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SAP Profitability Analysis

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A Business and Technical Roadmap to Deploying SAP

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INTRODUCTION

Welcome to the fascinating world of SAP. This book helps you crack the tricks of mastering SAP HANA Customization

Profitability Analysis

Here you will find all the information you need to implement Profitability Analysis.

Before you start to configure your system, you should familiarize yourself with the business functions and concepts of Profitability Analysis.

Additional Information

For more information on these topics, see the online manual **CO Profitability Analysis**.

Structures

In this section, you define the basic structures of the Profitability Analysis application component.

Define Operating Concern

In this section, you create an operating concern.

In order to use Profitability Analysis (CO-PA), you have to define operating concerns. An operating concern is an organizational unit in Financials. The structure of an operating concern is determined by analysis criteria (characteristics) and the values to be evaluated (value fields).

In a first step, you have to define the characteristics for your operating concerns. You define characteristics in the Customizing activity Maintain characteristics. For costing-based Profitability Analysis, you also need to define value fields. You do this using the activity Maintain value fields. These characteristics and value fields can be used in several operating concerns. Their definition applies to all clients.

After this, you have to define the structure of your operating concern in the activity Maintain operating concern. You do this by selecting the desired characteristics and adding them to the data structures of your operating concern. If costing-based Profitability Analysis is active, you also need to select and add the required value fields. The structure of an operating concern is valid in all clients.

In the step "Maintain operating concern", you also specify the attributes of your operating concern (fiscal year variant, currencies). By maintaining the attributes, you make an operating concern "known" in the current client. The attributes are client-specific.

Maintain Characteristics

In this activity, you define characteristics. A number of frequently used characteristics are already predefined in the standard system.

You initially define these characteristics independently of any operating concern. They are also available in all clients.

Before defining a characteristic, look at the list of existing characteristics. You may find one there that already meets your requirements. This list contains all predefined characteristics and those you have already defined in your system. To see a list of those characteristics that are automatically contained in all operating concerns, choose *Extras -> Fixed fields*.

To create characteristics, switch to the "change" mode and then choose the *Create* icon:

Copying characteristics from a list of proposals

You can use characteristics that originally come from other applications as characteristics in Profitability Analysis by copying these fields from existing tables or structures. For example, you can choose any characteristics from the SAP standard tables for customers, materials, or sales documents. The table from which you copy a characteristic is referred to as that characteristic's "table of origin". The values for these characteristics are automatically derived from other characteristics in CO-PA (derivation steps are generated automatically) or transferred together with the transaction data from other applications (such as Sales and Distribution (SD)).
The system only offers you those fields that can still be copied from the table. This excludes fixed characteristics and characteristics that cannot be used in CO-PA for technical reasons. Equaly, you cannot copy a field if a characteristic already exists with the same data element and the same table of origin. This rule does not apply if the characteristic that already exists is used in an SAP operating concern template.

To avoid naming conflicts, you must rename any reference table fields to be copied as characteristics if their original name is not four or five characters long. The new name must begin with "WW" and should be only four or five characters long.

The reference tables contain fields whose characteristic values can only be interpreted in conjunction with other fields. One such example is the field *Region* (REGIO) in the customer master table KNA1, which can only be understood together with the field *Country* (LAND 1) because country is located at the level above region. If such a field is copied as a characteristic, you also need to assign the higher-level characteristic during characteristics maintenance (see also the section *"Characteristics"* in the documentation for Profitability Analysis). Fixed characteristics (such as the controlling area) can also be used as higher-level characteristics.

From a technical point of view, a characteristic's dependency on other characteristics is determined via the key fields of the particular check table that is defined by the foreign key relationship for the field in the reference table. You can only assign a characteristic as superior if it shares the same domain as the key field in the check table for the subordinate characteristic. The client field is not taken into account. If such characteristics already exist in the system, the system proposes them as possible superior characteristics. If no characteristics meet this criteria, you need to define a characteristic.

Example: The field *Region* has the check table T005S assigned to it with the key fields *Client* (with the domain MANDT assigned to it), *Country* (domain LAND1) and *Region* (domain REGIO). Since the characteristic LAND1, like the key field *Country*, has the domain LAND1 assigned to it, it can be assigned to the characteristic *Region* as a higher-level characteristic.

If the field that you wish to copy is semantically dependent on another field, the *Dependencies (characteristic compound)* area is automatically displayed in the details screen for characteristic maintenance. Moreover, a higher-level characteristic is also proposed, if applicable.

When you copy characteristics from reference tables, the technical attributes (such as length and data type) and the texts from the reference table are also copied along with the data element. The value range is specified either by the check table entered in the domain or by the fixed values in the domain.

If you want other texts to appear on screens or lists for the characteristic, you need to delete the reference to the original data element by choosing *Edit -> Data element -> Delete assignment*. Then you can enter texts on the detail screen. You can only delete the assignment to the data element if you have not yet saved the characteristic.

The system automatically proposes entries for the text table, for the text fields and for the long text fields. You should only change these in exceptional cases. If you do so, note that the key of the text table contains the same fields as the key of the check table.

Defining new characteristics

You can also manually define new characteristics that you only want to use in Profitability Analysis. Since these characteristics have no table of origin, their values are not automatically derived from other characteristics. You therefore need to define derivation steps for them. The name of new characteristics must begin with "WW" and consist of 4 or 5 characters. Depending on the desired attributes, you must choose one of the following variants:

- With own value maintenance

  In most cases, you will define new characteristics with their own value maintenance. In this case, the system creates a check table and text table. In the Customizing activity Maintain characteristic values, you can then enter characteristic values and texts for these.

  Only those values maintained here are permitted values for that characteristic. If the values for a characteristic are only semantically unique when in conjunction with other characteristics, you can display this fact by defining a dependency (characteristic compound).

To define this type of dependency, proceed as follows:

When creating a characteristic, use the *Display compound* icon to switch to dependency display. At the top of the display, you find the characteristic that has just been defined.

Use the *Insert row* icon to insert the same amount of empty rows as the amount of higher-level characteristics that you would like to assign. Then enter the higher-level characteristics into those rows.

Once you have saved the characteristic, you cannot make any changes to the dependencies. If you would like to display a multi-level dependency, you need once more to assign a higher-level characteristic to another higher-level characteristic in the latter's characteristic value maintenance. However, when defining dependencies, you should avoid ending up with complicated, multi-leveled chains of dependencies.

When you save, the system displays a dialog box in which you can specify how the check table should be created. Normally you will want to to choose "Automatic", which means that the names of the check tables are numbered sequentially with the name "T25xx" (where xx = number). You can also enter these numbers manually in order to avoid naming conflicts when you transport the operating concern to another system. In that case, you need to make sure that the numbers issued in these systems are not synchronous. For more information on transporting these tables, see the section Transport objects.

Without value maintenance

This option lets you define characteristics with no check table. This means that there is no set of allowed characteristic values and texts. Consequently, no validity check takes place for values of these characteristics.

These characteristics cannot be used as receiver characteristics for period-based allocations.

With reference to existing values

This type of characteristic is only required in special cases. Here you assign the characteristic to a data element that already exists in the system. The characteristic takes on the attributes of that data element (texts, length, check table, text table).

General information

It is possible at any time to change the texts of new characteristics specific to CO-PA.

The technical attributes, the assigned data element, the dependency, and the check table can only be changed if you have not yet saved the characteristic.

You can delete any characteristic that is not used in any operating concern.

It is possible to define more than one characteristic using the same data element or texts (description, short text, title). However, you should not include both in the same operating concern. The following example shows how you can use characteristics with the same data element from different tables of origin:

The characteristic MATKL (Product range) is predefined. Its table of origin is MARA (material master). However, you want to derive the product range from the sales document.

Therefore you need to define a characteristic from the table VBAP. Choose "Copy table fields" and select the field MATKL from table VBAP. Since a characteristic with the same name already exists, rename the field to "WWMKL". Then choose "Edit -> Data element -> Delete assignment" to delete the assignment to the data element. On the detail screen, enter different texts so that you can distinguish this one from the predefined characteristic MATKL. When you activate the new characteristic, the system automatically creates a new data element (with the same technical attributes and same table of origin).

On the initial screen, note the repair functions: *Extras -> Field catalog -> Reorganize*

Extras -> Master data -> Text read module

The function "Reorganize" synchronizes the CO-PA field catalog and the ABAP Dictonary. "Text read modules" generates the routines for checking characteristic values and reformats the texts for display. Both functions are unnecessary in the course of normal operations. They are merely designed to help you correct inconsistencies following modifications or transport errors.

Using special characteristics from SAP tables

In SD, you can organize your customers in a hierarchical structure according to various criteria. To use this **customer hierarchy** from SD in Profitability Analysis, you can copy the fields HIEZU01 through HIEZU from the structure PAPARTNER to your operating concern.

You assign the SD hierarchy nodes to these fields in PAPARTNER when you maintain the customer hierarchy in SD.

To derive values for the customer hierarchy characteristics in CO-PA, you need to define the derivation step "Customer hierarchy" in Characteristic derivation.

If you want to use individual levels of the **product hierarchy** in MM as characteristics of your operating concern, you can choose the fields PAPH1, PAPH2, and so on using the function "Copy from SAP table". (The field "Product hierarchy" is not suitable for drilldown reporting through the different hierarchy levels.) The values of these fields are:

PAPH1 - Values of level 1 of the hierarchy

PAPH2 - Compound values of levels 1 and 2 of the hierarchy

PAPH3 - Compound values of levels 1 to 3 of the hierarchy ...

By using these fields in your operating concern, you avoid having to maintain characteristic values and derivation rules for the product hierarchy. If you have already set up your operating concern in an earlier release and defined characteristics and derivation rules for the product hierarchy, those settings remain unchanged and continue to function as before.

Note

Once you have added these characteristics to an operating concern, you an no longer change the structure of the product hierarchy (ABAP Dictionary structure PRODHS).

Activities

Define the desired characteristics and then activate your entries.

Add these characteristics to your operating concerns using the IMG activity Maintain operating concern -> Change data structures.

Maintain Value Fields

In this activity, you can define your own value fields. Frequently used value fields, such as "Revenue" and "Sales quantity", are already predefined in the standard system.

You define these values independent of any operating concern and any client.

Before you create a new value field, you should take a look at the ones that already exist. It may be that you can use a value field you have already define or one defined in the standard system.

Once you are in the "change" mode, you can define a new value field by choosing the "Create" icon:

Enter a 4- or 5-character name that begins with "VV" for your value field. Here you also need to specify whether this field is a quantity field or a field for currency amounts. All the currency fields in any single line item use the same currency. This currency is defined in the attributes of each operating concern. Each quantity field, on the other hand has its own field that defines the unit of measure. Thus you can have quantities in different units in the same line item.

On the next screen, you can enter texts to describe the value field, as well as how the values in this field are to be aggregated over characteristics of time. In most cases, you will use the aggregation rule "SUM" (summation) to add up the values over periods. The aggregation rules "Last value" (LAS) and "Average" (AVG) are only of significance if the value field is to contain a statistical non-cumulative value.

Further notes

If necessary, you can change the attribute "Currency or quantity field" as long as this value field is not used in any operating concern.

You can change the texts for user-defined value fields at any time.

You can delete any value field that is not being used in an operating concern.
On the initial screen, you can use the repair function **Extras -> Field catalog -> Reorganization** to synchronize the CO-PA-specific field catalog with the ABAP Dictonary. This function is not needed under normal circumstances. It merely helps you remove inconsistencies following modifications or transport errors.

Activities

Create your value fields and then activate your entries.

To add your value fields to operating concerns, call up the function "Operating Concern -> Change data structures" in Customizing.

Maintain Operating Concern

In this activity, you define and maintain the operating concerns you are going to use in your system.

If you want to create a new operating concern, you need to create the subobjects *data structure* and *attribute* and to activate the environment:

Data structure

The data structure determines the structure of the profitability segments that you can analyze and how costs and revenues are organized. All information in the data structure definition is valid for **all clients**. If you use the operating concern in more than one client, you still only need to define the data structure once. You then need to set the attributes in each client individually.

One of the specifications you make for the data structure is the type of Profitability Analysis.

You can only activate the operating concern for the types you specify here. The structure of the operating concern is defined by the characteristics and - in costing-based Profitability Analysis - by the value fields as well:

Characteristics

Characteristics are the segments of your organization for which you want to analyze your data in CO-PA.

Several fundamental characteristics are predefined in every operating concern. These are called "fixed characteristics". You can display a list of the fixed characteristics by choosing *Extras -> Fixed fields*.

In addition to these predefined fields, you can define up to 50 of your own characteristics in each operating concern. You can select these from a list of additional predefined characteristics, or you can create your own using the Customizing function Maintain Characteristics.

Value fields

Value fields are the fields in costing-based CO-PA in which the system stores the amounts and quantities. They thus determine the structure of your costs and revenues.

An operating concern can contain up to 120 value fields. The standard system contains a list of predefined value fields (such as "Sales quantity" or "Sales revenue"). If you want to define additional value fields, you can do this using the Customizing function Maintain Value Fields.

To add fields (characteristics or value fields) to your operating concern, select the desired fields on the *Edit Data Structure* screen (right side of the screen). Then use the function *Transfer fields* to copy these fields to the data structure. You can only transfer fields with an active status. AN operating concern cannot contain two fields for which the meaning, the short text, or the field title overlap.

Once you have defined your data structures, you need to activate them. When you activate the data structures, the system creates the tables for plan and actual data in the database system.

If you choose to add new characteristics or value fields at a later stage, you should note that these do not work retroactively. However, you can supply new value fields with existing planning data using the "Automatic planning" function or the "Periodic valuation" function. To fill new characteristics retroactively, you need to perform the "Realignments" function.

Deleting characteristics/value fields from an operating concern

You can delete characteristics and value fields retrospectively from an operating concern that you have already activated. However, you should only use this deletion function for **operating concerns that have not yet been used productively**. You should also note that some database systems require the operating concern tables to be converted (database conversion) after the deletion has taken place if data had already been posted to the operating concern. Depending on the data volumes involved, the database conversion can take a matter of seconds or indeed several hours. Moreover, you cannot post data or run reports during the conversion. Due to integration, other applications are also affected when data is postedwith an assignment to profitability segments (such as settlement and direct assignment from FI/MM). If the operating concern has been transported to another system (such as the productive system), then the database conversion must also occur in that target system.

Depending on the fields that were deleted, the following tables need to be converted (where xxxx = operating concern):

Characteristics: CE1xxxx, CE2xxxx, CE4xxxx, CE4xxxx_ACCT, CE4xxxx_FLAG, and CE4xxxx_KENC

Amount fields: CE1xxxx, CE2xxxx and CE3xxxx

Quantity fields: CE1xxxx, CE2xxxx, CE3xxxx, CE4xxxx, CE4xxxx_ACCT, CE4xxxx_ACCT, CE4xxxx_FLAG, and CE4xxxx_KENC

Before deleting fields from an operating concern with a large data volume (more that 000 records in a table), you should refer to the section "The Database Utility" in the ABAP dictionary documentation. This section describes the database conversion process.

For database systems that do not require conversion (such as DB2 for AS/400, Informix, MSSQL), it can still take a considerable amount of time for the operating concern to be activated.

To delete characteristics or value fields, perform the following activities:

Delete the corresponding characteristics and value fields from Customizing in all clients (this includes forms, reports, planning layouts, and so forth). To locate characteristics and value fields, use the appropriate where-used list in the Customizing Monitor. You can access it by choosing *Tools -> Analysis -> Check Customizing Settings*. You can jump directly from the where-used list to the relevant Customizing transaction and then delete the appropriate field there.

Switch to the screen for maintaining the data structure of an operating concern (Maintain operating concern).

If you need to effect other changes to the datastucture for the operating concern before making any deletions, effect those changes and save the data structure.

In order to be able to select the fields of the data structure, choose *Extras -> Characteristics (or Value fields) -> Unlock*.

Select the characteristics and value fields to be deleted and remove them from the data structure with the "Reset fields" function.

Reactivate the operating concern. The system starts by checking whether the operating concern contains any data and whether the fields to be deleted are still being used in any Customizing settings.

If none of the fields are still in use, the system then starts the re-activation. If the operating concern does not contain any data or does not require the database system to be converted, the tables are activated. You are then able to activate the environment for the operating concern. In this case, the following activities no longer apply.

If the operating concern already contains data, a system message tells you that the database needs to be converted. If you proceed, an activation log appears (at the top of the list).

Analyze the activation log. If it only contains error messages telling you to convert the tables, proceed with the next activity.

You must otherwise remove the cause of the errors before the tables can be converted. In this case, you should answer "No" to the next prompt, which asks whether the conversion transaction should start.

If you still only receive error messages telling you to convert the tables, choose "Back" and start the conversion.

Plan a job for the conversion. A list of the tables to be converted is shown for this. If the tables only contain a small amount of data (less than 000 records), then all the tables can be converted in one job. In that case, you can select all the tables. For larger tables, conversion should take place in several jobs. However, you should ensure that table CE4xxxx (where xxxx = operating concern) is the last table to be converted.

Warning. No other changes can be made to the operating concern during the conversion. A copy of the table is generated during the conversion. The database system should have sufficient memory available for this copy.

To schedule conversion as a job, use the "Schedule selections" function. You can display the current status of the conversion by selecting the "Refresh" icon. Tables disappear from the list once they have been converted sucessfully. If a conversion is taking a while, it is also possible to leave the transaction. You can then continue the conversion using *DB requests -> Mass processing* in one of the following ways:

With the job overview. You access this by choosing *System -> Services -> Jobs*. Using the database utility transaction. You access this by choosing *Utilities -> Database Utility* in the ABAP Dictionary menu.

You can use the status function to call up the status of the operating concern during operating concern maintenance. You need to activate all tables after conversion.

To analyze errors that have occurred during the conversion, you can use the database utility transaction by choosing *Extras -> Logs*. The log has the same name as the conversion job: TBATG-date. You can also restart the conversion with this transaction. For more information on the database utility, choose *Help -> Application help* while still in the above transaction.

Once you have activated all the tables in the operating concern, generate the operating concern environment from within operating concern maintenance.

You can then use the operating concern again.

If you want to transport the operating concern into a different system, see the section "Notes on transport"

Note

To finish processing the data structures, use the "Back", "Exit", or "Cancel" navigation functions.

Attributes

The attributes are client-specific parameters of an operating concern. They have different effects depending on the type of Profitability Analysis you are working in. When you create the attributes, you make the operating concern "known" in that client. If the operating concern does not yet contain any transaction data, you can change the attributes at any time. However, you should not change them in a productive system that already contains transaction data.

- Currency types

  Note: Whereas actual data can be updated simultaneously in all the combinations of currency type and valuation that are described below, planning data is always updated in one currency only - the currency specified for that particular plan version.

  Note also that updating actual data in multiple combinations of currency and valuation significantly increases your data volume with each additional combination.

  Operating concern currency

  In costing-based Profitability Analysis, actual data is always updated in the operating concern currency.

  You can change the operating concern currency as long as no data has been posted in the operating concern. Once data has been posted, however, a change in the operating concern currency would cause the existing data to be interpreted as if it were posted in the new currency (for example: USD 000 in old currency -> DEM 000 in new currency).

  Company code currency

  In addition to the operating concern currency, you have the option of storing all data in the currency of the relevant company code as well. This makes sense if your organization operates internationally and deals with exchange rates that change daily. It allows you to avoid differences due to different exchange rates and lets you reconcile your CO-PA data directly with FI.

You can activate the company code currency at any time. However, this will not affect data that has already been posted.

If you deactivate the company code currency, you can no longer use plan versions and reports that use the company code currency.

Profit center valuation

In addition to storing data in these two currencies using the legal (= company code) valuation view, you can also store data in both of these currencies valuated from the viewpoint of individual profit centers.

This yields the following possible combinations of valuation view and currency type (so-called valuation approaches):

Currency type	Valuation view
Operating concern currency	Legal valuation
Company code currency	Legal valuation
Operating concern currency	Profit center valuation
Company code currency	Profit center valuation

You set up actual data valuation from the profit center viewpoint in Customizing under "Flows of Actual Values -> Multiple Valuation Approaches/Transfer Prices".

Note

Whereas actual data is updated simultaneously in all the selected combinations of currency type and valuation, plan data is always updated in one currency only - the currency specified for that particular plan version.

Note that updating actual data in multiple combinations of currency and valuation significantly increases your data volume.

If you are using account-based Profitability Analysis, the system stores all data in the transaction currency, company code currency and controlling area currency. If the company code currency and the controlling area currency are the same, the system stores the object currency for the individual CO object (cost center, order, project, and so on) in place of the company code currency.

The currencies you specify for the operating concern have no significance for account-based CO-PA.

- Fiscal year variant

  The fiscal year variant determines the number of posting periods per fiscal year for the operating concern. Since each controlling area assigned to the operating concern -- and each company code assigned to each of those controlling areas -- can have its own fiscal year variant, the variant you choose for the operating concern must agree with the other areas.

  If you want to change the fiscal year variant, you can only do so in a way that increases the total number of periods, for example: from 12 posting periods + 2 special periods to 12 posting periods + 4 special periods

  If the alternative period type is active for the operating concern (see below), you cannot change the fiscal year variant.

  If you are using costing-based Profitability Analysis, the operating concern and the controlling area which is assigned to it must have the same fiscal year variant before you can transfer overhead.

  If you are using account-based Profitability Analysis, the operating concern and the controlling areas must always have the same fiscal year variant.

- Alternative period type

  If you are using costing-based Profitability Analysis, you can use the alternative period type to store your actual or plan data in weeks. However, activating the alternative period type multiplies your

data volume. This could lead to much slower response times in your information system than if you do not use the alternative period type. You can also activate the alternative period type at a later point in time. The only disadvantage of this is that the data posted up to that point will not be stored according to the alternative period type. That data remains assigned to the posting period. If you are using account-based Profitability Analysis, you cannot use the alternative period type.

Environment

Whenever you activate the data structures, you also need to activate the cross-client and client-specific environment of the operating concern. If you have added new characteristics to an operating concern in a productive system, you should make sure that no postings are made in that system while you are activating the environment. Activate the environment on the same server that you activated the data structures on.

Standard settings

The standard SAP system contains the sample operating concern "S001". You can copy this operating concern to create your own operating concern. However, you should not use it productively.

Activities

To define your operating concern, proceed as follows:

Enter the name of the operating concern.

Enter a text for the operating concern.

Specify which type or types of Profitability Analysis you want to use.

Create the data structures and activate them

Activate the environment.

Define attributes in each client in which you want to use the operating concern.

Additional information

Generated objects

When you activate the data structures of your operating concern, the system creates the following objects in the ABAP Dictionary:

Type	Name	Description
Structure	CE0xxxx	logical line item structure
Table	CE1xxxx	actual line item table
Table	CE2xxxx	plan line item table
Table	CE3xxxx	segment level
Table	CE4xxxx	segment table
Table	CE4xxxx_KENC	realignments
Table	CE4xxxx_ACCT	account assignments
Table	CE4xxxx_FLAG	posted characteristics
Structure	CE5xxxx	logical segment level
Structure	CE7xxxx	internal help structure for assessments
Structure	CE8xxxx	internal help structure for assessments

In these names, "xxxx" stands for the name of the operating concern.

Upgrading your system

When you upgrade your system to a later release, or when you import a support package, the new functions or corrections need to be activated for your existing operating concerns. This is done automatically when you execute the first transaction that uses data from Profitability Analysis. This normally takes a few minutes and is announced by a message at the bottom of the screen you are currently on.

This upgrade includes a number of checks and, where necessary, the automatic correction of inconsistencies. However, the system may encounter situations that it cannot handle automatically. It is therefore recommended that you carry out this upgrade manually by executing a simple function (such as "Environment -> Set operating concern" in the application menu) before you begin working productively again in the new release. This will trigger the upgrade process.

Deleting an operating concern

To delete an operating concern, you need to carry out a number of preparatory steps:

Deactivate Profitability Analysis for all the controlling areas that belong to the operating concern to be deleted and in all fiscal years using the function Activate Profitability Analysis.

Delete the assignment of controlling areas to your operating concern using the function Assign Operating Concern (Customizing for the Enterprise Structure).

You can access the following steps in the function *Operating concern -> Delete*.

Delete the client-specific Customizing settings.

After completing steps 1 through 3 in all clients, you can proceed with the following steps:

Delete the environment.

Delete the data structures.

When you delete the data structures, the system also deletes all the transaction data in that operating concern. This data can no longer be recovered.

If you want to delete characteristics and value fields that are not used in any operating concern, you can do this using the Customizing functions Maintain Characteristics or Maintain Value Fields.

Notes on transporting

You can transport the settings you made to your productive system using the CO-PA transport tool.

Note that the generated ABAP Repository objects are valid for all clients. Conflicting names in the target system can also lead to problems in other applications. Therefore you should make all Customizing settings in one (source) system. You can then transport these settings to your other (target) systems. This technique helps you avoid inconsistencies.

If you cannot use this technique for some reason, be sure to observe the following:

Characteristics and value fields with the same name must have the same text, the same attributes (type, length), the same check table and the same origin table in each system.

For characteristics which were defined manually, enter the number for the check table manually as well. Each characteristic must have the same number in all systems. The assignment of the number to the characteristic must be unique.

For more information about transporting objects, see Transport.

Sample Operating Concerns

You can work with sample operating concerns to simplify the definition of your own operating concerns.

Some of these operating concerns are templates delivered by SAP for you to use for demonstration purposes and as copy templates.

Alternatively, you can copy your own (test) operating concerns and their Customizing settings to the future operating concern that you wish to use productively.

Use SAP Operating Concern Template

This is where you can gain an initial overview of Profitability Analysis without having to have any specialist knowledge and without having to have made any settings previously.

Furthermore, operating concerns that have already been preset are available, allowing Profitability Analysis to be quickly integrated into your productive system. To do this, you can customize these operating concern templates. At any time, you can reset the templates to their original settings.

Activities

When you start the transaction for operating concern templates, the system provides you with an overview of the different templates that are available. A short description accompanies each template and you can display it in the right-hand side of the screen. To go to the detail view, select a template.

The detail view provides you with an overview of the delivered settings and of the modifications that you can make. By choosing **Application examples**, you can view reports and planning layouts. The system fills them with example data to demonstrate more clearly how the application works. You can then delete the example data later.

If you wish to implement an operating concern template as a template for your Profitability Analysis, you first need to copy it using the copy function found under **Tools**. This is also where you can choose to reset an operating concern template back to its initial state.

Further notes

The first time you work with an operating concern template in a client, you need to set the client beforehand. The client-dependent settings in client 000 are copied to the current client and then the system generates the client-dependent environment. The system also checks whether the client-independent environment is up-to-date or whether it needs to be generated again.

When the system generates the example data, 0 profitability segments (or market segments) are created from the existing characteristic values via the random selection of values. The profitability segments, once created, are then buffered and used whenever example data is generated subsequently. In order that changes to the derivation rules are considered when new example data is generated, the old example data first needs to be deleted. Doing so also deletes the buffer with the 0 profitability segments created previously. When you start up again, 0 new combinations are determined.

If only an insufficient number of combinations are possible due to a low number of characteristic values, the number of different profitability segments is reduced accordingly since some profitability segments are posted several times. You can achieve the most representative example data if you have at least 0 possible combinations .

For the periods 01 to 12 of the desired fiscal year, the system generates example data for each profitability segment, taking into account the fact that revenues and costs reach Profitability Analysis by means of different record types (variances in production, for example, concern record type C). Quantities

are posted in the unit "Piece"(PC). Ensure that these units exist in the other clients. To see which record types supply which value fields in an operating concern template, refer to the table TKETE03. In the case of the operating concern template for the *consumer goods industry*, 3600 line items are created each time example data is generated (0 profitability segments x 12 periods x 3 record types = 3600 records). Both actual data and planning data can be created in plan version 000 for a selected business year.

When example data is generated, the system considers any valid derivation rules that have been specified for the operating concern template. It ignores any that are invalid or that contain errors.
If you delete example data, all the record types present in the current client are removed from the tables CE1xxxx, CE2xxxx, CE3xxxx and CE4xxxx (where xxxx is the key for the operating concern template). This means that the profitability segments that have been determined are also deleted.

Equally, if you reset an operating concern template, all example data in the current client will be lost.

Copy Operating Concern including Customizing

In this IMG activity, you can create an operating concern by copying an existing one. There are three ways you can do this: - Import operating concern

Copy operating concern

Copy specific objects

Note: This step is not intended to be used as a means of creating backup copies of operating concerns that could be imported if needed. No transaction data is copied in this step!

Import operating concern

This function lets you copy the customizing settings for an operating concern to another client. In particular, you can use this function to copy one of the standard "templates" from client 000 to your test client.

Note: Unlike the function Import objects, this function copies ALL the settings for the operating concern, not just individual objects.

The logic for copying settings is different from the logic for transporting in that settings that simply reference the operating concern instead of being dependent on it (such as PA transfer structures) are copied as well. To avoid inadvertently overwriting settings in the target client, you should only use this function when the target client does not contain any customizing settings yet, or when you want customizing in the source and target clients to be identical.

Copy operating concern

This function lets you copy an entire operating concern within the same client. You can choose whether you want to copy the data structures only, the customizing settings only, or both. These are copied in separate steps.

First you need to copy the data structures. When you do so, you can decide whether the (cross-client) environment should be generated automatically or not. If you want to make changes to the new operating concern after copying it, you should generate the environment later.

Note: To copy the data structures, you must enter a target operating concern name does not yet exist.

Once you have done this you can copy the customizing settings. You can also repeat this step as often as required. The data structures in the target operating concern must be active, and they must **at least** contain the same characteristics and value fields as the source operating concern.

If you repeat the copy, the system overwrites any existing settings.

Copy specific objects

This special function lets you copy specific customizing settings between clients or between operating concerns within one client. To do so, you must collect all the relevant tables in a transport request using the transaction Transport objects or the manual transport function in the transaction for each setting. Do **NOT** release the request. When you call up this function, enter the number of the TASK (not the request). The source client is determined based on the client the transport request is defined for. If you are copying between clients, you cannot change the operating concern. If you are copying between operating concerns, they must be in the same client.

Caution: The system cannot automatically check whether all the table entries in the transport request belong to the specified source operating concern. You need to pay special attention to this when you use this function.

Log display

For each copying action, the system writes a log in the application log. You can display these logs at any time using transaction SLG1. Use the object "COG_PA" and the subobjects "IMPORT" (Import operating concern) and "COPY" (copy operating concern and copy specific objects).

When you import an operating concern (SAP template), you need to generate the operating concern's environment. In addition, you need to maintain the record types and number ranges.

Set Operating Concern

In this step, you specify which operating concern you want to work in and the type of Profitability Analysis. All functions that you then execute thereafter and until you logoff will relate to that type of Profitability Analysis for the specified operating concern.

Prerequisites

The operating concern must already be defined.

Additional Information

The operating concern is stored until you reset it or logoff from the system.

If you work essentially with one operating concern, you can use the *Save* pushbutton to store the specified operating concern and the type of Profitability Analysis in your user master. If you do this, the system uses the settings stored in the user master the next time you logon to the system and the dialog box asking you to set the operating concern does not appear.

You can use the "Set Operating Concern" function to switch at any time to a different operating concern or to a different type of Profitability Analysis. That way you can temporarily override the settings in your user master.
You can also execute the "Set Operating Concern" function in the CO-PA application menu by choosing *Environment -> Set Operating Concern*.

Master Data

In this step you make all the basic settings that determine the basic structure and contents of Profitability Analysis in your system.

In short, you need to define the following:

How the relevant segments of your organization are to be created (so-called "profitabilty segments"). You can do this using the characteristic derivation function.

What values should be determined automatically by means of valuation. You can do this using the valuation functions.

Characteristic Values

In this section, you fill characteristics with values by maintaining the characteristic values for the characteristics you have defined.

You can also use a characteristics hierarchy to order the characteristic values in a hierarchy and to analyze in the information system the hierarchical relationships between the values.

Maintain Characteristic Values

In this step you maintain characteristic values and texts for your user-defined characteristics if you only want these characteristics to have a fixed set of possible values.

You define characteristics in the Customizing step Maintain characteristics. When you define a user-defined characteristic, you need to specify the field type and length of its characteristic values. When you define such a characteristic, the system automatically generates a check table and a text table which are used to check what characteristic values are permitted.

Define Characteristics Hierarchy

You can define hierarchical structures for characteristics in Profitability Analysis (CO-PA) and analyze these structures later in the information system. This means you can, for example, structure your products or customers in a hierarchy.

Each characteristic value contained in the hierarchy represents a hierarchy node. Further to the characteristic values contained in the master data, you can add "non-chargeable nodes" to the structure.

Note that different characteristics that use the same master data table are grouped in the same characteristics hierarchy. It is not possible to define external hierarchies for characteristics that do not have a check table or text table.

Note that only the characteristic values for **one** characteristic are grouped hierarchically for each hierarchy. In addition, each characteristic value can occur only once in the hierarchy. Thus each value is unique within the entire hierarchy.

You can define alternative hierarchies for the same characteristic in order to simulate different ways of grouping the characteristic values. These alternative hierarchies are stored as hierarchy variants. You can define up to 999 different variants for each characteristic.

Activities

Creating a characteristic hierarchy

Enter the name of the characteristic for which you want to define the hierarchy. Also, enter a number between 1 and 999 for the hierarchy variant.

If you enter a characteristic that has the same data element and domain as another characteristic, the hierarchy applies for both characteristics, since both have the same characteristic values. A list of the characteristics involved is displayed in the lower part of the screen.

Choose "Hierarchy -> Create".

The next screen contains information about the hierarchy.

Enter a description for the hierarchy and, if desired, select the "Visible system-wide" indicator.

If you select this field, this variant will be active for all applications where you can maintain master data hierarchies. If you do not select it, the variant will only be available in EC-EIS.

Choose "Goto -> Back".

Then add the nodes to the hierarchy.

Position the cursor on a node and press F4 to display the valid characteristic values to which data can be posted. Choose the desired value or any existing node that cannot receive postings.

If you enter data for a nonchargeable node, this data is transferred to a table. To access this table, choose *Goto -> Maintain nonchargeable nodes*.

Once you have added the desired characteristic values, save the hierarchy.

Each characteristic value can only occur once in the hierarchy variant. If a characteristic value already occurs in the hierarchy, it no longer appears in the list of possible entries. To add new nodes, you can use the following functions:

"Edit -> Create entry -> Same level"

This function inserts a blank node at the same level as the selected node.

"Edit -> Create entry -> One level lower" This function inserts a new node at the next level down.

"Edit -> Create sev. entries -> Same level" This function inserts several blank nodes at the same level.

"Edit -> Create sev. entries -> One level lower" This function inserts several blank nodes at the next level down.

"Edit -> Create range -> Same level"

"Edit -> Create range -> One level lower"

These functions let you enter a range, such as "characteristic value X through characteristic value Z".

Changing, displaying, copying, and deleting characteristics hierarchies

The functions for changing, displaying, copying, and deleting master data hierarchies work the same way as the function for creating them.

You can use an existing hierarchy as the basis for creating a new hierarchy variant by copying the existing variant and then changing it.

When you change a hierarchy, you can add new nodes and remove existing nodes, as well as cut and paste existing parts of the hierarchy. When deleting a node, ensure that all dependent entries are deleted as well.

You can search for specific values in the hierarchy by choosing *Edit -> Find -> Characteristic value*. It is also possible to see the relationships between the different nodes by positioning the cursor on a node and then searching for the parent, child, and so on. You can expand and collapse branches of the hierarchy by clicking on the plus and minus signs. This makes it easier to find your way around in the hierarchy.

You can delete any hierarchy variants that you no longer need from the initial screen of this transaction.

Define Characteristic Derivation

In this step, you set up the derivation of characteristic values.

Derivation lets you find values for certain characteristics automatically based on the known values of other characteristics, where these characteristics are logically dependent on one another.

Standard settings

When an operating concern is generated, the system produces a standard derivation strategy containing all known dependencies between characteristics. You can display these by choosing "View -> Display all steps".

Activities

You can change the standard derivation strategy by

Creating additional steps

Adjusting changeable standard steps to suit your situation or deleting them

Changing the step sequence Proceed as follows:

Creating a step

Select the step that is to precede the new step you wish to add. Choose "Create step".

Choose the desired type of derivation step from those available.

Enter a text as well as source and target fields for the derivation step. By using the arrow button, you can determine **field characteristics** for the source and target fields.

If the derivation step should only be executed unter certain **conditions**, such as only for specific characteristic values, make the entry under "Condition".

You determine **step characteristics** under "Characteristics". For example, you determine whether an error message should be generated if no target value can be calculated.

If you use the derivation step type "Derivation rule", some additional entry options are available:

Under "Maintain rule values", you enter which values in the target fields should be placed in which characteristic values of the source fields.

Under "Characteristics", you can make additional entries which, for example, make it possible to enter a validity date for the step.

Changing/deleting steps

You can change and delete the steps you have defined as well as the changeable standard steps (those that read from tables).

When you change a step, all the possible entries described under "Creating steps" are available.

To delete a step, select the step in question and choose "Delete".

Changing the step sequence

Select the step to be relocated in the sequence.

Position the cursor beneath the desired position for that step.

Choose "Move".

Further notes

For more information about characteristic derivation, see "Master data -> Characteristic derivation" in the documentation for Profitability Analysis.

Valuation

You can have values calculated automatically in **costing-based CO-PA**. This procedure is called "**valuation**" and can be used for both planning data and actual data.

There are four different methods of valuation in CO-PA:

Valuation using material costing

You can use material cost estimates from Product Cost Controlling (CO-PC) to determine the **cost of goods manufactured** in Profitability Analysis. The breakdown of these costs in CO-PC is usually more detailed than that required in CO-PA. Consequently, you can assign more than one cost component to the same value field in CO-PA.

Other than the standard cost estimate, the periodic allocation prices / actual cost estimates from Material Ledger can also be used for valuation. This is particularly useful for period revaluation.

Valuation using conditions and a costing sheet

This is useful when you need certain data to evaluate a sale but do not yet know the actual values. This makes it possible to calculate such things as sales commission, discounts, cash discounts or freight costs. You calculate these values by defining conditions, which are stored and processed in a costing sheet. Conditions can be scaled and made dependent on certain characteristic values.

To valuate actual data, you need to define special conditions in CO-PA. For planning data, you can also access conditions from Sales and Distribution (SD) directly.

Valuation by means of a user-defined program exit

If your requirements for valuation go beyond the techniques supported in the standard SAP System, you can program your own valuation routines.

Valuation with transfer prices

Valuation using transfer prices is only possible for plan data.

For detailed information about transfer prices and multiple valuation approaches in the SAP System, see the online documentation "EC-PCA Profit Center Accounting" You define transfer prices in Customizing for Profit Center Accounting in the section Transfer Prices.

