Time transfer type              Number
----------------------------------------------------------------
07/01/1994 07/01/1994           0005 Flex balance                2.00

07/08/1994 07/08/1994           0098 Annual leave taken         10.00
```
Requirements

You have defined a Group heading for the SK group.

Standard settings

The time transfers are printed as shown in the example in the standard SAP forms.

Activities

1. Enter the name of the form to be edited in the selection screen.

2. Choose the page type SK.

3. Decide which data fields you want to print.

4. Decide where on the form the entry should be printed.

5. Choose a conversion in which the output field should be formatted.

6. Choose a rule according to which the information should be printed.

Further notes

-   You can print text for the time transfer type by entering "T555Q-TXSKL" in the **Field** field.

-   As well as printing the time transfers at the end of a payroll period, you can print them for each day using the page type **ST**.

31.5.5.1.2.12 Set Up the Output of Attendance/Absence Quotas

If you have entered absence quotas or attendance quotas for your employees using the **Absence Quotas** (2006) or **Attendance Quotas** (2007) infotypes, you can print them on the form, as you can the time transfers.

Example

```
        Absence quotas
        ==============
From      To                    Quota                           Number
----------------------------------------------------------------
01.08.1994 02.08.1994           01 Non-working shift entitl. 5.00
09.08.1994 31.08.1994           03 Educational leave 10.00
```
Requirements

You must have set up Group headings for groups AN and AB.

Standard settings

Absence and attendance quotas are printed according to the above example in the standard SAP form TF00.

Activities

1.   Enter the name of the form to be edited in the selection screen.

2.   Choose the page type "AN" for attendance quotas, and "AB" for absence quotas.

3.   Decide where on the form the entry should be printed.

4.   Decide which Data field you want to print.

5.   Choose a Conversion in which the output field should be formatted.

6.   Choose a Rule according to which the information should be printed.

Further notes

If you want to print the corresponding text for the attendance or absence quota, enter

"T556Q-KTEXT" or "T556B-KTEXT" in *Field*.

31.5.5.1.2.13 Set Up the Output of Weekly Totals

At the end of each calendar week, you can print a weekly total of the daily balances.

Example

```
            Individual results
            ==================
Day   Text  Bter  Eter  St.Tm EndTm      rec.   SkelTime   Flex   CoVioO/T
---------------------------------------------------------------------
23    Urlaub                                      8.00 0.00    0.00  0.00
24    Urlaub                                      8.00 0.00    0.00  0.00
25    Mi                        10:11 17:43 7.32 8.19 0.11 -0.23   0.00

26    Do                        06:01 17:33 11.32 10.03 1.33   0.00   0.00

27 Fr  07:00 13:33 6.33 6.18 2.1228 Sa  EE not at work     1.42   0.00
29    So                        EE not at work

Weekly total                          40.40 0.50- 2.05   0.00
```

Requirements

The Daily balances must be set up.

Standard settings

The printout of the weekly total is defined according to the above example in the SAP standard form **TF01**.

Activities

1. Determine the last day of a calendar week.

2. Format the printout of the weekly total on your form.

   a) Enter the name of the form to be processed in the selection screen.

   b) Under the page type **WS**, enter the time types that should be printed in cumulated form. Specify the position at which the data should be printed.

   c) Choose a Conversion in which the output field should be formatted.

   d) Choose a Rule according to which the information should be printed.

   Further notes

   The totalling described refers exclusively to the time types which you have already marked for

   daily output in the section Print time balances.

31.5.5.1.2.14 Set Up the Output of Cumulated Balances

If you create a time type overview as for the standard forms TFL1 and TFL2, you can generate a total of printed time balances for all persons after the system has displayed the data of all selected employees. You make the necessary system settings in this step.

   Example

You generate an overview of flextime for all employees assigned to the time data admininstrator 001 in the **Organizational Assignment** infotype (0001). You want to display a total of individual flextime balances at the end of the list.

   Standard settings

In the standard form TFL1, a totals line is displayed for the total skeleton time and the accumulated flextime balance.

   Recommendation

Highlight the information on the totals by using a group heading for group CB.

   Activities

1. Enter the name of the form you want to edit on the selection screen.

2. Choose page type CB.

3. Decide which time balances you want to display and choose an appropriate conversion or rule for the output format.

31.5.5.1.2.15 Set Up the Output of Time Evaluation Messages

In this step, you decide whether error messages from time evaluation should be printed on the form, and if so, which messages should be printed.

   Example

Notes and errors are generated for your employees during time evaluation if they are absent without permission, for example. You only want to print the errors on your form, and not the notes.

Requirements

You have created the group header for the group FE.

Standard settings

Errors which have occurred for your employees in time evaluation are printed on the standard SAP form TF02.

Activities

1. Decide which errors should be printed. You can restrict the value range of the following printable fields for error selection:

    a) **FEH-ERRTY** (origin of error)

    b) **FEH-ERROR** (error number)

    c) **FEH-MESTY** (message type)

    You can make an entry in the **WT** column to restrict error selection. If you do not make an entry here, all errors are printed.

2. You can also display the corresponding long text for the error by entering the field T555F-ETEXT.

3. Enter the data you want to print under the page type **FE**.

Further notes

-   Please note that your entries in the **WT** field should be left-aligned.

-   Start in the first line to print fields with restrictions. You can use the other lines for further restrictions.

-   Only use several lines to specify restrictions. All other fields must be defined in the first line.

31.5.5.1.2.16 Set Up the Output of Variable and Cumulated Balances

In this step, you decide whether the tables **Variable Balances** (VS) and **Cumulated Variable Balances** (CVS) should be printed, and if so, how they should be printed.

Example

You use both tables to store data you want to evaluate for the purpose of pay scale reclassification using report **RPITIG00** in field **(C)VS-VARIA**.

Requirements

You have set up the variable balances for your employees as described in personnel calculation rule **TTIG**.

Standard settings

Variable balances are printed for your employees on the standard SAP form TF02.

Activities

1. The balances contained in tables VS and CVS are stored without specifying a fixed structure. You have already determined the semantics of the data via a personnel calculation rule in your evaluation schema. In order to be able to print the data on the form, you determine the data structure here by specifying the field offset and the length of the field **(C)VS-VARIA**.

2. Enter the data under page types **VS** and **CV**.

3. In the **WT** column, indicate whether you want to print a certain type of variable balance.
The balance type is specified in the field **VS-IDENT**. If you enter

ITIG VS-IDENT

for example, only entries stored under the identifier ITIG are printed. If you want to enter several identifiers, you must assign a new line number to each entry in order to print information on the balances.
If you do not enter an identifier, all entries are printed.

4. Create the group headers for window types **V1**, **V2** ... or **C1**, **C2**... according to how many types of variable balance you have specified by means of an identifier.

31.5.5.1.3 Set Earliest Recalculation Date for the Time Statement

Recalculation periods in the time statement (RPTEDT00) are indicated in the "Reference" string of clusters. Time evaluation (RPTIME00) sets the indicator if it is run before the date in the "Earliest Recalculation Periods for Time Management" table (T569R) with recalculation type "03" (Time statement).

You can set the earliest recalculation date in this step.

Requirements

You have defined a modifier for the earliest recalculation date.

Activities

Change the date specifications for the earliest recalculation date in line with the **modifiers** you have defined.

31.5.5.1.4 Set Up Internet Connection

The following information concerns the previous (old) method for setting up an Internet service. For information on implementing the new version of this Internet service, see Internet Time Statement.

This section describes the special features you must take into account if you want to allow your employees access to a time statement form (or several different time statement forms) via the Internet/Intranet.

This includes the various actions in the system as well as how to include a reference to call up the form on your HTML web page.

Example

You want to avoid printing out paper time statement forms. Instead, you would prefer that your employees be able to display their time evaluation results from their work centers or from home.

Requirements

1. You have set up the Basis component for Internet access.

2. Employees must have a user in the SAP system before they can display their time statement forms via the Internet/Intranet.

3. Employees must be assigned an SAP user in the Communication infotype (0105). To do so, use subtype "0001" ("system user name SAP system").

Standard settings

The standard SAP system uses the form TF02 as the Internet form.
A form template called "HR_TIME_SHEET" is also used. It displays the logo of the SAP model enterprise in the header of the time statement.

Recommendation

If you do not want to use your current time statement form on the Intranet, copy form TF02 from client 000 and country grouping 99, and then set up your own form to be used on the Internet/intranet. The previous sections contain more detailed information on how to design your own form.
Start the time statement using the form you have created in the SAP system.

Start the SAP Web Repository transaction (SMW0). In the development class PTIM, define an
HTML template similar to the standard template "HR_TIME_SHEET." In the template, use HTML commands to display graphical elements on the Internet page, for example, either above or below the displayed list. The graphic "logo1.gif" is displayed as an example in the standard system.
Do not change the key word "<!listbody!>" as it determines the position of the list. The key word "!mimepath!" is substituted by the path including the WebRFC directory, which is why only the relative path is specified in the standard. The use of a template is optional.

Activities

1. Incorporate the following HTML command into the HTML page from which statement is started:
    <a href="http://#SERVERADRESSE#/#PFAD#/wgate.dll?~service=#SERVICENAME#
    &_FUNCTION=HR_TIME_SHEET_TO_HTML&_TEMPLATE=#TEMPLATEIDENTIFIER#
    &FORM=#FORMIDENTIFIER#">
    (no blank characters between "...#SERVICENAME#" and "&_FUNCTION..." or between "#TEMPLATEIDENTIFIER#" and ... "&FORM..."!)
    You must modify the values between two ## signs in line with your configuration by putting in a new #SERVERADRESSE#, #SERVICENAME#, #FORMIDENTIFIER#, and #TEMPLATEIDENTIFIER#. The form identifier is the name of the form as defined above.
    (The executable URL "wgate.dll" is delivered, as are certain "service" files such as "XGWFCT." The names of these files can be changed by the customer.)
    The template identifier is the name of the template you have copied as recommended.

Further notes

Choose the form identifier for the copy carefully from the name range reserved for customers (special character at start). The special characters must not be HTML characters.
The name of the copy of the HTML template must not contain HTML characters either.
Otherwise, your changes may be overwritten when the system is upgraded to a higher release.

31.5.5.2 Time Management Pool

In this section, you make the settings for the postprocessing after time evaluation.

The steps in this section are only necessary if you do **not** use the Time Manager's Workplace.

31.5.5.2.1 Set Up Postprocessing

Various evaluation reports are started from the initial screen of the Time Management pool. In this step, you can specify which variant should be used to call up the respective report.

Example

You want to use a particular form for the time statement.

Requirements

If you want to start the reports with variants, the variants must first be created.

Standard settings

-   Time Management Pool

-   Error processing   Report RPTERR00 without variant

-   Attendance check   Report RPTEAB00 without variant

- Time leveling   Report RPTCMP00 without variant

- Time documents   Report RPLTIM00 without variant

- Time data

- Multiple recording   Report RPTENT00 without variant

- Calendar view   Report PPTABS50 without variant - Balances

- Time statement   Report RPTEDT with variant SAP&TEDT -   Balance overview   Report RPTEDT with variant SAP&TELU

- Cumulated balances   Report RPTBAL00 without variant

- Time accounts   Report RPTDOW00 without variant

- Work schedule

- Personal work schedule   Report RPTPSH10 without variant

- Time evaluation

- Time evaluation   Report RPTIME00 without variant

- Integration with Logistics

- Incorrect confirmations   Report RPWI1000 without variant

- Incorrect sessions   Report RPWI3000 without variant

- External wage types

- Incorrect wage types   Report RPIEWT01 without variant

- Incorrect sessions   Report RPIEWT03 without variant

Recommendation

If you want to use your own variants, specify here which report should be started with which variant.

Activities

1. Decide if you want to create your own variants.

2. Create the required variants.

3. Assign the variants to function codes in feature LLREP. The assignment of function codes to reports is as follows:

- TERR   RPTERR00   Error processing

- TEAB   RPTEAB00   Attendance check

- TCMP   RPTCMP00   Time leveling

- LTIM   RPLTIM00   Time documents

- TEBT   RPTENT00   Multiple recording

- TABS   RPTABS50   Attendance/absence data overview

- TEDT   RPTEDT00   Time statement

- TELU   RPTEDT00   Balance overview

- TPSH   RPTPSH10   Personal work schedule

- TIME   RPTIME00   Time evaluation

- AFRU   RPWI1000   Statistics on incorrect confirmations

- BINP   RPWI3000   Process incorrect sessions

- IEWT   RPIEWT01   List of incorrect external wage type records -   BIEL   RPIEWT03   Incorrect sessions (external wage types)

31.5.5.2.2 Limit display to general data only

In this step, you can limit the number of infotypes and tables which should be taken into account.

Example

The time event and time pair tables do not have to be read for employees who do not participate in time recording.

Standard settings

There is an example defined in the standard SAP system. A decision is made as follows depending on the Time Management status, and regardless of the employee subgroup: all permitted infotypes and tables are displayed for employees who participate in time recording, with the exception of time events and time pairs. In all other cases, all permitted infotypes and tables are displayed.

Recommendation

If too many infotypes and tables are displayed, you can make appropriate limitations according to the feature.

Activities

1.   Decide which groupings you need.

2.   Decide upon the specifications of the groupings.

3.   Specify which infotypes and tables should be taken into account for which specifications. The following are permitted:

```
 Infotype or table                          Name
--------------------------------------------
 Absences                                          2001
 Attendances                               2002
 Substitutions                             2003
 Availability                              2004
 Overtime                                          2005
 Absence quotas                                    2006
 Attendance quotas                         2007
 Employee Remuneration Info          2010
 Time transfer specifications        2012
 Time events                               MT
 Time pairs                                      PT
 Errors                                          ERT
 Time tickets                              LE
 Time tickets HR interface           IFT
 Personal work schedule                    PSP
```

31.5.5.2.3 Limit display of data to errors only

In this step, you can specify which data the error processing function should display for which errors.
If you do not make any settings, all available information is displayed for all errors.

Example

You want to view the following data in error processing for the error message 'Employee not at work':

- Time events (Table MT)

- Personal work schedule (Table PSP)

- Recorded absences (Infotype 2001)

- Substitutions (Infotype 2003)
  The entry in the *Function part* field under the appropriate error number should look as follows: MT/PSP/2001/2003

Requirements

Error definitions must be created.

Standard settings

The table does not contain any entries in the standard SAP system; all available information is displayed for all errors.

Recommendation

If the data display is too extensive for your purposes, limit it by specifying exactly which data you want displayed.

Activities

1. Decide for which personnel subarea grouping you want to specify the data to be displayed.

2. Decide for which error type and error number you want to determine the data to be displayed.

3. Decide which data should be displayed. The possibilities are listed below:

```
Data to be displayed        Table name
-----------------------------------------
 Time events                             MT
 Time pairs                              PT
  Personal work schedule      PSP
 Recorded absences            2001
  Manually recorded attendances     2002
 Substitutions                2003
 Availability                 2004
  Manually recorded overtime  2005
  Absence quotas                      2006
  Attendance quotas           2007
```

4. In the *Function part* field, enter the table names of the data you want displayed. Separate the names of the various tables with */.*

31.5.5.3 Set Value Limits for Cumulated Evaluation Results

Report **RPTBAL00** can be used to generate a list of the

- Day balances

- Cumulated balances or

- Time wage types

in cluster B2. You can define value limits as regards number of hours for time wage types or wage types. If the limit is exceeded, the relevant number field in the output list is highlighted in red.

You define the value limits in this step.

Example

You might want to flag all employees who have a flextime credit of more than 15 hours in any one time evaluation period.

Standard settings

The following value limits are defined in the standard system:

- maximum daily overtime   : 3 hours

- flextime balance per period: 15 hours

- daily overtime bonus 25% : 2 hours

- daily overtime bonus 50% : 1 hours

Activities

Decide which time wage types or wage types you want to define value limits for, and what relation the values should have to an employee's organizational assignment. Then modify features **LIMIE**, **LIMIS**, and **LIMIZ** as required.

31.5.6 Integration with Payroll

In this section, you specify how the evaluation results are transferred to payroll for further processing.
The evaluation results refer to the wage types generated from the absence and attendance times.

You can transfer the data to:

- SAP Payroll

- A third-party payroll system

Clarify which type of payroll system is used in your enterprise and read the corresponding section.

31.5.6.1 Set Up Payroll with Human Resources

In this step, you customize SAP Payroll for the wage types determined in time evaluation. The integration is made in the gross part of payroll. Time evaluation is called in schema XT00 or in the equivalent country-specific payroll schema (e.g. UT00).

Requirements

You must have set up HR payroll.

Standard settings

A check is carried out in schema XT00, or in the corresponding country- specific schema, to ascertain whether time evaluation is active. If time evaluation is active, the data from time evaluation is processed; otherwise wage type generation is carried out according to the daily work schedule. daily work schedule.

Activities

1.   Check whether you have activated subschema XT00, or the corresponding country-specific payroll subschema.

2. If you have set up time evaluation in line with the standard schema **TM00: Time evaluation with data from the subsystem**, check if the following lines are active in subschema XT00 or in the corresponding country-specific subschema:

```
If      PDC
IMPRT   B2
PRINT NP  ZL
DAYPR TC00 PDC
ELSE
DAYPR TC00
ENDIF
```

3. If you have set up time evaluation in line with the standard schema **TM04: Time evaluation without clock times**, check if the integration to the time evaluation results is active in subschema XT00, or in the corresponding country-specific subschema. Insert schema **TC04** as opposed to schema TC00 for function DAYPR. TC04 uses the time evaluation schema TM04 for day processing.

```
If      PDC
IMPRT   B2
PRINT NP  ZL
DAYPR TC04 PDC
ELSE
DAYPR TC04
ENDIF
```

31.5.6.2 Prepare Payroll Using a Third-Party System

This step explains the methods supported by SAP'S HR system of exporting the results of time evaluation to a third-party (that is, non-SAP) payroll system.

The time wage types generated from employees' working times are of particular relevance to payroll, that is, table ZL in the results cluster B2, file PCL2.

There are two methods of exporting data. Whichever method you use, a sequential dataset is written which can then be read by the third-party payroll system:

1. Export program using interface toolbox:
   The interface format TIME and the export program RPTEB200 are provided as an example of the function in this case.

2. Export program RPTEZL00:
   Program RPTEZL00 illustrates how data can be exported without using the interface toolbox.

Recommendation

It is advisable to schedule a periodic job for background processing to create the sequential dataset.

Activities

1. Decide which data is required by the third-party payroll system:
   - Which payroll periods are used by the third-party payroll system?
   - Which data is required by the payroll system?
   - What should happen if there is a recalculation?

2. Create the required interface format using the interface toolbox (transaction PU12) and generate the export program.

3. Decide when the time evaluation data should be exported to the third- party payroll system and schedule a periodic job to be processed in the background.

4. Make sure that the sequential dataset is imported in time for the third-party payroll system.

Further notes

If there is a recalculation in time evaluation, both of the above methods allow you to export the differences for periods which have already been exported.

Refer to the documentation on the interface toolbox for additional information.

31.6 Time Manager's Workplace

The *Time Manager's Workplace* (TMW) is a user-friendly interface developed for recording and maintaining enterprise time data. This new interface can be individually customized to meet your business requirements. Two TMW scenarios, **Time Data** and **Message Processing**, are included in the standard SAP System. Time administrators can easily toggle between the two scenarios (when assigned to them) to complete their daily tasks, without leaving the application.

The *Time Manager's Workplace* screen is made up of several display areas grouped together. You determine the actual content and layout of these screen areas based on the information and scope of functions required by your time administrators to carry out their tasks.

The profile contains the information required to set up the screen areas. The system uses the profile to determine the following specifications for the *Time Manager's Workplace*:

- Initial period

- Objects used to fill the screen areas with data

- Selection options for the time administrators to select employees

- Whether the time administrators can use the IDs of one or more subsets of their definition areas

You can set up the following areas in the *Time Manager's Workplace* in the profile:

- Menu

- Employee list

- Employee data

- Time data views (one-day, multi-day, multi-person, team, and calendar views)

- Detail screens for time data

- Message processing

IDs that identify various types of time data make the task of entering time data easier for time administrators.

Before you make the requisite settings in the aforementioned areas, you must determine which profiles are required in your enterprise. How many time administrators work in your enterprise? Do they have different responsibilities? If actual time data is recorded in your enterprise, do you want to realize cost assignment and different payment? Which authorizations should apply to what profiles? What screen area selections must be created to set up the business-related processes required in your enterprise?

You have the opportunity to maintain your profiles after completing each Customizing section in the Implementation Guide (IMG).

For more information on the business concepts integrated in the *Time Manager's Workplace*, see the *Personnel Time Management -> Time Manager's Workplace* documentation in the SAP Library.

31.6.1 Menu Design

In this section, you define the Field Selections used to create profiles, and determine what menu functions and toolbar buttons are to be activated for these profiles.

You define the menu and application toolbars in the *Time Manager's Workplace* for the following screen areas:

- **Task Selection (TSK)**
  Here you create the field selections valid for both the *Time Data Maintenance* and *Message Processing* tasks, or just one of the tasks.
  Choose *Goto* to switch to one of these screen areas.

- **Views for *Time Data Maintenance* (VTD)**
  Here you create the field selections for the *Time Data Maintenance* task by specifying different combinations of multi-day, multi-person, and one-day views.

  The VTD screen area corresponds to the toolbar area where the system displays the relevant buttons.

- **Views for *Message Processing* (VWL)**
  Here you create the field selections used in the *Message Processing* task. You can choose between a message-based and an employee-based view.

  The screen area VWL corresponds to the application toolbar area where the system displays the relevant buttons.

- **Menu Functions (MEN)**

You create field selections for additional options located in the following menus: **Utilities**

- Start time evaluation
  When a time administrator starts time evaluation from the *Time Manager's Workplace*, he or she can also display the time evaluation log in the *Time Manager's Workplace* . If a time evaluation log was generated, the system shows the *Display time evaluation log* button.

- Display time statement form

- Call employee

- Temporarily insert employees

Environment

- Maintain HR master data

- Display HR master data
  If a time administrator switches to HR master data from the *Time Manager's Workplace*, the system displays the Object Manager in the left screen area. Hide the Object Manager by choosing the *Hide Object Manager* option in the *Settings* menu.

To make the applicable functions available to your employees, create several profiles. You can group together field selections in the profiles.

31.6.1.1 Define Task Selection

In this activity, you define the task selections (field selections) for the *Task Selections* (TSK) screen area. This screen area is an option in the *Goto* menu in the *Time Manager's Workplace*.

When creating the profile, you determine which tasks are to be active in the task selections (field selections). You determine the default task when the *Time Manager's Workplace* is accessed.

Example

A shift foreperson enters time data using the *Time Manager's Workplace*. However, an HR administrator enters time data and processes messages.

You create a task selection (field selection) called *REC* (time recording) as well as a task selection (field selection) called *ALL* (time data maintenance and message processing).

Activities

1. Choose *New entries.*

2. Create a *field selection* (task selection).
   Give the field selection an easily recognizable name and ID.

3. Choose the field selection and double-click to select *Field Customizing* in the *Dialog Structure*.

4. Choose *Select fields.*

5. Choose your entries.
   The system uses the task you selected first by default when the *Time Manager's Workplace* is called.

31.6.1.2 Define Views for Tasks

In this activity, you define the selection of views (field selections) available in the *Time Manager's Workplace*. Selections are made for both the *Time Data Maintenance* and *Message Processing* tasks.

In the *Time Data Maintenance* task, you have the choice between a multi-day view, a multi-person view, and a one-day view.
In the *Message Processing* task, you have the choice between an employee view or a message view.

The screen areas are called:

- Views for Time Data Maintenance (VTD)

- Views for Message Processing (VWL)

In the views selection (field selections), you create the profile to determine which views are active in each task. You also determine which view is the system default when the *Time Manager's Workplace* is accessed.

Activities

Views for Time Data Maintenance Task

1. Choose *New entries*.

2. Create a *field selection*.
   Give the field selection an easily recognizable name and ID.

3. Choose the field selection and double-click to select *Field Customizing* in the *Dialog Structure*.

4. Choose *Select fields*.

5. Select your views.
   The field that you chose first in the field selection (views selection) is used as the system default when the *Time Manager's Workplace* is accessed.

Views for Message Processing Task

Carry out steps 1-5 as described in the above *Views for Time Data Maintenance Task*.

31.6.1.3 Define Menu Functions

Specify Menu Functions

You use this activity to define menu function selections (field selections) for the *Menu Functions* screen area (MEN). This screen area belongs to the *Utilities* and *Environment* menu options in the *Time Manager's Workplaces*.

You use the menu function selections (field selections) when you set up profiles, to specify which menu functions are active in which profiles.

Create Variants and Maintain Feature LLREP

You use these activities if you need to create variants for reports RPTIME00 (time evaluation) and RPTEDT00 (time statement). You can enter the variants in feature LLREP. The feature controls which report variant the system uses when the time data administrator runs time evaluation or prints a time statement form via the *Time Manager's Workplace*.

Standard settings

In the standard system, the menu functions *Run time evaluation*, *Display time statement form*, *Call employee*, and *Temporarily insert employees* are provided under the *Utilities* menu option. When a time data administrator runs time evaluation from the *Time Manager's Workplace* and there is a time evaluation log, he or she can choose a pushbutton to display and print the log.

You can use the *Maintain HR master data* and *Display HR master data* menu functions for the *Environment* menu option.

When a time data administrator branches from the *Time Manager's Workplace* to HR Master Data, the system may display the object manager in the left screen area of the master data screen. He or she can hide the object manager by choosing: *Settings -> Hide object manager*.

Activities

Specify menu functions

1. Choose *New entries*.

2. Create a *field selection* (menu function selection).
    > You are recommended to choose an easily-identifiable name for your selection and ID.

3. Select the field selection and, in the *dialog structure*, double-click on *Field Customizing*.

4. Choose *Select fields*.

5. Select the menu functions you require.

Maintain variants and check feature LLREP

1. Choose *Create variant for time evaluation*.

2. Create the required variant for the RPTIME00 report.
    To do so, specify in the selection screen the *evaluation schema* that you want to use to run time evaluation.
    When you run the report from the *Time Manager's Workplace*, the system takes the employees currently selected and evaluates their data up to and including the date specified in the variant (*Evaluation up to* field). If this field in the variant is blank, the system automatically evaluates up to the system date. The system does not read the entries in the *Personnel number* field in the variant.

3. Choose *Create variant for time statement*.

4. Create the required variant for the RPTEDT00 report by entering the name of the form that you want to use to print the time statement.
    When you run the report from the *Time Manager's Workplace*, the system prints the time statement form for the employees currently selected and for the period currently selected.

5. Enter the required variants for reports RPTIME00 and RPTEDT00 in feature LLREP.

31.6.1.4 Create Profiles and Assign Field Selections

In this activity, you create profiles. You assign each of the field selections for menu design to the profiles.

You must always use a profile to access the *Time Manager's Workplace*. The profile provides the system with the following information:

-   What initial period is to be used

-   With which objects the screen areas in the *Time Manager's Workplace* are filled with data

-   Which selection options the user has in the employee selection area

-   Whether users can use the IDs of one or more subsets of a definition area

-   Whether the message line is displayed in the upper or lower screen area

Activities

1. Choose *New entries*.

2. Create a profile and give it an easily recognizable ID.

3.   Specify the initial period called when the *Time Manager's Workplace* is called.
     For more information on the available options, see the applicable field documentation.

4.   Leave the *Employee selection* and *IDs* fields blank. The settings required here are completed later in the Employee Selection and IDs sections.

5.   Save your entries and choose *Back*.

6.   Select the profile and double-click to choose *Assign Field Selection* in the *Dialog Structure*.
     The *Specify Work Area: Entry Screen* appears.

7.   Use the possible entries help option (F4) to find and select the *screen area* to which you want to assign a field selection.

8.   Choose *New entries*.

9.   Choose the field selection.

10. Repeat steps 6-9 if necessary.

31.6.2 Basic Settings

In this section, you carry out various Customizing activities required for the **Time Manager's Workplace (TMW)**.

31.6.2.1 Select HR Master Data and Time Data

In this section, you define the display objects for the *Time Manager's Workplace*.

These display objections can be used for the employee data and the employee list as well as for message processing.

31.6.2.1.1 HR Master Data

In this section, you specify the information from the HR Master Data infotypes you want to display in the *Time Manager's Workplace (TMW)*.

To display the required information, you must first define the information as display objects. In the Employee Data section, you can insert a layout to display employee data in the *TMW* which can also be used for both the employee list and in message processing.

31.6.2.1.1.1 Define Display Objects for HR Master Data

In this activity, you define display objects for master data infotype fields. You create an infotype and subtype for each display object for master data as well as the infotype field of the value to be displayed.

   Example

The standard SAP System contains display objects you can see in the *Standard objects* function. They are not displayed in the *Master Data Infotype Fields* view, but are available to specify layouts.

   Activities

Check the display objects in the standard SAP System by choosing *Standard objects*.

If you want to define your own display objects, proceed as follows:

1.   Choose *New entries*.

2. Enter the name of the display object as well as an easily recognizable name.

   The name of the display object must start with a Y, Z, or a special character.

3. Choose the infotype and a subtype, if necessary.

4. Enter the corresponding field names.

5. In the *TMW field label* field, you can enter the name you want to be used when the object is displayed in the *Time Manager's Workplace*.
   If you leave the field blank, the system automatically uses the field label from the Data Dictionary.

   Further notes

To guarantee the uniqueness of a display object for master data, make sure that only one data record exists for each infotype/subtype combination per employee and per time.

31.6.2.1.2 Time Accounts

In this section, you specify the time accounts you want to display in the *Time Manager's Workplace (TMW)*.

To display time account balances, you must first define reporting quota types comprised of your selected time quotas. You must then define these reporting quota types as display objects. You can include the display objects in the layout for employee data in the Employee Data section, which enables them to be displayed in the *TMW*. To do so, see Employee List and Message Processing.

31.6.2.1.2.1 Define Reporting Quota Types

In this activity, you define quota types for reporting. You can use these reporting quota types

- To define display objects for the *Time Manager's Workplace*

- For the *SAP Query* in the *Quota Statuses* simulated infotype (2502)

- To transfer quota statuses to the SAP *Business Information Warehouse (SAP BW)*

Reporting quota types allow you a consolidated view of the following attendance/absence entitlements of *SAP Time Management*:

- The *Attendance Quotas* infotype (2007)

- *Absence Quotas* infotype (2006)

- Monthly totals (SALDO table, cluster B2), only for use in the *Time Manager's Workplace*

- *Leave Entitlement* infotype (0005), only for use in *SAP Query* and *SAP BW*

You can group several attendance/absence entitlements in one reporting quota type. The system

outputs the values of the individual entitlements as a cumulated value in the reporting quota type.

Taking account of personnel subarea groupings and employee subgroups You can take account of employees' organizational assignments as required:

- You can group time and labor data of different personnel subarea groupings or employee subgroups in one reporting quota type. Example: The absence quota type 0100 has the same business significance for several personnel subareas. This means that you can group the absence quota type 0100 of all relevant personnel subarea groupings in one reporting quota type.

- You can group attendance and absence entitlements of different personnel subarea groupings or employee subgroups in different reporting quota types. This may be necessary if, for example, absence quota types with the same subtypes have a different business significance.

The same applies to time types with personnel subarea groupings. Note that you have to maintain the assignments for all personnel subarea groupings or employee subgroups if you do not want to exclude employee data from particular personnel subareas or employee subgroups. **Taking account of other organizational assignments of employees and purpose of data**

You can also form reporting quota types according to other organizational assignments of employees, such as the cost center or the *Time Management status*. To do so, you maintain the **GRDWK** feature. It determines the rule group(s) for the definition of reporting quota types. In the standard system, all employees have the rule group 01.

If you use the reporting quota types both in the *Time Manager's Workplace* and in *SAP Query* and *SAP BW*, you can use the rule groups to have different attendance/absence entitlements included for different purposes. To do so, you use the decision field **REPAR** in the decision tree of the feature.

Displaying balances from the SALDO table in cluster B2

The *Time Manager's Workplace* displays different values depending on whether you carry over the period balance from the previous month or year in the Define Time Types IMG activity:

-   If you carry over the period balance, the system displays the balance as of the current day.

-   If you do not carry over the period balance, SAP R/3 displays the balance as of the time evaluation period in which the selected day lies. This means that in March you can analyze the balance as at the end of January if you have selected a day in January, for example.

Example

In the *Maintain Reporting Quota Types* activity, you create a reporting quota type, *Leave*.

You use this reporting quota type to group the absence quota types *Standard annual leave*, *Educational leave* and *Special leave.*

Standard settings

SAP provides some reporting quota types in the standard system.

Activities

1.   If required, choose the **Maintain Feature GRDWK** activity and maintain the feature. In the standard system, all employees have the rule group 01.

2.   Choose the *Maintain Reporting Quota Types* activity.

3.   Create a reporting quota type and enter easily identifiable description for the quota type text.
     You can use any alphabetical or numerical characters in the name of a reporting quota type. Note, however, that the SAP namespace is reserved for quota time types beginning with a number.

4.   Select the reporting quota type.

5.   In the dialog structure, double-click on the type of assignment you want: *Assign Absence Quotas*, *Assign Attendance Quotas*, or *Assign Leave Quotas*.

6.   In the *Rule Group: Reporting Quota Type*s field, enter the rule group to which you want the reporting quota type to belong. The rule group is queried by the **GRDWK** feature.
     Enter an attendance or absence quota type, a leave type, or a monthly total. You can assign several attendance or absence types, leave types, or monthly totals to one reporting quota type. You have to make a new entry for each assignment.

Further Notes

31.6.2.1.2.2 Define Display Objects for Time Accounts/Assign Reporting Quota Types

In this activity, you define display objects for time quotas. A display object for time quotas determines the reporting quota type that is displayed.

Activities

1. Choose *New entries*.

2. Enter the name of the display object and a descriptive text.

3. Choose the reporting quota type.

4. In the *TMW field*, you can enter the name you want to be used when the object is displayed in the *Time Manager's Workplace*.
    If you leave the field blank, the system automatically uses the field from the Data Dictionary.

31.6.2.1.2.3 Check Assignment of Time Units

In this activity, you check whether the assignment between HR units and standard SAP units is correct.

The *Time/measurement unit* shows the HR unit and the *Unit of measurement* shows the standard SAP unit.

31.6.2.1.3 Employee Time and Labor

In this section, you specify whAT employee times and labor are to be displayed in the *Time Manager's Workplace*.

To display the applicable information, you must first define reporting time types for your employee times and labor. Then, you define these reporting time types as display objects. Display objects can be added in the Employee Data section in an employee data layout to be displayed in the *Time Manager's Workplace* . Display objects are also available for the employee list and message processing.

31.6.2.1.3.1 Define Reporting Time Types

In this activity, you define reporting time types. You can use reporting time types

-   To define display objects for the *Time Manager's Workplace*

-   For the *SAP Query* in the simulated infotype 2501

-   To transfer time and labor data to the SAP *Business Information Warehouse (SAP BW)*

Reporting time types allow you a consolidated view of time and labor data of *SAP Time Management*. You can create and name your own reporting time types and use them to group time and labor data from the following datasets:

-   *Absences* infotype (2001)

-   *Attendances* infotype (2002)

-   *Employee Remuneration Information* infotype (2010)

-   Time types (table ZES, cluster B2)

- Time wage types (table ZL, cluster B2)

The system outputs the values of the individual time and labor data according to the unit chosen and the container filled as a cumulated value of the reporting time type.

Units and containers for time and labor data

Two different views are available for defining reporting time types: one for the *Time Manager's Workplace* and one for *SAP Query* and *SAP BW*. The system interprets one view or the other, depending on the location from which the data is requested.

- In the case of reporting time types for the *Time Manager's Workplace*, you must specify in the reporting time type itself the unit you want to be used for the value determined (hours or days). This guarantees that time administrators correctly interpret the value that is

output.

In the case of attendance/absence types, you can also specify whether you want the payroll hours/days (that is, the **account-relevant** field is selected) or the absence hours/days to be output.

- However, in the case of reporting time types for *SAP Query* and *SAP BW*, the values can be accumulated in various containers, according to the unit chosen and the specified value (payroll hours, days, absence hours and days). You therefore specify for each attendance or absence the data you want to be read. For time wage types and time types, you specify what you want the value read to be interpreted as, that is, which container it is to be placed in. You must restrict the selection to one unit. To ensure that the data you receive is of use to you, you should fill the containers consistently for each reporting time type. **Taking account of personnel subarea groupings and/or country groupings** You can take account of employees' organizational assignments as required:

- You can group time and labor data of different personnel subarea groupings in one reporting time type. Example: The absence type 0100 has the same business significance for several personnel subareas. This means that you can group the absence type 0100 of all relevant personnel subarea groupings in one reporting time type.

- You can manage time and labor data of different personnel subarea groupings in different reporting time types. This may be necessary if, for example, absence types with the same subtypes have a different business significance.

The same applies to time types with personnel subarea groupings or for wage types with country groupings. Note that you have to maintain the assignments for all personnel subarea groupings if you do not want to exclude employee data from particular personnel subareas. **Taking account of other organizational assignments of employees and purpose of data** You can also form reporting time types according to other organizational assignments of employees, such as the cost center or the *Time Management status*. To do so, you maintain the **GRDWT** feature. It determines the rule group(s) for the definition of reporting time types. In the standard system, all employees have the rule group 01.

If you use the reporting time types both in the *Time Manager's Workplace* and in *SAP Query* and *SAP BW*, you can use the rule groups to have different time and labor data included for different purposes. To do so, you use the decision field *REPAR* in the decision tree of the feature.

Important note: Many customers who use the *SAP Cross-Application Time Sheet* do not use the SAP HR component. These customers are therefore not able to use the GRDWT feature. So that they can still use the InfoSources of the Cross-Application Time Sheet, only the reporting time types of rule group 01 are processed for the Time Sheet.

If you use the HR component and also the Time Sheet InfoSource, you must also reserve rule group 01 for the Time Sheet.

Example

You want to define a reporting time type, *Overtime*, for your salaried employees (with *Time Management status* 0) and your hourly-paid employees (with *Time Management status* 1). You have to take account of overtime from time balances (cluster table ZES) and employee remuneration information (infotype 2010). You proceed as follows:

1. You maintain the GRDWT feature. You group employees in a rule group according to the **Time Management status**: Employees with the *Time Management status* 1 in rule group 01, those with the *Time Management status* 0 in rule group 02.

2. In the *Maintain Reporting Time Types* activity, you create a reporting time type, *Overtime.*

3. In this reporting time type, you group the time type *overtime worked* (rule group 01 for employees with the *Time Management status* 1) and the wage types *overtime 25%* (MM10), *overtime 50%* (MM20), and *overtime basic remuneration* (MM00) (rule group 02 for employees with the *Time Management status* 0).

Standard settings

SAP provides some reporting time types in the standard system.

Activities

1. If required, choose the **Maintain Feature GRDWT** activity and maintain the feature.

2. Choose the *Maintain Reporting Time Types* activity.

3. Create a reporting time type and enter easily identifiable description for the time type text.

4. You can use any alphabetical or numerical characters in the name of a reporting time type. Note, however, that the SAP namespace is reserved for reporting time types beginning with a number.

5. If you are creating reporting time types for the *Time Manager's Workplace*, specify whether you want them to be managed in days or hours.

6. Select the reporting time type.

7. In the dialog structure, double-click on the type of assignment you want: *Attendances/Absences Assignment*, *Time Types Assignment*, or *Wage Types Assignment*.

8. In the *Rule Group: Reporting Time Types* field, enter the rule group to which you want the reporting time type to belong. The rule group is queried by the **GRDWT** feature.

9. Enter a valid combination of personnel subarea grouping and attendance/absence type or time type, or of a country grouping and wage type.
   You can assign several attendance/absence types, time types, and wage types to one reporting time type. You have to make a new entry for each assignment.
   You can assign both wage types that were determined by time evaluation and stored in the ZL table in cluster B2 and wage types that you entered in the *Employee Remuneration Information* infotype (2010).

10. Specify how you want the time to be interpreted:

   a) For the *Time Manager's Workplace:* If you assign an attendance/absence type, you must specify whether you want the system to read the actual times entered or the times that would be deducted from a quota (payroll hours/days) In the latter case, you have to choose the *account-relevant* option.

   b) For *SAP Query* and *SAP BW*: Enter the individual values you want to read.

   Further Notes

31.6.2.1.3.2 Define Display Objects for Time & Labor/Assign Reporting Types

In this activity, you define the display objects for employee time and labor.

   Activities

1. Choose *New entries*.

2. Name the display object and enter a descriptive text.
   The name of the display object must start with a Y, Z, or special character.

3. Choose the reporting time type.

4. In the *TMW field*, you can enter the name you want to be used when the object is displayed in the *Time Manager's Workplace*.
   If you leave the field blank, the system automatically uses the field from the Data Dictionary.

31.6.2.2 Set Up Message Processing

In this section, you set up the message processing function for the **Time Manager's Workplace (TMW)**. Message processing in the TMW has the following advantages:

- Detailed display of all relevant time data for the current day, previous day and following day

- Choice of a message-oriented or employee-oriented view of the messages

- Grouping of messages into functional areas
  You can group messages into functional areas to process the message-oriented view. The functional areas can be used to group messages that are related in subject matter or that have to be processed in similar ways.

- Definition of processing method
  You can specify contextual information for message types or functional areas to simplify or control how a message is processed.

The settings in this section are not specific to particular profiles.

For detailed conceptual information on message processing, see the SAP Library: Human
Resources -> Time Management -> Time Manager's Workplace -> Message Processing

31.6.2.2.1 Define Message Functional Areas

In this activity, you define functional areas for messages. Functional areas are used to group messages for the following reasons:

- Messages relate to the same subject, such as violations of working time regulations

- Messages require a similar or identical method of processing, such as incorrect or missing time events

- Messages are of the same category, for example, they are all notes, info messages, or errors

All messages that are assigned to a functional area are displayed in the message view under a message functional area node. This enables time administrators to call up either the entire message functional area or all messages of one type.

Standard settings

Sample functional areas are included in the standard SAP System.

Activities

1. Choose *New entries*.

2. Define a functional area.

31.6.2.2.2 Assign Message Types to Message Functional Areas

In this activity, you can group message types into functional areas. The messages then appear in the message view under the node for the functional area.

Message types that do not have a functional area assigned to them appear in message processing in the TMW on the same hierarchy level as the functional areas.

Example

You want all messages concerning incorrect or missing time events to appear under the **Incorrect time events** functional area in message processing.

Standard settings

Sample entries are included in the standard SAP System.

Activities

Enter a functional area to group together the message types that you want to appear under one node for message processing.

31.6.2.2.3 Define Processing Method

In this activity, you define processing methods. The purpose of processing methods is to simplify data entry required by time administrators to process messages. The processing methods contain the *groups of display objects* used to display contextual information for messages.

You can implement processing methods in two ways:

- By assigning a processing method to a functional area. All message types that come under this functional area inherit this processing method.

- By assigning a processing method to a message type. If the message is not assigned to a functional area, or if no processing method is assigned to the functional area, then this processing method is used in the *Time Manager's Workplace* (TMW).

Standard settings

Currently, the only processing methods available are those that concern the display of contextual information (groups of display objects).

Activities

1.   Choose *New entries*.

2.   Define a processing method.

31.6.2.2.4 Create Groups of Display Objects

In this activity, you define what contextual information you want to display for a message in the message list of the *Time Manager's Workplace (TMW)*.

Contextual information provides additional data for time administrators to help them process messages.

You group the contextual information into **groups of display objects** . In subsequent Customizing activities, you can use processing methods to assign the groups to functional areas or message types. This enables you to display specific contextual information for each message.

A group of display objects can contain up to 10 display objects.

If messages that belong to different functional areas or message types are included in the message list, the **groups of display objects** are displayed in a compressed format in a field under the *Additional info* field.

Example

For messages requiring overtime approval, you want to display the employee's planned and overtime hours for the period to date.

For messages concerning missing attendance times of an employee, you want to display the

daily work schedule assigned to the employee with a variant.

Requirements

Display objects must already be defined in the Display Objects section.

Standard settings

Sample display objects are included in the standard SAP System.

Activities

1. Decide which **groups of display objects** you want to provide.

2. Choose **New entries**.

3. Enter a name for the **group of display objects** in the *Field selection* field, and enter a descriptive short text. Choose a descriptive ID to simplify the process of identifying your display objects in further steps.

4. Choose ENTER.

5. Select the entry, and double-click to select the **Field Customizing** in the **Dialog Structure** screen area.

6. Choose **Select fields**.

7. Transfer up to 10 display objects from the **Selection Fields** area to the **Selected Fields** area.

8. Choose *Continue*.

31.6.2.2.5 Assign Groups of Display Objects to Processing Methods

In this activity, you can assign the processing methods you have created to a group of display objects.

If you do not assign a **group of display objects** to a processing method, no contextual information is displayed for the functional areas or message types that contain this processing method.

Example

You want to assign the group of display objects containing information on the employee's planned and actual working time to the **Personal Work Schedule** processing method.

Standard settings

The standard system contains some samples.

Activities

1. Choose *New entries*.

2. Select a processing method.

3. Assign a group of display objects.

Further notes

You will be able to define additional functions for a processing method in subsequent releases.

31.6.2.2.6 Assign Processing Methods to Message Function Areas and Message Types

In this activity, you can assign a processing method to message functional areas or message types.

As a consequence, the same contextual information is displayed for all messages that are grouped in one functional area.

Contextual information to appear in relation to individual messages

If you do not assign any processing method to a functional area, the **groups of display objects** that you assign directly to the message types are displayed in the message list. If no processing methods are assigned to the message types either, no contextual information is displayed. **No contextual information to be displayed for particular functional areas**

In this case, you assign a processing method that has no groups of display objects assigned to it to a functional area. No contextual information is displayed for all message types that are grouped under this functional area.

Standard settings

The standard system contains some model entries.

Activities

1.   Choose **Assign Processing Methods to Message Functional Areas**.

2.   If required, assign a processing method to a functional area.

3.   Choose **Assign Processing Methods to Message Types**.

4.   Assign a processing method to all message types for which you want contextual information to be displayed and which are not assigned to a functional area.

31.6.2.2.7 Set Up Message Processing Without Entry of Time Data

Use

This activity provides a summary of all further activities that you have to carry out to be able to process messages in the Time Manager's Workplace. This summary is relevant for you only if you want to use the Message Processing function without the Time Data Maintenance function of the Time Manager's Workplace.

If you also use the Time Data Maintenance function, you will automatically carry out all activities required for the Message Processing function in the IMG activities of the Time Data Maintenance section.

Requirements

You have already carried out the activities in the Menu Design and Basic Settings sections.

Activities

1.   Mandatory: In the IDs for Time Data section, define which IDs for time data you want to be used in which areas of your enterprise.

2. Mandatory: In the Screen Areas -> Time Data Maintenance -> Multi-Day View section, define how you want employees' time data to be displayed in the **Time Data Maintenance** screen area. Note that you can use only the multi-day view for message processing.

3. Mandatory: In the Employee Selection section, define the selection criteria you want the system to use to form the employee list for message processing.

4. Optional: Check the Degree of Detail for Time Data Maintenance Screen Area.

5. Mandatory: In the Assign Field Selections to Profiles activity, assign the field selection for the multi-day view to the *profiles for the Time Manager's Workplace*. Specify also the degree of detail in which you want the time data to be displayed when the message processing function is called up.

6. Mandatory: In the Details for Time Data section, define all the field selections you want to appear in the *Detail* screen area. Assign the field selections to the profiles.

7. Optional: In the Profiles section, check the profiles and complete them if required.

8. Optional: In the Profiles section, check the profiles for your time administrators, configure the parameter transactions and complete the corresponding roles.

31.6.2.3 Define Processing Instructions

In this step, you can specify processing statements, which you can use to perform customer-specific processing in time evaluation.

This procedure is primarily aimed at simplifying particular data that time data administrators have to enter frequently. Instead of explicitly entering time data (infotype records), time administrators can simply select a checkbox. You must first specify the meaning of each check box in Customizing for time evaluation.

You can use this procedure to assign overtime approvals or general time bonuses, for example. You can also use the procedure to specify particular information for processing a day. One possible use is an indicator to show the time administrator that the relevant day has been processed completely.

Processing statements using time transfer specifications

The procedure is converted using time transfer specifications (infotype 2012). This has the following advantages:

- Function P2012 can be called several times in the schema and processed using a personnel calculation rule

- Customizing for time transfer specifications is very simple

Each checkbox is linked to a particular time transfer specification. If the field is selected, a time transfer specification is generated for that day and employee in the *Time Transfer Specifications* infotype (2012). Please note that time transfer specifications are generally flagged as relevant to a recalculation.

Display of checkboxes

The position of the checkboxes depends on the view in which they are displayed:

- Multi-day view - checkboxes in the table for time data Zeitangaben

- Multi-person view - checkboxes in the table for time data Zeitangaben -   One-day view - checkboxes in a row above the table for time data

31.6.2.3.1 Define Groups for Processing Instructions

In this activity, you determine what checkboxes you want to set up in the **Time Manager's Workplace** for your own purposes.

To do so, you form groups of up to 7 processing instructions or time transfer specifications. Each group forms the record of processing instructions that you want to make available to the time administrator for each profile.

Example

You want to provide two checkboxes for a profile:

- One to grant an overtime approval retroactively

- One to indicate that a day was processed completely

You set up two new time transfer specifications and combine them in a group.

Standard settings

Same entries are included in the standard SAP System.

Activities

1. Decide what checkboxes you want to make avaiable to time administrators and for what purpose.

2. Choose **Define Time Transfer Type**.

3. Create the processing instructions you want to provide to your time administrators. Use a customer-specific namespace to avoid confusion with "normal" time transfer specifications. Enter a descriptive text to simplify the assignment in further steps.

