Executive Information System and Business Planning

HELP.ECEIS

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	Recommendation
	Syntax
	Tip

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Executive Information System and Business Planning

Executive Information System and Business Planning

In this section of the SAP online documentation, you will find information on two subcomponents of Enterprise Controlling:

Executive Information System (EC-EIS) [Page 8]

Business Planning (EC-BP) [Page 115]

Both applications use a special data retention, separate from the R/3 System's operational dataset. They use the data collection metods required for this data retention, the information system (drilldown reports and report portfolio), and other tools. You can find information on these areas in the following sections:

Data Basis [Page 23]

Data Collection [Page 99]

Information System [Page 156]

Tools [Page 224]

Executive Information System (EC-EIS)

Purpose

An **executive information system (EIS)** provides information about all the factors that influence the business activities of a company. It combines relevant data from external and internal sources and provides the user with important current data which can be analyzed quickly.

The EC-Executive Information System (EC-EIS) is a system which is used to collect and evaluate information from different areas of a business and its environment. Among others, sources of this information can be the Financial Information System (meaning external accounting and cost accounting), the Human Resources Information System and the Logistics Information System. The information provided serves both management and the employees in Accounting.

Implementation Considerations

EC-EIS is the information system for upper management. It is generally suitable for the collection and evaluation of data from different functional information systems in one uniform view.

Integration

The Executive Information System is based on the same data basis, and has the same data collection facilities as Business Planning (EC-BP) [Page 115]. In EC-EIS you can report on the data planned in EC-BP.

Within this documentation, unless indicated otherwise, the sections Data Basis (EC-EIS/EC-BP) [Page 23], Data Collection (EC-EIS/EC-BP) [Page 99], and Tools (EC-EIS/EC-BP) [Page 224] are relevant for both applications. The section Business Planning (EC-BP) is only relevant if you have the EC-BP component installed.

Features

When customizing your Executive Information System you set up an individual EIS database for your business and have this supplied with data from various sub-information systems (Financial Information System, Human Resources Information System, Logistics Information System, cost accounting, etc.) or with external data. Since this data is structured heterogeneously, you can structure the data basis into separate EIS data areas for different business purposes. These data areas are called aspects. You can define various aspects for your enterprise containing, for example, information on the financial situation, logistics, human resources, the market situation, and stock prices. For each aspect you can create reports to evaluate the data. You can either carry out your own basic evaluations in the EIS presentation (reporting) system or analyze the data using certain report groups created specifically for your requirements. To access the EIS presentation functions, choose *Information systems → EIS.*

In this documentation the application functions are described in detail and the customizing functions in brief. It is intended for the EC-EIS user but also those responsible for managing the system. To access the EC-EIS application menu, choose *Accounting → Enterprise control. → Executive InfoSystem.*

To call up the presentation functions from the application menu, choose *Environment → Executive menu.*

Necessary preliminary tasks and settings are carried out in Customizing. You can find a detailed description of the customizing functions in the implementation guidelines.

Setting Up the Data Basis

An **aspect** consists of **characteristics** and **key figures**. Characteristics are classification terms such as division, region, department, or company. A combination of characteristic values for certain characteristics (such as Division: Pharmaceuticals, Region: Northwest) is called an evaluation object. Key figures are numerical values such as revenue, fixed costs, variable costs, number of employees and quantity produced. They also form part of the structure of the aspect. The key figure data is stored according to the characteristics in an aspect.

Besides these key figures stored in the database, you can also define calculated key figures in EC-EIS and EC-BP. Calculated key figures are calculated with a formula and the basic key figures of the aspect (for example: CM1 per employee = (sales - sales deductions - variable costs) / Number of employees).

Determining characteristics and key figures when setting up the system provides the framework for the possible evaluations. You make these settings in customizing. When the structure of the aspect and the data basis have been defined in Customizing, you can evaluate data.

See also:

Aspect [Page 24]

Characteristic [Page 27]

Basic Key Figure [Page 29]

Presentation of the Data

Drilldown reporting and the report portfolio help you to evaluate and present your data.

You can evaluate EC-EIS data interactively using drilldown reporting. You a make a selection of the characteristics and key figures from the data basis. You can analyze many types of variance (plan/actual comparisons, time comparisons, object comparisons). Drilldown reporting contains easy-to-use functions for navigating through the dataset. In addition, there are a variety of functions for interactively processing a report (selection conditions, exceptions, sort, top n and so on). You can also access SAPgraphics and SAPmail and print using Microsoft Word for Windows and Microsoft Excel.

Drilldown reporting, with its numerous functions, is aimed at trained users, especially financial controllers and managers. By using the various function levels appropriately, other users can execute reports without needing extensive training. The reports created in drilldown reporting can be combined for specific user groups and stored in the graphical report portfolio.

The report portfolio is aimed at users with basic knowledge of the system who wish to access information put together for their specific needs. You can call up report portfolio reports via a graphical menu. This menu can be set up individually for different user groups. The navigation function in the report portfolio is limited to scrolling through reports created by the relevant department.

Overview of Drilldown Reporting [Page 12]

Overview of the Report Portfolio [Page 21]

Overview of Drilldown Reporting

When you create a drilldown report, you first need to choose the aspect whose data you wish to analyze. Each report has a unique name and a short description. A report can be created as either a basic report or a form report. The report with a form gives you the chance to freely configure the layout using a form, which the basic report does not. When you create a form report, you enter the name of the pre-defined form which contains the report layout.

In a report, we differentiate between two types of list. In a **drilldown list**, several objects (characteristic values), for example, divisions, are contained in the rows and a selection of key figures (for example, revenue and contribution margin 1) are contained in the columns. In a **detail list**, a single object (for example, the combination of customer X in sales area 1) is broken down into all its component key figures. The rows of the list are filled with the key figures and the columns may contain, for example, the planned and actual values for the object.

The following examples illustrate how you work with a basic report and a form report:

Example: Working with a Basic Report [Page 13]

Example: Working with a Form Report [Page 19]

Further information on drilldown reporting can be found under Interactive Drilldown Reporting [Page 157].

Example: Working with a Basic Report

When you create a **basic report**, the system first displays the screen *Variables* where you specify characteristic values for the characteristics contained in every aspect (fixed characteristics):

- Fiscal year
- Period (from/to)
- Plan/Actual indicators
- Version

On the screen *Characteristics*, the system displays a list of the characteristics in the aspect chosen and you select those which you wish to analyze. If you specify a characteristic group on this screen, the system displays the characteristics which belong to that group. You specify those which are of interest to you for evaluation. In this way, you define the dimensions of the data model which will be used later during drilldown. When you choose the characteristics, you automatically define the sequence of characteristics; however, you can alter the sequence by choosing *Extras* → *Sort orders* → *Sort characteristics*. The sequence represents the hierarchy in which you can drill down in the report. In the following example, a basic report is created which contains the characteristics **`Company`**, **`Division`**, **`Country`** and **`Customer group,`** in that order.

On the screen *Specify Characteristic Values*, you can then specify the characteristic values which interest you. If, for example, you specify the characteristic value **`Chemtech`** for characteristic **`Company`**, you can limit the report to this particular characteristic value. If you do not yet know which characteristic values you wish to evaluate in the report, you can create a variable. (This example does not contain any variables.)

The next stage is to specify the key figures you wish to analyze and which will later appear in the columns of the basic report. On the screen *Key Figures*, the system displays a list of the key figures that relate to the chosen aspect, or to the selected key figure group. In the example, the key figures **`Revenue`**, **`Contribution margin 1`** (**`CM1`**), **`Sales deductions`**, **`Fixed manufacturing costs`** and **`Variable manufacturing costs`** have been chosen. You can find further information on creating a report in the section Creating a report [Page 176]

After you have made the entries indicated above, you must save the report (*Report* → *Save*) before you can execute it (*Report* → *Execute*).

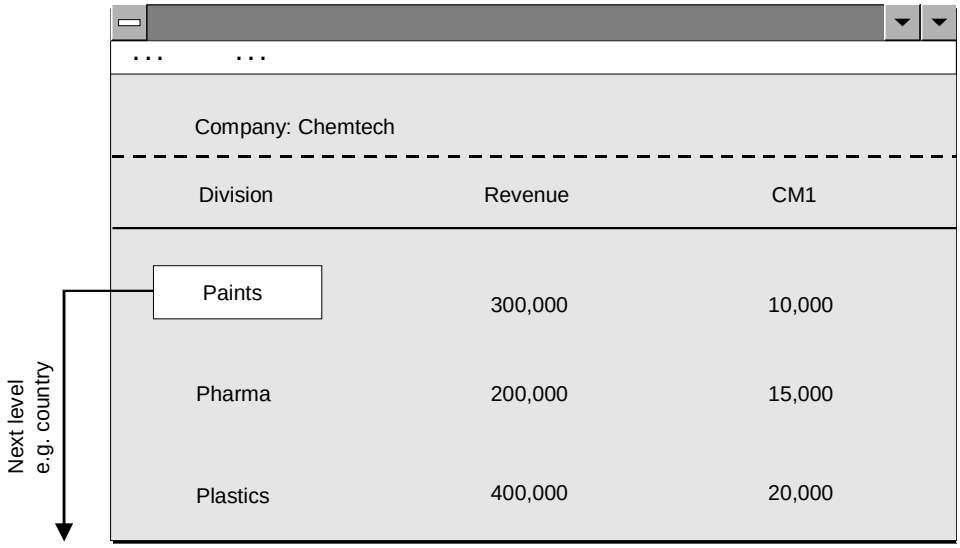
After you have executed a drilldown report, a drilldown list appears by default. The characteristic values of that characteristic that has not had values chosen for it during the creation of the report, and that appears first in the sort order (**`Division`** in the example), appear in the rows. The values of the selected key figures appear in the columns. If the detail list is to be displayed first, you can set this when creating a report by choosing *Extras* → *Initial list*.

In order to fulfill the information needs of different users, there are three levels of functionality when executing reports in drilldown reporting. If you have the appropriate authorization, you can select another functional level under *Extras* → *Additional functions*. You can find further information on this topic in the section Executing a report [Page 182] In *level 1* you carry out the navigation functions by placing the cursor on a row and then choosing the desired function in the *Navigate* menu. If you have the correct authorization you can select another level by choosing *Extras* → *Additional functions*. Both possibilities for selection of navigation functions are described in this example.

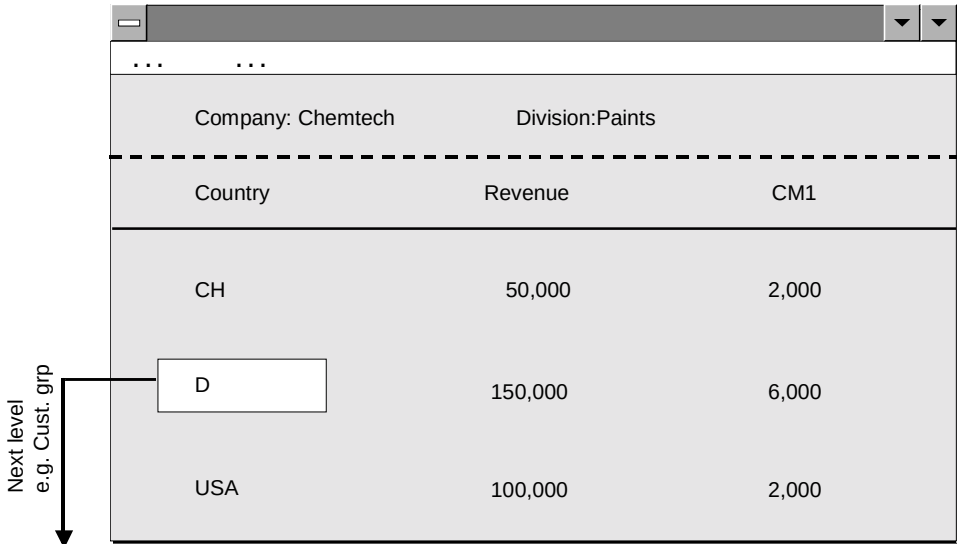
Example: Working with a Basic Report

If you roll over cursor-sensitive fields and icons with the cursor when in the report list, the form of the cursor changes into a hand. Please note that if you click just once on such a field with the mouse button then a function will be carried out. With other types of fields a single click just positions the cursor.

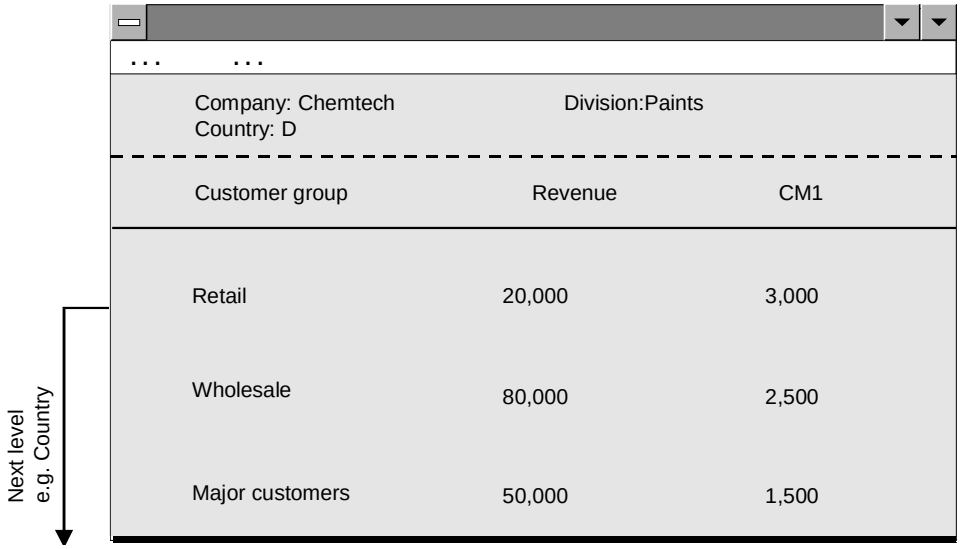
Some of the navigation functions in this example are not accessible with level 1.



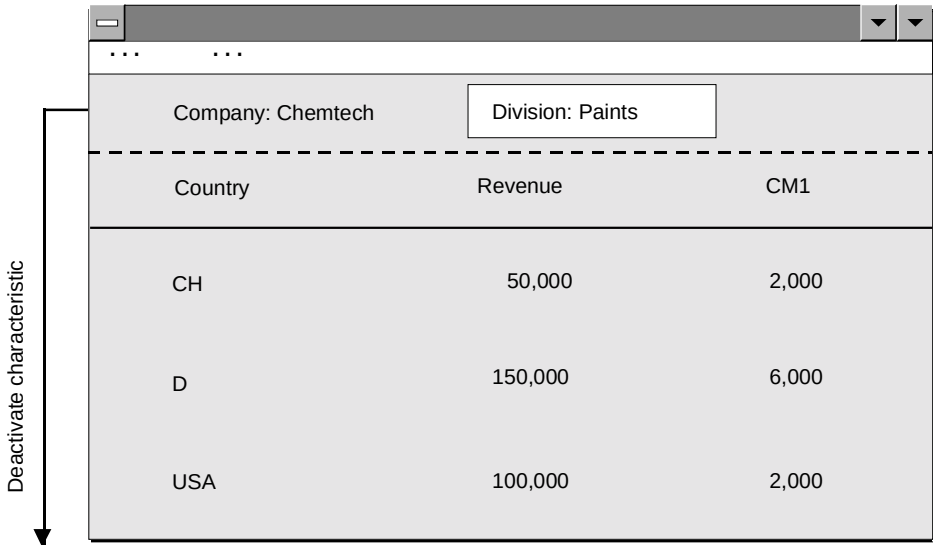
By selecting **`Division`** or choosing *Navigate* → **>***Country*, you can display the values of the **`division`** by **`country`** in our example. The selected **`division`** is then displayed in the report header:



By double-clicking further on **Country** or by choosing *Navigate* → **>***Customer group* in the example, you can display a breakdown by **`customer group`**.

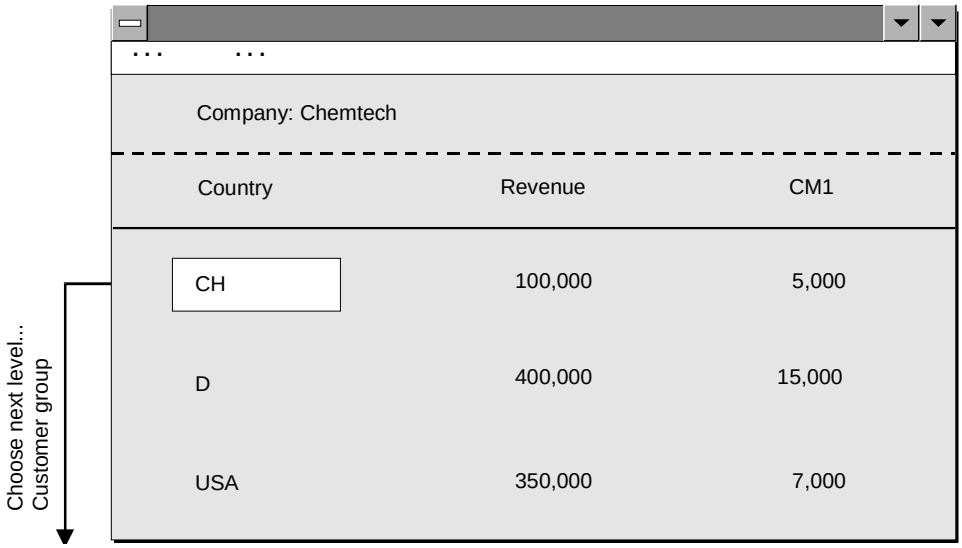


By clicking on the icon or choosing *Navigate* → *Country*, you return to the next highest level.

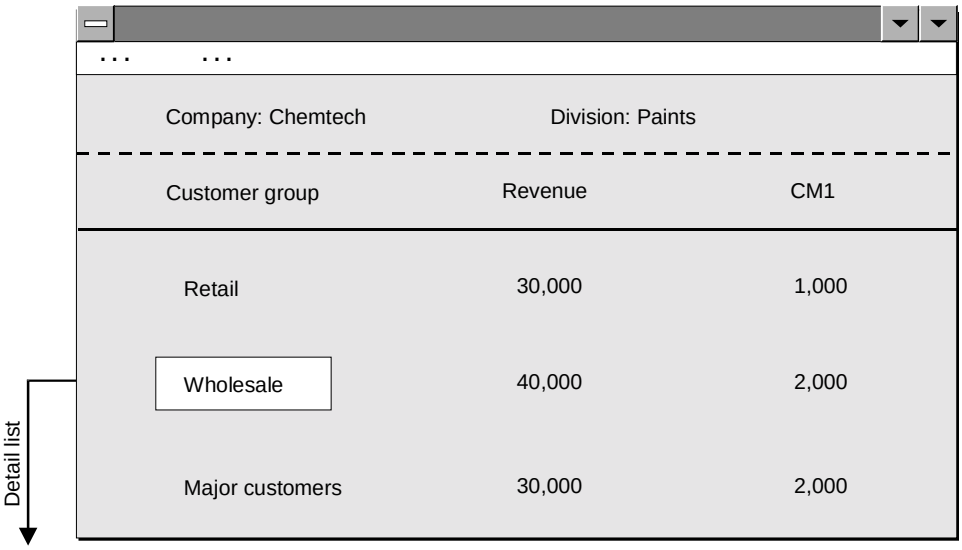


With a single click on the icon next to a **`division`** already chosen (in the report header) or if you choose *Navigate* → *Deactivate characteristic*, the system displays the values for the **`countries`** totaled over all the **`divisions`**. With this you have switched the evaluation hierarchy and set the characteristic **`country`** over the characteristic **`division`**.

Example: Working with a Basic Report

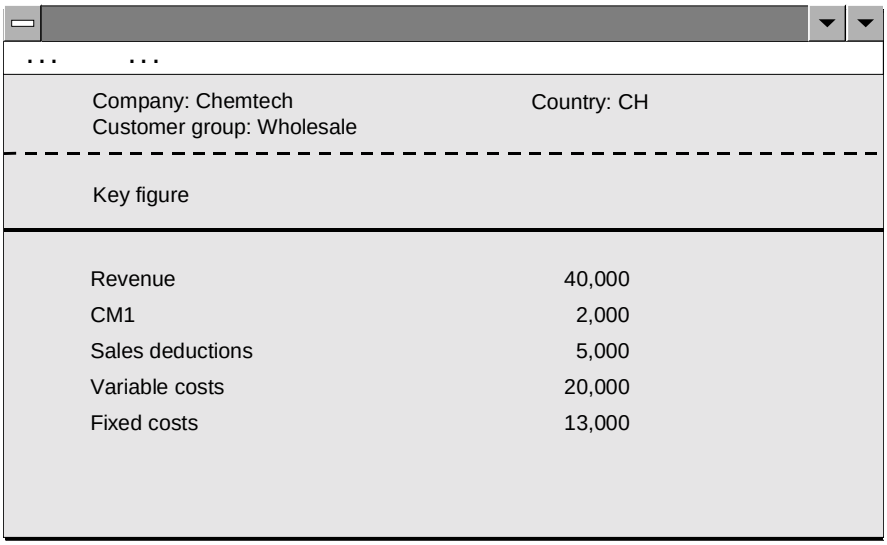


If you wish to perform drilldown independently of the predefined sort order, select a row and choose *Navigate* → *Choose next level*, or select the row and the characteristic **Customer group** in order to break down the values for a **`country`** by **`customer group`**. This means that you can **navigate freely** through a particular data area.