Valuation Strategies

The valuation strategy contains the methods used for valuating value fields in costing-based CO-PA.

It determines the methods used to fill different value fields and the order in which these methods are processed.

You can valuate data using the following methods:

CO-PA-specific condition types

Material cost estimates

User-programmed valuation routines

Transfer prices

In CO-PA planning, you can also valuate data using condition types and pricing procedures from the Sales and Distribution (SD) application component. Valuation using transfer prices is likewise only possible in planning.

Example

The following valuation strategy calls for valuation using product costing, then using a CO-PA costing sheet ("ACT001"), then using a user-programmed valuation routine ("U01").

Sequence	Appl.	Cstg sheet	Name	Mat.cstg	Qty field	Exit no.
				X	VVIQT	
20	KE	ACT001			VVIQT	
30						U01

Valuation using **material costing** is used primarily to determine the **cost of goods manufactured** of the products sold in billing documents that are transferred to CO-PA. It allows you to add the fixed and variable cost of goods manufactured to the CO-PA line item in order to compare them to the sales revenues and sales deductions transferred with the original billing document.
The **conditions technique** lets you calculate values that are required for analyzing contribution margins in CO-PA but are not yet known at the time the original document is posted. In particular, this make it possible for you to calculate such values as **sales commission**, **cash discounts**, **sales deductions**, or **freight costs**.

You can use your own **valuation routines** to calculate any values that cannot be determined using either of the above methods.

Activities

First, define the valuation strategies you want to use. Then assign these strategies to the desired points of valuation.

Further notes

Each valuation step contained in a CO-PA valuation strategy is assigned a number. This number determines the order in which the system processes the steps in that strategy.

Value fields that are filled using a previous valuation step are **not** overwritten by subsequent steps. The only exception to this is when you use a user exit. Once a value has been calculated in one step, you can use that value to calculate other values in subsequent steps.

As a rule, value fields that are filled before valuation is carried out in CO-PA -- regardless of whether they were transferred from SD or entered manually -- can only be changed or overwritten in valuation by a user exit. The only exception to this are values entered manually in CO-PA planning. Here the values found using automatic valuation always take priority over values entered manually in the planning layout.

Plan valuation using pricing procedures from Sales and Distribution (SD)

When you define a valuation strategy to be used solely in CO-PA planning, you can also use prcing procedures from Sales and Distribution (SD) (application class "V" in the field "Application"). Note that this is not allowed for valuation of **actual data**, since there the SD conditions are transferred directly from the billing document or sales order as defined in the value field assignments of the SD interface.

If you use an SD pricing procedure for valuation in planning, the system transfers the values of the conditions to the value fields as assigned in the SD interface.

Under certain circumstances, it may not be possible to use all conditions from SD to valuate data in CO-PA. For example, the access sequences used in the SD pricing procedures may contain condition tables with fields that are not defined as CO-PA characteristics. Consequently, before using an SD pricing procedure, be sure to check whether the fields required by the access sequence are defined as characteristics in your operating concern. Otherwise the system will not find the condition records, even if they have been maintained in SD.

Define and Assign Valuation Strategy

In this step, you can define your **valuation strategies** and assign them to a point of valuation.

Activities

First, enter a three-character key and a description for the valuation strategy.

On the detail screen, you can then define which methods you want to use in what order to perform valuation in your operating concern.

Example

You want to define a valuation strategy that performs valuation using material costing, then a CO-PA costing sheet, then a customer-defined valuation routine. To do so, make the following entries:

Sequence	Appl.	Costg sheet name	Mat. CE	Qty field	Exit no.
			X	VVIQT	
20	KE	ACT001		VVIQT	
30					U01

If you want to use a **material cost estimate** for valuation, select the field under "Mat. CE". In this case you also need to specify the quantity field to be used (here "VVIQT").

If you want to use **conditions**, enter the key (here "ACT001") and the application from which to take the costing sheet (here "KE"). If the conditions are calculated depending on the quantity, enter the name of the quantity field you want to use (here "VVIQT").

If you want to use your own calculation routines to valuate fields, enter the name of the program exit (here "U01"). For programming your own routines, you can use the customer exit in SAP standard enhancement **COPA0002**, which you maintain by calling up SAP Project Management. For more details, see the documentation found there and in the F1 Help for the field Exit no.

If you want to valuate with a **transfer price**, you need to specify a variant for transfer pricing. In addition, you need to specify the CO-PA value field to which the transfer price should be mapped.

Once you have defined your valuation strategies, assign them to the desired combinations of point of valuation, record type, and plan version.

Flexible Assignment Valuation Strategy

Use

In the

Define and Assign Valuation Strategy

step, you can assign a valuation strategy to a point of valuation and a record type.

For cases in which control of the valuation based on the point of valuation and record type is not flexible enough, you can flexibly assign a valuation strategy based on additional CO-PA characteristics.

Requirements

In the **costing-based** profitability analysis, the flexible assignment is only evaluated if **no** valuation strategy assignment has been defined for a given combination of point of valuation and record type in the Define and Assign Valuation Strategy step.

In contrast, in the **combined** profitability analysis, the determination of a valuation strategy using flexible assignment always takes **priority** over an assignment made in the Define and Assign Valuation Strategy step.

Activities

Flexible assignment takes place by means of user-defined **assignment tables**. **Assignment rules** are defined in the assignment tables, based on which the relevant CO-PA valuation strategy is determined.

Example

In the **combined** profitability analysis, the various currency and valuation views of an operating concern can be valuated using different valuation strategies. If this is required, the 'Currency Type and Valuation View' ('GLOBAL CURTP') field must be included as a source field in the definition of the assignment table.

If products with different material types are to be valuated using different valuation strategies, the 'Material Type' ('GLOBAL MTART') field must be included as a source field in the definition of the assignment table.

Set Up Valuation Using Material Cost Estimate

In Profitability Analysis (CO-PA), you can valuate documents by reading the cost of goods manufactured in the material cost estimates from Product Cost Controlling. You do this by defining **costing keys**.

Which costing key is used for a particular document can depend on when the document is valuated in CO-PA (the "point of valuation"), the record type, the **product** sold, the **material type** of that product, or any **other characteristic in your operating concern**.

In this activity, you make the necessary Customizing settings for setting up valuation using material cost estimates in your system:

When you maintain costing keys, you determine which

standard cost estimates the system should read in Product Cost Planning and which

periodic allocation prices / actual cost estimates the system should read in the Material Ledger.

Once you have done this, you can assign these costing keys to a product or material type. Alternatively, you can use the flexible assignment function to assign costing keys to any characteristics in your operating concern for valuation.

You then need to use value field assignment to determine for each operating concern and at each point of valuation how the cost components in the cost component split are to be assigned to the value fields in CO-PA. This must be done for each relevant cost component split.

Define Access to Standard Cost Estimates

In Product Cost Planning, the planned cost of goods manufactured are calculated for a material. In Profitability Analysis (CO-PA), you can access these material cost estimates to valuate the data in CO-PA. This includes values from cost estimates both with and without quantity structure for automatic valuation.

With this function, you determine which cost estimates from Product Cost Planning should be used to valuate actual or planning data in CO-PA. You do this by defining costing keys. A costing key is a particular set of access parameters that are used in the valuation to determine which costing data in Product Cost Planning should be read.

A costing key consists of a combination of the following parameters:

==> Transfer sales order cost estimate

==> Costing variant

==> Costing version

==> Transfer additive costs

==> Costing date

==> Period/year

==> Plan period indicator
==> Transfer auxiliary cost component split

==> Transfer cost estimate in controlling area currency

==> Plant used for reading cost estimate

==> Exclusive access to cost estimate

==> Error message if no cost estimate found

==> Order selection for access to production order cost estimate

==> Cost component view for production order cost estimate

==> Factor for production order cost estimate

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Activities

Define all the costing keys you want to use to valuate actual and planning data in Profitability Analysis.

Define Access to Actual Costing/Material Ledger

In this activity, you create the costing keys for valuation with **actual costs of goods manufactured**. You define how the system calls up the periodic allocation prices/actual cost estimates from the Material Ledger by maintaining costing keys.

Further notes

When your sales quantities in CO-PA are valuated using periodic allocation prices/actual cost estimates from the Material Ledger, this typically occurs at the period end during revaluation.

Assign Costing Keys to Any Characteristics

The steps

Assign Costing Keys to Products
Assign Costing Keys to Material Types let you assign costing keys to individual products or material types.

In cases where the product-dependent or material-dependent callup of material cost estimates in Product Cost Accounting is not flexible enough to meet your requirements, you can determine the costing keys using your own **"strategy"** for the **"flexible assignment of costing keys"**.

This **"strategy"** is taken to **determine the costing keys**, generally using **user-defined assignment tables**.
As in characteristic derivation in CO-PA, you can also work with **table lookups** or your own **customer enhancements** when setting up the **"strategy"**.

You can use the following Step Methods to define a strategy:

User-Defined Assignment Tables

As with the predefined assignment tables for products and material types, these **user-defined assignment tables** let you assign costing keys separately for each **point of valuation**, **record type** and **plan version**. In addition to these source fields, which are automatically contained in each assignment table, you can specify up to three characteristics in your operating concern as source fields for determining the costing key. Thus you can assign costing keys not only to certain "products" or "materials types", but to any **combination of values of any characteristics**. For example, you could define an assignment table to assign costing keys to specific combinations of "company code", "plant" and "product group".

If you have created several assignment tables, the system respects the order in which they are entered when it searches through them for valid assignment rules.

Table Lookups

A **table lookup** allows you to access individual data records in any SAP table and to transfer the contents of individual table fields to Target Fields of the type USERTEMP.The USERTEMP fields that have been filled by a **table lookup** can then be used in a subsequent strategy step as **source fields** for an **assignment rule**. Therefore, the **combination** of **table lookup** and **assignment rule** means that you can use the data in fields from any SAP table as the basis for determining costing keys.

III. Customer Enhancements

To set up a strategy to determine costing keys flexibly, you can use the enhancement **"COPA0002"** and the component **"EXIT_SAPLKEAB_004"**. It is possible to include a link to this **enhancement** wherever and as often as you want in the **strategy** since the step identifier ensures that the different links are not confused. For more information about how to determine costing keys using user-defined user-exits, see the documentation for the SAP enhancement **"COPA0002"** or see the function module documentation for the function module **"EXIT_SAPLKEAB_004"**.
The **assignment tables** that you have defined and the **customer enhancements** make up the strategy for the flexible definition of costing keys.

When creating your own **assignment tables**/**table lookups** or **enhancements**, observe the following:

To create an assignment table, you can also choose from other source fields in addition to the characteristics in your operating concern. For details, see the F1 field help in the transaction for creating assignment tables.

By specifying multiple costing keys as target fields, you can valuate your data using up to six cost estimates in parallel.

If you wish to run **alternative valuation** instead of parallel valuation, you first need to set the flag Exclusive access to cost estimate when defining the costing keys.

In addition, you can specify a special valuation plant that should be used to access the cost estimate from product costing. This means that the plant found in the CO-PA line item does not always need to be the plant used for costing purposes.

If you wish to access cost estimates **simultaneously** from **several plants**, we recommend that you firmly specify the valuation plant to be used to access the cost estimate when you define the costing keys.

You can specify a special control indicator as a target field in an assignment table to avoid receiving an error message during valuation whenever the system cannot find a cost estimate from product costing. Note that by default, the system **always** displays an error message when this occurs.

In the attributes for the assignment table, you can select the "Display error message" flag to specify that the system should automatically display an error message if no valid assignment rule entry is found in this table when the system tries to find the costing key.

You may want to avoid a product already **successfully** valuated using product costing from being valuated again with a price found using a costing sheet. If so, you can define an assignment rule with a target field "VALUE_FLD1" to ensure that the value field assigned to the condition type is cleared before the CO-PA line item is updated.

If your operating concern stores line items using transfer prices according to the profit center viewpoint in addition to the standard "legal" view, you should include the field ITEM_TYPE as an additional source field in the structure of the assignment table. Note that all entries in assignment tables that do not contains this field are interpreted as referring to line items created according to the legal view.

Example

You want to access cost estimates from product costing by company code and material type. You want to valuate using four costing keys, while explicitly specifying the plant that the system should use for finding the cost estimate. In addition, you want to be able to define whether an error message should be displayed if no cost estimate is found. All assignment rule entries should be valid for a specific period of time.

To implement this example, proceed as follows:

Call up the function: "Flexible Assignment of Costing Keys: **Change Strategy**".
Choose **Edit -> Create step** to reach the screen "Flexible Assignment of Costing Keys: **Change Rule**".

On this screen, enter a name for the assignment rule. Then add the fields "Company code" (**CO-PA-BUKRS**) and "Material type" '**GLOBAL-MTART**') to the existing fixed source fields "Point of valuation" (**GLOBAL-BWFKT**), "Record type" (**GLOBAL-VRGAR**), and "Plan version" **GLOBAL-VERSI**).

For the target fields, you can specify, in addition to the "First costing key (CO-PA)" field (GLOBAL-KALAW1) the fields **GLOBAL-KALAW2**, **GLOBAL-KALAW3** and **GLOBAL-KALAW4**, plus the "Valuation plant" (GLOBAL-WERKS) and "Error handling" (GLOBAL-XMES_FLG) fields.

Select the "Entries should be maintained for specific dates" indicator, and then save.

Once you have saved, you can maintain the assignment entries by choosing "**Maintain rule entries**". Or you can leave the "Change Rules" screen and maintain the entries later from the "Display Strategy" screen.

Activities

First define the assignment tables you require. If you define more than one assignment table, note that the system processes these in the order in which you enter them, from top to bottom. Once you have defined the necessary tables, you can maintain assignment rule entries for each assignment table.

Further notes

In order to valuate CO-PA line items using material cost estimates in Product Cost Planning, you must define your valuation strategy so that the system accesses product costing for the desired point of valuation.

If you are valuating using more than one costing key, note that a value field can only be filled by valuation if it is empty. In other words, each value field can only be filled once, and is never overwritten.

The system follows certain rules for determining which costing keys to use:

First it checks whether one or more costing keys has been assigned to the product being valuated. If so, it valuates the data using **only** those costing keys.

If no costing key is assigned to the product, the system checks whether any costing keys have been assigned to the material type of the product. If so, the data is valuated **only** using those costing keys.

If no costing keys have been assigned to the material type, the system then checks whether any costing keys have been assigned to other characteristics using the flexible assignment function. If no costing keys are found in this manner, the transaction **cannot** be valuated using a material cost estimate.

Likewise, **no** valuation is carried out if an entry exists in one of these assignment tables but does not contain a costing key.

Assign Value Fields

Here you can assign the components of a cost component structure from Product Cost Controlling to the value fields of your operating concern. Note that you need to maintain separate value field assignments for each point of valuation in Profitability Analysis (CO-PA).

You can divide the cost components into fixed and variable parts before transferring them to CO-PA.

For each **cost estimate**, you can transfer any number of cost components to the same value field (n:1 relationship). The values from these cost components are then added together in the value field.

If you valuate using **multiple material cost estimates** simultaneously, this means that the values of different cost components **within the same cost estimate** are aggregated and then entered in one CO-PA value field. However, value fields that already contain data from a previous cost estimate are not overwritten by a later cost estimate. Consequently, you should assign value fields in Customizing so that the values of different cost estimates are entered in **different** sets of value fields.

You can assign up to six different value fields from your operating concern to each cost component in the cost component structure. These assignments is indicated by the value fields entered in the columns **Field name 1** through **Field name 6**.

Different value field assignments are important whenever you want to use **multiple valuation approaches** with different cost estimates. Six is the maximum number of cost estimates that you can transfer simultaneously from Product Cost Controlling to Profitability Analysis.

You can assign up to three costing keys in parallel to a product or material type.

Using the flexible assignment function, you can define your own assignment tables and assign up to six costing keys for parallel valuation.

In valuation, the system first determines which costing keys to use. Then it finds the correct cost estimate in Product Cost Controlling based on the read parameters stored in those costing keys.

Once it has found a cost estimate, it transfers the values of the cost components contained there to CO-PA value fields based on the cost component layout for that cost estimate and on the costing key's **position** in the aforementioned assignment tables. For example, for the costing key entered in the **first** column in the assignment table, the system transfers the cost components to the value fields entered in the **first** value field column (the column with the name **Field name 1**). The same then happens for the costing keys in the second and third columns and in the fourth through sixth columns (if you use the flexible assignment function).

Example

For a costing key assigned to a product or material type in the column **Costing key 1**, the cost components of the relevnat cost component structure are assigned to the value fields entered in this transaction in the column **Field name 1**.

Product "MAT01" is assigned the costing keys "I01" and "I02" for record type "F" and point of valuation "01":

PV	Rec.T.	Product	Valid to	Cstg 1	Cstg 2	Cstg 3
01	F	MAT01	12 /31/1999	I01	I 02	

The value of the raw materials in the cost estimate found using costing key "I01" is supposed to be transferred to the CO-PA value field "VV001". Meanwhile, the raw material costs found using costing key "I02" are to be transferred to the value field "I02". In both cases the fixed and variable costs are to be added together and transferred as one sum.

If we say that "001" is the cost component for raw material costs in the relevant cost component layout, we have the following assignment:

PV	CCmp	Name	F/V	Field name 1	Field name 2	Field name 3
01	001	Raw mat.	3	VV001	VV002	

Activities

Assign the components of the cost component structure to the value fields in your operating concern. Remember the you may need to maintain entries in this table for **more than one point of valuation**.

Note

For detailed information on cost component structures, see Customizing for Product Cost Controlling under "Basic Settings -> Define cost components".

To get to the screen "Assignment: Organizational Units to Cost Component Structure", choose the icon "Next page" from the screen "Define cost components".

Further notes

In order to valuate CO-PA line items using material cost estimates in Product Cost Planning, you must define your valuation strategy so that the system accesses product costing for the desired point of valuation.

If you are valuating using more than one costing key, note that a value field can only be filled by valuation if it is empty. In other words, each value field can only be filled once, and is never overwritten.

The system follows certain rules for determining which costing keys to use:

First it checks whether one or more costing keys has been assigned to the product being valuated. If so, it valuates the data using **only** those costing keys.

If no costing key is assigned to the product, the system checks whether any costing keys have been assigned to the material type of the product. If so, the data is valuated **only** using those costing keys.

If no costing keys have been assigned to the material type, the system then checks whether any costing keys have been assigned to other characteristics using the flexible assignment function. If no costing keys are found in this manner, the transaction **cannot** be valuated using a material cost estimate.

Likewise, **no** valuation is carried out if an entry exists in one of these assignment tables but does not contain a costing key.

Set Up Conditions and Costing Sheets

The **conditions technique** in Profitability Analysis (CO-PA) lets you calculate fictitious values that are needed in CO-PA for analyzing contribution margins but are not known at the time the original document is posted. In particular, this makes it possible to calculate **sales commissions**, **cash discounts**, **other discounts**, or **freight costs** for a sales document.

Conditions are used to calculate values based on any number of criteria (such as the quantity sold, the product sold, or the customer who bought the product).

In this step, you can defined CO-PA-specific costing sheets for valuating data in CO-PA. You do this using the same basic functions as those for defining pricing procedures in Sales and Distribution (SD).

This entails the following steps:

Create the necessary condition tables.

Create the necessary access sequences.

Create the necessary condition types and specify the access sequences they should use.

Define the necessary costing sheets.

Assing your CO-PA-specific condition types to CO-PA value fields.

Define Condition Tables

In this step you define **condition** tables for Profitability Analysis (CO-PA).

Condition records in CO-PA are stored in CO-PA-specific condition tables whose key consists of specific combinations of characteristic values. Each condition table represents a different combination of characteristics and can be used by any number of conditions. (Different conditions may depend on the same characteristics, such as customer and product, in the same system.)

The key of the condition table consists of those characteristics that make up the key of the condition record.

To create a condition table, proceed as follows:

Specify a number between 501 and 999.

Enter a name for the condition table and double-click on the characteristics you want to use for the key.

Generate the table.

If desired, you can limit the period of validity of the condition table. If you do, all the condition records in this table are stored with this period of validity. The table must be a transparent table (table type "T").

Examples

You want to use the condition type KPRA, which grants a price reduction for certain combinations of customer and product, in a costing sheet. In this case, you would select the fields "Customer" and "Product" from the CO-PA field catalog for Table 501 (technical name: "A501"). If you wanted the price reduction to depend on the customer group, you would create a new condition table, 502 ("A502"), and enter the field "Customer group" from the field catalog.

You want to calculate a percentage value based on the value of the characteristic "Material group". However, for certain materials a different value percentage rate should be used. Only if the material sold is not one of these materials should the percentage be based on the material group.
To do this, you first need to create two condition tables: table 503 for the characteristic "Material" and table 504 for the characteristic "Material group". Then you can define an access sequence ZZ01 that accesses these tables -- first table 503 (since the material should have higher priority), and then table 504. Once you have then assigned this access sequence to a condition type, you can define condition records in these tables for that condition type.

```
Access sequence              Condition tables
     ZZ01                    1. 503 ( "Material" )
                             2. 504 ("Material group")
```

Actions

Create your CO-PA-specific condition tables.

Additional information

You can use all the characteristics in Profitability Analysis -- **in all operating concerns** -- in the keys for condition tables. Thus if you have different characteristics that have the same text in different operating concerns, both of these characteristics appear in the field catalog. The fact that they have the same texts suggests that a double entry exists.

You should only use characteristics from the same operating concern in a condition table. You can use the function "Field attributes" to display the corresponding data element for a characteristic in the field catalog. By comparing this data element with the data element stored in table CE1xxxx (xxxx = operating concern) for that characteristic, you can see which operating concern the field belongs to.

Define Access Sequences

In this step, you define **access sequences** for your condition types in Profitability Analysis (CO-PA). You must assign an access sequence to each condition type for which you create

condition records.

The access sequence determines the condition tables in which the system should search for valid condition records for the condition type. Thus the access sequence is a sort of directory that tells the system where condition records for that condition type are stored.

For each access sequence, you first need to enter a name and a short description. On the detail screen, specify which condition tables are to be used to access condition records, and the order in which these condition tables should be read. On the screen "Access Sequence: Access", specify the field contents (characteristics) with which they are read.

Example

Access sequence Z001 for condition type KPRA

```
Lnr.   Table       Name
----------------------------------------
01     501         Table Customer/product
02     502         Table Customer group
```

First the access sequence Z001 looks for condition records which exist for a certain combination of product and customer. If no records are found, the system then looks for a data record for the customer group.

Activities

Enter your access sequences and save them. Note that you must save your access sequences before you can assign them to condition types and create condition records for the condition types.

Create Condition Types and Costing Sheets

Konditionsarten anlegen

Konditionsschemata anlegen

Assign Value Fields

In this IMG activity, you assign the **CO-PA condition types** you have defined to the corresponding value fields. This determines which condition types are used to value those value fields.

For example, you can assign condition type "DISC" ("Discounts") to a value field "VVPRD" ("Price reduction"). The field names are filled automatically.

It is possible to assign more than one condition type to a single value field. If you do so, the values of these conditions are added together and entered in that value field **as one value**. This is true even if the conditions come from different costing sheets in the valuation strategy.

Actions

Assign condition types to the CO-PA value fields you want to valuate.

Define Pricing Reports

In this menu option, you define the screen layout for pricing reports. You use pricing reports to analyze condition records according to different criteria. Technically, pricing reports are ABAP/4 programs.

Note

The standard SAP R/3 System contains predefined pricing reports which you can start using the application menu.

Actions

Display the pricing reports defined in the standard SAP R/3 System to check to what extent you can use them.

Create new pricing reports. To do this, proceed as follows:

Enter a two-digit description (with a character as the first digit) and the title of the pricing report you want to create.

All key fields which are used in conditions appear in alphabetical order on the following data screen. Select all key fields which should be used in the pricing report. If you choose *Edit->Further processing* with AND, all condition tables will be evaluated that contain at least one of the selected key
fields. If you choose *Edit->Further processing with OR*, only the condition tables that contain all the selected key fields will

be evaluated.Select all condition tables which should be analyzed in the next dialog box.

Choose "Position fields" to define the screen layout of the pricing report. Make sure that all key fields from the selected tables appear on the following data screen.
Fields which should not be used as selection criteria later on when displaying the list, can be suppressed by cancelling the check mark in the "Selection" column. You can also indicate fields as obligatory on the selection screen.

e)

Planning

When you implement planning for Profitability Analysis (CO-PA), you need to determine the characteristics for which you want to plan, and the value fields that you want to plan.

The automatic planning functions provide you with a number of options for copying, revaluating, forecasting, and distributing large amounts of plan data, which you can then process in detail using the manual planning functions.

In manual planning, you can define planning layouts that let you create and modify plan values and quantities.

The integrated planning functions let you transfer plan data from other applications, such as Sales and Operations Planning (SOP), cost center planning, or the Logistics Information System (LIS).

Prerequisites

The structures of your operating concern (characteristics and value fields) must be defined.

The functions for defining profitability segments (such as derivation) and for valuating data must have been defined under the section "Master Data" in Customizing.

Initial Steps

The following sections describe what preparatory steps are necessary for setting up planning:

Define Number Ranges for Planning Data

In this step, you define a number range for updating plan line items in each of your operating concerns. In profit planning, the system automatically assigns a number which lies within your selected interval. Since the system does this automatically, the indicator "Ext" is not checked off.

Prerequisites

You must have system authorization for maintaining number ranges.
You need to have defined the operating concern completely.

Actions

Define a number range.

Notes on transporting

You transport number range objects as follows:

Choose *Interval -> Transport* in the accounting document *Number Range* screen.

All intervals for the selected number range object are deleted in the target system first. After the import, only the intervals you export are present. The number statuses are imported with their values at the time of export.

Dependent tables are not transported or converted.

Maintain Versions

In this step you define the CO versions you want to use for your operating concern. These versions are valid for all of CO and for all operating concerns.

In Profitability Analysis, you can only use versions for **plan data**. Consequently, the fields "Actual" and "Exclusive use" are not relevant for CO-PA.

Each version has attributes which are only valid for one operating concern.

The attributes determine the following:

whether you can plan a version

The *Version locked* indicator lets you lock a plan version so that no more changes can be made to it.

which currency type should be used to store the data in this version

If, alongside the operating concern currency, the company code currency or the profit center valuation are also active in your operating concern, you need to specify the currency type for each version.

which exchange rate should be used to translate foreign currencies to the local currency

for what date the system should derive characteristics

In planning, the system always tries to derive values for the characteristics which you do not specify. Since these derivation rules are time-dependent, you can specify which date the system should use when it performs derivation.

which plan structure is checked for the plan version

You can enter a plan structure here to ensure that plan data for different profitability segments corresponds to a pre-defined plan structure. For the transfer of plan data to SOP, you can determine:

which characteristic group, if any, is used

An interface in planning lets you transfer planned sales quantities to Sales and Operations Planning. You can specify for each plan version which characteristic group, if any, should be provided to the user as an entry aid.

(See the example in the online documentation (F1).) If you plan in weeks, you also need to specify:

which rule is used to distribute the weekly plan values to plan periods

This rule determines how the weekly values are distributed to periods when a week cannot be assigned to one period.

(See the example in the online documentation (F1).)

which calendar is used as a basis for this distribution.

Actions

Define your CO version and select the "*Plan*" indicator. Then maintain the operating concern settings.

Assign Quantity Fields

A number of quantity fields are defined and used in the SD billing system. In this step you assign these to the corresponding quantity fields in costing-based Profitability Analysis (CO-PA).

Actions

Assign all the quantity fields you want to transfer from the billing system to costing-based CO-PA.

Additional Information

You can transfer the billed quantity to costing-based CO-PA using the sales unit as well as the stockkeeping unit. The assignment you make here is valid for both profitability planning and for actual postings.

This assignment is particularly important for planning, because the system can automatically derive the unit for the quantities you plan manually for individual products.

Check Active Value Flows of Actual Data

To be able to compare your plan data with your actual data in CO-PA, you should orient your planning toward reflecting the flows of actual values in your system. Pay particular attention to the following:

Plan your value fields in a way that reflects the actual value flows. For an overview of the flow of actual values, choose *Tools -> Analysis -> Check Customizing Settings.*

If you want to assess costs, allocate activities indirectly from cost centers, or settle planning data from orders or projects, check the following activation parameters for actual data:

Check whether the desired form of Profitability Analysis is active (choose *Actual Flows of Values -> Activate Profitability Analysis).*

Check whether the actual data in your system is stored in both the operating concern currency and the company code currency, and whether you consequently want to plan in the company code currency as well. If so, you need to define plan versions and planning layouts for this purpose. *Structures -> Define Operating Concern -> Maintain Operating Concern -> Attributes -> Display*.

Check whether the data in your system is stored using profit center valuation as well as legal valuation, and whether you need to reflect this in planning as well. If so, you have to define special plan versions and planning layouts for this as well. *Actual Flows of Values -> Multiple Valuation Approaches/Transfer Prices -> Activate Profit Center Valuation).*

Planning Framework

In this activity, you define your planning environment. To do this, you set up planning levels and planning packages using the planning framework. You also have the option of defining parameter sets for executing the individual planning methods.

If you would like to transfer to the planning framework the settings that you used for planning in a previous release, SAP provides several conversion aids for this purpose.

Set Up Planning Framework

In this step, you set up the planning framework and thereby specify the architecture to be used in planning.

The planning framework consists of the following elements:

Planning level

Planning package

Planning method

Parameter set

For more detailed information about these individual elements and about setting up the planning framework, see the documentation for Profitability Analysis. You can access this documentation by choosing *Help -> Application help*.

Aids for Changeover to the Planning Framework

If you have used CO-PA Planning in previous releases (before Release 4A), the system offers you aids in this step which you can use for the changeover to the new planning framework.

Firstly, you can take an existing planning layout to create a corresponding planning level.

Secondly, you have the option of displaying the settings for your old planner profiles. This simplifies making the settings in the corresponding parameter sets.

Create Planning Level from Planning Layout

In this step, you can create a planning level on the basis of the planning layout that you used prior to Release 4A for sales and profit planning. You can then include the planning layout in parameter sets for that particular planning level.

The system then uses the planning layout it finds to select all characteristics in the General Selections, the lead columns, and the value field columns, and copies them to the planning level. Moreover, the characteristic values - specified in the planning layout - for the currency type (in costing-based CO-PA) or the controlling area (for account-based CO-PA) are read and transferred to the planning level.

Recommendation

If you have used several planning layouts with the same characteristics and the same currency type/controlling area, you should only create one level for all these layouts. You should include the different layouts in different parameter sets at this planning level.

Activities

Enter the name of the existing planning layout and specify a new name as well as a description for the planning level to be created.

Display Planner Profiles

Note

The possible planner profile settings described below are **not relevant for setting up the planning framework** (see Set Up Planning Framework). It may be necessary to display your settings for planner profiles if you had already set up sales and profit planning prior to Release 4A and are now changing over to the planning framework.

If it is not possible to switch to the planning framework for the moment, you can make changes by choosing *Table View -> Display->Change*. However, this option should only be used in exceptional circumstances since SAP reserves the right to phase out the transactions for the old planning functions in future releases.

Defining Planner Profiles

In this activity, you can define planner profiles to shape your planning process in sales and profit planning.
Planner profiles are used throughout CO as well as in Profitability Analysis. The other applications include Overhead Cost Controlling (CO-OM), Profit Center Accounting (EC-PCA), and the Executive Information System (EC-EIS). Consequently, you can define separate parameters for planning in these applications and planning in Profitability Analysis.

Planner profiles have a hierarchical structure:

Planner profile overview

Settings for Profitability Analysis
Profitability Analysis layouts
Parameter settings for layout

Planner profile overview

You can assign each planner profile an authorization group.

By assigning authorization groups and specifying fixed parameters (i.e. those which cannot be overwritten), you can provide your users detailed authorizations for creating plan data.

Settings for Profitability Analysis

Here you can define default settings for the current operating concern. Note that the type of Profitability Analysis also plays a role here. (Set operating concern.)

The field "Items" indicates whether or not any planning layouts have already been assigned to the profile.

For Profitability Analysis, you can store two default distribution keys for each planner profile. The system automatically defaults the distribution key "2" (Distribution as before) here. If you want to use segment-specific distribution keys, you can specify an access key here instead of a distribution key.

You can also select the "Auto.TP vltn" and "Suppress zeros" options if desired.

If you want to use top-down distribution in manual planning, you need to specify the desired distribution profile. This contains all the parameters for top-down distribution in manual planning (see Define Distribution Profile).

- Profitability Analysis layouts

You can assign one or more planning layouts to each planner profile. If you assign more than one, you can scroll between the planning layouts in planning using "Goto -> Next layout" and "Goto -> Previous layout".

If no layout has been assigned to the profile yet, you can enter a new one. The system automatically issues an item number. If you would like to change an existing layout, delete the entry and create a new one.

The "Default parameters" field indicates whether default characteristic values have been predefined for the layout.

If you deselect the "Overwrite" field, the users who work with that profile must use the parameters you specify in the profile. They cannot overwrite the defaults with other values. If you leave indicator selected, the parameters you specify serve as defaults which can be overwritten at any time.

The "File description" and the "Integrated Excel" fields are only relevant if you want to use Microsoft Excel as your planning tool. If you select "Integrated Excel", the system displays Excel within the SAP window in planning. In this case, you can enter a file name that should be used to link the fields of the Excel worksheet with those in the planning layout. If you do not enter a file name here, the system defines one automatically when you save.

- Default parameters for layout

  You can specify characteristic values to be used as default parameters for the planning layout. The system lets you specify values for all the variables defined in the planning layout. You can specify these parameters separately for each profile item for the planning layout. If you have selected "Integrated Excel", you can define a template for planning in Excel as well by choosing "Goto -> Overview screen". For information on what settings you can make in an Excel template, see "Setting Up Integrated Excel" in the CO-PA online documentation.

Requirements

The operating concern must be complete and active before you can create planner profiles for Profitability Analysis (see Maintain Operating Concern). In addition, planning layouts must already be defined (see Create Planning Layouts).

Activities

Process the planner profiles in the following order:

Planner profile overview

Create a new profile using the function "New entries", or copy an existing one using "Copy as".

Enter an explanatory text for the new profile and, if desired, assign an authorization group.

Settings for Profitability Analysis

Enter the default distribution keys for the operating concern. Select the entry and choose "Profitability Analysis Layouts" in the navigation box.

Profitability Analysis layouts

Assign a planning layout to the profile. Deactivate the indicator "Overwrite" if you do not want the users to be able to overwrite your settings. Select "Integrated Excel" if you want to use Microsoft Excel as your planning screen with this layout.

Default parameters

Enter values for the variables defined in the planning layout. If desired, define and format an Excel worksheet has a template for your planning screens.

Manual Entry of Planning Data

In this activity, you can define a planning layout with which to enter planning data manually. Furthermore, you can set up transaction-based top-down distribution, whereby manually entered data is distributed to a lower planning level when posted.

Define Planning Layout

In this activity, you define the entry screens for sales and profit planning. These definitions are referred to as "planning layouts" and represent structures of rows and columns.

Note: In most cases, you should create a planning layout via automatic generation from the parameter set for the planning method *Enter Planning Data*. The only planning layouts that you need to create manually are those with complex lead columns containing several characteristics that are specified by row. An example of such a planning layout is one for displaying a contribution scheme. In such cases,

you have to ensure that the planning layout is compatible with the planning level. This means that all the planning level characteristics in the planning layout must occur in the General Selections, the lead columns or the value columns.

Each planning layout is valid for one operating concern.

If you are using **parallel currencies** in the current operating concern, you need to decide whether you want to plan the planning data in the planning layout

in just the operating concern currency, or

in the operating concern currency and the company code currency.

You should make this decision **first thing** when you create this layout.

If you are also using **parallel valuations** in the current operating concern, then you have a wider choice of options for planning the planning layout:

Only in the operating concern currency with legal valuation, or

In any valuation approach (that is, in the operating concern currency and/or company code currency with legal and/or profit center valuation.

This planning layout setting cannot be changed retrospectively.
The setting that you make determines which of the characteristics *company code* and *currency type* are made available to you for the planning layout definition:

If you plan in just the operating concern currency (with legal valuation), you cannot select characteristic *currency type*. You can select characteristic *company code* as a normal characteristic.

If you would like to plan in both currencies, you **must** select characteristics *company code* and currency type.

If you would like to plan with profit center valuation, you only need to select characteristic *currency type*.

If you also store your planning data in the current operating concern on the basis of **calendar weeks**, you then need to decide when you start defining a planning layout whether you want to use it to edit planning data for posting periods or to edit weekly data.

Characteristics and value fields

Every field on the screen belongs to a row and a column of the planning layout. The content of the field depends on the characteristics and value fields used to define the corresponding row and column.

One characteristic you can use is the plan/actual indicator. This makes it possible to display actual values in planning for informational purposes. If you use the plan/actual indicator, you need to specify a value for it in each column. In "actual" columns, you cannot choose the characteristic "Version", whereas in "plan" columns you are required to do so.

Characteristic values

Characteristic values that are specified in the planning layout are overwritten by those specified in the planning package and in the planning level. This is because the selections made in the planning package and in the planning level supercede those in the planning layout. You should therefore make your selection in the layout as flexible as possible, which can usually be achieved by entering "*" as the characteristic value in the simple lead columns and in the general data selections. This entry captures all possible characteristic values and can be replaced by a single value or by an interval. However, the entry "*" is not permitted as the characteristic value for the following characteristics, which are exceptions:

Currency type (or controlling area, for account-based CO-PA)

You need to enter the single value that is specified for this characteristic in the version specified in the planning level or in the planning package.

Version

You need to create a variable. During planning, the variable is then filled via the selection made in the planning package or the planning level.

Period

You need to create a variable for every "from" value and every "to" value.

In complex lead columns and in value columns that also cannot take "*" as an entry, you need to use single values or variables that are then replaced during planning with selections from the planning package or the planning level. If you specify more characteristic values than there are in the planning package or the planning level, then entries cannot be made in the corresponding fields during planning. To enter a local **variable for a characteristic value**, select the checkbox "Variable on/off". Such variables are filled using the selections in the planning package or the planning level. You just need to ensure that the planning layout has the same number of variables for a characteristic value as the selection from the planning package or planning level. If, for example, there are two columns in the layout and each has a variable for the version, then the package should contain two single values for the version. If a "from" variable and a "to" variable have been entered in the general data selections for a characteristic, then a from-to value must also be specified in the package or level.

Variables are valid only in the planning layout in which you define them. You can define the varaible name as you wish; it is unique for each characteristic and can therefore be used for different characteristics within a layout. For example, variable "1" for the characteristic "Version" is not the same as variable "1" for the characteristic "Division". Furthermore, a variable can be used more than once in the same layout. For example, variable "1" for "Version" can occur in the first and second columns.