4. Choose **Define Groups for Processing Statements**.

5. Choose **New entries**.

6. Define a group of processing instructions.

7. Choose ENTER.

8. Choose the entry. Double-click to select **Field Customizing** in the **Dialog Structure** screen area.

9. Choose **Select fields**.

10. Transfer up to 7 processing instructions or time transfer specifications to the *Selected fields* area.

11. Choose *Continue*.

31.6.2.3.2 Define Evaluation Process for Processing Instructions

In this activity, you set up schema processing for the processing statements.

You can customize any customer-specific processing methods, which you can use to, for example:

- Fill time types

- Fill wage types

- Generate or update infotype records

Note that in this processing, only one time transfer specification with the value "1" is generated. You then have to fill the explicit values of a processing statement from values in internal tables, for example.

Function P2012 can be called several times in day processing. If you call the function **without** a personnel calculation rule, **all** time transfer specifications for the day are processed according to the relevant Customizing settings. You should therefore not carry out standard Customizing for your processing statements.

First use a personnel calculation rule to read the processing statements. In the personnel calculation rule, fill a time type with the information. Once the required information is available in schema processing, you can use a personnel calculation rule to process the processing statement stored in the time type.

Example

A typical use for this function is for the retroactive approval of overtime. If you have set up a processing statement for this and made the required Customizing settings, time evaluation can treat the day as if a general overtime approval exists for the employee.

Standard settings

Schema TOF0 provides a model processing method for approving overtime retroactively, using personnel calculation rules TOF0 and TOF1 and time type TFOA.

Activities

1. Choose the **Define Time Types** activity.

2. Set up the time types in which you can temporarily store the processing statements or time transfer specifications.
   See also: Define Time Types

3. Choose the **Modify Personnel Calculation Rule** activity.

4. Set up a personnel calculation rule which you use to enter the processing statement in the time type.

5. Set up a second personnel calculation rule which you use to process the processing statement according to your requirements.

6. Choose the **Modify Schema** activity.

7. Call the first personnel calculation rule as the first parameter of function P2012.

8. Call your second personnel calculation rule at the place in the schema where the required information is available, using for example PTIP or ACTIO.

31.6.2.3.3 Assign Groups of Processing Instructions to Profiles

In this activity, you determine which checkboxes are displayed for which profiles.

To do so, you assign a group of processing instructions to a profile. The processing instructions represented by checkboxes can then be displayed in all of the views available for the profile.

Activities

1. Select the profile to which you want to assign a group of processing instructions.

2. Double-click to select **Assign Field Selection** in the **Dialog Structure** screen area. The CHK (checkboxes for processing instructions) screen area appears, which is used for the checkboxes.

3. Choose **New entries**.

4. Assign **one** group of processing instructions to the profile.

31.6.2.4 Default Values for Time Data

In this section, you specify the substitution type recording by the system when a time administrator enters a substitution.

The system always reads the substitution type stored in the feature if no substitution type is maintained in the short description for the substitution.

31.6.2.4.1 Check Default Values for Substitution Types

In this step, you maintain the **Define substitution type** (VTART) feature In this feature, you define which substitution type is to be the standard default in the **Substitutions** infotype (2003). You can vary the default values according to the organizational and personnel structures in your enterprise.

Example

In employee subgroup "C2", the shift substitution should always be the default substitution type in the **Substitutions** infotype (2003).

In employee subgroup "C1", the supervisor substitution should always be suggested as the default.

Standard settings

The standard system contains the default value **02-shift substitutions** without restrictions.

Activities

Set up the decision rule for default substitution types in accordance with your requirements.

31.6.2.5 Name Format

In this section, you specify the format to be used for printing/ displaying employee names in the employee list and in the Multi-Person View in the *Time Manager's Workplace (TMW)*.

You first specify the name format and assign the appropriate format to the **RPT_TMW** program.

31.6.2.5.1 Define Name Format

In this step, you determine the form used to print the names of employees, applicants, or family members in lists, reports, correspondence, online, and so on.

Depending on the program, a name can be printed with/without a title, or with a "known as" form of name instead of the first name. The formats used for name formatting determine which infotype fields are used and in what order.

The prefix determines the infotype from which data is read for each format. When the system is in productive use, it reads the data available in the particular environment for that infotype.

If, for example, the user in the middle of a transaction providing data from the *Personal Data* infotype (0002), the format assigned to the prefix "0002" is used for name formatting. The same applies to *Family/Related Person* infotype (0021).

If you want to use a name format other than the standard for individual employees in the *Personal Data* infotype 0002, you can do so using name format indicators. This also enables you to define additional name formats other than the standard (indicator "00") for a specific format for the *Personal Data* infotype (0002). The employee's name is displayed according to the name format indicator entered by the user in the *Special format* field in *Personal Data* infotype (0002). . If you do not make an entry in the *Special format* field, the system uses the standard format (indicator "00").

You can define which format is to be used in a specific application in the Assign Name Formatting to Programs step.

SAP has defined the following formats for maintaining *Personal Data* infotype (0002), and cannot be changed.

-   **Format "00":**

    This format is used to create the sortable names (Infotype/field: P0001-SNAME). The sortable name is required for every employee/applicant list that is sorted alphabetically by name.

NOTE: The SNAME (for example, GRECCO DAVID) does not have to be reformatted every time. Identical and therefore redundant copies of the name are stored in every record of the *Organizational Assignment* infotype (0001). The record with the most recent valid start date is always used for formatting purposes.

- **Format "01":**

  This format is used to create the formatted names (Infotype/field: P0001-ENAME). The formatted name is displayed on the screen of *Personal Data* infotype (0002). The formatted name is used in employee/applicant lists, correspondence, online, and so on. **NOTE:** The ENAME (for example, Dr. David Grecco) does not have to be reformatted every time. Identical and therefore redundant copies of the name are stored in every record in the *Organizational Assignment* infotype (0001). The record with the most recent valid start date is always used for formatting purposes.

Example

When maintaining the *Personal Data* infotype (0002), you want to use a format to display the title, first name, and last name of an employee/applicant in that order. Because some of your employees do not want their titles used, you also want the format to include an option of displaying only the first and last name.

To do so, proceed as follows:

Format	Prefix	ID	SubNo.	Field Conv.
01	0002	00	01	TITEL
01	0002	00	02	VORNA
01	0002	00	03	NACHNA
01	0002	10	01	VORNA
01	0002	10	02	NACHNA

The key "01" must be used for the format since this format key is preset for name formatting when maintaining data for the *Personal Data* infotype (0002).

By using the prefix, you can specify that the format applies to the *Personal Data* infotype (0002). If you specify two indicators ("00" and "10"), you can create two different name formats for the format. Use the indicator "00" for the standard name format. If you do not make any entries in the *Special format* field in the *Personal Data* infotype (0002),m indicator "00" is used as a default. If you want to use another name format, enter the appropriate indicator for name formatting (in this case "10") in the *Special format* field.

Specify the field name for the data to be displayed under *Field name*. Specify the order in which the different elements of the name format are displayed in the *Sequential no.* field. You can also specify a conversion, if required.

Standard settings

The standard SAP system contains several sample formats.

Recommendation

Formats "00" and "01" must be available for the *Personal Data* infotype (0002).

You can change the field names and their order for these formats or define different name formats using format indicators.

You assign the formats "02", "06," and "20" are assigned to specific programs in the Assign Name Formatting to Programs step.

Therefore, you can only change the key for these formats according to these programs.

Activities

Create the required formats for name formatting.

31.6.2.5.2 Define Name Format (for Japan)

In this step, you determine the form used to print the names of employees, applicants, or family members in lists, reports, correspondence, online, and so on.

Depending on the program, a name can be printed with/without a title, or with a "known as" form of name instead of the first name. The formats used for name formatting determine which infotype fields are used and in what order.

The prefix determines the infotype from which data is read for each format. When the system is in productive use, it reads the data available in the particular environment for that infotype. If, for example, the user in the middle of a transaction providing data from the *Personal Data* infotype (0002), the format assigned to the prefix "0002" is used for name formatting. The same applies to *Family/Related Person* infotype (0021).

If you want to use a name format other than the standard for individual employees in the *Personal Data* infotype 0002, you can do so using name format indicators. This also enables you to define additional name formats other than the standard (indicator "00") for a specific format for the *Personal Data* infotype (0002). The employee's name is displayed according to the name format indicator entered by the user in the *Special format* field in *Personal Data* infotype (0002). If you do not make an entry in the *Special format* field, the system uses the standard format (indicator "00").

You can define which format is to be used in a specific application in the Assign Name Formatting to Programs step.

SAP has defined the following formats for maintaining *Personal Data* infotype (0002), and cannot be changed.

-    **Format "00":**

     This format is used to create the sortable names (Infotype/field: P0001-SNAME). The sortable name is required for every employee/applicant list that is sorted alphabetically by name.
     NOTE: The SNAME (for example, GRECCO DAVID) does not have to be reformatted every time. Identical and therefore redundant copies of the name are stored in every record of the *Organizational Assignment* infotype (0001). The record with the most recent valid start date is always used for formatting purposes.

-    **Format "01":**

     This format is used to create the edit name (infotype/field: P0001- ENAME). The edit name is displayed in the *Personal Data* infotype (0002). The formatted name is used in employee/applicant lists, correspondence, online, and so on.
     NOTE: The ENAME (for example, Dr. David Grecco) does not have to be reformatted every time. Identical and therefore redundant copies of the name are stored in every record in the *Organizational Assignment* infotype (0001). The record with the most recent valid start date is always used for formatting purposes.

   Example

When maintaining the *Personal Data* infotype (0002), you want to use a format to display the title, first name, and last name of an employee/applicant in that order. Because some of your employees do not want their titles used, you also want the format to include an option of displaying only the first and last name.

To do so, proceed as follows:

01	0002	00	01	TITEL
01	0002	00	02	VORNA
01	0002	00	03	NACHNA
01	0002	10	01	VORNA
01	0002	10	02	NACHNA

The key "01" must be used for the format since this format key is preset for name formatting when maintaining data for the *Personal Data* infotype (0002).

By using the prefix, you can specify that the format applies to the *Personal Data* infotype (0002). If you specify two indicators for the name format ("00" and "10"), you can create two different name formats. Use the indicator "00" for the standard name format. If you do not make any entries in the *Special format* field in the *Personal Data* infotype (0002), the indicator "00" is used as a default. If you want to use another name format, enter the appropriate indicator for name formatting (in this case "10") in the *Special format* field.

Specify the field name for the data to be displayed under *Field name*. Specify the order in which the different elements of the name format are displayed in the *Sequential no.* field. You can also specify a conversion, if required.

In some cases, you need to maintain an alternative prefix. This is the case if an additional secondary infotype exists for an infotype. The availability of a secondary infotype is country-dependent.

The following secondary infotypes are possible.

For Country	For Infotype	Secondary Infotype
Japan	0021	0148

The name format also enables you to read data from the secondary infotypes.

Example

You want to use data from the secondary infotype *Family/Related Person Japan* (0148) in addition to the data from the *Family/ Related Person* infotype (0021) for the name format of a *Japanese* employee's family member.

Format   Prefix Indic. Order FieldNo.   Conv. Alt. Pref.

01   0021   00   01

01   0021   00   02

01   0021   00   03

01   0021   00   04

If data should be read from the secondary infotyep, enter the secondary infotype in the *Alternative prefix* field as well the name of the field in the secondary infotype in the *Field name* field.

In the above example, the Kanji style of the last name and of the first name, followed by the Romaji style of the last name and first name were issued.

Standard settings

The standard SAP System contains some sample formats.

Recommendation

The formats "00" and "01" for the *Personal Data* infotype (0002) must always be available. If necessary, you can change the field names and order of the field names of these formats and determine various name formats for these formats using the name format indicator.

The formats "02", "06," and "20" are assigned certain programs in the Assign Name Formatting to Programs step. The key of these formats can only be changed in agreement with these programs.

Activities

Determine the required formats for the name formats.

31.6.2.5.3 Assign Name Formatting to Programs

In this step, you assign the formats for name formatting created in the step Define Name Format step to individual programs to determine the format in which employee/applicant names are printed.

Requirements

The required name formats are determined in the Define Name Format step.

Standard settings

The standard SAP system contains an assignment for every program requiring name formats.

Recommendation

Do not delete any of the program names specified.

Activities

If necessary, assign a different format key to the program according to the formats created in the Define Name Format step.

31.6.3 IDs for Time Data

In this section, you determine which IDs are valid in which areas of your enterprise.

Time administrators use IDs to enter their time data in the *Time Manager's Workplace*. In the case of time pairs, the system uses the IDs to display the time data.

Concept of IDs

IDs are used to significantly reduce the amount of data entry required by your time administrators. Until now, time administrators had to enter the *Absences* infotype (2001) and the subtype *Illness* (0200), as well as the date to record an illness. In the *Time Manager's Workplace*, however, time administrators need only enter an ID that corresponds to infotype 2001 with subtype 0200, such as "IL" for illness.

Concept of Definition Sets

So that you do not have to define IDs that apply across your entire enterprise, you first define one definition set for each of the areas of your enterprise that use different IDs. You then create the required IDs for each of the definition sets.

Concept of Subsets

By defining different subsets for a definition set, you can differentiate between the use of IDs within an area of your enterprise. In this way, employees assigned to a subset can use different IDs than employees assigned to another subset.

You can also specify that a user in the *Time Manager's Workplace* can choose between various subsets in profile maintenance.

Employee Assigment

There are two ways of assigning employees to a definition set or a subset of the definition set:

1. You can make the assignment using the user parameter PT_TMW_TDLANGU. When a user calls the *Time Manager's Workplace* for the first time, the system asks which definition set and which subset are to be assigned to the user. The system transfers the entries specified here to the user parameter.

2. You can enter the required definition set and subset in a parameter transaction with which time administrator calls the *Time Manager's Workplace*. You must specify the definition set for the screen field **TDLANGU** and the subset for the screen field **TDSUBLA**.

31.6.3.1 Specify Definition Sets and IDs

Specify Definition Sets

In this activity, you define the definition sets that you want to use in your enterprise. Using different definition sets, you can define different time data IDs for different areas of the enterprise. The IDs in one area are therefore independent of those in another area. The time data IDs can represent different types of time data in different areas of the enterprise.

Example

Your enterprise operates globally. Your headquarters are in the United States of America, and you have a branch in Quebec, Canada. You want the following IDs to be used in the US headquarters:

- L for leave

- OV for overtime

- AV for availability duty

- FL for flextime

In your Canadian branch, however, different IDs are required, such as:

- CO for "congé"

- HS for "heures supplémentaires"

- SP for "service de permanence"

- HV for "horaires variables"

You therefore create two definition sets: One for the US headquarters and one for the Canadian branch. You then create the required time data IDs for each definition set.

Recommendation

We recommend you to create as few definition sets as possible. This guarantees that time data administrators in one area of the enterprise can continue to work with the same IDs if they move to another position in another area, or if they substitute for a colleague.

Activities

1.   Choose *New entries*.

2.   Create a definition set and give it an easily identifiable name.

Further notes

You use subsets to control which IDs of the definition area can actually be used by a time administrator. The system uses user parameter PT_TMW_TDLANGU to define which definition set and subset the administrator can use to access the *Time Manager's Workplace*. You can also enable particular time data administrators to switch between all subsets in one definition set. You specify this in profile maintenance.

Define IDs for Each Time Data Type

You use this activity to determine the time data IDs that stand for particular types of time data, for example:

-   L for infotype 2001 subtype 0100 (Leave) -   I for infotype 2001 subtype 0200 (Illness with certificate) You use one of the following data categories for each ID:

-   Infotype (IT)

-   Time pair (TIMPAIR)

-   Work schedule rule (PWS)

In addition to the data category, you must specify a data type and additional information that makes the type of time data unique.

The following data types can be used for the *infotype* data category (IT):

-   *Absences* (2001)

-   *Attendances* (2002)

-   *Substitutions* (2003)

-   *Availability* (2004)

-   *Attendance Quotas* (2007)

-   *EE Remuneration Info* (2010)

-   *Time Events* (2011)

-   *Time Transfer Specifications* (2012)

You can use the *time pair* data category (TIMPAIR) only in combination with the *time pairs* data type (PT).

You can use the *work schedule rule* data category (PWS) only in combination with the *inactive* data type (INAC). The system uses such IDs to display employees who are inactive in the selection period, for example, if they have left the company.

You can also create **generic time data IDs**. The detail fields for the data type are empty in these IDs.
Example: You have created two time data IDs for the two most common forms of substitutions (infotype 2003) in your company. You define a generic ID for all other substitutions in case a different type of substitution has to be entered. When time data administrators enter the generic ID, they can use it with all subtypes of infotype 2003. The system only uses the explicit IDs for the two types of substitution for which you have already defined separate IDs.

You can use a time data ID only once for each combination of data category/data type. For example, if you have created the ID "I" for infotype (= data category) 2001 (= data type), you cannot use the same ID for infotype 2003 or any other infotypes.

The possible data category/data type combinations are represented by tabstrips in the detail screen for creating new time data IDs. You can use the following tabs: Absences, Attendances, Planned specifications, Availability, Attendance approval, EE remuneration info, Transfer specification, Time pairs, Status information, Time events. If you switch from the detail screen to the table overview, the system displays one column for the data category and one for the data type.

Example

You want to define the time data ID "L" for the absence type *Leave*. The required entries are:

- The definition set to which you want the ID to belong

- The ID "L"

- A short text for the ID, such as "Standard leave"

- The personnel subarea grouping for attendance/absence types to which you want the ID to apply

- The absence type "0100" (Leave)

Requirements

You must have determined one or more definition sets before you can create IDs.

Standard settings

SAP provides some model entries in the standard system.

Activities

1. Choose *New entries*.
   The *New Entries: Details of Added Entries* screen appears.

2. Enter the definition set to which you want the time data ID to belong.

3. Define a time data ID.

4. Enter a short text to describe the ID.

5. Select the type of ID you want to create. You can choose from the following tabs: Absences, Attendances, Planned specifications, Availability, Attendance approval, EE remuneration info, Transfer specifications, Time pairs, Status info.

6. Select one of the tabs and enter data in the fields that are relevant for the ID.

7. Save your entries.

8. If you want to create multiple IDs in succession, choose *Next entry*.

9. Create the next ID by repeating steps 2-7.
   You can choose *Previous entry* to view the IDs that you have already created.

10. Save your entries and choose *Back*.
    The *Define Time Data IDs* screen appears. It displays an overview of all the IDs you have defined.

Further notes

You will not normally want to define a separate ID for every possible time substitution. You can therefore select the ID for Time Substitution Activated option for IDs of the *Substitutions* infotype (2003).

31.6.3.2 Define Time-Dependent Texts for Time Data IDs

Use

With the *Define Time-Dependent Texts for Time Data IDs* activity, you can define additional time data ID texts that then are time-dependent.

This means you can change these texts on a defined valid-from date to distinguish them from previously valid texts.

Note

Here, you define only those texts that differ from the current time data ID texts that you have already defined in Customizing under *Specify Definition Sets and IDs*. If you do not make any entries with a valid-from date for a time data ID, the system always uses the text defined in the old activity. Changes to this text only have an effect up to the valid-from date of the first entry for the time data ID.

In the *Time Manager's Workplace* (TMW, transaction PTMW), the system displays the time data ID texts in a time-dependent manner as soon as you have defined time-dependent time data ID texts in Customizing using the activity *Define Time-Dependent Texts for Time Data IDs*.

The systems selects the text to be displayed from the selection date.

You can use the following as the selection date for the texts:

1. The start date of each record for all of the time data and the F4 help in the TMW details area.

2. The date of the row/column/cell for which you've called F4 help, that is, for the F4 help in the table areas *day view*, *multi-day view* (tab pages *time data*, *time events*), *multi-person view*, and *team view*.

3. In all other cases, this is the current date (system date), especially if no record has been selected or no suitable date is available.
   Examples: The time data ID menus on the tab pages *calendar view* and *team view* as well as the texts in the ad-hoc queries.

Requirements

You have executed the Specify Definition Sets and IDs activity and created definition sets, time data IDs, and time data ID texts.

Activities

4. Select the definition set as well as the time data ID.
   Note
   The input help shows you all of the time data IDs for which a text has already been defined.

5. Specify the valid-from date as of which the system will use the new text and which limits the validity of the current text.

6. Define the time data ID text that is to replace the existing text as of the valid-from date.

You can specify multiple texts with valid-from dates for one time data ID. The entry with the latest valid-from date is valid until the high date.

For more information about time-dependent texts for time data IDs of time specification types, see SAP Note **2092479**.

31.6.3.3 Define Subsets and IDs

Create Subsets for Time Data IDs

You use this activity to define subsets for your definition sets.

In each definition set, you specify for your various enterprise areas. Creating subsets enables you to create differentiations for the use of the IDs within the enterprise areas.

Example

You have created the time data ID "L" for definition set XY01. The ID has the following specifications:

- Infotype 2001 subtype 0100 (Leave)

- Infotype 2001 subtype 0110 (1/2 day of leave)

- Infotype 2001 subtype 0190 (Educational leave)

The definition area XY01 is valid in the US branch of your enterprise. Production workers and salaried employees work in this branch.

The productions workers' time data is recorded by a supervisor, who normally only grants standard annual leave, and not educational leave. You therefore create a subset 001 in which only the specifications of ID "L", infotype 2001 with subtype 0100 and 0110 can be used. The user parameter PT_TMW_TDLANGU specifies XY01/001 for the supervisor (definition set XY01/subset 001). He or she can therefore use the time data IDs for subset 001 in the *Time Manager's Workplace*. When the supervisor now enters "L" for leave, he or she can specify the ID using subtypes 0100 and 0110, but not subtype 0190.

Requirements

You have created one or more definition sets.

Activities

1. Choose *New entries*.

2. Select the definition set for which you want to create a subset.

3. Create a subset and give it an easily identifiable name.

Specify Use of IDs for a Subset

You use this activity to determine which time data ID specifications are used within a subset of a definition set. In other words, you specify which IDs are valid in which enterprise areas.

To do so, you determine for each subset

-   Whether you employees can enter the required IDs

-   Whether the IDs are solely a display function

-   Which IDs you do not want to be used

If you have created IDs that represent the same type of time data in the the definition area, you can define only one of these IDs as the default, able for input, or display-only for each subset.

Example: You have created two IDs, "L" and "LE", both of which stand for the *Standard annual leave* subtype (0100) of the *Absences* infotype (2001). You can only define one of them as active (default, input or display); the other one must be inactive.

If you want your employees to be able to enter an ID, you must define them as default or input. You must make one ID that has only one specification as the default ID. If an ID has several specifications, you have to define one of these specifications as the default for each *personnel subarea grouping/employee subgroup*.

Example

You have created the following specifications for the time data ID "U" and want to define them as able for input:

ID	Cat./Type	PSG	Subtype
L	IT/2001	01	0100 (Leave)
L	IT/2001	01	0110 (1/2 day of leave)
L	IT/2001	01	0190 (Educational leave)
L	IT/2001	02	0100 (Leave)
L	IT/2001	02	0150 (Standard annual leave)

You have to define one specification of time data ID "L" as the default for personnel subarea 01 and for personnel subarea 02. You define the remaining three specifications as able for input.

Activities

1. Select the definition set and the subset for which you want to define its use.

2. Decide on the time data IDs you want to use in the selected subset of the definition set.

3. Determine whether you want each ID to be the default, able for input, display-only, or inactive.

Further notes

You cannot use the *display-only* option for the *infotype* data category (IT). This applies for all infotypes except the *Time Events* infotype (2011).

The following options are available for the *Time Events* infotype (2011):

- *display-only* and *inactive* for work time events -   *priority* and *inactive* for personnel time events

You can choose from the options *display-only* and *inactive* for time data IDs with the combination data category/data type TIMPAIR/PT and combination PWS/INAC. The system displays the latter type of time data ID in the *Time Manager's Workplace* if an employee is not active in the selection period, for example, if he or she has left the company.

31.6.3.4 Define Colors of Time Data IDs

Use

In this activity, you create the color design for the calendar views and the team view. You can assign different colors to different time data IDs. This gives users a better overview of the relevance or frequency of time data, for example.

You are recommended to use the color design sparingly. Too many colors can lead to confusion. The best type of color design is one that supports the meaning of the time data according to its significance in a business context (planned time, attendances, absences, and so on.) You do not have to assign a color for every item of time data. Less important time data can be output with the standard color.

The colors you determine in this activity are not definitive; they can just be standard settings for your company. The appearance of the colors can vary greatly according to the individual users' color settings.

Requirements

You have already created the time data IDs for which you want to define colors in the Specify Definition Sets and IDs activity.

Standard settings

- You can display the range of available colors directly on your screen by running the SHOWCOLO report.

- If you create new time data IDs in Customizing at a later stage, they are automatically copied over to the table and filled with the initial value 0. If you delete time data IDs, the system removes them from the table.

Activities

1. Select the definition area to which you want to assign colors for time data IDs.

2. Choose *New Entries*.

3. Enter the IDs to which you want to assign colors.

4. Enter the relevant color for each time data ID. You can choose from colors 0-7. (0-Background, 1 # Gray-blue, 2 # Light gray, 3 # Yellow, 4 # Blue-green, 5 # Green, 6 # Red, 7 # Purple).

5. Specify whether you want to display the color intensively. If you do, enter an X in the INTENSIFIED field.

6. Specify whether you also want the fonts to be displayed in color. If you do, enter an X in the INVERSE field. You are recommended to use this particular layout element in exceptional cases only.

7. Save your entries.

Example

31.6.3.5 Check Display of Time Data ID List

Use

In this activity, you set up the list of time data IDs on the left side of the calendars. Users can drag and drop time data from this list to the calendar. These settings apply for all calendar views and time data IDs.

The options are as follows:

- You can output the time data IDs for experienced users with the time data IDs themselves (field selection HIDE)

- You can output the time data IDs for less experienced users with the texts for the time data IDs (field selection TEXT)

- You can hide the list entirely so that users can only enter new time data using the detail screen (field selection TDTYPE)

Standard settings

The time data IDs are displayed in the standard system.

Activities

Check whether the entries HIDE, TDTYPE, and TEXT exist. If not, choose *New entries*.

1. Create a field selection for each of the above options and assign a name that is easily identifiable.

2. Choose ENTER and select a field selection.

3. Double-click *Field Customizing* in the dialog structure.

4. Choose *Choose fields*.

5. Choose the field you require.

6. Choose ENTER.

7. Save your entries.

31.6.3.6 Assign Display of Time Data ID List to Profiles

Use

In this activity, you assign the display type of the time data ID list to the profiles.

You use the profile used to access the Time Manager's Workplace to control the display type available to the time administrator for the time data ID list.

The time data ID list belongs to the **TDT** screen area.

Standard settings

The time data IDs are displayed in the standard system.

Activities

1.   Select the required profile.

2.   Double-click the *Assign Field Selection* activity in the dialog structure.

3.   Choose *New Entries*.

4.   Double-click the required display type.

5.   Choose ENTER.

6.   Save your entries.

31.6.4 Screen Areas

In this section, you create the field selections and employee data layouts for the following screen areas in the *Time Manager's Workplace*:

-    Employee List

-    Employee Data

-    Time Data: Multi-Day View

-    Time Data: Multi-Person View

-    Time Data: One-Day View

-    Time Data: Calendar Views

-    Time Data: Team View

-    Details Area

You assign the selections you defined in the profile. An activity exists to select and assign layouts in a corresponding activity. Before making the assignments, however, you must first create the profile in the Create profile and assign field selections activity in the *Menu Layout* section. You can create new profiles at any time by carrying out the *Assign field selections to the profiles* activity.

31.6.4.1 Employee List

In this section, you specify what information is available to time administrators for their selected employees. You also determine the display screen used for the employee list. To do so, define the field selections for the fields (columns) displayed for the user in the *Time Manager's Workplace*. You also choose a display type.

Various options are available for the selected fields. You can determine the field value and its text, whether an icon is displayed, and the length of the field. Furthermore, you can specify the sort fields used when sorting employee names.

You then assign the field selections to the profiles.

31.6.4.1.1 Define Employee List Display

In this activity, you determine which fields and therefore which employee information can be displayed by time data administrators in the employee list.

You can display the employee list using a hierarchy of up to two levels. The employee list is then displayed in a hierarchy tree. You can choose the following display forms:

- Employees are sorted using the criteria in the first field of the field selection. There is no tree display.

- The tree display has one level. Employees are displayed under the first field of the field selection in the hierarchy tree. Under this node, employees are sorted according to the second field of the field selection.

- The tree display has two levels. Employees are displayed under the first two fields of the field selection in the hierarchy tree. Under these nodes, employees are sorted according to the third field of the field selection.

Requirements

If you find that the display objects provided in the standard SAP system are not sufficient for your purposes, you can define your own display objects in the *Basic Settings* section. The system displays the objects you defined when you choose the required fields.

Recommendation

The system references the long text for the organizational unit using the standard Customizing settings for display objects. However, the short text should be used for display in the employee navigation area. Choose the **Org. Unit with Short Text** field under *Field Customizing*.

Activities

1. Choose *New entries*.

2. Create a field selection.
   You should make the name of the field selection and its ID easily recognizable.

3. Specify the form in which you want the selected employees to be displayed. Choose the form of display under *Number of hierarchy levels*.

4. Select the field selection and double-click on *Field Customizing* in the *Dialog Structure*.

5. Choose *Select fields*.
   If you chose the hierarchical display, the system uses the first field or the first two fields to form the hierarchy. For more information, see the introductory paragraph of this section. The fields that are not used for the hierarchy display are displayed as columns.

6. For the selected fields, specify

   - Whether you want the field value, the text for the field value, or (if once exists for the field) an icon to be displayed
     The system cannot sort the employee list using an icon. You should therefore only use icons if the corresponding fields are not relevant for the hierarchy display.

   - Whether you want the values to be updated after each change in the *Time Manager's Workplace*

   - Whether the field is a sort field or not

   - How the field is to be sorted

   - Whether you want the values to be totaled

   - Whether you want the output of the field to be hidden

Further notes

The field help contains detailed information on each of the options.

31.6.4.1.2 Assign Field Selections to Profiles

In this activity, you assign field selections for the employee list to your profiles.

The format types and fields available for time administrators for their employee list is specified in the profile used when the *Time Manager's Workplace* is accessed.

The employee list belongs to the **EMP** screen area.

Activities

1. Select the profile.

2. Double-click to select the *Assign Field Selection* activity in the *Dialog Structure*.

3. Choose *New entries*.

4. Select the task to which you want to assign a field selection.

5. Choose a field selection.

Further notes

You can create a new profile at any time in the *Assign Field Selection to Profiles* activity by completing the Create Profile and Assign Field Selections step.

31.6.4.2 Employee Data

In the *Employee Data* screen area of the *Time Manager's Workplace*, you want to display the display objects defined in the Basics section of the Implementation Guide (IMG).

Carry out the following steps:

1. Define layouts for employee data.

2. Include layouts in the *Employee Data* (**INF**) screen area.

3. Assign the layout selections to the profiles.

31.6.4.2.1 Define Layout for Employee Data

You use these activities to create layouts for employee information and to assign display objects to the layouts.

You use a layout for employee information to determine which display objects can be displayed in the *Time Manager's Workplace* and where they are positioned on the screen. The short text that you assign to a layout is displayed as a title when the layout is used in the *Time Manager's Workplace*. You can assign up to six display objects to one layout for employee information.
If the display objects provided in the standard system are not sufficient for your purposes, you can define your own display objects in the activity: Basics -> Select HR Master Data and Time Data Info.

Standard settings

The standard SAP system contains the following standard layouts, which you can copy or redefine as required:

- TMW_CONTACT_PERSONS (Administrators)
  The related standard display objects are:
  Administrator group (ADMINISTRATOR_GROUP)
  Personnel administrator (PERSONNEL_ADMINISTRATOR)
  Time administrator (TIME_ADMINISTRATOR)
  Payroll administrator (PAYROLL_ADMINISTRATOR)

- TMW_MASTERDATA (Master data)
  The related standard display objects are:
  Personnel number (EMPLOYEENUMBER)
  Position (POSITION)
  Cost center (COST_CENTER)
  Work schedule rule (WORKSCHEDULE_RULE)
  Weekly work hours (WEEKLY_WORK_HOURS)
  Employment percentage (EMPLOYMENT_PERCENTAGE)

Activities

To copy or redefine a standard layout, proceed as follows:

1. Choose *New entries*.

2. Use the possible entries help (F4) to select a standard layout. You can choose between the following layouts: TMW_CONTACT_PERSONS (Administrators) and TMW_MASTERDATA (Master data).

3. Confirm your choice. In the dialog box that appears, select *Copy* or *Redefine*. Redefined layouts automatically appear in all layout selections where the standard layout was used. Copied layouts have to be entered in the layout selections you require.

4. Enter a short text and save the entry.
   The system generates a customer-specific layout from the standard layout.

If you want to define your own layouts, proceed as follows:

1. Choose *New entries*.

2. Create a layout.
   You are recommended to make the name of the layout and its short text easily identifiable.

Assign display objects to layouts

1. Select a layout.

2. Under *Object selection*, select the display objects you require.

   Note: If you want to assign display objects to a new layout, you first have to remove the six "empty screens" from the layout. You do this under *Object selection*. If you copy one of the standard layouts provided by SAP, the standard display objects are also assigned to your copy. You can remove them from the layout and replace them with other display objects as required.

   Note: The display objects are displayed in the layout in the sequence in which you selected them in object selection.

3. Check the column and row position you have assigned the display object, to ensure that it will appear at the required position.

4. If necessary, change the position of the display objects by choosing *Object selection*.

31.6.4.2.2 Add Layout to Employee Data Screen Area

In this activity, you assign employee data layouts to the employee data screen area (INF). The layouts you choose here are displayed in a dropdown list box in the *Time Manager's Workplace* (TMW). Users can select the layout containing the employee information they want from a dropdown list box. The system displays the display objects assigned to each employee data layout.

The layouts actually available for display to users in the *Time Manager's Workplace* depends on the Profile used to access the TMW.

You can enter your own layout selection for each profile, if necessary.

Activities

1. Choose *New entries*.

2. Create a layout selection (field selection).

3. Choose an easily recognizable name and ID for your layout selection (field selection).

4. Choose your layout selection (field selection) and double-click to *Field Customizing* in the *Dialog Structure*.

5. Choose *Select fields*.

6. Choose your layouts.
    The system displays your layouts in the dropdown list box in the sequence you specified here.

31.6.4.2.3 Assign Layout Selections to Profiles

In this activity, you assign the layout selection for employee data to your profiles.

Activities

1. Choose the profile and double-click to select the *Assign Field Selection* activity in the *Dialog Structure*.

2. Choose *New entries*.

3. Enter the layout selection (*field selection*).

Further notes

If necessary, you can also create a new profile using the *Assign Layout Selections to Profiles* activity. To do so, complete the Create Profile and Assign Field Selections step.

SAP System

31.6.4.3 Time Data Maintenance

In this section, you specify the field and tab selections used to determine how the time data area in the *Time Manager's Workplace* is displayed. Field selections and tab selections are stored in each profile. The fields (columns) and tabs displayed for time administrators when calling the *Time Manager's Workplace* are based on their profile.

Time administrators can use one of the following three views in the *Time Data Maintenance* scenario, based on their existing profile settings:

- Multi-Day View

- Multi-Person View

- One-Day View

- **Team View**

You can modify the columns in the time data table as well as the tabs according to your requirements.

The table displayed in the *Message Processing* scenario corresponds to the table in the *Multi-Day View*.

By providing only those fields (columns) and tabs in the *Time Manager's Workplace* , you get

a better overview of your time data creating a user- friendly recording area. When selecting your fields (columns) and tabs, keep in mind the types of functions each time administrator must complete.

The following screen areas a available for maintaining time data for which you can create individual field selections and tab selections:

Screen Area	Name
EN1	Multi-Day View: Time Events
TN1	Multi-Day View: Time Data
VN1	Multi-Day View: Tabs
T1M	Multi-Person View: Time Data
V1M	Multi-Person View: Tabs
T11	One-Day View: Time Data
TD0	One-Day View: Dominants and Processing Instructions
V11	One-Day View: Tabs
TNM	Team View: Time Data from the Dominant
VNM	Team View: Tabstrips

Furthermore, you can check the Fill Fields with Customer Enhancement Data as well as the Degree of Detail for the field selections in this section.

31.6.4.3.1 Multi-Day View

In the Multi-Day View, time administrators see the days for each employee in the Time Data or Time Events tables which he or she selected in the calendar. Your settings apply to the time data table in the Multi-Day View as well as in the *Time Data Maintenance* and *Message Processing* functions.

In this step, you determine which tabs can be displayed within the Multi-Day View. To do so, you define tab selections. The standard system includes the **Time Data**, **Time Events**, and **Calendar Views** tabs.

You have the option of creating your own tabs if you need them by copying one of the sample templates in the standard system. You can arrange the appearance of the time data maintenance area. For example, you can display all of the entries applying to employee remuneration on a tab called "Employee Remuneration," and so on.

In this step, you also determine which fields are to be displayed on the tabs. To do so, you define field selections. Determine which fields (columns) are used by your time administrators and create the field selections accordingly.

In the Multi-Day View, you must display the **Date** field, so time administrators have referenced dates in their tables.

To do so, show the **Show/hide** button, so that the icon can be displayed.

You assign the tab selections and field selections to the required profiles. The profile therefore determines the tabs, fields, and calendar views that are displayed for the time data and time events in the Multi-Day View when a time administrator accesses the *Time Manager's Workplace*.

The screen area for the tabs in the Multi-Day View is **VN1** .
The screen area for the fields (columns) for time data maintenance in the Multi-Day View is **TN1**.
The screen are for the fields (columns) for time events is **EN1**.

The screen areas for the calendar views are as follows:

- For time data selected, **CAI**

- For choosing views, **CAL**

- For partial-day appointments, **CAA**

- For the dominant row, **CAD**

31.6.4.3.1.1 Define Table for Time Data

In this activity, you specify the fields (columns) and the order in which they appear in the table for time data.

To do so, create one or more field selections. Then assign the field selection to your profiles in the Assign Field Selections to Profiles activity.

Activities

1. Choose *New entries*.

2. Create a field selection and a descriptive ID.

3. Specify the number of the columns to be fixed in the table. The fixed columns remain displayed in the table when you scroll to view other columns.

4. Choose the field selection.

5. Double-click to select *Field Customizing* in the *Dialog Structure*.

6. Choose *Select fields*.

7. Choose the fields you want included in this field selection.
    The system displays the fields as columns in the table. Check that your field sequence is correct, as the order in the field selection determines the sequence of the columns in the table.

8. Check the display length for each field. The system determines the display length based on the value stored in the Data Dictionary. However, you can also overwrite this value, if necessary.

9. Specify whether each field is to be ready for input

Further notes

In the *Multi-Person View*, always include the **Date** in each field selection. If you do not, then the time administrator sees time data in the table without any reference to dates. Include the **Personnel number** or **Formatted Name of Employee or Applicant** field in the *Multi-Person View* in each field selection for the same reason.

Use the **Show/hide** icons in the *Multi-Day View* and the *Multi-Person View* to display the degree of detail.

31.6.4.3.1.2 Define Table for Time Events

In this activity, you specify what fields (columns) are available in the Multi-Day View in the table for time events and in what order they appear.

To do so, define one or more field selections. You then assign them to your profiles in the Assign Field Selections to Profiles.

Activities

1. Choose *New entries*.

2. Create a field selection and give it a relevant name.

3. Specify the number of fixed columns in the table. These fixed columns remain in the table when you scroll right to view other columns and the view area changes.

4. Choose the field selection.

5. Double-click to select *Field Customizing* in the *Dialog Structure*.

6. Choose *Select fields*.

7. Choose the fields you want included in the field selection.
    The system displays the fields as table columns. Check your field sequence, as the order in the field selection is the same as the sequence in the table.

8. Check the display length for the field. The system determines the display length from the value stored in the Data Dictionary. You can overwrite this value if necessary.

9. The system automatically indicates fields permitted as possible entries as **ready for input**.

10. Always show the **Date** in each field selection. If you do not, then the time administrator sees time data in the table without any reference to dates.

31.6.4.3.1.3 Calendar Views

31.6.4.3.1.3.1 Define Time Data Sources

Use

In this activity, you determine the data sources from which you want to display information in the calendars. You can display data from the following data sources:

-   Time data from the Time Management infotypes that are supported by the *Time Manager's Workplace*, except the Time Events infotype (2001)

-   Time pairs formed from the time events in table PT (cluster B2) or table TEVEN if time evaluation has not yet formed pairs for periods

-   Time events from table TEVEN
    You can choose the time events instead of the time pairs if you also want to display a lot of other time data. This means that you do not have too much information in the calendar at once.

Time events indicate the time at which a time event was posted, time pairs indicate the duration of an attendance, period of off-site work, and so on. You can choose between the two display methods.

Note: If the calendars are set up optimally, it does not make sense to display time events or time pairs to the exact minute or second. It is therefore not advisable to post too many time events in quick succession if you want to display time events or time pairs in the calendars. Otherwise, all time events or time pairs would be displayed one after the other in the daily and weekly calendars, making them extremely difficult to read. This happens particularly if you are processing work time events from Logistics in HR.

You subsequently assign the field selections you create here to the required profiles in the Assign Field Selections to Profiles activity.

Requirements

- If you want to display time pairs or time events, you must use external time recording subsystems or equivalent technology with which your employees can record their time events.

- You should upload the time events to table TEVEN regularly so that the calendars always display the most current events.

Activities

1. Choose *New Entries*.

2. Create a field selection and assign it a name that is easily identifiable.

3. Choose ENTER and select the field selection.

4. Double-click *Field Customizing* in the dialog structure.

5. Choose *Choose fields*.

6. Select a maximum of 2 required data sources and copy them over to the *Selected fields* area.

7. Choose ENTER.

8. Save your entries.

See also

For more information about the calendar views, see the SAP Library and choose:

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data Screen Area -> Views for Entering Time Data

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data Screen Area -> Views for Entering Time Data ->Annual Calendar

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data Screen Area -> Views for Entering Time Data ->Monthly Calendar

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data Screen Area -> Views for Entering Time Data ->Weekly Calendar

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data
Screen Area -> Views for Entering Time Data ->One-Day Calendar

31.6.4.3.1.3.2 Define Appearance of Calendar

Use

In this activity, you determine which information you want to display in the different calendars.

If you do not want to overload the calendars, you can restrict the amount of information displayed. Particularly in the monthly and annual calendars, it is advisable to keep the amount of information displayed to a minimum so that the calendars fit on one screen.

The information displayed in the calendars is split in this activity into information blocks such as dominants, planned time, time data without clock times (for example, full-day data records, employee remuneration information), and so on. You can decide which information blocks are displayed and in what sequence.

You can separate the individual information blocks visually by inserting separation lines. You can also output several information blocks in one line. If there are several items of information within a block, the system generates additional lines to output all information. The names of the information blocks are output in the daily and weekly calendars. You cannot change them.

Note: It is usually not advisable to output the dominant in the annual calendar since the information displayed there is output again either with the planned time or the time data. We therefore recommend you not to output dominants in the annual calendar.

You subsequently assign the field selections you create here to the required profiles in the Assign Field Selections to Profiles activity.

Additional personalization options, such as the column width, color scheme, or time intervals to be displayed, are available in the calendar views of the *Time Manager's Workplace*.

Activities

1. Choose *New Entries*.

2. Create field selections for the daily, weekly, monthly, and annual calendars. Assign a name that is easily identifiable, for example, week, month, and so on.

3. Choose ENTER and select a field selection.

4. Double-click *Field Customizing* in the dialog structure.

5. Choose *Choose fields*.

6. Choose the information blocks you want to display in the individual calendars. If required, insert a line to separate the individual blocks.

7. If required, change the sequence of the individual blocks.

8. When you set up the monthly or annual calendar, insert a blank line at the end of the field selection. The blank line lets users insert drag and drop new time data in the monthly and annual calendars without having to know which information block the data belongs to. The system them automatically assigns the new time data to the appropriate information block.

9. Choose ENTER, then save your entries.

See also

For more information about the calendar views, see the SAP Library and choose:

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data Screen Area -> Views for Entering Time Data

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data Screen Area -> Views for Entering Time Data ->Annual Calendar

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data Screen Area -> Views for Entering Time Data ->Monthly Calendar

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data Screen Area -> Views for Entering Time Data ->Weekly Calendar

Time Manager's Workplace -> Screen Areas of the Time Manager's Workplace -> Time Data
Screen Area -> Views for Entering Time Data ->One-Day Calendar

31.6.4.3.1.3.3 Define Layout of Dominants

Use

In this activity, you determine which information you want to output in the dominant line of the daily, weekly, and monthly calendar. You can vary the quantity of information displayed according to the calendar type.

You can output fields from the following infotypes in the dominant line:

- *Planned Working Time* infotype (0007)

- *Absences* infotype (2001)

- *Attendances* infotype (2002)

- *Substitutions* infotype (2003)

You can also output customer-specific fields in the dominant line. There are three text fields and three hours fields which you can fill using the SAP enhancement PTIMTMW. For more information, see the Implementation Guide for Time Management under Time Manager's Workplace -> Screen Areas -> Time Data Maintenance -> Use Customer Enhancement to Fill Fields.

Note: It is usually not advisable to output the dominant in the annual calendar since the information displayed there is output again either with the planned time or the time data. You are therefore recommended not to output any dominants in the annual calendar.

You subsequently assign the field selections you create here to the required profiles in the Assign Field Selections to Profiles activity.

Standard settings

The dominant for a day, which you are familiar with from the list-oriented views, is always displayed. The time data ID or the text for the dominant is output, depending on the width of the column.

Activities

1. Choose *New Entries*.

2. Create a field selection for the daily, weekly, and monthly calendars, and assign a name that is easily identifiable. Do not make entries in the *Number of fixed columns* and Number

    of hierarchy levels fields.

3. Choose ENTER and select a field selection.

4. Double-click *Field Customizing* in the dialog structure.

5. Choose *Choose fields*.

6. Choose the fields you want to output.

7. Determine the sequence of the fields. You are recommended to sort the information according to importance.

8. Choose *Continue*.

9. If required, specify whether you want to display the value or the text for the time data in the *Display type* field. If you do not make an entry, the system automatically uses the *value*.

10. Do not make entries in the remaining fields. These fields (*Display Length, Ready For Input, Required Entry, Update, Sort Field, Sort in Descending Order, Totaling,* and *Suppress Output*) are not relevant for this activity.

11. Save your entries.

31.6.4.3.1.3.4 Display Information with Clock Times

Use

In this activity, you determine how partial-day information recorded with clock times is displayed.

If partial-day information is output in the weekly or daily calendar, there are often several lines for displaying important information for time data extending over several hours. You can use these lines to display additional information on the time data. You can output a large quantity of additional information depending on how many additional lines are available. In this activity, you determine the type of information you want to display and the sequence in which you want to display it.

The system displays one line for all partial-day information, regardless of the duration. This line automatically contains the time data ID or the text for the time data ID, depending on the width of the column. You cannot change this.

You subsequently assign the field selections you create here to the required profiles in the Assign Field Selections to Profiles activity.

Requirements

-   In the *Define Appearance of Calendar* activity, you must have entered the Time Data With Clock Times information block in at least one calendar.

-   You must enter partial-day time data with clock times, that is, feature HRSIF has the value 0. For more information, see the Implementation Guide for Time Management under *Time Data Recording and Administration -> Allow Recording of Attendances/Absences Without Clock Times*.

Activities

1. Choose *New Entries*.

2. Create a field selection and assign a name that is easily identifiable. Do not make entries in the *Number of fixed columns* and Number of hierarchy levels fields.

3. Choose ENTER and select the field selection.

4. Double-click Field Customizing in the dialog structure.

5. Choose *Choose fields*.

6. Choose the fields you want to output.

7. Determine the order of the fields. We recommend sorting the information according to how important it is so that the most important information, such as duration or clock times, is displayed right at the top. This means that the most important information can be seen even if there is not much space.

8. Choose *Continue*.

9. If required, specify whether you want to display the value or the text for the time data in the *Display type* field. If you do not make an entry, the system automatically uses the *value*.

10. Do not make entries in the remaining fields. These fields (*Display Length, Ready For Input, Required Entry, Update, Sort Field, Sort in Descending Order, Totaling,* and *Suppress Output*) are not relevant for this activity.

11. Save your entries.

31.6.4.3.1.4 Add Tabs in Time Data Maintenance Screen Area

In this section, you add the tabs for the multi-day view in the time data maintenance in the **VN1** screen area.

The standard SAP System provides the following sample layouts:

- Time Data: Layout **SAP_TMW_TDE_N1**

- Time Events: Layout **SAP_TMW_TEV_N1**

If the tabs provided by the standard SAP system are not sufficient, you can create your own tabs in the *Create Tabs* activity. You must always copy the sample layout as it contains essential technical settings needed to create new tabs.

In the *Add Tabs in the Time Data Maintenance Screen Area* step, you create tab selections to included in your profiles.

You can add up to ten tabs in a tab selection.

Standard settings

The standard SAP System contains two sample layouts for creating your own tabs. Use the layout **SAP_TMW_TDE_N1** for time data and the layout **SAP_TMW_TEV_N1** for time events.

Activities

Create Tabs

1. Select the sample template.

2. Choose *Copy as...*

3. Oerwrite the sample layout with a name using your own namespace. Overwrite the layout short text with the title you want to appear on the tab.

4. Confirm and save your entries.

The *Tab Structure* entry in the *Dialog Structure* is only used to check technical settings. Do not make any changes here.

Add Tabs to the Time Data Maintenance Screen Area

1. Choose *New entries.*

2. Enter a descriptive name and an easily identifiable ID for the tab selection (field selection).

3. Choose the tab selection (field selection) and double-click to choose *Field Customizing* in the *Dialog Structure.*

4. Choose *Select fields.* Assign your tabs to the tab selection (field selection).

5. You can add up to ten tabs in your tab selection.

31.6.4.3.2 Multi-Person View

In the *Multi-Person View* , the system displays the time data table for one entire day for all of the employees that the time administrator selected for his or her employee list.