Sometimes the width of the screen is not sufficient to display a large number of selected key figures. Besides scrolling through the columns, you can also click on the icon at the start of a row and the icon , or position the cursor on a row and choose , to display all the key figures for the object selected.

In a basic report, the detail list contains only one column.



. . . . . .

Company: Chemtech
Customer group: Wholesale

Country: CH

Key figure	
Revenue	40,000
CM1	2,000
Sales deductions	5,000
Variable costs	20,000
Fixed costs	13,000

Further navigation functions are explained in the section Executing a Report [Page 182] and in the online handbook Drilldown Reporting [Ext.].

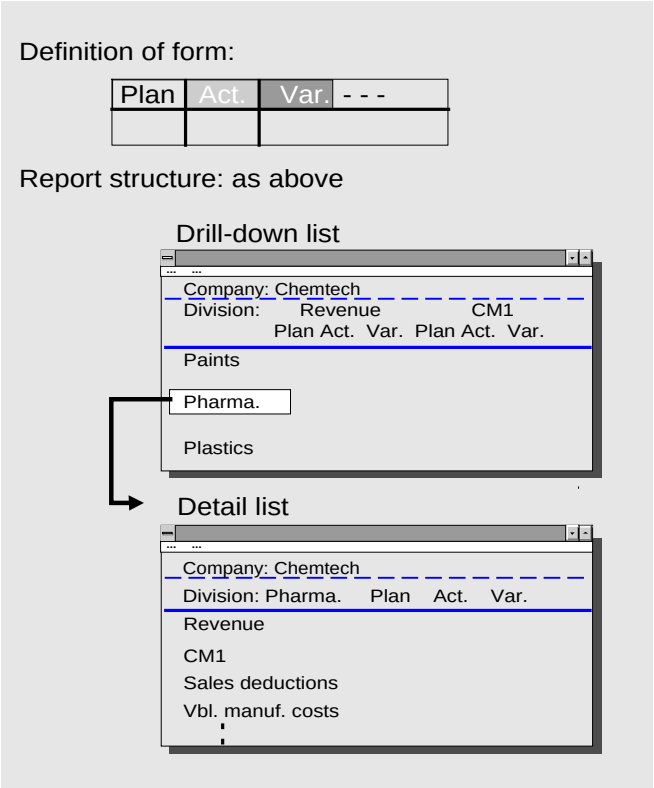
Overview of Form Reports

A **form report** offers greater options for formatting detail and drilldown lists. It uses a predefined form as a layout. For information on form maintenance, see the cross-application handbook Drilldown Reporting [Ext.].

A form can have one or two axes, meaning either columns, rows, or columns and rows. For a form with one axis, you merely define the content and sequence of the columns or rows. Please see Example: Working with a Basic Report [Page 13] for a Plan-Actual comparison.

An example of a form report can be found under Example: Working with a Form Report [Page 19].

Example: Working with a Form Report



As you can see in the diagram above, the detail list of the report has the same layout as the form. (See also Overview of Drilldown Reporting [Page 12]).

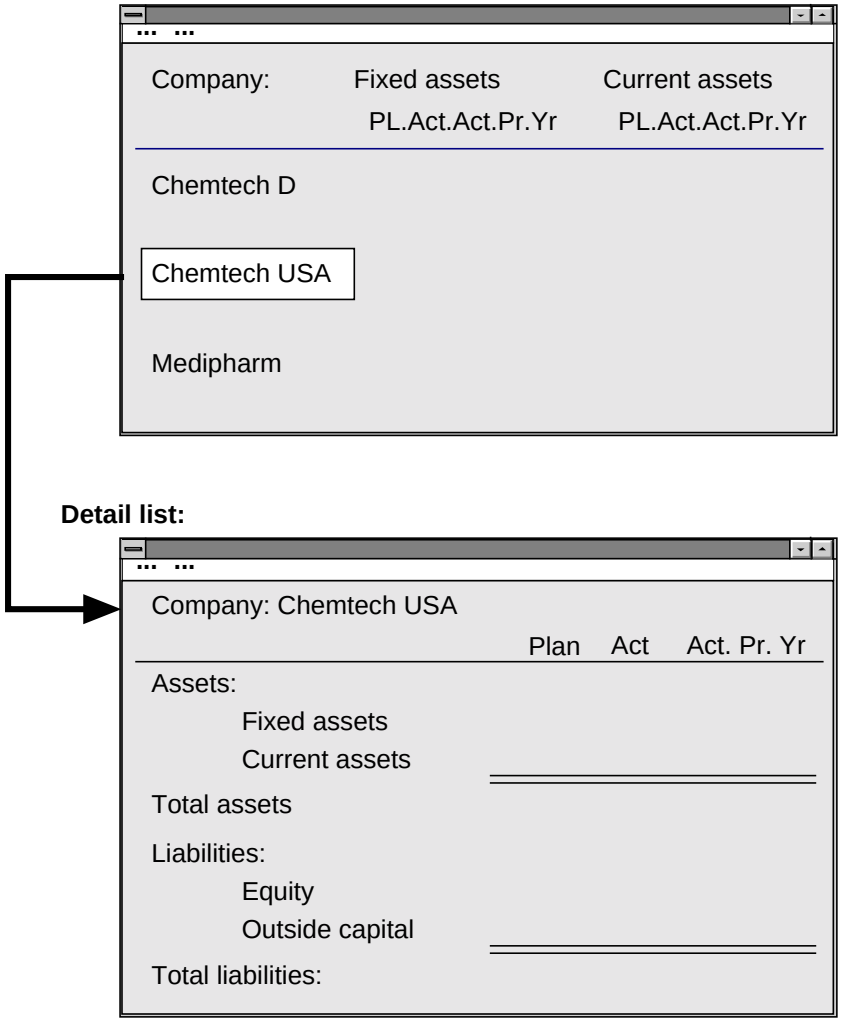
The example is of a **form with one axis but without key figures**. You select the characteristics for the columns in the form. You first establish the key figures in the report definition. If, however, you wish to establish the key figures in the form, you can create a **form with one axis with key figures** instead.

If you wish to specify the contents of the rows and the columns in the detail list, you need to use a **form with two axes** when you create a report. See Creating a Report [Page 176] for more information.

A typical example of a form with two axes is that required for displaying balance sheets. In this example, you can see that it is possible to insert text rows, blank rows, underscores, and so on. You can also apply colors to rows and columns to improve clarity.

Overview of Form Reports

Drill-down list:



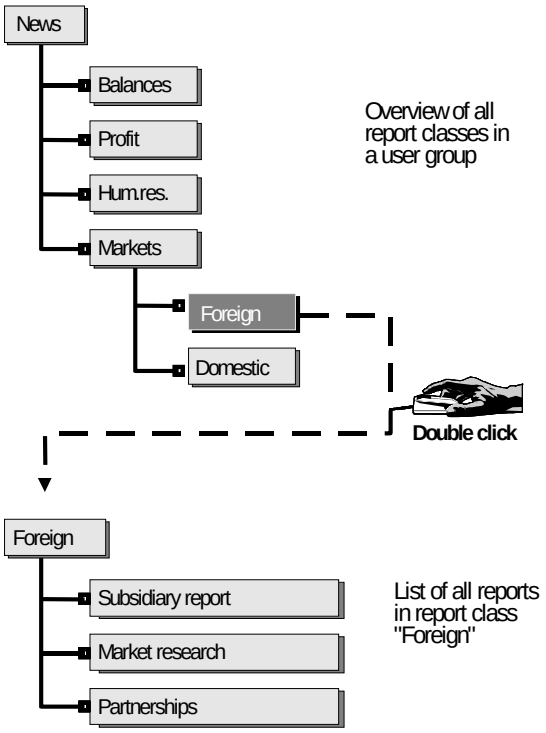
For more information on the exact differences between the form types, and for notes on sensible use of the different forms, see the online documentation Drilldown Reporting [Ext.].

The reports created in drilldown reporting can be stored in the report portfolio as single screens or as screen sequences. In the process, you name the report portfolio report and assign it to a report class. You can also specify whether you wish to copy the report with or without data. If you copy a report without data to the report portfolio, the data will be selected periodically or when you execute the report portfolio report. For more information, see Copying Reports from Drilldown Reporting [Page 206].

Overview of the Report Portfolio

The report portfolio users can display an overview of the report classes and reports in their report portfolios. The menu can be structured differently for each user group. The nodes of the hierarchy correspond to the report classes. The different reports are assigned to these classes. A color is assigned to each node. This color can depend on exception conditions you define. If certain thresholds in the report have been exceeded, the appropriate reports and report classes will be colored red or green accordingly.

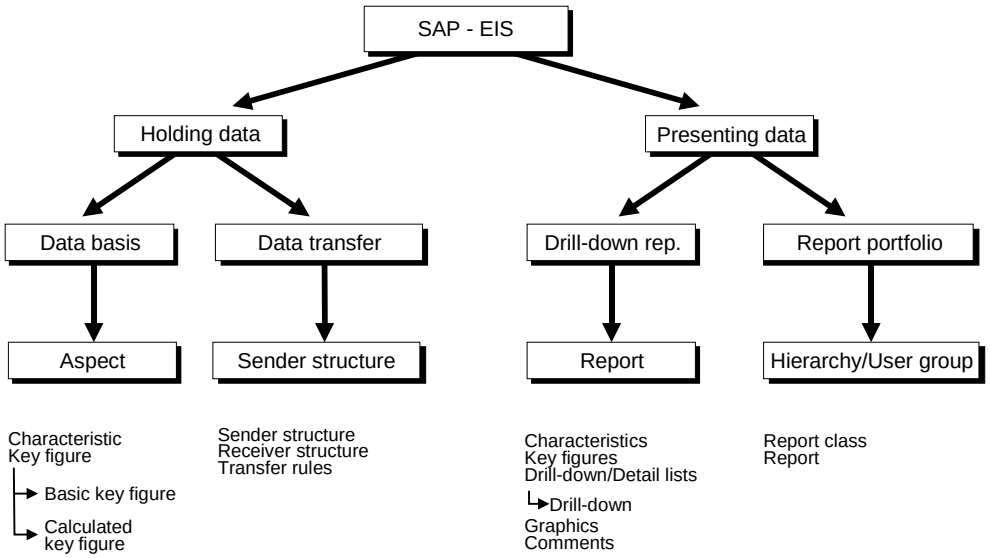
The following graphic represents a graphical menu. By selecting a report class, you can display all the reports belonging to this class. By selecting the name of a report, you can display the pages of this report. You can then scroll through the report portfolio report. For more information see Report Portfolio [Page 200].



Concept Hierarchy

The graphic below illustrates the relationships between the main concepts in SAP-EIS. The Executive Information System EC-EIS can be divided into two main areas, holding and presenting data. Holding data consists of the data basis and data transfer. Presentation consists of drilldown reporting and the report portfolio. The most important concepts are assigned to these areas.

Hierarchy of SAP-EIS Concepts



Data Basis (EC-EIS/EC-BP)

Purpose

The data basis forms the foundation of the Executive Information System (EC-EIS) and Business Planning (EC-BP). It saves related business data in several database tables that are each built according to an individual structure. A data table of this kind is called an Aspect [Page 24] The aspects separate the data basis into individual, evaluation areas that are largely independent of each other.

Integration

The data basis is a prerequisite for the saving and evaluation of data. It is, therefore, a prerequisite for the components **Executive Information System** and **Business Planning**.

Features

The data basis is freely configurable. You can set up and enhance aspects according to your information requirements. The creation of structure and environment objects for each aspect is managed with the help of generation techniques (see Creating an Aspect [Page 32]).

The fields of the data structure for the aspect are stored in a field catalog that can be seen as an EC-EIS-specific or EC-BP-specific addition to the ABAP Dictionary. These fields can be used in several aspects (see Maintaining the Field Catalog [Page 35]).

In addition to the aspects themselves, the transaction data stored for each aspect in the database belongs to the data basis.

Aspect

Definition

An aspect is an individual sub-section of the summarized business information of an enterprise. A database table containing characteristics and key figures from the field catalog is created for each aspect. Together, the aspects form the data pool on which the presentation (Report Portfolio [Page 200] and Interactive Drilldown Reporting [Page 157]) in the Executive information System (EC-EIS), and the planning in Business Planning (EC-BP) are based.

Use

The information contained in an aspect serves as a basis for evaluating a busines area. An aspect can, for example, contain information on the cash position, logistics, human resources, market situation or share prices. You can determine the number and structure of the aspects according to your company's requirements.

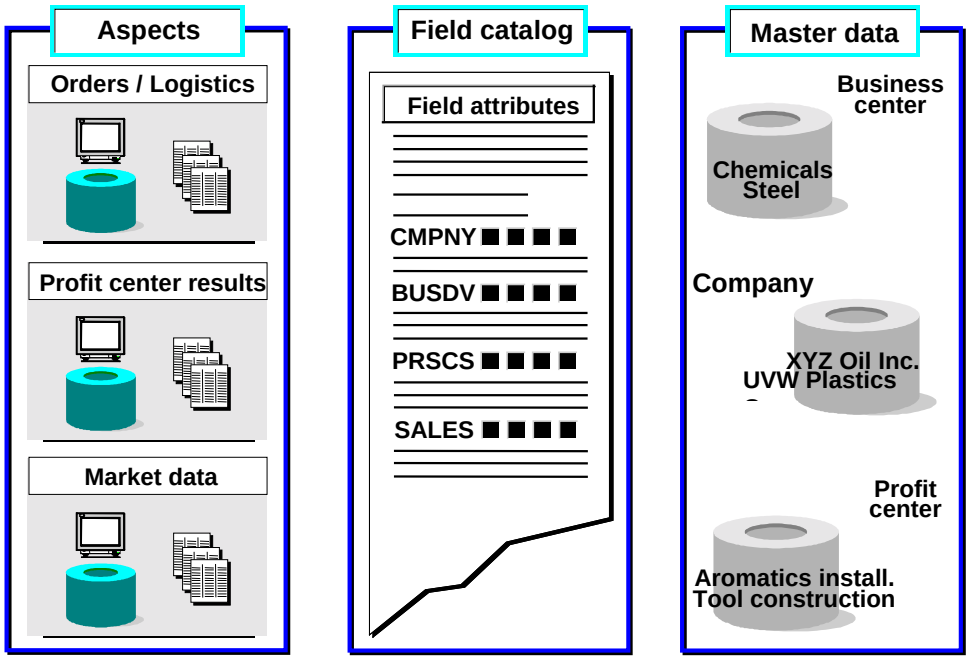
Structure

An **aspect** consists of Characteristics [Page 27] and Basic Key Figures [Page 29]. Characteristics are classification terms such as division, region, department, or company. Basic key figures are numerical values such as revenue, fixed costs, variable costs, number of employees or quantity produced. The key figure data is stored in an aspect by characteristic. Determining characteristics and key figures when setting up the system provides the framework for future evaluations.

Besides the key figures stored in the database, you can also define calculated (or derived) key figures. Calculated Key Figures [Page 36] can be calculated with a formula from the basic key figures of the aspect (for example: Contribution Margin 1 (CM1) per employee = (sales - sales deductions - variable costs) / Number of employees).

In addition to the database table with the characteristics and key figures, each aspect consists of a description of its structure in the ABAP dictionary, and environment objects. The transaction and plan data for an aspect is stored in the database table. The aspect environment consists of screens, user interfaces and programs for entering and displaying data. (See also Creating an Aspect [Page 32]).

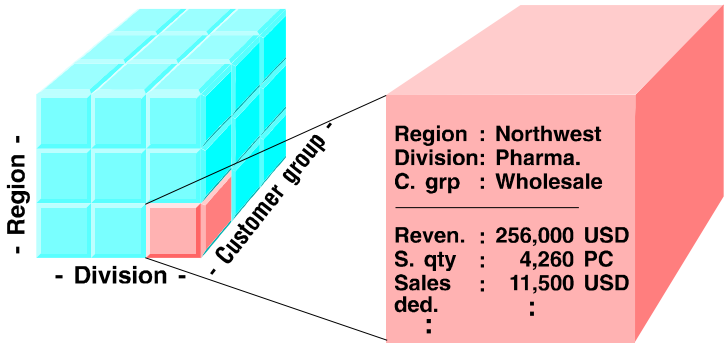
Example aspects



As shown in the graphic, one aspect can contain key figures on orders, another one may contain information on profit centers, another on market data etc. The characteristics (for example, *Company*) and basic key figures (for example, *Sales revenue*) are selected from the field catalog. The transaction data or plan data for the key figures is sorted by characteristic values (for example, the company *XYZ Oil Inc*.). The characteristic values are also indicated as master data.

Granularity of the data

The number of characteristics *n* in the aspect data structure combine to form an *n*-dimensional data cube. This is the basis for drilldown and aggregation in the presentation and business planning. The number of characteristics determines the complexity of the data cube, and the number of characteristic values determines the length of the side of a dimension. The characteristics of the aspect determine the maximum degree of fineness with which the data is available. The cube on the left shows the possible combinations of characteristic values of the characteristics. The cube on the right is an example of an evaluation object or a planning object, meaning a combination of characteristic values.



Aspect

Characteristics

Definition

A characteristic is an qualitative classification term such as division, region, department or company. Characteristics are criteria according to which, data for key figures is saved and evaluated, for example, revenue per division.

Structure

The characteristics can be both existing fields in the SAP System (for example, material) and enterprise-specific fields that you create when maintaining an aspect. The characteristics are stored in the EC-EIS/EC-BP field catalog and can be used in several aspects. You maintain the characteristics when defining an aspect.

You determine various characteristic values for a characteristic (for example, characteristic **division** has the values *Pharmaceuticals, Colors, Chem*.; characteristic **region** has the values *North, South*). A combination of characteristic values (for example **division**: Pharma, **Region**: South) is called an evaluation object. You can find out how to maintain characteristic values in the section Maintaining Master Data [Page 47].

Compound characteristics

Certain characteristics can only be interpreted in conjunction with another characteristic of the aspect. SAP uses the term **compound characteristics** for this. For example, the characteristic **region** is normally only maintained or interpreted in conjunction with a **country**. In this case a compound characteristic **region** is defined for the **country**. In the definition of such a characteristic, you determine the compound with the second characteristic.

Characteristic attributes

Characteristics can also have attributes, that describe the properties or assignments of the values. From this you can, for example, group products into a product group. The advantage of such characteristic attributes is that the information is stored in the master data rather than in the transaction data. Therefore, if you carry out a reorganization of your company at a later date and wish to change the assignments, these changes have an instant effect on the report without a database conversion.

Navigation attributes

You can store generated characteristics as attributes for user-defined characteristics with a generated check table (‘generated characteristics’).

In the report the navigation attributes are handled just as the characteristics of the aspect. You can carry out navigation functions with an attribute just as with other characteristics. In many cases the system can use one attribute to derive others. You can adopt these proposed multidimensional attributes and use them in your reports.

Display attributes

Display attributes are those that can be shown in the reports for information, but cannot be used for navigation. Depending on the origin of the characteristic, the display attributes are created differently:

- With generated characteristics, you can create new attributes that are not in the field catalog.

Characteristics

- SAP-delivered characteristics from the system field catalog are delivered with specific attributes.
- For other fields from SAP tables, you can adopt attributes from the corresponding check tables.

You maintain the attributes in Customizing when maintaining the characteristics.

Fixed characteristics

As well as the aspect-specific characteristics, every EC-EIS and EC-BP data structure contains the fixed characteristics **version**, **plan/actual indicator, fiscal year** and **period**. You do not have to enter these fixed characteristics as they are automatically included when saving the data structure. Predefined check tables, whose contents you can maintain, exist for the fixed characteristics. The meaning of the fixed characteristics is explained in more detail in Master Data [Page 45]. The facility to hold data in various currencies is explained in Currencies [Page 56].