Text variables can be used anywhere where you would normally enter texts. To use a text variable, you need to enter "&$" followed by the name of the variable.

The function *Extras -> Variables -> Variable definition* lets you assign the variable to a characteristic. When you enter planning, the system automatically finds a text depending on the value selected for that characteristic. (You cannot replace text variables manually.)

Note

For variables which refer to numeric fields, you can also use addition and subtraction. The variable is extended by a "+" or "-" and a number with up to two characters.

Example

The following layout, for example, allows you to plan the current fiscal year in the planning session by entering a variable, while allowing you to display the figures from the previous year for comparison purposes in another column.

Column 1: A (period from) and B (period to)
Column 2: A-12 (period from) and B-12 (period to)

The variables in column 1 could be replaced with 01/200 (period from) and 12/2000 (period to). Those in column 2 could be replaced with 01/1999 (period from) and 12/1999 (period to).

Activities

Define elements

Except for a few minor differences, you define planning layouts the same way you define forms for the information system.

A planning layout consists of the following parts:

Header

You define the header by choosing "Edit -> Gen. data selection" from the menu or by double-clicking the word "Planning layout". The general data selection determines which characteristics and characteristic values appear where in the header.

Lead columns and value columns

Here you choose the characteristics, characteristic values and value fields you want to plan.

Define the header

In the general data selection, you specify the characteristics and characteristic values that you want to apply to all the rows and columns of the layout. For example, you should enter a version here if you want the entire layout to be for that version. The general data selection simplifies the layout and makes it easier to avoid errors when defining it.

Once you have specified a value for a characteristic in the header, that characteristic is no longer offered for selection in the rows and columns.

Under "Edit -> General data selection -> Gen. data selections", you can select as many characteristics as you like for the header of the planning layout. All these characteristics apply for all the rows and columns of the layout.

Under "Edit -> Gen. data selection -> Header layout..." you can sort the characteristics as you would like them to appear in the header. Note that the system can only display up to nine characteristics in the header.

Define lead columns

There are two ways you can define lead columns:

Define simple lead columns via the column header

You define the first lead column by double-clicking the column header. You can then add new lead columns via the menu option "Edit -> Columns -> New lead column". Note that the new lead column is always inserted **in front of** the existing lead columns! If you define lead columns this way, you can only choose one characteristic for each lead column. **Note:** You should only define in this way in exceptional circumstances, such as to postprocess a planning layout. Normally, such a layout with simple lead columns should be generated automatically from the planning level.

Definition of a specific lead column from the rows (complex lead column) If you choose to define the lead column this way, you need to define each row individually. You can specify characteristics, a value field or a formula for each row. For example, this allows you to display a contribution margin in a lead column. The procedure you use is the same as that for defining value columns.

Note

Remember that you determined whether the value fields go in the rows or the columns of the planning layout when you defined the first row or column. You cannot change this decision later.

Define value columns

There are three ways to define a value column:

Define a normal column using characteristics or value fields

You define the first value column by double-clicking that column's header. You can define additional columns in the free space following the first column by double-clicking in that space. After choosing the desired column, specify the desired characteristics and characteristic values. Intervals of characteristic values in one row (for example, products A through H) are not allowed. If necessary, enter "#" for "not assigned".

It is important that you choose the same characteristics for every column, with the exception of the version, if you are using different plan/actual indicators. (The version must be specified in plan columns, and cannot be specified in actual columns.)

Define an attribute column You can enter the following attributes:

distribution key

The distribution key determines how cumulative values are distributed to the individual periods. This makes it possible to represent seasonal trends across periods. If no distribution key is entered, the system distributes proportionately according to the existing data, or evenly if no data exists yet.

unit

This attribute lets you assign a currency or quantity unit to a value field.

action

If you choose the attribute "Action", you can enter delta (= changed) values to help you solve calculations. For example, say you want to add USD 15,000 to the existing plan value of USD 40,000. Here you would enter "+" in the field "Action" and "15000" in the value column.

long text indicator

If this indicator is set, it means that a long text exists for the profitability segment in that row.

characteristic

This attribute lets you display all characteristics, even those not used in the planning layout.

Again it is important that the same characteristics are chosen for every column. The only exception to this are characteristics of time, which cannot be chosen for the attributes "Distribution key", "Action" and "Unit". For the attributes "Long text indicator" and "Characteristic", neither characteristics of time nor value fields can be chosen. The attributes "Distribution key", "Unit" and "Action" are always linked directly to one data cell. There are two ways you can define these attributes:

You can assign the attributes directly to a value column via the menu path "Edit -> Columns -> Append additional fields". If you later want to change the characteristic value in the assigned value column, the system can automatically change the attribute column accordingly, if you desire.

If you define the attribute by double-clicking in the space next to the existing value column, the system does not create a reference. In this case the system requires you to enter the characteristics and values again. If you choose the attribute "Unit", this field will contain either the quantity unit or the entry currency, depending on the corresponding value field. For more information about units and foreign currencies, see the CO-PA documentation (SAP Library).

3. Define a formula column

To define a formula column -- a value column for which the values are calculated using a formula -- proceed as follows:

Double-click the free space after a value column and choose the element type "Formula".

In the next dialog box, you can define a formula using the value columns you have already defined.

Using the menu option "Formatting -> Ready for input y/n", you can define rows or columns of your layout as mere display rows or columns, in which no manual entry can be made. This makes sense if you want the system to display certain data, such as a different plan version than the one being planned, for purely informational purposes.

Example

Value column 1: (ready for input) Plan price (Revenue/quantity)

Value column 2: (calculated) Plan revenue

If you want to plan the price directly, you need to activate this field for input using the function "Formatting -> Ready for input y/n". The price will not be stored in the database. Therefore you need to calculate a database field from the price. In the above example, that field is the revenue. Consequently, the field "Revenue" is locked for manual entry and defined by the inverse formula "quantity * price". For another example of an inverse formula, see the standard planning layout 0-SAP05 (operating concern S001).

Default settings for decimal places and display factor

When you define the planning layout, you can set the number of decimal places you want displayed as well as a display factor (e.g. planning in 00s) for each column. These settings can be changed at any time in planning.

Set Up Transaction-Based Top-Down Distribution

In this activity, you can set up transaction-based top-down distribution for manually planned data. This function means that, when you save your planning data, it is automatically distributed top-down to a more detailed planning level.

Transaction-based top-down distribution lets you ensure that your planning data is always updated at the same planning level. Even if you enter the planning data at more aggregated levels (such as the product/product group level or the product/customer group level), the system automatically posts it at the lowest level (product/product group/customer group).

Transaction-based top-down distribution functions essentially the same way as the automatic planning method *top-down distribution*, whereby the relevant data is distributed.

Note

Transaction-based top-down distribution can lead to long runtimes. If your planning process calls for planning data to become increasingly detailed in different phases, you should use the automatic planning method for top-down distribution.

Define Value Field Assignments

In this activity, you assign the value fields you want to distribute in top-down planning to the values you want to use as the reference for the distribution.

You can distribute your value fields using three basic strategies:
Reference "Fixed value field"

This option distributes the values of all value fields according to one reference field. You can choose any value field, such as the revenue or sales quantity, or any calculate value defined using value fields. If you want to use a calculated value, you must define this in the activity Define Calculated Values for Use as Reference Values.

If you want to use one fixed value field or calculated values as the reference, enter the value fields you want to distribute, and then enter the reference value for each of these.

Referece "By value fields"

This option allows you to use each value field as the reference value for distributing that particular value field. This means that the revenue is distributed based on the revenue in the reference data, the quantity discount according to the quantity discount in the reference data, and so on.

To achieve this, enter each value field you want to distribute and then enter the same value field as the reference.

Reference "Any value field"

You can also choose to distribute the value fields using any other value field or calculated value.

Requirements

If you want to use calculated values as reference values, you need to have defined these beforehand.

Define Distribution Profiles

In this activity, you define a so-called "distribution profile", which contains all the necessary control information for top-down manual planning. This includes information on the reference data, the top-down method, the reference value and the desired distribution level.

When you enter your distribution profile in a parameter set, you tell the system to distribute your manually planned data top-down when you save your data.

Activities

To define the distribution profile, you need to specify the following:

A reference record type. You can decide whether to use a fixed record type as the reference data or always use the record type of the data being distributed top-down ("*").

A reference version. You can decide whether to use a fixed version or the version of the data being distributed ("*") as the reference data.

In top-down planning, you can use two different methods of top-down distribution. The method **Redistribute** aggregates the values already planned at the lower levels and then redistributes them according to the reference values. The method **Distribute "nonassigned" only** only distribute the amount planned directly at the higher level. For an example, see the F1 Help for this field.

In the value field assignment, you determine the reference values that will be used to distribute the plan data to the distribution level.

Once you have defined the distribution profile, you can specify the distribution level, which is the characteristic or characteristics to which the plan data should be distributed.

Calculated Values as Reference for Top-Down Distribution

In this activity, you define a key figure (a formula based on value fields) for use as the reference values for distributing planning data or actual data using top-down distribution.

Example

You defined a key figure "Net revenue = Revenue - Discounts" and enter this as the reference value in top-down distribution. The system distributes the data in proportion to the net revenue according to the reference data of the profitability segments at the lowest level.

Activities

Define the desired key figures

If you want to use the key figure as the tracing factor in automatic top-down planning, select the key figure in the parameter set under *Reference value field*.

If you want to use the key figure for top-down manual planning, you need to assign it to the value fields you want to use it for. You do this in Customizing.

If you want to use the key figure as a tracing factor for actual top-down planning, select the option "Fixed value field" under "Tracing factor" when you execute it and enter the key figure in the field "Value field".

Integrated Planning

In integrated planning, you determine which plan values are transferred from other applications (such as cost center planning or LIS), and which plan values are transferred to other applications (such as Sales and Operations Planning (SOP)).

Transfer Cost Center Planning/Process Planning

The following business transactions let you transfer overhead to Profitability Analysis.

Initial Steps

In this section you make the settings necessary for transferring overhead to sales and profit planning.

Define Calculated Values for Use as Reference Values

In this activity, you can define calculated values for use as tracing factors for cost center assessment, process assessment, or indirect activity allocation.

Example

You want to assess the costs of your cost centers on the basis of the net revenue of the receiver profitability segments. So you define this value here using value fields.

Activities

Define a calculated value as a formula consisting of value fields.

When you define your cycles for assessment or indirect activity allocation, you can then choose these values as tracing factors.

Assign Characteristic Groups to Plan Cycles

In this step, you specify (for cycle maintenance for assessment and for the allocation of indirect activities) which characteristics can be used to define the receiver during segment maintenance. To do this, you assign a characteristic group to the business transaction of the particular allocation type concerned.

Example

During segment maintenance for a planned assessment cycle, only the characteristics "Company code", "Customer" and "Sales organization" should be available for defining the receiver. You therefore assign a characteristic group containing these characteristics to the business transaction KSPB (Plan assessment to CO-PA).

Requirements

You need to have defined a characteristic group containing the characteristics that are to be made available for defining the receiver. You do this by choosing *Flows of Actual Values -> Initial Steps -> Characteristic Groups -> Maintain Characteristic Groups*.

Assign Receiver Plan Version

Example

You want to merge a plan version in Cost Center Accounting with a different plan version in CO-PA.

Activities

Assign the version in CO-OM to the desired receiver version in CO-PA.

Activate Transfer of Cost Component Split During Activity Allocation

In this activity, you activate the transfer of the price cost components from activity and process allocation to Profitability Analysis.

Activities

If you use the cost component split in Cost Center Accounting or Activity-Based Costing for price calculation, you can update the prices divided into cost components during allocations to Profitability Analysis. To do this, you need to perform the following steps:

Maintain the cost component split assignments to CO-PA value fields.

Assign a value field or, when splitting into fixed and variable portions, both value fields to each of the cost components of the cost component structure used in Cost Center Accounting or Activity-Based Costing.

You find the corresponding cost component structure in the detailed information on the section of the CO version dependent on the fiscal year.

Activate the transfer of the cost components for the corresponding operating concern.

Further notes

Note that, when the transfer is activated, price revaluations are also updated for activities posted previously using the assignment of cost components to CO-PA value fields.

For more information on the cost component structure and on price calculation with cost components, see the SAP Library in the area Financials -> Controlling -> Cost Center Accounting -> Period-End Closing -> Actual Price Calculations -> Price Calculation with Cost Component Split.

Assign PA Transfer Structure to Business Transaction

In this activity, you specify which PA transfer structures are used for specific business transactions to transfer overhead.

For this, you assign a PA transfer structure to the business transaction of the respective allocation type.

Note:
If you do not assign a business transaction to a PA transfer structure, the system uses the standard selection for the PA transfer structures. Initial entries in the *PA Transfer Structure* column are reset to the following SAP standard selection when you save.

PA transfer structure "CO" for

Internal activity allocation

Template allocation from cost center costs and process costs

Revaluation due to price (re)calculation

PA transfer structure "FI" for repostings

Example

You want to be able to display price changes individually when revaluating internally allocated activities with a price calculation.

By assigning different PA transfer structures for the business transactions "Activity Allocation" and "Revaluation Due to (Re)Calculation of Prices", you can send the results from the revaluation of activity quantities into other value fields as opposed to those for the values calculated in activity allocation.

Assess Cost Center Costs / Process Costs

You can assess both plan and actual cost center costs and process costs to profitability segments as part of your period-end closing activities.

Example

You can assign the costs of your sales cost centers to the customer groups and regions for which those cost centers are responsible. You can assess specific percentages of the costs or absolute amounts to the different customer groups and regions, or you can distribute them in proportion to certain values contained in the value fields of those segments (tracing factors).

Activities

Define an assessment cycle. The cycle determines:

- The cost centers or business processes that assess the costs
- The profitability segments that receive the costs
- The amounts that are to be assessed
- The tracing factors according to which the costs are distributed to the different profitability segments

In the cycle, you need to specify a PA transfer structure if you want to transfer different cost element groups to **several** value fields in costing-based CO-PA.

You need to specify an allocation structure if you want to credit the cost center using **several** assessment cost elements.

Note

You can only use PA transfer structures and allocation structures with sender rule "1" (posted amounts).

Define Structure of Cost Center Assessment/Process Cost Assessment

In this step you define rules for allocating cost center costs and process costs to Profitability Analysis (CO-PA) in the form of cycles.

Activities

Define your assessment cycles. In doing so, observe the following:

The header of the cycle contains the parameters that are valid for the entire cycle. This includes the **sender selection type**, where you specify for actual data whether you want to assess all costs together or fixed and variable costs separately.

The segments contain the combinations of sender cost centers/sender processes and receiver profitability segments that are processed using a single distribution rule.

- Specify either an assessment cost element or an allocation structure, which determines more than one assessment cost element for each cost element group. The sender cost centers/sender processes are credited using these secondary cost elements (cost element category 42). In account-based CO-PA, the receiver profitability segments are also credited using this cost element.
- Specify either single value fields for the fixed and variable costs, respectively, or a PA transfer structure that determines more than one value field for each cost element group.
- Specify the rule which you want to use to credit the sender.

  Note that, for technical reasons, you can only use an allocation structure or a PA transfer structure with sender rule "1" (posted amounts).
- Define the tracing factor, the rule which determines how the values are distributed to the receivers. For example, you can distribute certain percentages to the different receivers or distribute using certain values (such as the quantity sold or the revenue) as an allocation base. If you choose to use an allocation base, choose the receiver rule "Variable portions".
- Specify the senders and receivers in the **allocation characteristics**.

Prerequisites

For process cost assessment, Activity-Based Costing (CO-OM-ABC) must be active as an operational Controlling component in your system.

The desired form of Profitability Analysis must be active.

You can check the form of Profitability Analysis by choosing *Actual Flows of Values -> Activate Profitability Analysis*.

Credit postings require you to have assigned an internal number range for the CO transactions KSPA (actual) or KSPB (plan).

To verify that this has been done, switch to Customizing for **General Controlling** and choose *Organization -> Define Number Ranges for CO Documents*.

In Profitability Analysis, you must define a number range for record type "D". For actual data, you verify this by choosing *Flows of Actual Values -> Initial Steps -> Define Number Ranges for Actual Postings*.

In planning, you verify this by choosing *Planning -> Initial Steps -> Define Number Ranges for Planning Data*.

To improve runtimes in assessment, it is recommended that you use summarization levels if possible. These provide presummarized tracing factors for the receiver profitability segments.

Notes on Planning

The receiver version of a cycle is determined using the assignments you make to the sender version under *Planning -> Integrated Planning -> Transfer Cost Center Planning/Process Planning -> Initial Steps -> Assign Receiver Plan Version*.

Note that the field "Receiver version" is only relevant for costing-based Profitability Analysis. In account-based Profitability Analysis, postings are made to the sender version. - Ensure that the controlling area for the receiver is the same as that for the sender. Consequently, for the receiver rule "variable portions", you need to ensure that the characteristic "Controlling area" has already been planned in manual planning if planning data is to be taken as the basis for the assessment.

For actual assessment, you cannot use cycles that you defined for plan process assessment. You need to define new cycles separately. Nevertheless, you can copy plan cycles to actual cycles and vice versa.

Define PA Transfer Structure for Assessment

In this activity, you define a PA transfer structure for performing assessment.

If you want import the values posted to a cost center/process into different value fields by means of differentiation by cost element, you can use one of the following options:

You can set up a cycle with several segments. For this, you need to create a separate segment for each assignment of a cost element interval/cost element group to a value field.

You can set up a cycle with only one segment. For this, the assignment of cost elements to the respective value fields is defined via a PA transfer structure.

You can use the PA transfer structure to combine in a single segment different assignments of cost elements/cost element groups to value fields. Instead of a value field, you can enter the PA transfer structure when defining an assessment cycle in the segment header.

Notes:

You can only use a PA transfer system together with the "Posted values" sender rule.

Even when it is technically possible, via a joint maintenance dialog, to use PA transfer structures from different allocation types to perform the assessment, you should still define separate PA transfer structures.

Equally dependent on the joint maintenance dialog, there are some selection options within the maintenance functions for the PA transfer structure that do not apply to structures used exclusively in assessment. These options are discussed below under "Activities".

Activities

Create a PA transfer structure for assessment.

Decide how you want to divide the cost elements and define corresponding assignment lines. This division is then used to transfer the cost elements to the CO-PA value fields. The indicator for quantity billed/delivered is not relevant for assessment and hence should not be activated.

For each assignment line, enter into the cost center/process the cost element(s) or the cost element that are to be assigned.

As the source, activate the "Costs/Revenues" option. Note that only costs are allocated during assessment, not revenues.

For each assignment line, enter the value field (or, if the cost elements are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Define Allocation Structure

If the assessment for each segment is not made with a pre-defined assessment cost element, you can assign the source cost elements to the desired assessment cost element in the allocation structure. During cycle definition, enter the allocation structure instead of an assessment cost element in the segment.

An allocation structure for the assessment consists of at least one assignment, stating the assessment cost element to which the source element is assigned. The original cost elements will already have assignments in the source.

Requirements

To define the assessment cost elements required for the allocation structures, you must first complete the IMG activity "Create Assessment Cost Elements".

Activities

Creating an allocation structure.

To create an allocation structure, proceed as follows:

Choose "New Entries".

Enter a name and text for the allocation structure.

Save the allocation structure.

Enter the assignments for each allocation structure. To make the assignments, proceed as follows:

Select the allocation structure, and then choose "Assignments".

Choose "New Entries".

Enter a name and text for the assignment.

Save the assignment.

Specify the source for each assignment.

To specify the source for an assignment, proceed as follows:

Select the assignment, then choose "Source".
Enter a cost element interval or a cost element group.

Save the source.

Enter the assessment cost element for each assignment.

To specify an assessment cost element for an assignement, proceed as follows:

Select the assignment, then choose "Assessment cost element".

Enter the assessment cost element you require.

Save your entries.

Display Cycle Overview of Plan Assessment

In this step, you can display the cycles for planned assessment that have been defined in an operating concern.

Cycles are displayed in a tree structure on the left-hand side of the screen. By expanding the nodes, you can display the segments for a cycle.

On the right-hand side of the screen, you can change the selection used to call up the tree structure for the cycles and you can display additional columns in the tree.

To call up detailed information about a cycle and a segment, select the required object in the tree by double-clicking it and switch to the tab index *Cycle information*. From the detailed information screen, you can switch to cycle maintenance to make changes there. Alternatively, you can execute the cycle directly.

Direct/Indirect Activity Allocation

In this step, you make the necessary settings for allocating activities from cost centers and processes to profitability segments.

Whereas in assessment you can distribute the data from cost elements or cost element groups by percentages or based on tracing factors, the distribution of values in activity allocation depends on the activity involved.

Direct activity allocation

Normally, you can assign activities that are performed for certain profitability segments (such as customers or products) directly to those segments. When you do so, the system transfers the quantity of the activity performed and valuates this with the planned price for that activity in the cost center involved. This makes it possible to allocate consulting hours, for example, to the customer for whom they were worked.

Prerequisite

The activity must be defined as activity type category "1" (manual entry and manual allocation) in Cost Center Accounting, and an activity quantity must have been planned manually.

Activities

Define the PA transfer structure "CO".

Indirect activity allocation

If the activity cannot be measured directly, you can create a quantity structure on the basis of certain assumptions, and then valuate and allocate this structure just like direct activity allocation. An example for this would be a cost center "Order processing", for which no activities are explicitly entered. In order to allocate these costs in accordance with how they originated, you can create a quantity structure based on a quantity field "Number of orders entered", and then valuate this with a planned price.

Prerequisite

The activity must be defined as activity type category "2" (Indirect creation and indirect allocation) or "3" (Manual entry and indirect allocation) in Cost Center Accounting. If you use category "3", you also need to define an activity quantity for the sender.

Activities

Define the PA transfer structure "CO".

Define indirect activity allocation for cost centers or processes.

Further Notes

The sender cost center are credited using the allocation cost element that was assigned to the activity type.

In account-based CO-PA, the values are posted to the same allocation cost element.
In costing-based CO-PA, the allocation cost element needs to be assigned to a value field in PA transfer structure "CO". The value is transferred to that value field.

Maintain PA Transfer Structure for Template and Activity Allocation

In this activity, you maintain PA transfer structures that are used for the following allocations of actual and plan data:

Internal activity allocation

Template allocation for cost center costs and process costs

Revaluation due to price (re)determination

Reposting

You use the PA transfer structure to determine which allocation cost elements are transferred to which CO-PA value fields.

You can also transfer the allocated activity quantity to CO-PA. To do this, include in the assignment the corresponding quantity field along with the value field(s).

Note:

Since this maintenance dialog is also used in the definition of PA transfer structures for other allocations, there are several selection options that do not apply to the PA transfer structures used here. These options are discussed below under *Activities*.

Activities

Maintain the appropriate PA transfer structure.

Decide how you want to divide your allocation cost elements and create corresponding assignment lines. This division is then used to transfer the cost elements to the CO-PA value fields.

Note: The indicator for quantity billed/delivered is not relevant here and should therefore not be activated.

For each assignment line, enter the allocation cost element(s) or the allocation cost element group to be assigned. As the source, activate the "Costs/Revenues" option. Note that only costs are allocated during activity allocation and template allocation, and that revenues are not.

For each assignment line, enter the value field (or, if the costs are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Assign the PA transfer structure to the corresponding business transaction. Maintain these settings separately for actual business transactions and plan business transactions .

Note:

If you do not assign a business transaction to a PA transfer structure, the system uses the standard selection for the PA transfer structures. ("CO" or "FI").

Set Up Indirect Allocation of Activities from Cost Centers/Processes

The advantage of indirect activity allocation over cost assessment is that you can allocate the entire activity based on the activity quantity performed or one determined indirectly after valuating it with a fixed and/or a variable price. For information on the basic concept of indirect activity allocation, see Indirect Activity Allocation.

Activities

Set up indirect activity allocation as described by performing the steps described in the section Define Indirect Activity Allocation in Customizing for Cost Center Accounting. You use the same steps again to set up the indirect allocation of activities from processes.

Enter a cost center and a suitable activity type or business process as the sender objects in the cycle.

As the receiver, specify those profitability segments that are relevant for the allocation of costs.

Prerequisites

For the indirect allocation of activities from cost centers:

You must have an activity type that uses allocation category 02 or 03. Maintain Activity Types for Indirect Activity Allocation.

Planning data must exist for the activity type so that

plan price iteration has been carried out, or - a plan price was defined manually for the cost center, or

an actual price must have been determined in period-end closing.

For the indirect allocation of activities from processes:

You must have Activity-Based Costing implemented as an operational Controlling component in your system

You need to have defined a process containing the allocation category 02 or 03.

The process has been planned during business process planning so that - a price is available for valuating utilization, or - an actual price is determined.

Notes on Planning

The receiver version of a cycle is achieved when you have performed the assignment to the sender version under *Planning -> Integrated Planning -> Transfer Cost Center Planning/ Process Planning -> Initial Steps -> Assign Receiver Plan Version*.

Note that the receiver controlling area should be the same as the sender controlling area. It is therefore important for the receiver rule "variable portions" that the characteristic "controlling area" has been planned in manual planning if allocation is to occur on the basis of planning data.

Display Cycle Overview of Plan Activity Allocation

In this step, you can display the cycles created in an operating concern for indirect activity allocation in planning.

Cycles are displayed in a tree structure on the left-hand side of the screen. By expanding the nodes, you can display the segments for a cycle.

On the right-hand side of the screen, you can change the selection used to call up the tree structure for the cycles and you can display additional columns in the tree.

To call up detailed information about a cycle and a segment, select the required object in the tree by double-clicking it and switch to the tab index *Cycle information*. From the detailed information screen, you can switch to cycle maintenance to make changes there. Alternatively, you can execute the cycle directly.

Maintain Cost Component Split Assignments for Activity Allocation

In this activity, you define the assignment of cost elements to value fields.

Requirements

This assignment is only relevant if the transfer of the cost component split to Profitability Analysis is active.

Activities

Assign a value field or, if splitting into fixed and variable portions, both value fields to each of the cost components of the cost component structure used in Cost Center Accounting or Activity-Based Costing.

You find the corresponding cost component structure in the detailed information on the part of the CO version dependent on the fiscal year.

Further notes

For more information on the cost component structure as well as on price calculation with cost components, see the documentation in the SAP Library in the area Financials -> Controlling -> Cost Center Accounting -> Period-End Closing -> Actual Price Calculations -> Price Calculation with Cost Component Split.

Set Up Template Allocation

In contrast to assessment, template allocation lets you allocate overhead costs (for business processes or cost centers/activity types) in a cause-and-effect manner based on the quantities used.

To do this, you must define a template containing the formulas and functions required for calculating the quantities used and thus the cost drivers. The quantities are then valuated by means of price calculation.

Dynamic template allocation functions as follows:
When carrying out the allocation, the user specifies the particular characteristic area for which the allocation should be carried out. If there are characteristic values in this area that are linked with a template via a selection strategy, this template is then used automatically. The template's settings are employed to determine the appropriate activity quantities and the appropriate business process or cost center/activity type that forward those quantities to the profitability segment. The activity quantities (valuated with prices) are then allocated to the profitability segment whose dimensions are defined in Customizing. The costs are not only allocated to the specified update characteristics. They are also allocated to all characteristics that you defined as target fields for source characteristics via a derivation rule.

To create all prerequisites for this procedure, you need to carry out the following steps in Customizing:

First, limit the number of record types. Doing so reduces the amounts of data to be processed, thus enhancing system performance. Moreover, this prevents duplicate allocations from occurring (for example, for an incoming sales order and again for its corresponding billing document).

You specify the dimensions of the profitability segment by entering update characteristics. You then make some or all of them into selection characteristics. These determine which criteria are used to select the destination objects in the template allocation.

This last step completes the definition of the profitability segment. The following steps allow you to set about using the process template:

You generate and maintain the template environment by changing environment functions already present or creating new ones.

You can use the environment functions delivered in the system or those that you created yourself to create the templates required for your allocations.

To ensure that the appropriate template is used for allocation, enter at this stage which characteristics and which characteristic values should be used to define the template.

You then specify in the PA transfer structure which value fields the process costs are posted to. This occurs via the assignment of the allocation cost elements (for business processes or cost centers/activity types) to value fields.

Define Record Types for Selecting Cost Drivers

In this activity, you choose which record types in CO-PA you want to use as tracing factors for selecting the cost drivers. This reduces the number of profitability segments used in template determination, thereby producing several advantages. Such a reduction can considerably enhance performance, for example.

You can choose from the record types delivered by SAP or define your own: Define New Record Types

Example

If incoming sales orders and billing documents are both posted in CO-PA, you can decide whether the sender objects (such as processes) should be allocated at the point of entry of the incoming sales orders or of the billing documents. If you choose both record types, then you have to decide on an activation condition in the template that controls when the sender objects are settled. This ensures that a settlement does not occur twice.

Activities

To choose a record type, select the appropriate checkbox and save your selection.

Specify Characteristics for Selection and Update

In this activity, you define update characteristics and specify which ones you want the system to use to select profitability segments in template allocation.

Allocated costs in CO-PA are posted to the **update characteristics** (and to the characteristics derived from them). Update characteristics are used to locate cost drivers.

When you carry out the dynamic process allocation, the **selection characteristics** appear for selection. This enables you to limit the number of characteristic values.

Note

Delta postings to characteristics are no longer possible once the latter have been changed.

Activities

Select 'New Entries'.

Select the desired update characteristics in the "Characteristic" column using the possible entries function. The characteristics for the operating concern are then available. Note: The characteristics "Product" and "Customer" are not offered for selection because the general allocation of sender objects to lowest-level characteristics usually causes performance problems.

To specify an update characteristic as a selection characteristic, click on the corresponding indicator in the "Selection" column.

Note

You can define other update characteristics which can then also be considered during profitability segment determination, but dependently of the characteristic values relating to the update characteristics defined under "New Entries". You do this in the transaction Maintain Process Template Determination and Other Update Characteristics. This makes sense if, for example, the characteristic "Customer" is to be included in operating concern determination for a specific customer group. (Example: if an update should occur at customer level whenever the characteristic "Customer group" receives the value "Major customer").

Generate Template Environment for CO-PA

Before you can define a template, you first need to modify the template environment so that it is compatible with your operating concern.

The update characteristics that you specified and the value fields of your operating concern are first made available in the environment.

Activities

Choose from the available characteristics and value fields all those that you wish to use for maintaining the template.

Maintain Template Environment and Function Trees

At this point, you can choose from all the possible environments for template allocation. However,you should ONLY edit the environment **PAC** ! Ensure that you note the following when executing the allocation.

General

In this step you maintain:

Function trees

Structure nodes - Function references - Functions.
The basis for the maintenance of the object is always the chosen environment.

Environment

The Template's environment determines the information of the SAP-environment and the external system that can be accessed. Basically, the functions relevant to each context are already provided in the

corresponding environment. Environments always contain a row of sub-environments which group functions by theme; these include material, BOM, routing, and others.

The standard system delivers the following environments:

Template allocation (for cost objects, profitability segments,

business processes, cost centers/activity types)

Formula planning (business processes, cost centers, profit centers)

Standard cost estimates

Process quantity determination (SOP/LTP)

Easy Cost Planning/Internal Service Request

Recommendation

Use the sub-environments provided by SAP as much as possible. When you assign an function to a sub-environment, it is automatically available in all the main environments containing this sub-environment.

Further notes

For more information on environments and a list of these and their sub-environments go to the help for applications of Activity-Based Costing under "Template -> Template Environment".

Function Tree

A function tree is a user-defined hierarchy which structures or groups functions. With the Help for function trees, you can structure groups of functions available in each environment according to their their theme or emphasis. Functions are then processed from here on.

A function tree is assigned to an environment and consists of nodes and function nodes.

Environments: all environments are displayed when you call up the n transaction. Environments themselves cannot be changed or deleted. The creation of new environments is also not possible.

Function trees: the first level under environments. You can subordinate nodes or function nodes to a function tree.

Nodes: nodes are always subordinate to function trees or other nodes. You can subordinate other nodes to a node or function node. In function trees SAP1, nodes contain sub-environments.
Function nodes are always subordinate to function trees or nodes. They always refer to a function.

SAP standard delivery for all environments includes function tree SAP1 (for example, for environment 001, function tree SAP1-001). This contains all standard nodes (sub-environments) and function nodes (with reference to the respective function).

Activities

The transaction provides you with left and right screens. The left one displays the existing environments. You can expand the hierarchy and view the function trees, nodes and function nodes in their hierarchical structure. Place the curser on an object you want to process.

The right screen details of the chosen object (environment, function tree, nodes or function nodes) in list form. If you double click on a funciton node you will see the maintenance screen for the functions.

Further notes

For more information see Application help for Activity-Based Costing:

AC-Financials -> CO-Controlling -> Activity-Based Costing -> Template -> Function tree -> Maintain function tree or *Template -> Template environment -> Maintain functions*

AC-Financials -> CO-Controlling -> Cost center accounting -> Cost center planning -> Aids -> Formula planning -> Template -> Template environment.

Maintain Template

Here you maintain templates.

Applications

Each purpose (application) of a template requires a special environment. Before creating a template, choose an environment. The environment determines which row and column types are available, for example.

The available applications include the following:

Template allocation to cost objects, or use in standard cost estimates for cost objects and materials (environments 001 - 012)

Template allocation to business processes, cost centers, or cost centers/activity types (environments SBP, SCI, SCD)

Template allocation to profitability segments (environment PAC)
Formula planning (environments CPI, CPD, BPP, PCA)

Calculation of output quantities (environment SOP)

Easy Cost Planning/Internal Service Requests (environment 200 - 299)

Structure

A template consists of rows (items) and columns. The row and column types available to you depend on the environment.

Columns available include:

Type of row, such as business process, cost element subtemplate, or calculation row

Name of the item

Object, such as the name of the process, cost element, subtemplate, or calculation row

Quantity (actual/plan), such as the process quantity or statistical key figure quantity

Activation (actual/plan)

Allocation event (template for cost objects)

Activities

To maintain a template, you must edit the initial and overview screens, from which you can access various editors.

Initial screen

Enter the name of the template that you want to create or edit.

Enter the environment of the template.

Choose *Enter*.

Overview screen

If the template is new, enter a name for it.

Select the row type.

Enter a name for the row.

Edit the other columns. Use the mouse or the tab key to reach the individual columns. Double-clicking on particular column types (such as object, quantity, activation, or allocation event) brings you to the editor or function selection.

Once you have entered or edited all rows, choose *Template -> Save*.

Further notes

Detailed information is available in the Application Help for the transaction, or in the *SAP Library* under **Financials -> Controlling -> Activity-Based Costing -> Template -> Maintaining Templates**.

Maintain Template Determination and Other Update Characteristics

Maintaining template definition

If the user wants to run a template allocation, he/she specifies via the selection characteristics the particular characteristic area for which the allocation should be carried out. If that particular area contains characteristics that are linked to a template via a determination strategy, then the relevant template is automatically used for the calculation. You define the determination strategy as follows:

Choose "Strategy -> Display/Change"

Choose "Edit -> Create step"

Assign a description to the determination rule.

Use the possible entries pushbutton to choose source fields from the selection characteristics previously specified. A placeholder is automatically entered as target field for a template. Note: During rule entry, a column is provided for all the fields entered at this stage. You can then enter concrete values into this column.

Save your entries and choose "Maintain rule values". Use the possible entries pushbutton to insert

Use the possible entries pushbutton to insert in the columns produced by source field entries the characteristic values to be used in the selection of the template.

Use the possible entries pushbutton to insert a template in the template column.

Note: If you have already defined further allocation characteristics in this transaction (see below), change the existing determination rule by inserting a concrete template for the rule values.

Maintaining further allocation characteristics

Further allocation characteristics are those which only form a dimension of an operating concern under certain circumstances (that is, when one or more allocation characteristics accept certain values).

These are maintained after you have selected the fixed allocation characteristics.

You need to take the following steps:

Choose "Strategy -> Display/Change"

Choose "Edit -> Create step"

Assign a description to the determination rule.

Carry out the following steps in the register "Definition":

Use the possible entries pushbutton to choose source fields from the selection characteristics previously specified.

Use the possible entries pushbutton to choose up to five target fields ('NAME1' to 'NAME5') as additional allocation characteristics.

Save your entries and choose "Maintain rule values".

You arrive at the screen "Change rule values" in which an entry column is displayed for each field that you have created.

Use the possible entries pushbutton to insert in the columns produced by source field entries the characteristic values to be used in the selection of the additional template.

Use the possible entries pushbutton to insert the additional allocation characteristic in the columns produced by target field entries. All characteristics for the operating concern that are not yet fixed allocation characteristics are available.

Save your entries.

Example

You have chosen the characteristic value "Major customer" for the fixed allocation characteristic "Customer group" and you have chosen the additional allocation characteristic "Customer" for this condition. If during the template allocation data records with the characteristic value "Major customer" are contained in the selected characteristic area, then the characteristic "Customer" (and all characteristics derived from it) is involved in determining the operating concern.

Maintain PA Transfer Structure for Template and Activity Allocation

In this activity, you maintain PA transfer structures that are used for the following allocations of actual and plan data:

Internal activity allocation

Template allocation for cost center costs and process costs

Revaluation due to price (re)determination

Reposting

You use the PA transfer structure to determine which allocation cost elements are transferred to which CO-PA value fields.

You can also transfer the allocated activity quantity to CO-PA. To do this, include in the assignment the corresponding quantity field along with the value field(s).

Note:

Since this maintenance dialog is also used in the definition of PA transfer structures for other allocations, there are several selection options that do not apply to the PA transfer structures used here. These options are discussed below under *Activities*.

Activities

Maintain the appropriate PA transfer structure.
Decide how you want to divide your allocation cost elements and create corresponding assignment lines.
This division is then used to transfer the cost elements to the CO-PA value fields.
Note: The indicator for quantity billed/delivered is not relevant here and should therefore not be activated.

For each assignment line, enter the allocation cost element(s) or the allocation cost element group to be assigned. As the source, activate the "Costs/Revenues" option. Note that only costs are allocated during activity allocation and template allocation, and that revenues are not.

For each assignment line, enter the value field (or, if the costs are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Assign the PA transfer structure to the corresponding business transaction. Maintain these settings separately for actual business transactions and plan business transactions .
Note:
If you do not assign a business transaction to a PA transfer structure, the system uses the standard selection for the PA transfer structures. ("CO" or "FI").

Maintain Cost Component Split Assignments for Activity Allocation

In this activity, you define the assignment of cost elements to value fields.

Requirements

This assignment is only relevant if the transfer of the cost component split to Profitability Analysis is active.

Activities

Assign a value field or, if splitting into fixed and variable portions, both value fields to each of the cost components of the cost component structure used in Cost Center Accounting or Activity-Based Costing.