In this section, you specify what tabs are to be displayed in the Multi-Person View. To do so, you must define the tabs selection. The *Time Data* tab is included in the standard SAP System for the Multi-Person View. You have the option of creating your own tab variant by copying one of the sample layouts in the standard SAP System. By creating your own tabs, you can get a better overview of your time data. For example, you can have all fields (columns) relevant for employee remuneration displayed on a tab called "Employee Remuneration Info," and so on.

In this section, you also determine which fields are to be displayed on the tabs themselves by defining field selections. Determine which fields (columns) are used by your time administrators and which ones are not , and then define your field selections accordingly.

In the Multi-Person View, make sure that you always display the **Personnel number** field, otherwise your time administrators see time data without any reference to personnel number in the table displayed. To display the personnel number, choose the **Show/hide button** so that the icon for the degree of detail is displayed.

You assign the tab selections and field selection to each of your profiles. The profile determines the tabs and fields displayed in the Multi-Person View for the time administrator when the *Time Manager's Workplace* is called.

The following screen areas are available in the Multi-Person View:

- **V1M** for tabs
- **T1M** for the fields (columns)

31.6.4.3.2.1 Define Table for Time Data

In this activity, you specify the fields (columns) and the order in which they appear in the table for time data.

To do so, create one or more field selections. Then assign the field selection to your profiles in the Assign Field Selections to Profiles activity.

Activities

1. Choose *New entries.*

2. Create a field selection and a descriptive ID.

3. Specify the number of the columns to be fixed in the table. The fixed columns remain displayed in the table when you scroll to view other columns.

4. Choose the field selection.

5. Double-click to select *Field Customizing* in the *Dialog Structure*.

6. Choose *Select fields*.

7. Choose the fields you want included in this field selection.

   The system displays the fields as columns in the table. Check that your field sequence is correct, as the order in the field selection determines the sequence of the columns in the table.

8. Check the display length for each field. The system determines the display length based on the value stored in the Data Dictionary. However, you can also overwrite this value, if necessary.

9. Specify whether each field is to be ready for input

   Further notes

In the *Multi-Person View*, always include the **Date** in each field selection. If you do not, then the time administrator sees time data in the table without any reference to dates. Include the **Personnel number** or **Formatted Name of Employee or Applicant** field in the *Multi-Person View* in each field selection for the same reason.

Use the **Show/hide** icons in the *Multi-Day View* and the *Multi-Person View* to display the degree of detail.

31.6.4.3.2.2 Add Tabs in Time Data Maintenance Screen Area

In this section, you add tabs for the multi-person view in the time data table in the **V1M** screen area.

The sample layout **SAP_TMW_TDE_1M** is provided in the standard SAP System.

If the tabs provided by the standard SAP system are not sufficient, you can create your own tabs in the *Create Tabs* activity. You must always copy the sample layout as it contains essential technical settings needed to create new tabs.

In the *Add Tabs in the Time Data Maintenance Screen Area* step, you create tab selections to included in your profiles. You can add up to ten tabs in a tab selection.

   Standard settings

The standard SAP System contains the sample layout **SAP_TMW_TDE_1M** to copy when creating your own tabs.

   Activities

Create Tabs

1. Select the sample template.

2. Choose *Copy as...*

3. Overwrite the sample layout with a name using your own namespace.

4. Overwrite the layout short text with the title you want to appear on the tab.

5. Confirm and save your entries.

The *Tab Structure* entry in the *Dialog Structure* is only used to check technical settings. Do not make any changes here.

Add Tabs to the Time Data Maintenance Screen Area

1. Choose *New entries.*

2. Enter a descriptive name and an easily identifiable ID for the tab selection (field selection). Choose the tab selection (field selection) and double-click to choose *Field Customizing* in the *Dialog Structure*.

3. Choose *Select fields.*

4. Assign your tabs to the tab selection (field selection).
   You can add up to ten tabs in your tab selection.

31.6.4.3.3 One-Day View

In the *One-Day View*, the system displays the time data table for all of the employees on one day only that the time administrator selected for his or her employee list.

In this section, you specify what tabs are to be displayed in the One-Day View. To do so, you must define the tabs selection. The *Time Data* tab is included in the standard SAP System for the One-Day View. You have the option of creating your own tab variant by copying one of the sample layouts in the standard SAP System. By creating your own tabs, you can get a better overview of your time data. For example, you can have all fields (columns) relevant for employee remuneration displayed on a tab called "Employee Remuneration Info," and so on.

In this section, you also determine which fields are to be displayed on the tabs themselves by defining field selections. Determine which fields (columns) are used by your time administrators and which ones are not , and then define your field selections accordingly.

You assign the tab selections and field selection to each of your profiles. The profile determines the tabs and fields displayed in the One-Day View for the time administrator when the *Time Manager's Workplace* is called.

The following screen areas are available:

-   **V11** for tabs in the One-Day View

-   **T11** for fields (columns) in the One-Day View

-   **TDO** for the layout of the dominant and checkboxes

31.6.4.3.3.1 Define Layout for Dominants and Processing Instructions

In this activity, you specify the field selections used for the **TDO** screen area.

The TDO screen area corresponds to the area above the time data table in the *Time Manager's Workplace*. Here you can display the Dominant as well as checkboxes for processing instructions.

Field selections can be assigned to your profiles for display in the *Time Manager's Workplace*.

Activities

1. Choose *New entries.*

2. Create a *field selection* and give it a meaningfun name and ID.

3. Select field selection and then double-click on *Field Customizing* in the *Dialog Structure*.

4. Choose *Select Fields*.

5. Select the fields you want to display above the table for time data.

   Further notes

Define processing instructions in the Define Processing Instructions for Each Day. If you do not define any processing instructions, then you do not need to show any checkboxes for processing instructions in the *Time Manager's Workplace*. If you have defined processing instructions, then display the number of checkboxes you require.

31.6.4.3.3.2 Define Table for Time Data

In this activity, you specify the fields (columns) and the order in which they appear in the table for time data.

To do so, create one or more field selections. Then assign the field selection to your profiles in the Assign Field Selections to Profiles activity.

   Activities

1. Choose *New entries*.

2. Create a field selection and a descriptive ID.

3. Specify the number of the columns to be fixed in the table. The fixed columns remain displayed in the table when you scroll to view other columns.

4. Choose the field selection.

5. Double-click to select *Field Customizing* in the *Dialog Structure*.

6. Choose *Select fields*.

7. Choose the fields you want included in this field selection.
   The system displays the fields as columns in the table. Check that your field sequence is correct, as the order in the field selection determines the sequence of the columns in the table.

8. Check the display length for each field. The system determines the display length based on the value stored in the Data Dictionary. However, you can also overwrite this value, if necessary.

9. Specify whether each field is to be ready for input

   Further notes

In the *Multi-Person View*, always include the **Date** in each field selection. If you do not, then the time administrator sees time data in the table without any reference to dates. Include the **Personnel number** or **Formatted Name of Employee or Applicant** field in the *Multi-Person View* in each field selection for the same reason.

Use the **Show/hide** icons in the *Multi-Day View* and the *Multi-Person View* to display the degree of detail.

31.6.4.3.3.3 Add Tabs in Time Data Maintenance Screen Area

In this section, you add tabs for the one-day view in the time data maintenance table in the **V11** screen area.

The standard SAP System provides the sample layout **SAP_TMW_TDE_11**.

If the tabs provided by the standard SAP system are not sufficient, you can create your own tabs in the *Create Tabs* activity. You must always copy the sample layout as it contains essential technical settings needed to create new tabs. In the *Add Tabs in the Time Data Maintenance Screen Area* step, you create tab selections to included in your profiles.

You can add up to ten tabs in a tab selection. Example

Requirements

Standard settings

Recommendation

The standard SAP System contains a sample layout to copy when creating your own tabs. Use the layout **SAP_TMW_TDE_11**.

Activities

Create Tabs

1. Select the sample template.

2. Choose *Copy as...*

3. Oerwrite the sample layout with a name using your own namespace.

4. Overwrite the layout short text with the title you want to appear on the tab.

5. Confirm and save your entries.
    The *Tab Structure* entry in the *Dialog Structure* is only used to check technical settings. Do not make any changes here.

Add Tabs to the Time Data Maintenance Screen Area

1. Choose *New entries*.

2. Enter a descriptive name and an easily identifiable ID for your tab selection (field selection).

3. Choose the tab selection (field selection) and double-click to choose *Field Customizing* in the *Dialog Structure*.

4. Choose *Select fields*. Assign your tabs to the tab selection (field selection).
    You can add up to ten tabs in your tab selection.

31.6.4.3.4 Team View

31.6.4.3.4.1 Define Table for Time Data

Use

In this activity, you specify the fields (rows) you want to be displayed in the table for time data in the team view, and the sequence in which you want them to appear.

To do so, you create one or more field selections. You subsequently assign them to the required profiles in the Assign Field Selections to Profiles activity.

Standard settings

The time data ID field is automatically displayed in the team view.

Activities

1. Choose *New Entries*.

2. Create a field selection and give it and easily identifiable ID.

3. Select a field selection.

4. In the *dialog structure*, double-click on *Field Customizing*.

5. Choose *Select Fields*.

6. Select the fields that you want to have in the field selection.
   Note that the sequence of the fields in the field selection is the same as the sequence of the rows in the table.

7. Save your data.

31.6.4.3.4.2 Add Tabs in Time Data Maintenance Screen Area

In this section, you add tabstrips for the team view of the time data table to the **VNM** screen area.

SAP provides the model layout **SAP_TMW_TDE_NM**, which you can copy and modify to suit your requirements.

If the standard tabstrips provided by SAP are not sufficient for your purposes, you can create your own tabstrips under *Define Tabs* in this activity. To do so, you have to copy the model layout provided by SAP. Copying is necessary because the model layout comprises technical settings that you require to create new tabstrips.

In the *Add Tabs in Time Data Maintenance Screen Area* activity, you create the tabstrip selections, which you can then add to the required profiles.

You can add up to ten tabstrips to a tabstrip selection.

Standard settings

The standard system contains a model layout for time data, which you can copy to create your own tabstrips.
The name of the model layout is **SAP_TMW_TDE_NM**.

Activities

Define Tabs 1. Select the model layout.

2. Choose *Copy as...*

3. Overwrite the model layout with a name of your choice. The name must be within the customer namespace.

4. Overwrite the model short text with the text you want to appear on your tabstrip.

5. Confirm and save your entries.

The *Tab Structure* entry in the *dialog structure* is used only to check technical settings. Do not make any changes to it.

Add Tabs in Time Data Maintenance Screen Area

1. Choose *New Entries*.

2. Enter a name and a description for the tabstrip selection (field selection).

   You should try to make the name of the field selection and its description easy to identify.

3. Select the tabstrip selection (field selection) and in the *dialog structure* double-click on *Field Customizing*.

4. Choose *Select Fields*.

5. Assign the required tabstrips to the tabstrip selection (field selection).
   You can add up to ten tabstrips to a tabstrip selection.

31.6.4.3.4.3 Create Customer Fields

Use

You use this activity to create customer fields. You can create as many fields as required in the upper, lower, left, or right screen area. You can also specify the size of the individual fields.

To create customer-specific fields, first define one or more field selections. You then assign them to the required profiles in the Assign Field Selections to Profiles activity.

You use the BAdI: Fill Customer Fields Business Add-In to define the values that are to be displayed in the customer fields.

Activities

1. Choose *New Entries*.

2. Create a field selection and give it an easily identifiable description.

3. Select the field selection.

4. In the *dialog structure*, double-click on *Field Customizing*.

5. Choose *Select Fields*.

6. Select the required number of fields and transfer them to the *Selected Fields* screen area.

7. For each customer field in the left and right screen area, enter the required display length. Note: The display length of the customer fields in the upper and lower screen areas is set according to the user settings for the relevant column in the team view.

8. Choose *Enter*.

9. Save your data.

31.6.4.3.4.4 BAdI: Fill Customer Fields

Use

This Business Add-In (BAdI) is used in the *Time Manager's Workplace* (PT-RC-UI-TMW).

You can use the BAdI to fill customer-specific fields in the team view with the values of your choice.

Requirements

You use the team view and have created your own fields in the Create Customer Fields Customizing activity.

Standard settings

The customer fields are blank in the standard system.

Activities

After calling up the IMG activity, a dialog box appears, in which you can enter a name for the implementation.

If you have already made other implementations for this BAdI, another dialog box appears, in which the existing implementations are displayed. In this case, choose *Create*, and proceed as follows:

1. In the dialog box, enter a name for the BAdI implementation in the *Implementation* field, and choose *Create*.
   The screen for creating BAdI implementations is now displayed.

2. Enter a short text for the implementation in the *Short text for implementation* field.

3. From the tab index, choose *Interface*.
   The *Name of implemented class* field is already filled on the tab page, as a class name was automatically assigned to the implementation when you named it.

4. Save your entries, and assign the implementation to a development class.

5. Place the cursor on the method, and double-click to enter method processing.

6. Enter the code for the implementation between the statements `method <Interface name> ~ <Name of method>` and `endmethod`.

7. Save and implement your code. Return to the *Edit Implementation* screen.

8. Save the entries on the *Edit Implementation* screen.
   Note: You can also create an implementation, and then activate it at a later time. In such a case, end the processing stage at this point.

9. Choose *Activate*
   The code you stored in the method will be run when the application program is executed.

Example

PT_TMW_NM_BADI_EXMPL

Notes

See also:

The

Create Customer Fields method

31.6.4.3.5 Use Customer Enhancement to Fill Fields

The customer enhancement PTIMTMW is available in the *Time Manager's Workplace*. In this enhancement, you can fill the fields with customer-specific data.

Activities

1. Create the enhancement.
   To do so, either create a new enhancement project or use an existing one.

2. Activate the project.
   The enhancement must be activated to be valid.

After activating the enhancement, you must insert the new fields in the field selections for time data in the individual views. Be aware that the fields cannot be used in the time events table.

Further notes

Because enhancements, as opposed to modications, are not made in the original SAP System but in a namespace reserved for customers, they are release-independent.

31.6.4.3.6 Check Degree of Detail for Time Data Maintenance Screen Area

In this activity, you can check the degree of detail for the field selections contained in the standard SAP System.

You can show/hide a number of rows the system displays in the time data maintenance screen. The row with the dominant of the day cannot be hidden because this row contains the most important information on the day. You can hide any of the other rows displayed besides the day dominant row.

You can use the degree of detail for the multi-day view and the multi- person view.

For each profile, you can use one of the following field selections in the standard SAP System for your degree of detail when the *Time Manager's Workplace* is accessed:

-    All rows that can be shown are hidden

-    All rows that can be shown are displayed

-    Partial-day time data are shown

If you do not assign a field selection to specify degree of detail to your profile, the system

defaults to displaying all rows that can be shown.

Standard settings

The following field selections are available in the standard SAP System for degree of detail when the TMW is first accessed:

COLLAP (Hide all)
EXPAND (Show all)
EXPSEL (Show all partial-day time data)

Activities

Choose one of the feild selections in the standard SAP System and double-click to select *Field Customizing* in the *Dialog Structure*.
The system displays the available screen selections for degree of detail.

The field selections in the standard SAP System cover all of the options necessary to determine your degree of detail. However, if you want to create your own field selections, proceed as follows:

1.   Choose *New entries* in the *Field Selection Attributes* screen.

2.   Enter a field selection and give it an easily identifiable ID.

3.   Select the field selection and double-click to select *Field Customizing* in the *Dialog Structure*.

4.   Choose a degree of detail under the *Select fields* option.
      You can only specify one degree of detail for each field selection.

31.6.4.3.7 Assign Field Selections to Profiles

In this activity, you assign the field selections and tabstrip selections that you have defined to the required profiles.

In the dialog structure, you can select the views to which you want to assign the field selections and tabstrip selections:

- Assign multi-day view
  The following screen areas belong to this view:
  EN1 (field selections for time events), TN1 (field selections for time data), VN1 (tabstrip selections)
  The following screen areas belong to the calendar views:

  CAI (time data for selection), CAL (selection of views), CAA (appointments with clock times), CAD (dominant fields)

- Assign multi-person view
  The following screen areas belong to this view:
  T1M (field selections for time data), V1M (tabstrip selections)

- Assign one-day view
  The following screen areas belong to this view:
  T11 (field selections for time data), TDO (field selections for dominants and processing instructions), V11 (tabstrip selections)

- Assign team view
  The following screen areas belong to the team view:
  TNM (field selections for time data), VNM (tabstrip selections), CFL (selection of customer fields on the left), CFR (selection of customer fields on the right), CFT (selection of customer fields in upper screen area), CFB (selection of customer fields in lower screen area).

Specify for each selected view the tabstrip selection and field selection that are valid for the corresponding profile. By doing so, you determine which tabstrips with which fields (columns) are available for each view when the time data administrator uses this profile to access the *Time Manager's Workplace*.

You can also use this activity to assign the level of detail that you require.

Standard settings

If you do not make any settings here, the system displays all tabstrips with all fields (columns) as a default in the *Time Manager's Workplace*. The areas that can be expanded are displayed as collapsed as a default.

- If you do not make any settings for the team view, the system displays as a default all tabstrips in the VNM screen area and only the time data ID field in the TNM screen area.

Activities

To assign a field selection to a tabstrip, proceed as follows:

1. Select the required profile.

2. Double-click on one of the following entries in the *dialog structure*:
   Assign Multi-Day View
   Assign Multi-Person View
   Assign One-Day View
   Assign Team View

3. Enter one of the screen areas EN1, TN1, T1M, T11, or TNM for the

4. calendar views, one of CAI, CAL, CAA, or CAD.

5. Choose *New entries*.

6. Select one of the available tabstrips under *Layout ID*.

7. Assign the required field selection under *Field selection*.
The system displays the fields specified in this field selection when you display the tabstrip using this profile. You determine whether a tabstrip is displayed via the tabstrip selection that you assign using screen areas VN1, V1M, V11, or VNM.

8. To assign field selections to additional tabstrips, repeat steps 5-6.

The **TDO** screen area corresponds to the area above the time data table in the one-day view. There are no tabstrips for this area, therefore you only have to assign a field selection to it:

1. Select the required profile.

2. In the *dialog structure*, double-click on *Assign One-Day View*.

3. Specify screen area TDO.

4. Choose *New entries*.

5. Under *Field selection*, assign the required field selection.

To assign customer fields to a profile in the team view, proceed as follows:

1. Select the required profile.

2. Choose the screen area CFL (customer fields left), CFR (customer fields right), CFT (customer fields top) or CFB (customer fields bottom).

3. Choose *New Entries*.

4. Enter the field selection that you want to assign to the profile.

5. Save your data.

To assign the tabstrips to be displayed to a profile, proceed as follows:

1. Select the required profile.

2. Double-click on one of the following entries in the *dialog structure*:
Assign Multi-Day View
Assign Multi-Person View
Assign One-Day View
Assign Team View

3. Enter one of the following screen areas: EN1, TN1, T1M, T11, TNM or, for the calendar views: CAI, CAL, CAA, CAD.

4. Choose *New entries*.

5. Enter one *tabstrip selection* that you want to assign to this profile for this screen area. The system displays the tabstrips specified in this tabstrip selection when the time administrator accesses the *Time Manager's Workplace* using this profile.

To assign the required degree of detail to a profile, proceed as follows:

1. Select the required profile.

2. In the *dialog structure*, double-click on *Assign Degree of Detail*.

3. Choose *New entries*.

4. Choose the *task* for which you want to specify a degree of detail. You can choose between *Maintain Time Data* and Process Messages.

5. Specify the field selection you want for the degree of detail.
You can choose from the following field selections in the standard system:
COLLAP (Collapse all on entry)
EXPAND (Expand all on entry)
EXPSEL (Expand all partial-day time data on entry)

If you do not assign a degree of detail to the profile, all lines of the data entry area that can be expanded are displayed collapsed as a default when time data administrators access the *Time Manager's Workplace*.

Further notes

You can create new profiles at any time in the *Assign Field Selections to Profiles* step. For information on the procedure, see Create Profiles and Assign Field Selections.

31.6.4.4 Details for Time Data

In this section, you determine which tabstrips and fields are displayed in the detail area of the *Time Manager's Workplace*. A fixed amount of tabstrips are available for the detail area of each infotype and of the personal work schedule. Particular fields can be displayed on each tabstrip.

Decide which information you want to display in the detail area and which entry options you want your time administrators to be able to use. You can hide entire tabstrips or individual fields according to your business requirements, thereby increasing ease-of-use for your time data administrators.

First create tabstrips selections in which you specify the tabstrips you want to be shown in the *Time Manager's Workplace* for each infotype and for the personal work schedule, and the sequence in which you want them to be displayed. You can change the names of the tabstrips, if required.

You can then create field selections in which you specify which fields are displayed in the *Time Manager's Workplace* for each infotype and for the personal work schedule.

If you do not make any settings in this section, all tabstrips and all fields are displayed for each infotype and for the personal work schedule.

If you do not want to assign your own tabstrip selection or field selection to every individual subtype, assign the a tabstrip or field selection to the *All other... (subtypes)* entry in the profile. This makes the specified selection apply to all subtypes to which you have not assigned your own tabstrip or field selection in the profile.

The screen areas containing tabstrips selections begin with a **C**, the screen areas of the field selections begin with a **D**.

You then assign the tabstrip selections and field selections to profiles. The profile therefore determines the tabstrips and fields displayed in the *Time Manager's Workplace*.

Example

You want the following tabstrips to be displayed for subtype 0200 (*Ill*) of the *Absences* infotype (2001): Absences, Continued pay 1, Continued pay 2. You want the following tabstrips to be displayed for subtype 0100 (*Leave*) of the same infotype: Absence times, Cost assignment receiver (1), Different payment. You therefore create two tabstrip selections: "ILL" and "LEAVE". In each, you select the three tabstrips you require. You then assign the tabstrip selections to the required profile for subtype 0200 and for subtype 0100. You can specify a third tabstrip selection for all other subtypes.
The next time a time data administrator access the *Time Manager's Workplace* using this profile, the three tabstrips that you specified in the two tabstrip selections are available for infotype 2001, subtype 0200 and subtype 0100.
If you do not specify a field selection for the subtype, the system displays all fields relevant to the infotype. If you want to hide some of the fields, you must create one or field selections and store them in the profile.

Note

The system still displays tabstrips for which you have not selected any fields. If you find that an empty tabstrip is displayed in the *Time Manager's Workplace*, this is because you have not incorporated any of the fields that belong to this tabstrip in a field selection.

If you have created your own subtypes, the system automatically provides them for the assignment of a tabstrip or field selection to a profile. This enables you to assign the required tabstrip selections and field selections to your own subtypes. This applies to all infotypes in the *Time Manager's Workplace* except the *Time Events* infotype (2011).

31.6.4.4.1 Specify Detail Screens for Personal Work Schedule

In this activity, you create the tab selections and field selections for the detail view of the *Personal Work Schedule* (PWS).

Activities

Select tabs (screen area CWS)

1. Choose *New entries.*

2. Create a tab selection (field selection).
    Enter a descriptive name and easily identifiable ID for your tab selection (field selection).

3. Select the tab selection (field selection) and double-click to choose *Field Customizing* in the *Dialog Structure.*

4. Choose *Select fields.*

5. Select your tabs.
    The system displays the tabs in the *Time Manager's Workplace* in the order in which you assign them here.

Select fields (screen area DWS)

1. Choose the **DWS** *screen area* (Detail: Screens for Personal Work Schedule).

2. Choose *New entries.*

3. Create a field selection.
    Enter a descriptive name and easily identifable ID for your field selection.

4. Choose the field selection and double-click to select *Field Customizing* in the *Dialog Structure .*

5. Choose *Select fields.*

6. Check the display length for each field. The system determines the length of each field according to the value in the Data Dictionary. If necessary, you can overwrite this value.

7. Specify whether you want a field to be ready for input. This option is not available for some fields.

Further notes

The system hides any tab for which no fields are selected. If you see a blank tab in the *Time Manager's Workplace*, then you have indicated that all fields belonging on this tab are hidden.

31.6.4.4.2 Specify Detail Screens for Substitutions Infotype (2003)

In this activity, you create the tab selections and field selections for the detail view of the *Substitutions* infotype (2003).

Activities

Select Tabs (Screen Area C03)

1. Choose *New entries.*

2. Create a tab selection (field selection).
    Give your tab selection (field selection) a descriptive name and easily identifiable ID.

3. Choose the tab selection (field selection) and double-click to select *Field Customizing* in the *Dialog Structure.*

4. Choose *Select fields.*

5. Select your tabs.
    The system shows the tabs in the *Time Manager's Workplace* in the order in which you select them here.

Select Fields (Screen Area D03)

1. Choose the *Screen Area* **D03** (Details: Fields for Substitutions Infotype (2003)).

2.   Select *New entries.*

3.   Create a field selection
     Give your field selection a descriptive name and an easily identifiable ID.

4.   Choose the field selection and double-click to select *Field Customizing* in the *Dialog Structure*.

5.   Choose *Select fields.*

6.   Check the display length for each field.
     The system determines the display length based on the value stored in he Data Dictionary. If necessary, you can overwrite this value.

7.   Specify whether you want a field to be ready for input. This option is not available for all fields.

Further notes

The system still displays tabs for which no fields were selected. If a blank tab is displayed in the *Time Manager's Workplace*, then all of the fields belonging to this tab are hidden.

31.6.4.4.3 Specify Detail Screens for Availability Infotype (2004)

In this activity you create the tab selections and field selections for the detail view of the *Availability* infotype (2004).

Activities

Tabstrips auswählen (Bildbereich C04)

1.   Choose *New entries.*

2.   Create a tab selection (field selection).
     Give your tab selection (field selection) a descriptive name and easily identifiable ID.

3.   Choose the tab selection (field selection) and double-click to choose *Field Customizing* in the *Dialog Structure*.

4.   Choose *Select fields.*

5.   Choose your tabs.
     The system shows the tabs in the *Time Manager's Workplace* in the order in which you select them here.

Select Fields (Screen Area D04)

1.   Choose *Screen Area* **D04** (Details: Fields for Availability infotype (2004)).

2.   Choose *New entries.*

3.   Create a field selection.
     Give your field selection a descriptive name and easily identifiable ID.

4.   Choose the field selection and double-click to select *Field Customizing* in the *Dialog Structure*.

5.   Choose *Select fields.*

6.   Check the display length for each field.
     The system determines the display length based on the value stored in the Data Dictionary. If necessary, you can overwrite this value.

7.   Specify whether you want a field to be ready for input. This option is not available for all fields.

Further notes

The system still displays tabs for which no fields were selected. If a blank tab is displayed in the *Time Manager's Workplace*, then all of the fields belonging to this tab are hidden.

31.6.4.4.4 Specify Detail Screens for Absences Infotype (2001)

In this activity, you create tab and field selections for the detail screen of the *Absences* infotype (2001).

Activities

Select Tabs (Screen Area C01)

1.   Choose *New entries*.

2.   Create a tab selection (field selection).
    Choose an easily idenfiable name and ID for the tab selection (field selection).

3.   Choose tab selection (field selection) and double-click to select *Field Customizing in the Dialog Structure.*

4.   Choose *Select fields*.

5.   Choose the tabs.
    The system shows the tabs in the *Time Manager's Workplace* in the sequence you specify here.

Select Fields (Screen Area D01)

1.   Choose the *Screen area* **D01** (Details: Absences Infotype (2001) Field).

2.   Choose *New entries*.

3.   Create a field selection.
    Choose an easily identifiable name and ID for the field selection.

4.   Select field selection and double-click to select *Field Customizing* in the *Dialog Structure*.

5.   Choose *Select fields*.

6.   Check the display length for each field.
    The system determines the displayed length based on the value stored in the Data Dictionary. If necessary, overwrite the values.

7.   Specify whether you want a field to be ready for input. This option is not available for all fields.

Further notes

If you do not select any fields for a specific tab, the system hides the tab. If you see a blank tab in the *Time Manager's Workplace* then all of the fields belonging to this tab are hidden.

31.6.4.4.5 Specify Detail Screens for Attendances Infotype (2002)

In this activity, you create tab selections and field selections for the detail view of the

Attendances infotype (2002).

Activities

Select Tabs (Screen Area C02)

1.   Choose *New entries*.

2.   Create a tab selection (field selection).

        Give your tab selection (field selection) a descriptive name and easily identifiable ID.

3.   Choose the tab selection (field selection) and double-click to select *Field Customizing* in the *Dialog Structure*.

4.   Choose *Select fields*.

5.   Select your tabs.
    The system shows the tabs in the *Time Manager's Workplace* in the order in which you select them here.

Select Fields (Screen Area D02)

1.   Choose *Screen Area* **D02** (Details: Fields for Attendances Infotype (2002)).

2.   Choose *New entries*.

3.   Create a field selection.
    Give your field selection a descriptive name and an easily identifiable ID.

4.   Choose the field selection and double-click to choose *Field Customizing* in the *Dialog Structure*.

5.   Choose *Select fields*.

6.   Check the display length for each field.
    The system determines the display length based on the value stored in the Data Dictionary. If necessary, you can overwrite this value.

7.   Specify whether you want a field to be ready for input. This option is not available for all fields.

    Further notes

The system still displays tabs for which no fields were selected. If a blank tab is displayed in the *Time Manager's Workplace*, then all of the fields belonging to this tab are hidden.

31.6.4.4.6 Specify Detail Screens for Time Events Infotype (2011)

In this activity, you create the tab selections and field selections for the detail view of the *Time Events* infotype (2011).

    Activities

Select Tabs (Screen Area C11)

1.   Choose *New entries*.

2.   Create a tab selection (field selection).
    Give your tab selection (field selection) a descriptive name and an easily identifiable ID.

3.   Choose the tab selection (field selection) and double-click to select *Field Customizing* in the *Dialog Structure*.

4.   Choose *Select fields*.

5.   Choose your tabs.
    The system shows the tabs in the *Time Manager's Workplace* in the order in which you select them here.

Select Fields (Screen Area D11)

1.   Choose *Screen Area* **D11** (Details: Fields for Time Events Infotype (2011)).

2.   Choose *New entries*.

3.   Create a field selection.
      Give your field selection a descriptive name and easily identifiable ID.

4.   Choose the field selection and double-click to select *Field Customizing* in the *Dialog Structure*.

5.   Choose *Select fields*.

6.   Check the display length of each field.
      The system determines the display length based on the value stored in the Data Dictionary. If necessary, you can overwrite this value.

7.   Specify whether you want a field to be ready for input. This option is not available for all fields.

     Further notes

The system still displays tabs for which no fields were selected. If a blank tab is displayed in the *Time Manager's Workplace*, then all of the fields belonging to this tab are hidden.

31.6.4.4.7 Specify Detail Screens for Employee Remuneration Info Infotype (2010)
      In this activity you create the tab selections as well as field selections in the detail view of the *Employee Remuneration Info* infotype (2010).

     Activities

Select Tabs (Screen Area C10)

1.   Choose *New entries*.

2.   Create a tab selection (field selection).
      Give your tab selection (field selection) a descriptive name and an easily identifiable ID.

3.   Choose the tab selection (field selection) and double-click to select *Field Customizing* in the *Dialog Structure*.

4.   Choose *Select fields*.

5.   Select your tabs.
      The system shows the tabs in the *Time Manager's Workplace* in the order in which you select them here.

Select Fields (Screen Area D10)

1.   Choose *Screen Area* **D10** (Details: Fields for Employee Remuneration Info Infotype (2010)).

2.   Choose *New entries*.

3.   Create a field selection.
      Give your field selection a descriptive name and easily identifiable ID.

4.   Choose the field selection and double-click to select *Field Customizing* in the *Dialog Structure*

5.   Choose *Select fields*.

6.   Check the display length for each field.
      The system determines the display length based on the value stored in the Data Dictionary. If necessary, you can overwrite this value.

7.   Specify whether you want a field to be ready for input. This option is not available for all fields.

     Further notes

The system still displays tabs for which no fields were selected. If a blank tab is displayed in the *Time Manager's Workplace*, then all of the fields belonging to this tab are hidden.

31.6.4.4.8 Specify Detail Screens for Attendance Quotas Infotype (2007)

In this activity, you create the tab selections as well as the field selections for the detail view of the *Attendance Quotas* infotype (2007).

Activities

Select Tabs (Screen Area C07)

1. Choose *New entries*.

2. Create a tab selection (field selection).
    Give the tab selection (field selection) a descriptive name and easily identifiable ID:

3. Choose the tab selection (field selection) and double-click to select *Field Customizing* in the *Dialog Structure*.

4. Choose *Select fields*.

5. Select the tabs.
    The system shows the tabs in the *Time Manager's Workplace* in the order in which you select them here.

Select Fields (Screen Area D07)

1. Choose *Screen Area* **D07** (Details: Fields for Attendance Quotas Infotype (2007)).

2. Choose *New entries*.

3. Create a field selection.
    Give your field selection a descriptive name and an easily identifiable ID.

4. Choose the field selection and double-click to select *Field Customizing* in the *Dialog Structure*.

5. Choose *Select fields*.

6. Check the display length for each field.
    The system determines the display length based on the value stored in the Data Dictionary. If necessary, you can overwrite this value.

7. Specify whether you want a field to be ready for input. This option is not available for some fields.

Further notes

The system still displays tabs for which no fields were selected. If a blank tab is displayed in the *Time Manager's Workplace*, then all of the fields belonging to this tab are hidden.

31.6.4.4.9 Specify Detail Screens for Time Transfer Specifications Infotype (2012)
In this activity, you create the tab selections and field selections for the detail view of the *Time Transfer Specifications* infotype (2012).

Activities

Select Tabs (Screen Area C12)

1. Choose *New entries.*

2. Create a tab selection (field selection)
    Give the tab selection (field selection) a descriptive name and an easily identifiable ID.

3. Choose a tab selection (field selection) and double-click to select *Field Customizing* in the *Dialog Structure.*

4. Choose *Choose fields.*

5. Choose your tabs.
    The system shows the tabs in the *Time Manager's Workplace* in the order in which you select them here.

Select Fields (Screen Area D12)

1. Choose *Screen Area* **D12** (Details: Fields for Time Transfer Specifications Infotype (2012)).

2. Choose *New entries.*

3. Create a field selection.
    Give your field selection a descriptive name and an easily identifiable ID. 4. Choose a field selection and double-click to choose

5. *Field Customizing* in the *Dialog Structure*.

6. Choose *Select fields.*

7. Check the display length of each field.
    The system determines the display length based on the value stored in the Data Dictionary. If necessary, you can overwrite this value.

8. Specify whether you want a field to be ready for input. This option is not available for all fields.

Further notes

The system still displays tabs for which no fields were selected. If a blank tab is displayed in the *Time Manager's Workplace*, then all of the fields belonging to this tab are hidden.

31.6.4.4.10 Modify Texts for Tabs

In this activity, you can change the texts on the tabs in the details area.

If you do not enter any text, the system displays the standard SAP system text.

Activities

1. Choose *New entries.*

2. Under *Layout ID*, select the tab for which you want to change the text.

3. Enter a tab text in the *Short text* field.

31.6.4.4.11 Assign Field Selections to Profiles

In this activity, you assign the tab selections and field selections for the details area to your profiles. If you make no specific assignments here, the system displays all tabs and all fields for each profile.

The number of tabs and fields to be displayed can be individually set in tab and field selection. Tab and field selections are stored in the profiles. Using profiles reflecting your requirements, you can specify which tabs and fields are available to the time administrator when the *Time Manager's Workplace* is called. As a result, you simplify the data entry workload required by your administrators substantially.

In the tab selection, you can define one or more tabs as "hidden." In the field selections, you can define that fields belonging to one or more tabs are also "hidden."

Activities

1. Select a profile.

2. Double-click to choose the *Assign Field Selection* option in the *Dialog Structure*.

3. Select a detail area for the tab in the *screen area* using the possible entries help option (F4) The screen areas for tabs begin with the letter **C**.

4. Choose *New entries.*

5. Enter a tab selection for each infotype and subtype for which you want your own tabs. In the *All others... (Subtypes)* field, you can enter a tab selection to apply to the remaining subtypes. If you do not select a tab selection for *All others...(Subtypes)*, the system uses all available tabs for all of the substypes for which one is not defined.
    You can enter a separate tab selection for all personal work schedules as well as all time events from the *Time Events* infotype (2011).

6. Return to the *Define Profile* screen.

7. Repeat steps 1 and 2.

8. Select a detail area for the field selection in the *screen area* using the possible entries help option (F4) The screen areas for fields begin with the letter **D**.

9. Choose *New entries.*

10. Enter a field selection for each infotype and subtype for which you want your own field selection. In the *All others... (Subtypes)* field, you can enter a field selection to apply to the remaining subtypes. If you do not select a tab selection for *All others...(Subtypes)*, the system uses all available fields for all of the substypes for which one is not defined. You can enter a separate tab selection for all personal work schedules as well as all time events from the *Time Events* infotype (2011).

Further notes

You can create new profiles at any time in the *Assign Field Selections to Profiles* activity. To do so, complete the Create Profiles and Assign Field Selections step.

31.6.4.5 Choose Calendar

Use

In this activity, you configure the calendar you want to use. You can choose between:

-   A simple calendar

-   A calendar with an enhanced navigation area
    This calendar enables users to navigate quickly to the required periods.

    A Business Add-In (BAdI), Fill Default Values in TMW Calendar, is available for this calendar to enable you to store periods of your choice as default values to navigate quickly to particular dates.

Standard settings

In the standard system, the calendar without enhanced navigation is set up.

Activities

1. If you want to use the calendar with enhanced navigation, enter **CL_PT_GUI_TMW_CALENDAR2** in the *Class* field for the *Object ID TMW_CALENDAR*.
    Note:
    For the calendar without the enhanced navigation area, enter **CL_PT_GUI_TMW_CALENDAR** in the *Class* field.

2. Save your entries.

31.6.4.6 BAdI: Fill Default Values in TMW Calendar

This Business Add-In (BAdI) is used in the Time Manager's Workplace (PT-RC-UI-TMW).

You can use it to define periods of your choice as default values for quick navigation to dates in the navigation area of the calendar. You can sort the list of default values to your preferred sequence.

This BAdI is called once when the Time Manager's Workplace is initialized. You cannot therefore fill the table of default values on the basis of a scenario or selection.

Requirements

To use the navigation area that you configure in this activity, you must select the new calendar (CL_PT_GUI_TMW_CALENDAR2) in the Choose Calendar activity of the Implementation Guide for the Time Manager's Workplace.

Standard settings

The initial period from the profile is displayed as standard. If you activate the BAdI unchanged, only this period is available in the pushbutton in the navigation area of the calendar.

If you return an empty table, the pushbutton is not displayed in the calendar.

Activities

After calling up the IMG activity, a dialog box appears, in which you can enter a name for the implementation.

If you have already made other implementations for this BAdI, another dialog box appears, in which the existing implementations are displayed. In this case, choose *Create*, and proceed as follows:

1. In the dialog box, enter a name for the BAdI implementation in the *Implementation* field, and choose *Create*.
    The screen for creating BAdI implementations is now displayed.

2. Enter a short text for the implementation in the *Short text for implementation* field.

3. From the tab index, choose *Interface.*
    The *Name of implemented class* field is already filled on the tab page, as a class name was automatically assigned to the implementation when you named it.

4. Save your entries, and assign the implementation to a development class.

5. Place the cursor on the method, and double-click to enter method processing.

6. Enter the code for the implementation between the statements `method <Interface name> ~ <Name of method>` and `endmethod`.

7. Save and implement your code. Return to the *Edit Implementation* screen.

8. Save the entries on the *Edit Implementation* screen.

Note: You can also create an implementation, and then activate it at a later time. In such a case, end the processing stage at this point.

9. Choose *Activate*
    The code you stored in the method will be run when the application program is executed.

Further notes

Methods

Get List of Selection Periods

31.6.5 Employee Selection

In the *Time Manager's Workplace* (TMW), time data administrators can display a list of all employees for whom they are responsible. To do this, they must first perform and employee selection.

The employee selection and options for interactive employee selection available to users depend on the profile used to access the *Time Manager's Workplace*. You can set the following selection criteria in the profile:

-   User-specific selections

-   Multiple-user selections

-   Selection criteria according to a group for interactive selections

The user-specific and multiple-user selections are described below under **Standard selection**. The selection criteria for the group for interactive selections are described under **Interactive selection**.

Standard selection

You use the standard selection to determine which employee lists can be displayed by time administrators without them having to define their own selection for this purpose. You can offer time administrators several employee lists (selection IDs) within the standard selection, by grouping several selection IDs in one group. You store the groups in profiles so that the employee lists (selection IDs) available to a time administrator depend on the profile used.

You define selection IDs in the Define Selection IDs activity in the IMG for *HR Information Systems* in *Personnel Management*. You can group employees according to *Personnel Administration* and *Organizational Management* criteria.

In the Define Groups steps, you set up the groups from the required selection IDs. You can flag the selection IDs in the groups as user-specific or multiple-user. The user-specific selection IDs apply to the specified users only, the multiple-user selection IDs apply to all users.

Example for user-specific selection IDs

You want personnel administrator Miller to be able to display all employees for whom he or she is responsible, that is, the employees to whom he or she is assigned as time data administrator (field SACHZ) in the Organizational Assigment infotype (0001). In addition, he or she has to maitain the time data of some temporary staff who work on the cost center "TEMP1". You create two selection IDs: "ADM1" and "TEMP1", and assign them both to user MILLER. You group the two selection IDs in group "TIMEADMIN1", and enter the group in the profile, under *User-specific selections according to group*. The personnel administrator can now choose between the employee lists (selection IDs) "ADM1" and "TEMP1" in the *Time Manager's Workplace</>*.

Example for multiple-employee selection IDs

You want the personnel administrator currently logged on to the system to be able to display all active employees for whom he or she is responsible. The administrator must be assigned as time administrator for these employees in the *Organizational Assignment* infotype (field SACHZ). The employees must be assigned the *Employment status* 3 (active) in the *Actions* infotype (0000) In this case, you create a generic selection. For more information, see the note below. You create a group for the generic selection, and enter it in the profile under *Multiple-employee selections according to group*. The system then determines the employee list in the *Time Manager's Workplace* according to the user currently logged on.

Interactive selection

Time data administrators can also define their own employee selections in the *Time Manager's Workplace*. To do this, they have to define a group for interactive selection in the profile used to access the *Time Manager's Workplace*.

The group is used to control the following:

- If you want additional employee lists (selection IDs) to be available to administrators as models for their own selections, you determine the required selection IDs in the group for interactive selection. Users can then use one of these selection IDs as a guide when creating their own employee selection.

- If you want time administrators to be able to use particular criteria (fields) to restrict the interactive search, you must assign an InfoSet to the group for the interactive selection. In this case, you create InfoSets for interactive employee selections. You use InfoSets to make additional selection criteria (fields) available to time administrators, which they can use to perform their own employee selection. The following entries are required to assign an InfoSet to a group in the Define Groupings step:
  Object type: **P** (personnel number)
  Work area: "blank" (client-dependent) for own InfoSets, or
  G (cross-client) for the InfoSet delivered by SAP, **/SAPQUERY/HR_XX_PT_TMW** InfoSet: Name of InfoSet

- The system uses the group for the interactive selection as the place to store selections that time administrators have defined themselves.

Example for interactive selection

You want time data administrators to be able to create their own selections using selected personnel numbers or cost centers. To do this, you create an InfoSet containing the personnel numbers and cost centers, and assign it to the required group for interactive selection.

Note

If you want to select all active employees who are assigned to a particular administrator or administrator group in the *Organizational Assignment* infotype (0001), you must perform a generic search. To do so, proceed as follows:

Choose a selection ID, and switch to *Table* in the dialog structure. Create two entries:

Entry 1

Column	Value
Seq. no.	1
Seq. no.	1
Object class	Persons
Infotype	0001 (*Organizational Assignment*)
Field name	SACHZ (Administrator) or SBMOD (Administrator group)

Entry 2

Column	Value
Seq. no.	2
Seq. no.	1
Object class	Persons
Infotype	0000 (*Actions*)
Field name	STAT2 (Employment status)

Ranges

Select entry 1 and switch to *Ranges* in the dialog structure. Assign the sequential number 1. Under *Function module* enter **HR_GET_GPA_FOR_SELID**.

Choose *Back* and select entry 2. Switch to *Ranges* in the dialog structure and enter the following values:

Column	Value
No.	1
INCL/EXCL	I
Option	EQ
Selection value	3

Combination

Now choose *Combination* in the dialog structure. Enter your selection ID and the following values:

Column	Value
No.	1
No.	1

Sel.type	A
Op.	+
No.	2
Sel.type	A
OT	P

Save your data.

The system now reads user parameters SAZ and SGR when the *Time Manager's Workplace* is accessed. If the corresponding parameters are maintained for each user, the system selects the corresponding active employees. If the values are not maintained, the system determines whether the current user is defined as an administrator. If it finds the relevant entries in table T526, it selects all active employees who are assigned to this administrator. If no employees are assigned to the user, no employees are selected.

To check the entries in table T526, choose the IMG step Personnel Management -> Personnel Administration -> Organizational Data -> Define Administrators.

31.6.5.1 Define Selection IDs

This activity enables you to define selection IDs.

If you require an overview of selection IDs, see the superordinate Selection IDs node.

Example

Example of a Selection ID Based on a Table With a Defined Range

In the following example, you define a selection ID that lists all of the persons from Paris who are between 30 and 40 years old.

First, the following selection ID must be defined:

(As seen in the "Table" view)

Selection ID No.   No.   Tr.cl. IType Fld ty.   Field name
Table sel 1   1   -   0006   ORT01 (=city) Table sel   1   2   -   0002   AF   LEBALTER (age of EE)

In the second step, ranges must be defined for these selection IDs:

(As seen in the "Ranges" view)

Selection ID No.	No.	No.	I/E	Opt.	Sel.val.	Sel.val.
Table sel	1	1	1	I	EQ	Paris
Table sel	1	2	1	I	BT	30	40

Example of a Selection ID Based on Structural Reporting

(As seen in the "Structure" view)

The following selection ID lists all of the persons assigned directly to organizational unit 5000, and all of the persons assigned to subordinate organizational units.

Selection ID Ser.no. PV OT Object ID EP SV TD Period Structure sel 1 01 O 5000 O-S-P 12 0 All

Note for Selection IDs With Customer-Defined Function Module

If you create your own function module for a selection ID, it requires that a standard interface be used. You can take the standard interface from the HRCM_OWN_ORGUNIT_EMPL_GET standard function module.

Example of a Combination of Selection IDs

The following selection ID lists all of the persons who belong to organizational unit 5000 and who are assigned to company code 01.

Selection ID 1 (table with range)

Selection ID No.   No.   Tr.cl. IType Fld ty.   Field name
Combi sel   1   1   A   0001   BUKRS(=company code)

Range:

Selection ID No.   No.   No.   I/E   Opt.   Sel.val.   Sel.val.
Combi sel   1   1   1   I   EQ   01

Selection ID 2 (structure)
Selection ID Ser.no.   PV   OT   Object ID   EP   SV   TD   Period
Structure sel   1   01   O   5000   O-S-P 12   0   All

Both selection IDs are now related to selection ID 3.

Selection ID No   No   Sel.ty.Op.   No   Sel.ty.OT
Combi sel   C   1   1   S   +   1   A   P

Activities

Defining Selection IDs 1.   Choose the *Selections* view.

2.   Choose *New entries.*

3.   Enter a name in the *Selection ID* and *Selection text* fields. To further define the selection ID, the name in the *Selection ID* field must be used. The name in the *Selection text* field is used when the selection ID is used in the application (when input help is executed, for example).

4.   Save your entry.

5.   Select the selection ID that you created.

6.   Choose the required view (structure, table, function).

7.   Choose *New entries.*

8.   In the *Selection ID* field, enter the selection ID.

9.   Make the required entries in the following fields. Use the examples to help you enter the correct data.

10. If you define a selection ID based on a table, you can now enter the ranges.

   a)   To do so, choose the *Ranges* view.

   b)   Choose *New entries.*

   c)   In the *Selection ID* field, enter the selection ID. Make the required entries in the following fields.

11. Save your entries.

31.6.5.2 Create InfoSets for HR

Overview

This Customizing activity enables you to create InfoSets using HR logical databases. (From a technical point of view, this Customizing activity corresponds to the Customizing activity for the administration function of SAP Query, namely "Create InfoSets", transaction SQ02.)

In most cases, and to satisfy most requirements, the information and procedures described under *1. (General information and references)* and *2. (Creating InfoSets)* are sufficient.

Sections *3. (Settings for HR InfoSets)* and *4. (Making InfoSet-specific settings)* are only relevant if you need to make special demands on query generator logic.

1. General information and references

This section provides you with general information on how to create InfoSets, and references to additional relevant documentation.

2. Creating InfoSets

This section provides you with step-by-step instructions on how to create InfoSets.

3. Description of InfoSet-specific customizing options for HR InfoSets (that is, for logical databases PNPCE, PNP, PCH, and PAP)

This section provides you with general information on the customizing options for query generator logic, and a description of all available switches.

4. Making InfoSet-specific settings

This section provides you with step-by-step instructions on how to make query generator logic settings for an InfoSet.

1. General information and references

SAP Query and **InfoSet Query** (which is called *Ad Hoc Query* in HR) enable you to report on

data in the SAP System. This system consists of several hundred thousand fields in logical databases and tables alone. It would therefore be impractical to allow you to select from all of these fields when queries are created. To restrict the set of fields and put them in a user-friendly structure, InfoSets (which used to be called functional areas) are created. They determine the fields which the user can report on in a query. InfoSets are therefore created before queries.

InfoSet maintenance in HR differs from the general procedure because data fields in HR are already grouped together in infotypes.