Basic Key Figures

Definition

A basic key figure is a figure such as sales, fixed costs, variable costs, number of employees, or quantity produced, that cannot be derived or calculated from other figures. The data for key figures is stored by characteristic on the database of an aspect.

Structure

Basic key figures can be both existing fields in the SAP System (for example, sales) and enterprise-specific fields that you create when maintaining an aspect. The basic key figures are stored in the EC-EIS/EC-BP field catalog and can be used in several aspects.

The Executive Information System and Business Planning both have a key figure transaction, with which you can define key figures that can be calculated using formulas, in addition to the basic key figures of an aspect. For more information, see Calculated Key Figures [Page 36].

Field Group

Definition

A field group is a user-defined grouping of characteristics and basic key figures from the EC-EIS or EC-BP field catalog.

Use

The field catalog contains the fields that are used in the aspects. As the number of fields grows, the field catalog becomes very large and unclear. To simplify maintenance of the aspects, you can group fields in a field group. You can group the fields as you wish, for example, by subject area or responsibility area. A field may be included in several field groups.

When maintaining the data structure of an aspect, you can select the field group that contains the relevant characteristics and basic key figures. This way you limit the number of fields offered.

See also:

Characteristics [Page 27]

Basic Key Figures [Page 29]

Maintaining the Field Catalog [Page 35]

Considerations for Data Modeling

You can create the aspects in EC-EIS and EC-BP according to your information requirements and volume of data. Data which belongs together from a business perspective and which has common objects of reference should be combined in a single aspect.

In order to carry out cross-aspect analyses, you can define **view aspects** in EC-EIS. These consist of the characteristics and basic key figures of interest chosen from as many aspects as you wish. EC-EIS reports are always based on one aspect or one view aspect.

During the data modeling phase you need to consider carefully the level of detail required for the data within EC-EIS and EC-BP. A greater level of detail in the data simplifies specific searches during navigation and drilldown in presentation and also allows more detailed planning. However, the greater volume of data required will increase response times. You need to decide here, to which degree the data transferred from transaction systems can be usefully aggregated.

In general in the R/3 System, and also therefore in EC-EIS and EC-BP, there is a strict separation of master data and transaction/plan data. Master data includes, for example, an enterprise's customer list or product catalog. The master data in EC-EIS and EC-BP is managed in its own tables, independent of the aspects. The aspect tables contain transaction data and/or plan data only.

See also:

Master Data [Page 45]

Transaction Data [Page 60]

For information on maintaining an aspect, see Creating an Aspect [Page 32].

Creating an Aspect

Use

With the creation of an aspect for a subarea of your enterprise, you determine what information you wish to retain and evaluate for this area (see also Aspect [Page 24]).

Features

You maintain aspects in Customizing. To create or change an aspect, you define its data structure online. A fiscal year variant and an aspect currency are assigned to each aspect. The fiscal year variant determines for which period of time the transaction data is stored in EC-EIS or EC-BP. The aspect currency is used as standard for basic key figures, for which nothing else has been determined with respect to the currency (see Currencies [Page 56]).

You maintain the data structure by transferring evaluation groups (Characteristics [Page 27]) and value fields (Basic Key Figures [Page 29]) from the field catalog. You can enter any amount of both types of field. You only have to keep to the database limitations for the total length of a data record. For more information, see Customizing.

Characteristics, that are only to be interpreted in conjunction with other characteristics, have to be defined in the compound characteristics definition (see Characteristics [Page 27]).

As well as the aspect-specific characteristics, every EC-EIS and EC-BP data structure contains the fixed characteristics **version**, **plan/actual indicator, fiscal year** and **period**.(see Master Data [Page 45]). The facility to hold data in various currencies is explained in Currencies [Page 56].

When you have selected the characteristics and key figures for an aspect, you must save the aspect and then activate it. The data structure is created in the ABAP Dictionary when you save it. When you activate an aspect, the environment is derived from the description of the data structure and is generated automatically. The environment must be generated before you can maintain or display transaction data. You will find further information on this topic in Customizing.

View Aspects (EC-EIS only)

You can create a view aspect to evaluate the data from several aspects at once. To do this, you make a selection of characteristics and basic key figures from the aspects concerned. This way you define a view of two or more existing aspects without having to create a new database table. A view aspect reads its data from the database tables of the relevant aspects and aggregates them in a common context. When you execute a report using a view aspect, you enter the name of the view aspect. The system handles the data records as if they have been read from a single aspect. You can find information on creating a view aspect in Customizing.

Virtual Aspects (EC-EIS only)

Virtual aspects enable you to evaluate data from any transaction data tables. No transaction data table of the EC-EIS database is generated when you define a virtual aspect. In this case, the transaction data is in any database table.

In contrast to the other aspect types, the selection routines for data collection are not created automatically when the aspect environment is generated. Only calls of function modules are created, which execute the actual data collection. These function modules are in the reserved customer name space, and in particular cases must be created by you in accordance with the respective requirements.

The generated call has the form:

```
call function 'Z_EIS_READ_DATA_CFNNN'
      tables
            sel_tab = reptab
            rec_tab = tru_tab.
```

'NNN' is to be replaced by the specific aspect number (therefore for aspect 600, a function module **Z_EIS_READ_DATA_CF600** is called).

The parameters have the following meaning:

- **sel_tab**: An internal table, which contains the selection conditions for the requested data as rows. This table can be used for example as content of the **WHERE** condition of a dynamic **SELECT** statement.
- **rec_tab**: An internal table, which contains the selected data records when you exit the module. This table has the **IFNNN** structure generated by the aspect definition as row type (therefore, for aspect 600 it has the row type of the DDIC structure **IF600**).

The way how the respective module generates the data records of table **rec_tab** from the selection conditions of table **sel_tab**, is completely user-defined, and can be adjusted in particular cases to very special needs.

Virtual aspects offer a high degree of flexibility in data storage, but require deeper knowledge about the internal structures of EC-EIS, and a considerable degree of programming knowledge.

Performing Operations on an Aspect

Changing an aspect

If a database table exists for an aspect data structure or if data is already contained in an aspect, you can only create additional fields in the existing structure.

Deleting an aspect

You can delete an aspect as an entire unit. Using this function the data, data structure, database table, and environment are deleted.

When you delete an aspect, do not forget dependent objects such as calculated key figures or reports which are no longer useful without the aspect database table. You can, however, keep such objects for the purposes of setting up the aspect again.

Transporting an aspect

You can transport an aspect and all ABAP Dictionary objects, which logically belong to it, into another system.

You can find more details on these operations in Customizing.

Maintaining the Field Catalog

Storing aspect fields in the field catalog

The characteristics and basic key figures are stored in a field catalog when they are saved. This catalog can be seen as a EC-EIS/EC-BP-specific supplement to the ABAP Dictionary. Report-relevant attributes for the fields are also stored in the field catalog. The field catalog is aspect-independent. Once a field is contained in the field catalog, it may be copied to other aspects but may no longer be changed. This guarantees a uniform, cross-area use of evaluation groups and key figures.

You can create field groups to structure the fields in the field catalog. A Field Group [Page 30] is a user-defined grouping of characteristics and basic key figures.

Reorganization of the field catalog

The field catalog and ABAP Dictionary information on the aspect data structures must be consistent with one another - each data structure field must also exist in the field catalog. If this is no longer the case, you should reorganize the field catalog in order to restore the consistency. When you do this, the system reads the aspect structure from the ABAP Dictionary and reconciles it with the field catalog.

Deleting fields from the field catalog

Characteristics and basic key figures, that are no longer used in any aspect, can be deleted from the field catalog. Any relevant master data, comments, generated ABAP Dictionary objects will be deleted at the same time.

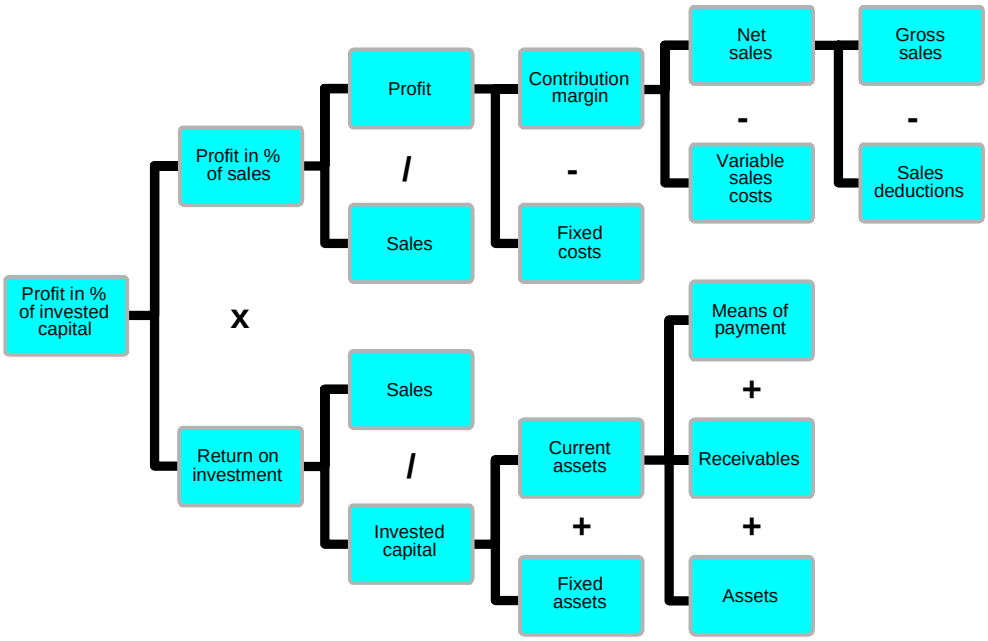
You can find more information on the field catalog in Customizing.

Calculated Key Figures

Using the basic key figures in the database (see Creating an Aspect [Page 32]), you can create further key figures (derived or calculated key figures). Unlike basic key figures, the value of a calculated key figure is not saved in the database. Instead it is calculated by the system whenever you execute a report containing this key figure.

If you have defined the basic key figures **`Sales revenue`** and **`Employees`** in an aspect, you can define the sales revenue per employee with the formula **`Sales revenue/Employees`**.

Key figure formulas can comprise the basic key figures of that aspect, constants and existing defined key figures in the aspect, i.e. you can build up tree-like key figure hierarchies (see diagram below). In the presentation there is no distinction between basic key figures and derived key figures.



Each derived key figure has a unique name, valid in all aspects. Furthermore, each key figure is assigned to a specific aspect because it can be split into the basic key figures of that aspect. However, if all these basic key figures exist in a second aspect, the derived key figure can also be used in the second aspect. You can create derived key figures for a view aspect, and use basic key figures (from the aspects which form the view aspect) in the formulas. The procedure for defining key figures in an aspect and in a view aspect is identical.

For information on creating and editing calculated key figures see Maintaining Calculated Key Figures [Page 38] See also Displaying and Deleting Calculated Key Figures [Page 44].

Maintaining Calculated Key Figures

You maintain the calculated key figures in an aspect in the EC-EIS application menu under *Information system → Key figures → Maintain*. To create or change a key figure, proceed as follows.

1. Enter the aspect whose key figure you wish to maintain. Choose *Edit key figures*.
2. Enter the name of a new key figure or that of an existing key figure. Choose *Key figure → Create* or *Change.*
3. Maintain the short text and description, and enter a formula. The components of the formula should be separated with blank spaces.

Formula	Description
REVEN - COST	Normal subtraction
REVEN MAX COST	Maximum of REVEN and COST
REVEN %A COST	COST as percentage of REVEN
REVEN + ABS (COST)	Sum of REVEN and the absolute COST amount

Using the function *Extras → Basic fields → Display*, you can display the possible components for the formula. Using the function *Switch basic fields*, you can switch between basic key figures, existing key figures and constants. For more information on constants, see Creating Constants [Page 165].

The following operators are supported in the formula:

Operator	Description
+, -, *, /	Basic arithmetic operations
%	Percentage variance (i.e. a % b = 100 * (a-b) / abs(b))
%A	Percentage (a %A b = 100* a/b)
%T	Percentage of the total sum [1]
%S	Percentage of the sum
**	Raise to a power
=	Assignment
ABS	Absolute amount
CNT	1 if operand <> 0, otherwise 0
COS	Cosine
DIV	Division (of integers)
DTA	Jump function. 1 if operand is 0, otherwise 0

EXP	Exponential function
LOG	Logarithm
MAX	Maximum
MX0	Maximum of operand and zero
MIN	Minimum
MN0	Minimum of operand and zero
MOD	Remainder (of division of integers)
NDI	Key figure value without dimension
REF	Value 1 without dimension [2]
SIN	Sine
SQT	Square root

Key:

1. This operator can only be used when maintaining forms for drilldown reports. Total sum means the value in the results row when aggregated over all the characteristics.
2. This operator can only be used when maintaining forms for drilldown reports. Sum means the value in the results row for the current drilldown.

Choose *Edit* → *Edit formula* to delete and insert lines in the formula area.

Key figure formulas may be up to 4,096 bytes long. Note that key figures in the info system are broken down internally.

Before saving the formula, you must choose *Edit* → *Check formula*. The formula is then checked for correct syntax, the formula stages are generated, and the technical attributes are set to default values. The formula stages represent the breakdown of the key figure formula into elementary calculation steps (stages). After the syntax check, the key figures are checked for their logical sense. A check is made, for example, that quantities are not added to values.

You can use the function *Edit* → *Reset formula* to reset the key figure to the version stored in the database or the last saved version.

Choose *Edit* → *Substitute formula* to replace the key figures with the elements defining them until the formula contains only basic key figures and constants.

Choose *Extras* → *Get formula(s)* to display or hide the formulas for the key figures in the lower section of the formula area. You can specify the key figures by entering the name or subgroup.

Use the function *Extras* → *Switchover paging* to switch between the upper and lower formula areas.

Choose *Extras* → *Check recursive act.* to check whether recursive relationships exist between key figures.

Extras → *EIS stage forms* is for internal test purposes only.

Maintaining Calculated Key Figures

The function *Extras → Evaluate formula(s)* acts as a calculator. You can enter values in the basic fields (*Enter basic values*) and then have the system calculate the key figure values from the formulas (*Calculate key fig.*). The system displays the calculated values on the formula stage screen (*Goto → Formula stages*). You may have to switch between the value and attribute display (*Extras → Values/Attributes*).

Choose the function *Formula stages* to branch to another screen. Here, the calculation stages for the key figure are displayed. In addition, you can set the time-based and non-time-based aggregation rules, the time reference field, the *No aggregation required* indicator and the number format (number of decimal places and display factor).

Aggregation of key figures

An attribute of key figures, important for their use in presentation, is the aggregation rule assigned to the key figures. This determines if and how the individual key figures are to be aggregated over characteristics in a report. There are two types of aggregation for basic key figures:

1. Time-based aggregation rules define how a key figure is to be aggregated over time. In the following example, it would not make sense to add the number of employees for each period over several periods, but it may be useful to calculate the average. With stock prices, the maximum, minimum, and average within a period are of interest, but not the sum. To calculate non-cumulative values such as these, you need to specify a reference field, that is, the smallest time unit in the aspect. The key figure must be posted for each characteristic value defined for this reference field, in this case, number of employees each month.
2. Non-time-based aggregation defines how the key figure is to be summarized over a characteristic that is not a time dimension. In the following example, the number of employees is totaled over the cost centers because the characteristic cost center has no time dimension.

You can maintain a non-time-based **and** a time-based aggregation rule for each key figure.

Basic key figure **`Number of employees`** is defined as:

Field name	Description	Aggregation	Time-based aggr.	Ref. field
EMPLY	No. of employees	SUM	AVG	&PERI

The number of employees must be posted each month (**`&PERI`**).

This basic key figure is then used in a basic report.

Period	**No. of employees**	
001.1995	10	
002.1995	15	
003.1995	35	

Result	**20**	**(Average value)**

If you drill down period 2 by cost center, the list appears as follows:

Cost center	**No. of employees**	
010	5	
020	7	
030	3	
Result	**15**	**(Total)**

The following functions are available for time-based aggregation:

Function	**Description**
AVG	Average
CNT	Counter
FIR	First value
LAS	Last value
MAX	Maximum
MIN	Minimum
NOP	No aggregation
SC+	Summation where > 0
SC-	Summation where < 0
STD	Standard deviation
SUM	Summation
VAR	Variance

The following functions are available for non-time-based aggregation:

Function	**Description**
MAX	Maximum
MIN	Minimum
NOP	No aggregation
SC+	Summation where > 0

SC-	Summation where < 0
SUM	Summation

Reference field for time-based aggregation

If you define a time-based aggregation rule other than **SUM** for a key figure, you must maintain a *time reference field*. This must be a valid characteristic of type D as well as being the smallest unit of time in the aspect (You can use the variable **&PERI** delivered by SAP which represents the fiscal year and the period.) The time reference field must be the most precise time field in the aspect. According to this rule, the field **Posting date** would supersede **Fiscal year**.

All key figures in a report must have the same time reference field.

Where a basic key figure has a time-based aggregation rule other than **SUM**, it cannot be used to create calculated key figures with another aggregation rule. This means, for example, that to create a key figure *Maximum warehouse stock* with time-based aggregation **MAX** and time reference field **&PERI** which stores the maximum warehouse stock per period, it is necessary to define the key figure *Warehouse stock* with time-based aggregation **SUM** and the key figure *Average warehouse stock* with time-based aggregation **AVG** and time reference field **&PERI**.

No aggregation required

Set the *No aggregation required* indicator if the key figure cannot be aggregated in a report from the rows or columns before it. For example, *sales revenue per employee* for all plants cannot be calculated from the relevant key figures for the individual plants, but rather must be calculated using the cumulated revenue and the total of all employees. The collective key figure must be calculated in the results row on the basis of a new formula.

Month	Sales	Employees	Sales/Employee
Plant 1	100	1000	0,1
Plant 2	1000	100	10
Result	**1100**	**1100**	**10.1 or 1?**

In the above example, it is important that the results row is not calculated like the other rows (sales divided by employees) but that it is calculated using a formula defined for the cell.

The *No aggregation required* indicator must be set when

- Operators other than **=**, **+** and **-** are used in the key figure
- The *No aggregation required* indicator is set in a key figure used in the formula
- A time-based or non-time-based rule other than **SUM** is used in any basic or calculated key figure used in the formula.

Key Figure Groups

You can create key figure groups and assign key figures to these groups You can use these key figure groups in the report definition in order to simplify the selection of key figures. Before you assign a key figure to a key figure group during key figure maintenance, you must first have created key figure groups in Customizing.

Displaying and Deleting Calculated Key Figures

To display or delete the calculated key figures for an aspect, choose *Information system* → *Key figures* → *Display* from the EC-EIS application menu.

Displaying calculated key figures

Enter the aspect and choose *Display*. If you also wish to display the formulas defined for the calculated key figures, choose *With formula*. Choose *Execute* to display all the calculated key figures in the selected aspect.

Deleting calculated key figures

This function **immediately** deletes **all** calculated key figures in the selected aspect without displaying them first.

Enter the aspect and choose *Delete*. Use *Execute* to delete all calculated key figures in the selected aspect.

Master Data

The master data consists of the permitted characteristic values of a characteristic and the relevant descriptive texts. When the transaction data is recorded, the system checks the characteristic value entries against this master data. There are two types of master data: characteristic values for fixed characteristics and characteristic values for user-defined characteristics.

Characteristic Values for Fixed Characteristics

Each EC-EIS and EC-BP data structure contains the fixed characteristics **version, plan/actual indicator, fiscal year** and **period**.

The **plan/actual indicator** separates plan data from actual data in the database. The planning functions edit plan data exclusively, data entry edits actual data exclusively. The data transfer applies equally to plan and actual data.

The **version** allows you to hold differing datasets in parallel. For the planning it serves as a plan version, but the actual data can also be held in different versions.

Reporting can compare plan and actual data of different versions in one report.

The version and plan/actual indicator in Release 4.0 replace the version and the value type of earlier releases. The ‘Version’ of previous releases has been renamed as ‘Data area’. Neither the data area nor the value type are fixed characteristics in Release 4.0. However, they can still be managed as user-defined characteristics in the aspect. You can get details on the conversion from Release 3.x to 4.0 in the Release Information in the System.

The master data for the **fiscal year** are the fiscal years you wish to report on.

You define the number of **periods** per fiscal year in the fiscal year variant.

You maintain the values of the fixed characteristics **version**, **fiscal year** and **period** in Customizing. The characteristic values for the plan/actual indicator are delivered and do not have to be maintained.

Characteristic Values for User-Defined Characteristics

After you have created the user-defined characteristics you require in the aspect, you must define the corresponding characteristic values. For more information, see Maintaining Master Data [Page 47].