You find the corresponding cost component structure in the detailed information on the part of the CO version dependent on the fiscal year.

Further notes

For more information on the cost component structure as well as on price calculation with cost components, see the documentation in the SAP Library in the area Financials -> Controlling -> Cost Center Accounting -> Period-End Closing -> Actual Price Calculations -> Price Calculation with Cost Component Split.

Transfer Order/Project Planning

In this section you set up settlement of actual and plan data for orders and projects to Profitability Analysis.

You can settle actual data from internal orders, sales orders, and projects and plan data from plan-integrated internal orders and projects.

To settle data to CO-PA, you need to define a so-called "settlement profile" and assign this to the master data of the objects you want to settle.

This settlement profile contains an allocation structure, which defines how the corresponding order or project is credit. It also contains a PA transfer structure, which determines how the values are settled to value fields in Profitability Analysis.

In the PA transfer structure, you first assign the original cost elements on the order or the project to lines (assignments), which you then assign to value fields in Profitability Analysis.

Example

```
PA transfer structure:  VA ( value field assignment )
Assignment    Origin(al cost element)    Value field
             OAS material               VV0     material costs
  20           OAS wage                   VV200     labor costs
```

Prerequisites

The operating concern must be completely defined.

A number range must be defined for the credit postings for the orders (business transaction KOAO).
==> Check number ranges for transactions

The number ranges for record type "C" must be defined.
==> Check number ranges in CO-PA

The desired form(s) of Profitability Analysis must be active.
==> Check form of Profitability Analysis

In the general definition of the CO version, you need to assign a receiver version (for CO-PA) to the version under "Fiscaly year settings -> Detail".

Define PA Transfer Structure for Settlement

In this activity, you define the PA transfer structures to be used to settle actual and planning data for orders and projects.

Although it is technically possible, via a joint maintenance dialog, to use the same PA transfer structures from different allocation types in settlement, you should instead define separate PA transfer structures.

Actions

Select the function "New entries" and enter an abbreviation and a name for your PA transfer structure.

Divide your cost elements according to how you want to group them in Profitability Analysis, and create assignment lines accordingly. These assignment lines are then used to transfer the cost elements to CO-PA value fields.

The indicator for quantity billed/delivered is relevant for settling sales orders and projects. Select this indicator for the particular assignment line with which the billed quantity is to be transferred to CO-PA. Under "Value fields", you need to assign a CO-PA quantity field (quantity/value indicator "2") to such an assignment line for the billed quantity. During settlement to CO-PA, the billed amount is transferred to the assigned field.

For each assignment line, enter into the order/project the cost element(s) or the cost element group to be assigned. You should usually activate the "Costs/Revenues" option as the source. The "Variances on production orders" option is only relevant for the settlement of production orders. In the latter case, you should define a separate operating concern (see the section "Define PA Tranfer Structure for Variance Settlement"). The "Accounting indicator from SM orders" option is only relevant for the settlement of service orders.

For each assignment line, enter the value field (or, if costs are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Assign PA Transfer Structure to Settlement Profile

The settlement profile contains all the relevant information needed for settling CO orders, sales orders, projects, and production orders.

From the point of view of Profitability Analysis (CO-PA), you need to assign your PA transfer structure to a settlement profile.

Note:

The settlement profile must allow profitability segments as settlement receivers. If you want to settle production variances, this must be stored in the settlement profile.

Requirements

Since the settlement profile is usually entered automatically in the master data of the object being settled (internal order, sales order, or project), you need to specify the desired settlement profile as a default.

For internal orders, you can do this when you maintain order types.

For sales orders, you do this when you maintain requirement classes.
For projects, you do this when you maintain project profiles.

Define LIS Interface

In this step, you define the interface for transferring data between info structures in LIS and operating concerns in Profitability Analysis (CO-PA).

This interface lets you transfer the following data:

Plan data

Statistical key figures

SOP info structures

Note: The LIS interface only allows you to **transfer** data from the SOP into CO-PA. You set up a **transfer** of data from CO-PA to SOP in the section Transfer of Sales Quantities to SOP.

Activities

In the **characteristic assignment**, you assign the characteristics in the info structure to characteristics in the operating concern.

In the **key figure assignment**, you assign the key figures in the info structure to the value fields and quantity fields in the operating concern. Here you can only assign quantity fields to quantity fields and value fields to value fields.

Under **assignment groups**, you essentially enter the desired operating concern and the corresponding info structure, plus the assignments of characteristics and value fields.

Further notes

When you tranfer data from SOP, you do not need to make a characteristic assignment because this is already defined in the system. The assignment is defined as follows:
CO-PA -> LIS
WERKS -> WENUX
ARTNR -> PMNUX
WWxxx -> PMNUX

The field WWxxx stands for a user-defined characteristic that corresponds to the product group in SOP. When you transfer data from SOP to CO-PA, the system determines whether the characteristic value in the field PMNUX is a product or a product group. If it is a product group, the system uses the corresponding field in CO-PA based on the master data for that product group.
For info structures that are copied from the SOP info structure S076, you can only transfer data at the product or product group level and at the plant level. The system summarizes the data over any other characteristics.

Planning Aids

In this activity, you can define "planning aids", supplementary functions that you can use to support your planning process.

You can include a planning aid as a parameter in the corresponding planning method that you are executing in the planning framework.

Furthermore, you can enter a planning aid as a parameter in the corresponding planning function that you are executing for the manual entry of planning data.

Distribution Key for Periodic Distribution

In Profitability Analysis, planning data is saved on a weekly or periodic basis. If you enter an annual value, then it is always distributed internally to the weeks or periods. By default, it is distributed in proportion to the existing values. If no previous values exist, then the system distributes the values evenly. The system uses the fiscal year variant for the operating concern to determine the number of periods that there are in a year.

You can use one of two types of distribution key to change the default setting:

Standard distribution keys
: These are distribution keys that apply equally to all the planning data for which you want to use them.

Segment-specific distribution keys
: These are distribution keys that are valid only for specific characteristics and value fields. For example, depending on the characteristic "country", you can distribute the planned annual values for the product "Suntan lotion" to the individual periods on the basis of different distribution keys. You specify in an *access key* the control information for the segment-specific distribution keys.

You can use either the distribution key that you defined or the access key at different places in planning:

You can include the distribution key in the parameter set for the planning method *Period distribution*. When you execute the method, the data is distributed according to the entries you made in the parameter set.

You can include either the distribution key or the access key in the parameter group for the planning method *Enter planning data*. The key is used when you add new objects (such as rows in the planning layout) manually. The distribution of profitability segments that have been planned previously is not affected.

During manual planning, you can also use the menu to execute the planning method *Period distribution* for selected profitability segments and then you can enter a distribution key or access key.

In the definition of a planning layout, you can define the distribution key as an attribute for a profitability segment and value field.

Maintain Distribution Keys

In this activity, you define distribution keys for use in planning. Distribution keys let you distribute plan values entered at the year level to individual periods or weeks using certain distribution strategies.

In a distribute key, you assign a relative factor to each period/week to which you want the plan values to be distributed. Enter "0" or nothing for periods that you do not want to plan any values for.

The number of periods per fiscal year is determined based on the fiscal year variant of the operating concern. If you have activated planning in weeks, you must specify whether you want to use the distribution key to distribute to weeks or to posting periods. (The fiscal year variant and weekly planning are defined in the operating concern attributes.) If you want to use the distribution key for more than one year, select the "Cyclical" field.

Maintain Segment-Specific Distribution Keys

In this activity, you can define segment-specific distribution keys, or keys that apply for specific characteristic values in planning. With these you can distribute values differently to periods depending on the country, for example.

With a so-called "access key", you define which distribution keys should apply for which characteristic values in planning. Thus an access key combines all the information pertaining to segment-specific distribution to periods.

You do not need to make all entries for all profitability segments to carry out segment-specific distribution in planning. Instead, all you have to do is specify the access key, and the system carries out all the corresponding distributions.

Activities

To define a segment-specific revaluation key:

Create an access key.

Define a derivation rule for segment-specific distribution. Note that the "access key" is a mandatory source field and is thus automatically entered in the derivation rule. Select the additional characteristics that you want to use to determine the distribution key. If you want to distribute different value fields differently as well, select the "FIELDNAME" field here.
The "distribution key" is a mandatory target field and is thus automatically entered in the derivation rule.

Create rule values for the derivation rule. These are the combinations of characteristic values and the resulting distribution keys. If you have not yet created any distribution keys, you can do so here by double-clicking on the "Distribution key" field.

You can also define rule values directly from the application menu.

Alternatively to using the default distribution keys stored in the parameter set, you can define an access key as the default to be used in distribution.

Revaluation Key

In this activity, you can define revaluation keys to change specified value fields by certain percentages. There are two types of revaluation key:

Standard revaluation keys
These revaluation keys can be applied to all planning data.

Segment-specific revaluation keys
These revaluation keys are valid only for specific characteristics and value fields. For example, you can plan a different increase in sales using different revaluation factors, depending on which division you are planning. In a *callup*, you specify the information governing the segment-specific revaluation keys.

You can apply revaluation keys to your planning data when entering planning data manually as well as in the planning method *revaluation*.

Maintain Revaluation Keys

In this section you define revaluation keys, which you can use to change values in planning by specified percentages.

Activities

Define your revaluation factors.

Then defined the desired percentage increases and reductions for each value field.

To define a reduction, enter the percentage with a "-" sign.

Maintain Segment-Specific Revaluation Keys

In this activity, you can define segment-specific revaluation keys, or keys that apply for specific characteristic values in planning. With these you can define different revaluation factors for different divisions, for example.

With a so-called "access key", you define which revaluation factors should apply for which characteristic values in planning. Thus an access key combines all the information pertaining to segment-specific revaluation.

You do not need to make all entries for all profitability segments to carry out a segment-specific revaluation in planning. Instead, all you have to do is specify the access key, and the system carries out all the corresponding revaluations.

Activities

To define a segment-specific revaluation key:

Create an access key.

Define a derivation rule for segment-specific revaluation. Note that the "access key" is a mandatory source field and is thus automatically entered in the derivation rule. Select the additional characteristics that you want to use to determine the revaluation key. The "revaluation key" is a mandatory target field and is thus automatically entered in the derivation rule.

Create rule values for the derivation rule. These are the combinations of characteristic values and the resulting revaluation keys. If you have not yet created any revaluation keys, you can do so here by double-clicking on the "Revaluation key" field.

You can also define rule values directly from the application menu.

Event

An event is a short-term influence, such as a sales deal, on the value and quantity fields of your operating concern. You can take the effects of such events into account in planning.

From a technical point of view, an event is a time-based revaluation key with which you can perform percentage as well as cumulative revaluation.

There are two types of event that you can define:

Standard events

These events can be applied non-specifically to all planning data.

Segment-specific events

These events are dependent on a specific characteristic and you can define several of them in a single planning session. An example of a segment-specific event could be a sales promotion for summer clothing planned for the month of May. This event is expected to influence different regions in different ways, whereby a greater increase in sales is anticipated in southern Europe than in northern Europe. You specify in an *access key* the necessary control information for the segment-specific events.

Events can be used with the manual entry of planning data as well as applied to your planning data in the planning method *event*.

Maintain Events

In this activity, you define events - revaluation keys that apply to limited time frames - to reflect the effects of short-term events on your plan data. An example of an event might be a sales promotion that takes place in a certain month. You can take the effects of such an event into account in planning.

Activities

First, define an event and determine the time frame in which you want it to be valid. Here you also specify whether the event should revaluate by absolute amounts or by percentages.

Then decide which value fields the event should have an impact on.

For each value field and for each period within the relevant time frame, define the revaluation factors that you want to plan.

Maintain Segment-Specific Events

In this activity, you can define segment-specific events, or events that apply for specific characteristic values in planning. An event is a short-term influence on your profitability data, such as an advertising campaign for summer fashions planned for the month of May. Segment-specific events let you define different revaluation factors for different regions (supposing, for example, that the increase in sales that results from the asvertising campaign will be larger in southern countries than in northern countries).

With a so-called "access key", you define which revaluation factors should apply for which characteristic values in planning. Thus an access key combines all the information pertaining to segment-specific revaluation.

You do not need to make all entries for all profitability segments to use a segment-specific event in planning. Instead, all you have to do is specify the access key, and the system carries out all the corresponding revaluations.

Activities

To define a segment-specific event:

Create an access key.

Define a derivation rule for segment-specific events. Note that the "access key" is a mandatory source field and is thus automatically entered in the derivation rule. Select the additional characteristics that you want to use to determine the event. The "event" field is a mandatory target field and is thus automatically entered in the derivation rule.

Create rule values for the derivation rule. These are the combinations of characteristic values and the resulting revaluation keys. If you have not yet created any revaluation keys, you can do so here by double-clicking on the "Revaluation key" field.

You can also define rule values directly from the application menu.

Forecast Profile

A forecast profile groups together parameters (calculation factors) to represent a strategy that allows you to extrapolate existing plan values to forecast future ones.

A forecast profile is based on a forecast strategy, which enables you to extrapolate planning data (for example, using a moving weighted average, as in the case of forecast profile 14). If you use forecast profile 14 and want to give extra weighting to certain values in your forecast, you can create weighting groups.

There are two types of forecast profiles that you can define:

Standard forecast profiles

This type of forecast profile handles all planning data in the same way.

Segment-specific forecast profiles

You define several segment-specific forecast profiles for each planning session. In this way, you can forecast the sales of different products, for example, on the basis of different strategies. In an *access key*, you specify the control information for the segment-specific forecast profiles.

You can apply standard forecast profiles with the manual entry of planning data and in the planning method *Forecast*. Segment-specific forecast profiles, on the other hand, **cannot** be used together with the manual entry of planning data.

Maintain Forecast Profiles

In this step you define forecast profiles.

A forecast profile consists of a forecast strategy and a group of parameters (calculation factors) which let you project existing values into the future. Since you can use the same forecast profile over and over again, you do not have to perform the tedious task of entering the same data again each time you plan.

To define a forecast profiles, you need to enter a number of factors, depending on the pre-defined forecast strategy.

Standard settings

One standard forecast profile is delivered with the system. You can create additional forecast profiles as needed.

Actions

Enter a name and a description for your forecast profile.

Specify the desired forecast strategy for this profile.

Press ENTER to see what forecast parameters make sense to use with the forecast strategy. Enter these parameters.

Save your entries.

Additional information

For more detailed information on the different forecasting methods, see the online documentation "Sales and Operations Planning" in the section "Planning Table: The Forecast".

Maintain Segment-Specific Forecast Profiles

In this activity, you can define segment-specific forecast profiles, or profiles that apply for specific characteristic values in planning. With these you can define different forecast profiles for different products, for example.

With a so-called "access key", you define which forecast profile should apply for which characteristic values in planning. Thus an access key combines all the information pertaining to segment-specific forecasting.

You can only use segment-specific forecast profiles in automatic planning. You do not need to make all entries for all profitability segments to carry out a segment-specific forecast. Instead, all you have to do is specify the access key, and the system carries out all the corresponding forecasts.

Activities

To define a segment-specific forecast profile:

Create an access key.

Define a derivation rule for segment-specific forecasting. Note that the "access key" is a mandatory source field and is thus automatically entered in the derivation rule. Select the additional characteristics that you want to use to determine the forecast profile. The "forecast profile" is a mandatory target field and is thus automatically entered in the derivation rule.

Create rule values for the derivation rule. These are the combinations of characteristic values and the resulting forecast profiles. If you have not yet created any forecast profiles, you can do so here by double-clicking on the "Forecast profile" field.

You can also define rule values directly from the application menu.

Define Weighting Groups

In this activity, you define weighting groups for use in your plan forecasts.

Using a weighting group only makes sense if you are using forecast strategy 14 (weighted moving average) in a forecast profile. This lets you individually weight the past periods you use for forecasting to calculate the forecasted values.

The numbers in the weighting group have the following meanings:

- current period minus one (last period)

- current period minus two (second-last period)

- current period minus three (period before the second-last period)

Define Ratios and Ratio Schemes

In this step you define ratios for use in planning. A ratio is the quotient between two value fields, such as price = sales/quantity or commission rate = commission/sales. (Note that ratios cannot be defined with a quantity field for a numerator and a value field for a denominator, such as "quantity field / value field".) Ratios can be used in two ways:

To simulate price and quantity changes (in manual planning)

In planning, you can change quantities, values or ratios directly in the planning layout. You can select ratios when you define the planning layout, just like you would value fields.

If you change a quantity, value or ratio, special rules determine which of the other two is recalculated. You define these calculation rules via **calculation types** which you maintain when defining the ratio. The ratio scheme is not involved in this function.

To valuate a quantity plan with prices stored calculated in another plan version or in actual data (in manual and in automatic planning)

Using a **ratio scheme**, you can define which ratios should be used in which order for valuation (similar to using the calculation scheme for conditions).

You must assign at least one access-level characteristic to each ratio in a ratio group.

Access-level characteristics determine, for each ratio, which combination of characteristics the system should use to access the valuation. This makes it possible, for example, to calculate the average price for a product group. The calculation types for the ratios are not involved in this function.

Calculated Values as Reference for Top-Down Distribution

In this activity, you define a key figure (a formula based on value fields) for use as the reference values for distributing planning data or actual data using top-down distribution.

Example

You defined a key figure "Net revenue = Revenue - Discounts" and enter this as the reference value in top-down distribution. The system distributes the data in proportion to the net revenue according to the reference data of the profitability segments at the lowest level.

Activities

Define the desired key figures

If you want to use the key figure as the tracing factor in automatic top-down planning, select the key figure in the parameter set under *Reference value field*.

If you want to use the key figure for top-down manual planning, you need to assign it to the value fields you want to use it for. You do this in Customizing.

If you want to use the key figure as a tracing factor for actual top-down planning, select the option "Fixed value field" under "Tracing factor" when you execute it and enter the key figure in the field "Value field".

Create Exit Number for Customer Enhancement

In this step, you can define user exit numbers that identify specific planning functions in the components of customer enhancement COPA0006. This customer enhancement lets you create your own planning functions.

The exit numbers are added to the interfaces of the components and let you distinguish between different planning functions.

This enhancement can be used both for automatic planning and for manual planning.

You define the customer enhancement itself in the step SAP enhancements.

Example

You can realize, among others, the following planning functions:

Distribution of annual values to periods using a distribution key that is dependent on a specific characteristic

Revaluation using characteristic- and/or time-dependent factors

Valuation using percentage or additive events

Distribution to periods on the basis of reference data

"Roll-forward planning" -- ongoing update of period planning by distributing plan/actual variances to future periods so that the annual values remain the same

Reorganization

In this section you can delete planning layouts and long texts.

Reorganize Planning Layouts

Here you can select a number of planning layouts and then delete them individually from an overview list.

Before you actually delete the layouts, the system displays another dialog box, in which you repeat your selection.

Example

You can delete all the planning layouts which were changed on a certain date.

Actions

Reorganize your planning layouts by deleting unnecessary ones before you go productive with your system.

Reorganize Long Texts

In this step you can delete selected long texts for plan data.

Example

You can delete the long texts which were created within a certain time range.

Flows of Actual Values

In this section you make the basic settings required for posting data from the SD, FI, and CO application components to Profitability Analysis.

Which functions you need to carry out will depend on your information requirements and on the applications you are using in your company.

Initial Steps

In this step, you make preparatory settings required for transferring actual data to Profitability Analysis.

Define Number Ranges for Actual Postings

In this step, you define a number range to be used for actual line items.
You can specify whether the numbers in the range should be assigned internally or externally. If you choose "internal", the SAP system assigns numbers automatically.

Number ranges are valid for a specific operating concern. You can assign one or more record types to each number range.

Prerequisites

You must have system authorization for number range maintenance.

Your operating concern must be defined completely.

The record types must be maintained.

Actions

Decide which record types you want to use in this operating concern.

If necessary, define new number range groups to meet your requirements (function "Maintain group", then function "Insert group").

Enter document number ranges in the number range groups. When doing so, do not forget to take existing document number ranges into account.

Note that automatic (internal) number assignment is mandatory for data which is transferred to CO-PA from other SAP application components (such as direct postings from FI, cost assessment from CO-CCA, or order/project settlement from CO-OPA and PS).

Assign the record types to the number range groups.

Notes

You transport number range objects as follows:

Choose *Interval -> Transport* in the accounting document *Number Range* screen.

All intervals for the selected number range object are deleted in the target system first. After the import, only the intervals you export are present. The number statuses are imported with their values at the time of export.

Dependent tables are not transported or converted.

Summarization

Summarization of Account-Based Line Items and Profitability Segments

Caution

This function is intended only for exceptionally large data volumes that are causing critical performance and data storage issues. It should only be used when absolutely necessary, since it restricts the flexibility of reporting.

If you decide to use this function, keep in mind that its effects cannot normally be reversed. The effects can be undesirable if the function is used incorrectly.

Use

To avoid performance and data storage issues with large data volumes, you may need to reduce the number of line items and the number of profitability segments by defining a summarization for these elements.

In this section you can define a summarization of fields for G/L line item table ACDOCA containing the universal journal entry (General Ledger View). If an operating concern is activated for account-based CO-PA the account-based line items are posted to this table. In order to achieve that all characteristics are generated into table ACDOCA.

Since the level of summarization in table ACDOCA should be the same as that of the profitability segments, the summarization settings maintained here are used for account-based profitability segment determination. You find these settings under #Summarization of Account-Based Line Items and Profitability Segments#.

Note:
If you are using costing-based profitability analysis, the corresponding profitability segment determination utilizes these settings as well. In other words, summarization is the same regardless of whether you are using account-based or costing-based profitability analysis. Even if you define a

summarization of fields for table ACDOCA, costing-based line items continue to be posted to table CE1XXXX (where #XXXX# denotes your operating concern). This table uses the existing definition of line item summarization, which can be found under #Summarization of Costing-Based Line Items#.

The settings maintained here also apply to Distributed CO-PA which means that the same level of summarization is used with regard to the profitability segments in the distributed scenario.

If only costing-based profitability analysis (CO-PA) is activated in an operating concern, line items in table ACDOCA are posted to highly aggregated objects called reconciliation objects (ACDOCA-OBJNR #AO#.#). No characteristics are generated to table ACDOCA for this operating concern. If another operating concern existed for which account-based CO-PA was activated, characteristics could be generated into table ACDOCA that are also contained in the costing-based operating concern. Nevertheless, for the G/L line items in the costing-based operating concern (the ones posted to reconciliation objects), no characteristics are filled in table ACDOCA and hence no summarization is needed. An exception to this are certain fixed characteristics already predefined in table ACDOCA that are filled by a sending application even if only costing-based CO-PA is active, for example the fields Sales Organization (VKORG) or Distribution Channel (VTWEG) of an SD billing document. In order to summarize such fields, you can use the#Dependent Summarization of General Ledger View# activity.

If profitability analysis is not active at all in a company code, the settings #Summarization of Account-Based Line Items and Profitability Segments# are not used either. As for the costing-based-only case, use the #Dependent Summarization of General Ledger View# activity in order to summarize above mentioned fixed fields like Sales Organization or Distribution Channel.

The existing summarization on table BSEG containing the classic Journal Entry (Entry View) still exists. A field which exists in table BSEG and ACDOCA can only be summarized in table ACDOCA if it is summarized in table BSEG as well. A warning message is usually issued if this is not the case. Summarization of table BSEG can be found under #Dependent Summarization of Entry View# and #Independent Summarization of Entry View#.

Summarization of G/L line item table ACDOCA and profitability segments can be dependent or independent:

- Dependent summarization:

A field can be summarized based on a combination of the reference transaction (AWTYP), document type (BLART), company code (BUKRS), and ledger (RLDNR). This allows you to summarize a field only in a particular document type and ledger, for example. This option is available for fields of table ACDOCA which may not be part of a CO-PA operating concern and for CO-PA characteristics if CO-PA is not active in a company code (see above). This option can be found under#Dependent Summarization of General Ledger View#.

- Independent summarization:

A field can be used for summarization only based on the Operating Concern (ERKRS) and the Company Code (BUKRS). This option is used for all fields which are part of an operating concern, since profitability analysis does not recognize most of above-mentioned dimensions at the time the profitability segment is determined. Fields offered for independent summarization are customer-defined CO-PA characteristics and some fixed characteristics such as Sales Organization (VKORG), Distribution Channel (VTWEG), and Division (SPART), which are contained in every operating concern. Independent summarization therefore depends on the operating concern. This is the option you can find under"Summarization of Account-Based Line Items and Profitability Segments".

If a field is maintained here, it is summarized in distributed CO-PA regardless of whether summarization is restricted to certain company codes or not.

Note that ACDOCA has two different fields for the material number:

MATNR is the material number for materials management, which is filled for example in material movements. It is not relevant for CO-PA.

MATNR_COPA is the product number for CO-PA. It identifies the product sold.

MATNR is therefore available for dependent summarization, whereas MATNR_COPA is only available for independent summarization (except for company codes where CO-PA is not active, as described above).

Recommendation

To avoid performance problems, we recommend excluding frequently occurring fields that have a different value with each posting and which are therefore not relevant for analysis. This applies for example to the sales order number for a repetitive manufacturer, or the customer and material for a retailer. For retailers, you can analyze at the customer group or product group level by excluding customers or products from the analysis. This can improve performance considerably.

We further recommend using document summarization of table BSEG and reducing the number of G/L line items in table ACDOCA as little as possible.

Note that the fields you define for summarization of G/L line item table ACDOCA and profitability segments will not be summarized in the following cases:

With dependent summarization, the material number (MATNR) is not summarized in table ACDOCA if the material ledger is used in the system.

With independent summarization, the customer number (KUNNR) is not summarized in table ACDOCA on debtor items or if the customer is an affiliated party.

With independent summarization, real account assignments are never summarized in table ACDOCA. For example, if you choose to summarize cost centers, this would not be initialized in G/L line items with real account assignment to cost center. For profitability segments containing the cost center characteristic, summarization takes place for both the G/L line item and the profitability segment, since in this case the cost center can at most be a statistical account assignment whereas the profitability segment is always a real account assignment.

Note

This function is a purely technical function which is intended to allow customers with large data volumes to optimize their system performance by reducing the number of G/L line items in table ACDOCA and the number of profitability segments in table CE4XXXX (where #XXXX# denotes your operating concern). It should be used with caution because it is usually not possible to reverse its effects. The effects can be undesirable if the function is used incorrectly.

If profitability analysis is active, changes to summarization settings will result in the creation of additional profitability segments if new postings are made to profitability segments that had been

posted to before the changes were made. This is especially the case when a characteristic that had been summarized before is removed. Also note that changes to summarization settings may result in error message KE 396 #Inconsistency between a document field and the profitability segment number# during postings.

Summarization of Account-Based Line Items and Profitability Segments

Use

In this step, you specify fields of G/L line item table ACDOCA containing the Unified Journal Entry (G/L View) that are characteristics of an operating concern for independent summarization. This means that summarization does not depend on any other dimensions, except for the Operating Concern (ERKRS) and the Company Code (BUKRS).

When you start the maintenance transaction you are asked to enter an operating concern. If you just maintain a characteristic, the system attempts to summarize for all G/L line items assigned to the respective operating concern. You can also choose to summarize only in certain company codes by maintaining the company codes in which you want the field to be summarized under #Summarization Only In#.

During posting of a G/L line item, the system checks whether the corresponding company code has an operating concern with activated account-based CO-PA assigned and, if so, reads the settings for this company code and operating concern. In the line item it initializes the fields maintained here and the ones entered under#Dependent summarization of General Ledger View#. Having done that for all line items, the system attempts to summarize the resulting data.

The settings are also used for profitability segment determination in this operating concern if CO-PA is active (costing-based and account-based). When a profitability segment is created, the characteristics entered for summarization are initialized and it is checked against table CE4XXXX (where #XXXX# denotes the operating concern) to determine whether a profitability segment already exists for the resulting combination of characteristics. If one exists, the corresponding profitability segment number is reused, otherwise a new one is determined.

Fields maintained here are also summarized in distributed CO-PA, regardless of whether summarization is restricted to certain company codes or not.

If, on the other hand, you have company codes where no or only costing-based CO-PA is active, maintain the #Dependent Summarization of General Ledger View#. The system will take these settings into account when summarizing G/L line items for company codes without operating concern assigned, where CO-PA is inactive or where only costing-based CO-PA is activated.

Requirements

Table ACDOCA can at maximum be summarized to the level of table BSEG containing the classic Journal Entry (Entry View). That is, if you want to summarize a field contained in table ACDOCA that is also contained in table BSEG, you must also maintain the summarization of table BSEG under #Dependent Summarization of Entry View# or#Independent Summarization of Entry View#. A warning message is issued in most cases, if this requirement is not met.

Activities

Configure those fields that you want to use for summarization.

You can also

Further fields are available for summarization in activity#Dependent Summarization of General Ledger View#.

Maintain summarization of costing-based line items here.

Summarization of Costing-Based Line Items

Use

In this section you can define how several line items of a sender document should be summarized when they are updated in costing-based profitability analysis (CO-PA).

By summarizing document items posted to the same profitability segment, you can reduce the data volume in the costing-based line item table CE1XXXX (where #XXXX# denotes the respective operating concern) significantly. You can also improve runtimes for the update to CO-PA using summarization.

Summarization is defined based on:

The reference transaction (SD00 = billing document, RFBU = FI document, RMRP = incoming invoice, RMWA = goods movement, RMWE = goods receipt order)

The document type (internal, external), and

The point at which summarization takes place (1 = after derivation/valuation, 2 = before derivation/valuation)

Summarization of journal entries (reference transaction RFBU) is only possible for internal documents and only after derivation and valuation.

The system summarizes data that was posted to the same profitability segment (the same combination of characteristics). For journal entries, the account or cost element is also used as a criterion.

You can only summarize data within the same sender document. Only the document number of the sender document is stored as information on the origin. Consequently, you can no longer see the corresponding item in costing-based CO-PA.

Activities

Configure those fields that you want to use for summarization.

You can also

Maintain summarization of account-based line items and profitability segments here.

Example

1. Billing document with summarization '1':

In CO-PA, imputed sales commission is calculated on the basis of a quantity scale:

2% of revenue if quantity <= units

3% of revenue if quantity > units
Item Material Amount Revenue Discount Prof. Segment

M1 00 4711

20 M2 5 5000 60 4819

30 M1 3 300 3 4711

Line item updated in table CE1XXXX:

Item Material Quantity Revenue Discount Imputed commission

1 M1 13 1300 13 26 2
M2 5 5000 60 0

2. FI document with summarization '1':

Item Deb/Crd Account Name Amount Prof. Segment

D K0 Cust00 35

D 889000 Sales ded. 0 47880

C 800000 Sales rev. 00 47880

C 175000 VAT 135

D K200 Cust00 35

D 889000 Sales ded. 0 47880

C 800000 Sales rev. 00 47880

C 175000 VAT 135

D K300 Cust00 2070

D 889000 Sales ded. 200 5019

C 800000 Sales rev. 2000 5019

C 175000 VAT 270

Line item updated in table CE1XXXX:

Item Account Revenue Sales Ded. Prof. Segment

800000 2000 0 47880

889000 0 200 47880 3
800000 2000 0 5019 4
889000 0 200 5019

Characteristic Groups

You can use characteristic groups to determine what characteristics appear in which order on the screens for assigning profitability segments in different business transactions.

Maintain Characteristic Groups

In this step you can define "characteristic groups", which can be any combination of characteristics in your operating concern.

Characteristic groups can be used for various actual business transactions as well as for various allocations of planning data.

A characteristic group determines the characteristics for which users can specify individual values when assigning a posting to a profitability segment, as well as the order in which these characteristics appear on the screen.

You can also define whether the user is required or is allowed to specify values for certain characteristics, or whether the user cannot make an entry.

If no characteristic groups are defined, the user can enter values for any characteristic in the operating concern.

Recommendation

If you want certain characteristic values in a group to be derived automatically, you should define those fields so that the user cannot make an entry.

Actions

Define your characteristic groups.

Assign Characteristic Groups for Assignment Screen

In this step, you structure the "Assignments to Profitability Segments" dialog box (the assignment screen) for business transactions, such as:

Direct postings from Financial Accounting

Maintenance of settlement rules for CO orders or projects

Internal cost allocations
To organize the layout of the assignment screen, you assign a characteristic group to each business transaction.

Furthermore, you can construct entry aids for the business transactions. In the entry aids, you can save combinations of characteristic values that are frequently required during assignment. These entry aids can then be made available to users making assignments to profitability segments. For more information, see the documentation for Profitability Analysis.

Prerequisite

You need to have created a characteristic group.

Activities

Assign the Characteristic groups to the desired business transactions and create any relevant entry aids. You can also create entry aids for a business transaction without assigning a characteristic group.

If you delete a characteristic group assignment, any associated entry aids will also be deleted. **Note**

If a transaction does not have a characteristic group assigned to it, users can enter values for all of the characteristics in the operating concern.

If this assignment of characteristic groups to business transactions is too restrictive, you can use the standard enhancement "COPA0003" to define a more flexible way of assigning characteristic groups within individual transactions.

Assign Characteristic Groups for Line Item Screens

In this step, you organize the screen for entering or displaying characteristic values during line item entry/display. You do this by assigning a characteristics group to a record type.

If, for example, you assign a characteristics group to record type "F", then only the characteristics in that characteristics group will appear as entry options when a user is entering a line item for this record type.

If you have not assigned any characteristics groups to a record type, then users can enter/display all the characteristics for the operating concern.

Requirements

You need to have defined a characteristics group containing the characteristic "Company code" as a required field. The company code for a line item must be known at the point when derivation occurs as a user enters that line item.

Activities

Assign the characteristics group to the desired record type.

Value Field Groups

You use value field groups to create the input and display screens for CO-PA line items.

Maintain Value Field Groups

In this step, you define the "value field groups" representing the possible combinations of value fields in an operating concern.

You use value field groups to specify

Which value fields should be made available to users entering or displaying a line item, and

In what order these value fields should be displayed.

Furthermore, you can stipulate

Whether specific value fields can be filled - Whether specific value fields have to be filled, or - Whether they may only be displayed.

If you do not define any value field groups, then all value fields in an operating concern are unlocked for entry during line item entry.

Activities

Define your value field groups.

Assign Value Field Groups for Line Item Screens

In this step, you organize the screen for entering or displaying value fields during line item entry/display. You do this by assigning a value field group to a record type.

If, for example, you assign a value field group to record type "F", then only the value fields in that value field group will appear as entry options when a user is entering a line item for this record type.

If you have not assigned any value field group to a record type, then users can enter/display all the value fields for the operating concern.

Requirements

You need to have defined a value field group.

Activities

Assign the value field group to the desired record type.

Summarize Data During Update

In this section you can define how several items of a sender document should be summarized when they are updated in Profitability Analysis.

By summarizing document items posted to the same profitability segment, you can reduce the data volumne in the line item table in Profitability Analysis (CE1xxxx) significantly.

You can also improve runtimes for the update to Profitability Analysis using summarization.

Summarization is defined dependent on:

the activity (SD00 = billing document, RFBU = FI document, RMRP =

incoming invoice, RMWA = goods movement, RMWE = goods receipt order)

the document type (internal, external) and

the point at which summarization takes place 1 = after derivation/valuation
2 = before derivation/valuation

Summarization of financial accounting document items (RFBU) is only possible for **internal** documents and only **after** derivation and valution.

The system summarizes data that was posted to the same profitability segment (the same combination of characteristics). For financial accounting documents, the account or cost element is also used as a criterion.

You can only summarize data within the same sender document. Only the document number of the sender document is stored as information on the origin. Consequently, you can no longer see the corresponding item in Profitability Analysis.

Example

Billing document with summarization '1':

In Profitability Analysis, imputed sales commission is calculated on the basis of a quantity scale:

2% of revenue if quantity <= units

3% of revenue if quantity > units

Item	Material		Amount	Revenue	Discount	Prof. segment
	M1		00		4711	
20	M2	5	5000	60	4819	
30	M1	3	300	3	4711	

Line item updated in CE1xxx:

Item	Material		Quantity	Revenue	Discount		Imputed commission			
M1	13		1300	13	26 2	M2	5	5000	60	0

FI document with summarization '1':

Item		Deb/Crd	Account Name	Amount		Prof. segment
D	K0	Cust00	35			
D	889000		Sales ded.	0	47880	
C	800000		Sales rev.	00	47880	

C	175000	VAT	135		
D	K200	Cust00	35		
D	889000	Sales ded.		0	47880
C	800000	Sales rev.		00	47880
C	175000	VAT	135		
D	K300	Cust00	2070		
D	889000	Sales ded.		200	5019
C	800000	Sales rev.		2000	5019
C	175000	VAT	270		

Line item updated in CE1xxx:

Item	Account	Revenue	Sales ded.	Prof. segment
1	800000	2000	0	47880
2	889000	0	200	47880
3	800000	2000	0	5019
4	889000	0	200	5019

Store Quantities in CO-PA Standard Unit of Measure

This function allows you to store all the quantities mapped to a CO-PA quantity field additionally in a CO-PA standard quantity unit.

Example

You have mapped the billed quantity field in SD to the CO-PA quantity field "VVIQT", and also want to store all quantities billed in kilograms.

First you need to create an additional field "VVISU" ("Qty billed in KG") in the data structures of your operating concern. Then you map CO-PA billed quantity field "VVIQT" to the SD billed quantity field "FKIMG" using the function "Assign quantity fields". Then you can map quantity field "VVISU" to quantity field "VVIQT" as follows:

```
Source qty  Description   Standard qty  Description        Unit
-------------------------------------------------------------------
-
VVIQT       Qty billed    VVISU         Qty billed in KG   KG
```

These settings mean that when **actual data** is transferred to CO-PA, the quantity transferred to quantity field "VVIQT" is translated to kilograms, and the quantity in kilograms is then posted in the field "VVISU".

Requirements

The required CO-PA quantity fields must be contained in the data structures of your operating concern.

Activities

To activate the CO-PA standard quantity field(s), map them to a CO-PA quantity field that is populated with data from another application. In addition, specify the quantity unit to be used for each standard quantity field.

Further notes

You should choose your standard quantity unit so that all materials can be translated to that unit. You should also make sure that the quantity unit you choose is either the **base quantity unit** or the **alternative quantity unit** in the material master records. If a translation to the standard quantity unit is not possible, the system issues an error message when actual data is transferred to CO-PA. The documents with which this happens cannot be updated in CO-PA.

Transfer of Incoming Sales Orders

To be able to analyzing expected operating results as early as possible, you can transfer incoming sales order to Profitability Analysis (CO-PA) the same way as the billing documents.

The transfer of condition types from SD to value fields in Profitability Analysis and the transfer of the billing documents from SD must be completely consistent.