If you create an InfoSet in HR, you must note the following:

In the first step, you select an HR logical database. To create InfoSets for HR, you can use logical databases **PNPCE**, **PNP**, **PAP**, and **PCH**. To report on travel data, you can use Travel Management's logical database **PTRVP**, which enables you to access a mini HR master record. The database you use to create your InfoSet is determined by the component whose data you want to report on. Customer-specific infotypes (9000 to 9999) can be stored on all logical databases, which means that if you want to report on customer-specific infotypes, you must decide each time which database to access.

The reports that you can run using InfoSets may be similar, but are different with respect to the objects that can be selected. The following text describes the connection between the logical database, the objects that can be selected, and the infotypes you can include in an InfoSet.

Logical databases PNPCE and PNP

InfoSets based on logical database PNP enable you to select persons in your query. The following infotypes are available for PNP: -   Personnel Administration (0000-0999)

-    Time Management (2000-2999)

-    Payroll infotypes

-    Infotypes for Personnel Planning objects that can be related with persons

-    Customer-specific infotypes

Example: Select all persons who participated in a particular business event, output the business event prices.

Logical database PCH

You can specify an object type for InfoSets based on logical database PCH. The object type can then be selected in the query. In this case, the following infotypes are available for PCH:

-    All infotypes for the object type

-    All infotypes for objects that can be related with the specified object type

-    Customer-specific infotypes for the object

- Customer-specific infotypes for related objects

If you do not specify an object type, you can access all of the infotypes in Human Resources.

Logical database PAP

InfoSets based on logical database PAP enable you to select applicants in your query. The following infotypes are available for PAP:

- Recruitment (4000-4999)

- Specific infotypes in Personnel Administration (such as 0001 and 0002)

- Customer-specific infotypes

Example: Select all applicants who were hired last year to work on special projects. Output the addresses of selected applicants.

Recommendation
When you create HR InfoSets, select the infotypes you want to include in the InfoSet. A field group containing infotype-specific and available additional fields is then created for each infotype.
To ensure that working with the InfoSet is as easy as possible, you are advised to adjust the InfoSet so that it meets your requirements as accurately as possible. This means:

- Only include infotypes in an InfoSet if they contain fields that are required for reporting

- Only use fields in a field group if they are required for reporting, and remove fields that are not required

Activities

To create an InfoSet, proceed as follows:

1. On the *InfoSet: Initial Screen*, enter a name for the InfoSet and choose Create.
   This takes you to the following screen: *InfoSet <NAME>: Title and Database*.

2. Enter a name for the InfoSet.
   When the user creates a query, the InfoSet name is displayed as a long text.

3. Enter an *authorization group*, if necessary. All of the queries created using this InfoSet can only be executed by persons with this authorization group.

4. In the Data Source group box, select Logical database and then enter the HR logical database that you require. Do not specify a selection screen version. It could cause errors later.

5. Choose *Continue*.

6. This takes you to the following dialog box: *Infotype Selection for InfoSet <InfoSet name>*. It lists all of the infotypes that you can access via the selected logical database.

   - If you use logical database PCH to create an InfoSet so that you can select objects in InfoSet Query, select the object type first.
     After you have selected the object type, you can select infotypes for the object type. Furthermore, all of the object types that can be related with the selected object type are listed under Infotypes of related objects. On the next level of this tree, all of the relationships are output that can exist between the object type in question and the selectable object type. All of the selected object type's infotypes are displayed on the last level.

   - If you use logical database PNPCE or PNP to create an InfoSet, infotypes from Personnel Administration are retrieved. They are grouped in accordance with the current user group in Personnel Administration (SET/GET parameter UGR (user group (HR master)).
     Furthermore, all of the object types that can be related with the Persons object are listed under Infotypes of related objects. On the next level of this tree, all of the relationships are output that can exist between the object type in question and the Person object type. For example, the following relationships can exist between persons and qualifications: Fulfils, Has potential for, Interests and preferences, and Dislikes. All of the selected object type's infotypes are displayed on the last level.

   - If you use logical database PAP to create an InfoSet, infotypes from Recruitment and specific infotypes from Personnel Administration are retrieved.

7. Choose *Continue*.
   This takes you to the following screen: *Change InfoSet <name>*.
   All of the infotypes that you included in the InfoSet are displayed on the left of the screen. Infotype fields that are already contained in field groups are displayed in a different color, and the field group ID is displayed. The InfoSet that already contains a field group per infotype is displayed on the right of the screen. The name of a field group matches the name of the infotype or consists of the name of the object, relationship, and infotype (such as *Qualification/fulfils/object*).
   When an InfoSet is created, the following fields are included in the first field group automatically:

- Logical database PNP: personnel number

- Logical database PAP: applicant number

- Logical database PCH: object ID, plan version, and object type

8. Determine the fields that the field groups of your InfoSet must contain. If you want to change the default sequence of field groups and fields, use Drag&Drop.
    On the Change InfoSet *<InfoSet name>* screen, you can choose Edit --> Change infotype selection to enhance the InfoSet with additional infotypes or remove infotypes from the InfoSet. Remember to regenerate the InfoSet afterwards.

9. Save the InfoSet.

10. Generate the InfoSet.

11. Go back to the initial InfoSet maintenance screen.

12. Choose *User group assignment*.

13. Select a user group, and save your entry.

To change an InfoSet, proceed as follows:

1. On the *InfoSet: Initial Screen*, select the InfoSet.

2. Choose *Change*.

    This takes you directly to the following screen: *Change InfoSet <name>.* When you change an InfoSet, you cannot change its database assignment but you can change your selection of infotypes and fields.

    Note
    If you remove fields from the field groups of an existing InfoSet, and if these fields are already being used in a query created via this InfoSet, then an error message is displayed.

Additional information

If you require further information on InfoSet maintenance in HR, access the SAP Library and choose *SAP Web Application Server --> ABAP Workbench --> SAP Query -> Tools for Queries -> InfoSet Query --> HR in InfoSet Query --> HR InfoSets for InfoSet Query* and *SAP Query --> InfoSets --> Creating and Changing InfoSets --> InfoSets in the HR Application* and *HR Logical Databases.*

3. Description of InfoSet-specific customizing options for HR InfoSets (that is, for logical databases PNPCE, PNP, PCH, and PAP)

If you use generic reporting tools such as SAP Query and InfoSet Query, coding is generated automatically with the help of a query generator. Coding generated this way is mainly controlled by two elements: the generation logic of the query generator and the query definition.

However, some business requirements cannot even be satisfied by the numerous definition options of a query or generic logic for the query generator. In such cases, you are required to enter settings for the query generator logic. These settings are made per InfoSet.

These settings are made using switches that are processed by the query generator. A distinction is made between *general switches* and *infotype-specific switches*.

-   Settings that are entered using general switches control settings that apply to the entire InfoSet

-   Infotype-specific switches control settings that can be determined per infotype

Multiple-value switches are another type of switch. Multiple-value switches store all of the values assigned to them in a list. This takes place internally using a table to which the next assigned value is appended. The switch overview shows you whether a switch is a multiple-value switch or not.

In accordance with the following statements: *HR [P0000]
         *HR PROVIDE_FIELD = 'MASSN'
         *HR PROVIDE_FIELD = 'MASSG'

the PROVIDE_FIELD switch is assigned the 'MASSN' and 'MASSG' values for infotype 0000.

Changing a switch in, or adding a switch to an existing InfoSet affects all of the existing queries (that are based on this InfoSet). However, switches influence generated coding which means that changes to a switch do not actually have an effect until the query is regenerated. To ensure good performance, a query is not regenerated each time it is executed. Instead, it is only regenerated if its definition has changed which means that different output can be expected. However, changes to the InfoSet (such as changes to switches) are not recognized automatically.

Query regeneration can be forced as follows: Access transaction SQ02, which enables you to maintain InfoSets, choose 'Goto' -> 'Query Directory', enter the name of the InfoSet, and choose 'Execute'. The system lists all of the queries for this InfoSet. To generate the queries, select them and then choose 'Edit' -> 'Generate Program'. Alternatively, you can access transaction SQ01, which enables you to maintain queries, and choose 'Query' -> 'More Functions' -> 'Generate Program'. Before doing so, make sure you restart transaction SQ01 so that if a buffer containing the old version of the InfoSet exists, it is deleted.

It is often unclear whether a switch defined in an InfoSet has an effect on query processing. If defined incorrectly or with an invalid value, it is simply ignored when generation takes place. The same applies to switches that are defined correctly but assigned to an infotype that is not used in the query. If you need to find out which switches were taken into account when query generation took place, proceed as follows: Access transaction SQ01, which enables you to maintain queries, and regenerate the query by choosing 'Query' -> 'More Functions' -> 'Generate Program'. Information on used switches is included in the generated query report as comment lines. To display it, you must first determine the name of the generated report by choosing 'Query' -> 'More Functions' -> 'Display Report Name'. This report can then be displayed in the ABAP editor (transaction SA38). To access the comment lines with the used switches, search for the following text: 'HR-LOG'. There are three sections. In the first section, general messages are displayed. In the second and third sections, general and infotype-dependent switches that were used when the query was generated are listed with their values.

When defining switches, you must proceed with extreme caution. Generated coding is extremely complex, which means you should only use switches if you are sure about how they work and the consequences they have. In the following sections, switches are described in as much detail as possible. However, many switches have such far-reaching effects when coding is generated that you need extensive knowledge of HR and ABAP programming skills to understand them properly. In cases of doubt, additional consulting may be necessary. In any event, switches should only ever be changed by an experienced administrator.

Procedure of a generated query

The following sketch is intended to give you a rough overview of the structure of generated coding. The terms in square brackets are events that are described in more detail in the next section. Reference is made to them in the description of switches.

...
[Declarations]
```
Declare infotypes, additional fields, etc.
```

[Data determination]
```
GET statement
Only take data in the reporting period into account
Optional: only take the last data record into account
Optional: eliminate multiple languages (delete superfluous data records)
Expand indirect valuation
Expand repeat fields
For each infotype:
```

                [Additional calculations]
```
                Calculate infotype-dependent HR additional fields
                Read text fields
```

                [Data compression]
```
                Provide (eliminate splits from data records)
```

[Split calculation]
```
Calculate periods (splits)


For each calculated split:
                For each infotype:
```

                                    [Data record determination]
```
                    Determine infotype records to be output for this split
```

                                    [Additional data calculation]

```
Calculate split-dependent HR additional fields
Calculate additional fields/tables/structures


[Data output]
Create output line (with all output fields) ...
```

Structure and procedure of generated coding

The following text briefly describes the structure of generated coding with reference to switches that enable you to control the procedure. For a more detailed explanation of the control options, see the description of each switch.

All of the variables that are needed to execute the program are declared at the event [declarations]. These are the used infotypes for the most part, but also additional fields, text fields, and other auxiliary variables.

The data records of requested infotypes are read one after the other for each selected person/object at the event [data determination]. Data records are only taken into account if they occur in the reporting period. The data records to be processed can be restricted further (see the LAST_RECORD_ONLY switch). If an infotype with indirect valuation exists, it is expanded. Repeat fields are also expanded at this event and written to separate data records. If the infotype is language-dependent, the redundant languages are deleted at this point (see the NO_DUPLICATE_LANGU switch).

Each infotype used in the query is then processed separately. At the [additional calculations] event, all of the (non-split-dependent) HR additional fields are calculated (see the ADD_FIELDS_SPLIT_DEP switch). Texts (if available and requested) on these additional fields and on the infotype fields are also calculated.

At the [data compression] event, data records created as a result of splits can be re-merged if their fields that are relevant to the query (see the PROVIDE_FIELD switch) are the same. This depends on the time constraint of the infotype and the setting of the PROVIDE switch.

If the reporting period is not restricted to a key date, the periods/splits that are relevant to output are calculated at the [split calculation] event on the basis of infotype data record validity (see the TIME_DEPENDENCE switch). The splits are calculated so that they always cover the reporting period.

Each calculated split is then processed separately. At the [data record determination] event, the valid data records of all (used) infotypes are determined for each split. The data records that are regarded as valid can also be determined by the TIME_DEPENDENCE switch.

At the [additional data calculation] event, HR additional fields are calculated if they were not calculated at the [additional calculations] event because of their split-dependency. All other additional fields, additional tables, and additional structures defined in the InfoSet are also calculated at this event.

Finally, data is output line by line at the [data output] event.

General switches
General switches are valid for the entire query and are defined behind the ID *HR
[COMMON].

- **ALLOW_DUP_LINES** - allow output of identical (duplicate) lines in the basic list)

- **REPORT_CLASS** - set up the report category (PNP and PNPCE)

- **PROCESS_LOCKED_RECORDS** - process locked data records too (PNP and PNPCE)

- **PROC_PERNR_PARTIAL_AUT** - process persons too for whom a mere partial authorization exists (PNP and PNPCE)

- **PERSON_ONLY_ONCE** - process each person just once (PNPCE)

Infotype-specific switches
Infotype-specific switches determine how an infotype is processed. They must therefore be specified behind an ID that specifies one (or more) infotypes (for example, *HR [P0001]).

- **LAST_RECORD_ONLY -** process the last data record only

- **PROVIDE** - merge neighboring/overlapping data records

- **PROVIDE_FIELD** - relevant fields when data records are merged (multiple-value switch)

- **PRIMARY_INFTY** - relationship of infotype with primary infotype (for infotype views)

- **TIME_DEPENDENCE** - time dependence

- **DATA_REQUIRED** - existence of data records required

- **SPLIT_DATA_REQUIRED** - existence of data records required in split period

- **NO_INDIRECT_EVALUATION** - no calculation of indirectly valuated wage types

- **IGNORE_WAGE_TYPE_OPERA** - ignore operation indicator (for deduction wage types)

- **NO_DUPLICATE_LANGU** - output data records in one language only

- **CASE_SENSITIVE_SEL**- case-sensitive selection (take upper/lowercase into account)

- **ADD_FIELDS_SPLIT_DEP** - HR additional fields are calculated with split dependency

- **SPLIT_DEPENDENT_AF**- technical name of a split-dependent HR additional field (multiple-value switch)

- **SPLIT_INDEPENDENT_AF**- technical name of a split-independent HR additional field (multiple-value switch)

Generating queries after switch changes

Changing a switch in, or adding a switch to an existing InfoSet affects all of the existing queries (that are based on this InfoSet). However, switches influence generated coding which means that changes to a switch do not actually have an effect until the query is regenerated. To ensure good performance, a query is not regenerated each time it is executed. Instead, it is only regenerated if its definition has changed which means that different output can be expected. However, changes to the InfoSet (such as changes to switches) are not recognized automatically. Query regeneration can be forced as follows: Access transaction SQ02, which enables you to maintain InfoSets, choose 'Goto' -> 'Query Directory', enter the name of the InfoSet, and choose 'Execute'. The system lists all of the queries for this InfoSet. To generate the queries, select them and then choose 'Edit' -> 'Generate Program'. Alternatively, you can access transaction SQ01, which enables you to maintain queries, and choose 'Query' -> 'More Functions' -> 'Generate Program'. Before doing so, make sure you restart transaction SQ01 so that if a buffer containing the old version of the InfoSet exists, it is deleted.

Checking the effects of a switch on a query

It is often unclear whether a switch defined in an InfoSet has an effect on query processing. If defined incorrectly or with an invalid value, it is simply ignored when generation takes place. The same applies to switches that are defined correctly but assigned to an infotype that is not used in the query. If you need to find out which switches were taken into account when query generation took place, proceed as follows: Access transaction SQ01, which enables you to maintain queries, and regenerate the query by choosing 'Query' -> 'More Functions' -> 'Generate Program'. Information on used switches is included in the generated query report as comment lines. To display it, you must first determine the name of the generated report by choosing 'Query' -> 'More Functions' -> 'Display Report Name'. This report can then be displayed in the ABAP editor (transaction SA38). To access the comment lines with the used switches, search for the following text: 'HR-LOG'. There are three sections. In the first section, general messages are displayed. In the second and third sections, general and infotype-dependent switches that were used when the query was generated are listed with their values.

Note

When defining switches, you must proceed with extreme caution. Generated coding is extremely complex, which means you should only use switches if you are sure about how they work and the consequences they have. In the following sections, switches are described in as much detail as possible. However, many switches have such far-reaching effects when coding is generated that you need extensive knowledge of HR and ABAP programming skills to understand them properly. In cases of doubt, additional consulting may be necessary. In any event, switches should only ever be changed by an experienced administrator.

General switches

ALLOW_DUP_LINES - allow output of identical (duplicate) lines in the basic list)

Description
The time-dependence of infotypes in particular can lead to a situation in which several data records exist for one and the same personnel/object number whose fields used in the query are identical. They therefore give rise to identical output. There is seldom any point in outputting identical lines because they do not contain any new information.

The BL_ALLOW_DUP_LINES switch enables you to determine whether the process of outputting identical lines to the basic list is permitted or suppressed.

Standard system conduct

Identical lines are not output for a personnel/object number.

Values
'X' - identical output lines (for a personnel/object number) are allowed.

' ' - Standard: identical output lines (for a personnel/object number) are suppressed.

Note
This switch is only relevant to basic lists. The system does not attempt to find identical lines for statistics or ranked lists because data is compressed (aggregated) before it is output anyway.

Identical lines are only monitored/suppressed for data pertaining to the same personnel/object number. This means the basic list could very well contain identical lines if they originate from different personnel/object numbers.

Example
*HR [COMMON]
*HR BL_ALLOW_DUP_LINES = 'X'

REPORT_CLASS - set up the report category (PNP and PNPCE)

Description
The report category concept, which enables you to determine the structure of the selection screen, applies to logical databases PNP and PNPCE. A special report category can be assigned to each report that is based on one of these two logical databases. To maintain report categories in Customizing, choose Personnel Management -> Human Resources Information System -> Reporting -> Adjusting the Standard Selection Screen -> Create Report Categories. Each query is a generated report, which means that report categories can also be assigned for queries. A default report category is assigned in the standard system. The REPORT_CLASS switch can be used to specify a report category explicitly.

Standard system conduct
If the InfoSet is based on logical database PNP, report category ___X2001 is used. If this report category does not exist, report category ___22002 is used instead. If the InfoSet is based on logical database PNPCE, report category QUEPNPCE is used.

Values
SAP and customer-specific report categories can be used. PNP and PNPCE use different report categories, which means you must ensure that the specified report category was created for the logical database used in the InfoSet.

Note
Report categories are only supported by logical databases PNP and PNPCE. The switch cannot be used for InfoSets based on any other logical database.

Ad Hoc Query does not use the logical database selection screen to define selection conditions.
Specifying a report category in Ad Hoc Query does not, therefore, have any recognizable effect.

Example
*HR [COMMON]
*HR REPORT_CLASS = '0MYREPCL'

PROCESS_LOCKED_RECORDS - process locked data records too (PNP and PNPCE)

Description
It is possible to lock individual data records in Personnel Administration. In the standard system, such data records are not processed by the query. If you want these data records to be processed, you must set the PROCESS_LOCKED_RECORDS switch.

Standard system conduct

Locked data records are not processed in the query.

Values
'X' - locked data records are processed (together with data records that are not locked).

' ' - Standard: locked data records are not processed.

Note

This switch is only supported by logical databases PNP and PNPCE.

Example
*HR [COMMON]
*HR PROCESS_LOCKED_RECORDS = 'X'

PROC_PERNR_PARTIAL_AUT - process persons too for whom a mere partial authorization exists (PNP and PNPCE)

Description

If data determination discovers that an authorization does not exist for all the data records of a personnel number, there are two ways of proceeding. Either the entire personnel number is not processed, or the personnel number is only processed with the data records for which an authorization exists. In the standard system, the entire personnel number is not processed by the query. By setting the PROC_PERNR_PARTIAL_AUT switch, you can ensure that the personnel number is processed with authorized data records.

Standard system conduct

Personnel numbers are not processed if authorization is missing for just one data record.

Values

'X' - all personnel numbers are processed with just those data records for which an authorization exists.

' ' - Standard: personnel numbers are not processed at all if authorization is missing for just one data record.

Note

This switch is only supported by logical databases PNP and PNPCE.

Example
*HR [COMMON]
*HR PROC_PERNR_PARTIAL_AUT = 'X'

PERSON_ONLY_ONCE - process each person just once (PNPCE)

Description

The concurrent employment model allows one person to have more than one personnel assignment at an enterprise. Each personnel assignment corresponds to a personnel number. The person is represented by the 'Central Person' (CP) object type, which is related to all personnel assignments/personnel numbers. If the query is used to report on data, all personnel assignments/personnel numbers (for which the selection conditions are satisfied) are included in the report in the standard system. However, if you are only interested in personal data that is identical for all of a person's personnel assignments, this data is output several times in the standard system: once for each of a person's personnel assignments. To avoid this redundant output, the PERSON_ONLY_ONCE switch exists for logical database PNPCE. If it is set, the relationship from personnel assignments to (central) persons is reported on, and the system only outputs the data of one personnel assignment for each (central) person.

Standard system conduct

Reporting on the connection between personnel assignments/personnel numbers and (central) persons does not take place. All personnel assignments are processed independently of each other, as if they belonged to different persons.

Values

'X' - each (central) person is processed just once. To be more exact: processing only takes place for the first personnel assignment/personnel number to be found for each (central) person.

' ' - Standard: all personnel assignments/personnel numbers are reported on independently of each other.

Note

Only logical database PNPCE supports concurrent employment processing, which means this switch can only be used for PNPCE too.

From a technical point of view, personal data is stored redundantly for all personnel assignments. At this time, (virtually) no data is stored for the person (the 'Central Person' object). Therefore, data on (central) persons must be reported on via their personnel assignments.

You should only set this switch if you only want to report on personal data (which is stored redundantly for all personnel assignments). After this switch has been set, reporting takes place on just one personnel assignment of each (central) person. (The personnel assignment that is in actual fact reported on is more or less a matter of chance.) For this reason, all other personnel assignment-specific data is suppressed.

Example
*HR [COMMON] *HR PERSON_ONLY_ONCE = 'X'

Infotype-specific switches:

LAST_RECORD_ONLY - process the last data record only

Description

In the standard system, all of the data records in the reporting period are processed by the query. Sometimes, however, only the most recent (most current) data record in the reporting period is relevant, which means this is the only data record that needs to be output. The RP_PROVIDE_FROM_LAST macro is often used in ABAP reports to filter the last data record out of a set of data records. To achieve this result in the query, you can set the
LAST_RECORD_ONLY switch.

Standard system conduct

All of the data records in the reporting period are taken into account/processed.

Values

'X' - only the last data record (that is, the data record with the most recent end date) in the reporting period is taken into account/processed.

' ' - Standard: all of the data records in the reporting period are taken into account/processed.

Note

When data is determined, only the data record with the most recent end date is taken into account. All other data records in the reporting period are ignored. Other checks regarding, for example, time constraints or subtypes are not performed for the data records. Processing continues as if this one data record were the only data record to exist. In particular, all of the selection conditions are checked for this one data record only.

Example
*HR [P0001]
*HR LAST_RECORD_ONLY = 'X'

PROVIDE - merge neighboring/overlapping data records

Description

When data is compressed, a decision is made as to whether to merge/compress split data records before processing continues. Two data records belonging to one infotype are only merged to form one new data record if they have neighboring or overlapping validity periods (BEGDA_1 <= BEGDA_2 AND ENDDA_1 >= BEGDA_2-1). Furthermore, the data records'
field values that are relevant to the query must be identical. Infotype fields are regarded as 'relevant' if they are used directly for selection or output, or if they indirectly influence selection or output because, for example, they are included in the calculation of an additional field. All of the text fields and HR additional fields that were calculated at the event [additional calculations] are also regarded as relevant. The PROVIDE_FIELD switch can be used to explicitly flag additional fields as relevant. If two (or more) data records are merged, they are replaced by a new data record. The new data record has the earliest start date (BEGDA) and latest end date (ENDDA) of the merged data records.

The PROVIDE switch enables you to determine whether the compression option is checked at all for the data records of an infotype, or whether such data records are simply processed without being changed.

Standard system conduct
The compression option is only checked for infotypes that satisfy the following conditions:

- The infotype has time constraint 1 or 2

- The infotype does not have any subtypes

- The infotype is not a table infotype

- The infotype is not language-dependent

Furthermore, the compression option is not checked if the query uses just one split-dependent HR additional field of the infotype. See the documentation on the ADD_FIELDS_SPLIT_DEP switch.

Values
'X' - check compression option, and compress data if necessary.

' ' - do not compress data.

Note

This switch is very similar to the PROVIDE ABAP statement.

Example
*HR [P0001]
*HR PROVIDE = 'X'

PROVIDE_FIELD - relevant fields when data records are merged   (multiple-value switch)

Description

If you set this switch, it only has an effect if the compression option is checked for the infotype (see the documentation on the PROVIDE switch).

Two data records are only merged if all of their relevant fields are identical. Relevant fields are determined automatically on the basis of the query definition. You can use the PROVIDE_FIELD switch to flag additional infotype fields as relevant so that they are also checked.

Standard system conduct

Relevant fields are determined automatically on the basis of the query definition. For information on which fields are relevant, see the documentation on the PROVIDE switch.

Values

You must specify the technical name of the infotype field that is relevant to data record merging. This is a multiple-value switch, which means you can specify as many infotype fields as you want.

Note

The higher the number of fields specified by this switch, the lower the chances of two data records being merged. If you use this switch to specify all of the fields belonging to an infotype, it is tantamount to deactivating the compression option because two records must have at least one field that is different.

Example

*HR [P0001]

*HR PROVIDE_FIELD = 'PERSG' *HR PROVIDE_FIELD = 'PERSK'

PRIMARY_INFTY - relationship of infotype with primary infotype (for infotype views)

Description

Personnel Administration includes the principle of infotype views. A new infotype (the secondary infotype) is created for an existing infotype (the primary infotype). The secondary infotype inherits the technical characteristics of the primary infotype and supplements it with additional fields. Infotype data records are maintained simultaneously (on one screen) for all of the fields belonging to both infotypes. From a technical point of view, they are still two separate infotypes with separate database tables. To facilitate assigning data records to each other, they are stored with identical keys. In the standard system, queries report on such infotypes as if they were not related to each other. Data records that belong together are not, therefore, output together. However, you can ensure that they are by setting the PRIMARY_INFTY switch. It must be set for the secondary infotype and include the name of the primary infotype.

Standard system conduct

No relationship is established between the primary and secondary infotype. All infotypes are processed as separate entities. The system does not report on data records that belong together.

Values

The switch is set for the secondary infotype and includes the name of the primary infotype.

Note

The InfoSet must include the primary and secondary infotypes. The system only supports the infotype view concept in Personnel Administration.

Example

*HR [P0288]
*HR PRIMARY_INFTY = 'P0021'

TIME_DEPENDENCE - time dependence

Description

A special feature of an infotype is its time constraint. It is defined each time an infotype is created, and determines the time dependence and validity of the data records belonging to this infotype. The query reads the time constraint set for an infotype, and then uses it to decide how to merge and then output the various data records. Data is only output if it is valid in the specified reporting period. If the reporting period is a key date, the situation is simple: the system outputs all of the data records that are valid on this key date. If each infotype has just one data record on this key date (which is the case for all infotypes with time constraint 1 and 2), output consists of just one line containing the data of these infotypes. If an infotype has more than one data record on this key date (infotype with time constraint 3), more than one line is output for this infotype. The values of other infotypes are replicated. If two or more infotypes have more than one data record on this key date, all existing data records are multiplied, which means that the number of output lines is the product of the number of infotype data records.

The situation is more complicated if the reporting period is an interval rather than a key date. In this case, several data records can also exist for infotypes with time constraint 1 or 2. The question is how to output the data records. Should all of the data records be multiplied for the entire interval - as for a key date - or should the system only output infotype data records together if they have common validity? Is it sufficient for the data records to have common validity on one single day, or must they have common validity during the entire period?

The following algorithm has been implemented in the query. Infotypes are divided into three categories: period-dominant, period-sensitive, and period-independent. Each infotype belongs to just one of these three categories. The specified reporting period is divided into smaller intervals (which are known as splits). They cover the reporting period without leaving any gaps. These splits are calculated on the basis of the start and end dates of period-dominant infotypes. Splits are selected so that each start and end date of each and every data record (of period-dominant infotypes) coincides exactly with a split limit. As

soon as the splits have been calculated, each split is processed separately as if it were a key date. The data records of period-dominant and period-sensitive infotypes that are valid on at least one day of the split are then output for each split. Furthermore, all of the data records of period-independent infotypes are output irrespective of whether they are valid in this split or not. The TIME_DEPENDENCE switch enables you to determine the category to which the infotype belongs. This explains its influence on the calculation of splits and type of output.

Standard system conduct

All infotypes with the following characteristics are classified as period-dominant (DOMINANT):

- The infotype has time constraint 1 or 2

- The infotype does not have any subtypes

- The infotype is not a table infotype

- The infotype is not language-dependent

All of the remaining infotypes (that is, the infotypes that fail to meet at least one of the criteria) are classified as period-sensitive (DEPENDENT). No infotype in the standard system is classified as period-independent (INDEPENDENT).

Values

'DOMINANT' - the infotype's data records influence the calculation of splits. Data records are output according to their validity for individual splits.

'DEPENDENT' - the infotype's data records do not influence the calculation of splits. However, they are output according to their validity for calculated splits.

'INDEPENDENT' - the infotype's data records do not influence the calculation of splits. They are output for each calculated split, irrespective of whether they are valid in the split or not.

Note

If a key date is selected as the reporting period, this switch has no effect because splits are not calculated and all data records are output for the specified key date.

You are advised to use the 'period-independent' (INDEPENDENT) setting for infotypes if you are interested in ascertaining the existence of data records, rather than their validity.

Example
*HR [P0006]
*HR TIME_DEPENDENCE = 'INDEPENDENT'

DATA_REQUIRED - existence of data records required

Description
Data does not always exist for all of the infotypes output in a query. If data records do not exist, the standard query response is to output initial values for the persons/objects concerned. Alternatively, you can suppress the output of such persons/objects completely. To do this, use the DATA_REQUIRED switch. If the switch is set, a person/object is only output if it has at least one data record in the reporting period.

Standard system conduct
The system outputs all persons/objects (that satisfy the selection conditions). If no data record exists for an infotype in the reporting period, initial values are output for the fields in question.

Values
'X' - persons/objects are only output if they have at least one data record in the reporting period.

' ' - Standard: the system outputs all persons/objects (that satisfy the selection conditions). If no data record exists for one of these persons/objects, initial values are output.

Note

The SPLIT_DATA_REQUIRED switch is similar and facilitates even finer system control.

Example
*HR [P0004]
*HR DATA_REQUIRED = 'X'

SPLIT_DATA_REQUIRED - existence of data records required in split period

Description
After splits have been calculated (see the documentation on the TIME_DEPENDENCE switch), valid data records are output for each calculated split. If no valid data record exists for an infotype of a split, initial values are output instead. If you set the SPLIT_DATA_REQUIRED switch, no initial values are output. Output is suppressed for the entire split instead.

Standard system conduct

If no valid data record exists for a split of one of the infotypes used, initial values are output instead.

Values

'X' - a split is only processed/output if at least one data record that is valid for the split exists for each of the (used) infotypes.

' ' - Standard: all splits are processed. If no valid data record exists for an infotype, initial values are output.

Note

The DATA_REQUIRED switch is similar. While DATA_REQUIRED enables you to determine that an entire person/object is skipped if data records are missing, SPLIT_DATA_REQUIRED enables you to determine that splits are skipped if data records are missing.

Example
*HR [P0004]
*HR SPLIT_DATA_REQUIRED = 'X'

NO_INDIRECT_EVALUATION -   no calculation of indirectly valuated wage types

Description

Some infotypes (such as 0008) contain wage types that are valuated indirectly. The corresponding amounts are not stored on the database (which merely contains the value 0). Instead, they are calculated dynamically at runtime (in accordance with the Customizing settings).

Standard system conduct

At the [data determination] event, the system determines whether one of the wage types for infotypes 0008, 0014, 0015, and 0052 is valuated indirectly. If this is the case, a calculation is triggered to determine the wage type amount.

Values

'X' - no check is performed to find indirectly valuated wage types. An indirectly valuated wage type is output with the amount 0.

' ' - Standard: the system determines whether wage types are indirectly valuated. If so, the actual wage type amount is calculated.

Note

Indirectly valuated wage types are calculated at the [data determination] event.

Therefore, additional fields that access the wage type amount do not need to perform the indirect valuation themselves. Instead, they can use the amount that has already been calculated.

Example
*HR [P0008]
*HR NO_INDIRECT_EVALUATION = 'X'

IGNORE_WAGE_TYPE_OPERA - ignore operation indicator (for deduction wage types)

Description

Some infotypes (such as 0008, 0014, 0015, and 0052) contain deduction wage types that are included in calculations as negative amounts. This is controlled by the operation indicator. The absolute wage type amount is stored on the database (without a leading plus or minus sign). The operation indicator determines whether the wage type is a normal wage type, or a deduction wage type.

Standard system conduct

In the standard system, the operation indicator is reported on for every wage type of infotypes 0008, 0014, 0015, and 0052. If the wage type is a deduction wage type, the wage type amount is multiplied by 1 so that it is assigned a negative sign.

Values

'X' - the operation indicator is not reported on. Just like normal wage types, deduction wage types are output without a leading plus or minus sign.

' ' - Standard: the operation indicator is reported on, and the wage type amount is provided with a negative sign, if necessary.

Note

The operation indicator is reported on, and the negative sign is set, just before the wage type amount is output. If additional fields that access the wage type amount are defined, they work with the absolute amount (without a leading plus or minus sign). If you want the calculation of an additional field to react to deduction wage types, the operation indicator must be reported on separately.

Example
*HR [P0008]
*HR IGNORE_WAGE_TYPE_OPERA = 'X'

NO_DUPLICATE_LANGU - output data records in one language only

Description
Some infotypes in Personnel Development contain language-dependent information. For example, infotype 1000 is language-dependent because it contains the object name in all available languages. In the standard system, the query outputs all of the data records that exist in the reporting period, which causes redundant information to be output in all available languages. To prevent this, you can use the NO_DUPLICATE_LANGU switch. If it is set, data is output in one language only. Redundant data records in translated languages are suppressed. The system first endeavors to output the data record in the logon language. If this data record does not exist, the data record is selected in accordance with language vector T778L.

Standard system conduct
The language dependencies of infotypes are ignored. All existing data records are processed and output (in all available languages).

Values
'X' - redundant data records in other (translated) languages are ignored. The system only takes the data record in the logon language into account. If it does not exist, the data record with the highest priority (in accordance with language vector T778L) is taken into account.

' ' - Standard: all data records are processed and output in all available languages.

Example
*HR [P1000]
*HR NO_DUPLICATE_LANGU = 'X'

CASE_SENSITIVE_SEL- case-sensitive selection (take upper/lowercase into account)

Description
If you want to select fields containing texts, there are two ways of proceeding. The selection is either case-sensitive (exact), or case-insensitive (tolerant). Case-sensitive means that all characters are taken into account with regard to whether they are written in uppercase or lowercase. If you select 'Miller', the system only finds this exact string and ignores, for example, 'miller' and 'MILLER'. Case-insensitive selections, which take no account of whether characters are written in uppercase or lowercase, work differently. In the standard system, the query uses the tolerant (case-insensitive) selection method. To make an exact (case-sensitive) selection, the CASE_SENSITIVE_SEL switch can be set. This also improves performance because the system does not have to devote processing time to converting uppercase and lowercase letters, and because data is selected directly from the database for all infotype fields. You are therefore advised to set the CASE_SENSITIVE_SEL switch whenever it is possible to do so.

Standard system conduct
In the standard system, selections are case-insensitive (tolerant). This facilitates flexible selection options, but is not the optimum solution as far as performance is concerned.

Values
'X' - all character-type fields are selected case-sensitively (exact uppercase/lowercase characters).

' ' - Standard: all character-type fields are selected case-insensitively (tolerant uppercase/lowercase characters).

Note
If object selection has been activated, Ad Hoc Query uses a different selection method than
SAP Query. To ensure optimum performance, the selection is always made case-sensitively (exactly). Setting the CASE_SENSITIVE_SEL switch therefore has no effect on Ad Hoc Query selections.

Example
*HR [P0002]
*HR CASE_SENSITIVE_SEL = 'X'

ADD_FIELDS_SPLIT_DEP - HR additional fields are calculated with split dependency

Description
This switch determines how HR additional fields are calculated. For information on the features of customer-specific HR additional fields and on how to create such fields using the techniques used for HR additional fields in the standard system, access the Implementation Guide (IMG) and choose 'Personnel Management' -> 'Human Resources Information System' -> 'HR Settings for SAP Query' -> 'Additional

Information on InfoSet Maintenance' -> 'Define Additional Fields'. An additional field is calculated by implementing a function module that is accessed by the query (or, to be more exact, the generated coding).

There are two points at which HR additional fields can be calculated for an infotype: at the [additional calculations] or [additional data calculation] event. In the standard system, the calculation takes place at the [additional calculations] event. The FM (for calculating the additional field) is accessed just once for each infotype data record (that exists at this time).

If the second method (the [additional data calculation] event) is used, the FM is accessed at least once for each infotype data record. This is because access occurs during split processing. For every calculated split (see the documentation on the TIME_DEPENDENCE switch), the system processes all of the infotype data records that are valid for this split. If an infotype data record is valid for more than one split, it is processed more than once. The additional field is also calculated more than once.

The difference between the methods used to access the FMs lies in the way that the
BEGDA_IT and ENDDA_IT parameters are supplied with data. If access occurs at the [additional calculations] event, the start and end dates of the current infotype data record are also specified. However, if access occurs at the [additional data calculation] event, the start and end dates of the current split are specified. All other parameters are supplied with identical data, irrespective of which variant is used.

The event at which HR additional fields are calculated can be determined by the
ADD_FIELDS_SPLIT_DEP switch. You can also use the SPLIT_DEPENDENT_AF and SPLIT_INDEPENDENT_AF switches to define different system conduct for individual HR additional fields.

The function and implementation of the additional field determines which of the two calculation methods is the right one to use. In the vast majority of cases, it will be the first (split-independent) method. This is especially so if the additional field is not time-dependent or only depends on the data of the current infotype data record. You only need to calculate the additional field for each split in exceptional circumstances.

Standard system conduct
In the standard system, HR additional fields are calculated at the [additional calculations] event, which means they are split-independent.

Values
'X' - all additional fields are calculated split-dependently (at the [additional data calculation] event).

' ' - Standard: all additional fields are calculated split-independently (at the [additional calculations] event).

Note
This switch is only really relevant to customer-specific HR additional fields. Correct system conduct has already been set up for the HR additional fields supplied by SAP (the calculation takes place split-independently at the [additional data calculation] event for most HR additional fields). Furthermore, this switch should only be used by experienced ABAP programmers who are quite sure about the effects of changed access on the calculation of additional fields.

From the point of view of performance, it is much better to calculate additional fields split-independently (that is, at the [additional calculations] event). This dispenses with superfluous (identical) calculations, all of which lead to the same result anyway. You should only flag additional fields as split-dependent if there is no other way of ensuring that the additional field is calculated correctly.

Example
*HR [P9000]
*HR ADD_FIELDS_SPLIT_DEP = 'X'

SPLIT_DEPENDENT_AF   - technical name of a split-dependent HR additional field
(multiple-value switch)

Description
HR additional fields can be calculated split-dependently or split-independently (see the documentation on the ADD_FIELDS_SPLIT_DEP switch). The ADD_FIELDS_SPLIT_DEP switch changes the calculation method for all of the HR additional fields of the specified infotype, whereas the SPLIT_DEPENDENT_AF and SPLIT_INDEPENDENT_AF switches enable you to change system conduct for individual HR additional fields.

Standard system conduct

In the standard system, all HR additional fields are calculated split-independently.

Values
The technical name of the additional field to be calculated split-dependently must be specified. This is a multiple-value switch, which means you can specify as many additional fields as you want.

Note
This switch is only of interest to very experienced ABAP programmers, who should only use it if they are quite sure about the effects of changed access on the calculation of additional fields.

Example
*HR [P9000]
*HR SPLIT_DEPENDENT_AF = 'MY_ADD_FIELD_1'

*HR SPLIT_DEPENDENT_AF = 'MY_ADD_FIELD_2'

SPLIT_INDEPENDENT_AF- technical name of a split-independent HR additional field
(multiple-value switch)

Description

HR additional fields can be calculated split-dependently or split-independently (see the documentation on the ADD_FIELDS_SPLIT_DEP switch). The ADD_FIELDS_SPLIT_DEP
switch can be used to flag all of the HR additional fields of an infotype as split-dependent. The SPLIT_INDEPENDENT_AF switch enables you to reset this setting for individual HR additional fields.

Standard system conduct

In the standard system, all HR additional fields are calculated split-independently. This means
there is no point in using this switch unless you have already used the ADD_FIELDS_SPLIT_DEP switch to activate split-dependent calculations.

Values

The technical name of the additional field to be calculated split-independently must be specified. This is a multiple-value switch, which means you can specify as many additional fields as you want.

Note

This switch is only of interest to very experienced ABAP programmers, who should only use it if they are quite sure about the effects of changed access on the calculation of additional fields.

Example
*HR [P9000]
*HR ADD_FIELDS_SPLIT_DEP = 'X'
*HR SPLIT_INDEPENDENT_AF = 'MY_ADD_FIELD_1'
*HR SPLIT_INDEPENDENT_AF = 'MY_ADD_FIELD_2'

Activities

4. Making InfoSet-specific settings

1.   On the *Change InfoSet <name of InfoSet>* screen, choose *Goto -> Code -> Data*.

2.   On the right side of the screen (on the Code tab page / DATA Coding section), enter the switch and the value for the setting you require. Note the following syntax rules:

     General switches:

     *HR [COMON]
     *HR NAME_OF_SWITCH = 'VALUE'

     Infotype-specific switches (NNNN, MMMM = infotype number):

     -    Definition for an infotype:

          *HR [PNNNN]
          *HR NAME_OF_SWITCH = 'VALUE'

     -    Specification of several infotypes

          *HR [P0000, P0004, P0006]

     -    Specification of a range

          *HR [P0006 # P0009]

     -    Use of templates/placeholders ('+' for individual character, '*' for any character string)

       *HR [P00++]
       HR [P]
       HR [P0+1]

The counting method can also be combined with the two other methods, which means for example that the following notation is also allowed:

HR [P0000, P0002 # P0005, P1]

It is not necessary for all of the switches belonging to an infotype to be set together behind one and the same ID. Using ranges or placeholders enables you to specify an infotype more than once, which means that the switch definitions of an infotype are distributed. They are then combined automatically. If the same switch is used more than once for an infotype, only the last assignment is relevant. The multiple-value switches are an exception:

Multiple-value switches
Multiple-value switches store all of the values assigned to them in a list. This takes place internally using a table to which the next assigned value is appended. The switch overview shows you whether a switch is a multiple-value switch or not.

In accordance with the following statements:
*HR [P0000]
*HR PROVIDE_FIELD = 'MASSN' *HR PROVIDE_FIELD = 'MASSG'
the PROVIDE_FIELD switch is assigned the 'MASSN' and 'MASSG' values for infotype 0000.

3.   Choose *Transfer Coding* (the save icon).

4.   Choose *InfoSet -> Generate*.

Note:

After you have changed switch values, note the information in the sections **Generating queries after switch changes** and **Checking the effects of a switch on a query** (above).

31.6.5.3 Define Groupings

In this activity, you group the selection IDs you have defined. You can then enter the groups in your profiles.

Decide which groups you require for employee selection:

Standard selection

There are two options available for standard selection: You can make the employee selection user-specific or for multiple users.

User-specific employee selection

You create a group consisting of selection IDs that are assigned to the specific user (time data administrator). Note that employee-specific selection requires a high degree of Customizing.

Example: You want to assign all industrial workers in cost centers 0815 - 0820 to one administrator.

Multiple-user employee selection

You create groups consisting of selection IDs that are not assigned to a user (time data administrator). You enter the groups in the required profiles under *Multiple-user selections according to group*. If you assign only multiple-user selection criteria to a profile, the system selects employees solely on the basis of the profile used to access the *Time Manager's Workplace*.

Example: You create three selection IDs. You use each of these selections IDs to select a time data administrator from the corresponding field. For each selection ID, you enter one of the three administrators whose assigned employees you want to be selected. You do not assign the selection IDs to any users.
You group the three selection IDs in a multiple-user group, and store it in a profile under *Multiple-user selections according to group*. The three administrators use this proile to access the *Time Manager's Workplace*. This enables all three administrators to access the same employee lists (selection IDs), and they can distribute their work among themselves, if necessary.

If you want to create a generic selection, see the note in the Employee Selection section.

Interactive selection

For interactive selection, you use a group to determine the following:

-    The selection IDs available to administrators as models for defining their own employee lists

- Whether administrators can use selection fields to further refine the employee selection

- The place where the selections defined by administrators are stored

Within one group for interactive selection, you can

- Define only selection IDs as model entries

- Specify only an InfoSet, without defining selection IDs

- Specify selection IDs *and* an InfoSet

You use an InfoSet to provide time administrators with additional fields for their selection. You create InfoSets in the Specify InfoSets for Interactive Employee Selection activity.

When you define interactive selections, you cannot specify any evaluation paths for Organizational Management. Create evaluation paths in a selection ID via Customizing, and enter them as a model under the group for interactive selection. Time data administrators create their own selection (employee list) based on evaluation paths by selecting the stored selection ID, and, if required, they can supplement the InfoSet with additional selection criteria. When a new selection is created, the system uses the evaluation path from the model. The relevant selection IDs must be user-dependent.

Please note the following naming convention: In Release 4.6C, the term "functional area" was changed to "InfoSet". If you read the term "functional area" in the documentation, this should refer to an InfoSet.

The group for the interactive employee selection is also used to store selections created interactively by time administrators. In other words, the system stores these selections under this group. You do not need to make any Customizing settings for this to take place.

Example: You want to enable time data administrators to create their own selections in which only active employees (that is, those who have not left the company) are displayed. You create a selection ID as follows:

1. Create a selection ID.

2. Select the selection ID and, in the *dialog structure*, double-click on *Table*.

3. Choose *New entries*.

4. Select the selection ID, and enter number **1** in the two *No.* fields.

5. Under *Object class*, choose **Persons**.

6. Under *Infotype*, enter "0000" for the *Actions* infotype.

7. Under *Field name*, enter **STAT2**.

8. For the *Field type*, choose **Infotype field**.

9. Select the line, and, in the *dialog structure*, double-click on *Ranges*.

10. Choose *New entries*.

11. Enter the *Selection ID*.

12. Enter **1** in the two *No.* fields.

13. Under *INCL/EXCL*, enter **I**.

14. For the *Option*, enter **EQ**.

15. The *selection value* is **3**.
    If an employee has the status *active*, the *STATU2* field of the *Actions* infotype is assigned the value **3**.

You specify this selection ID in the group that you specified in the time administrators' profile for interactive selection. You also specify an InfoSet in this group, which enables time administrators to select employees according to their personnel number and cost center. The time administrators can now define their own selections in the *Time Manager's Workplace*, which they can use to select active employees according to their personnel number and/or cost center.

Standard settings

The standard system provides the group **TMW** for the standard selection. You can use group **TMW_INTERACTIVE** and InfoSet **/SAPQUERY/HR_XX_PT_TMW** for the interactive selection.

Activities

Define group for standard selection

1. Choose *New entries.*

2. Create a group.

3. Select the group, and, in the *dialog structure*, double-click on *Grouping.*

4. Choose *New entries.*

5. Select the group.

6. If you want to assign several selection criteria to the grouping, assign it a sequential number, starting with 001.

7. Under *Sel.ID*, enter the required selection ID.

8. If you want to define user-specific selection criteria, enter the user name under *User.* If you want the selection criteria to apply to all users, leave the field blank.

9. If required, repeat steps 5-8.

Define group for interactive selection

1. Choose *New entries.*

2. Create a group.

3. Under *Object type*, enter **P** (person), and under *InfoSet*, enter the required InfoSet. You can create an InfoSet in the Specify InfoSets for Interactive Employee Selection activity.

4. In the *Work area* field:

   - Leave the field blank if you want to specify your own InfoSet.

   - Enter **G** (for cross-client) if you want to use the InfoSet provided by SAP,
     /SAPQUERY/HR_XX_PT_TMW

5. If you want to define selection IDs in addition to the criteria, select the group and, in the *dialog structure*, double-click on *Grouping.*

6. Choose *New entries.*

7. Select the group.

8. If you want to assign several models to the grouping, assign it a sequential number, beginning with 001.

9. Under *Sel.ID*, enter the required selection ID.

10. Do not make an entry in the *User* field.

11. If required, repeat steps 7-10.

Further notes

For general information on creating groupings, see the documentation on the Human Resources Information System in Personnel Management: Define Groupings.

31.6.5.4 Assign Employee Selection to Profiles

In this activity, you enter the groups used for both standard and interactive selection in your profiles.

Activities

1. Double-click to select the profile.

2. Under *Standard selection using selection criteria*, enter the groups in which you store the user-specific or multi-user selection IDs.
    You can leave one of the fields blank.
    From the employee lists in the group (selection IDs), the system displays the first employee list (selection ID) entered in the *Time Manager's Workplace*. The other employee lists can also be called by the time administrator.
    If you specify user-specific and multi-user selection, the system combines the first employee lists (selection IDs) in both groups when the *Time Manager's Workplace* is accessed.

3. In the *Interactive selection* field, enter the group in which the selection criteria is stored that enables your time administrators to set up their own employee selection.

4. In the *Employee selection period relative to initial period* field, enter the *Relative position of start date* and the *Relative position of end date*.

    Your entries here determine the following:

    -   Whether or not the system displays employees who used to be assigned to a time administrator, but are either no longer assigned or have left the company

    -   Whether or not the the system displays newly hired employees who will be assigned to the time administrator in the future.

    The system displays the info message **Employee list not current** if a time administrator chooses a period in the calendar that does not cover the employee selection period. The time administrator can refresh the employee list to get the most current list of employees for the new period.

    Further notes

    You can create a new profile at any time in the *Assign Employee Selection to Profiles* step by completing the Create Profile and Assign Field Selections.