When defining a user-defined characteristic, you can store one or more characteristics as attributes, for example, product group for a product. In this case, during master data maintenance, you do not just enter the characteristic values for a characteristic, but you also assign them to the attributes.

You can link characteristic values with one another using derivation rules. This way, in either manual data entry or automatic data transfer, you can derive unentered characteristic values from other values. For more information, see Derivation of Characteristic Values [Page 54].

Maintaining Master Data

To maintain characteristic values for the user-defined characteristics, choose *Master data* → *Characteristic values* → *Maintain* in the application menu. Maintenance involves three steps. You can display characteristic values in a similar way.

1. Enter an aspect to narrow down the selection of characteristics.
2. Select a characteristic to be maintained.
3. Change or add to the list of characteristic values.

   Sometimes, other characteristics are assigned to this characteristic as attributes. If this is the case, further columns appear, in which you can enter the attributes for the characteristic values, for example, product group for the product. Note that the multilevel attributes are derived automatically, and may not be changed here.

Choose *Master data* → *Characteristic values* → *Import file* to import master data from a file into the system. The procedure is described in Importing a File [Page 84]

Deleting Master Data

To delete the characteristic values for user-defined characteristics, choose *Master data* → *Characteristic values* → *Delete* in the application menu. Proceed as follows:

1. Enter an aspect to narrow down the selection of characteristics.
2. Select a characteristic to be edited.
3. Select one or more characteristic values.
4. Choose *Delete.*

Using *Master data* → *Characteristic values* → *Delete,* it is also possible to delete characteristic values without displaying them first.

Master Data Hierarchy

What is a master data hierarchy?

You can define hierarchical relationships between the characteristic values for many characteristics used in EC-EIS and EC-BP. You can evaluate these in drilldown reporting or edit them in business planning. You can, for example, portray a hierarchy of your company's products or customers. You can define various variants of a hierarchy, which you can then display in reports. These variants enable you to analyze simulations and 'What if...?' situations.

You create a master data hierarchy based on the master data of a characteristic (the characteristic values). Note that where different characteristics refer to the same master data table, the hierarchy is the same too. You cannot maintain external hierarchies for characteristics without master data tables. This is the case for characteristics which were created for Release 3.0 without check and text tables.

It is important to remember here that hierarchies are based on **one** characteristic. This means that only the characteristic values of one characteristic are contained in a hierarchy. Furthermore, each characteristic value may only occur once in the hierarchy. Therefore, each value remains unique in the overall hierarchy.

It is possible to create alternative hierarchies based on the same characteristic in order to simulate different combinations. These alternative hierarchies are stored as hierarchy variants. Up to 999 different variants of a hierarchy can be created for one characteristic.

Hierarchies from other applications (in EC-EIS only)

Standard hierarchies for certain objects are also maintained in other application components. As with other characteristics, you can create a separate master data hierarchy in EC-EIS and maintain different variants. However, in EC-EIS it may sometimes be helpful to report using the standard hierarchies. You can use these standard hierarchies, created in other application components, as reference hierarchies in EC-EIS. This means that you do not have to reconstruct such hierarchies. Note that you cannot change the reference hierarchy in EC-EIS. Changes to the hierarchy must be undertaken in the original application component, for example, the standard hierarchy for cost centers must be maintained in Cost Center Accounting.

The reference hierarchies that you can use in EC-EIS are the cost center, cost element, and profit center hierarchies as well as the HR organizational structure, company group and the balance sheet/income statement structure. In order to make a reference hierarchy visible in EIS, the corresponding characteristic in EC-EIS (for example, cost center) must refer to the original object (meaning data element and domain) in the application component. If a hierarchy already exists in a component and the corresponding characteristic is maintained in the aspect, the hierarchy appears automatically for selection in drilldown reporting. If you have also created one or more hierarchy variants for the characteristic in EC-EIS, these will also appear for selection. In Customizing, for each hierarchy, you can set how they should be displayed in the report,.

In order to be able to select a hierarchy for cost centers, cost elements or profit centers in reporting, you must have selected the characteristic **Controlling area** in the report and have entered a value for it.

To be able to select a balance sheet/income statement structure you must have selected the characteristics **Company code** and **Chart of accounts** in the report.

You can also transfer master data hierarchies from other systems into EC-EIS or EC-BP. You can find detailed information on this in Customizing.

Term explanations

A master data hierarchy defines hierarchical relationships between characteristic values. Some term definitions are necessary to describe the basic concept.

Each characteristic value contained in the hierarchy represents a hierarchy **node**. If such a node contains further dependent nodes, it is called a **structure node**. If a node has no dependent nodes, it is called an **end node**.

This classification only refers to the hierarchical position of the node, therefore only to the existence of dependent nodes. A further classification is required regarding the relationship to the master data.

A node whose characteristic value is contained in the master data is called a **chargeable node**. Since the consistency between master data and transaction data is checked when data is posted, you can only charge to those characteristic values represented by the master data.

A node, whose characteristic value is not contained in the master data, is called a **non-chargeable node**. Nodes like this are stored in their own EC-EIS tables with appropriate texts. To maintain these nodes use the hierarchy maintenance functions or choose *Master data → Master data hierarchy → Non-chargeable nodes* in the application menu.

The distinction between chargeable and non-chargeable nodes gives no indication as to their hierarchical position as structure nodes or end nodes. The following combinations are possible: chargeable structure nodes, chargeable end nodes, non-chargeable structure nodes, and non-chargeable end nodes. These four terms are used in connection with master data hierarchies. Note that only nodes containing values are displayed in the presentation.

For more information, see Example: Master Data Hierarchy [Page 53].

Consistency of the master data hierarchy

A master data hierarchy does not have to contain all existing characteristic values. If new master data is created, this has no effect on the hierarchy.

Every characteristic value in the master data hierarchy must exist as a chargeable or non-chargeable node. This means that if you delete a master data record, the corresponding chargeable node will be deleted automatically. If this is a structure node, all dependent nodes will also be deleted.

Since non-chargeable nodes are stored in tables, but master data can be managed from other applications, it is possible to create a new master data record with a characteristic value which already exists as a non-chargeable node. In such cases, the non-chargeable node is replaced by the chargeable node. The rule is that chargeable nodes supersede non-chargeable nodes

For more information, see Maintaining the Master Data Hierarchy [Page 51].

Maintaining the Master Data Hierarchy

For more information on the master data hierarchy concept, see Master Data Hierarchy [Page 49]. See also Example: Master Data Hierarchy [Page 53].

To maintain the hierarchies, choose *Master data* → *Master data hierarchy* → *Edit*.

Creating a master data hierarchy

1. Enter the name of the characteristic for which you wish to create a hierarchy. Enter a number between **1** and **999** for the hierarchy variant.

   If you enter a characteristic which has been created with the same data element and same domain as another characteristic, the hierarchy is valid for both characteristics because it has the same characteristic values. A list of the affected characteristics appears automatically in the lower part of the screen.

2. Choose *Hierarchy* → *Create*

   The next screen contains information about the hierarchy

3. Enter a description of the hierarchy and, where necessary, select *Visible system-wide*.

   If you select *Visible system-wide*, the current variant will be active in all the applications using the master data hierarchy maintenance,. Otherwise, the variant is only available in EC-EIS and EC-BP.

4. Choose *Goto* → *Back*.

5. Now add the hierarchy nodes you require.

   Position the cursor on a node and press **F4** to display the chargeable characteristic values. Select the desired characteristic value or an existing non-chargeable node.

   To enter a non-chargeable characteristic value which does not yet exist, choose *Goto* → *Maint.non-chrge.node*.

6. After adding the characteristic values you require, save the hierarchy.

Each characteristic value may only occur once in a hierarchy variant. If a characteristic value is already contained in the hierarchy, it no longer appears as a possible entry. There are various functions in the *Edit* menu for adding new nodes:

- *Create entry* → *Same level*

  A blank node is added on the same level as the selected entry.

- *Create entry* → *One level lower*

  A blank node is added on the level below the selected entry.

- *Create sev. entries* → *Same level*

  Several blank nodes are added on the same level as the selected entry.

- *Create sev. entries* → *One level lower*

  Several blank nodes are added on the level below the selected entry.

- *Create range* → *Same level*

A range is added on the same level as the selected entry.

- *Create range* → *One level lower*

A range is added on the level below the selected entry

With these last functions you can enter a value range, that is from characteristic value X to characteristic value Z.

Changing, displaying, copying and deleting a master data hierarchy

You perform the functions *Change*, *Display*, *Copy* and *Delete* in a similar way to *Create*.

You can copy an existing hierarchy from one hierarchy variant into another, and use it as the basis for a new hierarchy. You can then change it as necessary.

When you change a hierarchy, you can add new nodes, remove existing ones and also cut out and insert parts of the hierarchy.

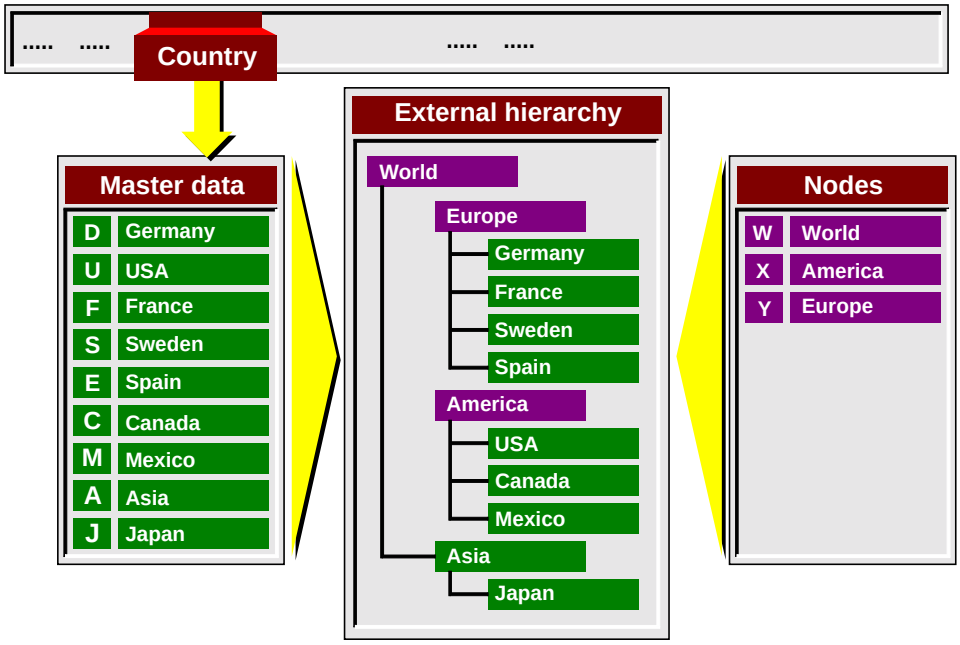
You can search for certain values in the hierarchy by choosing *Edit* → *Find* → *Characteristic value*. You can also see the relationships between the nodes by positioning the cursor on a node and searching according to *parent*, *1st child* and so on.

In order to facilitate working with the hierarchy, you can expand and collapse the groups and subgroups by clicking on the plus and minus signs.

On the initial screen, you can delete a hierarchy variant that is no longer required.

Example: Master Data Hierarchy

The following is an example of a master data hierarchy for the characteristic **Country**. This characteristic has the characteristic values (or master data) *Germany*, *USA*, *France* and so on. A hierarchy is built up from these characteristic values with the help of a structure. The structure consists of the structure nodes *World, America, Europe* and *Asia*. Apart from ***Asia*** the structure nodes are not characteristic values and therefore cannot be posted to. All characteristic values can be posted to. You can also create different variations of this hierarchy.



non-chargeable
chargeable

Derivation of Characteristic Values

When manually entering transaction data or plan data, or during data transfer, it can be helpful to determine unfilled characteristic values automatically from other existing characteristic values.

To implement these links you must define derivation rules. These rules are defined in a similar way to the transfer rules for data transfer, and are maintained in Customizing.

The derivation rules are valid in all aspects. As soon as you define a derivation rule for a characteristic, this rule is valid for all aspects in which the characteristic is defined.

The **receiver field** is the characteristic that is to be filled with a value. The **sender field** is the characteristic whose value determines the contents of the receiver field.

The characteristic **product group** is linked to the characteristic **division**. Each characteristic value of the product group can be uniquely assigned to a division. The product group **washing machines** belongs, for example, to division **electrics.**

In the above example the characteristic **division** is the receiver field. A characteristic value for the division is derived dependent on the value in the sender field (**product group**). In the example, the division **electrics** is derived from the product group **washing machines.**

If a field to be derived is already filled with a characteristic value, it will not be overwritten. You can, therefore, enter a value which deviates from the derivation rule during manual data entry, planning or during data transfer. This value always takes precedence over the derived value. If a characteristic value cannot be assigned because of the rules, the characteristic value remains vacant. For example, you might have created a new product group **tumble dryer**, but not have maintained it yet in the corresponding derivation rule. This means that a value for the characteristic **division** cannot be derived from the product group.

Derivation with manual data entry and planning

With manual entry of transaction or plan data, the derivation is carried out in two places:

1. After the entry of a new data record, the unspecified characteristic values of the record are derived.
2. Before existing data records are read, the unspecified characteristic values are derived using the rules created in Customizing. The records matching the selection criteria are then displayed.

Only those records that correspond exactly to the selection criteria and the derivation rules are displayed. If you manually entered a deviating value for a characteristic value to be derived, and posted the record, this record is only displayed if the characteristic was limited to the deviating value. However, all posted records are displayed if selected in the presentation.

You have manually entered a data record in which you have specified the product group **washing machines** and the division **household**. Although there is a derivation rule that defines the link between product group **washing machines** and division **electrics**, the manual entry is not overwritten. However, if you want to display the saved data records for the product group **washing machines** with the data entry transaction, and do not enter the division in the selection conditions at the same time, the record with product group **washing machines** and division **household** will not be displayed.

Choose *Extras → Further characteristics* in the data entry transaction or in planning with a layout to display a list of all characteristics and their values. Derived characteristic values are also displayed.

For more information on manual data entry, see Individual Record Entry for Transaction/Plan Data [Page 61] and Entering Data with Layouts [Page 66].

Derivation with automatic data transfer

In the data transfer, the derivation rules are executed only after the transfer rules for the sender structure have been executed. For more information on data transfer, see Data Transfer [Page 99].

Currencies in EC-EIS and EC-BP

There are three ways to determine the currency in which data in EC-EIS and EC-BP is to be stored.

Defining the currency via the aspect

The aspect determines in which default currency the basic key figures (whose unit is a currency) are to be stored. If you do not determine anything else with respect to the currency of a basic key figure then the data for this basic key figure is saved in the aspect currency.

Defining the currency for a basic key figure

For each basic key figure, you can define the currency in which the data is to be stored, independent of the aspect. You define the currency when you create a basic key figure. A currency defined in this way supersedes the currency of the aspect.

Defining the currency depending on the characteristic value

You may wish to store the values in a certain currency depending on the characteristic value concerned, such as balance sheet data in company code currency or cost accounting data in controlling area currency. To do so, define a currency reference to a characteristic for each basic key figure so that the currency is determined from the characteristic value currency. The basic key figure amount will then be interpreted in the currency determined by the characteristic value currency. A currency defined in this way also supersedes the default currency of the aspect.

The various procedures for defining currencies for basic key figures are described in Customizing.

Currency Translations

Use

When you transfer external data into an aspect, currency translations allow you to determine how currency-related key figures are translated for display in EC.

Integration

The specific currency translation options you have depend on the global Customizing settings that have been made.

Prerequisites

The data to be transferred has a currency reference, for example prices or salaries.

Features

Exchange Rate Type

You choose the appropriate exchange rate type to be used from numerous possible exchange rate types. These include for example buying rate, asking rate, official average rate etc. You define the available exchange rate types in Customizing.

Target Currency

You make settings concerning the target currency. There are two strategies available for this.

- Fixed: You specify a currency into which the currency data is translated during transfer. This is an optional setting and in some cases it may be better not to specify a currency. For example, in drilldown reporting you can only use certain translation types if no target currency has been specified for data transfer.
- Variable: Besides setting a fixed target currency, you can also designate a variable target currency. You must also create the reference to a characteristic here, on which the choice of currency depends. You do this by specifying a table and a field in the table. The value of the field will determine the target currency, foe example the field COUNTRY1 in the country table T005.

Inverse Exchange Rate

You can determine that an exchange rate inversion is to be carried out. This can be necessary if the transferred data was already translated into another currency, and if the data is to be displayed in drilldown reporting in the original currency.

Currency Translation Date

You can define the time frame for currency translation. The two available currency translation strategies differ as follows:

- Fixed: The currency translation is carried out using the exchange rate from a specific date. This can be either the rate from the current date or a spot exchange rate.
- Variable: The currency translation is carried out using an exchange rate that is derived from the posting date of the transferred data records, for example period start, year end.

Quantity Units in EC-EIS and EC-BP

There are three ways of defining the quantity units in which data in EC-EIS and EC-BP is to be stored.

Defining a quantity unit per data record

If you do not want to use the methods listed below, you can post quantities per data record in any units as you like.

Defining the quantity unit for a basic key figure

For each basic key figure, you can define the quantity unit in which the data is to be stored. You define the quantity unit when you create a basic key figure. This means that the values for this key figure can be stored in all aspects using only that quantity unit.

Defining the quantity unit depending on the characteristic value

If you wish to maintain the values dependent on a single characteristic value using a specific quantity unit, you can define a reference to that characteristic for a basic key figure so that the quantity unit is determined from the characteristic value. A quantity of the basic key figure will then be interpreted with the quantity unit determined by the quantity unit of the characteristic value. An example of this is the activity quantity of a cost center, that is stored in the same units as defined in the master record of the activity type. If quantity unit *Hours* is defined for quantity type *Production hours*, the activity quantity of a cost center which references this will also be *Hours*.

Transaction Data

The transaction data is usually transferred automatically from other applications (see Types of Data Transfer [Page 100]). However, you can enter transaction data manually. Individual record entry is possible, or several at once using a layout.

- You can find a description of individual record entry in Entering Transaction Data in Individual Records [Page 61].
- You can configure the screen structure for multiple-object data entry as you wish. You must define a data entry layout in Customizing before you enter any values. For more information, see Maintaining a Data Entry Layout [Page 63].

  The procedure of a data entry session is described in Entering Data with Layouts [Page 66].

Using *Transaction data* → *Transfers* → *Import file* in the EC-EIS application menu, and *Plan data* → *Transfers* → *Import file* in the EC-BP application menu, you can import transaction data or plan data from a file into the SAP R/3 System. The procedure is described in Importing a File [Page 84].

The use of Summarization Levels [Page 195] can improve the response times in reporting by creating duplicate, summarized data sets.

Individual Record Entry for Transaction/Plan Data

When entering data records individually, you can enter values for all the key figures for one object (combination of characteristic values) in the entry screen. You maintain the individual records in the EC-EIS application menu under *Transaction data → Data entry → Maintain record*, and in the EC-BP application menu under *Plan data → Transfers → Maintain record*. You maintain the transaction or plan data in four steps:

1. Enter the aspect. Choose *Continue*.

   A simple layout is automatically created for the aspect, and given a name. The characteristics for this aspect are displayed.

2. Enter characteristic values for the fixed characteristics of the data record: *Plan/Actual indicator, Version, Fiscal year* and *Period*. Specify the characteristic values for the desired user-defined characteristics. By doing this you determine the objects to be entered in this session.

   If you specify the dependent characteristic (for example, the region) of a compound characteristic, you must also enter the characteristic it depends on (for example country). For information on compound characteristics, see Creating an Aspect [Page 32].

   Your entries are checked against the master data and the derivation rules. When you have entered a characteristic value, from which the characteristic value of another characteristic can be derived, the value is derived according to the corresponding rule. For more information, see Derivation of Characteristic Values [Page 54].

   If you wish to enter the record in a foreign currency, enter the currency in the *currency* field.

   Select the *Overview Screen*.

3. The basic key figures of the aspect are displayed.

   Enter the values with units where necessary in the columns.

   The units will be checked against the currency or quantity unit table. Values that have been entered in a foreign currency are automatically translated, with translation key 005 and the stored parameters, into the currency of the characteristic value, the aspect or key figure.

   To display a list of all characteristics and their values, choose *Extras → Other characteristics*. Derived characteristic values are also displayed.

   To create, display, change or delete comments on transaction data or plan data, position the cursor in the cell for which you wish to see the comment and then choose *Environment → Comments*. Existing comments on the selected transaction or plan data are listed in a dialog box. The comments are selected according to the cursor position. If you position the cursor in a cell, you get comments for the combination of key figure and characteristic values, that determines the contents of this cell. You can also call up comments for columns or rows, but the selection may only contain one key figure in each case.