Activate the transfer of incoming sales orders. **Prerequisites**

The operating concern to which you want to transfer the sales orders must be completely defined and active in the assigned controlling area.

You must have maintained number ranges for record type "A".

Costing-based Profitability Analysis must be active.

Assign Value Fields

In Sales and Distribution(SD), all sales revenues, sales deductions and other values (such as the transfer price) are stored as conditions. In this IMG activity, you assign these SD conditions to the corresponding value fields in CO-PA.

Incoming sales orders are updated in CO-PA with record type "A". These sales orders are to be regarded as purely **statistical**. Consequently, all conditions that are assigned to a value field are transferred to CO-PA when incoming sales orders are posted.

Note that this is different from the transfer of **billing documents** to CO-PA, where the conditions are subject to **validity checks**. Note in particular that, for FI-relevant conditions to be transferred, the corresponding FI account **must** be defined as a **cost element** in CO.

Notes

As a rule, conditions from SD are updated as **positive** values in CO-PA. The only exceptions to this are credit memos and returns. The reason for this handling is that signs are handled differently in the different SAP applications. For example, revenues are positive in SD but negative in FI (the FI view of business processes being taken from the cost view). Consequently, CO-PA defines all values as positive and subtracts costs and sales deductions from revenues in the information system.

Note that the indicator Transfer with signs is not used to compare the different use of +/signs between FI or SD and CO-PA. If you activate this indicator, only the positive and negative values for the condition in question will be balanced. This guarantees that the sum of the negative and positive condition values is displayed as a correct total value in the value field assigned to that condition.

Activities

Assign the condition types you want to transfer from SD to the desired value fields in CO-PA. Where desired, set the "+/- signs" indicator for the condition value transfer.
Note that, in this activity, you are maintaining the same table as in the IMG activities

Transfer of Billing Documents -> Assign value fields and

Transfer of Customer Rebate Agreements

Therefore, when you delete an entry in one of these activities, it is also deleted in the other ones.

Assign Quantity Fields

A number of quantity fields are defined and used in the SD billing system. In this step you assign these to the corresponding quantity fields in costing-based Profitability Analysis (CO-PA).

Actions

Assign all the quantity fields you want to transfer from the billing system to costing-based CO-PA.

Additional Information

You can transfer the billed quantity to costing-based CO-PA using the sales unit as well as the stockkeeping unit. The assignment you make here is valid for both profitability planning and for actual postings.

This assignment is particularly important for planning, because the system can automatically derive the unit for the quantities you plan manually for individual products.

Activate Transfer of Incoming Sales Orders

In this step, you activate the transfer of incoming sales orders from Sales and Distribution (SD) to Profitability Analysis (CO-PA).

You can specify whether the transferred sales orders should be shown in CO-PA in

The period in which they were created or

The period of the planned delivery

This information is stored in the schedule lines in the order.

Further notes

Sales orders transferred to CO-PA receive the record type "A". Sales orders from projects receive the record type "I" when transferred during project settlement. Both of these need to be displayed in separate columns from billing documents in the information system.

Incoming sales orders are only updated in costing-based Profitability Analysis. Only documents that are likewise represented in Financial Accounting can be posted to account-based Profitability Analysis.

Note that, in this step, you are maintaining the same table as you do in the step Activate operating concern. If you delete an entry here, it is also deleted in that step.

Transfer of Billing Documents

In this step you define how billing document items for sales from stock are transferred to Profitability Analysis (CO-PA).

In **costing-based CO-PA**, you need to assign condition types and quantity fields from Sales and Distribution (SD) to the value and quantity fields CO-PA.

Activities:

Assign condition types to the desired value fields. These assignments let you transfer "real" conditions (those that are posted to FI) and "statistical" (fictitious) conditions to CO-PA. Assign value fields.

For real conditions, the corresponding revenue, sales deduction, and cost-of-sales accounts must be defined as CO-relevant accounts (cost or revenue elements).

Assign the quantity fields in SD to the desired quantity fields in CO-PA. Assign quantity fields.

If desired, reset individual value fields for billing documents of a certain billing type. Reset value fields.

For **account-based CO-PA**, the system only transfers those posting lines that are posted to FI as well.

Activities:

Only "real" postings that are posted to FI can be transferred to account-based CO-PA. All you need to do to transfer this data to CO-PA is make sure that the desired revenue, sales deduction, and cost-of-sales accounts are defined as relevant for CO. **Prerequisites**

The operating concern to which you want to transfer billing documents has been completely defined.

You have maintained record type "F" for the necessary number ranges.
You have activated the desired form(s) of Profitability Analysis.

Assign Value Fields

All revenues, sales deductions and other values (such as transfer prices) are defined as conditions in SD. In this step, you assign these conditions to the corresponding CO-PA value fields.

Note that certain limitations exist on the transfer of condition values of **billing documents** to CO-PA.

To transfer condition types for **sales revenues** and **sales deductions** to CO-PA, you need to make sure that the condition types and linked to an account in FI that is also defined as a cost element of the category "11" (revenue element) or "12" (sales deduction) in CO. These condition types **must** be assigned to a CO-PA value field.

Condition types linked to FI accounts that are defined as cost elements of another category are **not** transferred to CO-PA, even when the condition type has been assigned to a CO-PA value field.

Condition types such as "VPRS" ("Cost") that are defined as **statistical** in SD are always transferred to CO-PA if they are assigned to a value field.

All condition types that you want to transfer to CO-PA must be **active** in the SD pricing procedure. Inactive conditions in a billing item are not transferred. If all the conditions in a billing item are inactive, that item is not transferred to CO-PA.

Conditions do not need to be active, however, to be transferred with sales order items, since the transfer of incoming sales orders is always statistical.

It is also possible to transfer **conditions from MM** to update billing data in pooled payment in the IS Retail system. These are transferred according to the same rules as SD conditions.

Notes

Conditions from SD are always transferred to CO-PA with "+" signs, with the exception of credit memos and returns. The reasons for this is that the signs for revenues are handled differently in the different applications of the system. For example, revenues are positive in SD, while they are negative in FI. Consequently, CO-PA accepts all the values as positive, and then subtracts deductions and costs from revenues in the information system.

Note that the indicator Transfer +/- signs is not used to compare the different use of +/- signs between FI or SD and CO-PA. If you activate this indicator, only the positive and negative values for the condition in question will be balanced. This guarantees that the sum of the negative and positive condition values is displayed as a correct total value in the value field assigned to that condition.

Prerequisites

The level of detail of the valuation in the SD billing document must meet the requirements for value fields in Profitability Analysis.
The pricing procedure must be defined in SD.

The condition types must be defined in SD.

It is not necessary to activate the conditions for transferring sales order data, since this transfer is solely for statistical purposes.

Actions

Assign value fields to the conditions you want to transfer to Profitability Analysis, and set the flag "Transfer with +/- signs" if desired.

Note that in this step you are maintaining the same table that you maintain in the steps under Transfer of Incoming Sales Orders and Transfer Customer Rebate Agreements.

Thus, if you delete an entry, that entry is deleted in both steps.

Assign Quantity Fields

A number of quantity fields are defined and used in the SD billing system. In this step you assign these to the corresponding quantity fields in costing-based Profitability Analysis (CO-PA).

Actions

Assign all the quantity fields you want to transfer from the billing system to costing-based CO-PA.

Additional Information

You can transfer the billed quantity to costing-based CO-PA using the sales unit as well as the stockkeeping unit. The assignment you make here is valid for both profitability planning and for actual postings.

This assignment is particularly important for planning, because the system can automatically derive the unit for the quantities you plan manually for individual products.

Reset Value/Quantity Fields

You can use this function to reset a quantity or value field depending on the billing type. This means that the condition value set in the field is replaced by value 0. This procedure makes it possible to post only the revenue and quantity in Profitability Analysis (i.e. for returns) while retaining the freight costs of the original billing document by setting 'RE' as the billing type and resetting the value field "Freight costs".

Activities

Enter the combination of billing type and CO-PA quantity or value field that are to be reset in Profitability Analysis, and then select the field "Reset".

Order and Project Settlement

In this section you set up settlement of actual and plan data for orders and projects to Profitability Analysis.

You can settle actual data from internal orders, sales orders, and projects and plan data from plan-integrated internal orders and projects.

To settle data to CO-PA, you need to define a so-called "settlement profile" and assign this to the master data of the objects you want to settle.

This settlement profile contains an allocation structure, which defines how the corresponding order or project is credit. It also contains a PA transfer structure, which determines how the values are settled to value fields in Profitability Analysis.

In the PA transfer structure, you first assign the original cost elements on the order or the project to lines (assignments), which you then assign to value fields in Profitability Analysis.

Example

```
PA transfer structure:  VA ( value field assignment )
Assignment    Origin(al cost element)    Value field
             OAS material               VV0     material costs
  20           OAS wage                   VV200     labor costs
```

Prerequisites

The operating concern must be completely defined.

A number range must be defined for the credit postings for the orders (business transaction KOAO).
==> Check number ranges for transactions

The number ranges for record type "C" must be defined.
==> Check number ranges in CO-PA

The desired form(s) of Profitability Analysis must be active.
==> Check form of Profitability Analysis

Define PA Transfer Structure for Settlement

In this activity, you define the PA transfer structures to be used to settle actual and planning data for orders and projects.

Although it is technically possible, via a joint maintenance dialog, to use the same PA transfer structures from different allocation types in settlement, you should instead define separate PA transfer structures.

Actions

Select the function "New entries" and enter an abbreviation and a name for your PA transfer structure.

Divide your cost elements according to how you want to group them in Profitability Analysis, and create assignment lines accordingly. These assignment lines are then used to transfer the cost elements to CO-PA value fields.

The indicator for quantity billed/delivered is relevant for settling sales orders and projects. Select this indicator for the particular assignment line with which the billed quantity is to be transferred to CO-PA. Under "Value fields", you need to assign a CO-PA quantity field (quantity/value indicator "2") to such an assignment line for the billed quantity. During settlement to CO-PA, the billed amount is transferred to the assigned field.

For each assignment line, enter into the order/project the cost element(s) or the cost element group to be assigned. You should usually activate the "Costs/Revenues" option as the source. The "Variances on production orders" option is only relevant for the settlement of production orders. In the latter case, you should define a separate operating concern (see the section "Define PA Tranfer Structure for Variance Settlement"). The "Accounting indicator from SM orders" option is only relevant for the settlement of service orders.

For each assignment line, enter the value field (or, if costs are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Assign PA Transfer Structure to Settlement Profile

The settlement profile contains all the relevant information needed for settling CO orders, sales orders, projects, and production orders.

From the point of view of Profitability Analysis (CO-PA), you need to assign your PA transfer structure to a settlement profile.

Note:

The settlement profile must allow profitability segments as settlement receivers. If you want to settle production variances, this must be stored in the settlement profile.

Requirements

Since the settlement profile is usually entered automatically in the master data of the object being settled (internal order, sales order, or project), you need to specify the desired settlement profile as a default.

For internal orders, you can do this when you maintain order types.

For sales orders, you do this when you maintain requirement classes.
For projects, you do this when you maintain project profiles.

Direct Posting from FI/MM

You can transfer direct primary postings from Financial Accounting (FI) and Materials Management (MM) to profitability segments.

The following are some typical cases of when you would want to do this:

You post special direct costs from sales, such as transport insurance for a certain delivery, and would like to assign these primary costs directly to a profitability segment.

You post an invoice for promotional events and you want this invoice to appear statistically in the responsible marketing cost center, and at the same time assign it to a profitability segment in Profitability Analysis. In this case, you would assign the invoice to both a cost center and a profitability segment.

You create automatic postings in Materials Management and you want these revenues and expenses from the revaluation of material stocks to be posted automatically to Profitability Analysis. This instance also requires that you define "Automatic assignment to a profitability segment".

Requirements

The operating concern must be fully defined.

The desired form of Profitability Analysis must be active for the relevant controlling areas.

You have maintained number ranges for record type "B".

You have created a group of characteristics (under "Master Data") to define the screen for assigning postings to profitability segments, and assigned this characteristic group to business transaction "RFBU".

Maintain PA Transfer Structure for Direct Postings

In this activity, you define the PA transfer structure FI, which you use to post costs and revenues directly to profitability segments. In the PA transfer structure "FI", you specify how the cost elements are to be defined to the CO-PA value fields.

You can choose to transfer the posted amount to CO-PA as well. For this, include in the assignment the corresponding quantity field along with the value field(s).

Since this maintenance dialog is also used in the definition of PA transfer structures for other allocations, there are several selection options that do not apply to the PA transfer structure "FI". These options are discussed below under "Activities".

Activities

Define the PA transfer structure "FI".

Divide your cost elements according to how you want to group them in Profitability Analysis, and create assignment lines accordingly.

Note: The indicator for quantity billed/delivered is not relevant for PA transfer structure FI and hence should not be activated.

For each assignment line, enter the cost element or the cost element group to be assigned. As the source, activate the "Costs/Revenues" option.

For each assignment line, enter the value field (or, if the costs are split into fixed and variable portions, both value fields) into which costs/revenues are to be imported.

Automatic Account Assignment

Automatic postings, such as those created in Materials Management, can be passed on to Profitability Analysis (CO-PA) by means of an **automatic assignment to a profitability segment**.

In Profitability Analysis, the documents are updated to the profitability segments generated according to the characteristic values found in the corresponding Financial Accounting (FI) document. If the characteristic value information in the FI document is not very detailed, the posted values are transferred to Profitability Analysis at an aggregated level.

Note that automatic assignments to a profitability segment should only be used under **special circumstances** for certain accounts and business transactions only.

Typical business transactions for which it makes sense to have a profitability segment found automatically include

The transfer of **price differences** that are posted in purchasing due to differing order prices or differing prices in invoice receipt (as period costs)

The transfer of expenses or revenues that arise due to a **revaluation of material stocks** (as period costs)

The transfer of **inventory differences** (as period costs)

Activities

Enter the accounts for automatic postings in the automatic assignment table.

Select the "Profitability segment" indicator to transfer postings to this account to CO-PA.

Requirements

The automatic determination of a profitability segment is only required in individual cases, if you want to represent special business transactions in Profitability Analysis.

The account for automatic postings must be assigned in the PA transfer structure "FI".

The desired form of Profitability Analysis must be for the relevant controlling areas.

Further notes

Generally, a profitability segment is found and updated in Profitability Analysis automatically when the corresponding sender document is created (such as when you enter FI documents with direct assignment to Profitability Analysis, or when you create sales orders or billing documents). Therefore, it is **not**

desirable to have the system find a profitability segment for all the accounts relevant to profits by assigning accounts in this Customizing step.

Settlement of Production Variances

When you valuate products with the standard price of production, so-called "production variances" can result on the production orders (actual cost of goods manufactured - (produced quantity * standard price)).

These production variances are determined in Product Cost Planning (CO-PC) and broken down there according to variance categories. When you settle the production order, you can transfer these variance categories to separate value fields in Profitability Analysis.

Prerequisites

The production variances first need to be calculated in CO-PC.

Your PA transfer structure must contain assignments of variance categories to value fields.

In the settlement profile, you defined that variances are to be settled.

The settlement rule to profitability segments is created automatically based on the information available in the production order (product, product group, plant and so on).

You must have maintained number ranges for record type "C".

The desired form of Profitability Analysis must be active in the relevant controlling area.

Define PA Transfer Structure for Variance Settlement

In this IMG activity, you define a PA transfer structure for transferring production variances during the settlement of production orders.

When variances are calculated in Cost Object Controlling (CO-PC), production variances are determined and stored. When you settle production orders, you can transfer these variances differentiated by cost element and variance category - to value fields in CO-PA.

Although it is technically possible, via a joint maintenance dialog, to use the same PA transfer structures from different allocation types to settle production variances, you should instead define separate PA transfer structures.

Activities

Create an identification code and a corresponding name for a PA transfer structure.

Decide how you want to divide the variances and define corresponding assignment lines in the PA transfer structure. This division is then applied to transfer the production variances to the value fields in CO-PA.

Select the indicator for quantity billed/delivered in the assignment line that is used for transferring to CO-PA the quantity of the production order that has been delivered to the plant. A CO-PA value field must be assigned under "Value fields" to such an assignment line for the delivered quantity (quantity/value indicator "2"). When the production order is settled to CO-PA, the delivered quantity is transferred to the assigned field.

For each assignment line, enter the cost element(s) or the cost element group from which the production variances are to be settled, and select a variance category as the source (such as price variances for materials input). If, instead of a variance category, you select the "Costs/Revenues" option as the source, all variances of the entered cost element are settled to the production order.

For each assignment line, enter the value field (or, if costs are split into fixed and variable portions, both value fields) into which the appropriate variance category is to be imported.

In the next activity, assign your PA transfer structure to the desired settlement profile.

Assign PA Transfer Structure to Settlement Profile

The settlement profile contains all the relevant information needed for settling CO orders, sales orders, projects, and production orders.

From the point of view of Profitability Analysis (CO-PA), you need to assign your PA transfer structure to a settlement profile.

Note:

The settlement profile must allow profitability segments as settlement receivers. If you want to settle production variances, this must be stored in the settlement profile.

Requirements

Since the settlement profile is usually entered automatically in the master data of the object being settled (internal order, sales order, or project), you need to specify the desired settlement profile as a default.

For internal orders, you can do this when you maintain order types.

For sales orders, you do this when you maintain requirement classes.

For projects, you do this when you maintain project profiles.

Transfer of Overhead

The following business transactions let you transfer overhead to Profitability Analysis.

Initial Steps

In this section you make the settings necessary for transferring overhead to Profitability Analysis.

Define Calculated Values for Use as Reference Values

In this activity, you can define calculated values for use as tracing factors for cost center assessment, process assessment, or indirect activity allocation.

Example

You want to assess the costs of your cost centers on the basis of the net revenue of the receiver profitability segments. So you define this value here using value fields.

Activities

Define a calculated value as a formula consisting of value fields.

When you define your cycles for assessment or indirect activity allocation, you can then choose these values as tracing factors.

Assign Characteristic Groups to Actual Cycles

In this step, you specify (for cycle maintenance for assessment and for the allocation of indirect activities) which characteristics can be used to define the receiver during segment maintenance. To do this, you assign a characteristic group to the business transaction of the particular allocation type concerned.

Example

During segment maintenance for a planned assessment cycle, only the characteristics "Company code", "Customer" and "Sales organization" should be available for defining the receiver. You therefore assign a characteristic group containing these characteristics to the business transaction KSPB (Plan assessment to CO-PA).

Requirements

You need to have defined a characteristic group containing the characteristics that are to be made available for defining the receiver. You do this by choosing *Flows of Actual Values -> Initial Steps -> Characteristic Groups -> Maintain Characteristic Groups*.

Activate Transfer of Cost Component Split During Activity Allocation

In this activity, you activate the transfer of the price cost components from activity and process allocation to Profitability Analysis.

Activities

If you use the cost component split in Cost Center Accounting or Activity-Based Costing for price calculation, you can update the prices divided into cost components during allocations to Profitability Analysis. To do this, you need to perform the following steps:

Maintain the cost component split assignments to CO-PA value fields.

Assign a value field or, when splitting into fixed and variable portions, both value fields to each of the cost components of the cost component structure used in Cost Center Accounting or Activity-Based Costing.

You find the corresponding cost component structure in the detailed information on the section of the CO version dependent on the fiscal year.

Activate the transfer of the cost components for the corresponding operating concern.

Further notes

Note that, when the transfer is activated, price revaluations are also updated for activities posted previously using the assignment of cost components to CO-PA value fields.

For more information on the cost component structure and on price calculation with cost components, see the SAP Library in the area Financials -> Controlling -> Cost Center Accounting -> Period-End Closing -> Actual Price Calculations -> Price Calculation with Cost Component Split.

Assign PA Transfer Structure to Business Transaction

In this activity, you specify which PA transfer structures are used for specific business transactions to transfer overhead.

For this, you assign a PA transfer structure to the business transaction of the respective allocation type.

Note:
If you do not assign a business transaction to a PA transfer structure, the system uses the standard selection for the PA transfer structures. Initial entries in the *PA Transfer Structure* column are reset to the following SAP standard selection when you save.

PA transfer structure "CO" for

Internal activity allocation

Template allocation from cost center costs and process costs

Revaluation due to price (re)calculation

PA transfer structure "FI" for repostings

Example

You want to be able to display price changes individually when revaluating internally allocated activities with a price calculation.

By assigning different PA transfer structures for the business transactions "Activity Allocation" and "Revaluation Due to (Re)Calculation of Prices", you can send the results from the revaluation of activity quantities into other value fields as opposed to those for the values calculated in activity allocation.

Assess Cost Center Costs / Process Costs

You can assess both plan and actual cost center costs and process costs to profitability segments as part of your period-end closing activities.

Example

You can assign the costs of your sales cost centers to the customer groups and regions for which those cost centers are responsible. You can assess specific percentages of the costs or absolute amounts to the different customer groups and regions, or you can distribute them in proportion to certain values contained in the value fields of those segments (tracing factors).

Activities

Define an assessment cycle. The cycle determines:

The cost centers or business processes that assess the costs
The profitability segments that receive the costs

The amounts that are to be assessed

The tracing factors according to which the costs are distributed to the different profitability segments

In the cycle, you need to specify a PA transfer structure if you want to transfer different cost element groups to **several** value fields in costing-based CO-PA.

You need to specify an allocation structure if you want to credit the cost center using **several** assessment cost elements.

Note

You can only use PA transfer structures and allocation structures with sender rule "1" (posted amounts).

Define Structure of Cost Center Assessment/Process Cost Assessment

In this step you define rules for allocating cost center costs and process costs to Profitability Analysis (CO-PA) in the form of cycles.

Activities

Define your assessment cycles. In doing so, observe the following:

The header of the cycle contains the parameters that are valid for the entire cycle. This includes the **sender selection type**, where you specify for actual data whether you want to assess all costs together or fixed and variable costs separately.

The segments contain the combinations of sender cost centers/sender processes and receiver profitability segments that are processed using a single distribution rule.

Specify either an assessment cost element or an allocation structure, which determines more than one assessment cost element for each cost element group. The sender cost centers/sender processes are credited using these secondary cost elements (cost element category 42). In account-based CO-PA, the receiver profitability segments are also credited using this cost element.

Specify either single value fields for the fixed and variable costs, respectively, or a PA transfer structure that determines more than one value field for each cost element group.

Specify the rule which you want to use to credit the sender.

Note that, for technical reasons, you can only use an allocation structure or a PA transfer structure with sender rule "1" (posted amounts).

Define the tracing factor, the rule which determines how the values are distributed to the receivers. For example, you can distribute certain percentages to the different receivers or distribute using certain values (such as the quantity sold or the revenue) as an allocation base. If you choose to use an allocation base, choose the receiver rule "Variable portions".

Specify the senders and receivers in the **allocation characteristics**.

Prerequisites

For process cost assessment, Activity-Based Costing (CO-OM-ABC) must be active as an operational Controlling component in your system.

The desired form of Profitability Analysis must be active.

You can check the form of Profitability Analysis by choosing *Actual Flows of Values -> Activate Profitability Analysis*.

Credit postings require you to have assigned an internal number range for the CO transactions KSPA (actual) or KSPB (plan).

To verify that this has been done, switch to Customizing for **General Controlling** and choose *Organization -> Define Number Ranges for CO Documents*.

In Profitability Analysis, you must define a number range for record type "D". For actual data, you verify this by choosing *Flows of Actual Values -> Initial Steps -> Define Number Ranges for Actual Postings*.

In planning, you verify this by choosing *Planning -> Initial Steps -> Define Number Ranges for Planning Data*.

To improve runtimes in assessment, it is recommended that you use summarization levels if possible. These provide presummarized tracing factors for the receiver profitability segments.

Define PA Transfer Structure for Assessment

In this activity, you define a PA transfer structure for performing assessment.

If you want import the values posted to a cost center/process into different value fields by means of differentiation by cost element, you can use one of the following options:

You can set up a cycle with several segments. For this, you need to create a separate segment for each assignment of a cost element interval/cost element group to a value field.

You can set up a cycle with only one segment. For this, the assignment of cost elements to the respective value fields is defined via a PA transfer structure.

You can use the PA transfer structure to combine in a single segment different assignments of cost elements/cost element groups to value fields. Instead of a value field, you can enter the PA transfer structure when defining an assessment cycle in the segment header.

Notes:

You can only use a PA transfer system together with the "Posted values" sender rule.

Even when it is technically possible, via a joint maintenance dialog, to use PA transfer structures from different allocation types to perform the assessment, you should still define separate PA transfer structures.

Equally dependent on the joint maintenance dialog, there are some selection options within the maintenance functions for the PA transfer structure that do not apply to structures used exclusively in assessment. These options are discussed below under "Activities".

Activities

Create a PA transfer structure for assessment.

Decide how you want to divide the cost elements and define corresponding assignment lines. This division is then used to transfer the cost elements to the CO-PA value fields. The indicator for quantity billed/delivered is not relevant for assessment and hence should not be activated.

For each assignment line, enter into the cost center/process the cost element(s) or the cost element that are to be assigned.

As the source, activate the "Costs/Revenues" option. Note that only costs are allocated during assessment, not revenues.

For each assignment line, enter the value field (or, if the cost elements are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Define Allocation Structure

If the assessment for each segment is not made with a pre-defined assessment cost element, you can assign the source cost elements to the desired assessment cost element in the allocation structure. During cycle definition, enter the allocation structure instead of an assessment cost element in the segment.

An allocation structure for the assessment consists of at least one assignment, stating the assessment cost element to which the source element is assigned. The original cost elements will already have assignments in the source.

Requirements

To define the assessment cost elements required for the allocation structures, you must first complete the IMG activity "Create Assessment Cost Elements".

Activities

Creating an allocation structure.

To create an allocation structure, proceed as follows:

Choose "New Entries".

Enter a name and text for the allocation structure.

Save the allocation structure.

Enter the assignments for each allocation structure. To make the assignments, proceed as follows:

Select the allocation structure, and then choose "Assignments".

Choose "New Entries".

Enter a name and text for the assignment.

Save the assignment.

Specify the source for each assignment.

To specify the source for an assignment, proceed as follows:

Select the assignment, then choose "Source".

Enter a cost element interval or a cost element group.

Save the source.

Enter the assessment cost element for each assignment.

To specify an assessment cost element for an assignement, proceed as follows:

Select the assignment, then choose "Assessment cost element".

Enter the assessment cost element you require.

Save your entries.

Display Cycle Overview of Actual Assessment

In this step, you can display the cycles for actual assessment that have been defined in an operating concern.

Cycles are displayed in a tree structure on the left-hand side of the screen. By expanding the nodes, you can display the segments for a cycle.

On the right-hand side of the screen, you can change the selection used to call up the tree structure for the cycles and you can display additional columns in the tree.

To call up detailed information about a cycle and a segment, select the required object in the tree by double-clicking it and switch to the tab index *Cycle information*. From the detailed information screen, you can switch to cycle maintenance to make changes there. Alternatively, you can execute the cycle directly.

Direct/Indirect Activity Allocation

In this step, you make the necessary settings for allocating activities from cost centers and processes to profitability segments.

Whereas in assessment you can distribute the data from cost elements or cost element groups by percentages or based on tracing factors, the distribution of values in activity allocation depends on the activity involved.

Direct activity allocation

Normally, you can assign activities that are performed for certain profitability segments (such as customers or products) directly to those segments. When you do so, the system transfers the quantity of the activity performed and valuates this with the planned price for that activity in the cost center involved. This makes it possible to allocate consulting hours, for example, to the customer for whom they were worked.

Prerequisite

The activity must be defined as activity type category "1" (manual entry and manual allocation) in Cost Center Accounting, and an activity quantity must have been planned manually.

Activities

Define the PA transfer structure "CO".

Indirect activity allocation

If the activity cannot be measured directly, you can create a quantity structure on the basis of certain assumptions, and then valuate and allocate this structure just like direct activity allocation. An example for this would be a cost center "Order processing", for which no activities are explicitly entered. In order to allocate these costs in accordance with how they originated, you can create a quantity structure based on a quantity field "Number of orders entered", and then valuate this with a planned price.

Prerequisite

The activity must be defined as activity type category "2" (Indirect creation and indirect allocation) or "3" (Manual entry and indirect allocation) in Cost Center Accounting. If you use category "3", you also need to define an activity quantity for the sender.

Activities

Define the PA transfer structure "CO".

Define indirect activity allocation for cost centers or processes.

Further Notes

The sender cost center are credited using the allocation cost element that was assigned to the activity type.

In account-based CO-PA, the values are posted to the same allocation cost element.

In costing-based CO-PA, the allocation cost element needs to be assigned to a value field in PA transfer structure "CO". The value is transferred to that value field.

Maintain PA Transfer Structure for Template and Activity Allocation

In this activity, you maintain PA transfer structures that are used for the following allocations of actual and plan data:

Internal activity allocation

Template allocation for cost center costs and process costs

Revaluation due to price (re)determination

Reposting

You use the PA transfer structure to determine which allocation cost elements are transferred to which CO-PA value fields.

You can also transfer the allocated activity quantity to CO-PA. To do this, include in the assignment the corresponding quantity field along with the value field(s).

Note:

Since this maintenance dialog is also used in the definition of PA transfer structures for other allocations, there are several selection options that do not apply to the PA transfer structures used here. These options are discussed below under *Activities*.

Activities

Maintain the appropriate PA transfer structure.

Decide how you want to divide your allocation cost elements and create corresponding assignment lines. This division is then used to transfer the cost elements to the CO-PA value fields.

Note: The indicator for quantity billed/delivered is not relevant here and should therefore not be activated.

For each assignment line, enter the allocation cost element(s) or the allocation cost element group to be assigned. As the source, activate the "Costs/Revenues" option. Note that only costs are allocated during activity allocation and template allocation, and that revenues are not.

For each assignment line, enter the value field (or, if the costs are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Assign the PA transfer structure to the corresponding business transaction. Maintain these settings separately for actual business transactions and plan business transactions .

Note:

If you do not assign a business transaction to a PA transfer structure, the system uses the standard selection for the PA transfer structures. ("CO" or "FI").

Set Up Indirect Allocation of Activities from Cost Centers/Processes

The advantage of indirect activity allocation over cost assessment is that you can allocate the entire activity based on the activity quantity performed or one determined indirectly after valuating it with a fixed and/or a variable price. For information on the basic concept of indirect activity allocation, see Indirect Activity Allocation.

Activities

Set up indirect activity allocation as described by performing the steps described in the section Define Indirect Activity Allocation in Customizing for Cost Center Accounting. You use the same steps again to set up the indirect allocation of activities from processes.

Enter a cost center and a suitable activity type or business process as the sender objects in the cycle.

As the receiver, specify those profitability segments that are relevant for the allocation of costs.

Prerequisites

For the indirect allocation of activities from cost centers:

You must have an activity type that uses allocation category 02 or 03. Maintain Activity Types for Indirect Activity Allocation.

Planning data must exist for the activity type so that

plan price iteration has been carried out, or - a plan price was defined manually for the cost center, or

an actual price must have been determined in period-end closing.

For the indirect allocation of activities from processes:

You must have Activity-Based Costing implemented as an operational Controlling component in your system

You need to have defined a process containing the allocation category 02 or 03.

The process has been planned during business process planning so that - a price is available for valuating utilization, or - an actual price is determined.

Display Cycle Overview of Actual Activity Allocation

In this step, you can display the cycles that have been created in an operating concern for actual indirect activity allocation.

Cycles are displayed in a tree structure on the left-hand side of the screen. By expanding the nodes, you can display the segments for a cycle.

On the right-hand side of the screen, you can change the selection used to call up the tree structure for the cycles and you can display additional columns in the tree.

To call up detailed information about a cycle and a segment, select the required object in the tree by double-clicking it and switch to the tab index *Cycle information*. From the detailed information screen, you can switch to cycle maintenance to make changes there. Alternatively, you can execute the cycle directly.

Maintain Cost Component Split Assignments for Activity Allocation

In this activity, you define the assignment of cost elements to value fields.

Requirements

This assignment is only relevant if the transfer of the cost component split to Profitability Analysis is active.

Activities

Assign a value field or, if splitting into fixed and variable portions, both value fields to each of the cost components of the cost component structure used in Cost Center Accounting or Activity-Based Costing.

You find the corresponding cost component structure in the detailed information on the part of the CO version dependent on the fiscal year.

Further notes

For more information on the cost component structure as well as on price calculation with cost components, see the documentation in the SAP Library in the area Financials -> Controlling -> Cost Center Accounting -> Period-End Closing -> Actual Price Calculations -> Price Calculation with Cost Component Split.

Set Up Template Allocation

In contrast to assessment, template allocation lets you allocate overhead costs (for business processes or cost centers/activity types) in a cause-and-effect manner based on the quantities used.

To do this, you must define a template containing the formulas and functions required for calculating the quantities used and thus the cost drivers. The quantities are then valuated by means of price calculation.

Dynamic template allocation functions as follows:
When carrying out the allocation, the user specifies the particular characteristic area for which the allocation should be carried out. If there are characteristic values in this area that are linked with a template via a selection strategy, this template is then used automatically. The template's settings are employed to determine the appropriate activity quantities and the appropriate business process or cost center/activity type that forward those quantities to the profitability segment. The activity quantities (valuated with prices) are then allocated to the profitability segment whose dimensions are defined in Customizing. The costs are not only allocated to the specified update characteristics. They are also allocated to all characteristics that you defined as target fields for source characteristics via a derivation rule.

To create all prerequisites for this procedure, you need to carry out the following steps in Customizing:

First, limit the number of record types. Doing so reduces the amounts of data to be processed, thus enhancing system performance. Moreover, this prevents duplicate allocations from occurring (for example, for an incoming sales order and again for its corresponding billing document).
You specify the dimensions of the profitability segment by entering update characteristics. You then make some or all of them into selection characteristics. These determine which criteria are used to select the destination objects in the template allocation.

This last step completes the definition of the profitability segment. The following steps allow you to set about using the process template:

You generate and maintain the template environment by changing environment functions already present or creating new ones.

You can use the environment functions delivered in the system or those that you created yourself to create the templates required for your allocations.

To ensure that the appropriate template is used for allocation, enter at this stage which characteristics and which characteristic values should be used to define the template.

You then specify in the PA transfer structure which value fields the process costs are posted to. This occurs via the assignment of the allocation cost elements (for business processes or cost centers/activity types) to value fields.

Define Record Types for Selecting Cost Drivers

In this activity, you choose which record types in CO-PA you want to use as tracing factors for selecting the cost drivers. This reduces the number of profitability segments used in template determination, thereby producing several advantages. Such a reduction can considerably enhance performance, for example.

You can choose from the record types delivered by SAP or define your own: Define New
Record Types

Example

If incoming sales orders and billing documents are both posted in CO-PA, you can decide whether the sender objects (such as processes) should be allocated at the point of entry of the incoming sales orders or of the billing documents. If you choose both record types, then you have to decide on an activation condition in the template that controls when the sender objects are settled. This ensures that a settlement does not occur twice.

Activities

To choose a record type, select the appropriate checkbox and save your selection.

Specify Characteristics for Selection and Update

In this activity, you define update characteristics and specify which ones you want the system to use to select profitability segments in template allocation.

Allocated costs in CO-PA are posted to the **update characteristics** (and to the characteristics derived from them). Update characteristics are used to locate cost drivers.

When you carry out the dynamic process allocation, the **selection characteristics** appear for selection. This enables you to limit the number of characteristic values.

Note

Delta postings to characteristics are no longer possible once the latter have been changed.

Activities

Select 'New Entries'.

Select the desired update characteristics in the "Characteristic" column using the possible entries function. The characteristics for the operating concern are then available. Note: The characteristics "Product" and "Customer" are not offered for selection because the general allocation of sender objects to lowest-level characteristics usually causes performance problems.

To specify an update characteristic as a selection characteristic, click on the corresponding indicator in the "Selection" column.

Note

You can define other update characteristics which can then also be considered during profitability segment determination, but dependently of the characteristic values relating to the update characteristics defined under "New Entries". You do this in the transaction Maintain Process Template Determination and Other Update Characteristics. This makes sense if, for example, the characteristic "Customer" is to be included in operating concern determination for a specific customer group. (Example: if an update should occur at customer level whenever the characteristic "Customer group" receives the value "Major customer").

Generate Template Environment for CO-PA

Before you can define a template, you first need to modify the template environment so that it is compatible with your operating concern.

The update characteristics that you specified and the value fields of your operating concern are first made available in the environment.

Activities

Choose from the available characteristics and value fields all those that you wish to use for maintaining the template.

Maintain Template Environment and Function Trees

At this point, you can choose from all the possible environments for template allocation. However,you should ONLY edit the environment **PAC** ! Ensure that you note the following when executing the allocation.

General

In this step you maintain:

Function trees

Structure nodes - Function references - Functions.

The basis for the maintenance of the object is always the chosen environment.

Environment

The Template's environment determines the information of the SAP-environment and the external system that can be accessed. Basically, the functions relevant to each context are already provided in the corresponding environment. Environments always contain a row of sub-environments which group functions by theme; these include material, BOM, routing, and others.

The standard system delivers the following environments:

Template allocation (for cost objects, profitability segments,

business processes, cost centers/activity types)

Formula planning (business processes, cost centers, profit centers)

Standard cost estimates

Process quantity determination (SOP/LTP)

Easy Cost Planning/Internal Service Request

Recommendation

Use the sub-environments provided by SAP as much as possible. When you assign an function to a sub-environment, it is automatically available in all the main environments containing this sub-environment.

Further notes

For more information on environments and a list of these and their sub-environments go to the help for applications of Activity-Based Costing under "Template -> Template Environment".

Function Tree

A function tree is a user-defined hierarchy which structures or groups functions. With the Help for function trees, you can structure groups of functions available in each environment according to their their theme or emphasis. Functions are then processed from here on.

A function tree is assigned to an environment and consists of nodes and function nodes.

Environments: all environments are displayed when you call up the n transaction. Environments themselves cannot be changed or deleted. The creation of new environments is also not possible.

Function trees: the first level under environments. You can subordinate nodes or function nodes to a function tree.

Nodes: nodes are always subordinate to function trees or other nodes. You can subordinate other nodes to a node or function node. In function trees SAP1, nodes contain sub-environments.

Function nodes are always subordinate to function trees or nodes. They always refer to a function.

SAP standard delivery for all environments includes function tree SAP1 (for example, for environment 001, function tree SAP1-001). This contains all standard nodes (sub-environments) and function nodes (with reference to the respective function).

Activities

The transaction provides you with left and right screens. The left one displays the existing environments. You can expand the hierarchy and view the function trees, nodes and function nodes in their hierarchical structure. Place the curser on an object you want to process.

The right screen details of the chosen object (environment, function tree, nodes or function nodes) in list form. If you double click on a funciton node you will see the maintenance screen for the functions.