31.6.6 Profiles

The *Time Manager's Workplace* must be called with a profile. This profile contains essential information which the system requires to set up screen areas, including the:

-   Initial period

-   Objects used to fill the screen areas with data

-   Selection options used by time administrators to select employees

-   Whether the time administrators can use the IDs of one or more subsets of their definition areas

In this section, you check the profiles you created in the previous section. You must also determine which option to use for assigning profiles to users. There are two options available for assigning profiles to users:

-   By completing the Create a Parameter Transaction step that you include in a role

-   By using the user parameter PT_TMW_PROFILE

If you do not want to assign a profile to an employee using a role, then assign the profile with the user parameter PT_TMW_PROFILE.

-   If a user with no profile assigned either by a role or a user parameter calls the *Time Manager's Workplace*, a dialog box appears in which the user must select a profile. The system enters the profile selected as the user parameter for this user.

A time administrator can maintain user parameters by choosing the menu option *System -> User settings -> Own data -> Parameters*. The time administrator enters PT_TMW_PROFILE in the *Parameter* field, and the profile ID in the *Value* field.

If a user is assigned a profile by both a role and a user parameter, the role specification overwrites the user parameter.

As soon as the user assignment occurs, the time administrator can automatically call the *Time Manager's Workplace* with the profile containing all relevant information and scope of functions required to complete his or her tasks.

Notes

The standard SAP System contains the following three profiles and their applicable parameter transactions:

Profile	Parameter Transaction
SAP_XX_TIME_ADMIN	PTMW_TIME_ADMIN (Administrate Time Data)
SAP_XX_TIME_ADMIN_GRP Data for Groups)	PTMW_TIME_ADMIN_GRP (Administrate Time
SAP_XX_WORKLIST	PTMW_WORKLIST (Process Messages)

31.6.6.1 Check and Complete Profiles

In this activity, you check and complete the information required for the profiles you created previously.

Activities

1. Double-click to select a profile.

2. Check your entries under *Initial period*. Specify the following data:

3. Period used to call the *Time Manager's Workplace*.
    Do you want the initial period to always include ten days before the current day? Is the *Time Manager's Workplace* always called with the current week?

4. Check your entries under *Employee Selection*.
    What standard selection did you create? What options do time administrators have for interactive selection? What employee selection period is valid for employee selection?

5. Should the time administrators using this profile be able to use other definition subsets? If so, have you selected the corresponding option?

6. Check your settings for the screen areas under *Assigned Field Selections*. Based on the selection of tasks used in this profile, the system shows the following tabs: *Time Data Maintenance*, *Message Processing* and *For Multiple Tasks*. The system displays the field selections assigned to each tab.
    If you forgot to assign certain field selections, then assign them here.

1. Double-click to select the area in the *Dialog Structure* to which you want to assign a field selection.

2. Select the screen area using the possible entries help option (F4).

3. Assign a field selection.

Further notes

You can create a new profile at any time. To do so, complete the Create Profiles and Assign Field Selections step.

31.6.6.2 Create Parameter Transactions

Use

Profiles are generally assigned to users in a Role. A role can also be used to assign a definition set for time data IDs and a subset to a user.

Before the profile and the required definition set/subset combination used to access the *Time Manager's Workplace* can be included in a role, you must first create a parameter transaction. You can copy one of the standard SAP parameter transactions and modify it to suit your requirements.

Standard settings

Three profiles and their corresponding parameter transactions are included in the standard SAP System:

Profile	Parameter Transaction
SAP_XX_TIME_ADMIN	PTMW_TIME_ADMIN (Maintain Time Data)
SAP_XX_TIME_AD_GRP for Groups)	PTMW_TIME_ADMIN_GRP (Maintain Time Data
SAP_XX_WORKLIST	PTMW_WORKLIST (Process Messages)

Activities

1. Complete the *Create Parameter Transaction* activity.

2. Enter a name for the parameter transaction to be created and then choose *Create*.

3. Enter a descriptive short text for the parameter transaction.

4. Choose *Transaction with parameters (Parameter transaction)* and then *Confirm*.

5. Select the *Inherit GUI characterictics* option.

6. Enter PTMW_PROF as the *Default value for transaction*

7. Choose *Skip initial screen*.

8. Under *Default values*, enter the following data if you want to control the assignment of profiles using the parameter transaction:

    -   PROFILE in the *Name of screen* field and the name of the profile in the *Value* field with which you want to call *Time Manager's Workplace*.

9. If you also want to control the assignment of the definition set and subset for time data IDs using the parameter transaction, enter the following under *Default values*:

    -   TDLANGU in the *Name of screen field* field and the required definition set in the *Value* field.

TDSUBLA in the *Name of screen field* field and the required subset in the *Value* field.

10. Save your entries and enter a development class.

11. The parameter transaction can be assigned to a role in Authorization Administration (PFCG) in the *Menu* option. By assigning this role to a user, then the profile specified in the parameter transaction is used to call the *Time Manager's Workplace*.

Further notes

If you do not want to assign a profile to a user using a role, then you can assign a profile with the user parameter PT_TMW_PROFILE. For more information, see Profile.

31.7 Integrating Time Management with Other SAP Applications

In this section, you make the settings which are required to integrate HR time data with other SAP applications.

It is possible to link certain time infotype data to specifications for other SAP applications, in particular for Controlling.

The specifications are transferred to the other SAP components with the actual data or derived values (from Payroll, for example).

Note:
Before you carry out the following steps, check whether integration is allowed for the selected infotypes in Permit integration for infotypes.

31.7.1 Retrieving Logistics Confirmation Data

If working time durations have been recorded as part of the confirmations in Logistics (for example, number of hours worked), you can transfer the confirmations to Time Management as attendances.

This is usually the case if the confirmations come from the Plant Maintenance (PM), **Customer Service (PM/CM)** or Project System (PS) components.

For information on the settings required, please see the following section in plant data collection: Transfer of Working Time Durations.

31.7.2 Specify Information on Availability

In this step you determine for each attendance/absence type whether an employee is available for work.

Example

You have created a network in the Project System. You have to plan your human resources there. The availability of your employees is an important criterion.

Standard settings

In the standard system, the **Not available** indicator is set for each attendance/absence type.

Activities

Maintain the *Availability* field according to your requirements.

Further notes

Information on employees' availability is evaluated in the
BAPI_TIMEAVAILSCHEDULE_BUILD BAPI. The BAPI is used in Time Management
integration with the Training and Event Management, Shift Planning and Capacity Planning (Logistics) components.

31.7.3 Permit Integration for Infotypes

In this step, you determine which of the following infotypes can be linked to specifications for other applications:

- 0014 **Recurring Payments/Deductions**

- 0015 **Additional Payments**

- 2001 **Absences**

- 2002 **Attendances**

- 2003 **Substitutions**

- 2004 **Availability**

- 2005 **Overtime**

- 2010 **Employee Remuneration Information**

Standard settings

Integration is permitted for all of the infotypes listed above.

Activities

Deactivate the *Accounting/Logistics specifications* field if you do not want to allow integration for a particular infotype.

31.7.4 Recording Cost Assignment Specifications

In this section, you define the infotypes for which you wish to record cost assignment specifications, and which Controlling objects you intend to use for this purpose.

The specifications are used by Payroll to assign the sums of money derived from the infotypes to the relevant Controlling objects as primary costs.

The Controlling objects are not debited until the payroll results are transferred. See also the section on transfer to cost accounting.

The following infotypes can be linked to a cost assignment specification:

- 0014 **Recurring Payments/Deductions**,
- 0015 **Additional Payments**,
- 2001 **Absences**,
- 2002 **Attendances**,
- 2003 **Substitutions**,
- 2004 **Availability**,
- 2005 **Overtime**,
- 2010 **Employee Remuneration Information**.

31.7.4.1 Permit Cost Assignment for Infotypes

In this step, you determine which of the following infotypes can be linked to cost assignment specifications:

- 2001 **Absences**,
- 2002 **Attendances**,
- 2003 **Substitutions**,
- 2004 **Availability**,
- 2005 **Overtime**,
- 2010 **Employee Remuneration Information**

Requirements

To be able to record cost assignment specifications, integration must be generally permitted for the selected infotypes in the section on integration for infotypes.

Standard settings

It is possible to record cost assignment specifications for all listed Time Management infotypes.

Activities

Deactivate the first position of the *Accounting/ Logistics specifications* field if you do not want to permit cost assignment specifications for a particular infotype.

Further notes

- 0014 **Recurring Payments/Deductions** and

- 0015 **Additional Payments**

No further settings are required to allow cost assignment specifications for the above infotypes; the step Integration for infotypes is sufficient.

31.7.4.2 Specify Controlling Objects Permitted

In this step, you specify which Cost Allocation or Funds Management objects the personnel costs can be assigned to.

You can choose from the following objects:

For cost allocation:
- COBL-BUKRS   **Company code**
- COBL-GSBER   **Business area**

- COBL-KOKRS   **Controlling area**   (only display possible)

- COBL-KOSTL   **Cost center**

- COBL-AUFNR   **Order**

- COBL-KSTRG   **Cost object**

- COBL-PS_PSP_PNR   **Work breakdown structure element**

- COBL-NPLNR   **Network number for account assignment**

- COBL-VORNR   **Operation number**

- COBL-KDAUF   **Sales order**

- COBL-KDPOS   **Item in sales order**

and, in addition, for account assignment to activity type:
- COBL-LSTAR   **Activity type**

For Funds Management:
- COBL-FISTL   **Funds center**,

- COBL-FIPOS   **Commitment item**,

- COBL-GEBER   **Fund**

You can also specify the attributes of the fields on the entry screen.

Example

You want to determine that only **Cost center** and **Order** are used. When you call the screen, the cursor should be positioned on the **Order**.

Standard settings

The **Company code**, **Business area**, **Cost center** and **Order** fields are used.

Activities

Add further Controlling objects, if necessary, delete entries, or change the field attributes of individual objects in the detail display.

Further notes

It is possible to control the selection of Controlling objects and their field attributes individually using a feature. You can define and maintain this feature in the step Feature for object selection.

You can store the possible return codes of the feature in the key field *Variable key* and select a different record for each individual return code of the feature.

31.7.4.3 Maintain Feature for Object Selection

Here you determine whether a feature should be used for the selection of Controlling objects for cost assignment specifications and their field attributes.

Example

You want to specify that the Controlling object *order* should be provided on the entry screen for certain personnel areas only. The cost center should be available for all personnel areas. This control can be implemented using a feature.

Standard settings

A feature is not used.

Activities

If you want to use a feature, enter the name of the feature in the *Feature* field for the function module **RP_TIME_COBL_002**.

Feature **COBLT** is provided in the standard system to effect this control. If you want to use your own feature, you must make sure that it is based on the structure PME27.

Using the function key *Feature*, you can either maintain feature COBLT (or the feature you have defined) or define the corresponding decision tree.

Further notes

It is advisable to have your own feature if you want to use feature **COBLT** when recording specifications for activity allocation, for example, and want to create a decision tree that is different from the cost assignment decision tree.

31.7.5 Recording Specifications for Activity Allocation

In this section, you define the infotypes for which you wish to record specifications for activity allocation, and which Controlling objects you intend to use.

You can transfer the specifications to Controlling and perform activity allocation (secondary cost allocation) using report RPTPDOC0. In distributed systems, the transfer is performed asynchronously using ALE.

The specifications are also used in payroll to assign the sums of money derived from the infotypes to the relevant cost center (the sender) as primary costs.

The sender is not debited until the payroll results are transferred. Please refer to the section on transfer to cost accounting.

The following infotypes can be linked to a specification for activity allocation:

- 2001 **Absences**,
- 2002 **Attendances**,
- 2010 **Employee Remuneration Information**.

Please note that you have to record a number of hours if you wish to use employee

remuneration information for activity allocation. Cost allocation alone is sufficient for employee remuneration information which specifies an amount only.

31.7.5.1 Permit Activity Allocation for Infotypes

In this step, you determine which of the following infotypes can be linked to specifications for activity allocation:

- 2001 **Absences**,

- 2002 **Attendances**,

- 2010 **Employee Remuneration Information**

Requirements

To record specifications for activity allocation, integration must be generally permitted for the selected infotypes in the step Integration for infotypes.

Standard settings

It is not possible to record specifications for activity allocation.

Activities

Activate the second position of the *Accounting/Logistics specifications* field if you want to permit activity allocation specifications for a particular infotype.

31.7.5.2 Specify Controlling Objects Permitted

In this section, you define which Controlling objects can be used for recording activity allocation specifications.

The following fields are provided to enter data on the sending Controlling object:

- PSREF-SBUKR   **Sending company code**
- PSREF-SGSBR   **Sending business area**

-    PSREF-SKOST and   **Sending cost center**
to describe the activity:

- PSREF-LSTAR   **Activity type**
In addition, you can enter the following information about the sender for Funds Management:
- COBL-SGEBER   **Sending fund**
- COBL-SFKBER   **Sending functional area**

- COBL-SGRANT_NBR   **Sending grant**
The following fields are provided for entering data on the receiving Controlling object:

- COBL-BUKRS   **company code**
- COBL-GSBER   **business area**

- COBL-KOKRS   **controlling area** (only display possible)

- COBL-KOSTL   **cost center**

- COBL-AUFNR   **order**

- COBL-KSTRG   **cost object**

- COBL-PS_PSP_PNR   **work breakdown structure element**

-	COBL-PRZNR	**business process**
-	COBL-NPLNR	**network number for account assignment**
-	COBL-VORNR	**operation number**
-	COBL-KDAUF	**sales order**
-	COBL-KDPOS	**item in sales order**

You can also use the following fields for Funds Management:

-	COBL-FISTL	**Funds center**
-	COBL-FIPOS	**Commitment item**
-	COBL-GEBER	**Fund**
-	COBL-FKBER	**Functional area**
-	COBL-GRANT_NBR	**Grant**

You can enter an explanatory text in the following field

| - | PSREF-SGTXT | **Text** |

Make an entry in the

| - | REMARK |

field to obtain a frame for the text.

It is also possible to enter the attributes of these fields on the entry screen.

Example

You want to determine that only the **sending cost center**, the **activity type** and as recipient only **cost center** and **order** are used.

Standard settings

The **company code**, **business area** and **cost center** fields are used for the sender; in addition the **activity type**, and for the recipient the **company code**, **business area cost center** and **order** fields. The **controlling area** field is displayed, but is not ready for input.

Activities

You can add further Controlling objects if required, delete entries or change the field attributes of individual objects in the detail display.

Further notes

It is possible to control the selection of Controlling objects and their field attributes individually using a feature. You can define and maintain the feature in the step Feature for object selection.

The possible return codes of the feature can be stored in the key field *Variable key*, and you can select a different record for each individual return code of the feature.

31.7.5.3 Maintain Feature for Object Selection

In this step, you determine whether a feature should be used for the selection of Controlling objects for activity allocation specifications and their field attributes.

Example

You want to specify that the Controlling object *order* should only be provided for certain personnel areas on the entry screen. The cost center is to be offered for all personnel areas. This control can be implemented by using a feature.

Standard settings

No feature is used.

Activities

If you want to use a feature, enter its name in the *Feature* field for the function module **RP_TIME_COBL_001**.

Feature **COBLT** is provided in the standard system to effect this control. If you want to use your own feature, make sure that it is based on the structure PME27.

Using the function key *Feature*, you can either maintain feature COBLT (or the feature you have defined) or define the corresponding decision tree.

Further notes

You only need to have your own feature if you want to use feature **COBLT**, for example, when recording specifications for cost assignment and want to create a decision tree that is different from the activity allocation decision tree.

31.7.5.4 Check Number Range for Transfer

Data for the Controlling component (additional time data) is stored in the transfer table COIFT.

The report RPTPDOC0 generates posting documents for activity allocation in Controlling from the data in table COIFT. Each posting document is assigned a unique reference document number and is stored in tables HRAAHDR and HRAAITM.

Number ranges are used for these tables.

Activities

Check whether the interval 01 has been created for each of these number ranges. If not, create this interval.

Further notes

Make sure the intervals you define are large enough. Each record in table COIFT, or each posting document that is transferred, is assigned its own number.

The number range intervals are not updated automatically when changes are made to Customizing settings. The transport of all changes relevant to the maintenance of number range intervals must be triggered manually.

To transport changes, choose the function **Interval -> Transport** on the initial screen for maintaining number range intervals.

Take note of the information you receive when the number range intervals are transported.

31.7.5.5 Schedule Data Transfer to Activity Allocation

You schedule a job to transfer data to activity allocation in this step.

Requirements

You should be familiar with the basics of the SAP Basis system.

Standard settings

There is no standard job in the SAP system.

Recommendation

- Choose an appropriate name for the job such as 'Transfer HR- Activity Allocation' -   Schedule a periodic job - to run daily, for example.

Activities

1. Define a suitable variant for the transfer report
    RPTPDOC0.

2. Define a job to transfer data to activity allocation. Use the ABAP program RPTPDOC0 with the variant defined.

3. Specify a start date, indicate that it is a periodic job, and enter the period values.

Further notes

Choose an appropriate strategy for reorganizing the interface table CIOFT. Please note that it may be useful for revision purposes to wait for a time before reorganizing the data in COIFT, as the table can be used to establish the relationship between postings in CO and data recorded in HR. Table COIFT also tells you the name of the user who entered the data and when it was entered.

31.7.6 Recording External Services

In this section, you make the settings for recording **external services** in connection with the Attendances infotype (2002).

Data on employees who work for an external company can be maintained in the HR system in order to facilitate the recording and evaluation of their working hours. The working hours are transferred as external services to the **MM-SRV** component, and remunerated according to fixed prices.

If you enter a **purchasing document** and an **item**, the system selects a purchase order, a **service number** describes the activity performed, and a position (a qualification) can be specified using a **job key**.

Times entered are processed in time evaluation; a **resulting service number** is derived from the **wage types** generated and the **service number** recorded; the resulting service number is decisive for the remuneration of the service.

The data determined is accessible to the MM-SRV component in the interface table
HRMMSRVIF.

Example

Hourly paid activities are listed as service numbers in service specifications:

-   Hourly rate for a painter

-   Hourly rate for a painter after 10 p.m.

-   Hourly rate for a painter on the weekend

-   Overtime rate for a painter

When data is entered, only the service number for "hourly rate for a painter" is specified; time evaluation generates all relevant service numbers using the times specified.

Further notes

Time Management status 8 must be set in the **Planned Working Time** infotype (0007) for external employees whose working hours you want to process and transfer.

These persons are not included in payroll.

You must perform time evaluation using a schema that has been customized; use schema **TM02** as a reference.

For more information, see the corresponding documentation on Schema **TM02** and function
MMSRV.

31.7.6.1 Permit External Services for Infotype

In this step, you determine whether data on external services can be entered using infotype 2002, **Attendances**.

Requirements

To be able to record external services, integration must be generally
permitted for the **Attendances** infotype in the step Integration for infotypes.

Standard settings

It is not possible to enter external services data.

Activities

Activate the third position of the *Accounting/Logistics specifications* field if you want to allow external services for infotype 2002, **Attendances**.

31.7.6.2 Specify Objects Permitted

In this section, you specify whether the

  PSREF-STELL   **job key**

field should be used for entering data on external services.

Example

You do not want the **job key** field to be ready for input.

Standard settings The objects

-     PSREF-EBELN   **purchase order**
-     PSREF-EBELP   **item**

-     PSREF-LSTNR   **service number**
are ready for input on the entry screen and are required fields. Do not change this setting.

The **job key** is also ready for input.

Activities

You can delete the

- PSREF-STELL   **job key** field, or change the field attributes.

Further notes

It is possible to control the selection of objects and their field attributes individually using a feature. You can specify and maintain the feature in the step Feature for object selection.

The possible return codes of the feature can be stored in the key field *variable key*, and you can select a different record from objects with corresponding field attributes for each individual return code.

31.7.6.3 Maintain Feature for Object Selection

Here you determine whether a feature should be used for the selection of objects for external services and their field attributes.

Example

You want to specify that the **job key** is only provided for certain personnel areas on the entry screen. This control can be implemented by using a feature.

Standard settings

A feature is not used.

Activities

If you want to use a feature, enter the name of the feature in the field *Feature* for the function module "RP_TIME_COBL_002".
Note that the feature must be based on the structure PME27.

Using the function key *Feature*, you can either maintain the feature or define the corresponding decision tree.

31.7.6.4 Check Number Range for Transfer

Data for the *External Services* component (MM-SRV) is stored in the interface table
HRMMSRVIF.

A number range is used for this table.

Activities

Check whether the interval 01 has been created for the number range. If not, create the interval

01.

Further notes

Define a large enough interval. Each record in table HRMMSRVIF, or each posting document that is transferred, is assigned its own number.

The number range interval is not updated automatically when changes are made in Customizing. All changes made in number range interval maintenance must be transported manually.

To do this, choose **Interval -> Transport** in the initial screen for maintaining number range intervals.

Read the information that is displayed when the number range interval is transported.

31.7.6.5 Maintain Time Evaluation Schema

You maintain the time evaluation schema **TM02** for the evaluation of external services in this step.

Activities

Customize the schema according to your company's requirements.

31.7.6.6 Specify Wage Types Permitted

Service numbers can be generated in time evaluation on the basis of service numbers entered and wage types generated. The condition is that wage types and resulting service numbers are specified in the service master for service numbers that have been entered in time data entry. A resulting service number is generated by time evaluation based on the service number entered and the wage type generated. In this step, you maintain the wage types that are generated in time evaluation and allowed in the service master.

Example

You enter an attendance between 08:00 and 19:00 with the service number 4711, painter hour, for an employee from an external service provider. The employee has completed his or planned hours at 17:00.
Time evaluation generates two hours of the overtime wage type MM10 for the time from 17:00 to 19:00.

The service master specifies the wage type MM10 and the resulting service number 4712, painter hour after 17:00, for the service number 4711. Time evaluation generates the service number 4712 for the time from 17:00 to 19:00.

Requirements

You have set up the time wage types:

Time evaluation with clock times: Time Wage Type Selection and Overtime Compensation

Time evaluation without clock times: Time Wage Type Selection and Overtime Compensation

Activities

Maintain the wage types you want to use in the service master. Please note that the country indicator is not taken into account in the service master. Wage types with the same name should not be used more than once.

31.7.7 Customizing User Interfaces

There are several **list entry and weekly calendar screens** which you can use to enter time data together with data for other SAP applications. The following screens are available in module pool MP200000:

- 4054 **Attendances and Activity Allocation**

- 4055 **Attendances and Cost Assignment**

- 4056 **Attendances and External Services**

- 4452 **Employee Remuneration Information and Activity Allocation** - 7150 **Attendances/Absences and Activity Allocation**.

The section on infotype menus in the master data IMG explains how to incorporate the entry screens into your infotype menus.

This section explains

- How you can control the **field selection** on the entry screens according to **organizational aspects**

- Which **standard time** is displayed on the weekly calendar screens

- Which day is the first day of the **week**

The basic functionality of the screen elements used in table control allows the user interface to be customized to cater for the requirements of **individual users**.

The **subscreens for Controlling objects** used for entering additional data can also be modified according to your requirements if necessary. Additional data is recorded using single screens.

The steps in this section are only relevant if you do **not** use the Time Manager's Workplace.

31.7.7.1 Hide List Entry/Weekly Calendar Fields

You can hide fields of the following entry screens in program MP200000, according to various organizational aspects:

- 4054 **Attendances and Activity Allocation**

- 4055 **Attendances and Cost Assignment**

- 4056 **Attendances and External Services**

- 4452 **Employee Remuneration Information and Activity Allocation** - 7150 **Attendances/Absences and Activity Allocation**.

Example

On the entry screen for attendances with activity allocation, the only values you want to display in the hours overview in the header are cumulated attendance hours and remaining hours which have not yet been recorded.

You want to also hide the sending cost center as the default value is the employee's master cost center in infotype 0001.

Standard settings

No fields are hidden in the standard system.

Activities

Select the detail view for the screens you use (module pool MP200000 and the requested screen number in the "Screen" column or in the "Alternative screen" column) and select *Hide* button for fields you want to hide. Select the *Stan* button if you want to assign the field its standard attributes again.

Further notes

1. You can use a feature to define several variants of an entry screen according to **organizational criteria**. In the standard system, feature P2001 is used. You can also select your own feature, based on the structure PME04, and enter it in the feature column. To choose the requested variant, use the "variable key" which is defined in the feature.

2. Please note that entry screens 4054, 4055, 4056 and 4452 in the standard system are derived using feature **P2001** from the standard screens 4050 for attendances and 4450 for employee remuneration information, based on the screen type defined in the infotype menu of the entry screens.

3. Please read the section on screen modification in the master data IMG for further information.

31.7.7.2 Set Standard Time for Weekly Calendar

When you record time data using the following weekly screens for program MP200000

- 4054 **Attendances and Activity Allocation**
- 4055 **Attendances and Cost Assignment**
- 4056 **Attendances and External Services** - 7150 **Attendances/Absences and Activity Allocation**

a **standard time** can be displayed for each day. The hours you enter are deducted from the standard time. The standard time is defined either on the basis of the employee's personal work schedule, or a **time type** is used which is formed in time evaluation from clock-in and clock-out times. Feature TIMTA allows flexibility in defining a standard time.

Example

You want to use the productive time (time type 0050) as the standard time in order to distribute an employee's working time to an account assignment object.

Standard settings

In the standard system the standard time is formed either from the personal work schedule or time type 0050, according to the employee's Time Management status in infotype 0007.

Activities

The feature's return code is ZZZZV:

ZZZZ   Specification of a time type with which the standard time is defined. If you leave this field blank, then the system uses the planned working hours in the personal work schedule.

V   An 'N' in this position means that absence times are not included to form balances.

The decisions made using the feature can be based on:

- WERKS   personnel area

- BTRTL   personnel subarea

- PERSG   employee group

- PERSK   employee subgroup

- ZTERF   employee status for Time Management

31.7.7.3 Set First Day of Week

If no period is specified when you start the weekly calendar screen, the default is the current week. You can determine which day is the first day of a week by specifying the **last** day of the week in feature LDAYW.

This specification also has an effect on the day numbers which feature in the list of possible entries, and on the reaction when you select the position button on the weekly screen.

Example

Your week begins on a Thursday.

Standard settings

The week begins on a Monday except for in the US where it begins on a Sunday.

Activities

Please define the last day of the week according to your **country grouping (MOLGA)**. See the documentation on the feature.

Further notes

This setting also affects other areas of Personnel Administration and Time Management.

31.7.7.4 Maintain Subscreens for Controlling Objects

The Controlling objects which you have selected appear on a subscreen when you enter data. The correct subscreen is determined from a range of standard subscreens, according to the system settings and the selected Controlling objects.

It is possible to define your own subscreen with all the objects you wish to use in the correct order.

Please note that the subscreens can also feature account assignment objects which cannot be entered in HR. In the HR system, you can only use CO objects which you have defined as permissible in the preceding step.

Activities

Define your subscreens.

SAP system account assignment transactions use subscreens, which contain the various account assignment fields. When generating the screens for these transactions, the system searches for the most suitable subscreen, that is, the one containing the most required fields.

If there is no subscreen that contains all the necessary fields, you have to enter the additional fields in a separate dialog box.

You can define your own subscreens in this step. This means you can structure your subscreens to suit your own requirements and thus avoid having to enter account assignment fields in an additional dialog box.

Note

Any changes you make apply in all clients and for all transactions that use the coding block.

Requirements

To be able to maintain subscreens, you must have authorization to maintain cross-client tables (S_TABU_CLI).

Defining subscreens

To define a subscreen, proceed as follows:

1. On the **Maintain Coding Block Subscreens: Overview** screen, select the **Create** function. The system displays the **Maintain Coding Block Subscreens: Detail** screen.

2. Enter a 4-character number and a description for your subscreen.
    The numbers 9000 to 9999 are reserved for customer subscreens. The system proposes the next available number from this interval. You can overwrite the proposed value, if required.

3. Enter a number between 1 and 9 in the *Priority* field (1 = highest; 9 = lowest). The priority allows you to "fine tune" the search for the most suitable subscreen.

4. Maintain the **Active** indicator.
    When looking for suitable subscreens, the system only takes into account those which are both active and generated.
    Note
    This function allows you to deactivate both your own subscreens and the standard SAP subscreens if you do not want to use them.

5. Select the **Fields** you want to use in your subscreen.
    You select a field by assigning a valid position on the subscreen.
    Each subscreen can accommodate a maximum of 10 fields. The positions are numbered

    from 1 (1st line left) to 10 (5th line right). In several posting transactions (->) larger subscreens with a maximum of 40 fields are possible, but these subscreens are not selected during most transactions. In certain fields you can display master data texts for the field values. To do this, select the "With text" field. An entire row is necessary for this field.
    Example
    Let us assume you have defined your subscreen as follows:

Field Name	Position	With text
Asset		1
Order		3	X
Cost center	2	
Material	5	
Plant	6	

    In this subscreen the account assignment fields would be displayed as follows:

Asset	Cost center
Order	Short descrip. of order
Material	Plant

6. When you have finished maintaining your subscreen, you have to save it. Subscreens are saved in two steps:

    a) You store the subscreen in the system using the **Save** function. The subscreen is, however, latent.
        Subscreens which are not yet effective are flagged as "Not generated" in the overview list.

    b) You activate the subscreen throughout the system using the **Generate** function.

Note

If you have no further use for one of your own subscreens, you can either delete it from the list, or deactivate it using the Active indicator. The latter method has the advantage that you can regenerate the subscreen later and use it again.

Maintaining SAP subscreens

The changes you can make to the SAP subscreens delivered in the standard system are very limited:

- You can deactivate them.

- You can change the priority (see priority).

Note

If you try to delete an SAP subscreen, the system deletes only the changes you made and restores the standard delivery version.

Reset to standard

Using this function, you can restore all the subscreens to the standard delivery version. Your changes are not lost, however:

- Any SAP subscreens you changed are reset to standard and flagged in the overview as "**Not currently generated**".

- Your own subscreens are flagged as "**Not generated**".

Generate all

Using this function, you can generate all subscreens

Activities

1. Check whether the standard SAP subscreens meet all your requirements.

2. Create new subscreens if necessary.

3. If necessary, change the priority or the active indicator for the preset subscreens.

Further notes

The subscreen is only used for receiver data. The position of the sender data is fixed.

31.7.8 Set Up Customer Enhancements

When you record time data with additional data you can use customer enhancements to

- define customer-specific **default values** for additional data -   perform a customer **check** for activity allocation data.

The following SAP enhancements are provided:

- PTIM2001   **Time recording: Default values for activity allocation**

- PTIM2002   **Time recording: Default values for cost assignment**

- PTIM2003   **Time recording: Default values for external services**

- PTIM2004   **Time recording: Check activity allocation**

- PTIM2005   **Weekly screen for time recording: Default attendance/ absence type**

- PTIM2006   **Weekly screen for time recording: Complete check**

Example

You want to store default values for the activity type in customer- specific infotypes, tables or features according to the personnel number and the attendances/absences entered.

Standard settings

The function exits for the enhancements are not active in the standard system.

Recommendation

Start by reading the documentation on the enhancement components.

Refer to the sample coding in the includes LX200F01, LX200F02, LX200F03, LX200F04, LX200F05 and LX200F06.

Read the online documentation on transaction CMOD.

Activities

Proceed as described in the online manual, create and activate an enhancement project.

31.7.9 Define External Application for Integration with Personnel Time Management

In this step, you name each external application used for integration with SAP HR Time Management.

To name external applications, you specify the origin of the infotype data records. Only those data records from the interface tables from the Attendances (2002), Absences (2001), and EE Remuneration Info (2010) infotypes are transferred for which the external application was defined in this table.

Example

Time data from a variety of time managment systems can be transferred to SAP HR Time
Management. The external time management systems are defined as ZEXT1, ZEXT2 and ZEXT3.

Requirements

The names for the external application must be transferred accordingly by the sender system.

Standard settings

The following names for external applications are provided in the standard SAP System:

- CATS Time Sheet (for time data from the cross-application time sheet)

- EXT External Time Management (for time data from an external time management system)

- WFP Shift Planning (for time data from SAP HR Shift Planning)

If you have more than one external time management system in operation, you must create the correct amount of corresponding names for them.

Activities

If necessary, specify the new names for the external applications.

Make sure you use the customer-specific name range. Your names must start with the letter Z.

31.7.10 Integration with Workforce Management Core

31.7.10.1 Integration with the Workforce Management Core

Use

In this activity you establish the following:

- How infotypes and subtypes can be mapped to the time specification types in the WFM Core

- How the work schedule (working times and breaks) is mapped to the time specifications.

Activities

You must make the following settings in order to be able to transfer the infotype to the WFM core:

1. Enter the HR infotype in the field *Infotype*.

2. Enter the HR subtype in the field *Subtype*.

3. In the field *LRP-Time Type for Working Time* enter the time specification type from the WFM Core that should be used for availability/non-availability.

4. In the field *LRP-Time Type for Break Time* enter the time specification type from the WFM Core that should be used for the breaks of this infotype.

Make the following settings in the table for transferring the working and break times to the
WFM Core:

1. In the field *Infotype* enter the ID for the work schedule **PWS**.

2. In the field *Subtype* enter the Customizing key for the daily work schedule, e.g. **FLEX**.

3. In the field *LRP-Time Type for Working Time* enter the time specification type from the WFM Core that should be used for working times.

4. In the field *LRP-Time Type for Break* enter the time specification type from the WFM Core that should be used for breaks.

The following algorithm is used in order to find the valid correspondence for a particular infotype or daily work schedule:

The system first looks for the exact infotype-subtype combination. If no agreement is found, the system checks whether the infotype and the template of the subtype exist. If this is also unsuccessful, the system then searches for the infotype with the subtype **space**. If this search is not successful, then the time specification type **space** is used. This should always exist in the
WFM Core.

There is also the customer extension PTLRPIF for determining the valid time specification type.
The time specification types determined above can be overwritten again in the function modules EXIT_SAPLPTLM_001 and EXIT_SAPLPTLM_002.

Example

An infotype can be transferred to availabilities (e.g. overtime) or non-availabilities (e.g. leave). The WFM time type for breaks then determines how the break description of the relevant infotype should be represented (e.g. breaks taken during overtime).

Further notes

The report RPTWFMIF allows you to create resources in the WFM Core for any employees. For these resources you can transfer from the mySAP HR Time Management availability information like working and break times from the work schedule and from the daily work schedule to the WFM Core.

31.8 Shift Planning

In this section of the Implementation Guide (IMG), you make the required settings for implementing *Shift Planning*.

Requirements

Before making the system settings for Shift Planning, you must maintain the relevant steps in the Global Settings for Personnel Management section.

31.8.1 Integration

This section contains the steps necessary for activating integration between Shift Planning and Time Management.

In addition to the settings you have already made in the section Global Settings for Personnel Management, you must also set various parameters for substitution types and report functions for the time evaluation.

31.8.1.1 Define Substitution Types

In this step, you determine which substitution types are used in Time Management when you change shifts in a shift plan.

When you call a shift plan, an employee's working time is equal to the working time created in Time Management. This daily work schedule is displayed using shift abbreviations.

If the shift abbreviation is changed to allow a different shift to be assigned to an employee, a substitution is created in Time Management. You can specify the type of substitution here.

Example

Any changes made to employee working times in the target plan should create shift substitutions in Time Management.

In the *Substitution type for shifts in target plan* column, enter *02* for shift substitution.

If you now change an employee's shift in the target plan, a shift substitution is created in Time Management.

Standard settings

Several substitution types have already been created in the standard system:

- 05 (actual plan substitution) as *substitution type for shifts in actual plan.*

- 02 (shift substitution) as *substitution type for shifts in target plan*

- 06 (working time preference) as *substitution type for shifts as employee preferences*

Activities

1. Check to ensure that the standard substitution types meet your requirements.

2. Create your own substitution types if required. To do so, refer to the step Define Substitution Types.

Further notes

For further information, refer to the documentation relating to entries in the fields *semantic group* and *semantic abbreviation.*

31.8.1.2 Create Report Variant for Time Evaluation

In this step, you define a report variant for the time evaluation report. This report is used to evaluate the planned times in Shift Planning.

Standard settings

The standard system does not contain a predefined report variant for the time evaluation report.

Recommendation

The time evaluation report is **RPTIME00**. You must only specify another report if you have copied the standard report in order to modify it.

In the report variant, only specify the time evaluation schema you wish to use. Delete all other fields. If you do not wish to use your own time evaluation schema, you can use an SAP standard schema for negative time recording. Ensure that this schema is also able to handle time accounting in the future. Refer to the step Set Controls for further information.

Activities

Define the report variant for time evaluation, and check that the time evaluation schema can be used for shift planning purposes.

Further notes

For information on how to create and maintain the time evaluation schema, refer to the step Time Evaluation.

31.8.1.3 Define Report Variant for Time Evaluation

In this step, you specify which time evaluation report variant should be used for Shift Planning.

Requirements

First define a report variant for time evaluation.

Standard settings

The standard SAP system does not contain a report variant for time evaluation.

Activities

In the *Value abbr.* field, enter the report variant that is to be used when time evaluation is

called (that is, the report variant you defined in the Create Report Variant for Time Evaluation) step.

Notes

If no report variant is entered here, the time evaluation report that you defined in the *Set Up Time Evaluation Access* is run without a variant.

The variant selected here is controlled by the variant stored in user parameter *PET*.

Further notes

Entries for the amount of leave taken and the quota used, which are determined in time evaluation, only take any changes made in the current planning period into account after the entries have been saved.

This restriction is only valid if leave taken is calculated against the *Leave Entitlement* infotype (0005) and the quota used against the *Absence Quotas* infotype (2006) or *Attendance Quotas* infotype (2007).

Keep in mind that the data entered from RPTIME00 is evaluated as follows:

- Before entries are saved, data is read, evaluated and checked according to the configured schema

- When entries are saved, current quotas, as well as any collisions that may occur with other time data, are checked

Example

An employee can take 10 days of leave (vacation). Schedule 15 days of leave for this employee in the current planning period.

- If you start time evaluation before saving the entries, a period of 15 days is evaluated as 0 productive hours and therefore the 15 days are considered leave days.

- When you try to save the entries, the system issues a message that the quota is exceeded by a total of five days. Correct the leave request by subtracting 5 days. Now you can save the entries.

The collision check saves you from processing time-consuming corrections in the saved shift plans.

31.8.1.4 Set Up Time Evaluation Access

In this step, you define the report that is called for time evaluation.

Standard settings

The standard system includes the RPTIME00 report, which is set up for time evaluation.

Activities

You only need to carry out this step if you have copied the standard time evaluation report (RPTIME00), and you want to call the copied version in Shift Planning.

In this case, maintain the entry "RPTIME00" in the field "Symb.Name." In the field "Module pool", enter the name of the program to be called.

31.8.1.5 Set Up Assignments as Simulated Attendances

In this step, you specify that the assignment of requirements and employees are evaluated as simulated Attendances in the context of infotype *attendances* (2002) during time evaluation in Shift Planning.

Example

An employee works a normal shift from 8:00 to 16:00. During this time interval, he is assigned to a requirement from 14:00 to 16:00. Time evaluation evaluates an attendance of 2 hours; the time from 8:00 to 14:00 is not taken into account.

Requirements

Attendances are person-related data and defined by the groupings of personnel subareas and the attendance type. Assign the current groupings of personnel areas to attendance types you want to access when planning shifts to your current personnel subarea.

Recommendation

Activate this function by entering an attendance type.

Activities

Choose a desired attendance type. You can also choose a second report variant from which the attendances should be evaluated.

Further notes

If you have activated the function by entering an attendance type, but have not selected a report variant, the system accesses the PEINS SCEME report variant for time evaluation.

In addition, if you do not specify the report variant as well, time evaluation is started using the TM00 schema.

By simulating attendances in time evaluation, you get an overview as to whether an employee is working to capacity after being assigned requirements, and how various time types are developing for the future.

31.8.1.6 Set Employee Status for Simulation

In this step, you specify whether the Time Evaluation simulation is carried out with Time Management status according to:

- the **Target Working Time** infotype (0007) or

- status **9** (Time Evaluation - target)

Example

In Time Management, you have specified **2** (Time Evaluation PDC) as the Time Evaluation status in the **Planned Working Time** infotype (0007).

You have two options for the entry in the *ValueAbb* field of switch *PEINS PZEF*:

- Switch *PEINS PZEF* is set to **X**

Result:

Time evaluation simulation is started with Time Management status **2**.
This status corresponds to the current employee status from **Time Evaluation PDC** in Time Management.

- Switch *PEINS PZEF* is set to **Blank**.

Result:

Time evaluation simulation is started with Time Management status **9**
.
This status is **Target evaluation**.

Standard settings

In the standard system, the switch is set to **X**.
This means that the time evaluation simulation is carried out with the original employee status in Time Management.

31.8.1.7 Configure Time Evaluation in Target Planning

Use

You can use this IMG activity to minimize runtimes for time evaluation from target planning.

You do this in the time evaluation schema by omitting individual process steps from evaluation

that you do not need to make time accounts in the target plan. When the target plan is finished, these process steps are run so that the complete time evaluation results are available in cluster B2.

Requirements

You have implemented Time Evaluation to suit the requirements of Shift Planning.

Activities

1. In your time evaluation schema for target planning, check which process steps you do not directly require to get the desired results and are not essential for a successful time evaluation run. Essential components of the time evaluation run include but are not limited to the following schema sections:

   - Initialization

   - Provision of Time Data

- Determination of Planned Working Times

- Final Processing

2. Isolate the schema rows not needed for target planning. For example, wage type generation is not needed in most cases. Proceed as follows:

a) In the schema, prepare a copy of the day processing (the block between initialization and end processing). Put this copy before the original day processing.

b) Insert the copy into a IF TPLN # ENDIF query.

c) Delete the unneeded schema rows from this area.

3. Manually add the PEINS PSOLT switch to table T77S0.

4. Activate the PEINS PSOLT switch with value X. This ensures that a recalculation of time evaluation is triggered after target planning has finished and the part of the time evaluation schema outside of IF TPLN # ENDIF query is run.

Documentation of the PSOLT switch # Recalculation after target planning

Use

In the standard system, you have the option of not evaluating individual process steps for time evaluation if you launch time evaluation from the target plan. This improves performance during target plan processing. However, in this case, these process steps are also not run once the target plan is finished.

You can use this switch to enable a recalculation of time evaluation once the target plan is finished.

Structure

With the IF TPLN function, you can omit individual process steps from evaluation during target plan processing in time evaluation. If you set the switch to value X, time evaluation is automatically called when target planning is finished and the process steps outside the IF TPLN-ENDIF query are run.

31.8.2 Default Values

In this section, you can set parameters for the default values valid in Shift Planning.

31.8.2.1 Define Shift Abbreviations for Special Functions

In this step you specify:

1)
Which shift abbreviation or symbol is displayed in the shift plan if an employee was assigned a working time that deviates from his or her actual shift (Time Substitution) and for which there is no shift abbreviation.

2)
Whether the *abbreviation recognition* function is active.

Examples

Example 1)

An employee works according to the daily work schedule **flextime**, which has a working time of 8:00 a.m. to 5:00 p.m. The shift **FLEX** is displayed for this employee in the shift plan.

You then assign the employee a shift that deviates from this working time, such as 8:20 a.m.
to 5:35 p.m.

The shift abbreviation or symbol you set in this Customizing step appears in the shift plan.

Example 2)

-    If you do not enter a **special character** here, the **abbreviation recognition** function is **active**.
     If you choose *Edit --> Details on Shift* in the shift plan to assign an employee a shift with individually defined working times, the SAP system looks for a shift abbreviation with the same or similar working times.
     This shift abbreviation is then displayed in the shift plan, and a time substitution is created in Time Management for the working time defined by the shift abbreviation.

-    If you do enter a **special character**, the **abbreviation recognition** function is **inactive**. If you choose *Edit --> Details on Shift* in the shift plan to assign an employee a shift with individually defined working times, the system does not look for a suitable or similar shift abbreviation.
     The special character you specified is displayed in the shift plan, and a time substitution for the individually defined working times is created in Time Management.

Standard settings

The **shift abbreviation for special functions** is specified with a **#** in the standard SAP System.

Activities

Enter the abbreviation or symbol of your choice in the **Value abbr.** field.

31.8.2.2 Define Standard Shift Group

In this step, you specify which shift group should be the default for your enterprise when you first enter Shift Planning.

Standard settings

The default shift group *STANDARD* has been created in the standard system.

Activities

Define your own default shift group if necessary.
For information on how to define the corresponding shifts, refer to the Define Shift Groups step.

Further notes

For further information, see the documentation on the entries in the *Semantic group* and *Semantic abbreviation* fields.

31.8.2.3 Define Groupings

In this step, you define default values for Personnel Subareas Grouping for attendance types, absence types, daily work schedules, substitution types and availability types in Time Management. These values are then proposed when you create a shift group.

Requirements

The groupings must be defined in Time Management. Refer to the IMG Section Personnel Subarea Groupings.

Standard settings

All three groupings have the value **01** in the standard system.

Activities

If necessary, change the value of the Time Management groupings.

Further notes

For further information, refer to the documentation on the entries in the fields *semantic group* and *semantic abbreviation*.

31.8.3 Specify Profiles for Shift Planning

In this step, you define the Entry profile for Shift planning. The profile determines which:

- *Evaluation path* the system uses to select employees from the *entry object types* for shift planning.

- Organizational units are to be related to entry objects as pegged requirements You can define these objects as pegged requirements by selecting *Create -> Pegged requirement*. Employees who are assigned to these objects can be selected in shift planning. If only certain employees are available for planning, you can define the situation using a corresponding evaluation path.
  You can select work centers independent of organizational unit. The evaluation path for the selection of employees accesses the given work centers directly. Organizational unit and work center are related by relationship **059 (employee pool)**.

Example

When you enter Shift Planning, you choose a profile assigned the evaluation path to select all positons. As an entry object type, you choose the organizational units. The system selects all positions from the entry object types and transfers them to the shift plan.

Requirements

Define the entry object types and evaluation paths that you want to assign to the entry profile.

Standard settings

The *SAP_000001* entry profile is included in the standard SAP R/3 System for entering Shift Planning using organizational units.

The system automatically enters shift planning using the *SAP_000001* profile if you do not select another entry profile.

Activities

1. Choose the standard profile or define your own.

2. Specify which evaluation path should be used to select employees.

3. You can determine whether the employees selected for shift planning by the evaluation path should remain in the selection or be removed from it, if necessary.

4. You can also determine whether employees not selected by the evaluation path for shift planning should also be included in the selection, if necessary.

Further notes

By using the profile, you can connect groups of employees from several organizational units for selection. You can specify the selection of employees from different departments of your enterprise using one evaluation path.

31.8.4 Define Requirements Types

In this step, you determine the requirement types that you require for shift planning in your enterprise.

Example

In addition to general requirements types such as requirements on Fridays (FRIDAYS), there are special requirements available in order to designate a specific day of the year (for example, the annual company party = special requirements = SPECIFIC).

Standard settings

The standard system contains an extensive list of the most frequently used requirements types.

Recommendation

Use the standard requirement types whenever possible.

Activities

Define your own requirements types, if necessary.

31.8.5 Specify Shift Groups

In this step, you define shift groups and assign shifts to them for shift planning purposes.

Use

A shift group comprises all shifts required in one single group when planning shifts.
With a shift group, you can define shifts required in more than one organizational unit.

With a shift group, you can specify:

- Shift abbreviations
  All shift times that occur in the shift group (flextime, early, late or night shift and so on), absences, attendances, or availabilities.

- Requirements types
  Definition of requirements based on a calendar (on working days, on days off, and so on)

- General color and font formatting
  Shift abbreviations and requirements statuses are highlighted, as well as the current level of coverage attained, in order to delimit time data in the shift plan, for example, and for a clearer display of information in the shift plan.

Procedure

- Select an existing shift group to edit it, or choose *New entries* to create new shift groups.

- Start the *Shift abbreviation* action, by selecting the shift abbreviation (double-click) that contains ths shift group.
  Choose *New entries*.
  Define the desired shift abbreviation.
  Set the desired color and font formatting for the shift abbreviation.

- Start the *Requirements types* activity by differentiating between the types (double-click) on the basis of when they are used.
  Choose *New entries*.
  Define the required requirements types.

- Start the *General color and font formatting* activity (double-click) to differentiate shift abbreviations and business situations from working times and requirements, for example.

You can assign shift groups defined in this way to the organizational units involved in your shift planning in the Maintain Shift Group Infotype (1039) for Organizational Units step.

31.8.6 Maintain Shift Group Infotype for Organizational Unit

In this step, you assign a shift group to your organizational unit. You do so by creating the Shift Group infotype (1039) for the organizational unit.

Requirements

- A plan version has already been defined

- An organizational unit has been defined (see "Organization and Planning" under Personnel
  Development in Windows Help for more information)

- A shift group has been defined

Activities

1. If you have not entered a plan version and/or an organizational unit in a previous transaction, you must do so here.

2. Specify the validity period for the assignment.

3. Select the "Shift Group" infotype on the second page of the selection screen, check the "Active" box, and choose "Create."

4. In the following window, enter the shift group that you want to assign to the organizational unit.

5. Save your entries.

31.8.7 Specify Factory Calendar

In this step, you specify which factory calendar is to be used for Shift Planning in your enterprise.

If you do not specify a special calendar in the Site-Dependent Info Infotype (1027) for the organizational unit, the system uses this calendar.

Standard settings

In the standard system, the active calendar ID is **01** (standard factory calendar for Germany).

Activities

Define your factory calendar by carrying out the Define Factory Calendar step.

Further notes

For further information, refer to documentation on the entries in the *Semantic group* and *Semantic abbreviation* fields.