   Using the corresponding icons you can display, change or delete these comments. If you wish to create a comment for the selected transaction or plan data, another dialog box appears.

- If you wish to enter the comment in SAPscript, enter a short text and choose *Continue*. You can enter and format your text.
- If you want to upload the comment from a PC application, enter a short text and choose *Import...*. You can select a file from your PC.

The necessary preparations for maintaining comments on transaction or plan data are described in Customizing.

4. Choose *Transaction data* → *Post*.

If validations have been created for this layout, they are now checked. For more information, see Activating the Validations for the Data Entry [Page 76].

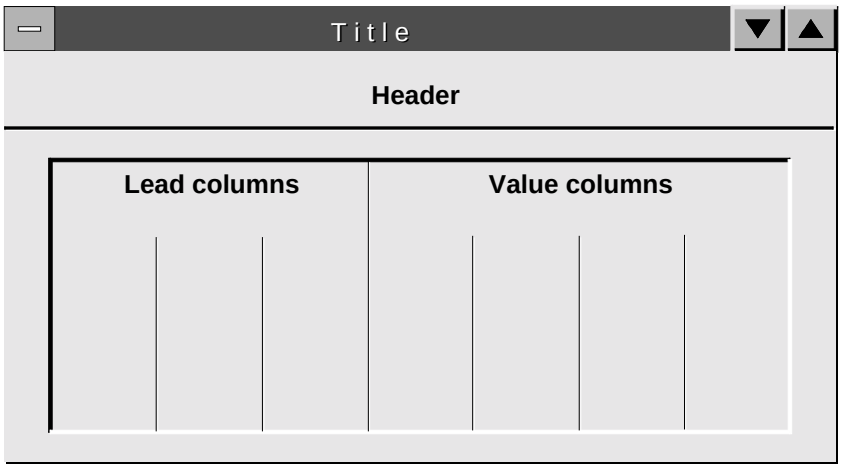
You can change and display an individual record in a valid currency by entering the appropriate currency. Changes are automatically translated into the characteristic, version, or key figure currency just as they are when you create a record.

Maintaining a Data Entry Layout (EC-EIS)

When maintaining transaction data with a layout you can maintain actual data for a selection of key figures and characteristic values on one screen. You must first have created a data entry layout in Customizing. With the layout you define the specific screen structure for data entry. A layout is similar to a form in drilldown reporting and can be used as many times as you like for entering data. You can find a detailed description of the creation of a layout in Customizing.

Structure of a layout

All layouts are based on the following structure:



The fixed characteristics, **Plan/Actual indicator, Version, Fiscal year** and **Period** have to be specified in the data entry layout. You can set these either in the header (meaning in the general selections), in the lead column, or in the columns.

Definition of the header

Several characteristics make up the header of a layout. You can choose these from the general selections using *Edit* → *Gen. data selection* → *Display/change*. You can specify characteristic values, define an interval or create variables for the characteristic values.

With compound characteristics, the superior characteristic must be defined either in the general selections or in a lead column. If you define the superior characteristic in the header you must select a single value. If you want to enter data for several characteristic values you should define the characteristic in a lead column (see **Definition of a Lead Column** below). For more information about compound characteristics, see Creating an Aspect [Page 32].

Using *Edit* → *Gen. Dat.selections* → *Header layout* you can change the sort order of the characteristics that you chose for the header and, if necessary, hide characteristics. A maximum of nine characteristics can be shown in the header. If you select more than nine you must hide the others.

Definition of a lead column

The lead column defines the contents of the rows. You have two options for defining a lead column:

- By selecting a row you can select desired characteristics and, where necessary, key figures for this row. You must then select exactly the same characteristics in the other rows. The values of the characteristics in the individual rows are not fixed. You can specify the characteristic values or define variables for them. Similarly you can enter a heading for the lead column. If you define a lead column with this method you cannot create any further lead columns.
- To enter data for a number of characteristics, define a lead column as a single element by selecting *Lead column*. You will be requested to select a single characteristic. You can specify the characteristic value, define a variable for the characteristic value, or select all characteristic values by entering a *****. With user-defined characteristics you also have the option of defining an interval. If you define a lead column with this method, the key figures are then in the other columns. You can define up to nine lead columns under *Edit* → *Columns* → *New lead column*. To rearrange the sequence of the key columns, choose *Edit* → *Columns* → *Sort lead columns*

  If a compound characteristic is to appear in a lead column with text, the superior characteristic must be limited to one value in the general selections.

Definition of a column

If you have created the lead column as a single element or if you have not defined any key figures in the rows, the columns (or value columns) will automatically contain the key figures. Where necessary the columns can also contain characteristics. The key figure for a column is entered directly. If you have selected a characteristic, you can either enter the characteristic value directly or create a variable. A column for the attributes is automatically created next to each column. It contains the unit for the key figure and possesses the same selection criteria as the column it belongs to, meaning identical key figure, characteristics and characteristic values.

Choose *Formatting* → *Number format* to set both the desired number of decimal places and a scaling factor (for example, entry in 1000s) per column. These settings can be changed during the data entry.

Variables

Variables enable a more flexible setting up of data layouts. Variables are parameters which you do not have to specify until the entry session and which can be replaced in different ways. As described above, within a layout, you can create local variables in the header, in the columns, in the rows or in the lead column. Local variables begin with **$**. Within a layout we differentiate between variables for characteristic values and variables for texts.

Maintaining variables for characteristic values

You can maintain local variables after you have defined them. You can specify for each variable whether or not a value must be entered in the data entry session. To do so, choose *Extras* → *Variables* → *Characteristic value* → *Maintain variable*. If you do not maintain the variable the system will interpret it as a mandatory entry in the report.

To maintain the texts for variables for characteristic values, choose *Extras* → *Variables* → *Characteristic value* → *Identifier*.

Maintaining variables for texts

Just as with variables for characteristic values, you can maintain local text variables by choosing *Extras* → *Variables* → *Text* → *Maintain variable*. In most cases you will probably decide to store a replacement path, so that the text is pulled automatically from the master data. For local text variables, you can decide whether the text should be entered during the data entry session or if the system should determine it. If you decide to have the text entered manually, the text length will be identical to the variable name length. If you choose to have it replaced automatically, you can specify how this should be done in a series of dialog boxes. Using various dialog boxes, you determine which characteristic the text is referring to; whether the *from* or *to* value should be taken, whether the variable should be replaced by the characteristic value itself or by the text, and also the position and length of the text. Note that variables are only then automatically replaced when it concerns an element with characteristics, and the relevant characteristic was selected when the element was defined.

After you have created and saved your layout, you can enter data. For more information, see Entering Data with Layouts [Page 66].

Changing and Displaying a Data Entry Layout

You can change or display an existing layout using the same initial screen. Choose *Entry layout* → *Display/Change*.

Entering Actual Data With Layouts (EC-EIS)

When maintaining transaction data with a layout, you can maintain actual values from one version for a selection of key figures and characteristic values on one screen. You must first have created a data entry layout in Customizing. For more information, see Maintaining a Data Entry Layout (EC-EIS) [Page 63].

After you have created the entry layout, you can enter data under *Transaction data* → *Data entry* → *Maintain with layout* as follows:

1. Enter the aspect and the layout.

   To display information about the contents of the layout choose *Extras* → *Layout*.

2. On the following screen, specify the variables that may be defined for certain characteristics in the layout. This way you determine the objects to be entered in this session.

   Your entries are checked against the master data and the derivation rules. When you have entered a characteristic value, from which the characteristic value of another characteristic can be derived, the value is derived according to the corresponding rule. For more information, see Derivation of Characteristic Values [Page 54].

   If you do not enter any characteristic values, and no derivation rule is defined, the data is entered on the *Not assigned* level of the corresponding characteristic.

   In *Currency,* enter the currency of the values you wish to enter as an entry tool. The currency-relevant values to be entered in the session are automatically translated to the currency of the characteristic, the aspect or key figure with translation key 005 and its parameters. If a different currency translation key should be used, you can set this in Customizing.

3. Select *Goto* → *Overview screen* or *Goto* → *Period screen*.

Overview screen

After you have specified the variables, you can enter the values on this screen. The overview screen corresponds to the layout you created in Customizing.

Enter the values (with units where necessary) in the columns.

Note: if you enter values with different quantity units for a key figure and then save them, the various values will be saved despite their different units. The unit is validated only when a fixed unit or a reference unit has been assigned to the key figure. If, in such a case, you enter different units belonging to the same basic unit, such as gram (g) and kilogram (kg), the values are automatically converted into the fixed or reference unit.

If you have established an interval for a characteristic in the header of a layout, you can scroll by choosing *Goto* → *Next combination/Previous combination*.

If, within an interval, data for a combination of characteristic values does not yet exist, this combination will be automatically skipped. If you wish to enter data for this

combination, you can maintain variables for the *from* and *to* values of the characteristic, and then enter individual values instead of intervals. Alternatively, you can enter this data using another layout. To enter data for a series of values for a characteristic for which data possibly does not exist yet, you should define these values in a lead column instead of in the header.

To create, display, change or delete comments for transaction data, position the cursor in the cell for which you wish to see the comment and then choose *Environment* → *Comments*. Existing comments on the selected transaction data are listed in a dialog box. The comments are selected according to the cursor position. If you position the cursor in a cell, you get comments for the combination of key figure and characteristic values, that determines the contents of this cell. You can also call up comments for columns or rows, but the selection may contain only one key figure in each case.

Using the corresponding icons you can display, change or delete these comments. If you wish to create a comment for the selected transaction data, a different dialog box appears.

- If you wish to enter the comment in SAPscript, enter a short text and choose *Continue*. You can enter and format your text.
- If you want to upload the comment from a PC application, enter a short text and choose *Import...*. You can select a file from your PC.

The necessary preparations for maintaining comments on transaction data are described in Customizing.

To change the number of places after the decimal point and the scaling factor on both screens choose *Settings* → *Number format.* To display a list of all characteristics and their values, choose *Extras* → *Other characteristics*. Derived characteristic values are also displayed.

Period Screen

The period screen is automatically created from the overview screen and displays the periods in the rows. The values on this screen are always distributed the same way. If you already entered values on the overview screen, they are distributed evenly over the periods. You can change the period values and thereby the weighting. If you change the values later on the overview screen, they will be distributed on the period screen in the same way as the manually entered period values.

Note: on the period screen you can neither change the units nor scroll through the various characteristics in the header.

When you have entered your data, choose *Transaction data* → *Post.*

If validations have been created for this layout, they are now checked. For more information, see Activating Validations for Data Entry and Planning [Page 76].

Displaying transaction data

Starting from the same initial screen you can display the transaction data entered for a layout. Choose *Transaction data* → *Display*. For more information on displaying the posted data, see Derivation of Characteristic Values [Page 54].

Transaction/Plan Data, Displaying or Deleting

Displaying transaction data

To display transaction or plan data: in the EC-EIS application menu choose *Transaction data* → *Data entry* → *Display data*, and in the EC-BP application menu choose *Plan data* → *Transfers* → *Display data*.

1. Enter the aspect and choose option *Display transaction data*. Choose *Execute*.

   The system displays a selection screen.

2. Specify the amount of transaction data you wish to display and choose *Execute*.

   The system displays a list of the data you have selected.

3. Select a record and choose *Choose*.

   The system displays the transaction data.

Deleting transaction data

To delete transaction data or plan data from an aspect, choose *Tools* → *Data* → *Delete transaction data* or *Delete plan data.*

Enter the aspect in each case and choose the relevant functions. Then choose *Execute*.

Displaying data records for selective deletion

Specify the data records you wish to display and choose *Execute*. The selected records are displayed.

You can delete records by selecting them and choosing the function *Delete*.

Deleting data records immediately

This function deletes the data you select without displaying it first.

Select the transaction data to be deleted and choose *Execute*.

If you confirm the warning issued by the system, the data is deleted. The system displays a log of the deleted records.

Deleting individual key figure columns

This function allows you to delete transaction or plan data for certain key figures without deleting the entire record.

For the characteristic values, enter either individual values, intervals or the generic entry ***.** Choose *Select key figures*. Select the key figures whose transaction or plan data you wish to delete. Choose *Delete key figure values*. If you confirm the warning issued by the system, the data from the selected key figures is deleted.

Validations

The validation function lets you check the values and value intervals entered in the R/3 environment with the help of user-defined rules. If data is entered in the system, it is checked against the validation rules. If the data does not correspond to these rules, it may not be posted in certain circumstances,. Since the validation is carried out before posting, only checked data is accepted into in EC-EIS and EC-BP.

Validations are always valid for one aspect and are created in Customizing. How you maintain and copy validations is described in detail in Customizing.

If are you maintaining validations for the first time for an aspect, the system first generates the necessary environment.

The validations can be used in three places in EC-EIS and EC-BP.

1. You can lay down rules for the **manual entry of transaction data**, which are checked before saving. This way you can avoid entering meaningless or incorrect data. (For general information on data entry, see Transaction Data [Page 60]).
2. As with the entry of transaction data, you can store rules for **interactive planning** that are checked before saving. (For general information on planning, see Business Planning [Page 115]).
3. Validation rules can also be stored for **automatic data transfer**. The received records are checked against these rules after the summarization but before posting. This way incorrect or meaningless data will not be transferred to EIS. (For general information on data transfer, see Data Transfer [Page 99]).

Each validation consists of up to 999 steps. A check processes the steps one after the other. A validation step consists of the following components:

- Prerequisite

  The entry values to be verified are selected using the prerequisite. If entry values are not selected for verification (if the prerequisite is not fulfilled), then the values are valid and the transaction will be carried out. In some cases, the use of a prerequisite is not necessary.

- Check

  During the check, the values selected using the prerequisite are verified. If the check result is true (TRUE), the transaction is continued. If the check result is false (FALSE), a message is issued by the system.

- Message

  If the prerequisite is fulfilled, but the check is not, the system issues a message.

Prerequisites and checks are defined with the help of Boolean logic. You can define simple logical statements, or you can use rules, user exits and sets in your logical formulas to define very complex statements. You can find further information about Boolean logic under Validations, Substitutions, and Rules [Ext.].

There are four different types or importance levels of messages:

Type **A**	Termination

Type **E**	Error
Type **W**	Warning
Type **I**	Information

Messages of type **A** and **E** are genuine errors, which lead to the data not being updated. Messages of type **W** and **I** are only additional information which is logged, but the data is updated anyway.

Types of Validation

There are two different types of validation in EC-EIS and EC-BP.

1. **Single record validation**

   Each new or changed data record is checked individually in single record validation. For example, a check can be made as to whether the sum of two key figures is lesser than or equal to a third key figure.

   If revenue is greater than zero, then it must be greater than the sum of the bonuses and sales commissions.

   You can find out how to define this validation under Example of Single Record Validation [Page 73].

2. **Matrix validation**

   The data records are checked in their entirety with the matrix validation. For example, a check can be made, as to whether the sum of the assets equals the sum of the liabilities.

   The plan data for 1998 may not deviate from the actual data for 1997 by more than 20%.

   You can find out how to define this validation under Example of a Matrix Validation [Page 74].

Maintaining and copying rules and validations

You can store parts of validations which you use often or which you wish to use in several validations. You store them in rules and can use them repeatedly. You can also copy validations and rules. You can find further information on maintaining validations and rules in Customizing.

Activating validations

After you have created a validation, you must activate it for data entry, planning, or data transfer. For more information see Activating Validations for Data Entry and Planning [Page 76] and Activating Validations for Data Transfer [Page 77].

Example of Single Record Validation

Each new or changed data record is checked individually in single record validation. The formulas are written here with the technical name of the expert mode. For more information on creating formulas in the expert mode or formula builder, see Customizing.

Prerequisite	Check
Revenue is greater than zero	Revenue must be greater than the sum of the bonuses and sales provision
`CF001-REVEN > ‘0’`	`CF001-REVEN > (CF001-BONUS + CF001-VPROV)`

Example of a Matrix Validation

The data records are checked in their entirety with the matrix validation. Two rules are used in this example. A check is made as to whether the plan data for 1998 does not deviate by more than 20% from the actual data for 1997. There is no prerequisite in this example.

The formulas are written here with the technical names of the expert mode. For more information on creating formulas in the expert mode or on the formula builder, see Customizing.

Rule ACT97:

CF001-PLACTI = ‘0’ ”Actual” **AND CF001-YEARB = ‘1997’** ”Year”

“Plan/Actual indicator actual and year 1997”

Rule PLAN98:

CF001-PLACTI = ‘1’ ”Plan” **AND CF001-YEARB = ‘1998’ AND CF001-VERSIO = ‘001’** ”**Version 001**”

“Plan / Actual indicator plan and year 1998 and version 001”

Check:

SUM (CF001-REVEN) WHERE ACT97

“Application of the rule ACT97”

GROUP_BY CF001-PERIO CF001-DIVSN

<= 1.20 * SUM (CF001-REVEN) WHERE PLAN98

“Application of the rule PLAN98”

GROUP_BY CF001-PERIO CF001-DIVSN

AND

SUM (CF001-REVEN) WHERE ACT97

GROUP_BY CF001-PERIO CF001-DIVSN

>= 0.8 * SUM (CF001-REVEN) WHERE PLAN98

GROUP_BY CF001-PERIO CF001-DIVSN

The entire quantity of the records is limited by the ***where*** condition to the actual values 1997 or to the plan values 1998. The group statement ensures that the revenues are summed and the variance checked for each combination of division and period. The group statement must be identical on both sides of the comparison operator. As soon as the check for one combination of division and period is not fulfilled, the entire check becomes invalid.

No data is read for the validation. The data that the validation is supposed to check must be selected using the sender program or the data entry layout. In this case, you must ensure that both the actual values for 1997 and the plan data for 1998 are available for the validation.

Activating Validations for Data Entry and Planning

Activating

After you have created Validations [Page 70], you establish when and which of the validations are checked during the data entry or planning. Activation of validations also occurs in Customizing.

On the initial screen of the validation maintenance choose *Validation* → *Activate for* → *Data entry* or *Planning.* A table appears in which you make entries for the various data entry layouts or planning layouts, and where you can assign a single record validation and/or a matrix validation to each layout. If a validation field does not exist in the layout, the system issues a warning. You can also assign a validation rule directly when maintaining the sender structure. (For general information on data entry, see Transaction Data [Page 60]).

Checking data during data entry or planning

After you have entered data in a data entry layout or planning layout, choose *Transaction data* → *Post*. or *Planning* → *Post.* At this time the validations you have activated for the layout are run. With a single record validation, only the new and changed data records are checked. With a matrix validation, however, all records are checked.

Only period values are checked. This means that, if you enter values on the overview screen, and these are distributed across periods, then the figures of the period screen are checked rather than the figures you can see..

If the data does not correspond to one of the validation rules, the message created for it appears:

- If there are only messages of type **W** (Warning) or **I** (Information), a log is written but the data is saved anyway.
- If a message of type **A** (Termination) or **E** (Error) is present, the data is not saved.

During the data entry or planning you can check the validation by choosing *Transaction data* → *Validate* or *Planning* → *Validate*. This way you can see the messages before saving, and possibly correct them.

Evaluating validation logs

To see the validation logs: in the EC-EIS application menu choose *Transaction data* → *Data entry* → *Display logs*, and in the EC-BP application menu choose *Plan data* → *Transfers* → *Validation log*. On the following screen, you can limit the selection of logs. The field *ext. number* contains the aspect and the entry layout, for example, **`001/ABCD`**. You can also search generically for all the logs of an aspect, by entering **`001/*`**.

A list of the selected logs appears. To list the messages for each log, choose *Goto* → *Display messages*.

Activating Validations for Data Transfer

Activating

After you have created Validations [Page 70], you establish when and which of the validations are checked during the data transfer. Activation of validations also occurs in Customizing.

On the initial screen of the validation maintenance, choose the menu path *Validation* → *Activate for* → *Data transfer*. A table appears with the sender structures of the aspect. Here you can assign a validation and/or a matrix validation to the various sender structures. (For general information on data transfer, see Data Transfer [Page 99]).

Checking data during data transfer

After you have started the data transfer, the validation is automatically executed after the summarization of the data (with receiver records).

If the data does not correspond to one of the validation rules, the message created for it appears:

- If there are only messages of type **W** (Warning) or **I** (Information), a log is written but the data is saved anyway.
- If a message of type **A** (Termination) or **E** (Error) is present, the data is not saved. It is noted in both the validation log and the transfer log that the validation has registered errors.

Evaluating validation logs

To see the validation logs: in the EC-EIS application menu choose *Transaction data* → *Data entry* → *Display logs*, and in the EC-BP application menu choose *Plan data* → *Transfers* → *Validation log*. On the following screen you can then limit the selection of the logs.