Further notes

For more information see Application help for Activity-Based Costing:

AC-Financials -> CO-Controlling -> Activity-Based Costing -> Template -> Function tree -> Maintain function tree or *Template -> Template environment -> Maintain functions*

AC-Financials -> CO-Controlling -> Cost center accounting -> Cost center planning -> Aids -> Formula planning -> Template -> Template environment.

Maintain Template

Here you maintain templates.

Applications

Each purpose (application) of a template requires a special environment. Before creating a template, choose an environment. The environment determines which row and column types are available, for example.

The available applications include the following:

Template allocation to cost objects, or use in standard cost estimates for cost objects and materials (environments 001 - 012)

Template allocation to business processes, cost centers, or cost centers/activity types (environments SBP, SCI, SCD)

Template allocation to profitability segments (environment PAC)

Formula planning (environments CPI, CPD, BPP, PCA)

Calculation of output quantities (environment SOP)

Easy Cost Planning/Internal Service Requests (environment 200 - 299)

Structure

A template consists of rows (items) and columns. The row and column types available to you depend on the environment.

Columns available include:

Type of row, such as business process, cost element subtemplate, or calculation row

Name of the item

Object, such as the name of the process, cost element, subtemplate, or calculation row

Quantity (actual/plan), such as the process quantity or statistical key figure quantity

Activation (actual/plan)

Allocation event (template for cost objects)

Activities

To maintain a template, you must edit the initial and overview screens, from which you can access various editors.

Initial screen

Enter the name of the template that you want to create or edit.

Enter the environment of the template.

Choose *Enter*.

Overview screen

If the template is new, enter a name for it.

Select the row type.

Enter a name for the row.

Edit the other columns. Use the mouse or the tab key to reach the individual columns. Double-clicking on particular column types (such as object, quantity, activation, or allocation event) brings you to the editor or function selection.

Once you have entered or edited all rows, choose *Template -> Save*.

Further notes

Detailed information is available in the Application Help for the transaction, or in the *SAP Library* under **Financials -> Controlling -> Activity-Based Costing -> Template -> Maintaining Templates**.

Maintain Template Determination and Other Update Characteristics

Maintaining template definition

If the user wants to run a template allocation, he/she specifies via the selection characteristics the particular characteristic area for which the allocation should be carried out. If that particular area contains characteristics that are linked to a template via a determination strategy, then the relevant template is automatically used for the calculation. You define the determination strategy as follows:

Choose "Strategy -> Display/Change"

Choose "Edit -> Create step"

Assign a description to the determination rule.

Use the possible entries pushbutton to choose source fields from the selection characteristics previously specified. A placeholder is automatically entered as target field for a template. Note: During rule entry, a column is provided for all the fields entered at this stage. You can then enter concrete values into this column.

Save your entries and choose "Maintain rule values". Use the possible entries pushbutton to insert

Use the possible entries pushbutton to insert in the columns produced by source field entries the characteristic values to be used in the selection of the template.

Use the possible entries pushbutton to insert a template in the template column.

Note: If you have already defined further allocation characteristics in this transaction (see below), change the existing determination rule by inserting a concrete template for the rule values.

Maintaining further allocation characteristics

Further allocation characteristics are those which only form a dimension of an operating concern under certain circumstances (that is, when one or more allocation characteristics accept certain values).

These are maintained after you have selected the fixed allocation characteristics.

You need to take the following steps:

Choose "Strategy -> Display/Change"

Choose "Edit -> Create step"

Assign a description to the determination rule.

Carry out the following steps in the register "Definition":

Use the possible entries pushbutton to choose source fields from the selection characteristics previously specified.

Use the possible entries pushbutton to choose up to five target fields ('NAME1' to 'NAME5') as additional allocation characteristics.

Save your entries and choose "Maintain rule values".

You arrive at the screen "Change rule values" in which an entry column is displayed for each field that you have created.

Use the possible entries pushbutton to insert in the columns produced by source field entries the characteristic values to be used in the selection of the additional template.

Use the possible entries pushbutton to insert the additional allocation characteristic in the columns produced by target field entries. All characteristics for the operating concern that are not yet fixed allocation characteristics are available.

Save your entries.

Example

You have chosen the characteristic value "Major customer" for the fixed allocation characteristic "Customer group" and you have chosen the additional allocation characteristic "Customer" for this condition. If during the template allocation data records with the characteristic value "Major customer" are contained in the selected characteristic area, then the characteristic "Customer" (and all characteristics derived from it) is involved in determining the operating concern.

Maintain PA Transfer Structure for Template and Activity Allocation

In this activity, you maintain PA transfer structures that are used for the following allocations of actual and plan data:

Internal activity allocation
Template allocation for cost center costs and process costs

Revaluation due to price (re)determination

Reposting

You use the PA transfer structure to determine which allocation cost elements are transferred to which CO-PA value fields.

You can also transfer the allocated activity quantity to CO-PA. To do this, include in the assignment the corresponding quantity field along with the value field(s).

Note:

Since this maintenance dialog is also used in the definition of PA transfer structures for other allocations, there are several selection options that do not apply to the PA transfer structures used here. These options are discussed below under *Activities*.

Activities

Maintain the appropriate PA transfer structure.

Decide how you want to divide your allocation cost elements and create corresponding assignment lines. This division is then used to transfer the cost elements to the CO-PA value fields.

Note: The indicator for quantity billed/delivered is not relevant here and should therefore not be activated.

For each assignment line, enter the allocation cost element(s) or the allocation cost element group to be assigned. As the source, activate the "Costs/Revenues" option. Note that only costs are allocated during activity allocation and template allocation, and that revenues are not.

For each assignment line, enter the value field (or, if the costs are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Assign the PA transfer structure to the corresponding business transaction. Maintain these settings separately for actual business transactions and plan business transactions .

Note:
If you do not assign a business transaction to a PA transfer structure, the system uses the standard selection for the PA transfer structures. ("CO" or "FI").

Maintain Cost Component Split Assignments for Activity Allocation

In this activity, you define the assignment of cost elements to value fields.

Requirements

This assignment is only relevant if the transfer of the cost component split to Profitability Analysis is active.

Activities

Assign a value field or, if splitting into fixed and variable portions, both value fields to each of the cost components of the cost component structure used in Cost Center Accounting or Activity-Based Costing.

You find the corresponding cost component structure in the detailed information on the part of the CO version dependent on the fiscal year.

Further notes

For more information on the cost component structure as well as on price calculation with cost components, see the documentation in the SAP Library in the area Financials -> Controlling -> Cost Center Accounting -> Period-End Closing -> Actual Price Calculations -> Price Calculation with Cost Component Split.

Settlement of Overhead/Projects

In this section, you determine how the values and quantities posted to overhead orders and overhead projects are to be settled into Profitability Analysis.

Note

Settlement is carried out the same way as for projects and orders with revenues. For more information, see the section Order and Project Settlement.

Define PA Transfer Structure for Settlement

In this activity, you define the PA transfer structures to be used to settle actual and planning data for orders and projects.

Although it is technically possible, via a joint maintenance dialog, to use the same PA transfer structures from different allocation types in settlement, you should instead define separate PA transfer structures.

Actions

Select the function "New entries" and enter an abbreviation and a name for your PA transfer structure.

Divide your cost elements according to how you want to group them in Profitability Analysis, and create assignment lines accordingly. These assignment lines are then used to transfer the cost elements to CO-PA value fields.

The indicator for quantity billed/delivered is relevant for settling sales orders and projects. Select this indicator for the particular assignment line with which the billed quantity is to be transferred to CO-PA. Under "Value fields", you need to assign a CO-PA quantity field (quantity/value indicator "2") to such an assignment line for the billed quantity. During settlement to CO-PA, the billed amount is transferred to the assigned field.

For each assignment line, enter into the order/project the cost element(s) or the cost element group to be assigned. You should usually activate the "Costs/Revenues" option as the source. The "Variances on production orders" option is only relevant for the settlement of production orders. In the latter case, you should define a separate operating concern (see the section "Define PA Tranfer Structure for Variance Settlement"). The "Accounting indicator from SM orders" option is only relevant for the settlement of service orders.

For each assignment line, enter the value field (or, if costs are split into fixed and variable portions, both value fields) into which the entered costs are to be imported.

Assign PA Transfer Structure to Settlement Profile

The settlement profile controls the whole settlement. From a Profitability Analysis point of view, your PA transfer structure must be assigned to a settlement profile.

Important:

The settlement profile must allow profitability segments as settlement receivers.

If you want to settle production variances, this must be stored in the settlement profile.

Transfer Customer Rebate Agreements

In this step, you can activate the transfer of customer agreeements from Sales and Distribution (SD) to Profitability Analysis (CO-PA).

Requirements

The number ranges for record type "G" must be maintained.

The assignment of conditions to value fields must be maintained in the Customizing step "Flow of Actual Values -> Transfer of Billing Documents".

Costing-based CO-PA must be active.

Recommendation

In general, it makes sense to transfer customer agreements (especially promotions) to CO-PA if you want to be able to control your sales and promotional campaigns in CO-PA. This transfer makes it possible to analyze your budgets and the available funds at an early point in time (as soon as you have created funds for a promotion).

Activities

Specify that you want to transfer the condition types relevant for monitoring sales and promotional budgets to CO-PA.

Further notes

Note that, in this step, you are maintaining the same table as in the step "Assign value fields" for the transfer of billing documents and incoming sales orders. If, for example, you delete an entry, it is also deleted in all these steps.

Multiple Valuation Approaches/Transfer Prices

In Profitability Analysis, all sales to external customers (outside the group) are represented from the point of view of the legal organizational unit (company code). This view only shows you the external sales, valuated using the legally oriented cost of goods manufactured.

If your organization uses profit centers, which operate independently on the market just like separate companies, you need to be able to see internal sales, such as goods withdrawals or deliveries, between profit centers if you want to be able to analyze the profitability of your profit centers. Moreover, you need to be able to see the external sales valuated from the viewpoint of the individual profit centers - in other words, valuated with the cost of goods manufactured on the basis of transfer prices.

In the following sections, you set up the transfer of values from the viewpoint of your profit centers to costing-based CO-PA.

Assign Accounts for Internal Goods Movements

In this activity, you assign accounts for internal goods movements between profit centers to value fields in Profitability Analysis. You also can specify the quantity field to which you want to transfer the goods movements quantities.

This makes it possible to analyze your results in CO-PA based on profit center valuation, taking internal goods movements between profit centers into account.

Requirements

In the attributes of your operating concern, profit center valuation must be activated for at least one currency. Choose "Structures -> Define Operating Concern -> Maintain Operating Concern" and then choose the tab page "Attributes".

The currency and valuation profile assigned to the relevant controlling area must be active. Choose "General Controlling -> Multiple Valuation Approaches/Transfer Prices -> Activate -> Parallel Valuation Approaches: Check Activation / Execute".

Activate Profit Center Valuation

In this activity, you can activate profit center valuation in CO-PA for individual controlling areas. If you do so, the system valuates both external sales and internal sales between profit centers (such as stock transfers between different plants) from the viewpoint of the individual profit centers.

In profit center valuation, both internal and external sales are valuated with a cost of goods manufactured based on transfer prices.

In planning, you can define plan versions to use profit center valuation.

In the information system, you can define and analyze reports that show data for both profit center valuation and legal valuation.

Recommendation

You should only activate profit center valuation in CO-PA if you want to be able to valuate exchanges of goods and services between profit centers using transfer prices and analyze the results of this valuation in CO-PA.

Further notes

If you activate profit center valuation, the system creates separate line items for legal valuation and profit center valuation.

Consequently, this about doubles the volume of actual data transferred to CO-PA! The number of profitability segments, however, remains the same.

Periodic Adjustments

In Profitability Analysis (CO-PA), you can carry out **periodic adjustments** on your data by

valuating the data already posted using the most up-to-date information. For example, you may have new information about the cost of goods manufactured and want to pass this information on to CO-PA. This function is called "**periodic valuation**".

assign postings that could only be made at higher levels when they were first posted (such as the division level) to more detailed profitability segments (such as sales organizations). This function is called "**Actual top-down distribution**".

Actions

To perform **periodic valuation**, you first need to make settings for valuation for the point of valuation "2" (periodic valuation of actual data).

If you want to perform **actual top-down valuation**, you only need to make Customizing settings if you always want using one value field as the reference base for distributing the values does not fulfill your requirements. If this is the case, you can use calculated values as the reference base.

Calculated Values as Reference for Top-Down Distribution

In this activity, you define a key figure (a formula based on value fields) for use as the reference values for distributing planning data or actual data using top-down distribution.

Example

You defined a key figure "Net revenue = Revenue - Discounts" and enter this as the reference value in top-down distribution. The system distributes the data in proportion to the net revenue according to the reference data of the profitability segments at the lowest level.

Activities

Define the desired key figures

If you want to use the key figure as the tracing factor in automatic top-down planning, select the key figure in the parameter set under *Reference value field*.

If you want to use the key figure for top-down manual planning, you need to assign it to the value fields you want to use it for. You do this in Customizing.

If you want to use the key figure as a tracing factor for actual top-down planning, select the option "Fixed value field" under "Tracing factor" when you execute it and enter the key figure in the field "Value field".

Activate Profitability Analysis

In this step you activate the interfaces to Profitability Analysis for the controlling areas assigned to your operating concern.

The "Active" indicator has the following values:

Value	Meaning
_	Profitability Analysis is not active
	Only costing-based Profitability Analysis is active
	Only account-based Profitability Analysis is active
	Costing-based and account-based Profitability Analysis are active

Note that if you select "2" or "3", only one form of CO-PA will be updated with data.

By specifying a fiscal year you can determine the year beginning with which Profitability Analysis is active.

Once Profitability Analysis is active, you can transfer the following actual postings to profitability segments:

Automatic transfer of billing document data from SD

Direct postings from Financial Accounting (FI)

Settlement of orders and projects

Period-based allocations, such as the transfer of overhead

Invoice receipt postings from Materials Management

When you activate CO-PA, you can make the following plan postings:

Period-based allocations, such as the transfer of planned overhead

1. Settlement of planning data from orders and projects

You can activate the automatic transfer of sales orders from SD to CO-PA in the activity *Actual Flows of Values -> Transfer Incoming Sales Orders -> Activate Transfer of Incoming Sales Orders*. You must activate this separately for each controlling area assigned to your operating concern in order that the data in Profitability Analysis can be updated.

Note that when you carry out the activities "Activate Profitability Analysis" and "Activate Transfer of Incoming Sales Orders", you are processing the same table. Consequently, if you delete an entry on one of these screens, it is effectively deleted for both.

Prerequisites

In the SAP Reference IMG under *Enterprise Structure -> Assignment -> Controlling*, you need to have assigned a controlling area to the operating concern.

Activities

Activate Profitability Analysis.

Information System

Here you make the basic settings for creating and executing profitability reports. This includes the following steps:

Create the individual components of reports

Create reports
Store report data

Define a report tree

Define authorization objects for the information system

Reorganize your information system

Notes on transporting

You can transport the settings you made to your productive system using the CO-PA transport tool.

Note that the generated ABAP Repository objects are valid for all clients. Conflicting names in the target system can also lead to problems in other applications. Therefore you should make all Customizing settings in one (source) system. You can then transport these settings to your other (target) systems. This technique helps you avoid inconsistencies.

If you cannot use this technique for some reason, be sure to observe the following:

Characteristics and value fields with the same name must have the same text, the same attributes (type, length), the same check table and the same origin table in each system.

For characteristics which were defined manually, enter the number for the check table manually as well. Each characteristic must have the same number in all systems. The assignment of the number to the characteristic must be unique.

Report Components

In this section, you define the components that you want to use in your information system reports. These components can be used in more than one report definition.

The report components that you can create here are:

Key figure schemes

Variables

Forms

Characteristic groups

Hierarchies

Note

For detailed information on the various report components, see

The CO-PA documentation or

The cross-application documentation on drilldown reporting

Define Key Figure Schemes

In this activity, you define the key figure schemes you want to use in the information system. In a key figure scheme, you can define any number of interrelated key figures, referred to as **elements of the key figure scheme**.

Activities

To create a new element of a key figure scheme, choose **New entries**. Enter a number between 1 and 8999 and a suitable text. If you wish, you can also enter special display parameters.

You can use two functions to define the content of a key figure:

- To define an element that simply represents the addition and subtraction of different values, choose **Basic formula**. The system displays a list of all the elements to be added or subtracted to define that element. Choose **Choose entries** and select all the value fields that you want to use in the element. This formula will then become available when you define the next element of the scheme, and will therefore appear in the list of elements under **Choose entries**.
- If you want to define a more complex formula, choose **Formula editor**. Here you can link constants and any elements of the scheme using standard mathematical operators (+, -, *, /) as well as your own ABAP functions. For a detailed description of the functions available in the formula editor, see the section "Information System" in the online documentation for Profitability Analysis.

Using the function **Check key figure scheme**, you can check all the elements of the scheme for syntactical errors.

Using the function **Overview list**, you can obtain an overview of all the formulas in a key figure scheme.
The status of the individual formulas - no error, warning, or error - is indicated by the colors green, yellow and red respectively. You can also print a key figure scheme from the overview list.

Define Variables for Reports

In this activity, you can define variables for your information system.

Variables allow you more flexibility in defining your forms and reports. Variables are the parameters in a report which you do not specify until you create or execute the report. The user specifies these parameters by filling the appropriate fields.

If you do not wish to define variables globally, you can define them directly as local variables in the form or in the report.

Activities

To define new variables, enter the variable type and a name. The variable type determines whether you can use the variable as a
Variable for a characteristic value

Variable for a node of a hierarchy

Variable for a text

Variable for a formula

Variable for a hierarchy

The system displays the fields you need to fill when you press enter.

The **where-used list** function tells you which are the forms and reports where a global variable is used.

Further notes

For more detailed information on how to work with variables, see the online documentation "Drilldown Reporting", which you can access from the SAP Library.

Define Characteristic Groups for the Information System

In this activity you can create groups of characteristics which you want to use in your information system.

A characteristic group can be any combination of characteristics from one operating concern. You can use a characteristic group when you define a report to reduce the number of characteristics available for selection.

Actions

Create the characteristic groups you want to use in the information system.

Note

These characteristic groups are not the same as those created under "Master data". Those characteristic groups serve a different purpose.

Further notes

For more detailed information on how to work with characteristic groups, see the CO-PA online manual.

Define Characteristics Hierarchy

You can define hierarchical structures for characteristics in Profitability Analysis (CO-PA) and analyze these structures later in the information system. This means you can, for example, structure your products or customers in a hierarchy.
Each characteristic value contained in the hierarchy represents a hierarchy node. Further to the characteristic values contained in the master data, you can add "non-chargeable nodes" to the structure.

Note that different characteristics that use the same master data table are grouped in the same characteristics hierarchy. It is not possible to define external hierarchies for characteristics that do not have a check table or text table.

Note that only the characteristic values for **one** characteristic are grouped hierarchically for each hierarchy. In addition, each characteristic value can occur only once in the hierarchy. Thus each value is unique within the entire hierarchy.

You can define alternative hierarchies for the same characteristic in order to simulate different ways of grouping the characteristic values. These alternative hierarchies are stored as hierarchy variants. You can define up to 999 different variants for each characteristic.

Activities

Creating a characteristic hierarchy

Enter the name of the characteristic for which you want to define the hierarchy. Also, enter a number between 1 and 999 for the hierarchy variant.
If you enter a characteristic that has the same data element and domain as another characteristic, the hierarchy applies for both characteristics, since both have the same characteristic values. A list of the characteristics involved is displayed in the lower part of the screen.

Choose "Hierarchy -> Create".
The next screen contains information about the hierarchy.

Enter a description for the hierarchy and, if desired, select the "Visible system-wide" indicator.
If you select this field, this variant will be active for all applications where you can maintain master data hierarchies. If you do not select it, the variant will only be available in EC-EIS.

Choose "Goto -> Back".

Then add the nodes to the hierarchy.

Position the cursor on a node and press F4 to display the valid characteristic values to which data can be posted. Choose the desired value or any existing node that cannot receive postings.

If you enter data for a nonchargeable node, this data is transferred to a table. To access this table, choose *Goto -> Maintain nonchargeable nodes*.

Once you have added the desired characteristic values, save the hierarchy.
Each characteristic value can only occur once in the hierarchy variant. If a characteristic value already occurs in the hierarchy, it no longer appears in the list of possible entries. To add new nodes, you can use the following functions:

"Edit -> Create entry -> Same level"

This function inserts a blank node at the same level as the selected node.

"Edit -> Create entry -> One level lower" This function inserts a new node at the next level down.

"Edit -> Create sev. entries -> Same level" This function inserts several blank nodes at the same level.

"Edit -> Create sev. entries -> One level lower" This function inserts several blank nodes at the next level down.

"Edit -> Create range -> Same level"

"Edit -> Create range -> One level lower"

These functions let you enter a range, such as "characteristic value X through characteristic value Z".

Changing, displaying, copying, and deleting characteristics hierarchies

The functions for changing, displaying, copying, and deleting master data hierarchies work the same way as the function for creating them.

You can use an existing hierarchy as the basis for creating a new hierarchy variant by copying the existing variant and then changing it.

When you change a hierarchy, you can add new nodes and remove existing nodes, as well as cut and paste existing parts of the hierarchy. When deleting a node, ensure that all dependent entries are deleted as well.

You can search for specific values in the hierarchy by choosing *Edit -> Find -> Characteristic value*. It is also possible to see the relationships between the different nodes by positioning the cursor on a node and then searching for the parent, child, and so on. You can expand and collapse branches of the hierarchy by clicking on the plus and minus signs. This makes it easier to find your way around in the hierarchy.

You can delete any hierarchy variants that you no longer need from the initial screen of this transaction.

Assign Cost Element Hierarchy for Account-Based CO-PA

The purpose of assigning a hierarchy is to be able to display the cost elements in hierarchical form in a Profitability Analysis report. This function is only possible in account-based CO-PA reports.

Assign Display Attributes

In this IMG activity, you can assign additional display attributes to characteristics. These attributes allow you to display additional information from the master data tables in your reports.

Example

In a report that contains the characteristic "Customer" you want to be able to see not only the customer name and key, but also the city. To do this, you need to assign the attribute "City" to the characteristic "Customer".

Standard settings

A few sample attributes are contained in the standard system.

Activities

Enter the field name of the desired characteristic.

Specify where in the attribute list you want the display attribute to appear.

Enter the attribute name and the table of origin of the attribute. The attribute name must correspond to that in the table of origin.

Save the attribute. After this point the attribute is available for your reports.

Further notes

The assignment of display attributes to characteristics is valid in all clients.

Define Headers and Footers for Basic Reports

In this activity you can define headers and footers for your basic reports. You can use these headers and footers in any basic report you create.

You can change the headers and footers you define here when you define your report as well as on the report list ("Print setup -> Drilldown + detail -> Maintain header/footer").

You can also activate or deactivate the header and footer separately for each report. This function is found under "Print setup -> Drilldown + detail -> Header/footer on/off" in the report definition or under "Settings -> Header/footer on/off" from the report list.

Actions

Define your report headers and footers.

Define Forms

In this activity, you define the forms you want to use in your information system for designing reports.

You can create forms for profitability reports or for reports based on line items. The report types - and correspondingly the forms - are defined in the same way; the data that you call up, on the other hand, is not the same. This is why the number of characteristics available for use in the definition varies.

A form represents the content and structure of the report. It can generally be seen as a semi-finished report definition that you can build upon. You specify lines, columns, and the form header by means of

characteristics or value fields that are to appear in several reports. In this way, a form can be used repeatedly for different reports.

Activities

Specify which forms you need and create them.

You can use the function **Extras -> Overview** to display information for the General Selections, columns, lines, and so on, of a form.

Requirements

You need to have already fully defined an operating concern in which to create the form.

If you want to include global variables in the report, you need to define these first.

Further notes

For more information on defining forms, see the documentation for Profitability Analysis or Drilldown Reporting.

Define Forms for Profitability Reports

In this activity, you define the forms that you want to use when designing your profitability reports.

Further notes

For more information, see the section Define Forms.

Define Forms for Reports Based on Line Items

In this activity, you can define special forms for reports based on line items.

Further notes

For more information, see the section Define Forms.

Create Profitability Report

In this activity, you can create your own profitability reports as well as display and change existing ones. The following describes how to go about creating a new report.

There are two types of report you can define here - basic reports and form reports. A basic report displays the characteristics and value fields you specify using a standard layout. This type of report is best suited to searching for trends in data classified by various characteristics. Form reports, on the other hand, allow you to display the characteristics and key figures according to your requirements. This type of report is based on a form that you define yourself.

Activities

Decide which type of report you would like to create.

From the available characteristics, select those that you want to analyze in a report. Use the arrow button to add them to the "selected characteristics" area. If needed, you can maintain additional settings, such as hierarchies, variables or characteristic values. You can reduce the number of characteristics offered on the selection screen using characteristic groups.

Select the key figures you want to analyze. You can choose from the value fields of your operating concern and any key figures defined in a specified key figure scheme.

If needed, you can specify limitation values for the variables defined for the report. Select "Enter at execution" if you want your users to be able to enter or replace these values when they execute the report.

Selection the output type to be used to display the report.

By using the "graphical report-output", you can obtain a report consisting of several information areas: the header and navigation area, the graphics area, and the drilldown and detail list. You can use an HTML template to include individual graphics as the report header. With this output type, functions such as navigation and switching drilldown are performed via the "drag and drop" function. Select the desired output areas and an HTML template.

If you select the output type "classic drilldown", your reports continue to be presented as a drilldown list.

By selecting the "object list", you can use the ABAP List Viewer to display a report.This is of particular use if you want to display several characteristics in the lead column.

If you select the output type "XXL (spreadsheet)", you can display your reports in Microsoft Excel.

Under "Options", you can find settings for the print layout and performance settings for report execution, such as whether the system should display the current data or the data from the last summarization level update (see also the F1 Help on performance).

By setting the "inSight" indicator, you can use inSight to call up the current report.

Note: Not all of the above steps may be possible or necessary in all instances.

Requirements

If you want to use forms, characteristic groups, variables, or key figure groups, you need to define these first.

Further notes

For more information, see the sections **Creating Reports** in the online documentation for CO-PA and in the cross-application documentation for drilldown reporting.

Create Reports Based on Line Items

In this activity, you can create reports based on line items, or change or display existing reports. The following description tells you how to create a new report.

There are two types of report you can define here - basic reports and form reports. A basic report displays the characteristics and value fields you specify using a standard layout. This type of report is best suited to searching for trends in data classified by various characteristics. Form reports, on the other hand, allow

you to display the characteristics and key figures according to your requirements. This type of report is based on a form that you define yourself.

Activities

Decide whether you would like to define a basic report or a form report.

Select from the "available characteristics" those that you want to analyze and use the arrow button to move them to the "selected characteristics" area. You can also maintain further settings, such as hierarchies, variables, or characteristic values. You can reduce the number of characteristics offered on the selection screen using characteristic groups. **Note**: When you define reports based on line items, you can use the following characteristics:

All the characteristics in the segment level, plus those excluded from the segment level characteristics

The creation date of the line item

The name of the person who created the line item

Select the key figures you want to analyze. You can choose from the value fields of your operating concern and any key figures defined in one key figure scheme.

If required, specify restricting values for the variables defined for the report. Select "Enter at execution" if you want your users to be able to enter or replace these variables when they execute the report.

Select the output type that you want to use to display the report:

If you select "graphic report output", the report may consist of several information areas (header and navigation area, graphic area, drilldown, and details list). You can use an HTML template to include individual graphics in the report header. For this output type, you can use the Drag and Drop facility for functions such as navigation and drilldown switch.
Select the desired output type and an HTML template.

If you select the output type "classic drilldown", your reports are are displayed as drilldown lists.

The "object list" enables you to display reports using the ABAP List Viewer. This is a particularly useful output type if you want to display several characteristics in the lead column.

If you select the output type "XXL (spreadsheet)", you can display reports in Microsoft Excel.

6. Among the settings under "Options", you find the print layout settings and the performance settings for executing a report. When specifying the latter, you need to decide whether current data should be read or whether the system should read the data from the last time the summarization level was built up (see also the F1 help on performance). You use the "inSight" indicator to enable the current report to be called up via inSight.

Note: Not all of the above steps may be possible or necessary in all instances, depending on the report and the form concerned. These steps then dealt with during form definition.

Requirements

If you want to use forms, you need to define special forms for reports based on line items.

If you want to use characteristic groups, variables, or key figure schemes, you need to define these first (see report components).

Further notes

You define reports based on line items the same way you define profitability reports. For more information, see the sections **Creating Reports** in the online documentation for CO-PA and in the cross-application documentation for drilldown reporting.

Background Processing

This section tells you how to execute reports and save the data as frozen report data or summarization data at specified times. Here you can also read about how to print reports using variants and variant groups. You can both print reports and update report data in the background at specified points in time.

This section consists of the following steps:

Maintain variants

Define variant groups

Maintain variant groups

Schedule variant groups for background processing

Note: Variants and variant groups replace the variable groups and program RKEBATCH, which were used in previous releases. For details about converting to the new method, see the release note.

Maintain Variants

You execute reports in the background using selection variants.

For a report, the variable entries and the settings for rebuilding summarization data, creating frozen report data and printing can be saved in ABAP variants.

The option to rebuild summarization data is only displayed if summarization data has been activated in the definition of the report.

For printing, the setting in the "Read mode" field determines how current the printed data is.

If you choose "Reselect", data is printed according to the settings made in the "Performance" dialog box in the report definition. If you did not activate the option "Current data" in the report definition, the system prints the most recently summarized data.

If you select "Frozen data", the system prints the frozen report data, if any exists. Otherwise, a message is issued.

Activities

Define the variants you would like to use in your reports.

Once you have made your entries, choose "Goto -> Variants -> Save as variant..." (see also the online documentation "BC Computing Center Management System"). You can then schedule this variant in the background. If you need to schedule more than one report for background processing using variants, you can group these variants together in a so-called "variant group" (see the following Customizing activities).

Define Variant Groups

In the background, reports are processed using selection variants.

Several variants can be grouped together in a variant group.

Using variant groups, you can

schedule several variants for one report
(different combinations of characteristic values for one report)

schedule variants for several reports in one step.

Activities

Define the variant group that you want to use.

Maintain Variant Groups

Different variants of several reports can be grouped together in one variant group.

Activities

Enter the reports and variant which are to be scheduled for this variant group.

Schedule Variant Groups

The entire variant group can now be scheduled for background processing.

Activities

Enter the variant group you want to schedule in the background. You can limit the reports for which the variant group should be executed by specifying report names.

The job is scheduled in the background for the variant group and the specified reports. You can execute this job in regular intervals at specific times. For more information about this, see the online documentation "BC Computing Center Management System".

Assign Reports/Report Selection to Role

In this activity, you can assign individual reports to a role.

Activities

To assign reports to a role, proceed as follows:

Choose the "*Role*" pushbutton.

Create a new role. Alternatively, you can enter one that already exists and then choose "*Change*".

In the "*Menu*" tab page, select the "*Report*" button. Then select the type of report, the appropriate application class and the desired report. You can use the report type to assign reports of different types (such as "Report Writer" reports or drilldown reports).

Further notes

The create and change functions are no longer supported for report trees. In future, reports are to be assigned to roles as an alternative method to the use of user-defined report trees.

If necessary, you can choose to convert previously-used report trees into an area menu. To do this, start the transaction "RTTREE_MIGRATION". (for more information, see the program documentation relating to this subject). You can then assign the area menu generated from the report tree to a role and thereby make it accessible to users.

Currency Translation

In this section you define the currency translation types which you want to use to translate the currencies of value columns in drilldown reporting.

Define Currency Translation Keys

When you execute a drilldown report, you can display value columns in another currency using the function **Settings -> Currency**. In this step, you maintain the currency translation keys to be used for translating value columns. These translation keys are valid for all operating concerns and therefore can be used for all reports in Profitability Analysis.

Activities

Define your currency translation keys by carrying out the following:

Enter a descriptive text

Specify the currency translation key (historic rate, average rate, and so on).

Specify whether the target currency should be fixed or variable. Your choice will influence the next screen in the following way:

If the target currency is to be **fixed**, the next screen will present you with the possibility of entering a fixed target currency. However, it is recommended to leave this field empty in most cases. In drilldown reporting, you usually wish to use the same currency translation key to calculate currency-independent values. This means that only currency translation keys without a specified target currency are appropriate.

If you opt for **variable** at this stage, the next screen will allow you to set up a link to a characteristic by entering a table name and a field name. If, for example, you would like the target currency to be selected depending on the country, specify the table with the country data (T005) and the field for the country key (LAND1). To do so, the country key must be defined as a characteristic in the operating concern.

Specify whether the currency translation key should use a fixed or a variable translation date.

The query appearing on a further screen will depend on your selection at this stage.

A **fixed** translation date is either a prespecified date or the day on which you execute the program. The date fixed here, together with the exchange rate type, determines the rate used later for the currency translation.

For **variable** translation dates, the date selected in the information system (period or fiscal year) determines the rate for each data record. Here you need to specify the time reference (beginning of period or end of year, for example). This enables you to translate each record with the rate that was valid at the beginning of the corresponding period.

Note that, with variable translation, all columns linked arithmetically to the column to be translated are automatically translated as well.

Note: You cannot create a date field as a characteristic in Profitability Analysis. Consequently, the option "Time base to the day" is not available here.

Specify whether the rate is an inverse exchange rate.

A translation key with an inverse rate is useful when the amounts have already been converted and need to be returned to the original values.

Save your currency translation keys.

Example of a currency translation key with inverse exchange rate

You have maintained the following rates:

DEM USD

USD DEM 03

When translating from USD to DEM with an inverse rate, the system uses the rate 1/ = 025 instead of 03.

Further notes

The column "Specific translation key" is not used in Profitability Analysis.

The translation keys do not affect currency translation during actual data transfers.

Reorganization and Conversions

These functions let you

Reorganize objects in your information system, such as

Report data

Reports

Forms

Line item layouts

Variant groups

Convert your reports for compatibility with the current release.

Reorganize Report Data

In this activity you can select frozen report data to obtain an overview list and then delete sets of data individually from that list.

Before the deletion is actually carried out, a selection screen appears in which you must select the objects to be deleted.

Currently you can specify the fiscal year, period and period/year to select the report data. This combination lets you delete individual data records for reports which are run on a periodic basis. This helps prevent an overflow in the memory table.

Example

Before you go productive with Profitability Analysis, you can delete the data for the test reports in your operating concern.

You can also delete the report data by report name, author and date created.

Action

Reorganize your report data.

Reorganize Reports

Here you can select a list of reports according to a number of parameters and then delete individual reports from this list.

Before actually deleting the reports, the system displays a dialog box in which you must confirm your selection.

Example

You can delete all the test reports created by a certain user before you go productive with CO-PA.

Actions

Reorganize your reports.

Reorganize Forms

Here you can select a list of forms based on certain parameters and then delete individual forms from that list. Before actually deleting, the system displays a dialog box in which you must confirm your selection.

Example

You can delete all the forms with one axis and key figures which were created on a specific date.

Note

You can only reorganize those forms which are not being used in any report. The system automatically checks this before deleting any forms, and at the same time calls up and checks the individual reports.

Actions

Reorganize your forms.

Reorganize Forms for Reports Based on Line Items

In this activity, you can specify a number of forms for reports based on line items and then delete these.

Before deleting the forms, the system displays a second selection screen where you have to repeat your entries.

Reorganize Line Item Layouts

Here you can select a list of line item layouts according to certain parameters and then delete layouts individually from this list. Before actually deleting the layouts, the system displays a dialog box in which you must confirm your selection.

Example

You can delete all the line item layouts in your operating concern before going productive with CO-PA.

Actions

Reorganize your line item layouts.

Reorganize Variant Groups

In this activity, you can select variant groups from which any variants that no longer exist should be deleted automatically.

Before actually deleting the variants, the system displays a second selection screen in which you have to select the objects to be deleted.

Convert Reports

This function converts the reports which you created in an earlier release.

This is usually necessary when you move up to the new release, or possibly also when you import a new update level. The system will display a message in the information system if you need to convert your reports.

The system deletes all saved report data when converting the reports. This includes both the frozen data and the summarization data.

Note

If you do not carry out this function now, the system will automatically convert each report the first time you try to change or execute them.

Actions

Convert your reports.

Generation: Virtual InfoProvider

Use

In this activity, you can generate Virtual InfoProviders on the basis of an operating concern.

Using a Virtual InfoProvider enables you to perform queries in your ERP system for CO-PA data by deploying the embedded BW functions already available (as opposed to needing to have previously extracted them into a BI system). Consequently, you can use for your CO-PA data analysis not only the classic CO-PA drilldown but also all SAP Business Objects BI clients, BEx tools, and other BI clients that are certified on the MDX interface for BW.

Tools

This section contains a variety of tools.

Summarization Levels

In this activity, you define summarization levels that allow you to considerably improve system performance when calling up data stored in Profitability Analysis.

You can have the system suggest coherent summarization levels and then use these directly, or you can define your own levels manually in the activity *Defining Summarization Levels*.

Have Proposal Created Automatically

This function helps you to create useful summarization levels. It logs and analyzes the callup of CO-PA transaction data, such as report calls. The system then uses this information to suggest summarization levels that optimize all callups.

To activate/deactivate the logging function for an operating concern in one of the types of Profitability Analysis (costing-based or account-based), you can use the *Log setting* pushbutton.

There are two kinds of proposal:

An "enhancement" proposal that considers existing levels

A "replacement" proposal that does not consider existing levels

Output

The system displays an overview of the suggested summarization levels and the characteristics they contain. The levels are built upon one another and are arranged so that the first level is the one that produces the best optimization for callups. If you do not wish to use all the suggested levels, you should delete the last in the list but never the first. The proposal ceases to make sense if the first level is deleted.

You can create the levels directly from the overview.

Requirements

To guarantee that appropriate summarization levels are put forward for the way in which they are to be used productively, the user behavior to serve as the typical sample should be genuine. In other words, you need to perform this function in a productiv operating concern where genuine reports have already been carried out. The log data in the test system is generally not representative of user behavior in the productive system.

Activities

Specify which type of proposal is to be created and what period should be considered in order to analyze user behavior (that is, the way transaction data is called up). You should specify a period in which all relevant reports have been executed.

Carry out the function in the background. Then display the result afterwards using the pushbutton *Display last proposal*.

From the proposal display, you can create the suggested summarization levels directly by using *Create levels*.

Before these summarization can be accessed (such as when reports are called up), you need to fill the levels with data. You do this in the CO-PA menu by choosing *Tools -> Summarization levels -> Update* and then by selecting the option *Build new levels*.