31.8.8 Info Columns and Proposal Determination

In this section, you make the settings required to display information columns.

31.8.8.1 Define Information Column

In this step, you determine which information columns you want to display in Shift Planning.

Example

Enter descriptive names (text) for the following information columns:

- Jobs for the **JOBS** column

- Personnel number for the **PERNR** column.

In the shift plan, you will then see the information columns for jobs and personnel numbers in the list under the menu option Views -> Info columns.

Requirements

The info columns are filled with data by function modules. For this reason, only info columns already defined in a function module can be specified. You can define new function modules in transaction **CMOD**.

Standard settings

The standard SAP R/3 System contains a variety of pre-defined data to help you to determine your information columns.

Activities

1. Only create new entries if the standard SAP R/3 System does not contain the information you require.

2. Choose an existing function module, or define a new one.

3. Enter a descriptive name identifying the info column for use in the shift plan.

4. Create various attributes of the info columns.

31.8.8.2 Define Main Proposal

In this step you determine the main proposals available for the info columns that are located in the menu option **Views**.

Example

You have selected the columns GENERAL, JOBS, ENTRY and PERNR as main proposals and want to make the following settings:

-   The column PERNR should not be included as an option in the shift plan.

-   The column JOBS should be displayed immediately upon entering the shift plan.

-   The personnel administrator should be able to change the settings.

-   The personnel administrator should be able to save non-standard settings.

To deselect the column PERNR (remove it as an option), delete the column.

To display the column JOBS immediately upon entering the shift plan, select *visable*.

So that the administrator may change the settings, select *changeable*.

So that the administrator may save non-standard settings, make sure that *viewable* is not selected.

Requirements

You have defined the info columns you want to have as main proposals in the **Define info columns** step.

Standard settings

The following info columns are included in the standard system:

Personnel number

Job

Organizational unit

General information

These info columns can be changed and viewed.

Activities

1. Give the columns consecutive numbers.

2. Choose an info column using the possible entries function.

3. Create the desired processing options.

31.8.8.3 Define Hitlists

Defining Hitlists

In this step, you specify the sequence of suitability criteria taken into account in automatic proposal determination, or when assigning employees to requirements.

You can set the sequence or priorities to be used under *Prioritize proposal determination* in the shift plan. You can also make this

default setting in the IMG for *Shift Planning* under *Info Columns and Proposal Determination* -> *Set Up Automatic Proposal Determination* -> *Maintain strategies for automatic proposal determination*.

Requirements

Suitability criteria are data derived from function modules. For this reason, suitability criteria can be specified only for data that has already been defined in a function module. New function modules can be defined using transaction **CMOD** .
The interface definition must correspond with the priority modules in the standard SAP system.

Standard settings

The following priority criteria are defined in the standard SAP System:

- Employment percentage (Function module HRSP_HITLIST_EMPLOYMENT_PCT)

- Qualifications (Function module HRSP_HITLIST_QUALIF)

- Seniority (Function module HRSP_HITLIST_SENIORITY) This priority module sorts employees according to qualifications.

Activities

If you want to sort your employees according to priority criteria other than those defined in the standard SAP system, you can program your own function modules in transaction **CMOD**.

31.8.8.4 Set Up Automatic Proposal Determination

This IMG activity consists of the following steps:

- Maintain Strategies for Automatic Proposal Determination

- Define Strategy for Automatic Proposal Determination

In these steps, you specify the strategies that the system automatically uses for the *Determine assignment proposal* function to find the employees required to cover a personnel requirement.

In the *Define Strategy for Automatic Proposal Determination* step, you have the following additional options:

- *Period for assignment proposal*

    If you activate this function, the shift planner can specify in the shift plan overview the period for the automatic proposal determination. The shift planner sets the period by selecting the day columns in the shift plan overview.

- *Assignment proposal only on days with changes*

    In combination with the *period for proposal determination* function, the shift planner can use this function to restrict the automatic proposal determination in the shift plan overview to the days on which changes were made (such as a change in time data, shift, or availability duty). There must be no day columns selected before the shift planner starts the automatic proposal determination function.

    This additional function is active only if the *period for assignment proposal* function is also active.

- Set Strategy for Automatic Assignment After Shift Changes

    In this step, you specify the strategy that the system uses to assign an employee to a requirements when his/her shift/working times have been changed.
    You can specify whether an employee is to be automatically assigned to a requirement when his/her shift/working times have been changed, in the shift plan, under *Settings*.

By defining a strategy, you can specify:

- the maximum number of runs

- the valid options for selecting employees in each run

- the sequence for the runs

The system runs the defined strategy once for each requirement and day, irrespective of the degree of coverage resulting from the automatic assignment function.

Standard settings

In the standard system, strategy *SAP_1* is set for automatic proposal determination, and is defined as follows:

1st run

The working time of an employee is not adjusted to the requirement.
This means that only those employees whose working time matches the required time are selected during the automatic proposal determination process.

During this process, the following criteria apply:

- requirement interval cannot be split

- employee's working time cannot be split

- organizational assignment of an employee matches the organizational assignment of the requirement

- employee's job is relevant

- requirements with id are not taken into consideration

- the proposal is determined in accordance with the priority set in Shift Planning under
    Settings -> Prioritize proposal determination

- requirement is covered with the minimum number of employees

2nd run

The working time of an employee can be adjusted to the requirement.

This means that the working time and requirement interval are split, and therefore, they need not be identical.

During this process, the following criteria apply:

- the organizational assignment of an employee matches the organizational assignment of the requirement

- the employee's job is relevant

- requirements with id are not taken into consideration

- the proposal is determined in accordance with the priority set in Shift Planning, under
  Settings -> Prioritize proposal determination

- the requirement is covered with the target number of employees

3rd run

All working times and requirements can be split

- the organizational assignment of both the employee and the requirement is irrelevant

- the employee's job is relevant

- requirements with id are not taken into consideration

- the proposal is determined in accordance with the priority set in Shift Planning, under
  Settings -> Prioritize proposal determination

- the requirement is covered with the target number of employees

The *period for assignment proposal* and *assignment proposal only on days with changes* functions are not active in the standard system.

Strategy *SAP_2* is set up in the standard SAP system to be used when an employees's shift/working times are changed. It performs one run, which corresponds to the 1st run of strategy *SAP_1*.

Activities

Maintain Strategies for Automatic Proposal Determination

- Select *New entries*

- Define a name for the new strategy

- Enter a serial number
  The number of runs executed in the strategy is determined by the number(s) you enter. The actual number sets the sequence of the runs.

- In the *Working time* field, specify whether or not the requirement changes the working time of an employee, and if so, in what way

- Select the assignment criteria to be considered during the automatic proposal determination

- In the *Priority* field, define the selection criteria to be used by the system to produce a hitlist of employees for automatic proposal determination.
  You also define a priority for the hitlists used to assign employees to requirements

Define Default Strategy for Automatic Proposal Determination

- Check to see if the strategies provided in the standard system meet your requirements

- If necessary, define your own strategies under *Maintain Strategies for Automatic Proposal Determination* in this step.

- To activate the *period for assignment proposal* function, enter an **X** in the *Value abbr.* field.

- To activate the *assignment proposal only on days with changes* function, enter an **X** in the *Value abbr.* field and ensure that the *period for assignment proposal* function is active.

Further notes

By using the *Use current settings* fields, you ensure that the relevant settings in the shift plan are used for automatic proposal determination, irrespective of the strategies that you have defined here.

31.8.8.5 Define Default Values for Assignment Strategy

Use

In this table, you store a default value for the strategy used for automatic assignment. You can store one default for each shift group.

The following selection rule applies to the client-wide assignment strategy you defined in the Set Up Automatic Proposal Determination activity (table T77S0):

If entries have been maintained for the shift group valid on the plan, the strategy is read and applied in the automatic assignment. If not, the client-wide assignment strategy (base strategy) applies.

If the user selected any assignment strategy from the Shift Planning menu, it overrides the default value for the shift group and the default base strategy.

31.8.8.6 Settings for Public Sector Germany

31.8.8.6.1 Immediate Valuation of Time Information

31.8.8.6.1.1 Activate Immediate Evaluation of Time Information

Use

The values of the time wage types are updated in the information columns after RPTIME00 has run.

If you activate the ad-hoc update, the information columns are updated immediately after you enter or change a shift.

This applies to all changes on the planning overview or on the detailed popup. Other entries that cause time information to be changed, such as switch of shifts, do not cause the info columns to be updated.

Note that the ad-hoc update is a simplified calculation of working hours, it can therefore lead to differences with the results from RPTIME00.

The ad-hoc update provides you with a new information line that you can show on activating this functionality. For morer information, see the Shift Planning IMG: *Additional Lines in the Shift Plan (Public Sector Germany)* -> Activate Hourly Balance Line.

Requirements

Note that you should have simulated time evaluation (RPTIME00) once before you use the ad-hoc update in the application, because the system requires up-to-date output data for the ad-hoc update.

Activities

Three **X** characters are allowed for the entry. The first switches on the function for the target plan, the second for the actual plan and the third for the employee preferences. If, for example, you want to activate the update for all three areas, enter the value **XXX**.

To activate the hour balance line, you enter **X** at least in second place.

Define the information columns for which you want use the immediate valuation in the Select Information Columns and Define Standard Valuation activity.

31.8.8.6.1.2 Select Information Columns and Define Standard Valuation

Use

In this activity you define which information columns should be valuated in the adhoc update and which type of valuation should be used.

You first define a valuation for each shift group for each info column for the shift abbreviation. The shift abbreviations are divided up between the groups *Shifts*, *Attendances>/>, Absences and Availability. You have defined the group membership of an abbreviation in activity Define Shift Groups.*

If you want to define exceptions for the valuation type defined here, you can do so in the Define Shift Abbreviation with Different Valuation activity. An entry in that activity overwrites the default value of this activity.

Requirements

You have activated the adhoc update in the Activate Immediate Valuation of Time Information activity.

Standard settings

The fields of this table are initially blank. If no entries were made in the follow-on activity Define Shift Abbreviation with Different Valuation, the following valuation applies: For shifts, the hours of the shift minus breaks count (irrespective of the day type). Absences are deducted from the shift time, attendances are added. Availability duties are also counted in full.

Activities

1. Choose *New Entries.*

2. Choose the shift group.

3. Choose the information column from the *Name* field.

4. Define the valuation type in the *Info Columns Selection and Standard Valuation* group box.

31.8.8.6.1.3 Define Shift Abbreviations with Different Valuation

Use

In this activity you describe shift abbreviations that are subject to a different valuation to the standard or the one defined in activity Select Information Columns and Define Standard Valuation. The following types of valuation are available: Hours Counted.

Standard settings

The following evaluation applies to a shift abbreviation in the standard system:
For absences or breaks the hours are counted negatively.
For shifts or attendances the hours are counted positively.

The entries that you make here overwrite the standard of the previous activity Select Information Columns and Define Standard Valuation.

Example

A special evaluation of shift abbreviations occurs for specific attendances/absences.

A full-day leave is entered in the planning overview as absence. For certain information columns, however, you want the day to be counted as a normal working day.

A certain attendance that is entered as an additional shift (detailed screen) should not be calculated (for all info columns).

A shift from the planning overview should only be calculated at 50% for a specific info column, the other columns though at 100%.

The dummy shift is to be valuated according to the employment percentage. Illnesses are counted by the hour accordint to the employment percentage if they are during the time of a dummy shift. They are valuated with the full hourly rate if they coincide with a "real" substitution.

Shift	Info	Entry of Abbrev.	Counted	Weight.
U	InfoCl_1	Shift	1/5 of Weekly Working Time	100
T	All (Others)	Additional Shift	Zero Hours	100
D1	InfoCl_3	Shift	Actual Hours	50
D1	All (Others)	Shift	Actual Hours	100

31.8.8.6.1.4 Define Shift Abbreviations with Indicator

Use

Changed shifts are stored on the database as records of the *Substitutions* infotype (2003). In Shift Planning, substitutions are also assigned a substitution type that affects time accounts and information columns. In this activity, you can define special valuations for these shifts.

In the detail dialog box, you can assign special indicators to a shift that directly affect the calculation in the information columns.

Example

For one shift, there are the indicators *with* and *without time in lieu.*

31.8.8.6.1.5 BAdI: Adhoc Update of Info Columns

Use

This Business Add-In (BAdI) is used in the *Personnel Shift Planning (PT-SP)* component.

It provides the following:

- Immediate update of info columns and the hourly balance line on the planning board. If you make entries or changes in the shift plan the system outputs the updated values directly.

- Immediate check on work or rest period violations.

Requirements

- For the immediate update of info columns:
  You have activated the functionality in the Customizing for *Shift Planning* in activity
  Information Columns and Default Determination -> *Immediate Valuation of Time Information (Public Sector DE)* -> Activate Immediate Valuation of Time Information.

- For the immediate update of hourly balance line:
  You have activated this line in the Customizing for *Shift Planning* in activity *Additional Lines in Shift Plan (Public Sector DE)* -> *Hourly Balance Line* -> Activate Hourly Balance Line.

- For the immediate check of work and rest period violations: You have activated the functionality in the Customizing for *Shift Planning* in activity *Activation of Additional Checks for Shifts (Public Sector DE)* -> Activate Adhoc Check of Working Time Laws.

Standard settings

SAP provides the sample implementation **HRSPPBS_IMP_PSG** for the methods mentioned below.

Activities

After calling up the IMG activity, a dialog box appears, in which you can enter a name for the implementation.

If you have already made other implementations for this BAdI, another dialog box appears, in which the existing implementations are displayed. In this case, choose *Create*, and proceed as follows:

1. In the dialog box, enter a name for the BAdI implementation in the *Implementation* field, and choose *Create*.
   The screen for creating BAdI implementations is now displayed.

2. Enter a short text for the implementation in the *Short text for implementation* field.

3. From the tab index, choose *Interface*.
   The *Name of implemented class* field is already filled on the tab page, as a class name was automatically assigned to the implementation when you named it.

4. Save your entries, and assign the implementation to a development class.

5. Place the cursor on the method, and double-click to enter method processing.

6. Enter the code for the implementation between the statements `method <Interface name> ~ <Name of method>` and `endmethod`.

7. Save and implement your code. Return to the *Edit Implementation* screen.

8. Save the entries on the *Edit Implementation* screen.
   Note: You can also create an implementation, and then activate it at a later time. In such a case, end the processing stage at this point.

9. Choose *Activate*
   The code you stored in the method will be run when the application program is executed.

See also

Methods

You can use the following method for the immediate valuation of the information columns:
DO_INFOCOLUMN_UPDATE .

For the immediate valuation of cells of the hourly balance line you can use the method
DO_BALANCE_LINE_UPDATE .

For the additional checks of work and rest period violations, you can use the method DO_ADD_CHECKS.

31.8.8.6.2 Activate Additional Information Columns and Info Column Grouping
Use

In the standard system, you can select up to four information columns in the shift plan overview (target and actual plan).

If you want to display additional information columns and group them according to your preferences, you should activate this function. There will still be a maximum of four columns displayed at any one time in the shift plan, but you can scroll to the additional columns. In the day and assignment views, the system then displays the columns that you selected in the shift plan overview.

You can use this function to make the following settings in the shift plan overview:

- You can save your information column selection as a user-specific variant. This means that you can create several variants with different information column groups and switch between them according to your requirements.
  For example, you can create a special variant for planning leave, which you can use to display leave according to days remaining and days of leave during the school breaks. You could also create a variant for on-call duty planning, which you could use to display previous on-call duties according to total number, number on weekends, and the number on public holidays.

- You can set whether the variants are available in the target plan, the actual plan, or in both.

- You can set one variant as your personal initial variant. It is then displayed each time you access Shift Planning.

Requirements

You have created the information columns that you want to display in the Define Information Columns IMG activity.

Standard settings

This function is not activated in the standard system.

The function is not supported in the classic design. This means that once you have activated the additional information columns, the classic design is no longer active.

Activities

To activate the function, enter an **X** in the **Value abbr.** field.

Note:

- To create the current information column selection as a variant, choose *Views -> Save information column group* from the shift plan overview

- To select variants, choose *Views -> Load information column group* from the shift plan overview.

- To delete variants, choose *Views -> Load information column group* from the shift plan overview.

31.8.9 View for Employee Selection

This step determines the selection view you want to use for selecting employees.

Requirements

To use a selection view different from those in the standard SAP System, you must define your own view in the Repository Browser with as many table selections as desired.

Standard settings

The selection view **SAP_WFP** is included in the standard SAP System.

Activities

To generate a customer-specific selection view, overwrite the default entry in the *Value abbr.* field with the Name of selection view, that you want to use for selecting employees.

31.8.10 Indicator for Shifts in Shift Plan

In this step, you specify:

- whether substitution types can be changed in a shift plan

- which substitution types are available in shift groups if changes are permitted

Example

It is possible to change substitution types in a shift plan.

The master substitution and shift substitution types are assigned to a specific shift group.

A defined substitution can only be made in one master or shift substitution in the shift plan.

31.8.11 Reaction to Different Assignment

This step enables you to define the message that is displayed by the system if you assign employees and demand of different organizational units or jobs to one another.

Example

You have selected several organizational units for shift planning using entry object types. As a result, the shift plan lists all of the employees from the various organizational units. It is possible for these employees to hold different jobs.

The requirements matchup, which is used to effect the assignment, displays the requirements of these organizational units.

It should not be possible to assign employees and requirements of different organizational units to one another.

In the *Value abbr.* input field, enter *E* for error message.

Standard settings

The standard system includes the following messages:

- *I* for assigning different organizational units.
- *I* for assigning different jobs.

Activities

- To ensure that the system displays a *warning message* when different jobs or organizational units are assigned, enter *W*.

- To ensure that the system displays an *error message* when different jobs or organizational units are assigned and then prevents the assignment from being effected, enter *E*.

- To ensure that the system displays a reference to a *subsequent screen* when different jobs or organizational units are assigned, enter *S*.

- To ensure that the system displays *information* when different jobs or organizational units are assigned, enter *I*.

Further notes

You have specified *S* as your message for assigning different jobs and organizational units. If an employee has a different job and organizational unit when the assignment is effected, only the job message is displayed. The reason for this is the check sequence; the organizational unit is checked first, then the job. As a result, the message for the different job overwrites the message for the different organizational unit.

31.8.12 Determine Assignment Options

In this step, you specify which assignment options are set up in the *Assignment Options: Change* dialog box in the *assignment assistant* for manually assigning employees to requirements.

You can choose from the following options in the dialog box:

- Adjust working time to requirement

- by moving the working time

- by extending the working time (specifying an attendance type)

- Do not split up requirements interval

- Do not split up working time

In the *Can be changed* checkbox, you can determine whether the settings are default values or standard values.

- Can be changed is selected
  The settings are default values that can be changed by the user. The input fields in the *Assignment Options: Change* dialog box are ready for input.

- Can be changed is not selected
  The settings are standard values that cannot be changed by the user. The input fields in the *Assignment Options: Change* dialog box are not ready for input.

In the *Can be saved* checkbox, you can determine whether or not the settings changed by the user can be saved.

- Can be saved is selected
  Users can save the changed assignment options. They can get the saved settings by calling up the *Assignment Options: Change* dialog box again.

- Can be saved is not selected
  Users cannot save the changed assignment options. If they call up the *Assignment Options: Change* dialog box again, they get the standard settings.

Example

When assigning an employee to a requirement, you want to be able to adjust the employee's working time to suit the requirements interval.
You want make the adjustment by changing the working time.
You do not want the working time or the requirements interval to be split up. You want it to be possible to change and save the settings.

- You select the **Adjust working time to requirement (ADOPT)** option.

- You select the **By changing working time** option.

- You select the **Can be changed** and **Can be saved** options.

Result
These settings are the default assignment options in the *Assignment Options: Change* dialog box. They can be changed and saved.

Standard settings

The following options for **Breaking down requirements assignment** can be selected:

- Adjust using a substitution (ADOPTSUB)

- Do not split up requirements interval (SPLIT1)

- Do not split up working time (SPLIT2) All options can be *changed* and *saved*.

Activities

- In the *Value abbr.* field for the required assignment option, enter **X** to activate these settings.

- Use the *Can be changed* and *Can be saved* checkboxes to specify whether your settings are default or standard settings.

31.8.13 Sorting of Requirement Assignments for Automatic Proposal Generation

31.8.13.1 Sorting of Requirements Assignments

Use

With the following activities, you can control the assignment of requirements during the automatic generation of proposals. During the assignment of requirements, the system could potentially generate multiple requirements that correspond to the selected assignment strategy. In this case, the options described below are available to you to control system behavior.

Standard settings

In the standard system, there is no unique rule used for assigning requirements in this case.

Activities

1. Check which concrete needs you have for the assignment of requirements. Along with standard processing, you have the following options:

    a) You use switch PEINS SEQNO. This gives you a very simple way of prioritizing. You can find the documentation for this switch at the end of this document.

    b) You use the BAdI BADI_PTSP_REQ_SORT (Sort Table of Requirements Assignments). This BAdI enables a simple prioritization of the generated requirements. It is part of the enhancement spot SHIFT_PLANNING_ENH.

    c) You use the BAdI BADI_PTSP_REQ_ITERATION_SORT (Change Table REQ_ASSIGN for Each Assignment Step). This BAdI provides you with flexible prioritization and allows you to ignore a requirement generated by the system for the current assignment step. It is part of the enhancement spot SHIFT_PLANNING_ENH.

Documentation of the PEINS SEQNO switch (Requirement Prioritization by Sorting)

Use

You can use this switch to activate simple prioritization of requirements during the automatic generation of proposals.

Structure

When you activate this switch with value X, the system evaluates the character strings stored in the comments of a requirement. For example, you can use this to set the sequence the system uses to choose a requirement when multiple requirements are generated with equal values. You do this by adding characters such as a, b, c or 001, 002, 003 to the front of the string.

Note

If you would like to use this switch, you must enter it manually into table T77S0 under the group PEINS.

31.8.13.2 BAdI: Sorting of Requirements Assignments

Use

You can use this Business Add-In (BAdI) to change prioritization requirements for those times when, while generating automatic proposals, the system generates multiple requirements of equal value for assignment.

Note
For more information, see the IMG activity Sorting of Requirements Assignments.

In the function module RH_SUGGESTION_MATCHUP (Proposal for Covering Requirements), this BAdI is called once right before the use of the generated assignment strategy. At this time, the requirements with the same value generated by the system are entered into internal table REQ_ASSIGN.

You can use this BAdI to assign a priority to the requirements found in internal table REQ_ASSIGN. Afterwards, the system sorts the REQ_ASSIGN table by date and then by the priority you assigned in the BAdI.

You assign priority with the method SORT_REQ_ASSIGN_PRIORITY in the interface IF_EX_PT_SP_REQ_ASSIGN. The method has the following import parameters:

- IM_BEGIN_DATE

- IM_END_DATE

- IM_ACT_STRATEGIE

Internal table CH_REQ_ASSIGN_PRIO is available to you as a changing parameter. It is a copy of table REQ_ASSIGN with the added field PRIOX. In this field, you can enter the generated priority as a result of your implementation.

Caution
It is technically possible for you to delete items in table CH_REQ_ASSIGN_PRIO.
However, deletion from this table leads to those items# also being deleted from table REQ_ASSIGN, thus rendering them unavailable. We therefore urge you not to do this. If you would like to temporarily delete items to keep certain requirements from being used, use the BAdI BADI_PTSP_REQ_ITERATION_SORT (Change Table REQ_ASSIGN for Each Assignment Step).

Standard settings

In the standard system, there is no unique rule used for assigning requirements generated as having equal values.

31.8.13.3 BAdI: Sorting of Requirements Assignments for Each Assignment Step

Use

You can use this Business Add-In (BAdI) to change prioritization requirements for those times when, while generating automatic proposals, the system generates multiple requirements of equal value for assignment.

Note
For more information, see the IMG activity Sorting of Requirements Assignments.

Caution
First check if the BAdI Sort Table of Requirements Assignments suits your needs. While the BAdI BADI_PTSP_REQ_ITERATION_SORT does include all of the options this BAdI offers and while it does have more options for influencing the generation of proposals, it is also called by the program more frequently, which could have a negative impact on the runtime for generating proposals.

The BAdI BADI_PTSP_REQ_ITERATION_SORT is called in the function module RH_SUGGESTION_MATCHUP (Proposal for Covering Requirements) during processing of the generated assignment strategy. During this, the system processes the items in table T77EVOPT individually. The system runs the method SORT_REQ_ASSIGN_PRIORITY (of this BAdI) in each of these steps in interface IF_EX_PT_SP_REQ_ASSIGN. The method has the following import parameters:

- IM_BEGIN_DATE

- IM_END_DATE

- IM_T77EVOPT (Options for Generating Proposals): This contains the item of table T77EVOPT currently being processed as well as the option for generating proposals valid in the current step.

Table CH_REQ_ASSIGN_PRIO is available to you as a changing parameter. It is a copy of the internal table REQ_ASSIGN with the following added fields:

- PRIOX: You enter the priority into this field.

- SKIPPED: This field causes a requirement for the item currently being process to be ignored and therefore not be available in the generation of proposals.
  For example, you can use this field in the first processing step to include only items with priority 1 as results of the method. The next time the method SORT_AND_SKIP_REQ_ASSIGN (Sort Table REQ_ASSIGN for Each Step of Requirements Assignment) is called, table REQ_ASSIGN is transferred in its original form. You can then retest.

Standard settings

In the standard system, there is no unique rule used for assigning requirements generated as having equal values.

31.8.14 Define Shift Abbreviation Sequence

In this step, you define sequences of shift abbreviations, and determine which sequence should be used for the allocation of *shifts during a period*.

In this way, you can standardize the periodic shift abbreviation sequences, so that you can assign them in one step to your employees for a specific period.

Example

Employees in shift group *A* regularly work in the following shift sequence: Normal, Late and Non-working shift. You define this sequence in the *A1* shift sequence in the following way:

Day number (DayNo.)	Shift abbreviation(Ab)	Position (PosNo.)
1 to 7	NORM (08:00-16.30)	1
8 to 14	LATE (22:00-06:30)	1
15 to 21	FREE (00:00-00:00)	1

You can differentiate between several shifts on one day with the position number (Pos.No.) If only one shift is defined for a day, as in this example, each shift is marked with position number 1.

If there is more than one defined shift for a day, each shift is marked with a different position number.

Note

Make sure that a position number does not occur twice on a single day.

Requirements

The following data must already exist in order to define these sequences:

Specify Shift Groups

Define Daily Work Schedules for corresponding shift abbreviations

Activities

1. Choose a shift group for which the sequence is to be defined.

2. Give the sequence a name.

3. Give the sequence a description, which explains the use of the shift sequence and helps you to recognise it.

4. Select the defined shift sequence.

5. Choose *Assign shift abbreviation*.

6. Specify a day numbering sequence. Make sure that a day number does not occur more than once in a sequence.

7. If you have defined more than one shift for a day, specify the order by using position numbers.

8. Enter the shift abbreviation for the desired working time.

9. Confirm your entries to check the working times.

10. Save your entries.

31.8.15 Make Settings for Unknown Shift Abbreviations

Use

You can use this IMG activity to change the functionality of an unknown shift abbreviation to suit your requirements.

- You can determine that the wildcard (*) can be changed by the shift planner.

- For cases of parallel temporary assignments, you can determine that the unknown shift is identified by a special indicator and can be changed by the shift planner of the master and target organizations.

Standard settings

In the standard system, unknown shift abbreviations are indicated by the wildcard * and cannot be changed.

Activities

Make wildcard * changeable

1. If you would like to use this function, manually add the PEINS CSTAR switch to table T77S0.

2. Activate the switch with value X.

Documentation of the CSTAR switch

Use

In the standard system, working times from the planning board not assigned to a shift abbreviation are marked with the wildcard *. These are mostly working times that the shift planner does not have authorization to process, such as certain special absence or attendance times. The wildcard might also be used if there is a temporary assignment and the shift abbreviation of the master organization is not known in the target organization.

You can use this switch to decide whether the wildcard * can be changed by the shift planner.

Structure

If you activate the switch with the value X, shift planners can delete the wildcard * or overwrite it with an existing shift abbreviation. Consider the following before you decide to use the switch:

- Privacy policies could potentially be violated through the display of confidential attendance and absence times. You should therefore check before deciding to use the switch if the authorization for actions such as maintaining attendances and absences has been maintained as requested.

- A situation could potentially arise in which shift planners attempt to change data for which they do not have change authorization. Shift planners do not receive an error message prompting them to make changes in the Maintain Times transaction until after the data change has been processed in the background and authorization checked in the back-end.

If a shift planner deletes the wildcard, the system reacts as follows:

- If there is an absence, attendance, or substitution, the system proceeds in the same way as when a normal shift abbreviation is deleted.

- If the work day is normal according to the work schedule, the system inserts a non-working shift.

Note

If you only need this function for parallel temporary assignments, it is better to use the PEINS UBEKK switch.

Make unknown shift abbreviations for parallel temporary assignments identifiable and changeable

1. If you would like to use this function, manually add the PEINS UBEKK switch to table T77S0.

2. Activate the switch by entering any value to be displayed as the shift abbreviation.

Documentation of the UBEKK switch for unknown shift abbreviations for parallel temporary assignments

Use

You can use this switch to define a shift abbreviation that is displayed when the following situation arises:

- An employee is given parallel temporary assignments and the affected target and master organizations are assigned to different shift groups.

- The shift abbreviation used in the master organizational unit does not exist in the target organizational unit and can therefore not be displayed.

- It is also not possible for the master organizational unit to access the shift abbreviation.

Structure

If you activate this switch with a value, then you are enabling shift planners in the target or master organizations to do the following:

- Obtain information about the shift abbreviation via the existing parallel temporary assignment

- Change shift abbreviations as needed.

You can use any value with the exception of * and any other abbreviation that already has a particular meaning (to avoid reciprocal action if special abbreviations are the same).

Note

You can only combine the following T77S0 switches in a limited capacity:

- PEINS (Saving the Shift Abbreviation for Time Change)

- PEINS TIM_V (Shift abbreviation for time substitution in plan). For more information, see Define Shift Abbreviations for Special Functions.

- PEINS UBEKK (Unknown shift abbr. for parallel temp. assignment) If you do this, note the following:

- TIM_V overrides PSESK since the time change of a shift with TIM_V is flagged with a special sign and the original shift abbreviation must not be displayed.

- TIM_V and UBEKK can be combined, but they cannot have the same value.

- UBEKK always overrides automatic determination of shift abbreviation when the conditions for displaying an unknown shift abbreviation are defined.

31.8.16 Activate Assignment of Shift Abbreviation

Use

In Shift Planning, the shift abbreviation is not normally stored on the database. It can be determined using the start and end time and, if required, the daily work schedule.

If, however, a user changes the start or end time of a shift manually, the system may be unable to determine the abbreviation.

This activity controls whether the system determines the most suitable abbreviation when a clock time is changed or retains the original abbreviation and instead displays the changes by using a special display format for the abbreviation (such as in color, underlined, in italics).

Requirements

If you want to retain the shift abbreviation when times are changed, you must not use the parameter for time substitutions in the plan. The switch in table T77S0, group **PEINS**, semantic abbreviation **TIM_V** must be deactivated (= field must be blank).

Standard settings

By default the system determines a suitable new abbreviation when times are changed.

The functionality *Retain shift abbreviation* is currently only used for shift abbreviations, not for availability for work or other shifts.

Activities

- If you want to retain the original abbreviation, enter an **X**.
  In the activity *Specify shift groups* you specify how to display the abbreviation of a modified shift (such as in color, underlined, in italics).

- If you want the system to determine a suitable new abbreviation when times are changed, leave the field blank.

31.8.17 BAdI: Filtering the Shift Abbreviation Bar

Use

You use this Business Add-In (BAdI) to filter the shift abbreviation bar.

The BAdI BADI_PTSP_SHIFTS provides the method CHANGE_SHIFT_ABBREVS_TABLE for this purpose.l

The BAdI method CHANGE_SHIFT_ABBREVS_TABLE is called as follows:

- In include FH5AHF00_FILL_INTERNAL_T77ED after the internal buffer table I_T77ED has been filled, and

- In function module HR_T77ED_VALUE_REQUEST to determine the F4 input help.

It has the following IMPORTING parameters:

- IM_BEGDA (start date)

- IM_ENDDA (end date)

- IM_DIENSTGR (shift group for organizational units)

The table CH_SHIFT_ABBREVS_TAB is available as the CHANGING parameter. The table already contains all of the available shift abbreviations at the time the method is called. You can filter your requirements accordingly. The list of filtered shift abbreviations is then displayed in the shift abbreviation bar in the the F4 input help.

Example

In the standard delivery, maintenance view V_T77ED for defining shift abbreviations does not contain an option for mapping time dependency. This BAdI, for example, enables customer-specific filtering of the shift abbreviations based on the transferred date specifications.

31.8.18 Define Icons, Colors and Character Formatting for Requirements Matchup

In this step, you define which icons and color/font formats are used for the various levels of coverage in Requirements Matchup.

Example

If the level of coverage of a requirement exceeds the specified maximum, an icon or color/font format other than the standard should be used.

Change the standard setting *ICON_LED_RED* or the color *Red, normal* for *Requirements coverage exceeds maximum*, so that the required icon or color/font is used.

Dependencies

The various statuses are displayed with icons or color/font formats in the shift plan and Requirements Matchup.

By setting the shift plan display, you can determine which form is used to display the statuses. In the shift plan, set the following under *Options*:

- Shift plan in classic design
  Statuses in Requirements Matchup are displayed with icons.

- Shift plan in color design

Statuses in Requirements Matchup are displayed with color/font formats.

Standard settings

The following settings are in the standard system:

- Status: Requirements coverage exceeds maximum coverage - Setting: ICON_LED_RED or color Red, normal

- Status: Requirements coverage matches maximum coverage

- Setting: ICON_LED_YELLOW or color Yellow, normal

- Status: Requirements coverage less than minimum coverage - Setting: ICON_LED_RED or color Red, normal

- Status: Requirements coverage matches minimum coverage

- Setting: ICON_LED_YELLOW or color Blue-green, normal

- Status: Requirements coverage exceeds target coverage

- Setting: ICON_LED_YELLOW or color Yellow, normal

- Status: Requirements coverage less than target coverage -   Setting: ICON_LED_RED or color Red, normal

- Status: Requirements coverage matches target coverage
  Setting: ICON_LED_GREEN or color Green, normal

Recommendation

In the standard SAP system, the following settings are provided as the default for color and font formatting:

- Different colors are used for shift abbreviations

- Different font formats are used for business statuses in the shift plan

- Different colors are used for business statuses in Requirements Matchup

Take note of these default suggestions in order to reduce the risk of using the same colors for different business statuses, for example.

Activities

To use an icon or color/font format other than the standard for Requirements Matchup:

- select the line containing the symbols to be changed

- choose *Goto -> Details*

- choose the required icon in the *Icon name* field, or choose the desired color in the *Color* field
  Use the possible entries function for further assistance.

- if necessary, specify an additional color font (normal, italics, underlined) if necessary, you can also specify another font format if you need to display the font and number in accordance with the status

Further notes

If necessary, you can also change the name/description of icons under *Edit -> Change field content....*

31.8.19 Swap Display of Target/Actual in Requirements Matchup

Use

You can use this IMG activity to determine whether requirements are displayed in target/actual or actual/target form. This applies to the one-line requirements matchup view.

Standard settings

The requirements matchup is shown in target/actual form by default.

Activities

1. If you would like to use this function, manually add the PEINS ISTSO switch (Swap Target and Actual in requirements matchup) to table T77S0.

2. Activate the switch with value X.

Documentation for the ISTSO switch - Swap target and actual in requirements matchup

Use

You use this switch in the one-line requirements matchup display during Shift Planning in color design to determine whether a requirement is shown in target/actual or actual/target form.

The requirements matchup is shown in target/actual form by default. When a shift planners have set a small column width in order to see as large a planning period as possible, the actual value is often not visible. Since shift planners usually know the target value, you may prefer to have the actual value shown first.

Structure

If you activate this switch with value X, requirements are shown in target/actual form.

31.8.20 Simplify Shift Swaps

Use

You can use this IMG activity to greatly simplify the copying of shifts as well as the recording of swapped shifts.

-   You can simplify the Copy/Swap Shifts function by preselecting important values.

-   You can swap shifts without calling a dialog box.

Activities

Simplify the Copy/Swap Shifts function by preselecting important values.

1. If you would like to use this function, manually add the PEINS PSWDF switch to table T77S0.

2. Activate the switch with value X.

Documentation of the PSDWF switch # Default values for copying/swapping (F6)

Use

You can use this switch to make the Copy/Swap Shifts function more user-friendly by allowing preselected values to be inserted into the function directly.

Structure

If you give this switch the value X, the information previously marked in the shift plan is copied directly into the dialog box for swapping or copying shifts. This includes the following information:

-   Period

-   Employee

The shift planner proceeds as follows:

-   First, the shift planner chooses the CTRL key and selects the columns with the required period.

- Then, he or she chooses the CTRL key and selects the rows with the required employees (multiple selection).

- He or she chooses the F6 function key or chooses the Copy/Swap Shifts function in the toolbar.

Note

You can also combine this switch with the PSWHK switch (Swap Shifts via Hotkey) to simplify processing even more.

Shift switch without calling a dialog box

1. If you would like to use this function, manually add the PEINS UBEKK switch to table PSWHK.

2. Activate the switch with value X.

Documentation of the PSWHK switch # Swap shift via hotkey

Use

You can use this switch to make the Copy/Swap Shifts function more user-friendly by allowing shifts to be swapped without calling a dialog box.

Structure

If you activate this switch with the value X, the employee shifts previously selected in the shift plan are swapped, provided the shift planner has already done the following:

- The shift planner has chosen the CTRL key and selected the columns with the required period.

- He or she has chosen the CTRL key and chosen the rows of no more than 2 employees.

- He or she has chosen the F9 function key or chosen the Swap Shifts function in the toolbar.

You can only swap shifts with this function, not copy them.

Note

You can also combine this switch with the PSWDF switch (Default Values for Copying/Swapping) to simplify processing even more.

31.8.21 Settings for Assignment View

In this step you specify whether an employee's temporary assignment to an alternative work center should be valuated in *Time Data Recording and Administration* as a substitution.

Standard settings

This function is deactivated in the standard SAP System.

Activities

To indicate that an employee's assignment to a temporary work center should be considered a substitution in Time Data Recording and Administration enter the value **X** in the *Value abbr* field.

To indicate that an employee's assignment to a temporary work center should not be considered a substitution in Time Data Recording and Administration delete the existing entry in the *Value abbr* field.

Recommendation

Activate this function if you want to recognize and create the following situations in Time Data Recording and Administration:

- Temporary work cetner with hazardous duty bonus

- Temporary work center with dirty work bonus

31.8.22 Day Details: Set Up Dialog Box

In this step, you specify which tab pages are visible in the dialog box. You can also display up to four of your own tab pages.

Standard settings

In the standard system, the following tab pages are displayed:

- **TAB01 = Working Time**
With this tab page, you can:

- Change a shift with other shift abbreviations or individual working times

- Assign an identifier to a shift

- Record information or text on a shift

- Use existing or your own break plans

- **TAB02 = Availability**
With this tab page, you can assign an availability shift to an employee.

- **TAB03 = Extras**
This tab page is for temporary assignment and payment purposes. You can also:

- Assign employees to other organizational units

- Specify that the planned working time for this day is also to be credited to a different cost center, and that the payment is to be in accordance with a certain position (position substitution)
If you enter a position, the system creates a position substitution record in Time Management.
You can activate this function in table T77S0 via switch PEINS PLSTE (next IMG step)

- **TAB04 = Assignments**
This tab page displays more information on the existing assignments for employees on a certain day.

- **TAB05 = Additional Shifts**

- On this tab page, you can create partial-day attendances, absences and availabilities. This function is generally identical to that of the Day view. You can use the color and character formatting feature for shift abbreviations.

- You can also set the start time, end time, previous-day indicator and cost center.

- You can delete any existing cost center info by using the right mouse-button (context menu on the relevant field).

- **TAB06 = Time Transfer Specification**
You can create personal and daily time transfer specifications via subtypes, as in the list creation function in PA61.

Activities

1. Choose **Activate dialog box maintenance**. You branch into table T77SO.

2. Enter **X** in PEINS DCUST **X**, and save your entry.
If you do not activate this switch, tab pages TAB01 through TAB04 are displayed in the dialog box, and you do not have to perform the following maintenance.

3. Choose **Tab pages in dialog box**.

4. Choose **Permitted tab pages**.
All 6 standard settings are displayed here.

5. To add your own tab pages, you must create up to four of your own screens in the customer name range between 9000 and 9999. Assign a screen number to the subscreen names ZAB01 through ZAB04.

6. Choose *New entries*, and enter your tab page.

Note: You cannot use both the **TAB02 = Availability** tab page and the **TAB05 = Additional Shifts** tab page at the same time. If you select both of these tab pages, the system only displays the **Additional Shifts** tab page.

7. Save your entries.

8. Choose **Displayed tab pages**.

9. Select the tab pages that you want to display in the dialog box.

10. Save your entries.

31.8.23 Deactivate Different Payment (Position)

In this step, you specify whether a different payment of an employee according to the payment method of another position is possible. You can also specify that although a different payment is not possible, information can still be displayed.

Example

Value = 0 : A different payment is not possible. Any available data is not displayed.

Value = 1 : A different payment is not possible. Any available data is not displayed.

Value = 2 : A different payment is possible.

Notes

To find this function in the shift plan, choose Edit --> Shift details.

Standard settings

The value *2* is defined in the standard SAP System. You can also enter a different payment.

Activities

If you want to alter the standard SAP setting, you can change the value *2* to the required value.

31.8.24 Lock Setting

In this step you lock a person's record in the system so that the person's time data can not be maintained at the same time you are editing his or her time data.

Example

You are in the process of planning shifts. You want to assign various shifts to your employee
A. Miller during the month of May. At the same time, someone else enters an approved leave (vacation) for A. Miller for May. In this case, your shift plan is not based on current data.

To prevent parallel processing of personnel data, you must lock the records of the persons you are currently processing, by entering the Value abbreviation **X**.

Standard settings

The **Value abbreviation X** is included as standard in the SAP system.

The lock of personnel data preventing parallel processing is activated in the standard SAP System.

Activities

The lock is activated in the standard settings.

If you want to deactivate the lock setting, delete the entry from the **Value abbreviation** field.

31.8.25 Activate Update of Time Data/Temporary Assignments on Saving

Use

In this IMG activity, you can specify that time data and temporary assignments be updated on saving. This means that you can display updated time data and newly assigned employees in the shift plan overview without having to exit the shift plan. To access the current data, you just have to choose *Save.*

Requirements

You have created the *Data Transfer Information* infotype (0439) with the *Time Stamp Shift Planning* subtype (0005) for the employees whose data is used in shift planning.

For more information about this infotype, see the documentation for the RHSP_ADMIN_IT0439 report.

In the standard system, time data and temporary assignments are not updated on saving. To update the display of time data and temporary assignments, shift planners have to exit the shift plan and enter it again.

Activities

To activate the update of time data and temporary assignments on saving, enter an **X** in the *Value Abbr.* field.

Example

When a shift planner returns to his or her desk after a break, he or she can choose *Save* to display the current time data and temporary assignments. If other shift planners have changed time data or created temporary assignments in the meantime, these changes are shown after saving.

31.8.26 Activate Temporary Assignment Despite Attendance/Absence

Use

In this IMG activity, you can activate temporary assignments in spite of an attendance or absence. This function enables you to assign an employee for a particular period even if the employee has a full-day attendance or absence in the period. If you carry out a temporary assignment where the employee has a full-day attendance or absence, a dialog box notifies you of this fact. You can create the temporary assignment despite the message.

Standard settings

In the standard system, it is not possible to create temporary assignments if the employee has a full-day attendance or absence. An employee can only be temporarily assigned if he or she has no full-day attendances or absences in the period of the temporary assignment.

Activities

To activate the function for creating a temporary assignment despite an attendance or absence,

enter an **X** in the *Value Abbr.* field.

31.8.27 Connecting to Microsoft Excel

This section contains the information required for making the settings for printing out the shift plan using MS EXCEL.

31.8.27.1 Specify Control Parameters for Printout

This activity gives you an overview of the parameters that enable you to print the shift plan overview and the requirements matchup using Microsoft EXCEL. These are: - Microsoft EXCEL print macro for the requirements matchup

- Automatic printing of the shift plan overview using Microsoft EXCEL

- Name of the format template for the shift plan overview in Microsoft EXCEL

- Microsoft EXCEL print macro for the shift plan overview

- Variable for determining in which path the Microsoft EXCEL macro is stored

- Use of a custom Include that you can use to enhance printouts of the target plan, actual plan, and requirements matchup to suit customer requirements.

Standard settings

In the standard system, the following parameters are set:

- The print macro for the requirements matchup is called **PSRM1MAC**.

- THe parameter for automatic printing is set to **0**.

- The format template is called **VORLAGE**.

- The print macro for the shift plan overview is called **WDPDDMAC**.

- No parameter is entered for the **environment variable**.

Activities

You should not change the standard parameter settings other than those for the print macros.

- If you want to enhance the printing function for the shift plan overview you have to delete the value **PSMK2MAC** in the *Value abbr.* field of the *PEINS EXCMA* switch and enter the value **PSMK2MAC**. The enhancement comprises the following functions:

- Print start and end times of the shifts

- Print the shift abbreviations in various fonts (italics, bold, underlined) and the cells in various colors

Print the shift abbreviations in a different format where there are time substitutions and different start times

- If, however, you do not want the shift plan overview and requirements matchup to be printed using Microsoft EXCEL, you have to delete the default entries in the *Value abbr.* field of the *PEINS EXCMA* and *PEINS EXBDA* switches.

CAUTION: If you want to be able to use the full functionality for printing the shift plan overview and requirements matchup using Microsoft EXCEL, you also have to copy the print macros to the GUI directory of your local PC. For more information, see SAP Note 824520.

- If it is necessary to change the standard settings, please refer to the documentation that accompanies the macro. You will find this in the directory of the SAP frontend software under the name **WDPDDMAC.DOC**.

Note

There are two options for searching for the relevant Microsoft macro for the Microsoft EXCEL printout:

- Using the installation path of the SAP GUI

- Using the **environment variable**

A path is assigned to such an **environment variable**. The macro is stored in this path.

You can store the variable in a desired path in *LOGIN Script*, which is called up at logon. In this way, the system administrator can centrally manage the Microsoft EXCEL by storing it on a file server.

This activity is controlled in table *T77S0* using switch *PEINS EXCME*.

Customer-specific adjustments to the Excel printout of the target plan, actual plan, and requirements matchup

Activate the switch PEINS EXIT if you want to adjust your Excel printouts to suit individual customer needs. For more information, see the documentation for the switch.

31.8.27.2 Define Time Types for Connecting to Microsoft Excel

In this step, you specify the time types used for the output of the shift plan via MS EXCEL. Time types refers here to the time evaluation results.

Requirements

You should have already carried out the steps "Create report variant for time evaluation" and "Specify report variant for Time Evaluation".

Standard settings

The first time type has the value *'0005'* preset. (In the standard system this refers to the

flextime balance). The time types 2, 3 and 4 are not preset in the standard package.

Activities

In the entries "PEINS TTYPx" (x = 1 to 4) in the field *Value of semantic abbreviation*, enter the time type to be used for the shift plan output via MS EXCEL.

31.8.28 Further Settings

31.8.28.1 Additional Rows in Shift Plan

31.8.28.1.1 Hourly Balance Row

31.8.28.1.1.1 Activate Hourly Balance Line

Use

In addition to the Immediate Valuation of Time Information, the adhoc update provides you with a new information line that you can show by activating this function: the hourly balance line.

This line displays the difference between the actual and target working hours in the actual plan for each employee and for each day:

- Working time of actual plan greater than target plan: + sign
- Working time of actual plan less than target plan: - sign

As it is a subfunctionality of the adhoc update, this line is updated immediately after you enter or change a shift.

Requirements

-   In order to use the adhoc update of the information columns, you have processed the activities in the *Immediate Evaluation of Time Information (Public Sector)* section in the IMG for *Shift Planning* under *Information Columns and Default Determination*.

Note that you should have executed the simulation of the time evaluation (RPTIME00) once before you use the adhoc update in the application, as the system requires up-to-date data for the adhoc check.

Activities

1. Activation of adhoc update:

Three characters **X** are allowed for entry. The first switches the function for the target plan,

the second for the actual plan and the third for employee preferences. If, for example, you want to activate the value for all three areas, enter **XXX**.

To activate the hourly balance line, enter at least in second place a **X**.

2. Implementing the BAdI:

From the IMG, choose *Shift Planning -> Info Columns and Default Determination -> Immediate Valuation of Time Information (Public Sector Germany) -> BAdI:Adhoc Update of Info Columns*
For immediate valuation of the hourly balance line cells in Shift Planning, you can use the method DO_BALANCE_LINE_UPDATE and model implementation HRSPPBS_IMP_PSG. You can also create a separate implementation for a required calculation type.

Note: Once you have activated the line, you must also show it in the application. To do so, choose *Views -> Show/Hide Additional Rows* in the target or actual plan.

31.8.28.1.1.2 BAdI: Display Text in the Hourly Balance Row

Use

You use this Business Add-In BADI_PTSP_SALDO to display any text in the hourly balance line.

Three methods are available for the different views:

-   CHANGE_SALDO_MONTH_TABLE
    This method is called when the ALV is printed. Note that in the ALV print, the field in the SAP standard delivery is restricted to four characters.

-   CHANGE_SALDO_GRID_TABLE
    The method is executed when the planning board is called.

-   CHANGE_SALDO_EXCEL_TABLE
    The method is called via Excel during printing.