Data Slices

Use

You use a data slice to partition your dataset into subsets. You need data slices if:

- You want to protect your data from changes
- You want an overview of the completeness of the data transferred, from other companies for example.
- You want to delete certain data before you import new data

  The official figures for last month are submitted by the companies of a group. The companies should not make any more changes to last month's data. Corrections may only be made by the responsible person. The companies may, however, report on the data.

  The relevant data slice is 'open for update' until the key date when the companies have submitted their data. After the key date, the status is changed by the system administration to 'only responsible person may change'. Other users' authorization to report on this data remains unaffected.

  Using the statistics, the responsible person can check if companies have not yet submitted their data.

  Plant 009 was sold. No more data may be posted for this plant. You create a data slice in which you specify the characteristic value *plant 009*. Then you lock the data slice for any changes. This way no new data may be posted for the plant. You may, however, report on the old data.

Features

You can assign a data slice to one or more aspects. You can also assign comment tables to a data slice. The characteristics of the aspect, or of the comment table, describe the conditions for the transfer or maintenance of the data. You can restrict the characteristics by entering characteristic values, intervals or variables.

The authorization protection is determined by the assignment of users and a responsible person to the data slice. You manage the data slice using various statuses. If the data slice is open for update, all assigned users may change the corresponding data. If it is locked, no users may change the data in the data slice. As a third possibility, only the responsible person may make changes.

If you attempt to manually change data in a locked data slice, the system produces an error message. You may not change the data. If you attempt to automatically transfer locked data, the data will be stored temporarily but not posted. A corresponding message is written in the log. From within the log you can analyse the errors and update the data, but only when the data slice is open again.

Note that the data slices may not be used in archiving.

Comments

You can create comments for the following objects in EC-EIS and EC-BP:

- Reports (EC-EIS only)
- Fixed characteristics
- Characteristics
- Basic key figures
- Calculated key figures
- Master data (characteristic values)
- Report portfolio reports (EC-EIS only)

You can create comments in various languages for each of these objects. If you do not specify otherwise, the comments are always created, deleted and changed in the logon language. You can translate the comments into any of the system-supported languages.

With the exception of the comments on report portfolio reports, they can subsequently be displayed in drilldown reports (see Executing a Report [Page 182]). If a comment exists for an object in the logon language, it will be displayed in this language. If it exists in several foreign languages, it will be displayed in the language which was defined next in the system.

For more information, see Maintaining Comments [Page 81].

Comments on Transaction Data and Plan Data

You can also store and display comments for transaction data and plan data while you are entering actual data, while you are executing reports, and also by choosing *Transaction data/Plan data* → *Comments* → Comment list [Page 82]. As with other types of comments, these ones can be created in SAPscript or called up from any PC application that you have on your computer such as Microsoft PowerPoint, Microsoft Word etc. The necessary preparations are described in Customizing.

Maintaining Comments

Choose *Master data* → *Comments* → *Maintain* to maintain comments manually for reports, fields in the field catalog (meaning characteristics and basic key figures), calculated key figures, master data (characteristic values), and report portfolio reports. Proceed as follows:

1. Select the object type you wish to maintain and choose *Comments* → *Maintain*.
2. On the next screen, select an object and choose *Comments* → *Maintain*.
3. Write your text and save it when you have finished.

To copy an existing comment to another object, select the object for which the text exists. Then choose *Comments* → *Select*. Then select the object to which you wish the text to be copied and choose *Comments* → *Copy*. The comment will then appear in both objects.

For an overview of all the existing comments for an object, choose *Comments* → *List*. The comments for the object (insofar as they are available) are set and displayed beneath one another in all the languages supported by the system.

Choose *Master data* → *Comments* → *Import file* to import comments from a file into the system. For more information, see Importing a File [Page 84].

Comments on Transaction Data and Plan Data

Comments on transaction and plan data are maintained and stored differently. You can display and add comments when executing a report, when entering actual or plan data, or by choosing *Transaction data* → *Comments* → Comment list [Page 82]. Before you can maintain comments on transaction or plan data, you must create a comment table and select the characteristics upon whose transaction or plan data you wish to comment. Then, you must assign the table to the relevant aspect. You can find information about this in Customizing.

List of Comments on Transaction Data

Use

Using the comments list you can list the existing comments to certain transaction data of an aspect. From within the list you can display, change, create, delete, copy and reassign comments.

Features

You can restrict the selection of comments for transaction data by entering characteristic values. It is also possible to exclude comments from the selection that have been created for a certain characteristic. For example, if you only wish to see those comments where **no** regions were specified, you select the field *Initial* for the characteristic **region**. The system displays a list of comments found for your selection conditions.

You can sort this list according to certain characteristic values. To do this, choose Edit → Sort. If you choose the characteristic **company code**, for example, the comments are sorted in ascending order according to company code.

With the help of the corresponding icons you can display, change or delete the comments. If you wish to create a comment for the selected transaction data, another dialog box appears.

- If you wish to enter the comment in SAPscript, enter a short text and select *Continue*. You can enter and format your text.
- If you want to upload the comment from a PC application, enter a short text and select *Import...*. You can select a file from your PC.

Using the function *Comment list → Copy comment*, you can copy a comment and assign it to a second data record where you enter different characteristic values. Using *Comment list → Move comments,* you can reassign a comment from one data record to another.

The necessary preparations for maintaining comments on transaction data are described in Customizing.

Documents

During master data maintenance, you can store documents for EC-EIS and EC-BP master data, that is, for specific characteristic values.

The functions described below are only relevant if you have the Document Management [Ext.] system installed.

Maintaining and displaying documents

Choose *Master data* → *Documents* to connect to the document administration system. Here you can display and maintain documents for master data.

- Display

  Select an object for which a document has been stored. A dialog box appears with a list of all the documents stored for this object. From here, you can access a transaction in the document management system and display a document in bitmap format, for example.

- Maintain

  Select an object and choose *Maintain document*. The system displays a dialog box in which you can enter documents for this object. From here, you can access a transaction in the document management system and select a document.

Importing a File

Using this function, you import data from a file. You can transfer transaction data, plan data, comments and master data hierarchies. In order to import larger datasets periodically, you can schedule program RKCFILE0 in the background.

Prerequisites

You must have maintained the sender structure, the transfer rules, and where necessary, the sender structure package (see Types of Data Transfer [Page 100]).

Examples

You can use the following examples to help set the sender structure, the transfer rules, and the parameters for various tasks:

Importing a File: Transaction Data [Page 87]

Importing a File: Master Data [Page 90]

Importing a File: Master Data Hierarchy [Page 92]

Procedure

To import data from a file, proceed as follows:

1. Depending on whether you wish to import transaction data, plan data, master data, comments or a master data hierarchy, choose *Import file* under either *Transaction data, Plan data,* or *Master data*.
2. Enter a sender structure and a file name, or the name of a logical file.
3. Choose *File system* to define whether the file is on the presentation server or the application server. Make sure that the process which is to read the data has the correct access authorization for the file. You must enter the path correctly. If you are reading data from the application server, ensure that you enter the path from the point of view of the user who started the application server. Enter the path as an absolute path.

   Note that only files from the application server can be imported in background processing.
4. Under *Editing* you can choose to:
   - Execute a data transfer,
   - Display the file,
   - Display the assignment of sender record fields to field contents,
   - Save the records temporarily.

   If you select *Sender set-display field assignments*, the system displays a list that makes clear which value is contained in which sender record field. Using this list, you can see if you have described the sender structure incorrectly.
5. At *File type* you determine if you are dealing with a text file. With this type of file, *newline* appears at the end of each line.

For a binary file, the SAP binary format is expected. Note that binary files cannot be imported from the presentation server.

With TXT format, the fields in the lines should be separated with tabs.

With CSV format, the fields should be separated with semicolons.

With MC format, the file to be imported is split into two parts: firstly, lines at the beginning with characteristic values which are valid for the rest of the records, and secondly, individual records. The fields in these individual records are split by a field separator (either a comma or a semicolon). For more information, see Importing a File: File in MC Format [Page 98].

Note that with TXT, CSV, and MC formats, fields of type C which are not text fields are automatically converted into capital letters.

6. If you wish to import numbers in packed numbers, use *Number format* to define whether these packed numbers are in the file in double length as characters **0123456789**+-, or if they already exist in SAP format **P.** Internally, the SAP R/3 System usually works with packed numbers during a data transfer. If the numbers are stored in single length in the file, the system assumes that the numbers do not need to be packed into SAP-internal format. If the numbers are stored in double length in the file, the system converts the numbers into packed format. The minus sign can be before or after the figures. Apart from binary and text files, it is assumed that the packed numbers are always stored in double length in the file and therefore need to be converted.

   Specify if the numbers do not have any editing characters or if they have a decimal point or comma.

   This option is irrelevant when importing master data or comments on master data, and is not available in these cases.

   Integers and floating point numbers must be between 12 and 16 bytes in length in the file.

7. Choose *Date format* to determine whether the date reads YYYYMMDD or DD.MM.YYYY. This option only applies to TXT, CSV, and MC formats. For all other formats, the date reads YYYYMMDD.

8. *Other settings*:

   With *Data format* you can specify whether the data is in ASCII or EBCDIC format. In EBCDIC format, all fields apart from packed fields (type **P**) and hexadecimal fields (type **X**) are converted from EBCDIC to ASCII. Fields of type **P** and **X** do not need to be converted.

   If your file contains comments rows that are not to be imported, you can indicate them as such here. Enter the character with which the comment rows begin. The system will then ignore these rows when importing.

9. *Settings for repeat fields*:

   In many information systems, the period is locked for transaction data. The period is not then, in the key of the transaction data record. In such cases, the key figures are stored *n* times in the data portion of the record, where *n* is the number of possible periods. Records of this structure cannot be transformed using data transfer rules into *n* transaction data records, in which the period is stored in the key, and the key figure exists only once in the data portion. A transformation during the data transfer is

necessary for this. For the data transfer, the period must be contained in the sender structure.

To transform such a record, proceed as follows:

(a) In *Index field,* enter the characteristic that only exists in the receiver structure, for example PERDE (period).

(b) In *Repetition factor,* enter the number of records to be generated in the receiver structure, for example 12 (periods).

(c) In *Start value for index field*, enter the start index, for example (period) 1. The *Increment for index field* defines how the index is to develop, for example start value + 1 (increment).

(d) The *Repeat fields* are the fields of the sender structure in which the fields of the original structure are to be summarized.

For more information, see Importing a File: Transformation of a Record [Page 96].

Result

If you have selected *Display file,* the system displays a list of the transferred records. If you have selected *Sender-set-display field assignments,* the system displays additional information about how the individual fields of the sender record were filled. If you have transferred the data, a confirmation message will appear. You will find more detailed information on the update and summarization in the log (see Displaying the Transfer Log and Processing Errors [Page 104]).

Importing a File: Transaction data

TXT file

You have a **TXT file** on your PC with the stock prices and the difference from the previous day for company XXX on the following days:

XXX_13.01.1997_110.50_-2.00

XXX_14.01.1997_112. 00_1.50

XXX_15.01.1997_115. 00_3.00

XXX_16.01.1997_113. 00_-2.00

XXX_17.01.1997_112. 50_-0.50

The underscore (_) between the fields in the lines symbolizes the TAB character that separates the fields.

You want to import this data into aspect 004 (*stock prices*). The aspect contains the characteristics FIRMA (*corporation*) and BOTAG (*trading day*) and the key figures AKURS (*stock price*) and DIFFZ (*difference*).

You create a sender structure KURSE and enter the following data:

Aspect	004
Conversion	0

Field name	**Ref. table**	**Field name**	**Type**	**Length**	**Dec. places**
FIRMA	CF004	Corporation	C	8	0
BOTAG	CF004	Trading day	D	8	0
AKURS	CF004	Com. stock	P	8	2
DIFFZ	CF004	Difference	P	8	2

With the entry of a field name and a reference table, the other fields are automatically derived from the reference table. You generate the sender structure and then maintain the transfer rules. In addition to the characteristic values, that are maintained in the sender structure, transfer rules have to be maintained for the fixed characteristics VERSIO (version), YEARB (fiscal year), PERIO (period), and PLACTI (Plan/Actual indicator).

Recv. field	**Assign. rule**	**Sender field**	**Offset**	**Length**	**Constant**
VERSIO	SET	VERSIO			0
YEARB	MOVE	BOTAG	0	4	
PERIO	MOVE	BOTAG	4	2	
FIRMA	MOVE	FIRMA	0	0	
BOTAG	MOVE	BOTAG	0	0	

PLACTI	SET				0

You save the transfer rules and then maintain the selection data for importing the file.

To carry out a test run of the transfer, enter the following data:

Field	**Entry/Selection**
Sender structure	**SHARE PRICE**
File	Path in which the file can be found. For example d:\file\ablexcel\share.txt
File system	*Presentation server*
Editing	*Display file* *Display sender record -field assignment*
File type	*TXT format*
Number format	*Type P* *Decimal point*
Data format	*ASCII*
Date format	*DD.MM:YYYY*

Then you can execute the program.

If the test data is satisfactory, you can select *Data transfer* and execute the program again.

CSV files

In **CSV files** the fields of a record are separated with a semicolon.

If you are working with an English version of MS Excel, note that the fields are separated with a comma. In this case, save the file as a text file. When importing the file, select file type *Text file with field separator* instead of *CSV format* and enter a comma (,) as the separator.

XXX,13.01.1997,110.50,-2.00

XXX,14.01.1997,112.00,1.50

XXX,15.01.1997,115.00,3.00

XXX,16.01.1997,113.00,-2.00

XXX,17.01.1997,112.50,-0,50

To execute this example with a CSV file, you would basically set the parameters as for a TXT file, with the exception of the path and file type.

Text file

To transfer a text file without an editing character (neither a +/- sign nor a decimal point) with this sender structure and these transfer rules, the file to be imported must read as follows:

XXX199701130001105000000200-

XXX199701140001120000000150

XXX199701150001150000000300

XXX199701160001130000000200-

XXX199701170001125000000050-

(FIRMA BOTAG AKURS DIFFZ)

This format is given by the specified length and decimal places in the sender structure.

In order to execute this example using a text file without editing characters, the parameters must basically be set in the same way as a TXT file, with the following exceptions:

Field	Entry/Selection
File type	*Text file*
Number format	*No editing characters*
Date format	*YYYYMMDD*

See also:

Importing a File [Page 84]

Importing a File: Master Data

You have a **TXT file** on your PC with the following product group characteristics:

LADIES_Ladies shoes

MENS_Mens shoes

CHILDREN_Childrens shoes

The underscore (_) between the fields in the lines symbolizes the TAB character that separates the fields.

You want to import this data into aspect 001 (*Profitability Analysis*). The aspect contains the characteristic ARTGR (*Product group*).

You create sender structure ARTGR and enter the following data:

Characteristic: ARTGR

Conversion: 0

Field name	Type	Length	Dec. places
Product group	C	8	
Description	C	20	

You generate the sender structure and then maintain the transfer rules. In this case the language D (German) has been entered as a constant. You maintain the following rules for the fields:

Recv. field	Assign. rule	Sender field	Offset	Length	Constant
ARTGR	MOVE	ARTGR	0	0	
TXT20	MOVE	TXT20	0	0	
LANGU	SET				D

You save the transfer rules and then edit the selection data for importing the file.

To carry out a test run of the transfer, enter the following data:

Field	Entry/Selection
Sender structure	**ARTGR**
File	Path, in which the file can be found, for example, d:\file\ablexcel\artgr.csv
File system	*Presentation server*
Editing	*Display file* *Display sender record - field assignment*

File type	*CSV format*
Number format	*Type P* *No editing characters*
Data format	*ASCII*
Date format	*YYYYMMDD*

You can now start the program.

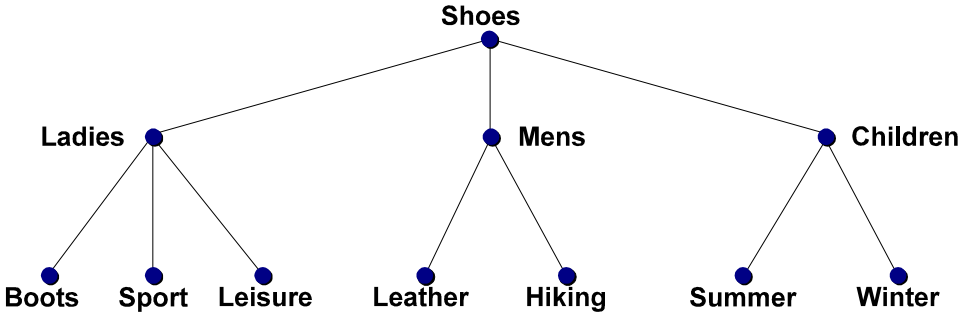
If the test data is satisfactory, you can select *Data transfer* and execute the program again.

See also:

Importing a File [Page 84]

Importing a File: Master Data Hierarchy

The product groups in your company are structured hierarchically:



Hierarchy representation with left sibling

You have a **TXT file** on your PC with the following representation of the master data hierarchy:

SHOES

LADIES_SHOES

BOOTS_LADIES

SPORT_LADIES_BOOTS

LEIS_LADIES_SPORT

MENS_SHOES_LADIES

LEATHER_MENS

HIKING_MENS_LEATHER

CHILDRENS_SHOES_MENS

SUMMER_CHILDRENS

WINTER_CHILDRENS_SUMMER

The underscore (_) between the fields in the lines symbolizes the TAB character that separates the fields.

You want to import this data in accordance with hierarchy display 3 into aspect 001 (*Profitability Analysis*). With hierarchy display 3 you do not just transfer the characteristic value and information about the superior nodes (parent nodes), you also transfer information about the equivalent previous node (left sibling). You can find more information about the various hierarchy displays in Customizing.

The aspect contains the characteristic ARTGR (*Product group*) and all the characteristic values contained in the hierarchy.

You create a sender structure HIER. The receiver structure TKCHIEDM is fixed for the transfer of a master data hierarchy. The fields of your sender structure are transferred into the fields of the receiver structure. Because of this, the fields for the characteristic value, the parent node and the sibling node, must always be of type C. Enter the following data:

Aspect	001

Conversion	0

Field name	Ref. table	Field name	Type	Length	Dec. places
KEYID	TKCHIEDM	Char. value	C	32	0
PARNT	TKCHIEDM	Char. value	C	32	0
LEFTK	TKCHIEDM	Char. value	C	32	0

With the entry of a field name and a reference table, the other fields are automatically derived from the reference table. You generate the sender structure and then maintain the transfer rules. In addition to the characteristic values, that are maintained in the sender structure, transfer rules have to be maintained for the fields FIELD (*field name*), HVERS (*hierarchy variant*) and HSTEP (*hierarchy level*). You fill FIELD with the name of the characteristic and HVERS with the number of the desired hierarchy variant. The field HSTEP is not required with this hierarchy representation and can be filled with a constant (000). If you are also transferring text, maintain the text fields too. Enter a constant for the language.

Recv. field	Assign. rule	Sender field	Offset	Length	Constant
FIELD	SET				ARTGR
HVERS	SET				001
HSTEP	SET				000
KEYID	MOVE	KEYID	0	0	
PARNT	MOVE	PARNT	0	0	
LEFTK	MOVE	LEFTK	0	0	
TXT_M					
TXT_L					
LANGU	SET				D

You save the transfer rules and then maintain the selection data for importing the file.

To carry out a test run of the transfer, enter the following data:

Field	Entry/Selection
Sender structure	**HIER**
File	Path, in which the file can be found, for example, d:\file\ablexcel\hier.txt
File system	*Presentation server*
Editing	*Display file* *Display sender record-field assignment*
File type	*TXT format*

Number format	*Type P* *No editing characters*
Data format	*ASCII*
Date format	*YYYYMMDD*

Then you can execute the program.

If the test data is satisfactory, you can select *Data transfer* and execute the program again.

Hierarchy representation with level number

You have a **TXT file** on your PC with the following representation of the master data hierarchy:

1_SHOES

2_LADIES

3_BOOTS

3_SPORT

3_LEIS

2_MENS

3_LEATHER

3_HIKING

2_CHILDRENS

3_SUMMER

3_WINTER

The underscore (_) between the fields in the rows symbolizes the Tab character which separates the fields.

You want to import the data in accordance with hierarchy display 1 into aspect 001 (*Profitability Analysis*). With hierarchy representation 1 you do not just transfer the characteristic value but also information about the hierarchy level. The sequence of the characteristic values determines the position of the nodes compared to other nodes on the same level. You can find more information about the various hierarchy representations in Customizing.

In this case, the field HSTEP (hierarchy level) must be included in your sender structure and maintained in the transfer rules correspondingly. The field LEFTK (left sibling)is not required in the sender structure and can be left vacant in the transfer rules.