When you have created the summarization levels suggested by a replacement proposal, you should then delete the old summarization levels. You do this in Customizing by choosing Define Summarization Levels.

Further notes

If the enhancement proposal does not suggest any new levels, and it still takes too long to execute a report, you should change your reports.

Define Summarization Levels

Maintain summarization levels

In this activity you define summarization levels.

For a general overview on summarization levels, see the corresponding chapter in the CO-PA online manual. The following text describes how you maintain summarization levels. To learn how to define them for a specific use, see the examples.

Navigation functions

When you call up the transaction for maintaining summarization levels, the system displays a view containing all the existing levels. You can navigate in the following manners:

In the navigation area at the top of the screen, you can call up:

the characteristics (here you define which characteristics should be summarized and which not)

and the indexes (to fine-tune the way the system accesses the summarization levels)

The function "Detail" (magnifying glass icon or double-click) displays statistical information.

Under the menu "Extras" you can access an overview list of fields in all of the (selected) summarization levels.

Recommendation

Use fixed values sparingly for the characteristics. If, for example, you define a summarization level which contains the data for one company code only, you can only use it when you are working in that company code.

At first you do not need to define any indexes. Indexes let you fine-tune how the system accesses the summarization levels. If you do not define any indexes here, the system will create a default when you save. This default should be sufficient in most cases. You should not need to change this until your summarization levels contain a large amount of data in the key table.

Initial screen

The system displays a list of all the existing summarization levels, their descriptive texts, and their current status. The status of a level tells you whether the level can be used in your application. Only those summarization levels can be used which have the status "active".

Technically you can create up to 5000 summarization levels. However, you should try to get by with as few levels as possible, since increasing the number of levels increases the amount of memory space required and the amount of time needed to build them. You can create additional levels later as required. You can also delete the ones you no longer need.

The function "Save" is only available on the initial screen. When you save, the system creates tables in the ABAP/4 Dictionary and in the database for each summarization level. If you have deleted levels, the system deletes the corresponding tables. If you change the fields or the indexes in the summarization level, the system deletes the tables and then recreates them.

Once you have saved the summarization levels, you need to run the program for building the levels, that is, supplying them with data. Until you have done so, you cannot use the summarization levels in your applications.

Characteristics

In the characteristic list for the summarization level, choose which characteristics you want to summarize and which not. If you change the characteristics, the system deletes all the data in the level. For more information, see characteristic value in the summarization level catalog.

Indexes

Indexes let you optimize the way the system accesses the summarization levels.

At first you do not need to define any indexes. When you save the levels, the system creates a **default**, which should be sufficient in most cases. It only makes sense to create indexes when the data in the key table reaches a volume of several thousand records (see detail screen).

Maintain the characteristics before you define indexes.

Detail screen

By double-clicking on a level or clicking on the "Detail" pushbutton, you obtain the detail screen for the summarization level. The detail screen contains various statistical information, including how often the level has been accessed or how many records it contains. This data tells you how often the level is used and how high the degree of summarization is.

Menu "Extras"

The menu "Extras" contains the following additional functions:

Overview list

This function gives you an overview of the existing levels. This list makes it possible to compare the levels side by side, which helps you decide whether or not you can delete certain levels or whether you need to create new ones.

Test mode

Here you can deactivate all the summarization levels for test purposes, in order to compare the data in the levels with the data in the segment level. Run a function once with the test mode and once without. In both cases, the same data must appear. The summarization levels retain the status "active" even when you are in the test mode, and can still be updated. However, they are not used in applications. Be sure to turn the levels on again after you have finished testing.

Create proposal

Here you can have the system automatically propose summarization levels for one or more reports. First enter a number for the summarization level. If you want to create more than one proposal, the system assigns numbers sequentially starting with the number you entered. Existing numbers are not overwritten.

Next, select the desired reports and save the summarization levels.

Finally, choose "Tools -> Summarization levels" from the application menu and build the new levels.

Note: With the function "Create proposal", it is theoretically possible to create a summarization level that already exists. You therefore should check the overview list first to see if the level already exists. If so, do not save the level.

Tips on optimizing the summarization levels

The detail screen for a summarization level gives you some informational statistics that can help you decide whether your levels are being put to good use or whether they can be deleted.

The overview list lets you compare the definition of characteristics in your levels.

Level is contained in another level.

By comparing how often the levels are used, you can decide whether you need both levels. If the number of records in the levels does not differ greatly, you can delete the one which is summarized to a higher degree to save memory space.

Level is not used.

If a level is not used or hardly used, you can delete it.

Level not in status "active".

If the status is "To be created", save the level. If it has the status "active, without data", build the level. If the level has the status "decimal overflow", the level can no longer be used. It may be that the overflow no longer occurs when you rebuild it, otherwise delete the level.

Long read times.

The detail screen shows the aggregated time needed to read the level and how often it was read. If the average is much longer than with other levels, this may indicate that there are no indexes. Another reason could be that a report uses a level which is more detailed than is actually necessary. In this case you should consider whether you can create a special level to improve performance for that report.

Notes on transporting

You can transport the settings you make to your productive system using the CO-PA transport tool.

The system only transports the description of the summarization levels. Once you have transported the levels, you need to call up the maintenance transaction for summarization levels once and press "Save" to create the corresponding tables.

As an alternative to this, you can execute program **RKETREGN**. On the initial screen, enter the following (replacing "xxxx" with the name of your operating concern):

Application class **KE**
Subclass **01**
Table name **CE1xxxx** (for costing-based CO-PA)
CE0xxxx (for account-based CO-PA)

Additional information

Building the summarization levels

Examples for defining summarization levels

SAP HANA Integration

Set Up SAP HANA Integration

Use

In this IMG activity, you make the settings for the integration of *Profitability Analysis* (CO-PA) with SAP HANA. You can activate the integration (CO-PA Accelerator) for individual operating concerns.

Requirements

You have entered a connection to the SAP HANA database. Use the transaction *Display Description of Database Connections* (transaction DBCO) to enter a new database connection.

Activities

Choose *Acceleration Activated* if you want the CO-PA integration to be activated for the specified operating concern.

Basic Settings

On the *Basic Settings* tab page, specify the following parameters for the CO-PA integration: - Under *DB Connection Name*, specify a connection to the SAP HANA database.

Choose *Include Realignments* if you want to include the realignment process in the data transfer to the SAP HANA database.

For system behavior when no SAP HANA system is used, choose one of the following options for *dialog processing* or *background processing*:

Ignore; The system reads data from SAP ERP, and no system message is issued.

Issue Warning (only with dialog processing); some users can control in a query whether the system terminates the program or whether the data is read from SAP ERP.

Issue Error Message; Processing is terminated and an error message is issued - Specify the *type of replication* as follows:

Choose *Using CO-PA Program* if you want to use the program in the system to transfer data to the SAP HANA database. Specify a safety buffer in seconds. The default setting is 1,800 seconds.

Choose *Alternative* if you want to use an alternative method for transferring data and specify a safety buffer in seconds for each dataset to be read.

Choose *Read Line Items from SAP ERP* if you additionally want to read data from SAP ERP that has not yet been transferred to the SAP HANA database. If you do **not** choose this option, the system processes only the data since the last replication.

Read Access

On the *Read Access* tab page, you can adapt according to your needs the following default settings for reading data from the SAP HANA database:

Under *Control HANA Read Access*, restrict the authorization of users or applications to read data from the SAP HANA database.

In the *Expert Settings* area, you can change the default setting under *Access Type* if required as follows:

Remove the selection *Column Views* if you want to read data directly from the CO-PA tables that have been transferred to the database. In this way, you can also access the data when using an alternative replication type that does not provide any SAP HANA views for selecting and reading data.

Choose *Native SQL* or *Open SQL* if you want to read data directly from the CO-PA tables that have been transferred to the database.

You can reduce the default *package size for read access* of 0,000 if there are any problems saving data when reading line items.

Status

On the *Status* tab page, you can check the status of the processes important to Accelerated CO-PA. CO-PA is not accelerated for an operating concern until all processes have acquired a green traffic light.

If there are *structural changes*, you can generate the SAP HANA views again. For this, choose *Generate Views*.

The *Status* tab page also provides information on archiving, on the status of the realignment, and on the times of the most recent data transfers to SAP HANA database.

Example

You want to integrate with SAP HANA the analysis of operating concern **S001** and have entered the database connection *HDB.* To activate the acceleration, select the following options or specify the following:

Acceleration Activated

HDB for the *DB Connection*

Include Realignments

Ignore errors in *dialog processing* or *background processing*

Using CO-PA Program for the *type of replication*, with a *safety buffer* of 1,800 seconds

Read Also Line Items from SAP ERP

Analysis

In the step **"Check Customizing Settings"**, you can use the Customizing monitor to display the following for an operating concern:

Value field analysis

Valuation analysis

Derivation overview

The where-used list for characteristics and value fields

An overview of the organizational structures

In the step **"Simulate Billing Document Transfer"**, you can simulate the transfer of billing documents to CO-PA.

In the step **"Check Flow of Values in Billing Document Transfer**, you can compare billing document data that has been updated to CO-PA with the corresponding values posted in FI. This allows you to see how values have been moved to CO-PA during billing document transfer, to display the differences between the two applications, and to analyze these differences.

Check Customizing Settings

In this activity, you can display the customizing settings for an operating concern. A number of functions let you analyze the various areas of Customizing:

You can obtain an overview of the **organizational structures** for an operating concern.

The functions **Value field analysis**, **Overview of valuation**, and **Overview of derivation** provide you with several options for detailed analysis.

You can draw up a **where-used list** for the characteristics and value fields in an operating concern.

Overview of Organizational Structures

In the overview of the organizational structures for the operating concern, all assigned organizational units are listed and detailed information is displayed from the relevant master data.

Analysis Options

Value Field Analysis

The value field analysis function lets you analyze all the flows of actual data to Profitability Analysis. You can find inconsistencies by looking at individual value fields. The report shows you what value flows the value field is involved in and what condition types or cost elements it gets its values from. In all, you can analyze the following actual value flows:

Transfer of billing documents and incoming sales orders

By analyzing the interface with SD, you can answer the following questions:

Which SD condition types are mapped to which value fields?

In which pricing procedures are those condition types used?

Should a condition type be transferred with its +/- sign?

Is the condition type "statistical"?

Is the condition type used for reserves?

Which FI accounts are found by the account keys in the pricing procedure?

Are these FI accounts defined as cost elements of the category "11" (sales revenues) or "12" (sales deductions) in CO?

Possible causes of errors that are referred to:

For each G/L account found for the condition types, the system checks whether the corresponding CO cost element was defined for the category "11" or "12". If the cost element does not exist or was defined for a category other than "11" or "12", the "Type" field is displayed in red because that condition type cannot be transferred to CO-PA as it is currently defined.

This analysis is only carried out for those condition types which are **not** defined as "statistical" in the pricing procedure. Statistical condition types are normally transferred to CO-PA once they are assigned to a value field. The only exception to this are condition types which are used for

reserves. These lead to postings in FI, even if they are marked as statistical in the pricing procedure. Consequently, the system checks the cost element for these condition types, provided that a cost element was defined for the corresponding reserves account in FI. Reserves are normally regarded as irrelevant for CO and consequently are not defined as cost elements in CO. In that case, the value field analysis ignores the account key of the reserves account.

If the current Customizing setting calls for a condition type to be transferred with its +/- sign, the system displays a warning, because this setting should only be made in rare instances (such as for bonus conditions).

Customizing:

It is not possible to simulate the complete logic for determining revenue accounts. The accounts shown in the overview are found using the account keys defined in the pricing procedures. These account keys are used as selection criteria to read the account determination tables. The system selects all the records in those tables that contain the account key. For the system to be able to find the relevant accounts, you first need to define the account determination tables that should be analyzed before running the analysis. To do so, choose *"Settings -> Value field analysis -> Account determination tables"*. You can only use tables that have the field "KVSL" (account key) in their key.

Direct postings from FI and MM

This option analyzes the customizing settings made in PA transfer structure FI and answers the following questions:

Which cost elements or cost element groups are mapped to each value field?

Are the fixed and variable costs split?

Have CO cost elements been defined in PA transfer structure for the accounts found using automatic account determination?

Possible cause of errors that is referred to:

If both fixed and variable costs are transferred to the same value field in one assignment line, this is marked as a possible error. For the accounts found using automatic account determination, the system checks whether the corresponding CO cost element is contained in PA transfer structure FI.

Order and project settlement

This option analyzes all the PA transfer structures except structures FI and CO, which are treated separately.

The data for order and project settlement is shown just like that for FI and MM direct postings, except that there is no information regarding automatic account determination.

Possible cause of errors:

If the "Transfer billed/delivered quantity" flag has been selected, there must be a quantity field defined for this assignment line, otherwise no quantity is transferred to CO-PA during settlement.

Direct and indirect activity allocation

This option gives you information about PA transfer structure CO and displays the information like that for order and project settlement.

Cost center assessment and process assessment

The option Cost center assessment and process assessment answers the following questions:

Which cycles and segments populate which value field?

Which value fields do fixed and variable costs flow into?

Is a value field assigned explicitly in the segment, or is a PA transfer structure used instead?

Note:
This overview only shows those assignments that are used for assessment. Assignments with a source "Variance category" or "accounting indicator" are not displayed.

External data transfer

The option External data transfer answers the following questions:

What data interfaces ("sender structures") contain a given value field?

To which external field is the CO-PA value field assigned?

As well as providing an overview of what value flows each value field is involved in, the function **"Value field view"** also offers you the option of creating a where-used list for the assigned value fields.

Overview of Valuation

The overview of valuation shows you all the customizing settings for CO-PA valuation. You can use this function for the following record types:

Billing documents (F)

Incoming sales orders (A)

Direct postings from FI and MM (B)

Order and project settlement (C)

User-defined record types

The analysis is possible for different actual and plan points of valuation.

Overview of Derivation

This option displays the following information:

Characteristic Derivation

Derivation of Planning Functions: Events

Derivation of Planning Functions: Revaluation Keys
Derivation of Planning Functions: Distribution Keys

Derivation of Planning Functions: Forecast Profiles

Account Determination for Transferring Plan data to Profit Center Accounting - Template determination for Template Allocation.

Where-used list

This option provides you with an overview of the occurrences of a characteristic or a value field in CO-PA Customizing. It is possible to call up the overview for the current client or for all clients in the system. By double-clicking in the overview, you can access the corresponding maintenance transaction directly, where you can then delete a characteristic or value field, for example.

Valuation Simulation

In the activity *Simulation of Valuation*, you can test your Customizing settings for CO-PA valuation.

With the *Analyze valuation* function, you can run a detailed analysis of the valuation strategy valid for the point of valuation you entered.

This option should make it easier for you to analyze situations where errors have occurred.

Performing the simulation causes **no data of any kind** to be **posted** in Profitability Analysis.

Simulate Billing Document Transfer

In the activity **"Simulating the Transfer of Documents from Billing"**, you have the option of **simulating** the transfer of **billing document data** into Profitability Analysis.

Simulation occurs on the basis of the Customizing settings valid at the time it is carried out. You can view the **characteristics** and **value fields** of the line item to be written to COPA.

The function **"Valuation analysis"** allows you to perform an analysis of the valuation strategy valid for valuating billing document data.

You can also restart the simulation of document transfers for billing documents that have already been transferred. This option should simplify in particular the **analysis of error situations** that have arisen.

Performing this simulation causes **no data** to be posted to COPA or to other modules.

Example
Requirements

Standard settings

Recommendation

Activities

Further notes

Simulation of Document Transfer from Incoming Sales Orders

In this activity, you can simulate the transfer of incoming sales to Profitability Analysis.

Simulation occurs on the basis of the valid Customizing settings at the time you run the simulation. You can display the characteristics and value fields of the line item to be posted to Profitability Analysis.

The "Valuation Analysis" function allows you to run an analysis of the valuation strategy valid for valuating sales order data.

It is possible to rerun the simulation of document transfer for sales orders that have already been transferred. This option should simplify analyzing any error situations that have occurred.

Carrying out a simulation causes no data of whatever kind to be posted in Profitability Analysis or in any of the other modules.

Check Value Flow in Billing Document Transfer

In this activity, you can compare your actual data in Profitability Analysis with the data posted in Financial Accounting (FI). This makes it possible to analyze the flow of values from SD billing documents to CO-PA, find and analyze any differences between the different applications.

Billing data is stored by condition types in SD, accounts in FI, and value fields in costing-based CO-PA. The reconciliation report yields a list of the balances for value fields, condition types, and profit and loss accounts.

Selection

You can use a number of selection parameters. Only the company code and the currency type are mandatory. However, the more criteria you specify, the quicker the system response time will be. To estimate the runtime, it is recommended that you run a number of small runs.

Error handling

By specifying an "Error tolerance", you can determine the threshold value for difference between the CO-PA value and the SD value. Differences that exceed that threshold are displayed with a red background. By selecting a difference, you can display the billing documents that led to the difference. From there you can analyze the individual billing documents in detail.

By specifying a "Number of billing documents with errors", you can limit the number of billing documents that should be selected for each error. Making an entry here can significantly reduce the response time.

Activities

You can carry out this function online or in the background. If you choose background processing, the system automatically saves the selected data. You can then analyze that data online later by choosing "Display saved data". If you choose online processing, you can manually save the data once it is displayed, and can also call up this data again later.

Only one set of saved data can be stored per user.

Check Value Flow from Order/Project Settlement

In this section, you can compare the actual data (resulting from the settlement of sales order items and WBS elements) in Profitability Analysis (CO-PA) and in Financial Accounting (FI) with the source values in the orders or projects. In this way, you can trace the flow of values settled to CO-PA and FI, and analyze the differences between the applications.

Selection

You can choose from several selection parameters. Note that *fiscal year*, *operating concern* and *currency type* are obligatory selection parameters, whereby "company code currency" and "controlling area currency" are the two currency types available.

You should only choose the controlling area currency if:

The setting for updating values in the company code currency has not been activated for your operating concern or

Not all of the company codes involved support the same currency as that used in the operating concern

You can select data by sales order, project or both. All the values stored in the objects you choose are summated since no distinction is made between sales orders and projects.

Even if you only need to make a few required entries, we recommend that you limit the selection as much as possible to speed up response times. To gauge how long response times are likely to be, you should execute several sample selection runs that you have restricted considerably.

Activities

You can run this function online as well as in the background.

If you choose to run it in the background, the system automatically saves the selected data, and this data can then be called up online with the function "Display frozen data".

If you choose the run it online, you can save the data manually and then call it up again.

Check Value Flow from FI

Use

In this activity, you can compare at the account level the actual data in Profitability Analysis (CO-PA) against the corresponding values posted in Financial Accounting (FI). This enables you to display and analyze any discrepancies between FI and CO-PA.

You use this function to produce a list of the values posted in Accounting (FI values), of the values in the original documents, and of the values posted in CO-PA (CO-PA values). In the case of the values of the

original documents, the system distinguishes between the document value and the relevant amount resulting from it in CO-PA.

Furthermore, the system displays, on the one hand, the difference between the FI value and the document value (FI Doc Delta) and, on the other hand, the difference between the CO-PA-relevant amount of the document value and the CO-PA value (PA Doc Delta). If a difference is found, you can drilldown to the documents involved.

In the list output, a distinction is made between the following business transactions:

FI Documents

In the case of FI documents that originate in FI or MM, the value posted in FI is compared against the value determined using the PA transfer structure FI. The CO-PA-relevant value resulting from the FI value is determined using the same sign handling as that applied for transferring FI and MM direct assignments in CO-PA.

Settlement Documents

In the case of FI documents that have been posted to a CO object (such as an internal order, a sales order item, or a WBS element) and possibly settled to CO-PA, the settlement-relevant values on the CO object are compared against the values already settled in CO-PA. The "Document Value" column displays the amount posted with the FI document to the CO object. The "Of Which PA-Relevant" column displays the value that would have been settled in CO-PA using the current Customizing settings. If the CO object has a results analysis key, the posted values are not applied to calculate the CO-PA-relevant values; instead, the amounts already settled are applied.

Billing Documents

In the case of FI documents that originated when billing documents were transferred, the conditions determined in SD are compared against the value fields stored in Customizing for CO-PA. The "Document Value" column displays the condition value of the billing documents whereas the "Of Which PA-Relevant" column displays the value that would be posted in CO-PA if the billing documents were transferred again. The current Customizing settings are applied to calculate the CO-PA-relevant value.

Other Documents

In the case of FI documents for which it is not possible to determine (or to determine uniquely) the CO account assignment, only the FI value is displayed.

Displaying Differences

Differences between the FI value and the document value or between the CO-PA-relevant amount of the document value and the CO-PA value are highlighted once the differences exceed the threshold specified on the selection screen. If the account assignment object can be assigned uniquely to the corresponding FI document, the differences are highlighted in red. If the account assignment cannot be determined uniquely due to summarizations, the differences are displayed in grey. (Example: For a billing document posting, postings from multiple accounts are made to a CO-PA value field.)

Selection

You can use various selection parameters. The following selection parameters are required entry fields: company code, fiscal year, period, and G/L account.
Further restrictions can be made using transaction types, sales orders, billing documents, CO objects, or FI documents.

Summarization

You can use the following options to define the granularity of the results of the analysis:

"CO-PA Business Transaction Only": The values determined per FI document are summarized by business transaction; the values are not displayed at the document level.

"Only Documents with Delta to CO-PA": The system summarizes the values of the documents for which no delta to CO-PA has been determined. Documents with a delta to CO-PA are displayed individually.

"Only Documents with Delta": The system summarizes the values of the documents for which no delta has been determined. Documents with a delta are displayed individually.

"No Summarization": All documents are displayed individually.

Activities

This function can be executed online or in the background. When it is executed in the background, the system automatically saves the selected data, and you can call up the data online with the function "Display Saved Data". When you execute this function online, you can save the data manually and call it up again subsequently.

Production Startup

In this section you will find functions that you may need to execute before you start using Profitability Analysis productively.

Delete Transaction Data

In this step, you delete the test data posted to your operating concern before it is set up productively. For more detailed information, you should read the program documentation on deleting test data.

Transport

In this activity, you can create a transport request which lets you transport objects to a target system.

Once you have made your CO-PA settings, you can collect the objects which are linked to these settings (table entries, data elements, domains, tables, and so on) in a transport request.

With this function, the system collects all the dependent objects in the source system and places them in a transport request. After importing the objects to the target system, it automatically activates the necessary objects in the ABAP Dictionary (the data structures of the operating concern).

Requirements

The source and target systems must be of the same release and update level.

Activities

Choose a transport object class.

Enter a transport request.

Select the objects you want to transport.

Select the dependent object classes.

Transport the transport request using the tools provided for this.

Recommendation

With this function you create a transport request based on the current settings. Consequently, no new CO-PA objects should be added and no settings changed while the transaction is running. Furthermore, you can create a transport request (what you want to transfer) and carry out the actual transfer at different points in time. If you change any settings between the time when you create the transport request and when you carry out the transport, the system recognizes some of the changes but does not add any new objects to the transport request. This can lead to inconsistencies in the target system following the transport.
SAP therefore recommends that you make no further settings in CO-PA between the time when you create the request and when you export the settings.

When you create the transport request, the system is not able to check which of the objects to be transported already exist in the target system. If objects already exist there, the system may import these objects and overwrite the ones which were created in that system. To avoid this, you should set up one source system first, and then transfer the settings to your other system(s). Do not create any new CO-PA objects (operating concern, characteristic, value field, and so on) in the target system.

General notes on transports into CO-PA covering the following topics:

Automatic transport versus manual transport

Transporting client-specific and cross-client settings

Transporting translated settings (settings in different languages)

Postprocessing following import

Additional information

Notes on the individual transport objects

Automatic transport versus manual transport

As in other applications, many CO-PA customizing settings are automatically collected in a transport request. However, this does not apply to all settings.

For information on the transport type, see the following IMG activity: Additional Information -> Technical data -> Transport type. Settings for **manual transport** can usually be transported using the transport options with the individual transactions or by using this transport transaction. Which one you choose will depend on the purpose of the transport as well as the number of objects to be transported.

Differences

In contrast to the standard transport functionality, the current transport function allows you to transport larger amounts of objects. This usually means that more may be transported than is necessary. If the source and target systems are identical, this poses no problem. If you only want to transport individual table entries or settings, you should use the transport function available from the relevant customizing transaction or create a transport request manually.

Moreover, collecting objects (reports, forms, and so on) later with this function means that objects that have been deleted in the meantime will not be found.

Recommendation

Overall transport

The first time you transport an operating concern, you can do so most easily using the function "Transport objects".

If a transport request is generated in the process, you can also release this following the overall transport.

"Delta" transport (changes)

If you later add customizing settings that are automatically recorded in a transport request, you can transport them using that transport request. All other settings must be transported manually.

Client-specific and cross-client settings

In CO-PA, Customizing consists of cross-client settings (such as tables and data elements) and client-specific settings (such as Customizing value flows). Two request categories are usually used in the SAP System:

Customizing requests

Workbench requests

The Customizing settings in CO-PA are split by default into these two request categories, depending on whether they are cross-client or client-specific settings. You can deactivate this splitting function in the transport settings (found under *Goto -> Settings*). Read the documentation on the Split Objects into Workbench and Customizing Requests indicator.

Transporting translated settings (settings in different languages)

If objects exist in different languages, these languages can also be taken into account during the transport. For this, you need to set the corresponding indicator in the settings. All languages are transported by default.

If only some of the languages should be transported, you can add just those particular languages to an existing transport request by choosing "Edit -> Add languages". You cannot do this with Data Dictionary objects because the language transport for those objects uses the system settings.

Postprocessing Following Import

No postprocessing

No postprocessing is necessary when you transport settings that have nothing directly to do with the structures of the operating concern. These include reports, forms, key figure schemes, layouts, and so on. However, these objects require you to have a compatible operating concern in the target system.

Automatic postprocessing

In Release 4A, the system automatically carries out some postprocessing actions ("after-import methods") directly when you import certain Customizing settings. This means you no longer need to carry out these steps manually in the target system. You can find information about what methods were carried out - and any error messages issued - in the import log.

When certain settings are transported, it is necessary to regenerate the client-specific environment of the operating concern. Generation occurs the first time the transaction is called up (after not after the import phase).

Manual postprocessing

Summarization levels are not automatically activated after the import. You need to activate them manually and then populate them with data.

Number ranges are generally not transported. Consequently, you need to define them in the target system following the first transport. However, it is possible to transport the number range groups that are assigned to the CO-PA record types (using "Structures: Number Range Groups"). It is recommended that you only transport these groups if the source and target systems have the same record types and number ranges. Otherwise you should define them manually in the target system.

Further notes

For technical reasons, the system cannot transport any reports whose names contain special characters. To get around this problem, you need to create a new report without special characters, and copy the old report.

To ensure that your entire system is consistent, the system transports all the tables and table entries which CO-PA references. The system transports only those ABAP Development Workbench objects which are generated by CO-PA, and the table entries which are managed by CO-PA and those changed by the user. Those settings which you can make in CO-PA, but which also affect other applications outside of CO-PA, are not transported. This ensures consistency in the target system.

If characteristics or value fields have been deleted from an operating concern that is to be transported to a system that already contains the old version of the operating concern, proceed as follows:

Transport all Customizing requests containing objects for that operating concern.

In a separate transport request, transport all reports, forms, key figure schemes, and planning layouts from which the deleted fields have been removed. If you have deleted steps or rules from the derivation strategy or from other strategies (such as planning), transport the entire strategy by choosing Extras -> Transport. In general, the following applies: If the maintenance transaction does not have an automatic link to transport, check whether a manual transport option is available. If such an option is not available, use the Customizing transaction *Transport Objects* to perform the transport.

In the target system, choose *Tools -> Analysis -> Check Customizing Settings* to access the where-used list, and use this function to determine whether the deleted characteristics und value fields are still in use anywhere. It may be necessary to use the corresponding maintenance transaction (which you access by double-clicking the object from within the where-used list) to remove the deleted fields from the objects.

You may only import the changed data structures for the operating concern when the deleted fields are no longer referenced in the target system.

Below is a list of the objects which are **not** transported:

Master data tables for characteristics that were not created manually in the operating concern (this applies to characteristics copied from reference tables)

Fiscal year variants

Condition records

Transaction data

Notes on the individual transport objects

For more detailed information on the following transport objects

Report

Key figure scheme - Operating concern,

see the section Details on the individual transport objects (including information such as a list of the subobjects that can be included in the transport).

Import

This function lets you import CO-PA objects from any source client to another productive or test client.

This function is used primarily to import the SAP standard reports delivered in client 000 to your other clients.

Restriction

- Comments for reports you have created:
  If comments have been created for reports, you cannot use the import function to copy such comments. To overcome this, include the report in a transport request and import it into the target client. To do this, use the function Transports within a System.

Subsequent Posting of Documents

Prepare Subsequent Posting of Sales Orders

In this activity, you can prepare to post existing sales orders subsequently to Profitability Analysis (CO-PA).

This function is especially useful if you implement CO-PA after you have already posted data productively in Sales and Distribution (SD). This lets you post data from the current or past periods.

Before you can post sales orders subsequently, the system needs to determine profitability segments to which the order items should be assigned, if this assignment does not already exist. In this step, you make that assignment so that you can then post the sales orders.

On the selection screen, enter the criteria for the sales orders you want to post subsequently. The system selects those sales orders that meet the selection criteria and have not yet been assigned to a profitability segment.

If errors occur, the system stores the corresponding messages in the log. After correcting the errors, you can start this function again to assign the sales orders that contained the errors.
You can execute this program in the test mode so that no changes are made to the database. This makes it possible to check for any possible errors and correct these in advance.

Post Sales Orders Subsequently

In this activity you can post sales orders that have already been defined in the system to Profitability Analysis (CO-PA).

This function is especially useful if you activate CO-PA after you have already posted data productively in Sales and Distribution (SD) and want to transfer this data for the current period or past periods.

Before you can use this function to post sales orders to CO-PA, you must determine a profitability segment to which the data for these orders should be posted. If you have sales orders that have not already been assigned a profitability segment, you need to prepare this step using the function "Prepare subsequent transfer of sales orders". Documents without profitability segments are not processed by this function.

On the selection screen, you can specify the sales orders you would like to transfer. The system only selects those sales orders that have been assigned to a profitability segment.

If errors occur during the transfer, the system saves the relevant error messages in the log. Once you have corrected the errors, you can execute this function again to post the rest of the sales orders.

You can execute this function in the test mode in order to correct any sales orders that contain errors. In this case, no changes are made to the database.

The default system does not protect any sales documents being transferred from any changes being made during the transfer. You can deactivate this function on the selection screen to prevent changes from being made to the selected documents. However, the result of this may be that you do not obtain the most current data in Profitability Analysis. This also has the effect that no sales orders can be processed in SD while this program is running.

This function also checks whether any of the selected sales orders have already been posted to CO-PA. If you deactivate this option, and if the system finds orders that have already been transferred, these orders are canceled and then reposted again to CO-PA.

Post Billing Documents Subsequently

This function lets you transfer to costing-based CO-PA billing documents that already exist in

FI. This is particularly useful if you go productive with CO-PA later than you do with SD and you wish to post the sales data for the current or previous period(s) to CO-PA.

You can specify the billing documents to be transferred by entering:

the billing document number

the billing date

the sales organization

the distribution channel and/or division.

The program checks whether the billing data has already been posted to CO-PA in order to prevent documents from being posted twice (first online and then with this function to CO-PA).

After posting the data to CO-PA, the program displays a transfer log and an error log. If any billing documents contained errors, you need to correct them and run the program again.

Prerequisites

The operating concern to which you want to transfer the billing data must be defined and generated.

The fields in the billing document must be assigned to the value fields or quantity fields in the operating concern.

Actions

Post your billing data from the sales system (SD) to Profitability Analysis.

Additional notes

This function also allows you to repost billing documents correctly if they have been transferred into CO-PA via incorrect derivation. If you activate the "Reversal of line items" indicator, the system cancels the incorrect line item and, in the same step, writes a new line item for which the current derivation rules are taken into account. You also need to activate the "Redetermine prof. segment" indicator for the latter to occur.

Subsequent Posting of Documents from Financial Accounting

Use

You can use this function to transfer FI documents to costing-based Profitability Analysis.

The program checks whether the FI documents have already been posted in Profitability Analysis to avoid the same documents being transferred twice - once online and a second time with the subsequent posting program in Profitability Analysis.

Requirements

It is only possible to transfer documents that already contain an account assignment to a profitability segment.

Subsequent Posting of Documents from Materials Management

Use

You can use this function to transfer FI documents to costing-based Profitability Analysis.

The program checks whether the FI documents have already been posted in Profitability Analysis to avoid the same documents being transferred twice - once online and a second time with the subsequent posting program in Profitability Analysis.

Requirements

It is only possible to transfer documents that already contain an account assignment to a profitability segment.

Data Transfers Between CO-PA and Other Systems

In this activity you find functions for transferring data between Profitability Analysis and external systems.

Initial Steps

In this section you make the necessary settings so that you can transfer data between Profitability Analysis and other systems.

Define Record Types

In this activity you specify the record types with which you want to transfer data to or enter data in Profitability Analysis.
You can assign a record type to each data source. The numbers 0 - 9 are reserved for your user-defined record types to be assigned to your own data sources. **Standard Settings**

The following record types are pre-defined and cannot be changed:

A: Incoming sales orders

B: Direct postings from Financial Accounting

C: Settled orders and projects

D: Transfer of cost center costs

F: Transfer of billing documents from the SD interface

G: Transfer of sales quotes

H: Transfer of key figures

I: Transfer of sales orders from projects

Actions

Define additional record types as desired.

Define Number Ranges for New Record Types

In this IMG activity, you define the necessary number ranges for your user-defined record types.

Set up number assignment for plan data

Set up number assignment for actual data

CO-PA External Data Transfer

In this section, you will find information about importing data from a non-SAP system.

In costing-based Profitability Analysis, you can import both plan and actual data. In account-based Profitability Analysis, you can only import plan data.

It is possible to process transfers simultaneously. You can transfer more than one external file at the same time without the system locking data.
Before the first data transfer, you need to

define the structure of the external data

define the sender structure

define transfer rules

Recommendation

To reduce runtimes, divide the external files into a number of separate files and import them on multiple application servers.

Additional Information

This interface can also be used to import legacy data.

Define Structure of External Data

In this activity, you define the **structure of the external data** you want to import.

This makes it possible for you to transfer the data in the format supplied by the external system.

The standard structure COPA999 is an example of such a structure.

Define Data Interface

Activities

In this activity, you define the **data interfaces** for importing external data to Profitability Analysis.

A data interface is referred to as a "sender structure". The "sender structure" contains the mappings of one or more ABAP Dictionary structure(s) to an operating concern. The ABAP Dictonary structure defines the format of the external data that is to be imported to the operating concern.

When you define the "sender structure", you need to specify whether you want to import the data to **account-based** or **costing-based** CO-PA. In addition, you specify whether you want to import **actual data** or **plan data**.

Note that, in account-based CO-PA, you can only import plan data.

Maintain Transfer Rules

Activities

In this activity, you define how you want data stored in the format of an external structure to be mapped to the data structures of your operating concern. You define this mapping at the **field level**.

On the initial screen, enter the name of the sender structure. Then go to the overview screen by choosing "Maintain" or "Display".

The overview screen shows a table containing the fields of the operating concern that were defined in the sender structure. You can generate an **automatic** assignment of fields in the external structure to the fields of the operating concern by choosing "Create proposal for rule".

If you want to define manually how a field of your operating concern should be populated, select that field and choose the "Detail" icon. Here you have a number of different options, depending on the type of field.

I. Detail Screen for Defining Rules for Characteristics

You can define the following rules for characteristics in your operating concern:

1. Copy sender field

   This rule assigns a field in the external structure to a characteristic in the operating concern.

   Using the "Restrict value ranges" function, you can specify explicitly which values of the sender field should be copied to the target field. You can also use special "conversion routines" for the transfer. This makes it possible, for example, to fill a field with leading zeros. In addition, you can specify conditions for other fields, so that the field content is only transferred if certain other fields of the external structure contain certain values.

   Example:

   Suppose the country in the sender record is "France" and you want to transfer the divisions "01" through "09" from the sender to the same divisions in the operating concern. To achieve this, you

enter the sender characteristic "SPART" under "Sender Field to be Transferred". Then choose "Restrict value ranges" and enter the divisions "01" through "09". Under "Sender fields for conditions", enter the characteristic "LAND". Then choose "Conditions" and enter "France" as the condition for the transfer.

If a characteristic is **not** populated during an external data transfer, you have the following options:

"Set to initial"
The field receives its initial value (blank or "0").

"Classify as error"
The case is registered as an error.

"Set constant"
A constant is entered in the field.

d) "Copy sender field"
The system copies the value of another sender field.

Set constant

You can assign a fixed value to the sender field.

Example:

You want all external plan data to be transferred to version 001. To achieve this, you set the constant "001" for the characteristic "VERSI".

Set variable

You assign a variable to the receiver field. This makes it possible for you to specify a value for this field when you carry out a data transfer. For example, you can use this option to specify the company code manually for each data being imported. You can also define a fixed value for the variable.

Example:

You want to specify the company code when you carry out the data transfer. To achieve this, you define a variable "&COCODE" by choosing "Goto -> Variables -> Characteristic variables" and selecting replacement type 2 (manual entry). Then save the variable. Then enter this variable for the receiver characteristic "BUKRS".

Convert sender fields

This option lets you specify which fields of the external structure you would like to convert. By specifying an offset and a length, you can copy only part of the sender field. Also, you can specify a conversion routine that the system should carry out before converting the sender field value.
When you choose the "Conditions" function, the system takes you to a screen where you can specify the values the sender field must have for the conversion to take place. In the left-hand column, you enter the "target" values of the receiver field. In the subsequent columns, you can enter single values or intervals for the sender fields. All of the sender fields must contain the specified values for the receiver field to receive that value. If you want a sender field to be able to have more than one value, select the line and choose "Multiple selection" next to the field. An icon to the right of the field shows that multiple criteria have been specified. You can also define more than one line for one receiver field value. When you carry out the data transfer, the system chooses the first rule that works. However, the order in which the rules are processed is not

defined. It is also possible to enter a receiver field value explicitly or set the field to its initial value. **Example:**

You want to use the sender fields "Sold-to party" and "Division" to determine the value for the receiver field "Sales district". To achieve this you enter the sender characteristics "AUFGB" and "SPART" under "Sender fields to be converted" and choose "Conditions". Then you enter the desired conditions - for example, sales district "0001" is found for sold-to party "0000000" and division "02".

5. Use general rule

You can enter a rule that should be used for more than one transfer.
You can decide that the rule should be used as a "general rule". To do so, enter a name and a description in the field "Use the rule defined here as a general rule".