Activities

To modify the balance line, information is available from table D4000_SOLL and from structure WA_PLAN_DISPLAY_TAB.

31.8.28.1.2 Information Row

31.8.28.1.2.1 Activate Information Line

Use

With this activity you can display the following information in an additional line in the shift plan:

1. Abbreviation of original shift

    The system displays the shift abbreviation from the working time plan in accordance with the rule for the working time plan from infotype 0007 (target work time)

    Condition: This shift is only displayed when it differs to the target plan shift.

2. Abbreviation of substitution type

    The system displays substitutions if substitutions exist for the affected employee in infotype 2003 for the affected day.

    Condition: The substitution type from infotype 2003 (substitutions) is displayed if it is different to the respective default value: Actual plan substitution in the actual plan or target plan substitution in the target plan. These default values VARTI and VARTS are defined in group PEINS in table T77S0.

3. Abbreviation for additional shifts

    If additional shifts exist in the detailed popup (except availability) and there is enough space left in the information column, the system displays this shift abbreviation. If there is not enough space, the character > appears on the detail popup.

4. Abbreviation of a shift overwritten by an attendance/absence

    A full day attendance/absence (IT2001 "Absences", IT2002 "Attendances") overwrites a shift (IT2003 "Substitutions") on the same day in the display of the shift plan. The shift abbreviation of the 'covered' but payroll-relevant shift is visible in this specification of the information line. Prerequisite is that a substitution actually exists: In other words, only shifts different to the original shift according to infotype 'target working time' (IT0007).

In the following activity Define Information Types you can hide information types and modify the sequence if you wish.

Standard settings

If you do not define any settings in the activity Define Information Type, the system displays the information as described under **Use**.

Activities

5. If you want to use the additional information line, enter the value **X**.

Note that you must display the line once it has been activated in the application. To do this, from the menu choose *Views* -> *Hide/Display Additional Lines* to get to the target or target plan.

31.8.28.1.2.2 Define Information Types

Use

In this activity you can define which information you want to display and in which order.

Requirements

You have activated the information line using activity Activate Additional Information Line .

Standard settings

If you do not define settings in this activity, the information type and order will be displayed as described in activity Activate Additional Information Lines

Activities

1. Choose *New Entries*.

2. Enter the shift group you want.

3. In field *Sequence* enter the order you want using a number between 0 and 9.

4. Use the list box to choose the information type you want.

5. Then choose Save

31.8.28.2 Activate Additional Checks for Shifts

31.8.28.2.1 Activate Adhoc Check of Working Time Laws

Use

If you activate this functionality, an immediate check is carried out on the valid work time guidelines after a shift is entered or changed. This applies mainly to:

- Daily maximum working time

- Rest time between shifts

- Check for maternity protection and youth protection regulations

For this check, the working times of the current day are compared with those of the previous and following day. The user is informed of any violation immediately through a message or an error.

You can use Business Add-In (BAdI) **HRSPPBS_ADD_CHECKS** to define which checks should be carried out by the system. For additional checks on working or rest time violations, you can use method DO_ADD_CHECKS.

Activities

1. Activation of Function:

Three characters **X** are allowed for entries. The first switches on the function for the target plan, the second for the actual plan and the third for shift requests. If you, for example, want to activate the update for all three areas, enter the value **XXX**.

2. Implementation of BAdIs:

In the IMG of *Personnel Shift Planning*, choose *Information Columns and Default Determination* -> *Immediate Evaluation of Time Information (Public Sector)* -> *BAdI:Ad-hoc Update Info Columns*.
For the additional checks on working/rest time violations, you can use method
DO_ADD_CHECKS.

3. Define Exceptions

You can define which shift abbreviations should be excluded from the check in Customizing for Personnel Shift Planning in the Define Exception List IMG activity.

31.8.28.2.2 Define Exception List

Use

In this field, you enter all shift abbreviations for which you do not want additional checks to be carried out. This could be leave or illness, for example.

31.8.28.3 Special Day Markers

31.8.28.3.1 Activate Special Day Markings

Use

In this activity, you can activate the following functions:

- Color marking if an additional text was entered for the shift:
   An additional text can be entered for an employee in the detail screen. You can define a special color marking in the T77SP_STYLE table (in the IMG, choose Personnel Time Management -> Shift Planning -> Specify Shift Groups). You have to add a new entry, "Information about the shift is available," to the table, which can then be selected using the list box of the *Status* field.

- Color marking for special weekdays:
   In the T77SP_DAYMARK table, you can choose a special color marking for selected weekdays or days off according to the factory calendar. The color marking for these days extends for all employees over all cells in the shift plan (including availability duties). You choose the colors for the marking in the T77SP_STYLE table by creating a new status entry, *Marking for Special Days*.

Note: There should be no unprioritized entries in the table. If there are, you have to remove them from the T77SP_STYLE table or assign them a low priority (99).

Note for printing using Microsoft EXCEL: To transfer the color formatting to the printout of the shift plan, you have to adjust the print macro locally on the PC. For more information, see SAP Note 427967.

Activities

To activate the functions, enter **X**.

31.8.28.3.2 Select Days

Use

You can choose a special color marking for selected week days or holiday days according to the factory calendar. The marking for these days covers all cells in the shift plan for all employees (including availability).

In this activity, you choose the days that you want to highlight in color.

Requirements

You have processed activity *Special Day Markings (Public Sector) -> Activate Special Day Markings* .

31.8.28.4 Set Up Background Process for Time Evaluation

Use

The information columns of shift planning issue information on the time accounts of employees in the planning table. To fill the table, there must be complete time evaluation results for the affected employee, from the last day of the time evaluation to the end of the planning period. This requires a time-intensive simulation run of program RPTIME00.

Using this function, the run can be started as a background process when leaving the shift plan. The results are saved in cluster B2.

This ensures that results exist in cluster B2 by the end of the planning period. This can be imported for new calls of shift planning. The simulation of time management is then no longer necessary.

Activities

1.) Activate the function by setting the switch PEINS PSDCI to 'X'

2.) Define the planning horizon in months (PEINS PSLEN): This determines the evaluation date of time management (RPTIME00) in the future. It is entered in full months:
The shift plan is usually created for periods in the future. To populate the information columns in the time evaluation with data, there must be time evaluation results in cluster B2 for the periods to be planned. This data is written when you leave the shift plan. The evaluation date for time management is the last day of the month, starting from the current day, plus the duration defined in the field.

3.) Define the variants for the productive schema of the time evaluation program RPTIME00 (PEINS PSSCH):
The background process of the time evaluation writes data in cluster B2. The data from nighttime processing of the management is also saved in this cluster. It is therefore **necessary** that both runs use the same schema.

Additional information: The entries SCEME and VARIA also exist in system table T77S0 in group PEINS. Report variants are also defined here for the time evaluation. As these calls always occur in the simulation, other schemas can also be used. These schemas should be selected taking the runtime into account. It may be advisable to create a copy of the productive schema and to delete the sub-schemas that do not deliver information relevant for planning.

4.) Maintain the color setting for non-current time data in IMG activity 'Define Shift Groups'. Add the entry 'Modified/Invalid Time Evaluation Data (adhoc)' (IMG: Personnel Shift Planning, Define Shift Groups).

Example

Determining planning horizon: Date is 15.10.2002. The target planning of the organizational units is usually executed for the coming month (November). To populate the information column for shift planning for the period November 2002 with data, there must be results in cluster B2 including 30.11.2002.

The number 1 is entered accordingly in field 'Planning Preprocessing in Months.

Notes:

- The values imported from cluster B2 could be old. This can be derived from the retroactive accounting date in infotypes 0003 in reference to the end of planning. If the imported data for an employee is not up-to- date, the name of the employee is maked with a color. The color used corresponds to the color used for the marking of the information columns with the adhoc update. In IMG section Personnel Shift Planning, Define Shift Groups the color can be defined through the entry 'Modified/Invalid Time Evaluation Data (Adhoc)', technically 'INFOCOLMOD'.

- Update of results: the button 'Refresh Results' or for each personnel number, 'Check Work Time' can be used in the simulation as usual. The update to cluster B2 takes place when the background processing is triggered when leaving shift planning.

- The selection of planning periods: The planning period can be selected without restriction as usual. However, you must note that the info represented in the info columns only refers to a complete month. If periods are selected that are outside this period, the cells in the planning table are colored grey and are not ready for input. The simulation of the time evaluation (update results) also only refers to the complete month. If the selected period is smaller than the full month, the information columns in the plan are not filled on entry. The values can be procured using the button 'Update Results'.

31.8.28.5 Sort Employees in Shift Plan

31.8.28.5.1 Activate Employee Sorting

Use

By setting this switch ('X') you activate the enhanced functionality for employee sorting. The sort variants defined by the user can be saved as both user-specific and for all users. In addition to this, a variant can be defined as a presetting (initial variant).

There are two types of sorting:

Statistical employee sorting: If you define a sorting in the user menu using the path 'Edit, Sort, Reassign Manually' and then save, a statistical employee list is generated. This means that the sequence of personnel numbers is saved in the database.

Dynamic employee sorting: If you choose the path 'Edit, Sort, Dynamic Sorting' from the user menu, you can define a dynamic sorting based on the available information columns. Only the rule is saved in this case which determines the direction and priority of an employee list.

Standard settings

This function is switched off in the standard system. This means that the employee sorting is managed the same way as before.

By setting the system switch, the activation of the enhanced function takes place. This means that the sorting saved in the system until this point can no longer be accessed. The user must define new sort variants (note: until now the system only allowed one variant pro user). With the migration to the enhanced function there is no support from the system.

Activities

Set the system switch for activation to 'X'.

31.8.28.5.2 Define Information Columns for Sorting

Use

In this section you define the information column allowed in shift planning for dynamic sorting.

All the info columns and additional employee names contained in this table are displayed on the popup for dynamic sorting. (process menu path, Sort , dynam. sorting).

Activities

Enter all information columns allowed for dynamic sorting in this table.

31.8.28.6 Activate Long-Term Temporary Assignments

Use

Personnel and Shift Planning - Long Term Temporary Assignments

Long Term and Short Term Temporary Assignments

"Long term" temporary assignments are temporary assignments that exceed the normal planning period, for example, or only start beyond it. The clear formatting makes this functionality more suitable for organizational units with a large number of relatively long temporary assignments, more suitable than the "classic" or "short term" functionality from the shift plan that is aimed more at temporary assignments of a few days. For example, here the temporary assignment information is listed day for day, while the same "long term" temporary assignments are summarized more clearly for the period.

Another difference is that in the newer functionality, the temporary assignment of the employees is separate from the plan of their working hours. This is done to keep the response times as low as possible since the whole shift plan does not have to be imported and managed before it can be temporarily assigned. The same aim requires the additional restriction of the employees both own or assigned.

The functionality for long-term temporary assignments is activated by the switch PEINS PSABG in table T77S0.

The temporary assignment-specific basic functionality is essentially the same in both cases: new temporary assignments can be created for own employees - provided that they were not saved (*designations*) - undone. Assigned employees can be returned and the temporary assignment deleted.

Note that you have to click on the icons at the start of the lines if you want to select an employee or a temporary assignment. By double clicking on these icons you can navigate to the basic functions described above.

Initial Period

It is important you select the best initial period that is large enough so that you can continue to make temporary assignments within the planning period and small enough not to waste calculation performance.

Deviating Payment (Assign Costs to an Account)

It is possible to create the temporary assignments with a "*deviating payment*" in both functionalities, that is, with payment through the cost center of the receiving organizational unit.

In comparison to the "short term" temporary assignment, the account assignment information is no longer attached to a *substitution (infotype 2003)*. It is stored in a *cost distribution record*(*IT0027*) with the following constraints: 100% of the costs are written in the first record cost fields (company code, cost center) for the whole temporary assignment period.

If you change this manually, and try to delete the temporary assignment (*return of employee*), this record is no longer "recognized" and cannot be deleted so it has to remain. It may be necessary to process it manually if there are already cost distribution records in the temporary assignment period. They are not overwritten.

If the *service type* required field is in the infotype *"organizational assignment(IT0001)"*, you have to specify (in some cases with "deviating payment" (cost account assignment), otherwise the account assignment information is incomplete and therefore cannot be used. The default values in the window that appear for them are from IT0001, but can be overwritten.

If there is cost distribution information in IT0027 and account assignment information, for example in a substitution (IT2003) at the same time, the information from IT2003 applies.

However, it is highly recommended to avoid a mixture of classic and long term temporary assignments if a "deviating payment" is wanted.

Activities

Activate the functionality by setting the switch PEINS PSABG to 'X'.

In transactions "Change Shift Planning" (PP61) and "Display Shift Planning" (PP60), the header "Temporary Assignments" appears on the initial screen which is used for this functionality.

31.8.28.7 Activate Restoration of Original Shifts

Use

If you change an employee's shift in the target or actual plan, that is, you replace the daily work schedule with another one, the system creates a substitution record in the <ZK Italics>Substitutions infotype (2003). If you delete the substitution and reenter the original shift from the <ZK Italics>Planned Working Time infotype (0007), the current data record remains as a substitution in infotype 2003.

With this IMG activity, you have the option of simplifying the restoration of original shifts and deleting the data records previously generated by the system.

The following switch enable you to do so:

PSLVV (Restore Original Shifts)

- ORIGS (Restore original shift) (See below for documentation.)

Depending on how you set this switch, the system deletes the data record in the *Substitutions* infotype (2003) as well as in the attendance and absence records after the following activities:

- You enter the original shift in the shift plan overview.

- The system uses the original shift according to the work schedule.

- In the *Changes by* dialog box, you choose the *Restore Original Shifts* function. This requires you to have previously activated the PSLVV switch.

- You delete the shift simply by overwriting the shift you no longer need with BLANK or by choosing the Delete key. This requires you to have already activated the PSLVV and ORIGS switches.

The system restores the daily work schedule according to the work schedule rule of the *Planned Working Time* infotype (0007).

Standard settings

Restoration of original shifts is not active in the standard system.

Activities

1. Set the PEINS PSLVV switch according to your needs.

2. Check if you can simplify time recording for your users with the PEINS ORIGS switch. The ORIGS switch only works if you have activated the PSLVV switch with the values X or A.

3. If you decide to use the ORIGS switch, enter it manually into table T77S0.

4. Activate it with value X.

Documentation of the ORIGS switch # Restore original shifts (grid)

Use

You can greatly simplify the restoration of original shifts with this switch.

Structure

If you activate this switch with the value X, the original shift is automatically restored when a user deletes a value from a cell. The requirements assignment is simultaneously adjusted.

Caution
You must check if you would like to use this function if you use the function **Adjust working time** to requirements to automatically generate proposals. If you have activated the ORIGS switch and overwrite a shift with BLANK, the change is taken into account in the automatic assignment proposal.

31.8.28.8 Activate Protection of Employee Preferences

Use

If you activate this function, you prevent changes in the target or actual plan from inadvertently overwriting or transferring employee preferences.

The function relates to the following changes made to shifts that are based on employees' wishes:

- Directly overwriting the shift in the shift plan overview

- Inserting another shift abbreviation from the abbreviation bar

In the standard system, if you make such a change, the system displays a warning message in the status bar, indicating that a shift has the attribute of an employee preference. If you overlook or ignore the warning message, the system transfers the employee preference to the changed shift.

If you have activated this function, once you change the shift, a dialog box appears, *Change Employee Preferences*. You are then required to retain or retract the employee preference for the changed shift.

Requirements

- You use the color design.

- You work in the shift plan overview.

Standard settings

In the standard system, protection of employee preferences is not active.

Activities

To activate protection of employee preferences, enter an **X**.

31.8.28.9 Display Previous and Following Days in Assignment Assistant

Use

In the proposal determination function of the assignment assistant in the standard system, only the key date on which a requirement and an employee are to be assigned is displayed.

If you activate this function, you can also display the two days before and after the key date, which gives you a five-day overview of the employee's shifts.

The key date is highlighted in color in the proposal determination function. The display of the previous and subsequent days is based on the planning period chosen in the shift plan overview: if, for example, you choose a calendar month as the planning period and choose the first day of the month as the key date, the system does not show the days prior to the key date, but does show the days following it.

Standard settings

In the standard system, the display of the previous and following days in the assignment assistant is not active.

Activities

To activate the display of the previous and following days in the assignment assistant, enter an **X** in the *Value Abbr.* field.

31.8.28.10 Extend Ready for Input Status of Info Field in Shift Details

Use

In the standard system, you can enter information texts about a day, in the *Info* field on the *Working Time* tab page of the *Edit Shift on <date>* dialog box. The *Info* field is only ready for input for shifts.

If you activate this function, it enables you to enter an information text in the *Info* field for full-day attendances and absences as well. The text is stored as information about the day and is saved in a record of the *Substitutions* infotype (2003). This means that the text is retained even if an attendance or absence is overwritten.

Standard settings

In the standard system, the ready for input status of the info field is not extended in the details for the shift.

Activities

To extend the ready for input status of the information field in the shift details, enter an **X** in the *Value Abbr.* field.

31.8.28.11 Education and Training Time Statement for Student Nurses

31.8.28.11.1 Activate Application

Use

In this activity, you specify that you want to use the functions for the Education and Training time statement.

Activities

To activate the application, enter an "X" for the PEINS PSTSN switch.

31.8.28.11.2 Define Examination Schemes

Use

In this activity, you enter the examination schemes on which your student nurses' education and training is based in the SAP system. This enables you to store the examination schemes in your student nurses master data.

Activities

1. Choose **Define Examination Schemes**. Enter an abbreviation and a name for each examination scheme. We advise you to include the data of the examination scheme so that you can subsequently differentiate the examination schemes more easily.

2. Choose **Define Training Paths**. In this step, you store the examination schemes as training paths so that they are available in the *Education and Training* infotype. This means that you can then assign them to the student nurses in the **Education/Training** field. You can assign the education and training path to any school types.

    Enter an eight-figure number and a name for the training path. We advise you to use the same name for the training paths as you used in the *Define Examination Schemes* step.

3. Choose **Assign Examination Schemes to Training Paths**. Create the connection between the defined examination schemes and the training paths.

4. Assign the training paths to your student nurses in the *Education and Training* infotype (0022).

31.8.28.11.3 Create Branches of Study

Use

In this activity, you store the various branches of study that the student nurses have to follow in their education and training.

This enables you to indicate individual wards as belonging to a particular branch of study in the *General Attributes* infotype (1222) and therefore use the student nurses' temporary assignments for the education and training time statement in the relevant areas.

Requirements

You have created the wards as organizational units in Organizational Management. You have mapped external places of work and patient care outside the hospital, such as home care or psychiatric wards, as dummy organizational units.

Activities

1. Specify the branches of study that the student nurses have to take in their education and training. Enter a grouping for the practical training with a maximum of eight alphanumeric characters and an easily identifiable name.

2. In the *Maintain Object* transaction (PP01), assign the areas to the relevant wards.

    a) Call up the *General Attribute Maintenance* infotype (1222) for all wards.

    b) Enter **PTSPPS_PEG** as an attribute.

    c) In the *Value of* field, enter the grouping for practical training.

31.8.28.11.4 Flag Education and Training Infotype (0022) as Relevant for Recalculation

Use

In this activity you ensure that subsequent changes in the education and training period of a student nurse in the *Education and Training* infotype (0022) trigger an automatic recalculation of time evaluation. This ensures, for example, that if the start date of the infotype record changes, time evaluation evaluates the relevant period again and rebuilds the balances with the education and training times.

Please note that by carrying out this activity, you flag the *Education and Training* infotype (0022) as relevant for recalculation in all cases. If, in your company, you often change or create records for this infotype, you may prefer to manually trigger a forced recalculation of time evaluation when there are relevant changes.

Prerequisites

You have created a record of the *Education and Training* infotype (0022) containing the education and training period and training path for your student nurses.

Activities

1.   If required, access the detailed maintenance function for the *Education and Training* infotype (0022).

2.   Enter **R** in the *Retroactive acct. relevance for PDC time evaluation* field.

31.8.28.11.5 Specify Time Types for Collecting Training Times

Use

In this activity, you create the time types and auxiliary time types that you want to use to collect the student nurses' attendance and absence times. In a second step, you specify for each time type the general or specialty area it represents.

Standard settings

In the standard system, the time types used in the personnel calculation rules - OKT*, personnel subarea grouping for time recording 02 - are already created.

Activities

1.   Choose **Create Time Types**.

2.   Create the time types and auxiliary time types you require for processing in time evaluation.

3.   Choose **Assign Time Types to Examination Regulations**.

4.   Specify the examination scheme and training path represented by each time type. Take note of any resultant dependencies between the *personnel suba grouping for time recording* and the organizational assignment of the organizational units.

5.   In the next activity, adjust the processing of time evaluation in line with the new time types.

31.8.28.11.6 Adjust Processing of Time Evaluation

Use

In this activity, you can adjust the personnel calculation schemas and personnel calculation rules for time evaluation that are used to post the education and training times to the individual areas.

Activities

1.   In the schema, activate the call of the subschemas OKT0, OKT1, and OKT2.

2.   Adjust the OKT* personnel calculation rules to suit your requirements.

31.8.28.11.7 Specify Layout of Education and Training Time Statement

Use

In this IMG activity, you specify which balances you want to be displayed in the RHSP_TSN_PRINT_CUMULATION report (Education and Training Time Statement: Totals Overview). You set the number, width, and content of the columns to be displayed in the

output list.

Prerequisites

You have defined the balances to be used to output the education and training times in the individual general and specialty areas.

Activities

1. Specify the examination scheme for which you want to define the layout.

2. Specify the column in which you want to output a particular balance.

3. Specify the balance.

4. Enter the name of the data element.

   In the standard system, you can use the HRSPP_TSN_CUM_COLUMN data element for this purpose. If you want to create documentation for the individual columns or if you are outputting particularly high values, you can create and use your own data elements. For more information, see the documentation for the Column Heading for ALV Output field.

5. Enter the number of characters you want to output in a column.

6. Enter a column heading.

31.8.28.12 Activate Creation of Change Documents for Target Plan

Use

If you activate this function, the system logs each target plan completion and each undo of a completed target plan. The system uses change documents to record the name of the last user to change the plan and the time at which the target plan was completed or the completion undone.

When generating change documents, the system takes account of all fields in the *PSOLL* database table, which contains all entries of a completed target plan.
Note:
The system does not delete obsolete change documents, it archives them using SAP standard archiving (*SARA* transaction). They are managed in archive administration using the *CHANGEDOCU* archiving object, with the *HR_PSOLL* variant.

Depending on the information you require, you can display the change documents using the following reports, each with different selection screens:

- Change Documents for Target Plan by User (*RHSPP_CDOC_PSOLL_01*)

- Change Documents for Target Plan by Employee (*RHSPP_CDOC_PSOLL_02*) For more information about the reports, see Change Documents for Target Plan.

Standard settings

In the standard system, the creation of change documents for the target plan is not activated.

Activities

To activate the creation of change documents for the target plan, enter an **X** in the *Value Abbr.* field.

31.8.28.13 Cumulation of Requirements

31.8.28.13.1 Activate Cumulation of Requirements

Use

In this IMG activity, you can display individual requirements records of the requirements matchup compressed in one line. This makes the requirements matchup in the shift plan overview easier to read.

You have the following options:

- Simple cumulation of requirements
  The system summarizes in one line the requirements records that have the same shift abbreviation, requirements source, and start and end times.

- Enhanced cumulation of requirements
  In addition, you can use a group ID to set up which requirements records the system displays in one line. You can set up the grouping regardless of attributes such as the shift abbreviations or shift times.
  For more information, see Set Up Enhanced Cumulation of Requirements.

To display cumulated requirements records individually, you can expand the compressed requirements row using an icon.

You can set the color of the totals line in Customizing for Personnel Time Management by choosing *Shift Planning -> Specify Shift Groups.* Then choose *Totals Row in Requirements Matchup* in the *General color and character formattings* dialog structure.

Standard settings

In the standard system, requirements records with different attributes (such as shift abbreviation, job, qualifications) are displayed differently, in different lines of the requirements matchup in the shift plan overview. Cumulation of requirements is not activated in the standard system.

Activities

To activate the cumulation of requirements function, enter the following in the *Value Abbr.* field:

- For simple cumulation of requirements: **X**

- For enhanced cumulation of requirements: **K**

31.8.28.13.2 Set Up Enhanced Cumulation of Requirements

Use

In this IMG activity, you can set up the enhanced cumulated display of requirements records. This improves the readability of the requirements matchup in the shift plan overview.

Once you have activated the enhancement, you can use the simple cumulation of requirements function to specify which requirements records are summarized in one row. You assign a common group abbreviation to these requirements records.

The system first checks whether a group abbreviation is assigned to a requirement and, if so, displays the corresponding requirements records summarized under the group abbreviation in one line. The system treats any requirements to which no group abbreviation is assigned according to the criteria for the simple cumulation of requirements, and displays them cumulated or not, as appropriate.

In the cumulated requirements row of the requirements matchup, the group abbreviation is displayed instead of the shift abbreviation. Unlike in the simple cumulation of requirements, the system does not display the start and end times, since they may be different within one group.

Requirements

You have activated the enhanced cumulation of requirements function using the PEINS PSDBV switch. For more information, see Activate Cumulation of Requirements.

Standard settings

In the standard system, the enhanced cumulation of requirements function is not activated.

Activities

1. Select a shift group line, and choose *Group ID* in the dialog structure.

2. In the *Group ID* field, enter the same two-character abbreviation for the shifts that you want to group, for example, **EX** for all early shifts.

3. Choose *Save.*

31.8.28.14 Absence Planner

31.8.28.14.1 Activate Access to Absence Planner from Shift Planning

Use

In this IMG activity, you can enable the absence planner to be accessed directly from the shift planning transaction (*PP61*). The absence planner is a report that provides a day-by-day overview of full-day requested and approved attendances and absences and displays additional information for the shift planner.

Standard settings

In the standard system, the option of accessing the absence planner directly from shift planning is not activated.

Activities

To enable direct access to the absence planner from shift planning, enter an **X** in the *Value Abbrev.* field.

31.8.28.14.2 Create Reporting Time Types and Assign Attendances/Absences

Use

In this IMG activity, you can create reporting time types and assign attendance/absence types to them.

Reporting time types are used in the absence planner to group attendance and absence types: Attendance and absence records have the attribute *attendance/absence type,* which in turn are assigned to a reporting time type. It is the reporting time types that are displayed instead of the attendance/absence types in the absence planner.

This enables you, for example, to group various types of leave in one reporting time type called *Leave.* You can also use the concept to filter records.

If you use at least two reporting time type groups in this activity, you can subsequently in the Define Profile differentiate locked and unlocked attendances and absences by using one group for locked and another group for unlocked records.

Activities

1. Select an existing reporting time type, or create a new one and select it. The value of a reporting time type must not exceed 8 characters. We advise using shorter entries for the absence planner, to keep the column widths in the display to a minimum and thus improve readability.

2. From the navigation area, choose *Attendances/Absences Assignment.*

3. You have the following input options for the *GrRep* column (reporting time types group):

   - You enter an existing reporting time type group.

   - You enter a new group (two-figure numeric value) for the system to create.

4. There is input help available for the *A/AType* column (attendance/absence type), which also fills the *PSG* (personnel subarea grouping) and *Att./Abs. Type Text* fields.

31.8.28.14.3 Define High Season

Use

In this IMG activity, you can define periods of your choice as high season, and assign them to a public holiday calendar. This enables the multicolor display of high and low season in the absence planner, organized according to working days and weekends. As a result, you improve the readability of the absence planner.

In the subsequent IMG activity, Define Profile, you assign the holiday calendar to the required display profile to enable the system to determine the high season to be displayed. You also define in the profile the colors in which you want to display high season and low season, for working days and weekends.

Activities

1. In the *Holiday Cal. ID* column, use the possible entries help to select the required public holiday calendar.

2. In the *Start Date* and *End Date* fields, enter the dates (if required, using the input help) for the start and end of high season. You can assign various high-season periods to the same calendar using additional entries.

31.8.28.14.4 Define Profile

Use

In this IMG activity, you create and edit the display profile for the absence planner. You can also maintain the customer exits that belong to the profile in order to define the information columns and rows.

The settings you make in the display profile influence the following aspects of the absence planner display:

- Display of full-day locked and unlocked attendances and absences

- Different colored display of high and low season on working days and weekends

- Display of information columns and rows: You can use customer exits to define additional columns and rows to display additional information for shift planning. You can define which function modules you want the system to use to fill a cell. In the standard system, the following functions are implemented as examples:

- An information column for counting absence days in one row

- An information row with a day counter for the number of employees with requests, and another row for unlocked attendances and absences

- Definition of customer-specific menus (GUI statuses): You can create the following elements:

- Customer-specific menus for the absence planner

- Function codes to call the required function module when a user chooses the relevant menu option

- Function modules to execute the individual menu options In the standard system, the following functions are implemented:

- Branch to the quota overview for the employee selected in the absence planner

- Branch to the absence maintenance transaction (PA61) for the employee selected in the absence planner, where you can release locked attendance and absence records

Profile Definition

Activities

- *Profile* field: If you want to create a new display profile, enter a new name. If you want to display an existing profile, enter the name of it.

- *Grp. Unlocked Recs* field: Enter one of the reporting time type groups for unlocked records that you created or edited in the Create Reporting Time Types and Assign Attendances/Absences activity.

- *Grp. Locked Recs* field: Enter one of the reporting time type groups for locked records that you created or edited in the Create Reporting Time Types and Assign Attendances/Absences activity.

  Differentiating between these two groups enables you to filter out individual attendances and absences, since the absence planner does not display any records that do not belong to either of the groups.

- *Holiday Cal. ID* field: Enter a public holiday calendar ID to determine the high season that you defined in the Define High Season activity.

- *ColorWeekday HS*, *ColorWeekday LS*, *Color Wknd HS*, *Color Wknd LS* fields: Enter the format in which weekdays and weekends are displayed in high season and low season in the absence planner. In each case, enter a four-character value made up as follows:

- First character: For a color display, enter **C**. If you do not want to use the color display, enter **X**; the remaining three places then remain blank.

- Second character: Define the color code (a value between **1** and **9**).

- Third character: Define the color intensity (**1** for intensified color, otherwise **0).**

- Fourth character: If you want the cell background to be in color, enter **1**. If you want the font to be in color, enter **0**.

- *Program for Callback* field: If you have created a customer- specific menu (GUI status) for the absence planner, enter the name of the program you used. This ensures that the correct program is called when a user chooses the relevant menu option in the absence planner.
  If you leave the field blank, the *RHSPP_ABS_PLAN* program is used.

- *Status for Callback* field: Enter the name of the menu (GUI status) to be used. The standard system contains the statuses *EXTENDED_FULLSCREEN* (without direct access to the absence maintenance function (transaction PA61)) and *EXTENDED_RELEASE* (with direct access to the absence maintenance function). If you leave the field blank, the *EXTENDED_FULLSCREEN* status is used.
  If you use the *EXTENDED_RELEASE* status, you have to enter the relevant function module in the *Function Module* field (choose the *Callback Functions* folder in the navigation area).

Information Columns

Activities

- *Profile* field : Enter the name of the profile.

- *Position* field: Enter the position at which you want the system to display the information column in the absence planner.

- *Meaning* field: Enter the meaning of the information column, which is a technical description of the data that the system is to display in the column (for example, **ABS_COUNT** to count the locked and unlocked absence records). The system passes on the meaning you enter here to the function module to evaluate it.

- *Data Element* field: Enter the name of the data element. The data element determines the format of the return value from the function module.

- *Column Heading* and *Column Width* fields: Enter a column heading and width of your choice. If you leave these fields blank, the heading and column width from the data element are used.

- The *For All Rows* checkbox controls the rows for which the system calls the function module:

- Indicator is set: The system calls the function module for locked and unlocked records.

- Indicator is not set: The system calls the function module only for unlocked records.

- *Function Module* field: Enter the name of the function module you want the system to call to fill the information column.
  The standard system contains the *HR_SP_ABS_INFO_COLUMN* function module, which controls absence counting. If you want to display other information in this column, you can copy the function module and adjust it to create customer-specific function modules. This ensures that the interfaces are identical. For a description of the interfaces, see the *HR_SP_ABS_INFO_COLUMN* function module.

Information Rows

Activities

- *Profile* field : Enter the name of the profile.

- *Position* field: Enter the position at which you want the system to display the information row in the absence planner.

- *Meaning* field: Enter the meaning of the information row. It is a technical description of the data that the system is to display in the row (for example, **REQ_COUNT** to count the employees with leave requests). The system passes on the meaning you enter here to the function module to evaluate it.

- *Function Module* field: Enter the name of the function module you want the system to call to fill the information row.
  The standard system contains the *HR_SP_ABS_INFO_ROW* function module, which counts the employees with leave requests. If you want to display other information in this row, you can copy the function module and adjust it to create customer-specific function modules. This ensures that the interfaces are identical. For a description of the interfaces, see the *HR_SP_ABS_INFO_ROW* function module. Note that the system can display a maximum of ten characters in the information rows.

- *Title* field: Enter the title of the information row.

Callback Functions

Use

In this section, you make the settings for the customer-specific GUI statuses and how they are processed. If you want to use the *EXTENDED_RELEASE* GUI status or a customer-specific menu, you have to enter its name in the *Status for Callback* field in the *Profile Definition* section of the navigation area.

The menu options of the GUI status stored in the profile each have one function code. This function code calls a function module (whose name you enter), to which an appropriate meaning is assigned. That is, one function module can be called using various meanings with all options of a menu.

Activities

- *Profile* field : Enter the name of the profile.

- *Function Code* field: Enter the required function code (for example, *RELEASE* to release a locked attendance or absence).

- *Function Module* field: Enter the name of the function module you want the function code to call.
  The standard system contains the *HR_SP_ABS_CALLBACK_FUNCTION* function module, which controls the release of locked attendances and absences. If you want to create a customer-specific function module, copy the standard one and adjust it to suit your requirements. This ensures that the interfaces are identical. For a description of the interfaces, see the *HR_SP_ABS_CALLBACK_FUNCTION* function module.

- *Meaning* field: Enter the meaning of the function module (for example, *RELEASE* to release a locked attendance or absence).

31.8.28.15 Pool Management

31.8.28.15.1 Pool Management

Use

Pool Management is a Shift Planning function that controls employees' temporary assignments by means of an employee pool.

If shift planners cannot cover a personnel requirement using the employees in their own organizational unit, they can use the workflow-based pool management function to request additional employees from a pool manager. The pool manager can then assign the required employees from his or her employee pool to the shift planner's organizational unit.

Overview of the IMG for Pool Management

The Implementation Guide for Pool Management partially contains IMG activities from other areas, with the documentation from that area. This document provides an overview of all IMG activities for Pool Management and explains the Customizing settings specific to Pool Management that are not described in the original documentation for each activity.

- **Activate Pool Management:** For documentation, see the IMG activity.

- **Selection IDs in Pool Management:** The IMG activities for configuring selection IDs and the related documentation originate from the Implementation Guide for Personnel Management. Pool Management uses selection IDs to define employee pools.

- **Define Selection IDs:** In this IMG activity, you create selection IDs corresponding to one employee pool.

- **Specify Groupings:** In this IMG activity, you assign the selection IDs you defined in the previous activity to a group, which you either choose or create. You then use these selection ID groups in subsequent Customizing activities for Pool Management.

- **Specify Profiles for Shift Planning:** This IMG activity and its documentation originate from the IMG for Shift Planning. Pool Management uses this activity to define pool profiles.
  The entry object type of the pool profile describes the object type for the employee selection. It represents the object type for the requirements definition if there is no value entered in the *Requirements Source for Entry Objects* folder in the navigation area.
  You can therefore copy the existing requirements source from the existing profiles. The employee selection was changed for Pool Management so that the system uses only the selection ID to find the employee quota. The systemtherefore does not take account of any entries in the *Employee Selection* folder of the navigation area.
  In the *Employee assigned elsewhere* folder of the navigation area, you should enter the evaluation path **B067**. This means that the system displays the days on which the employee is assigned elsewhere as grayed out on the shift plan overview. This corresponds to the way they are displayed on the shift plan overview.

- **Assign Selection ID Group to Profile**: For documentation, see the IMG activity.

- **Perform Task-Specific Customizing**: This IMG activity and its documentation originate from the Implementation Guide for SAP Business Workflow. You use the activity to set up the workflow function for Pool Management.
  To ensure that the system sends a work item to the pool manager as soon as the shift planner requests employees, you have to set up *event* coupling and *agent assignment* in the Shift Planning component (PT-SP).

- *Event coupling:* Assign the *DUE_FOR_TARGET_POOL* event to the *Pool Management in PP61* workflow template (*WS31000012*).

- *Agent assignment:* Assign the attribute *General Task* to the *Process Request for Resources* task (*TS 31000011*) and the *Pool Management in PP61* workflow template (*WS31000012*).

31.8.28.15.2 Activate Pool Management

Use

In this IMG activity, you can activate Pool Management for Shift Planning. Pool Management is a function that uses a workflow to control employees' temporary assignments by means of an employee pool.

For more information about Pool Management, see the Pool Management IMG activity.

Standard settings

Pool Management is not implemented in the standard system.

Activities

To activate the Pool Management function, enter an **X** in the *Value Abbr.* field.

31.8.28.15.3 Selection IDs

31.8.28.15.3.1 Selection IDs

In the following activities, you make the settings for HR selection IDs. Selection IDs are used in various HR components to simplify the search for objects (persons or applicants, for example). You can define selection IDs based on infotype tables, structure evaluations or special function modules.

You can also combine these three types of selection IDs.

Selection ID based on a table

You can use the following field types to define selection IDs based on tables:
- Infotype fields
- Additional fields
- Text fields
- SAP Query-specific fields (additional field, additional table field, alias table field)

You can also define value ranges for selection IDs based on tables, these enable you to restrict the amount of objects that are to be edited.

It is possible, for example, to use the *Setting date* field from infotype 0 (actions) as a selection ID and to use a range so that only personnel numbers that have been set from the beginning of the current year are displayed.

Selection ID based on a structure

Selection IDs based on a structure correspond to a structural evaluation, that is, a start object and evaluation path are used to determine personnel numbers.

Selection ID based on a function

Selection IDs based on a function are used to retrieve data in a function module.

Selection IDs as combinations of selection IDs

You can combine the three methods described above to define a selection ID.

31.8.28.15.3.2 Define Selection IDs

This activity enables you to define selection IDs.

If you require an overview of selection IDs, see the superordinate Selection IDs node.

Example

Example of a Selection ID Based on a Table With a Defined Range

In the following example, you define a selection ID that lists all of the persons from Paris who are between 30 and 40 years old.

First, the following selection ID must be defined:

(As seen in the "Table" view)

Selection ID No.	No.	Tr.cl.	IType	Fld ty.	Field name
Table sel 1	1	-	0006	ORT01 (=city) Table sel 1 2 - 0002 AF LEBALTER (age of EE)

In the second step, ranges must be defined for these selection IDs:

(As seen in the "Ranges" view)

Selection ID No.	No.	No.	I/E	Opt.	Sel.val.	Sel.val.
Table sel	1	1	1	I	EQ	Paris
Table sel	1	2	1	I	BT	30	40

Example of a Selection ID Based on Structural Reporting

(As seen in the "Structure" view)

The following selection ID lists all of the persons assigned directly to organizational unit 5000, and all of the persons assigned to subordinate organizational units.

Selection ID Ser.no.		PV	OT	Object ID	EP		SV	TD	Period
Structure sel	1	01	O	5000	O-S-P 12		0	All	

Note for Selection IDs With Customer-Defined Function Module

If you create your own function module for a selection ID, it requires that a standard interface be used. You can take the standard interface from the HRCM_OWN_ORGUNIT_EMPL_GET standard function module.

Example of a Combination of Selection IDs

The following selection ID lists all of the persons who belong to organizational unit 5000 and who are assigned to company code 01.

Selection ID 1 (table with range)

Selection ID No.	No.	Tr.cl.	IType	Fld ty.	Field name
Combi sel	1	1	A	0001	BUKRS(=company code)

Range:

Selection ID No.	No.	No.	I/E	Opt.	Sel.val.	Sel.val.
Combi sel	1	1	1	I	EQ	01

Selection ID 2 (structure)

Selection ID Ser.no.		PV	OT	Object ID	EP		SV	TD	Period
Structure sel	1	01	O	5000	O-S-P 12		0	All	

Both selection IDs are now related to selection ID 3.

Selection ID No	No	Sel.ty.Op.	No	Sel.ty.OT			
Combi sel	C	1	1	S	+	1	A	P

Activities

Defining Selection IDs 1. Choose the *Selections* view.

2. Choose *New entries*.

3. Enter a name in the *Selection ID* and *Selection text* fields. To further define the selection ID, the name in the *Selection ID* field must be used. The name in the *Selection text* field is used when the selection ID is used in the application (when input help is executed, for example).

4. Save your entry.

5. Select the selection ID that you created.

6. Choose the required view (structure, table, function).

7. Choose *New entries*.

8. In the *Selection ID* field, enter the selection ID.

9. Make the required entries in the following fields. Use the examples to help you enter the correct data.

10. If you define a selection ID based on a table, you can now enter the ranges.

    a) To do so, choose the *Ranges* view.

    b) Choose *New entries*.

    c) In the *Selection ID* field, enter the selection ID. Make the required entries in the following fields.

11. Save your entries.

31.8.28.15.3.3 Specify Groupings
In this activity, you specify the applications in which the selection ID is to be used. You also assign groupings to the selection ID.

In this release, there are only the standard groups "ADHOC" and
"CMP_COMP_MANAGEMENT". The selection IDs entered in these groups are available in the Ad Hoc Query (to restrict the number of hits) or in Personnel Cost Planning.

Activities

1. Choose the *Groups* view.

2. Select a group.

3. Choose the *Grouping* view.

4. Choose *New* entries.

5. Enter the group, the person who has made the change, the number and the selection ID.

6. Save your entries.

31.8.28.15.4 Specify Profiles for Shift Planning

In this step, you define the Entry profile for Shift planning. The profile determines which:

- *Evaluation path* the system uses to select employees from the *entry object types* for shift planning.

- Organizational units are to be related to entry objects as pegged requirements You can define these objects as pegged requirements by selecting *Create -> Pegged requirement.* Employees who are assigned to these objects can be selected in shift planning. If only certain employees are available for planning, you can define the situation using a corresponding evaluation path.
  You can select work centers independent of organizational unit. The evaluation path for the selection of employees accesses the given work centers directly. Organizational unit and work center are related by relationship **059 (employee pool)**.

Example

When you enter Shift Planning, you choose a profile assigned the evaluation path to select all positons. As an entry object type, you choose the organizational units. The system selects all positions from the entry object types and transfers them to the shift plan.

Requirements

Define the entry object types and evaluation paths that you want to assign to the entry profile.

Standard settings

The *SAP_000001* entry profile is included in the standard SAP R/3 System for entering Shift Planning using organizational units.

The system automatically enters shift planning using the *SAP_000001* profile if you do not select another entry profile.

Activities

1. Choose the standard profile or define your own.

2. Specify which evaluation path should be used to select employees.

3. You can determine whether the employees selected for shift planning by the evaluation path should remain in the selection or be removed from it, if necessary.

4. You can also determine whether employees not selected by the evaluation path for shift planning should also be included in the selection, if necessary.

Further notes

By using the profile, you can connect groups of employees from several organizational units for selection. You can specify the selection of employees from different departments of your enterprise using one evaluation path.

31.8.28.15.5 Assign Selection ID Group to a Profile

Use

In this IMG activity, you assign a selection ID group to a pool profile. The assignment is required so that the pool manager can enter a selection ID on the initial shift planning screen.

You can also enter a shift group that you want to be used for the pool. If you do not enter a pool shift group, the system requires the pool manager to select a shift group on the initial shift planning screen.

We advise you to define a pool shift group since it enables you to run the *Personal Shift Plan* (*RHDPERSL*) and *Attendance List* (*RHDOCCPL*) reports with a pool profile. These reports use the shift group you define here to display the shift abbreviation.

Activities

1. In the *Shift Planning* folder of the navigation area, select the required profile.

2. Choose the *Pool Settings* folder.

3. Use the input help in the *Profile* column to choose the profile.

4. Use the input help in the *Group* column to assign the required selection ID group.

5. User the input help in the *Shift Group* column to assign the required shift group.

31.8.28.15.6 Perform task-specific Customizing

In this activity you make all the settings required to adapt the **SAP tasks** and **SAP workflows** supplied. Only carry out this activity if you want to use the scenarios supported by SAP.

Possible agents must be specified for each **task** in order to clearly define the organizational responsibility for processing.

Workflows can only be started in dialog by their possible agents. If a scenario requires that the relevant workflow be started in dialog, this workflow must be assigned to its possible agents.

A task or workflow can be started as a reaction to **events** created by the application functionality. For this, specific events are declared as triggering events for the task or workflow. *Activate* this linkage between triggering event and task or workflow if you really want to create the linkage between event and task or workflow as suggested by SAP.

Requirements

Check that automatic Workflow Customizing has been completed.

Activities

1. Execute the activity and select the application component for which you want to carry out the following from the component hierarchy displayed:

    -   The assignment of possible agents to tasks and workflows

    -   The activation of triggering events for tasks and workflows

2. Open the branch *Assign agents to tasks*.

3. Select a task for processing.
    Assign the task to its possible agents. This assignment determines the **total number** of persons who are allowed to process this task.

Specify **all** the relevant agents.
You have the following options:

- Job

- Organizational unit

- Position

- Work center

- User

- Role

Multiple assignments are possible.
Alternatively, you can classify a task as a *general task*.

4. Open the branch *Activate event linkage*.

5. Select a task or workflow for processing.
Only some of the tasks and workflows have triggering events. This is indicated by the folder symbol in front of the name. If you double-click on the symbol, the event entered as triggering event is displayed.

6. Activate the linkage.
Activation of type linkages determines which of the linkages in question you actually want to use.

Recommendation

Usually you will assign an organizational unit, a job or a position to a task or workflow as possible agent so if personnel changes occur in the organizational plan no changes are required in the workflow components.

Further notes

For further information, refer to Customizing for the application component in question.

This IMG activity gives you the opportunity to set up all the tasks and workflows that you want to use in the implementation phase. But it is also possible to execute the steps required from the task definition or workflow definition at a later date.

31.8.28.16 Activate Retention of Availability Abbreviation

Use

In this IMG activity, you can define that the abbreviation for availability duty be retained in

shift planning. This function enables the availability abbreviation to be saved on the database after the shift planner has changed the availability times. The planner can change the start and end time of an availability duty as often as necessary; the shift abbreviation is retained even if changes are made in the shift plan overview or the day view.

Background: In the standard system, the shift abbreviation for availability duties is not saved on the database. The system determines the shift abbreviation on the basis of information from the *Availabilities* infotype (2004) using the availability type and the start and end times of the availability.

If a shift planner enters an availability with a different time, that is, the start or end time is changed, the system can no longer determine a unique availability abbreviation. In this case, it represents the abbreviation as an asterisk (*) if there is more than one shift group defined for the shift group. If only one abbreviation is define for the shift group, the system always displays that abbreviation. The information regarding the original availability duty abbreviation is lost.
Note: If there is no abbreviation saved on the database for a changed availability (for example, if it was entered in the absence maintenance function (transaction *PA61*)), the system continues to display the abbreviation as an asterisk.

Standard settings

The availability abbreviation is not retained in the standard system.

Activities

To activate the retention of the availability abbreviation function, enter an **X** in the *Value Abbr.* field,

31.9 Incentive Wages

In this section, you make the settings required for Incentive Wages

31.9.1 Default Settings

In this section, you make the general settings for the Incentive Wages component.

31.9.1.1 Specify Employee Subgroups for Participation in Incentive Wages

In this step, you specify which employee subgroups are to participate in incentive wages.

Activities

Set the Participation in incentive wages indicator for the applicable employee subgroups.

Further notes

This indicator can be queried in the personnel calculation rules.

31.9.1.2 Set Grouping for Earliest Recalculation Date

You can set modifiers to determine the earliest recalculation date in this step.

An earliest recalculation date can be specified for:

- Recording time events and pair formation

- Time evaluation

- Time statement form

- Recording incentive wage time tickets

Note that the same modifiers are used for all areas.

The earliest recalculation date determines the earliest date for which you can enter data or for which recorded data is evaluated.
The system refers to existing data, any errors which have occurred in evaluation, changes made to employee data, and so on to determine how far back the recalculation must be made for the data to to be evaluated correctly.
You can use the earliest recalculation date to define the earliest date for an automatic recalculation trigger. The data evaluated before this date should not be recalculated even if there are changes which are relevant.
For more information see the SAP library for Time Management, using the index entry **Earliest recalculation date**.

You can use the modifier to specify different earliest recalculation dates according to:

- Company code

- Personnel area

- Personnel subarea

- Employee group

- Employee subgroup

- and/or country grouping

Example

For organizational reasons, you want to define a longer recalculation period for personnel subarea 0004 than for your other personnel subareas.

Create two modifiers. Assign modifier 02 to personnel subarea 0004, and 01 to all other personnel subareas.

Requirements

You should know how to create decision trees and features

Standard settings

01 is the only modifier used in the standard system.

Recommendation

Activities

Modify feature TIMMO as required if you want to be able to specify more than one earliest recalculation date.

Further notes

31.9.1.3 Set Earliest Recalculation Date for Incentive Wages

In this step, you determine the earliest date from which you can record or change time ticket data.

Example

You have set the earliest recalculation date to June 1 of the current year. You cannot record or change time tickets having an earlier date.

Requirements

You must first specify the grouping for the earliest recalculation date.

Activities

Modify the date specifications for the earliest recalculation date according to the **groupings for earliest calculation date** you have specified.

31.9.1.4 Maintain Parameters for Incentive Wages

In this step, you specify whether you want breaks to be taken into account when time tickets are entered or maintained, and whether you want cumulations created for each posting day.