See also:

Importing a File [Page 84]

Importing a File: Transformation of a Record

The records in the file have the following structure:

Field	Description
YEARB	Fiscal year
COCDE	Company code
PLANT	Plant
CSTCT	Cost center
VLA01	Value A Period 1
VLA02	Value A Period 2
.	
.	
.	
VLA12	Value A Period 12
VLB01	Value B Period 1
VLB02	Value B Period 2
. . .	
VLB12	Value B Period 12

This record must be transformed into 12 records (*Repetition factor 12; Start value 1; Increment 1*) with the following structure:

Field	Description
YEARB	Fiscal year
PERDE	Period
COCDE	Company code
PLANT	Plant
CSTCT	Cost center

VLA	Value A
VLB	Value B

The second record differs from the first in two ways:

1. It contains the field PERDE. This field should be entered under the parameter *Index field* on the selection screen.
2. Instead of the 24 fields VLA01,...., VLA12, VLB01,...., VLB12, it contains the two fields VLA and VLB.

The sender structure of the second record must be described for the data transfer. Make the following entries on the selection screen to transform the first record into 12 records of the record of the second structure.

Field	Entries
Index field	PERDE
Repeat factor	12
Start value of the index field	1
Increment of the index	1
Repeat fields	VLA
	VLB

After the transformation 12 records exist, each with the additional field PERDE. Instead of the 24 fields VLAO1....VLA12, VLB01.....VLB12, each record contains the two fields VLA and VLB. In the first record, the field VLA is filled with the value VLA01, and VLB is filled with the value VLB01. In the second record the field VLA is filled with the value VLA02, and field VLB is filled with VLB02 etc.

Importing a File: File in MC Format

In this file in MC format all the records refer to fiscal year 1996, period 002:

1996

002

00000001;PROFITC;00004543000;000000004534500;000000004000430

00000001;PROFITC;00004555000;000000004523000;000000004800000

The field separator in this file is the semicolon.

Data Collection (EC-EIS/EC-BP)

Purpose

Data collection encompasses functions, with which you can fill aspects with data. This data can come from the SAP environment or from other applications.

Implementation Considerations

You need this component in order to provide your aspects with data from a multitude of sources.

Features

Using the SAP-delivered programs, data can be transferred online into EC-EIS or EC-BP from an R/2 System or an R/3 System in which the Executive Information System or Business Planning is operational. If data is to be transferred from R/2 or R/3 other than via these special data transfer programs, this can be done with an ABAP/4 query that has been enhanced accordingly. In addition, files can be imported and self-created transfer programs used for the data transfer. During the transfer, the data can be edited with the help of many functions in order to remove its heterogeneity (for example, currency, key terms).

Data Transfer Methods

EC-EIS and EC-BP provide several tools for filling your aspects with data. These include the individual and list data-entry as described in Transaction Data [Page 60], and the tools described in Customizing:

- Data transfer from the same R/3 system (see Data Transfer from R/3 [Page 107])
- Data transferred from another R/2 or R/3 System (see Data Transfer from Other SAP Modules [Page 105])
- Importing a file (see Other Types of Data Transfer [Page 112])
- Aspect summarization (see Other Types of Data Transfer [Page 112])
- ABAP/4 Query (see Data Transfer from R/3 [Page 107])
- Data transfer to the report portfolio (see Transferring Data to the Report Portfolio [Page 113]).

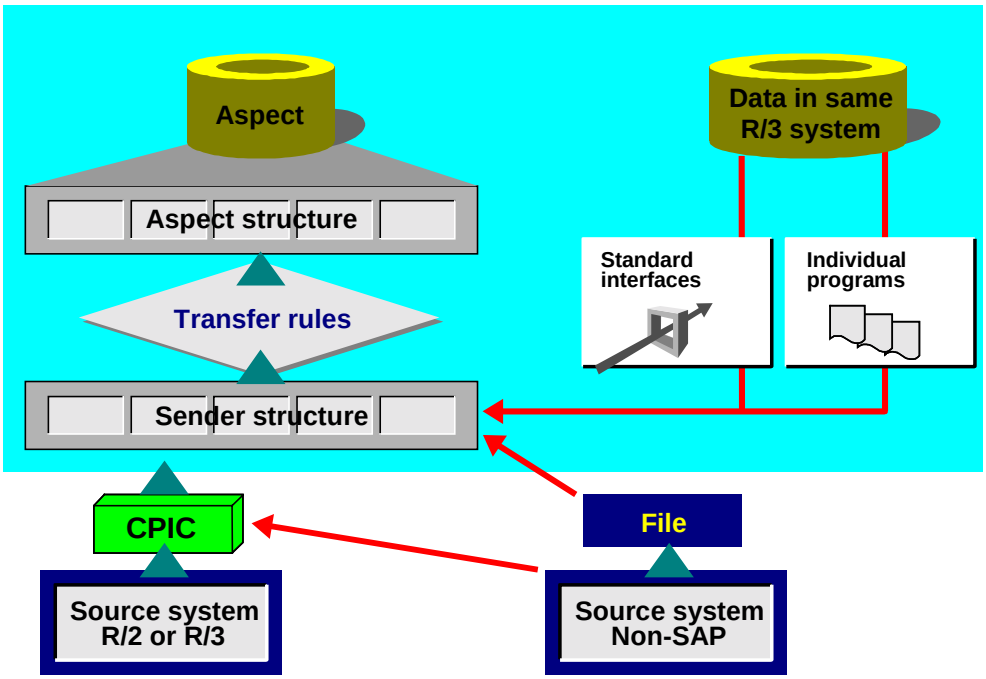
The transfer of data into EC-EIS and EC-BP using the methods above consists of several steps:

1. The transfer method controls the communication between the sender and receiver systems when transferring data from another SAP System (R/2 or R/3) (see Setting up Data Transfer [Page 102]).
2. The sender structure describes the data to be transferred so that the system can interpret it correctly (see Setting up Data Transfer [Page 102]).
3. The transfer rules define how the receiver structure is to be filled with the transferred data (see Setting up Data Transfer [Page 102]).
4. During the actual data transfer it is possible to combine sender structures in a package, schedule transfer runs in the background, to monitor these and to correct any errors (see Executing Data Transfer [Page 103]).

For more information see Example of the Types of Data Transfer [Page 101].

Example of the Methods of Data Transfer

The following example shows the various methods of transferring data from both SAP and non-SAP sources into EC-EIS and EC-BP. The large rectangle represents the R/3 System in which EC-EIS or EC-BP runs. Within this system, data can be transferred to the aspects via standard interfaces or individual programs. Data from other R/3 or R/2 Systems can be transferred using ABAP Queries or CPI-C. The ABAP Query can be carried out in either the source or target system. Data from non-SAP source systems can be imported into EC-EIS or EC-BP using CPI-C, or from a file.



Setting up Data Transfer

Transfer method

To set up communication between a sender system and EC-EIS/EC-BP, you must maintain the transfer parameters. The procedure for R/2 and R/3 sender systems is described in detail in Customizing.

For communication at network level, refer to the R/3 documentation SAP Communication: Configuration [Ext.]. The R/2 document S41.2 is identical to this documentation.

Sender structure

You maintain the sender structures for transaction data, master data, master data comments and master data hierarchies in R/2 and R/3 Systems in Customizing. When you maintain the sender structures, you define how the transferred data is to be interpreted by the system.

You can create validations for each sender structure. Validations prevent the transfer of falsely converted or meaningless data to an aspect. For more information, see Activating Validations for Data Transfer [Page 77].

In Customizing you can combine several sender structures in one package. This way you can use different sender structures to send a file to several aspects in a certain sequence.

Receiver structure

The receiver structure does not need to be maintained since it corresponds to the data structure of the receiving aspect.

Transfer rules

The transfer rules, that enable the conversion of sender structures to receiver structures, are maintained separately for characteristics and key figures. The maintenance of transfer rules is described in detail in Customizing.

For more information, see Example of the Methods of Data Transfer [Page 101].

Executing Data Transfer

The steps described in Setting up Data Transfer [Page 102] are to be carried out when setting up the system or when you set up new data collection programs. After you have set up a data transfer you can transfer the data. You can schedule the transfer procedure using standard R/3 background processing to occur periodically so that data is transferred at regular intervals. For more information, see Customizing.

After a data transfer has occurred, you can check under *Transaction data* → *Transfers* → *Transfer log* if the data has reached the aspect. If errors have occurred, you can correct them there.

For more detailed information, see Displaying the Transfer Log and Processing Errors [Page 104].

Displaying the Transfer Log and Processing Errors

Since the data transfer does not regularly run online but in the background, a log is written for each data transfer.

The log for a sender structure contains information on errors and the chronological process of the data transfer. You can display the logs in the EC-EIS application menu under *Transaction data → Transfers → Transfer log*, and in the EC-BP application menu under *Plan data → Transfers → Transfer log*.

After you have entered your selections and selected *Execute*, a list of the available logs appears.

For the selection of the logs to be displayed, SAP recommends that you do not enter anything in the *Time* field with a time frame of more than one day. Otherwise this can produce unexpected results: Then data records are only selected within the specified time frame for every day (and not from the specified start date/start time to end date/end time).

You can display further information about the errors for each log by double-clicking on the list entry. Using *Detail information*, you can process receiver records that have not been updated, as well as incorrect sender records. You can display or delete sender and receiver records, and display the expected structures. Sender and receiver records can be imported again. If, following the error analysis, you must import or update a large number of data records, you should schedule the function in the background processing.

The number of transfer logs that can be saved depends on the quantity of data. Therefore, SAP recommends that you schedule a weekly job that deletes the logs .

Further information, and also possible data transfer problems and their solutions are described in Customizing.

Data Transfer from Other SAP Modules

Types of Data Transfer [Page 100] deals with the tools you can use to organize the transfer of data to EC-EIS and EC-BP. For the SAP modules covered in the following sections, SAP delivers selection programs. Depending on the sending application, the sender structure is either already defined (as with FI-LC Consolidation) or it is generated in Customizing (as with CO-PA Profitability Analysis).

Data Transfer from R/2 [Page 106]

Data Transfer from R/3 [Page 107]

Data Transfer from R/2

The table lists the sender programs and structures for transferring transaction data from SAP R/2 Systems.

Application	Program	Sender structure
RF Financial Accounting	RFBILA00, RFSERG00	Balance sheet item, account, company code, business area, reporting year, “From” rep. month, “To” rep. month, currency, amount.
RK-E Profitability Analysis	TK75	Generated
RK-S Cost Center Accounting	SAPK021V, RKCKSTKS	KIDS RKCKSTSP to generate sender structure
RK-P Projects	RXSEIPSA	EIPS (DDIC)
Others	ABAP Query	Generated

Use of the individual interfaces is described in Customizing.

Data Collection from R/3

Setting up and executing data transfer from R/3 Systems is described in Customizing.

The table lists the sender programs and structures for the transfer of transaction data from the SAP R/3 Systems:

Application	Program	Sender Structure
FI-LC Consolidation	RGCEISS1	FILCEIS (DDIC)
FI-GL Bal.Sheet/P&L	RFBILA00	EISFI (DDIC)
PS Project System (Accounting)	RKPSEIS1	PSGENACC (DDIC)
PS Project System (Logistics)	RKPSEIS1	PSGENLOG (DDIC)
EC-CS Consolidation	FICEIS00	FC07EIS (DDIC)
CO-PA Profitability Analysis	Generated by basic drilldown	Generated
CO-OM Overhead Cost Controlling Controlling	Generated by Report Writer report	Generated
EC-PCA Profit Center Accounting	Generated by Report Writer report	Generated
FI-SL Special Ledger	Generated by Report Writer report	Generated
Others	ABAP Query	Generated

If you have the corresponding application components in operation in your installation, you can transfer data online from the current SAP R/3 System into EC-EIS/EC-BP with the help of the following programs delivered by SAP. In the EC-EIS application menu under *Transaction data → Transfers → Data transfer R3*, or in the EC-BP application menu under *Plan data → Transfers → Data transfer R3,* select a program, enter your selection data and then execute the program.

Data collection from Consolidation (FI-LC)

Program RGCEISS1 collects consolidated closing figures using sender structure FILCEIS.

Data collection from General Ledger (FI-GL)

Using program RFBILA00 and sender structure EISFI, you can transfer balance sheet and income statement data into EC-EIS and EC-BP.

Data collection from the Project System (PS)

Using program RKPSEIS1 and sender structure PSGENACC, you can transfer accounting key figures from the Project System into EC-EIS and EC-BP.

The program RKPSEIS1 and the sender structure PSGENLOG collect the logistics key figure values from the Project System.

Data collection from Consolidation (EC-CS)

Program FICEIS00 and sender structure FC07EIS transfer data from Consolidation.

Data collection from Profitability Analysis (CO-PA)

Data from CO-PA can be transferred to EC-EIS or EC-BP using basic reports. A corresponding sender structure is generated automatically.

Provided that the CO-PA data is in the same system as EC-EIS or EC-BP, the system offers the available reports in the list for execution.

If the data is in another system, you proceed as follows:

1. In the source system select the desired CO-PA report.
2. Choose *Extras* → *Report parameters*.
3. Make a note of the value of the parameter *Generation name*, or transfer the value into the Windows clipboard.
4. Switch to the target system in the ABAP Workbench and execute the report there, note that you must enter the generation name as the report name (and not the technical name of the report).

Data collection from Overhead Cost Controlling (CO-OM)

You can use the Report Writer to transfer CO-OM data to EC-EIS or EC-BP. In such reports the key figures must be in the columns. The rows or general selections must contain the characteristic values. Sample reports are delivered for Cost Center Accounting in the report library **1EI**. A corresponding sender structure is generated automatically.

Data collection from Profit Center Accounting (EC-PCA)

Just as in Overhead Cost Controlling, you can use the Report Writer to transfer EC-PCA data to EC-EIS and EC-BP. Sample reports are delivered for Profit Center Accounting in the report library **8A2** (report groups **8AE1** for actual data and **8AE2** for plan data). A corresponding sender structure is generated automatically.

Data collection from Special Ledger (FI-SL)

Just as in Overhead Cost Controlling, you can use the Report Writer to transfer data to EC-EIS and EC-BP.

Data collection using ABAP Query

EC-EIS and EC-BP are connected to the ABAP Query. This means that all data that can be displayed using a one line ABAP Query, can also be transferred to the aspects you have defined. The ABAP Query is suitable for data collection whenever the sender database is transparent and no additional external information is required. The information structures in the R/3 Logistics Information System for example, fulfill these conditions. You can also transfer master data to EC-EIS or EC-BP in the background using ABAP Query. You can find detailed information on this topic in the online documentation *BC ABAP Query*.

Flexible Upload of Data from Microsoft Excel

Use

You can load as much plan, transaction or master data as you wish from a Microsoft Excel sheet into one or more aspects of the EC-EIS or EC-BP.

Integration

To execute a flexible upload you require the data transfer tools.

Prerequisites

You must have created one or more sender structures, whose fields correspond to the cells of the file to be loaded. The Microsoft Excel files must be saved in TXT or CSV format.

Features

In Customizing you define which areas of the sheet are to be loaded into EC-EIS/EC-BP and which cells are to be assigned to the fields of the sender structure(s). This data description only has to be stored once for similarly structured files, for example, monthly reports.

With the upload you can load data from a single file or from the files of an entire path. If you load data from several files simultaneously, the system creates certain files on your PC. These are overwritten with each upload.

> Before you execute the first flexible upload for all the files of a path, check that you do not have any files on your PC in this path called **dir_file.TXT** or **dir_file.BAT**. If this is the case, you should rename the existing files, otherwise they will be overwritten.

As with importing a file, you enter the decimal display, the date format and the separator for CSV files. The tabulator is expected as the separator with TXT files.

If you choose the field *Test run,* no data will be written to the database.

Aspect Summarization

Use

By summarizing an aspect, you can reorganize transaction data or combine data from various aspects in a summarization aspect. This allows you to:

- convert transaction data for characteristic values which have been changed (for example, if you have changed characteristic values but the transaction data records have been saved for the old characteristic values)
- transmit transaction data from one aspect to another

Prerequisites

Before you can summarize an aspect you must have generated a corresponding program.

Features

If you transfer the data to the same aspect again, you can generate a selection program as well as sender structures and standard transfer rules, for an aspect. If you wish to transfer the data to another aspect, you must update the target aspect and rules in the sender structures.

Other Types of Data Transfer

Importing a File

To import a file, you must maintain the sender structure and transfer rules under one of your program names. To import a file, choose *Transaction data* → *Import file*. You can find further information in Customizing or under Importing a File [Page 84].

User-Defined Collection Programs

You can use the standard functions for communication and data transfer to run your own programs for data selection. The procedure is described in detail in Customizing.

Data Transfer to the Report Portfolio (EC-EIS)

Using the function *Information System* → *Report portfolio* → *Rep.portfolio report* → *Transf.other->Portf.*, you can transfer reports existing in the following formats to the report portfolio:

- Files on operating system level (UNIX files,...)
- Contents of a print order
- Print output of a program
- Reports that can be called up using the report/report interface

  (for example, drilldown reports, Report Writer reports, ABAP programs)

There are two ways of specifying to which user group and report class a report should be assigned:

1. When you choose *Manual entry*, you must enter these parameters.
2. When you choose *Automatic entry*, the parameters are taken from the settings maintained in Customizing.

   If you regularly fill the report portfolio from the same sources, you should maintain the appropriate settings in Customizing.

Transferring the Printout of a Program

To set up the transfer of a printout from other R/3 and R/2 programs to the report portfolio, you must enter the name of the variant with which the program is to be started.

If you wish to transfer the printout of an R/3 program to the report portfolio, you must have maintained the default printer in the user master record of the user who is to carry out the function. You do this under *System* → *User profile* → *Own data* → *Defaults,* field *OutputDevice*.

Transferring the Contents of an R/2 Print Order

To display the contents of an R/2 print order in the report portfolio, you must make the relevant settings in Customizing and start program RKCDMSP2 in R/2 by entering the print order number.

Calling Up Reports and Programs using the Report/Report Interface

To call up either a drilldown report, a Report Writer report, an ABAP program or a PC program using the report/report interface and to copy it to the report portfolio, proceed as follows:

1. Choose *Execute R/3 program* and then *Manual entry*.
2. Enter the report portfolio parameters and choose *Confirm*.

   A series of dialog boxes for the report/report interface is displayed.
3. To assign a receiver report to the report portfolio report (or to the sender report), choose *Insert line* in the first dialog box.
4. In the second dialog box, choose *Other report type* to display all possible entries. Select a report type.

Depending on the report type you select here, different dialog boxes for selecting the report or program appear. You can assign as many different reports or programs as you wish to a report portfolio report.

If you wish to call up a PC program, you must create a variant for the ABAP program **RKCWINEX** using Transaction SE38. After you have created the variant, you transfer the ABAP program **RKCWINEX** with the corresponding variant to the report portfolio.

5. Save your entries.
6. Using *Environment* → *Report portfolio report,* you can execute the report portfolio report that you have just created.

Business Planning (EC-BP)

Purpose

Business Planning (EC-BP) enables you to produce a group-wide business plan at a high level. The business plan supplements the detailed plans of the operative components with a planning facility that encompasses all the components and participating companies. The aim of EC-BP is to produce a consistent and realistic plan that improves the efficiency of the enterprise and the management process.

Implementation Considerations

(EC-BP) is a component for recording and evaluating aggregated plan data. You can use it to collect and maintain data from various functional plan sections in one uniform view.

Integration

EC-BP has the same data basis and data collection facilities as EC-EIS. You can also use the EC-BP functions to create a report on your plan data.

In this documentation, unless noted otherwise, the sections Data Basis (EC-EIS/EC-BP) [Page 23], Data Collection (EC-EIS/EC-BP) [Page 99] and Tools (EC-EIS/EC-BP) [Page 224] are relevant for both applications. The section Information System (EC-EIS) [Page 156] is only relevant if you wish to edit reports on plan data in EC-EIS.

Features

The EC-BP data structures are integrated with those of EC-EIS. If you implement EC-EIS, you have the advantage of being able to use and supplement the data pool in EC-BP. The data pool is organized into individual sub-sections of summarized business information called aspects. You can define these specifically for your enterprise for example, cash position, human resources, logistics. In addition to the available data contained in the aspects, you can transfer plan data from the various operative systems for example, financial information system, human resources information system, logistics information system, cost accounting etc.

For each aspect you can produce plans that portray different planning views for example, by group or business area, or you can produce sub-plans portraying investments or sales, for example. You can either enter your data manually or edit it automatically. In addition to planning values, you can also plan prices and quantities using appropriate formulas.