Example:

You want to transfer the data for the sender characteristics "Region" and "Product group" to the receiver characteristic "Customer group" in multiple transfers. To be able to use a defined rule more than once, you need to define a general rule. You define this rule as described above for "Convert sender field". Then you enter a name and a description for the rule in the field "Use rule defined here as general rule", and save your entries. You can then use this rule in other sender structures by choosing the "Use general rule" function. When you select a rule, the system displays the sender fields to be converted by the general rule.
Once a rule is referenced, you can no longer delete it. If you want to delete the rule, you need to append it to the rule that references it.

II. The Detail Screen for Defining Rule Values for Value Fields

On the detail screen, you define how the values in the external file should be transferred to the value fields of your operating concern.

In the "Key figure formula" box, enter the name of the external field that you want to transfer to the selected value field.

You can also calculate using sender fields. To do so, you need to define a formula using the fields in the external structure. You can display a list of the valid sender fields using the "Possible entries" function. It is also possible to work with variables in the formula. The formulas are defined using the syntax rules that apply in ABAP. For more information, see the field help (F1) for the input field.

You can use conditions to specify that a key figure is only populated if a certain sender field contains a certain value.

As with the transfer rules for characteristics, you can save your rule as a general rule by entering a name in the "Use as general rule" field. To use this rule for the transfer, enter a name in the "General rule" field. The system displays the sender fields that are to be converted.

Further notes

Define variables

You can define variables for characteristic values and formulas, and use these when you define your transfer rules. Variables for formulas are global. Variables for characteristic values are only valid for the object that you are processing. To create a variable, choose "Goto -> Variables" from the detail screen. Then choose "Edit -> Insert line" on the next screen. The system inserts as ampersand (&) in the field. Enter the name of the variable directly after this ampersand. Then choose the desired replacement type. If you choose replacement type "2", you can replace the variable manually when you carry out the external

data transfer. If you choose "5", you must enter a fixed value. If you choose "3", you must activate function module EXIT_SAPFKCIM_003 as a user exit. Finally, enter a description for the variable and save your entries.

Platform-Independent File Name Allocation

When executing the external data transfer, you can enter a cross-platform, logical file name for for the input and output file.

Read the following information describing the concept of the logical file names.

Cross-Client Maintenance of File Names and Paths

This activity (transaction FILE) is for cross-client maintenance of logical filenames and file paths and includes the following:

Logical file path definition

Assignment of physical paths to logical path

Logical file name definition, cross-client

Definition of variables

Syntax group definition

Assignment of operating system to syntax group

Choose one of these in the navigation area of the screen to see the corresponding view of the values to be maintained. You can examine existing entries and enter new values. Depending on the data you need to maintain, you can either work in the overview or you may need to go to the details view by pressing F2 or the "Details" push button in the application toolbar.

Note

Release 3C introduces cross-client logical filename maintenance. In addition to cross-client maintenance you can still choose to maintain filenames for a specific client. You must maintain a logical filename across clients before you can maintain it for one client. Then you can maintain it for particular clients as required.

Use program RSFILE01 to transfer filenames from the client-specific maintenance (available before Release 3C) to cross-client maintenance. Client-specific data is not affected.

Activities

Verify that existing definitions meet your needs.

Change the definitions (and, if necessary, the structure of your file system).

If necessary, define additional filenames and paths.

Maintain Additional Client-Specific File Names

Data Transfer from SAP BW

In this activity, you set up the transfer of data from an SAP BW query into CO-PA before executing data transfer.

Note: The data transfer can only occur for costing-based Profitability Analysis.

During setup, you specify the field assignments between the BW query and the operating concern CO-PA.

During transfer, the current status of the query is transferred without any delta procedure occurring. You can cancel a transfer run to make any necessary corrections.

Note

For easier access, you can insert this IMG structure into the standard IMG for Profitability Analysis. For information on how to do this, see note 205201.

Define Field Assignments

In this activity, you specify which fields of an SAP BW query are to be set in which fields of a CO-PA operating concern during the data transfer. You also have the option of specifying the field assignment for the entire BW system, that is, for all queries. In this way, you reduce the amount of maintenance required if an assignment is to remain identical for each query. If an assignment has been specified for a field at the system level **and** at the query level, the detailed assignment at the query level is applied.

To implement additional functions, such as mapping BW master data onto CO-PA master data or postprocessing the query data, you can use the SAP enhancement COPA00RE in the ERP system and the customer enhancement for external data transfer COPA0007.

Requirements

The query must be RFC-enabled. In other words, the *Release for OLE DB for OLAP* indicator must be set.

The query can contain no more than one structure.

The user for the RFC connection to the BW system must be of user type 'dialog' or 'service', because otherwise the input help for the queries will not work.

Activities

From the available RFC systems, select the BW system from which the data is to be transferred.

Select the query from which the data is to be transferred.

In the details screen, you can assign BW objects to CO-PA fields. BW objects are as follows:

All info objects for the query,

Formulas that are defined in the query,

All attributes of the info objects, as well as

The info objects that define a restriction to a key figure; the condition for this is that the restriction does not consist of a single value.

Filter values that are defined in the query are **not** contained. It is not possible to assign these values.

On the CO-PA side, you find all the characteristics, value fields, quantity fields as well as some technical fields (such as the posting date) for the operating concern.

The currencies and quantity units belonging to the fields are assigned automatically. During the transfer, the period is interpreted according to the fiscal year variant.

If a value cannot or should not be transferred, you can enter a fixed value for a CO-PA field. This can be necessary, for example, for the mandatory field company code if this field does not exist in the query and cannot be determined during characteristic derivation.

For the field assignment described above for the entire BW system, you can use all the info objects from the BW system and all fields from the operating concern. An assignment at this point is overridden by an assignment of the corresponding info object at the query level.

Execute data transfer

In this activity, you execute the transfer of data from an SAP BW query.

During the transfer, the query is expanded down to the greatest level of detail and corresponding CO-PA line items are created. For this, characteristic derivation and valuation (when actual data is transferred) are run automatically (valuation of planning data is optional). Moreover, a check is run to see whether the respective characteristic values that are to be transferred are valid for the characteristic. If any errors occur during data transfer, **no** line item is posted.

For each data transfer, all the data for the query is transferred. In other words, if the data in a query is transferred several times, this data is then redundant in CO-PA. In such cases, you have the option of cancelling a transfer run. To improve runtime during cancellation, an index with a document number should exist in table CE1xxxx (where xxx = operating concern).

Requirements

It is only possible to transfer data for costing-based Profitability Analysis.

Field assignment must be maintained for the query.

Since the posting occurs with record type H when actual data is transferred, a number range must be assigned to this record type.

Activities

Enter the BW system and the query for which you have maintained a field assignment.

If the query that you want to transfer contains variables, you can use the *Query variable* pushbutton to define a variant with which to fill these variables and to enter this variant in the *Variant for query variable* field. This is necessary if you want to execute the transfer in the background. If you execute the transfer online and have not created a variant, the variables are called up online.

When you transfer **planning data**, you need to make the entries for posting to CO-PA, such as the record type and the version. For the transfer of **actual data**, the record type H is automatically applied.

You can use the *Logs* pushbutton to display detailed information about completed data transfers. It is possible to cancel a transfer, for example, directly from the log.

Data Transfer via FI/CO Document

In this section, you will find information about how to set up an IDoc interface for transferring data from an external billing system to the Financials applications and including an update in Profitability Analysis.

Display IDoc Type

In this activity, you can display the structure of the IDoc ACLREC01, which is used to update data from an external billing system to Profitability Analysis.

This also contains the CO-PA-specific segments that you need to use if you want to update the data in CO-PA.

To make the data transfer possible, the segments and segment fields of the external data need to be assigned automatically to the fields in Profitability Analysis.

Activities

Enter the object name "ACLREC01" and choose "Tree display". You will find the CO-PA-specific segments under the segment E1ACA1. There you can also find documentation on the IDoc structure.

Assign Fields

In this activity you can display the assignment of the fields of the IDoc segment ACLREC01 (Load Receivable) to the characteristics and value in Profitability Analysis. These assignments were generated automatically when you generated the operating concern.

Distributed Profitability Analysis

In this activity, you carry out tasks which are only required if you are using CO-PA as a distributed system, that is, in conjunction with the ALE function.

The system supports distribution scenarios in which several systems are connected to one another. This makes it possible in CO-PA to integrate local contribution margin accounting with central profitability accounting.

To set up distributed Profitability Analysis, you need to carry out the following steps:

Costing-based Profitability Analysis

Generate a message type for each operating concern carrying the name CPxxxx (xxxx = operating concern).

Carry out general ALE-Customizing. Refer in particular to the section Set profitability analysis.

Activate the distribution in the local, sender systems by specifying whether realtime distribution or periodic rollup should be carried out.

If you have activated periodic rollup, you have to enter the segment level characteristics for distributed Profitability Analysis.

If you have activated realtime distribution, you can carry out the initial supply of distributed Profitability Analysis.

Account-based Profitability Analysis

Generate or update the message type 'CODCMT' (CO-Document).

Carry out general ALE Customizing.

Further notes

For background information about distributed Profitability Analysis, see the section "Tools -> Distributed Profitability Analysis" in the CO-PA documentation.

Generate/Update Message Type

In order to run Profitability Analysis in a distributed system environment, you need to generate system message types which control the communication with the local systems. You need one system message type for each type of Profitability Analysis (costing-based and account-based).

Activities

For costing-based CO-PA, you need to generate message type CPxxxx (where xxxx is the name of your operating concern). You need one message type for each operating concern.
For account-based CO-PA, you need to generate system message type CODCMT, or actualize it if it has already been generated for another application in CO.

Further notes

If you change an operating concern or add new characteristics or value fields to it, you need to regenerate the corresponding system message type.

Activate Distributed Profitability Analysis

When you activate distributed Profitability Analysis, you need to specify in the local (sender) systems how the data should be transferred to the central (receiver) system.

The following methods exist:

Realtime distribution (transaction-based)
An IDoc with the line item is sent to the receiver system for each CO-PA posting in the local system. This method offers you the advantage that the receiver system always contains the most current, detailed information.

Periodic rollup
In a periodic rollup, the data is not passed on to the receiver system until you execute the rollup function in the application. You can do this on a daily, weekly or monthly basis. The line items are selected in the sender system, summarized if necessary and sent to the receiver system. You should use this method if you do not need to have the most detailed information in the central system.

Note: You can only activate this for distribution in costing-based Profitability Analysis. It has no effect on account-based Profitability Analysis, where only realtime distribution is possible.

Recommendation

It is recommended that you do not switch between these two methods in your productive system since that could lead to inconsistences between the local (sender) systems and the central (receiver) system.

Activities

If you have activated realtime distribution, you can then use the function 'Run Initial Supply for Distributed Profitability Analysis' to post subsequently any data already posted but not yet distributed.

If you hav activated periodic rollup, you must then use the function 'Define Segment-Level Characteristics for Distributed CO-PA'.

Further notes

Even if you choose realtime distribution, it is possible not to send the data immediately to the central system. If you set up a large buffer when you customize the ALE function, the system will wait until it has collected a certain number of line items and then send them en bloc.

Run Initial Supply for Distributed Profitability Analysis

This function lets you transfer data from local systems to the central system according to certain selection criteria. You should use this function when you want to post data to the central system which already has been posted in the local system but not yet distributed.

Example

If you posted billing data in the first few posting periods before you used Profitability Analysis as a distributed system, you can use this function to distribute that data now.

You need to enter the operating concern, the partner system, the plan/actual indicator, record type F (for billing data) and the period(s)/year.

Requirements

The initial supply of data only affects costing-based Profitability Analysis during distribution. It does not affect account-based Profitability Analysis in any way.

This step is only necessary if distributed Profitability Analysis has been activated as **simultaneous (transaction-based) distribution**.

Activities

Specify the selection criteria for the data to be posted.

If you select the indicator "Check partner system", you can check whether any line items which you want to send to the partner system already exist there. If any are already there, those line items are not sent.

When you run the initial supply, you can display or print a log by checking off the indicator "Detail list".

By checking off "Test run", you can execute the function without making any changes to the database.

Subsequent Posting of CRM Billing Documents Data Transfer to SAP Business Information Warehouse

Assign Key Figures

In this activity, you assign elements of a key figure scheme to some of the key figures predefined in CO-PA. By placing these elements into DataSources, you can transfer your contribution margin scheme (which you defined using the key figure scheme) to your SAP BW. This eliminates the need to define new key figures there. Another advantage is the fact that the key figure scheme in the SAP BW then has fixed concepts at its disposal that can be accessed in predefined Queries or from external systems without requiring knowledge of customer-specific information from CO-PA. However, it is necessary for the key figure and the element from the key figure scheme assigned to it to have the same meaning from a business point of view.

For more information about the business meaning of predefined key figures, see the documentation relating to the existing key figures listed below. You call up the documentation by clicking the appropriate key figure.

Sales Unit (COPASLQTU)

Sales Quantity (COPASLQTY)

Revenue (COPAREVEN)

Customer Discount (COPACDSCN)

Product Discount (COPAPDSCN)

Quantity Discount (COPAQDSCN)

Promotion (COPASPROM)

Cash Discount (COPACASHD)

Rebate (COPAREBAT)

Miscellaneous Sales Deductions (COPAODSCN)

Total Sales Deductions (COPADISCT)

Net Sales (COPANETSL)

Sales Commission (COPASCOMM)

Special Sales Direct Costs (COPASDIRS)

Anticipated Shipment Costs (COPAFRGTC)

Total Sales Direct Costs (COPADIRSL)

Net Revenue (COPANETRV)

Material Direct Costs (COPADMATC)

Variable Production Costs (COPAPRDCV)

Total Variable COGM (COPACOGSV) - Contribution Margin I (COPAMRGN 1)

Material Overhead (COPAMATOH)

Fixed Production Costs (COPAPRDCF)
Total Fixed COGM (COPACOGSF)

Contribution Margin II (COPAMRGN 2)

Total Variances (COPAVRNCS)

Contribution Margin III (COPAMRGN 3)

Marketing Overhead (COPAOHMRK)

Sales Overhead (COPAOHSLS)

Administrative Overhead (COPAOHADM)

R&D Overhead (COPAOHRND)

Logistics Overhead (COPAOHLOG)

Miscellaneous Overhead (COPAOHOTH)

Total Overhead (COPAOVHDC)

Operating Profit/Loss (COPAPROFT)

If you do not wish to separate your costs of goods manufactured into fixed and variable, you can use the key figure Total COGM (COPACOGS).

As is the case for the key figure scheme itself, the assignment of the elements of the scheme is specific to the operating concern. In other words, you assign the key figures individually for each operating concern.

Instead of assigning an element from a key figure scheme, you can choose to assign a value field or one of the function modules at your disposal.

Example

Requirements

Standard settings

Recommendation

Activities

In the overview screen, choose *New Entries* and assign one of the following to a key figure:

An element from the key figure scheme

A value field, or
the function module of a user exit

Ensure that the key figure and the object assigned to it have the same business meaning.

Further notes

To obtain an overview of all the assignments maintained, select the pushbutton *Overview*.

Create Transaction Data DataSource

In this activity, you can create or delete a DataSource for analyzing data from Profitability Analysis (CO-PA) as well as display its structure.

Create:

You define a DataSource on the basis of an existing operating concern. You can include in your DataSource all or just some of the characteristic and value fields of this operating concern.

A DataSource is defined by the following elements:

Operating concern

Amount of characteristics

Amount of value fields

Amount of calculated key figures

Up to and including Plug-In Release PI2003, a DataSource is only defined in the current client of the source system. This means that a DataSource can only be extracted from this client. The DataSource has a timestamp for the delta method, and this timestamp is only valid for the current client. This timestamp is managed by Profitability Analysis.

With Plug-In Release PI2004, timestamp management was converted to a new method, called **generic delta**. This method works in combination with a BW system with **Release 2 and higher**. With this method, timestamp management is no longer performed by Profitability Analysis, but instead by the Service API (interface between Profitability Analysis and SAP BW).

Compared to timestamp management in Profitability Analysis, the generic delta allows for several enhancements:

You can apply the delta method simultaneously using the same DataSource from more than one client of the source system because a separate timestamp is saved for each logical system.

You can apply the delta method for the same client of the source system simultaneously using the same DataSource from several BW systems.

You can perform several initializations of the delta method with different selections using the same DataSource from a given BW system for the same client of the source system.

The DataSource commands the "Delta Init Simulation" mode. With timestamp management in Profitability Analysis, this mode had to be implemented using the Simulate Delta Method Initialization transaction (see SAP Note 408366).

For more information on the generic delta, see section Delta Transfer, whereby the steps of the "Specify Generic Delta for a DataSource" section are performed automatically for Profitability Analysis when a DataSource is created. For this, the field determining the delta is taken as the timestamp for Profitability Analysis (TIMESTMP), and the timestamp is stored for summarization levels and line item tables. However, in contrast to generic DataSources, the TIMESTMP field is not generated in the extraction structure because this is not necessary for DataSources in Profitability Analysis. As with timestamp management in Profitability Analysis, an upper limit of 30 minutes is set as the safety interval.
You find the timestamp of a DataSource for the delta method in the current logical system either on the "Last Data Transfer" tab page or using the IMG activity Check Delta Queue. The timestamp is shown here when you choose the selection button in the Status column for the combination of DataSource and BW system.

DataSources created after implementing PI2004 automatically apply the new method. DataSources that were created in Plug-In releases prior to PI2004 still continue to use timestamp management in Profitability Analysis but can be converted to the generic delta in transaction Create CO-PA DataSource. For this, an additional selection option *Convert to Generic Delta* appears in the selection screen when a DataSource with timestamp management in Profitability Analysis is entered. Conversion from the generic delta to timestamp management in Profitability Analysis is **not** supported.

Conversion is only possible for DataSources that are defined in the current client of the source system and for which the delta method has already been successfully initialized or for which a delta update has successfully been performed. This is the case once the DataSource has the replication status "Update successful". Furthermore, no realignments should have been performed since the last delta update.

For the conversion, the timestamp for the current source system client is transferred from Profitability Analysis into the timestamp of the generic delta. In this way, the transition is seamless, enabling you to continue to perform delta updates after the conversion. If delta updates are to be performed from different clients of the source system for this DataSource, you first need to initialize the delta method for these clients.

The **conversion must be performed separately in each source system** because the timestamp information is always dependent on the current R/3 System and is reset during the transport. If, however, a converted DataSource is inadvertently transported into a system in which it has not yet been converted, delta extraction will no longer work in the target system because the timestamp information is deleted during the import into the target system and is not converted to the timestamp information of the generic delta. If in this instance no new delta initialization is going to be performed in the target system for the DataSource, you can execute program ZZUPD_ROOSGENDLM_FROM_TKEBWTS from SAP Note 776151 for the DataSource. This program reconstructs the current time stamp information from the information for the data packages transported thus far and enters this time stamp information into the time stamp information for the generic delta. Once this program has been applied, delta extraction should work again. Normally, however, you should ensure **during the transport** that the DataSource uses the **same logic in the source system and the target system**.

After the conversion, the DataSource must be **replicated** again from the BW system.

A successful conversion is recorded in the notes on the DataSource.

Since the generic delta does not offer any other log functions apart from the timestamp information (status: Plug-In Release PI2004), Profitability Analysis still logs the delta initialization requests or delta requests. However, the information logged, in particular the timestamps, only has a **statistical character** because the actual timestamp management occurs in the generic delta. Since the delta method can be performed simultaneously for the same source system client using the generic delta from several BW systems, the information logged is stored for each logical system (source system) and BW system. When a delta initialization is simulated, only the timestamp of the generic delta is set; Profitability Analysis is not called. Consequently, no information can be logged in this case. Messages concerning a DataSource are only saved for each logical system (on the source system side). You can use the IMG activity Display Detailed Information on DataSource to view the information logged.

Another enhancement from Plug-In Release PI2004 means that you can no longer exclusively perform full updates (that is, update mode "F") for DataSources of the Extractor Checker of the Service API that have recently been created or converted to the generic delta. The following update modes are possible:

"F" - Full update: Transfer of all requested data

"D" - Delta: Transfer of the delta since the last request

"R" - Repeat transfer of a data package

"C" - Initialization of the delta transfer

"S" - Simulation of the initialization of the delta transfer

In the case of all update modes other than "F", you have to specify an BW system as the target system so that the corresponding timestamp and/or selection information for reading the data is found. The "Read only" parameter is set automatically and indicates that **no** timestamp information is changed and that Profitability Analysis does not log the request.

Update mode "I" (transfer of an opening balance for non-cumulative values) is an exception: Although you can still select this mode, the system issues an error message because Profitability Analysis does not support this mode.

Delete:

You can delete a DataSource that you no longer require.

Activities

Create:

Give the DataSource a unique technical name. As a default setting, this name starts with the prefix "1_CO_PA". This prefix is mandatory and cannot be changed.

To create the DataSource, choose *DataSource -> Create*.

Select the characteristics that are to be included in the DataSource. The DataSource must contain some of these characteristics. These are already selected for you and cannot be deactivated.

It is also useful to include characteristics that are contained in the segment table and are hence used to create the profitability segments. These characteristics are already selected but you can deactivate them if necessary.

When selecting the characteristics, ensure that they are formally independent of each other in Profitability Analysis. In this way, it is also possible to make postings at the aggregated level. In spite of this formal independence, a logical dependency can still exist between some characteristics. For example, the customer group is logically dependent on the customer. You need to keep this logical dependency in mind when transferring characteristics into SAP BW so that you obtain valid data there. We recommend that, for each characteristic you select, you also select all the characteristics that are logically dependent on the selected characteristic. As a general rule, it is not useful to model CO-PA characteristics as navigation attributes in SAP BW. The inclusion of dependent characteristics has no negative consequences for performance or for the dataset.

For costing-based Profitability Analysis, select the value fields and calculated key figures that are to be included in the DataSource. It is useful to include all the value fields of the operating concern. These value fields are already selected but you can deactivate them if necessary. The system checks that the units of measure relating to the value fields are also transferred.

Technical notes:

Along with the selected characteristics and value fields, the fiscal year variant and the record currency are also included in the replication so that the data in SAP BW can be interpreted correctly.

The technical field PALEDGER (currency type) in Profitability Analysis is encrypted as CURTYPE (currency type) and VALUTYP (valuation) during the transfer to SAP BW.

The plan/actual indicator (PLIKZ) is copied to SAP BW as value type (WRTTP).

You can use the *Summarization level?* icon to determine for costing-based CO-PA whether callup occurs by means of a summarization level when the delta procedure is initialized (the first time you replicate all CO-PA data into SAP BW). It is particularly useful to use a summarization level as a data source if the data in SAP BW is maintained at an aggregated level. In such cases, replication can be performed much more quickly due to the data having already been presummarized. If the system cannot find an appropriate summarization level for the characteristics and value fields that you selected, it reads the data from the segment level or from the line items. For more detailed information about data sources, see SAP Note 392635. For information about the data sources, see also SAP Note 392635.

If no appropriate summarization level exists for the DataSource, you can use the function *Create Summarization Level* to create a proposal of a summarization level that is appropriate as a data source.

Saving the DataSource generates a DataSource with the name 0G_Cyyyy_TXT (where yyyy = name of the characteristic) for the characteristics defined in CO-PA for the subsequent replication of the texts.

Once the InfoObjects have been generated in the background, a screen appears in which you can specify whether selections can be made from a field in the InfoPackage. For account-based CO-PA; the fields "Period/Year" (PERIO) and "Controlling Area" (KOKRS) are mandatory fields for the selection. Furthermore, you can hide a field in the DataSource, but this is not relevant for CO-PA. In this screen, choose *Save*. In some cases, you access a screen in which you can perform an assignment of CO-PA fields to BW fields. **This only applies when there is a connection to the SAP BW Release 1.**. For more information, see the section Procedure for Setting Up the Replication Model for BW Release 1.
For connections to SAP BW 2 or higher, only choose *Save* at this point. This takes you back to DataSource maintenance.
Note: Up to and including Plug-In Release PI2003, a DataSource in CO-PA only carries one timestamp. This means that a maximum of just one BW system can be connected to a DataSource for a Delta replication. To connect additional BW systems, you need to create an additional DataSource or use the replication methods available in the BW system.

Delete:

1. By choosing *DataSource -> Delete*, you can delete any DataSources that you no longer require as well as the generated extract structure "ZOX*" belonging to a deleted DataSource.

Further notes

You cannot change a DataSource once created. You can, however, delete it and then create a DataSource with the same name but with different technical properties. You should not upload metadata between these two steps.

Create Hierarchy DataSource

In this activity, you create a DataSource for loading hierarchies from Profitability Analysis (CO-PA) into SAP BW.

Enter the following data:

Name of the hierarchy DataSource

Short text

The InfoObject for which you are generating the DataSource

The related CO-PA characteristic for which you are creating the hierarchies.

Authorization Management

In this activity, you determine which functions may be carried out by users in the SAP system and particularly in Profitability Analysis.

To do this, you issue authorizations which relate to what are known as authorization objects.
There are two types of authorization object:

Those predefined by SAP

Those defined by yourself, specific to CO-PA for planning, for the information system in general, and for reports based on line items in particular

When a transaction is executed, the user's authorization is checked against the corresponding authorization objects. You assign authorization objects to users with the profile generator, which lets you use a role to create authorization profiles and then assign these profiles to users.

Activities

First create your CO-PA-specific authorization objects.

Then create roles with the profile generator, maintain the necessary authorizations and assign these to users via the authorization profiles.

Further information on this procedure can be found in the relevant sections.

Prerequisites

To maintain users, you require authorizations for the following authorization objects:

S_USER_GRP

S_USER_AUT

S_USER_PRO

S_USER_AGR - S_USER_TCD

S_USER_VAL

Note

For further information on authorizations in Profitability Analysis, please refer to the section "Tools -> Authorizations" in the documentation for Profitability Analysis.

CO-PA-Specific Authorization Objects

In this activity, you can define your own CO-PA authorization objects to supplement those contained in the standard SAP System.

You can make it easier to define authorizations by activating **characteristic derivation** during authorization checks. For example, if you want to protect the product group in your reports, it is enough to define authorizations for individual products. When a user runs a report for the product group, the system derives the product group from the product in the authorization. If the user has authorization for the product, he or she can run the report on the product group. This means that the "Product" field and the authorizations attached to it at the product level do not have to be copied to the authorization object. For more on activating derivation, see the sections on defining the individual CO-PA authorization objects.

Note

Authorization objects created here are automatically considered by the profile generator (see Create Role/Profile and Assign Users).

Define Authorization Objects for Planning

In this IMG activity, you define authorization objects which the system protects in planning. Each authorization object can consist of up to fields, which you can define and group together as you wish (you can also use the characteristics of the operating concern or a free variable for the value field). All other characteristics which you do not specify in the object are regarded as allowed.

By choosing up to fields more than once, you can create different authorization objects that are linked with one another. However, it is recommended that you only create one object. Otherwise the "AND" links between authorization objects could cause difficulties when you create the authorizations for individual users.
Before a user performs an action in planning, the system checks his or her authorization. If the authorization is lacking for just one of the objects, the system refuses the request. You can define the authorizations for individual users under **Tools -> Administration -> Maintain users** from the main menu.

If desired, you can activate **characteristic derivation** for the authorization check. In this case, the system checks the user's authorization for all the characteristics that can be derived. For the system to do this, the user must have authorization for the activity "B3" (Derive) in authorization object "K_KEPL_TC" (Sales and profit planning). In addition, the set/get parameter "RDA" must have the value "X" in the user parameters.

Possible authorizations for an object include:

the individual values of a characteristic

*
This means that the user is authorized for all values of the characteristic.

:

This means that the user is not authorized at this level. He or she may only look at the total for the characteristic.

#

This means the user is not authorized for any value of the characteristic (only non-assigned values).

The following tables demonstrates how the system checks your entries against an authorization object:

Field content	*	Y	#	does not exist
Authorization:				
*	x	x	x	x
(A,Z)	-	x	-	-
X	-	-	-	-
#	-	-	x	-
:	-	-	-	x

Examples of how authorization objects are used in planning

For planning, assume that the object Y_KEPL_X00 was defined with the fields "Customer", "Product range" and "Region".

User A needs to carry out single-segment planning for customer C01. Data exists for product ranges A1, A2 and A3. The value entered by the user for customer C01 is stored for product range SPACE, region SPACE.
Necessary authorization: Customer C01, Product range ":", Region ":".

User A needs to carry out multi-segment planning for customer C01 and all product ranges. Necessary authorization: Customer C01, Product range "*", Region ":".

Actions

Define your authorization objects.

Define Authorization Objects for the Information System

In this IMG activity, you define authorization objects which protect the CO-PA information system. Each authorization object can consist of up to fields, which you define as you wish. These fields can be the characteristics which have been defined for the operating concern as well as value fields and elements of specific key figure schemes. All the characteristics and value fields which are not specified in the authorization object are allowed.

You can create a number of authorization objects which are linked to one another by selecting up to objects several times. However, it is recommended that you create one authorization object with many fields instead of several with just a few fields. The "AND" relationship between the objects can lead to difficulties when you create authorizations for the individual users. See also "Example for the use of authorization objects".

The system checks the user's authorization before he or she executes a report. If the user lacks authorization for even one object, the system denies access.

You can define a user's authorizations from the main menu by choosing **Tools -> Administration -> User maintenance**.

If desired, you can activate **characteristic derivation** for the authorization check. In this case, the system checks the user's authorization for all the characteristics that can be derived. For the system to do this, the user must have authorization for the activity "B3" (Derive) in authorization object "K_KEPL_TC" (Sales

and profit planning). In addition, the set/get parameter "RDA" must have the value "X" in the user parameters.

The following authorizations are allowed for objects:

normal values

"*"

This means that the user has authorization for all the values of the characteristic or all key figures. If intervals are defined in the form, the user needs the authorization "*" for these fields. It would be better, however, to use the "More" function and enter the individual values of the interval.

The user also needs the authorization "*" for all the drill-down characteristics in the list. If at the same time the user should only have authorization for some of the characteristic values, you need to use another characteristic. This characteristic must be used in all the reports and at least one authorization object.

":"

This means that the user is only allowed to see total values for this characteristic.

"#"

This means that the user is not authorized for any values of the characteristic. That is, he or she can only see data records to which no value of that characteristic is assigned.

The following tables demonstrates how the system checks your entries against an authorization object:

Field content	*	Y	#	does not exist
Authorization:				
*	x	x	x	x
(A,Z)	-	x	-	-
X	-	-	-	-
#	-	-	x	-
:	-	-	-	x

Note

Through creating an authorization object with the characteristics "Customer" and "Product", you can prevent reports which could slow down your system significantly:

Customer *
Product 000000 to 01900000 (or the valid characteristic values)

Customer 04500000 to 04800000 (or the valid characteristic values)
Product *

These two authorizations let the user create a list of products for the selected customer and a list of customers for the selected product. However, he or she cannot create a single list of all the customers and products, something which would load down your system significantly.

The authorization object consists of the fields "Product" and "Element of the key figure scheme".

User X is to have authorization to look at the values of the key figure scheme ZZ up to contribution margin I for product 000000. Element 2000 of the key figure scheme contains this value. In order to do so, the user needs the following authorizations:

Product 000000

Elem. of key figure scheme ZZ0001,ZZ2000

User Y is authorized to see all the data of key figure scheme ZZ for all products. He has the authorizations:

Product *
Elem. of key figure scheme ZZ*

An example of how you can use one object instead of two.

A user is supposed to execute two reports: one report on the company 00 broken down by company codes (which belong to this company), and one report on the company code 0001 broken down by business areas. However, the user is not allowed to execute a report for any random company code.

1st case: You created an object with the fields "Company" and "Company code" and another object with the fields "Company code" and "Business area".

User X has the following authorizations:

Company 00,: Company code * and

Company code 0001

Business area *

The user cannot run the first report on company 00 broken down by company codes, even though he has authorization for the first object, because this report also requires him to have authorization for company code "*" and business area ":" in the second object. If the user had this, however, he or she could run reports on any company code.

2nd case: You created only one authorization object with the fields "Company", "Company code", and "Business area".

The user has the following authorizations:

Company 00,: Company code * Business area :

and

Company :

Company code 0001

Business area *

Here the user can execute a report on company 00 broken down by company codes and a report on company code 0001 broken down by business areas.

By combining the three fields in the same object, you can achieve greater control than if you create more than one object.

Activities

Define your authorization objects for the information system.

Define Authorization Objects for Reports Based on Line Items

In this activity, you can define special authorization objects for reports based on line items. The system checks these authorizations **in addition to** the other authorization objects for the information system.

Activities

Define these authorization objects the same way you define authorization objects for the information system.

Create Role/Authorization Profile and Assign Users

In this step, you can create roles and use the profile generator to generate authorization profiles.

Activities

To assign an authorization profile to a user, do the following:

Create a role

Enter a description

Select transactions

Create and edit authorizations

Assigns users and compare the user master (in doing so, the profile is entered in the user's master record)

Transport roles, if desired

Detailed documentation

For more information about the procedures, see transaction documentation

See also the general documentation on the Profile Generator in the SAP Library. Choose: *Basis Components -> Computing Center Management System -> Users and Roles* or in the Implementation Guide (IMG), choose: *Basis Components -> System Administration -> Users and Authorizations -> Maintain Authorizations and Profiles using Profile Generator*.

Note

You can also use authorization profiles you created manually or were delivered by SAP, in roles. You can create a role without a menu and include the corresponding profile in the authorization data of the role.

In the fourth step, choose "Edit -> Add authorization -> From profile" to add the authorization profile data to the role.

Utilities

This section contains a variety of tools.

Prepare Archiving

Use

In this IMG activity, you prepare the archiving of data from costing-based Profitability Analysis. The settings are relevant for the following archiving objects (whereby xxxx stands for the name of the operating concern):

COPAA_xxxx for archiving CO-PA line items (actual and plan) as well as for archiving reference documents from ALE distribution (tables CE1xxxx, CE2xxxx, and CEALE01)

COPAB_xxxx for archiving CO-PA segment level (table CE3xxxx)

The IMG activity offers you flexibility in making selection settings for the CO-PA line items to be archived as well as in making settings for subsequent access options. In principle, two settings need to be made:

Selection of the CO-PA characteristics that need to be used to select the CO-PA line items to be archived.

Selection of the CO-PA characteristics that need to be used as selection criteria for frequent accesses to the archive (either using the archive information system or directly in CO-PA Reporting). Using this option optimizes the archive structures because selection with these characteristics speeds up access to the archive data. From the technical standpoint, this means that the characteristics selected here are included in the definition of the data object in the archive, in addition to the CO-PA fields predefined by SAP (listed below), which enables the data objects to be read directly at the level of these characteristics (with index). Characteristics that you do not select here may still be used to restrict the selection of archive data, but this increases the access time considerably.

On the basis of the settings made here, the field catalog **SAP_COPAA_xxxx** of the line item archive is built in the Archive Information System. Information structure **SAP_COPAA_xxxx** can be used to analyze the archived line items in the Archive Information System. For more information about information structures, see Using the Archive Information System< Object >.

The following characteristics **always** form part of the selection as well as part of the archive data object:
Fiscal year

Period

Plan/actual indicator

Version

Record type

Controlling area

Company code

Requirements

Standard settings

Activities

Example

For a specific product, you want to archive CO-PA data that is no longer used. Furthermore, you occasionally want to read line items for analysis purposes from the archived CO-PA data for a specific plant. For this, you need to make the following settings:

Select the fields *Product* (ARTNR) and *Plant* (WERKS) in the characteristic selection on the right and transfer them to the characteristic list for the data object definition by choosing the *To Object* pushbutton.

Select the *Selection* indicator for the characteristic *Product* (ARTNR) and select the *Object* indicator for the characteristic *Plant* (WERKS).

Save your settings.

Start the generation of the archiving object. The system performs the following steps:

Regeneration of the archive write program with the characteristic *Product* (ARTNR) as the selection criterion and with the characteristic *Plant* (WERKS) in the definition of the archive object structure.

Rebuild of the archive field catalog **SAP_COPAA_xxxx** and of the archive information structure **SAP_COPAA_xxxx**. If an information structure that is already active is overwritten (after query), you then have to rebuild this information structure from the archive data after regeneration.

Translate Texts
Printing with Microsoft Word for Windows

In the info system, you can print individual reports using Microsoft Word for Windows 6.

This section explains possible ways to set this up and important information about the installation.

This method of printing is only available on a presentation server under Windows or Windows NT as Microsoft Word for Windows 6 runs on these presentation servers.

The logical file name 'DRILLDOWN_PRINT' gives a suggested directory, in which the files for printing with Word are stored.

Microsoft Word for Windows 6 must have been installed on the presentation server in language version English, French or German. It is possible to extend the function 'GetLanguageDependency' for other language versions in the WinWord style sheet SAP_REP.DOT in the macro 'Library'.

To install style SAP_REP.DOT, perform the following steps:

1. Copy file SAP_REP.DOT into the directory specified in file WINWORD6.INI under parameters:

- 'USER-DOT-PATH' or -
  'WORKGROUP-DOT-PATH'

(style directory)

Call up MS-Winword

Choose 'Tools -> Macro' 'Organize ...'

On one side of the dialog box, open style 'SAP_REP' and on the other open style 'NORMAL'.

Copy macro 'BatchStart' from style 'SAP_REP'

Close the dialog box

Choose 'Tools -> Macro'

Choose macro 'DefinePaperformat'

Execute the macro

Exit WinWord and save the changes in style 'Normal'.

Change style SAP_REP.DOT to meet your requirements. Note that you should keep a copy of the original file SAP_REP.DOT.

After you have carried out these steps, Microsoft Word for Windows 6 is set up to enable you to print reports.

Note: If a drilldown report is to be printed in Word, without an action in Word being necessary (Mode not interactive on the pop-up 'Enter print control parameter'), the entered directory using the logical file name must agree with the 'Batchstart' entered in the macro in Word. The directory 'D:\SAP_REP' is given in the delivered reference SAP_REP.DOT.

Cross-Client File Names and Paths

In this section, you specify a file name for use in different areas in Profitability Analysis.

The logical file name "DRILLDOWN_PRINT" is a default directory where you have have the files for printing with Word stored.

Create Logical File Names

SAP Enhancements

In this step you can set up system enhancements which are not supported in the standard R/3 System. These so-called "standard enhancements" can be used in the following areas of Profitability Analysis:

Derivation of characteristic values (COPA 0001)

Valuation (COPA 0002)

Direct postings to profitability segments (COPA 0003)

Currency translation (COPA 0004)

Actual data update (COPA 0005)

Planning (COPA 0006)

External data transfer (COPA 0007)

Global variables in the information system (KKDR 0001)

Virtual characteristics (KKDR 0002) For more information, see the documentation for these enhancements.