Activities

Daily Work Schedule

Select the **daily work schedule** if you want the system to deduct breaks when calculating the difference between start and end time. The breaks are not taken into account unless a personnel number is specified on the time ticket.

Daily Cumulations

Select daily cumulations if you want cumulations to be created each posting day and period. If you do not select this field, the cumulations are only created per period. The cumulated values are calculated immediately, and you can access them any time to carry out evaluations and checks before payroll is run.

Further notes

If the daily cumulations are not activated until your system is productive, you must carry out a recalculation of the cumulations. To do this, choose Human resources -> Time management -> Incentive wages -> Tools -> Recalculation

Activities

- **Daily Work Schedule**

   Select the **daily work schedule** if you want the system to deduct breaks when calculating the difference between start and end time. The breaks are not taken into account unless a personnel number is specified on the time ticket.

- **Daily Cumulations**

   Select *daily cumulations* if you want cumulations to be created each posting day and period. If you do not select this field, the cumulations are only created per period. The cumulated values are calculated immediately, and you can access them any time to carry out evaluations and checks before payroll is run.

Further notes

If the daily cumulations are not activated until your system is productive, you must carry out a *recalculation* of the cumulations. To do this, choose *Human resources -> Time Management -> Incentive wages -> Tools -> Recalculation*

31.9.1.5 Maintain Transaction Parameters

In this step, you can modify the existing Incentive Wages transactions to suit your requirements.

Example

When you display time tickets, no messages should appear. However, when maintaining time tickets, the message "Check your entry" appears before you save data.

Activities

1. Choose the desired *Incentive Wages transaction.* The following are included in the standard system:

    a) Maintain time tickets (PW01)

    b) Display time tickets (PW02)

    c) Enter time tickets (PW03)

2. In the *transaction status* field, enter the functions (maintain, display, enter) which valid during this transaction.

3. In the *default value data* field, enter which specifications regarding the selection period should be proposed in the selection screen.

4. Activate and/or deactivate the message types listed to optimize the procedure when entering and maintaining time tickets.

31.9.1.6 Create User Exits

Activities

You can deactivate the standard coding and call up your own routines when carrying out the following functions:

-   Calculations:

-   Determine time ticket type (FORM USER_SET_LSTYP)

- Read daily work schedule (FORM USER_DAYPR)

- Determine target labor time (FORM USER_SOW01) -   Determine target setup time (FORM USER_SOW02)

- Determine target teardown time (FORM USER_SOW05)

- Determine target machine time (FORM USER_SOW03)

- Determine target time for variable activity (FORM USER_SOW04)

- Premium formula for employee (FORM USER_PRFOR_PB)

- Premium formula for group (FORM USER_PRFOR_GB)

- Premium formula for time ticket (FORM USER_PRFOR_LS)

- Calculate labor utilization rate (FORM USER_LGRAD)

- Cumualte time ticket data (FORM USER_COLLECT_LS)

- User-specific fields (FORM USER_SCREEN / Include MP53LF98) - Validations:

- Validate group number (FORM USER_CHECK_GRUNR)

- Validate wage type (FORM USER_CHECK_LOARR)

- Validate pay scale group (FORM USE_CHECK_LOGRR)

- Validate cost center (FORM USER_CHECK_KOSTR)

- Logistics Integration

- Read own order data (FORM USER_GET_AUFTRAGSDATEN)

- Retrieve own confirmations

Copy the routine to be replaced to INCLUDE MP53LF99. Each routine is already declared with the names and parameters to use in this include. Change the copied standard coding to suit your requirements and generate Report SAPMP53L.

Set the appropriate switch so that the system can start your routine.

Further notes

Set this switch in the productive system for your other clients, if necessary, as a transport is not automatic.

31.9.1.7 Set User Parameters

In this step, you can define the user-dependent transaction parameters.

The selected message types override the settings of the general transaction parameters.

Example

No messages are to be shown when displaying time tickets. However, when maintaining time tickets, the message "Check your entry" should appear when you save.

Activities

1.   Enter the administrator's *user name*.

2. Enter the *Incentive wages transaction* which is to override the general transaction parameters. The following *Incentive wages transactions* are already defined in the standard system:

   a) Maintain time ticket data (PW01)

   b) Display time ticket data (PW02)

   c) Enter time ticket data (PW03)

3. Select the desired *user parameters.*

31.9.2 Groups

In this section you determine:

- How an employee's group membership is validated when group time tickets are recorded -   What group numbers are allowed for incentive wage groups.

Validating group numbers is defined in two steps:

1. In the "Validate group number" step, you decide the number of digits for which group numbers should be validated.

2. In the "Create groups" step, you can specify a numbered field for groups.

31.9.2.1 Validate Group Number

In this section you determine if an employee's group membership is to be validated when entering and maintaining time tickets and the number of digits a group number should have for a validation to take place.

Activities

Validate group membership

If this field is *selected*, the following takes place:

- An employee's membership in a group must be established in Human Resources -> Time tickets -> Maintain -> Goto -> Create groups.

- The assignment of the employee to a group always occurs in periods. Thus, only those group-related employee time tickets whose posting dates fall into the time frame of the employee's membership in this group can be entered.

If this field is *not selected*, the following takes place:

- An employee is added to a group when a group-related time ticket is entered, unless he is already assigned to this group during this period.

If the employee is already assigned to this group, the time frame of the employee's membership is extended to the posting date of the time ticket.

Validate group

Validation of the group number must take place in these two steps:

1. Enter the number of digits in the *Validate group* field that should be validated when the group number is entered.

2. Enter the permitted group number in the step "Create groups."

Group numbers are eight (8) characters long. If 123 is given as the group number, for example, then it would be displayed as 00000123.

Example

Validate group number

The number "3" is given in the *Validate group* field.

Therefore, the following group numbers are permitted in the "Create groups" step:

-   10000000

-   20000000

Only those group numbers that begin with 100 or 200 as the first three (3) digits (10012345 or 20054321, for example) are then able to be created when maintaining time tickets.

If 100 is entered as the group number, the entry is rejected because this number is displayed as the 8-character number 00000100 and a number with "000" as the first three numbers is not permitted.

31.9.2.2 Create Groups

In this step you set the valid group numbers.

Example

You only want to allow groups that begin with '1' or '2'. Groups which start with '1' should be evaluated according to a certain premium formula.

Requirements

A valid group number area can only be set if the "Validate group number" step was completed.

In this step, you determine from which position the validation should place.

Activities

Define the valid group numbers and assign them a validity period, a country group and a premium formula.

The premium formula entries appear in Time Ticket Recording as default values.

Further notes

If a '0' is entered in the *validate group* field in the "Validate group number" step, then the valid group number that regulates the country group for the entry has to be '00000000.'

31.9.3 Time Ticket Types

In this section, you specify the time ticket types and their characteristics. Corresponding entry screens can be created for time ticket types.

To create your own time ticket types, proceed as follows:

1. Copy a suitable time ticket type in the "Create time ticket types" step.

2. Copy the corresponding screen in SAPMP53L using Screen Painter. Screen Painter can be found by choosing: *Tools -> ABAP Workbench -> Screen Painter*. In Screen Painter you can also change the actual entry screen, for example, by erasing various fields from the frame or grouping the fields differently.

3. Copy the corresponding line in the "Set up entry screen" step and replace the number of the screen with your own screen number. Then replace the number of the time ticket type in your own time ticket type.

31.9.3.1 Create Time Ticket Types

In this step, you can change the characteristics of existing time ticket types or create new time ticket types.

Example

In addition to the standard premium time ticket, you want to use another time ticket type that does not have an individual result.

Standard settings

The following time ticket types are already defined in the standard system:

- Premium time ticket

- Quantity time ticket

- Person time ticket

- Time-based time ticket

- Foreman time ticket

Recommendation

Choose an existing time ticket type as a copy template. Decide which of the following fields you require on your time ticket type: **Personnel number required**, **Group number required**, **Time ticket has individual result**. Then copy the time ticket type you have chosen to create your own.

Activities

1. Use names starting with 9, X, Y, or Z for your own time ticket types.

2. In the *Payroll indic.* field, specify how you want the time ticket type to be valuated in payroll.

3. You decide whether a *personnel number* and/or *group number* must be specified when entering and maintaining time tickets according to whether the time ticket type is for individual or group piecework. If you specify in the *Payroll indic.* field that the time ticket type should be valuated using the employee's results, you must also flag the *Personnel number required* field. Likewise, the group number is required if you want the time ticket type to be valuated using the group results.

4. Mark the *Time ticket has individual result* field if you want a separate labor utilization rate to be calculated for each time ticket.

5. The *Integration with Logistics* field determines whether the following fields are displayed and ready for input on the time tickets: *confirmation number, confirmation counter, order, sequence, operation, sub-operation.* The way in which Logistics data is accessed is set up in the Integration with Logistics section.

31.9.3.2 Define Entry Screens

In this step, you can define your own entry screens (full screens, in particular), and assign them to the time ticket types of your choice.

Make sure you create your own entry screens in the customer name range. The screen numbers must start with the characters 9, X, Y, or Z, according to the established naming conventions.

Example

You want to activate your own entry screens for Incentive Wages.

Requirements

- Your own time ticket types must be created.

- You must have some knowledge of the Screen Painter tool.

Standard settings

The standard entry screens used in Incentive Wages for time tickets, and screens for parameters, results, and cumulations are stored and described here.

Activities

1. Select a full screen that corresponds to your requirements.

2. In the Screen Painter, copy the applicable screen to your name range and modify it accordingly.

3. Then, copy the corresponding screen in this step to your newly created screen.

4. Specify the time ticket type.

Further notes

Only one screen is allowed per time ticket type and screen type.

Use only the screen type 0 (full screen). The other screen types are for internal use only.

31.9.3.3 Determine List Screens

In this step, you set up the list screens for time ticket types.

Example

To enter a premium time ticket in fast entry mode, you need an applicable list screen.

Requirements

You must first define time ticket types in the Create Time Ticket Types step.

- If you have indicated that a *Personnel number (is) required* in the time ticket type, then the list screens *list types 1 and 2* are available.

- If you have indicated that a *Group number (is) required* in the time ticket type, then the *list types 1 and 3* are available.

- If you have indicated that both a *Personnel number required* and a *Group number (are) required* in the time ticket type, then the list screens *list types 2, 3 and 4* are available.

Standard settings

The list screen types are pre-defined for the standard time ticket types 01 to 05 and the time ticket type "*" (all time ticket types),

Activities

1. Define the *Assignment of Time Ticket Types to List Screen Types*.

2. Select an entry and choose *Assign fields to time ticket type/list screen type*.

    a) Choose *Maintain entries*.

    b) Select the required fields in the *List screen fields* section. The selected fields are then displayed in the *selected* section on the screen.

    The sequence of the selected fields can also be changed by placing the cursor on the field to be moved and then selecting either the *Move forward or backwards* buttons.

If you copy entries in *Assignment of Time Ticket Types to List Screen Types*, then the corresponding entries on the *Assign fields to time ticket type/ list screen type* level are also copied.

Further notes

Make sure you create your time ticket types in customer-specific name ranges.

In this step, you specify the **Default Settings**. Because the lists use the Table Control feature in time ticket maintenance, each end user can basically individualize the list screen as desired using these default settings.

31.9.3.4 Wage Types for Time Ticket Recording

In this section you specify the wage types that are required for entering and maintaining time tickets.

31.9.3.4.1 Create Wage Type Catalog

In this step, you create your own wage types for the wage type group **Incentive Wages Time Ticket Recording** (0LL1) by copying the sample wage types from the standard SAP System.

These copies are wage types that you can use again later and modify to suit your specific requirements.

All sample wage types start with a letter. Your own wage types, the copies, have to start with a number. In this step, you can only copy the wage types contained in the wage type group Incentive Wages Recording Wage Types.

Note

-   Information about creating user-specific wage types using prototypes or by copying those from the standard SAP System wage type catalog is found in the Implementation Guide (IMG) in the component **Personnel Administration** in the units "Create wage types using prototypes" and "Create wage types using wage types catalogs."

-   Please note that the copies of the sample wage types (your wage types), as well as their online and payroll accounting attributes are transferred from the standard SAP System sample wage types. In the following steps you can check the attributes of your wage types and modify them, if necessary.

Caution

Only use the range reserved for your own, copied wage types (all wage types beginning with a number). Do not copy wage types to the range reserved for the SAP sample wage types (all wage types beginning with a letter or a special character).

Example

You want to activate your own recording wage types for incentive wages.

Standard settings

In the standard SAP System, the following sample wage types are used for recording, maintaining and displaying time tickets:

- ML01: Time ticket paid in piecework time

- ML02: Time ticket paid in average time

Activities

Enter the following in order to copy the wage types contained in the **Recording Wage Types** wage type group.

1. Choose *Copy* in the *Wage Type Maintenance* dialog window.

   The *Copy wage types* screen appears.

   - The *Test run* function is active. You should carry out a test run first.

   - To make the wage type copier productive, you must first deactivate the *Test run* function.

2. Check whether you want to add further wage types to the proposed wage types, and if necessary, enter further sample wage types in the *OWType* (original wage type) field.

3. Enter the user wage types that you want to create by copying the model wage types. To do this, you have the following options:

   Manual assignment

   For each model wage type, enter a name for your new wage type in the *CWType* (Customizing wage type) field, and choose *Continue*.

   Automatic assignment

   a) Select the wage types that you want to copy, and choose the *CWType* button (automatic assignment of Customizing wage types).

   b) You will now branch to the *Wage type maintenance* dialog window.

   c) Enter the data you require, and choose *Continue*.

4. If necessary, adapt the long and short texts of the copy wage types to suit your requirements.

5. Select the wage types you want to copy, and choose *Copy*.

   In the subsequent list, all of the copied wage types are displayed. The list contains details of all the changes made in the relevant tables.

   Further notes

For more information on SAP's wage type concept, see the Wage type concept step in the Payroll Data section under **Personnel Administration** in the Implementation Guide (IMG).

31.9.3.4.2 Check Wage Type Catalog

In this section you check the wage types you just created for entering time tickets.

31.9.3.4.2.1 Check Wage Type Text

In this step, you check the wage type text.

Requirements

You have already defined the wage types in the wage type catalog.

Activities

Check your wage type texts. Add new wage type texts if necessary.

31.9.3.4.2.2 Check Assignment for Recording Wage Type Group

In this step you assign your wage types to the **incentive wages recording wage types** wage type group.

Requirements

You have already defined new wage types in the wage type catalog for time ticket recording.

Standard settings

Sample wage types are already assigned in the standard SAP System.

Activities

Assign your newly created wage types.

31.9.3.4.2.3 Check Payroll Procedure

In this step, you determine how wage typesare handled for time ticket recording in Payroll.

The processing class characteristic 46 determines whether the wage type is a piecework wage or an average paid wage. Wage types are used in Time Management, specifically in Time Leveling, as well as in the sample personnel calculation rules for incentive wages in payroll.

All wage types used in time tickets must be keyed with the processing class 46.

Requirements

You have created your wage type catalog for time ticket recording and assigned your wage types to the **incentive wages recording wage types** wage type group.

Standard settings

Sample wage types are set up in each processing class.

Activities

Check the characteristics of processing class 46 for entering your wage types.

31.9.3.5 Maintain Assignment of Recording Wage Types in Time Ticket Types

In this step, you specify the wage types allowed for each time ticket type.

Example

You have created your own wage types to be used when entering time tickets.

Standard settings

The sample wage types that can be used for each time ticket type are listed in the corresponding view. The standard system provides one wage type for piecework times, and one for times paid using an average.

Activities

1. Assign the required wage types to each time ticket type, and specify a validity period

2. Mark the *Default* field if you want a wage type to be the default value for a particular time ticket type

31.9.4 Premium Formulas

In this section, you can determine the premium formula and corresponding calculation rules. Additionally, you can also define cumulation rules, event types and parameters, as well as step functions.

To create premium formulas, proceed as follows:

1. Specify the number and the name of the premium formula in the **Create premium formula** step.

2. Create **event types**.

3. Create **cumulation rules for employees** and/or **groups**.

4. Create the necessary **parameters** and assign them to the premium formula.

5. Define **step functions**.

6. Determine the **calculation rules** for the premium formula.

The "Create premium formula" (1) and "Set up calculation rules" (6) steps must be completed in order to define a premium formula. The other steps are optional.

31.9.4.1 Create Premium Formula

In this step, you specify the characteristics of the premium formula and where the premium formula is used.

Standard settings

The standard system contains the following premium formulas:

- Target/Actual
- Target/Actual with setup time
- Target/Actual with setup time in proportion to quantity
- Target/Actual with additional times
- Target/Actual with additional times capped

Activities

1. Assign a name and number to the premium formula, and enter a validity period. This field is validated:

   a) When time tickets are entered and maintained

   b) When the day and period results are determined from cumulations, result types, and parameters

2. Enter a text for the *premium result*. This text is later displayed in the time tickets and cumulations.

3. Enter value limits for the premium result. The system issues warnings or error messages if these are not observed. The value limits are only validated when time tickets are entered or maintained. They are used in the time leveling report to determine which data is highlighted.

4. Enter a maximum target time, if required.

Further notes

Use 1 (in time tickets and period results) must always be assigned to the standard premium formula 000.

31.9.4.2 Cumulations

In this section, cumulation rules are determined for employees and/or groups.

By using cumulations, summarized values for time ticket types can be created. With the help of cumulated values, day- and period-related premium results are determined by premium formulas.

When the time ticket is for an individual, the value per employee is cumulated. Simultaneous cumulation for the employee and the group is also possible. In addition, it is possible to cumulate time ticket values in optionally defined result types.

The rules for cumulations are dependent upon the time ticket type, the wage type and the premium formula.

In any case, whether individual and/or group incentive wages are in use, the cumulation rules are created by the following steps:

- Create result types
- Set cumulation rules for employees -   Set cumulation rules for groups

31.9.4.2.1 Create Result Types

In this step, you create result types and their names.

Use

Result types are user-definable totals which can be cumulated in the time ticket values.

Result types can be used to calculate the premium result.

Standard settings

The standard SAP System contains the **DSCHN** (average) and **LEIST** (activity time) result types.

The actual times of the time tickets paid using an average are summarized in the DSCHN result type.

Notes

The result types cannot be used to calculate individual time ticket results, but only to calculate the day and period result.

The following values can be taken into account for the standard cumulations and are available for calculating the result:

- Actual value of labor time -   Target value of labor time
- Actual value of setup time -   Target value of setup time
- Actual value of teardown time
- Target value of teardown time Use result types:

- If you want these values to be included in other cumulations

- If you want to cumulate target and actual values for machine times and variable activity types

Activities

Enter a name for the result type, and a short and long description.

31.9.4.2.2 Set Cumulation Rules for Employees

In this step, you determine which actual and target values stored in the time tickets should be cumulated for the employee.

Example

The confirmation value for labor time influences the standard cumulation for *actual labor time* as well as the *LEIST* result type.

Activities

1. Determine for which time ticket type, wage type, and premium formula the cumulation rules should be used.

2. Enter a validity period.

3. Standard cumulations are determined under *Cumulations for employees*. Select the fields for which time ticket values should be cumulated.

4. Under *Cumulation in result types for employees*, determine when the time ticket values should influence the result types.

   a) Choose the desired result type. The result types must first be created in the Create

      result types step.

   b) Enter a split indicator, if required.

31.9.4.2.3 Set Cumulation Rules for Groups

Further notes

In this step, you determine which of the target and actual values specified in the time tickets should be cumulated for a group.

Example

You want the confirmed value for the labor time to be included in the standard cumulation for *actual labor time* and in the *LEIST* result type.

Activities

1. Decide on the time ticket type, wage type, and premium formula for which you want to use the cumulation rules.

2. Enter a validity period.

3. Specify the standard cumulations under *Cumulations for group*. Mark the fields for which you want the time ticket values to be cumulated.

4. Under *Cumulations in result types for groups*, specify the result types in which you want to cumulate the time ticket values.

   a) Choose the required result type. You cannot do this unless result types are first created in the Create result types step.

   b) Enter a split indicator, if required.

31.9.4.3 Parameters

In this section, you determine the parameters that are to be taken into account in the premium formula of the period, as well in the values recorded in the time tickets.

31.9.4.3.1 Create Parameters

In this step, you specify the name, as well as the description, of the parameters.

Example

You require an additional parameter for your premium formula.

31.9.4.3.2 Assign Parameters to Premium Formula

In this step, you specify in which premium formula the parameter is to be used.

You can also define default values.

Activities

1. Enter the premium formula for which you want the additional parameter to be used.

2. Choose the required parameter. You cannot do this unless parameters were already created in the Create parameters step.

3. You can define default values under *Parameter values*. If the *Can overwrite* field is marked, you can change the default values in the results screen when you maintain time tickets.

31.9.4.4 Define Step Functions

In this step, you define step functions.

Step functions are used to set the result to a fixed value using the premium function.

Standard settings

The step function defined in the standard system does the following:

- If the result is under 80%, it is supplemented to 80%.

- If the result is between 80% and 150%, it remains as is. It is not supplemented or capped.

- If the result is over 150%, it is capped to 150%.

Activities

1. Enter the name of the premium function (step function) and the validity period. In the Set calculation rules step, you can access the premium function and use it in the formula.

2. In the *Argument* field, enter the start or end range of the step. In the *Value* field, enter the assigned step value (supplement or capping). If you do not make an entry in the *Value* field, the result remains unchanged.

31.9.4.5 Set Calculation Rules

In this step, you specify the calculation rule for the premium formula.

Example

You require a calculation rule that includes 50% of the setup time in the calculation of the labor utilization rate.

Requirements

Before you define a premium formula in this view, you must first create the corresponding parameters, result types, premium functions, and routines.

Activities

1. Enter the name of the premium formula

2. Specify the calculation rule in postfix notation

Further notes

For the two-character operations +, *, -, /, >, <, postfix notation specifies the operands before the operation:

- The expression **A + B** is written as **A B +** in postfix notation.

- The notation continues for more complicated expressions:

- The parenthetical expression **(A + B) * C** is written as **A B +C ***.

If the premium formula is used to calculate the result of the individual time ticket, all the numeric fields in the time ticket can be used. These include:

- *RUW01* Actual labor time

- *VGW01* Standard labor time

- *SOW01* Target labor time - *RUW02* Actual setup time

- *VGW02* Standard setup time

- *SOW02* Target setup time

- *RUW05* Actual teardown time

- *VGW05* Standard teardown time

- *SOW05* Target teardown time

- *RUW03* Actual machine time

- *VGW03* Standard machine time

- *SOW03* Target machine time

- *RUW04* Actual value for variable activity type

- *VGW04* Standard value for variable activity type

- *SOW04* Target value for variable activity type

- *LMNGR* Yield

- *XMNGR* Scrap

- *BMSCH* Base quantity for standard values

If the premium formula is used to calculate the results for the day and month, the following fields are available:

- All cumulated values:

- *RUW01* Actual labor time - *SOW01* Target labor time - *RUW02* Actual setup time - *SOW02* Target setup time - *RUW05* Actual teardown time

- *SOW05* Target teardown time

- All defined result types with their five-character names

- All parameters defined for the premium formula with their five-character names The fields are addressed using their five-character names.

You can specify fixed constants:

- &xxxxxxx
  After a "&" you can specify a seven-character string comprised of digits and no more than one decimal point. This is interpreted as a decimal number.

You can access a routine:

- (NNNNNNNNNNNN)
  The name in brackets is read as the name of a routine. This routine must be defined in Include FP53LE99 and should refer to the result of calculation to the PACK variables; processing can then continue in the premium formula.

You can evaluate a premium function defined in the Step functions view:

- $XXX
  The interim result is set to a fixed value according to premium function XXX.

The following operations are supported:

- + Addition

- - Subtraction

- * Multiplication

- / Division (by 0 is by definition 0)

- >   Greater than

- <   Less than

There must always be exactly one blank character between variables and operations.

The line can end with a comment. The comment must be written in inverted commas (").

Further notes

If a calculation rule extends over several lines, the lines must be numbered.

31.9.5 Integration with Logistics

In this section, you specify how integration with Logistics is carried out.

The interface between Logistics and Incentive Wages offers three (3) different options for integration:

- Messages related to time tickets are entered in Logistics. These confirmations are retrieved in Incentive Wages either online or by batch input.
Please make the required settings in the Work duration from Logistics section by choosing Plant Data Collection.

- The actual data is recorded in Human Resources and the standard data required to calculate incentive wage results is supplied by Logisitics.

- Messages that are related to time events are entered in the subsystem and uploaded into the SAP system. This data can be used to generate time tickets and update them directly in Incentive Wages. The standard data required is supplied by Logistics.

31.9.5.1 Maintain Integration Parameters

In this step, you specify the following:

- Whether order data (standard values) from Logistics is read when recording time tickets.

- Whether confirmations from Logistics (PM/PP/PS) can be transferred to Human Resources (HR) manually by choosing *Time management -> Incentive wages -> Time tickets -> Maintain -> Action -> Retrieve confirmations*.

Only time tickets stored as working time durations in the table LSHR can be retrieved.

Activities

Select the *Read order data* switch if you want to read order data from Logistics.

Select the *Retrieve confirmations* switch if you want to retrieve confirmations manually from Logistics (PM/PP/PS).

Further notes

Reading order data during time ticket recording is no longer supported in a distributed HR System.

31.9.5.2 Enhanced Integration with Logistics

The SAP enhancement HRPINW01 is used for integration with Logistics. You can use this

enhancement to add separate data to the time tickets you want to transfer to your personnel time management system.

Note
With this SAP enhancement, you can only influence data that affects the transfer of working time durations (interface LSHR). If you also want to influence the transfer of work time events, you can use the Business Add-In   BADI_CONFIRMATION_INPUT.

Activities

1.   Create the enhancement
      Create either a new project for enhancement, or use an existing project.

2.   Activate the project.
      Your enhancement only takes effect when you activate it.

Further notes

In contrast to modifications, enhancements withstand any release change or upgrade because they are not made in the original standard system but in a name range reserved for customers

The general procedure for creating enhancements is found in the enhancement transaction using the menu path "Utilities -> Online Manual".

Each enhancement is documented separately. You find this documentation by selecting "Documentation" in the enhancement transaction.

31.9.5.3 BAdI: Enhance and Change Logistics Confirmations

Use

You can use this Business Add-In (BAdI) to enhance and change Logistics confirmations before the data is deposited in the interface tables EVHR (for work time events) or LSHR (for time durations).

It is called within the function module HRIL_CONF_WRITE in the BAPI BAPI_CONFIRMATION_INPUT.

Note

This BAdI comprises the functions of SAP enhancement HRPINW01 and additionally gives you the option of influencing work time events before they are deposited in the interface table. If you already use HRPINW01, you can also continue using this SAP enhancement in parallel with the BAdI.

Activities

After calling up the IMG activity, a dialog box appears, in which you can enter a name for the implementation.

If you have already made other implementations for this BAdI, another dialog box appears, in which the existing implementations are displayed. In this case, choose *Create*, and proceed as follows:

1. In the dialog box, enter a name for the BAdI implementation in the *Implementation* field, and choose *Create*.
    The screen for creating BAdI implementations is now displayed.

2. Enter a short text for the implementation in the *Short text for implementation* field.

3. From the tab index, choose *Interface*.
    The *Name of implemented class* field is already filled on the tab page, as a class name was automatically assigned to the implementation when you named it.

4. Save your entries, and assign the implementation to a development class.

5. Place the cursor on the method, and double-click to enter method processing.

6. Enter the code for the implementation between the statements `method <Interface name> ~ <Name of method>` and `endmethod`.

7. Save and implement your code. Return to the *Edit Implementation* screen.

8. Save the entries on the *Edit Implementation* screen.
    Note: You can also create an implementation, and then activate it at a later time. In such a case, end the processing stage at this point.

9. Choose *Activate*
    The code you stored in the method will be run when the application program is executed.

Example

You can use this BAdI to convert a 3-digit wage group from Production Planning into an 8-digit pay scale group to be forwarded to the personnel management system.

Methods

Enrichment of Logistics Confirmations.

31.10 Management of Roles and Authorizations

In this section you make the settings for access protection for the employee data stored in infotypes or clusters. By doing so, you define the activity areas in Time Management.

The settings include specifying the authorization objects that are relevant for the authorization check and assigning authorizations using roles. You can create and maintain roles using the profile generator.

Note

If you have worked through the Authorization Management section in the Implementation Guide for *Personnel Administration*, you do not need to make any additional settings.

31.10.1 Time Management Authorizations

In addition to the HR authorizations, the administrators and specialists in Time Management need the following authorizations for the Time Management infotypes and clusters:

Authorization for infotypes

There are five different authorizations you can assign for infotypes and infotye subtypes:

-   Change authorizations - technical specifications

W   update, write: W contains the authorizations

       E, S, and D

E   write locked

S   write locked and unlock, if not last person to change (S contains authorization E)

D   Maintain lock indicator (lock, unlock)

M   Display matchcode

-      Read authorization - technical specification

R   Read

Which specifications of change authorizations you want to assign to your various users and user roles will depend on your organizational structure of your particular enterprise.

Authorization for HR clusters

To run reports, start time evaluation, maintain incentive wages data, and in some cases to maintain time data in data entry transactions, administrators and specialists also require the read (R) and change authorization (U) for HR clusters.

Shift Planning

For Shift Planning, you require all authorizations for time data recording and time evaluation, and in some cases the structural authorizations for Organizational Management.

Time data recording / Time evaluation

Authorization for infotypes

Read authorization (recommended):

- *Actions* (0000)

- *Organizational Assignment* (0001)

- *Personal Data* (0002)

- *Payroll Status* (0003), (not required for time data recording)

Read authorization (mandatory)

- *Planned Working Time* (0007)

Read and change authorizations (depends on requirements and tasks of user)

- Infotypes 2001 - 2013

- *Time Quota Compensations* infotype (0416)

- *Leave Entitlement* infotype (0005) and *Leave Copmensation* (0083) (old form of leave administration)

- *Basic Pay* infotype (0008), if queried in time evaluation or in automatic quota accrual

Authorizations for HR clusters (mandatory if required)

Cluster PC: Personal calendar

Read and change authorization (R/U) to display and maintain the calendar view and carry out leave deduction

Cluster TX: Infotype texts

Read and change authorization (R/U) to read and maintain the infotype texts

Cluster B1: Temporary time evaluation results

Read and change authorization (R/U) to read and update the time evaluation results, for example, for

- Zurückschreiben der Fehler beim Start der Zeitauswertung RPTIME00

- The Time Management pool

Read authorization (R) to

- Work in the quota overview

Cluster B2: Time evaluation results

Read and change authorization (R/U) to read and update the time evaluation results, for example, to

- Start time evaluation (RPTIME00)

- Output the time statement

- Work in the Time Management pool

Read authorization (R) to

- Work in the quota overview

Cluster PS: Display generated schemas

Read authorization (R) to start time evaluation (RPTIME00), read and change authorization (R/U) for customizing time evaluation

Incentive Wages

Authorizations for infotypes

Read authorization (recommended):

- *Actions* (0000)

- *Organizational Assignment* (0001)

- *Payroll Status* (0003)

Authorizations for HR clusters

Cluster L1: Individual incentive wages

Maintain and display data for individual incentive wages (R/U)

Cluster G1: Group incentive wages

Maintain and display data for group incentive wages (R/U)

31.10.2 Time Management Roles

The Time Management roles have been reworked; the main focus of the redesign was to

concentrate more on the different users within a company who carry out time management tasks.

The tasks of a centralized (human resources) department have therefore been split from the tasks performed by foremen, secretaries, heads of departments and so on in a decentralized time management approach.

Roles for decentralized time management

Decentralized time management is characterized by the delegation of time management tasks to the departments of an enterprise. Persons in charge of time management in individual departments are generally responsible for small to medium-sized groups of 10-30 employees.

-   The **Time Supervisor** (SAP_HR_PT_TIME-SUPERVISOR) has responsibility for the time and labor data of the employees assigned to him or her. He or she checks and approves employees' working times and overtime, for example.
    In the mySAP.com workplace, this role will be part of the composite roles for project managers and managers.

-   The **Time Administrator** (SAP_HR_PT_TIME-ADMINISTRATOR) enters and maintains the time and labor data of the employees assigned to him or her.
    In the mySAP.com workplace, this role will be part of the composite role for workshop foremen and of the composite role *Time Administrator*.

-   The **Shift Planner** (SAP_HR_PT_SHIFT-PLANNER) plans the working times, shifts, and absence times of the employees assigned to him or her.
    In the mySAP.com workplace, this role will be a part of the composite role *Shift Planner*.

Roles for centralized time management tasks

Centralized time management is characterized by one central department such as the human resources department performing all tasks related to time management.

-   The **Time Management Specialist** (SAP_HR_PT_TIME-MGMT-SPECIALIST) ensures that the time management system runs smoothly. Her or she has a high level of technical and business knowledge.
    In the mySAP.com workplace, this role will be a part of the composite role *HR System Specialist*.

-   The **Time and Labor Analyst** (SAP_HR_PT_TIME-LABOR_ANALYST) creates reports on employee time and labor fata.
    In the mySAP.com Workplace, this role will be a part of the composite role *HR Analyst*.

-   If required, the **Payroll Administrator** (role SAP_HR_PY_PAYROLL-ADM) can supplement time data centrally to enable the payroll to be run, for example. In the mySAP.com workplace, this role will be a part of the composite role *Payroll Administrator*.

31.10.3 Maintain Roles

In this step, you can create authorization profiles automatically using transaction PFCG *Role Maintenance*, or manually.

If you want to maintain authorizations and profiles manually, you must have detailed knowledge of all SAP authorization components.

If you use the profile generator in the *Role Maintenance* transaction, such detailed knowledge is not required. For this reason, we recommend using the profile generator.

Activities

To assign an authorization profile to a user, perform the following steps:

1.   Create a role

2.   Choose transactions

3.   Create and edit authorizations

4.   Assign users, and reconcile the user master (the profile is entered for the users)

If you require detailed information on this procedure, see the documentation on transaction
PFCG.

Note

Authorization profiles that have been created manually or supplied by SAP can also be used in roles. In this respect, you can create a role without a menu, and include the appropriate profile in the authorization data of the role. For detailed information, see the documentation on transaction PFCG.

31.11 Information System

In this section you make general settings for reporting in Time Management.

31.11.1 Settings for Reporting

In the following sections you make settings for the **Employee Times** (2501) and **Quota Statuses** (2502) infotypes, which are simulated infotypes in Time Management. You can use the infotypes to evaluate infotype and cluster data.

31.11.1.1 Quota Statuses

In this section you make settings for the **Quota Statuses** infotype (2502), which is a simulated infotype that provides employees' time credits.

31.11.1.1.1 Define Reporting Quota Types

In this activity, you define quota types for reporting. You can use these reporting quota types

- To define display objects for the *Time Manager's Workplace*

- For the *SAP Query* in the *Quota Statuses* simulated infotype (2502)

- To transfer quota statuses to the SAP *Business Information Warehouse (SAP BW)*

Reporting quota types allow you a consolidated view of the following attendance/absence entitlements of *SAP Time Management*:

- The *Attendance Quotas* infotype (2007)

- *Absence Quotas* infotype (2006)

- Monthly totals (SALDO table, cluster B2), only for use in the *Time Manager's Workplace*

- *Leave Entitlement* infotype (0005), only for use in *SAP Query* and *SAP BW*

You can group several attendance/absence entitlements in one reporting quota type. The system outputs the values of the individual entitlements as a cumulated value in the reporting quota type.

Taking account of personnel subarea groupings and employee subgroups You can take account of employees' organizational assignments as required:

- You can group time and labor data of different personnel subarea groupings or employee subgroups in one reporting quota type. Example: The absence quota type 0100 has the same business significance for several personnel subareas. This means that you can group the absence quota type 0100 of all relevant personnel subarea groupings in one reporting quota type.

- You can group attendance and absence entitlements of different personnel subarea groupings or employee subgroups in different reporting quota types. This may be necessary if, for example, absence quota types with the same subtypes have a different business significance.

The same applies to time types with personnel subarea groupings. Note that you have to maintain the assignments for all personnel subarea groupings or employee subgroups if you do not want to exclude employee data from particular personnel subareas or employee subgroups. **Taking account of other organizational assignments of employees and purpose of data**

You can also form reporting quota types according to other organizational assignments of employees, such as the cost center or the *Time Management status*. To do so, you maintain the **GRDWK** feature. It determines the rule group(s) for the definition of reporting quota types. In the standard system, all employees have the rule group 01.

If you use the reporting quota types both in the *Time Manager's Workplace* and in *SAP Query* and *SAP BW*, you can use the rule groups to have different attendance/absence entitlements included for different purposes. To do so, you use the decision field **REPAR** in the decision tree of the feature.

Displaying balances from the SALDO table in cluster B2

The *Time Manager's Workplace* displays different values depending on whether you carry over the period balance from the previous month or year in the Define Time Types IMG activity:

- If you carry over the period balance, the system displays the balance as of the current day.

- If you do not carry over the period balance, SAP R/3 displays the balance as of the time evaluation period in which the selected day lies. This means that in March you can analyze the balance as at the end of January if you have selected a day in January, for example.

Example

In the *Maintain Reporting Quota Types* activity, you create a reporting quota type, *Leave*.

You use this reporting quota type to group the absence quota types *Standard annual leave*, *Educational leave* and *Special leave.*

Standard settings

SAP provides some reporting quota types in the standard system.

Activities

1. If required, choose the **Maintain Feature GRDWK** activity and maintain the feature. In the standard system, all employees have the rule group 01.

2. Choose the *Maintain Reporting Quota Types* activity.

3. Create a reporting quota type and enter easily identifiable description for the quota type text.
    You can use any alphabetical or numerical characters in the name of a reporting quota type. Note, however, that the SAP namespace is reserved for quota time types beginning with a number.

4. Select the reporting quota type.

5. In the dialog structure, double-click on the type of assignment you want: *Assign Absence Quotas*, *Assign Attendance Quotas*, or *Assign Leave Quotas.*

6. In the *Rule Group: Reporting Quota Type*s field, enter the rule group to which you want the reporting quota type to belong. The rule group is queried by the **GRDWK** feature.
    Enter an attendance or absence quota type, a leave type, or a monthly total. You can assign several attendance or absence types, leave types, or monthly totals to one reporting quota type. You have to make a new entry for each assignment.

Further Notes

31.11.1.2 Employee Time and Labor Data

In this section you make settings for the **Employee Times** infotype (2501), which is a simulated infotype that provides the data basis for employees' actual working times.

31.11.1.2.1 Define Reporting Time Types

In this activity, you define reporting time types. You can use reporting time types

- To define display objects for the *Time Manager's Workplace*

- For the *SAP Query* in the simulated infotype 2501

- To transfer time and labor data to the SAP *Business Information Warehouse (SAP BW)*

Reporting time types allow you a consolidated view of time and labor data of *SAP Time Management*. You can create and name your own reporting time types and use them to group time and labor data from the following datasets:

- *Absences* infotype (2001)

- *Attendances* infotype (2002)

- *Employee Remuneration Information* infotype (2010)

- Time types (table ZES, cluster B2)

- Time wage types (table ZL, cluster B2)

The system outputs the values of the individual time and labor data according to the unit chosen and the container filled as a cumulated value of the reporting time type.

Units and containers for time and labor data

Two different views are available for defining reporting time types: one for the *Time Manager's Workplace* and one for *SAP Query* and *SAP BW*. The system interprets one view or the other, depending on the location from which the data is requested.

- In the case of reporting time types for the *Time Manager's Workplace*, you must specify in the reporting time type itself the unit you want to be used for the value determined (hours or days). This guarantees that time administrators correctly interpret the value that is output.
  In the case of attendance/absence types, you can also specify whether you want the payroll hours/days (that is, the **account-relevant** field is selected) or the absence hours/days to be output.

- However, in the case of reporting time types for *SAP Query* and *SAP BW*, the values can be accumulated in various containers, according to the unit chosen and the specified value (payroll hours, days, absence hours and days). You therefore specify for each attendance or absence the data you want to be read. For time wage types and time types, you specify what you want the value read to be interpreted as, that is, which container it is to be placed in. You must restrict the selection to one unit. To ensure that the data you receive is of use to you, you should fill the containers consistently for each reporting time type. **Taking account of personnel subarea groupings and/or country groupings** You can take account of employees' organizational assignments as required:

- You can group time and labor data of different personnel subarea groupings in one reporting time type. Example: The absence type 0100 has the same business significance for several personnel subareas. This means that you can group the absence type 0100 of all relevant personnel subarea groupings in one reporting time type.

- You can manage time and labor data of different personnel subarea groupings in different reporting time types. This may be necessary if, for example, absence types with the same subtypes have a different business significance.

The same applies to time types with personnel subarea groupings or for wage types with country groupings. Note that you have to maintain the assignments for all personnel subarea groupings if you do not want to exclude employee data from particular personnel subareas. **Taking account of other organizational assignments of employees and purpose of data**

You can also form reporting time types according to other organizational assignments of employees, such as the cost center or the *Time Management status*. To do so, you maintain the **GRDWT** feature. It determines the rule group(s) for the definition of reporting time types. In the standard system, all employees have the rule group 01.

If you use the reporting time types both in the *Time Manager's Workplace* and in *SAP Query* and *SAP BW*, you can use the rule groups to have different time and labor data included for different purposes. To do so, you use the decision field *REPAR* in the decision tree of the feature.

Important note: Many customers who use the *SAP Cross-Application Time Sheet* do not use the SAP HR component. These customers are therefore not able to use the GRDWT feature. So that they can still use the InfoSources of the Cross-Application Time Sheet, only the reporting time types of rule group 01 are processed for the Time Sheet.

If you use the HR component and also the Time Sheet InfoSource, you must also reserve rule group 01 for the Time Sheet.

Example

You want to define a reporting time type, *Overtime*, for your salaried employees (with *Time Management status* 0) and your hourly-paid employees (with *Time Management status* 1). You have to take account of overtime from time balances (cluster table ZES) and employee remuneration information (infotype 2010). You proceed as follows:

1. You maintain the GRDWT feature. You group employees in a rule group according to the **Time Management status:** Employees with the *Time Management status* 1 in rule group 01, those with the *Time Management status* 0 in rule group 02.

2. In the *Maintain Reporting Time Types* activity, you create a reporting time type, *Overtime.*

3. In this reporting time type, you group the time type **overtime worked** (rule group 01 for employees with the *Time Management status* 1) and the wage types **overtime 25%** (MM10), **overtime 50%** (MM20), and **overtime basic remuneration** (MM00) (rule group 02 for employees with the *Time Management status* 0).

Standard settings

SAP provides some reporting time types in the standard system.

Activities

1. If required, choose the **Maintain Feature GRDWT** activity and maintain the feature.

2. Choose the *Maintain Reporting Time Types* activity.

3. Create a reporting time type and enter easily identifiable description for the time type text.

4. You can use any alphabetical or numerical characters in the name of a reporting time type. Note, however, that the SAP namespace is reserved for reporting time types beginning with a number.

5. If you are creating reporting time types for the *Time Manager's Workplace*, specify whether you want them to be managed in days or hours.

6. Select the reporting time type.

7. In the dialog structure, double-click on the type of assignment you want: *Attendances/Absences Assignment*, *Time Types Assignment*, or *Wage Types Assignment*.

8. In the *Rule Group: Reporting Time Types* field, enter the rule group to which you want the reporting time type to belong. The rule group is queried by the **GRDWT** feature.

9. Enter a valid combination of personnel subarea grouping and attendance/absence type or time type, or of a country grouping and wage type.
   You can assign several attendance/absence types, time types, and wage types to one reporting time type. You have to make a new entry for each assignment. You can assign both wage types that were determined by time evaluation and stored in the ZL table in cluster B2 and wage types that you entered in the *Employee Remuneration Information* infotype (2010).

10. Specify how you want the time to be interpreted:

   a) For the *Time Manager's Workplace:* If you assign an attendance/absence type, you must specify whether you want the system to read the actual times entered or the times that would be deducted from a quota (payroll hours/days) In the latter case, you have to choose the *account-relevant* option.

   b) For *SAP Query* and *SAP BW*: Enter the individual values you want to read.

Further Notes

31.11.2 Set Value Limits for Cumulated Evaluation Results

Report **RPTBAL00** can be used to generate a list of the

   - Day balances

   - Cumulated balances or

   - Time wage types

in cluster B2. You can define value limits as regards number of hours for time wage types or wage types. If the limit is exceeded, the relevant number field in the output list is highlighted in red.

You define the value limits in this step.

Example

You might want to flag all employees who have a flextime credit of more than 15 hours in any one time evaluation period.

Standard settings

The following value limits are defined in the standard system:

   - maximum daily overtime   : 3 hours

   - flextime balance per period: 15 hours

   - daily overtime bonus 25% : 2 hours

- daily overtime bonus 50% : 1 hours

Activities

Decide which time wage types or wage types you want to define value limits for, and what relation the values should have to an employee's organizational assignment. Then modify features **LIMIE**, **LIMIS**, and **LIMIZ** as required.

31.12 Web Applications (ITS Version)

In this section, you make the system settings for the Time Management Internet Application Components that are based on the Internet Transaction Server.

A new technology is now available for some services. For more information, see the following release not for the SAP ECC 5.0 Release: Employee Self-Service (New)

31.12.1 Internet Work Schedule

This section describes the points to keep in mind when you want your employees to access their work schedules using the Internet or company intranet.

Example

You want your employees to be able to access work schedules at their work centers, or from home using the Internet or company intranet.

Requirements

1. Settings must be made in General Settings for ESS.

2. Each employee allowed to view his or her work schedule in the Internet must be assigned a user in the SAP System.

3. Each employee must be assigned to the SAP User in the Communication infotype (0105). Use the subtype "0001" (System User Name in SAP System) to do so.

Standard settings

Sunday is considered the last day of the week when weekly periods are printed.

Entry profile SAP_000004 is used in the standard SAP system.

Recommendation

&ACTIVITY

1. **Define Entry Profile**
   Access service file **PZ17_n.srv** on your ITS server if you want to use a customer-specific entry profile for the Internet application. Enter the customer-specific name for the entry profile in the **PROFILE_ID** line.

2. **Set last day of the week**

If you do not want to display the days from Monday through Sunday, you can use the feature LDAYW to specify another weekday than Sunday as the last day of the week. Execute the IMG activity for this.

Further notes

Further settings for displaying and using Internet Application Components (IACs) are carried out in the Customizing section for Employee Self-Service area of the Implementation Guide (IMG).

For more information, see

General Settings for Employee Self-Service
ESS Settings for Specific Scenarios

31.12.2 Internet Time Accounts

The Internet Application Component **Leave Information** enables employees to display the balances of their time accounts for a date of their choice. In this step, you set up the service so that the ESS service always displays the current or projected status for the required key date.

To permit evaluations of future periods, specify the variant of time evaluation (RPTIME00) you want to use for the simulation of time data for future periods.

Process Flow

The system checks whether the specified key date lies within a period that has already been evaluated.

- If the date lies within this period, the system accesses the relevant data in cluster B2. Please note that in this case only absences that have been deducted up to the specified key date are output.

- If the date lies outside the last period evaluated by time evaluation (*PDC recalculation* field in the *Payroll Status* infotype (0003)), the system simulates time data up to the specified key date. In this case, time evaluation is run using the variant specified in feature
  LLREP.

If there are errors in the simulation, the system accesses the data from the *Absence Quotas* infotype (2006).

Requirements

The time evaluation schema specified in the variant must be able to:

- Select all the employees who use this ESS service

- Simulate data for future periods

- Automatically accrue employees' absence entitlements using function QUOTA

Standard settings

Feature **LLREP** is specified in the SAP standard system.

Activities

Assign the required time evaluation variant under function SIMF in feature LLREP.

Further notes

You make the settings required for displaying and using the Internet Components in Customizing for Employee Self-Service.

See also

General Settings for ESS
ESS Settings for Specific Scenarios

31.12.3 Internet Time Statement

This step describes the special features you should note if you want to allow your employees to display their time statement in the Internet/Intranet.

Example

You want to offer your employees the option of viewing their time statement at their work center or from home using the Internet/intranet.

Requirements

1. You must have made the General Settings for ESS.

2. All employees who are permitted to view their time statement must have a user in the SAP System.

3. All employees must be assigned to their SAP user in the Communications infotype (0105). You use subtype 0001 (System user name SAP System) for this purpose.

Activities

Choose the activity **Create Time Statement Form**.

If required, create a special form for the Internet time statement.

Create a variant called HRESS_TEDT00 for report RPTEDT00 (Time Statement Form). If you do not create this variant, report RPTEDT00 is run using standard form TF02. Specify the name for your Internet form. All other parameters for the report are also available for Internet display.

Further notes

You make additional settings for displaying and using Internet Application Components in Customizing for Employee Self-Service.

For more information, see:

General Settings for ESS
ESS Settings for Specific Scenarios

31.12.4 Leave Request (Old)

In this section, you can specify the absence types that an employee is permitted to enter in the *Leave Request* service in the Internet or intranet.

You deactivate the absence types that you want to be entered only by administrators in the SAP system. These absence types cannot then be created via the internet/intranet.
Note
These settings are also used by the *Record Working Times* Web application (CATS regular).

Requirements

1. You must have defined the settings for displaying and using the Internet Application Components in the Implementation Guide (IMG) for Employee Self-Service:

    -   General Settings for Employee Self-Service

    -   ESS Settings for Specific Services

2. Each employee allowed to record leave requests must have a user in the SAP system.

3. A user name for each employee must be defined in the *Communications* infotype (0105), subtype 0001 (SAP system user names).

Activities

1.   Decide which absence types cannot be processed in an Internet Application Component.

2.   Deactivate these absence types, by selecting the *Deac.* field.