Using versions you can store various scenarios for the same time period. You can produce plans for a fiscal year, and also cross-yearly plans, for example, June 1998 - March 1999.

To construct the screen for interactive planning you configure planning layouts using characteristics and key figures from the data basis. You can also define formulas for locally-calculated key figures. The system saves the plan data bottom-up, which means that data from a lower level is aggregated to the next highest level.

Planners can use the R/3 interface of the planning processor (familiar from other applications) or Excel-In-Place. Excel-In-Place combines a Microsoft Excel interface with the planning functions of EC-BP. If you produce plan documents with Excel, you can save and edit them on your PC. After completion of the plan section, you can import the data back into EC-BP.

Business Planning (EC-BP)

In automatic planning, the system generates plan data based on user-defined premises. After you have set the parameters for automatic planning, and have initiated the automatic planning run, the system generates and posts the plan data automatically.

Apart from recording plan data, there are various functions available for editing your plan data. Using revaluations, you can either increase or decrease the plan data by a certain percentage. Seasonal distribution keys help to distribute the data from year level to period level. Top-down planning distributes aggregated data to lower levels on the basis of reference data from a different version or a different time period. Using statistical methods, you can have the system forecast plan data on the basis of previous data. In the automatic planning, the statistical methods (forecast profiles), distribution keys and revaluation factors can refer to specific combinations of characteristic values.

Because EC-BP and EC-EIS share a common data basis, you can use EC-EIS functions to report on the plan data. For example, you can produce plan/actual comparisons, navigate through the data, create exceptions, and send the report to your manager using SAPoffice functions.

In this documentation, the application functions are described in detail and the customizing functions in brief. The information is intended for the EC-BP user, but also for the EC-BP system manager. To access the EC-BP application menu, choose *Accounting* → *Enterprise controlling* → *Business planning*.

Carry out all necessary preliminary tasks and settings in Customizing. For more information about Customizing functions, see the implementation guidelines.

Interactive Planning

Use

In interactive planning, you plan values for key figures for selected characteristics. You use a Planning Layout [Page 119] to create the planning screen. The data that you can plan may be dependent on a planner profile.

Prerequisites

You have created a suitable planning layout in Customizing, and where necessary, a planner profile.

Features

Function	What you should know
Set Planner Profile	You use this function when you wish to use a planner profile to select the planning layout and the objects to be planned, and when no planner profile has been assigned to you in Customizing. The planner profiles support the organization of the planning process, especially if planning in your enterprise is decentralized. The system administrator assigns planner profiles to certain users. The profiles contain predefined planning objects. For more information, see Planner Profile [Page 124].
Change Plan Data	You use this function when you wish to enter or change plan data. You select the objects to be planned, a version, and a time period. The objects to be planned in a planning session are determined by the planning layout and also the planner profile. You can plan the values either cumulatively or per period. In addition to the entry of values, various planning functions are available. Seasonal Distribution [Page 144]: The system distributes available data on the period screen in a similar pattern to the existing plan data (distribution key 2). Using a different distribution key, you can change the distribution of the values over the periods (see Maintaining the Distribution Key [Page 145]). You can use SAP-delivered distribution keys for this, or create your own distribution keys. In this way, you can, for example, set up a seasonal distribution of the plan values to the periods. Revaluation [Page 146] To revaluate the data of a column or a row using a percentage rate, you can use the function Change Values [Ext.]. You can also add an absolute amount to the data with the same function. For more information about functions, see Edit Plan Data Interactively [Page 126].
Display Plan Data	You use this function to select the planning objects and display the plan data for a certain version and time period.

Forecast Plan Data	You use this function to automatically forecast plan data during the planning session (see Forecast [Page 148]). With the forecast function, the number of periods in the reference and plan areas may be different. You can execute the forecast by manually setting the parameters, or by basing the forecast on existing reference data (see Forecast Profile [Page 150]).

Planning Layout

Definition

A planning layout is a form, that gives the screen structure for the entry of plan values.

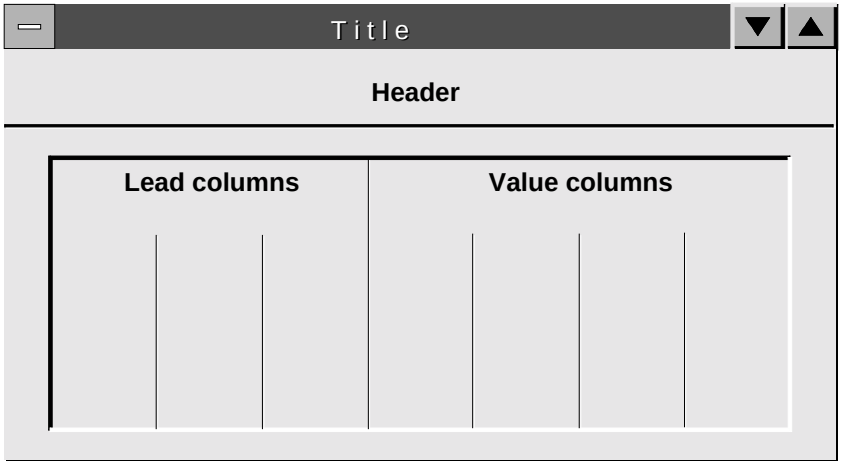
Use

In planning layouts you determine the screen structure for your planning session. You define the header area, value and lead columns depending on your special business requirements.

You can create different planning layouts, that differ with respect to the lead columns, characteristics etc. In this way you get the chance to create varied planning screens that meet specific business requirements such as version, half-yearly or quarterly planning.

Structure

All planning layouts are based on the following schematic structure:



Header Area

The **header area** of a planning layout is formed by several text rows that describe the objects to be planned in greater detail. These details are taken from the *General data selections* that are made in the planning layout. The characteristics of the general data selections (for example, version, fiscal year) are valid for the entire planning layout. Generally, you can define the characteristics of both the general data selections and of the columns as variables. The definition as a variable means that these fields are ready for input on the initial screen at the time of execution of the planning.

If you have maintained navigation attributes for your characteristics, you can select these attributes in the general selections and use them in the planning session to select the data. Note that, since the attributes are non-chargeable, the underlying characteristic must be specified in the planning layout

You wish to display plan data using the navigation attribute ***responsible person***. The underlying characteristic is the ***region***. In order to use the attribute ***responsible***

person as a selection criteria for the planning, you can create a variable for the responsible person in the general selections in the planning layout. You must also enter an interval of characteristic values or exactly one characteristic value for the characteristic ***region*** in the layout.

Lead Column

The **lead columns** determine the contents of the rows. Where necessary, you can define several lead columns.

You have two alternatives for the definition of lead columns:

1. **Definition of one or more lead columns using the column title**

   In this way, you can select exactly one characteristic per lead column and then specify either all characteristic values (*), an interval of characteristic values, one characteristic value, or a hierarchy node. (This layout corresponds to a single-coordinate form in drilldown reporting.)

   Revenue planning

1. Lead column	2. Lead column	1. Value column	2. Value column
Countries	Business areas	Revenue	Sales deductions
*	400 - 403 420 - 429		

1. **Definition of exactly one lead column using the rows**

   In this way, you can select one characteristic per row, combine several characteristics, combine characteristics with key figures, or calculate formulas. (This layout corresponds to a two-coordinate form in drilldown reporting.)

Version planning

1. Lead column	1st Value Col.	2nd Val. Col.	3rd Val. Col.
	Act. 1997	Plan 1998	Plan 1999

Gross domestic revenue			
Gross foreign revenue			
Sales deductions			
Stock changes			
Other capitalized internal activities			
Material expense			
Expense for services obtained			
Wages and salaries			
Social security contributions and expenses			
Depreciation			
Other operating expenses			
Operating profit (*Formula*)			

Value column

The **value columns** are used to enter plan values.

There are two types of value columns:

- Columns with characteristics/key figures

  With a value column of element type *Key figure with characteristics,* you select exactly one key figure from the list of all possible key figures. Then you determine the characteristics and characteristic values.

  You can use both basic key figures and calculated key figures in your planning layout. With the exception of ratios, calculated key figures are not ready for input. Calculated key figures, that consist of a ratio, can be input in the planning session. The values of the affected basic key figures are automatically calculated and changed in the relevant columns.

  With a value column of element type *Characteristic* you select characteristics and then the relevant characteristic values. If you have created a master data hierarchy, you can also select a hierarchy node or a variable for a hierarchy node. Note that you must specify the hierarchy variant in both cases.

- Formula columns

  Formula columns are based on the values of columns already defined. The SAP R/3 System offers the available value columns in a dialog box where you can define formulas. The values of these columns are calculated by the system if the value columns used in the formula have been provided with values. Formula columns also serve as a basis for the target value search.

Attribute column

You can assign units or a distribution key to a value column. This is done by defining attribute columns.

Planning Layout

You define a planning layout in *Customizing,* using *Planning → Interactive planning → Create planning layout*.

When you have created your planning layout in Customizing, you can plan your data (see Edit Plan Data Interactively [Page 126]).

Selection of the plan data

In the planning it can be necessary to make supplementary changes. In such cases you can not always plan in detail and you must enter all data at a high level. (If you wish, you can execute a top-down distribution later using automatic planning. When you select the plan data, these values are also taken into consideration. They are selected after being summarized over all non-specified characteristics.

In your enterprise you are planning the investment budget for each plant and company code for the fiscal year 1999. In the database four records were posted at this level. In addition, one record was planned at company code level. The plant is not specified in this record.

Company code	Plant	Investment budget in TDM
0001	0001	200
0001	0002	300
0002	0001	100
0002	0002	200
0002	-	100

In the planning layout you then select the plan data for each company code for the fiscal year 1999.

Company code	Investment budget in TDM
0001	500
0002	400

The values for the plant are selected summarized for each company code. This means that the record with no plant is also selected. Note that *Actual* data in an EC-EIS data entry layout is selected differently. With the same selection criteria for actual data, the following data would have been selected in the data entry layout.

Company code	Investment budget in TDM
0002	100

Only the data that corresponds exactly to the selection criteria is displayed. This means that only the record with the characteristic values *company code* 002 and *plant* [blank] will be displayed.

Planner Profile

Definition

A planner profile is a selection of planning layouts for the planning session, sometimes with specific default settings.

Use

A planner profile is an optimal planning aid for controlling the planning flow. There is a many-to-many relationship between the planner profile and the aspect, that is you can use a planner profile in many aspects and in the context of an aspect you have access to many planner profiles.

You have assigned **Aspect 001 Profitability Analysis** to planner profile PROFILE01. In profile positions 1 and 2 you have assigned the planning layout PL01 to this planning area (aspect).

You enter version 1 as a parameter for the planning layout in profile position 1. Enter version 2 as a parameter for the planning layout in profile position 2.

When planning, you can use the function *Next/previous layout* to jump between the planning layouts of the selected planner profile. This allows you to plan in various versions.

Structure

In a planner profile, you determine which planning layouts are to be used for each planning area (aspect). In a planner profile, you can store as many planning layouts for each planning area as you wish.

The planning layouts are assigned in the planner profile using profile positions. In each planning area you can have as many profile positions as you wish. The profile position determines the sequence of the planning layouts in a planner profile. It is also possible, using different profile positions, to assign the same planning layout (with different predefined parameters however) several times in a planner profile.

Features

In a planner profile you can set the following parameters for planning.

- By assigning an authorization group to a planner profile, you can control specific authorizations for planning. This is especially important for decentralized planning. Using planner profiles that are customized for each planner, and assignment of authorization groups, you can ensure that only planning is only carried out within the relevant responsibility area.
- If you wish to edit the planning layout in Microsoft Excel rather than with the R/3 interface, you can activate the Excel integration indicator. You must also enter a file description or have one generated. You can find more information on the required settings for working with Excel under Setting Up Integrated Excel [Page 132].

- You can make settings for the variables in a planning layout by predefining the planning layout parameters in the planner profiles. This simply means entering values for these variables in the planner profile. You can overwrite these values. However, you can also prevent overwriting by activating the relevant indicator in the planner profile definition. In a planning session the SAP R/3 System retrieves as parameters all the variables defined in a planning layout.
- If some users always work with the same planner profiles, you can enter these profiles with parameter-ID PPP in the user parameters under *System* → *User profile* → *Own data*.
- You set the planner profile for a planning session by choosing *Planning* → *Interactive* → *Set planner profile*, and entering a profile.
- If you want to plan without a planner profile, you can switch off the profile. You do this by choosing *Planning* → *Interactive* → *Set planner profile* and then choosing *Clear profile.*

You can find more information about creating planner profiles in Customizing.

Edit Plan Data Interactively

Prerequisites

You have created a planning layout in Customizing .

Procedure

You get to the planning functions using *Planning → Interactive → Change plan data.*

Using a planner profile set up for the purpose, you can edit your plan data in Microsoft Excel instead of with the R/3 interface. You can find more information under Integration of Microsoft Excel [Page 130].

1. Enter the aspect and the planning layout.
2. In the selection screen, enter the characteristic values for which you want to record or change plan data.

   As a rule, the planning layout you have selected will contain variables for certain characteristics, for example product group, customer group or cost center. It also contains variables for the characteristics **version** and **'from' and 'to' period/year**. By entering characteristic values for these variables on this screen, you specify definitively the objects to be planned in this session, the desired plan versions, the time frame etc.

   If the planning layout has been correspondingly defined, you can also select hierarchy nodes from a master data hierarchy, or (multilevel) navigation attributes, for example, the person responsible for a customer group. Note, however, that you cannot post any data for these objects.

   If you wish to enter your plan data in a different currency to that of the aspect or basic key figure, you can specify a data entry currency. The plan data is however, translated upon saving and saved to the database in the aspect or basic key figure currency that you selected in Customizing. In Customizing you can determine which currency conversion key should be used. If you have not maintained a translation key, then key 5 (average rate with key date at period start) is automatically used.
3. Choose *free* or *form-based*.

   If you activate *free*, the SAP R/3 System displays in the overview screen those records already planned. They can now be changed. You can also record new characteristic values and add these to the rows.

   If you activate *form-based*, the SAP R/3 System displays in the overview screen all the planning objects that have been selected in the initial screen, with valid master records. This is independent of whether plan values already exist. The same structure of characteristic values is displayed in each planning session. You may not record new characteristic values.

Overview screen

After you have entered the values for the variables, you can enter your plan figures on the overview screen. The layout of the overview screen depends on the selected planning layout. Before branching to the overview screen, the plan figures already available on the database are read for the objects to be planned and summarized according to the specified characteristics. In

order to prevent the simultaneous planning of objects by different users, the objects to be planned are locked by the system.

Functions in the Overview Screen

Seasonal Distribution [Page 144]

Revaluation [Page 146]

Forecast [Page 148]

Planning Quantities and Prices

Within a planning layout; if a calculated key figure, consisting of a ratio, is used in a column or row, you can change the values of the column or row. The other key figures of the formula are automatically calculated.

You have used a calculated key figure **price** (revenue/sales volume) as a column in your planning layout. There is also a **revenue** column and a **sales volume** column in the planning layout. If you enter a sales volume and a price in the planning session, the revenue is calculated automatically. If you enter a sales volume and a price in the planning session, the revenue is calculated automatically.

Target Value Search

The target value search enables you to carry out a break-even analysis. This means that you can use simulations to change plan data for a key figure until the contribution margin equals zero. The target value is calculated from a source value using a formula. For this to happen, the relevant columns in the planning layout must be created as formula columns.

Calculation Formulas

Calculation formulas serve as planning aids when calculating plan values. If you have created calculation formulas for certain basic key figures in planning, and wish to use these in interactive planning and write them to the database, you place the cursor on a cell and choose *Change* → *Planning functions* → *Calculate basic key figures* You can find further information about this in Customizing.

The planned sales commission amounts to 6% of revenue. Using a calculation formula, you can determine that the planned sales commission is calculated and posted as follows:

Sales commission = revenue * 0.06

Other Functions

You can access the following system help when entering plan values:

Print Preparation [Ext.]

Cutting [Ext.]

Copying [Ext.]

Setting [Ext.]

Sorting [Ext.]

Undoing rows, entries, recreating [Ext.]

Overview screen [Ext.]

Period Screen [Ext.]

Next, previous, other combination [Ext.]

Next, previous layout [Ext.]

Number Format [Ext.]

Period Screen

On the period screen you can display or manually change the period distribution of your plan value. If you wish to use a different distribution key you should set this on the overview screen.

Once you have entered or changed your plan data, save it.

Result

You can now look at your plan values in the Executive Information System and compare them with plan values from other areas or periods.

Planning Scenario

You are planning a budget increase for the cost centers as a percentage increase. You wish to enter the percentage increase. The SAP R/3 System should calculate the plan value of the current year from the plan value of the previous year and the percentage increase.

Inverse formulas allow you to enter values in a formula column while planning; the SAP R/3 System then uses these to calculate the values for another column of the planning layout. How to define an inverse formula is described in detail in Customizing.

Definition of the planning layout

Planning Layout

Lead Column	Value. Col. 1	Value. Col. 2	Formula Column
Cost center	Plan current year	Plan prev. year	%-Increase ((Plan curr. yr.- Plan prev. yr.) /Plan prev. year) * 100

You indicate the column *Plan current year* as not ready for input, the column *%-increase* as ready for input. Then you generate the inverse formula.

Interactive planning of the data

In the interactive planning you copy the plan values of the previous year to the plan values of the current year.

After copying the planning:

Cost center	Plan current year	Plan prev. year	% Increase
530	500.000	500.000	

You enter the percentage increase. The plan costs of the current year are calculated.

After calculating the new plan costs:

Cost center	Plan current year	Plan prev. year	% Increase
530	550.000	500.000	10

Integrated Excel in Planning

Use

For planning with integrated Excel, Microsoft Excel is used as a planning screen for your planning data in the SAP System. This allows you to combine the comfort of Excel's formatting and data processing functions with the powerful planning functions of your SAP application. You are therefore able to use the Office input interface with online planning in the SAP System.

There are two ways of using Excel to plan your data:

- Planning with Excel integrated into the user interface of the SAP System

  Excel replaces the standard SAP planning screen. This enables you to plan using the functions of both the SAP System and Excel.

- Offline planning in Excel and uploading data into the SAP System

  From one or more PCs that are not connected to the SAP System, you can enter your planning data into several Excel spreadsheets. This data can then be uploaded into the SAP System, where you can process it further using the SAP planning functions.

Prerequisites

Software

To be able to plan using integrated Excel, the following should be installed on your PC:

- The Windows NT 4.0 or Windows 95 operating system
- Microsoft Excel 97
- A current SAP GUI (32 Bit) matching your System Release

Hardware

To ensure good response times, your PC should have a Pentium II processor and 64 MB RAM.

Features

In Customizing, you can define Excel spreadsheets for use as templates in planning. In those templates, you can move data around, insert graphics, define macros, and format text and cells. You can use this template to plan with integrated Excel or to plan with the upload function.

Link between Excel and the SAP System

From the technical point of view, Excel is called up by the SAP System using OLE (Object Linking and Embedding), an interface in the Office programs. Integrated Excel into the SAP System allows you to use the same Excel functions that are available with the integration of Excel in Word, for example.

On a more detailed level, the link between the Excel spreadsheet and the SAP planning layout is created above the position of the data in the Excel spreadsheet:
The SAP System uses Customizing to determine which SAP data is in Excel and where it can be found. The position of the data cannot be changed in the planning screen to ensure that the data is imported correctly. The fields of the planning layout are mapped to the Excel spreadsheet using File Description [Ext.].

Constraint

You cannot use integrated Excel to enter any planning data in the *period screen.*

Activities

Initial Steps

To be able to use Microsoft Excel as your planning screen, you need to activate the indicator *integrated Excel* in Customizing for your application when Setting Up The Planning Framework [Ext.] (only CO-PA), or when you assign your planning layouts to a planner profile.

In Customizing, you can also design an Excel spreadsheet to be used as a template for planning in Excel.

For more information about setting up integrated Excel, see Setting Up Integrated Excel [Page 132].

Planning in Excel

- Excel integrated in the SAP interface

  To plan directly in the SAP System using integrated Excel, you can choose between executing a corresponding parameter set (only CO-PA) or using a planner profile in which Excel was activated as the planning screen for one or more layouts. You enter your planning data in Excel and can use Excel functions such as macros or diagrams as well as all the usual SAP planning functions. For more information on planning with integrated Excel, see How To Plan Using Integrated Excel [Page 135].

- Planning in Excel and uploading data into the SAP System

  The Excel template created in Customizing can be copied as often as required and used to create planning data in Excel. By using the uploading function for Excel, you can transfer the individual files into the SAP system. This means that planning data can be entered into different PCs, local planning thereby being possible. For more information on the required procedure, see Planning Offline and Uploading into the SAP System [Ext.].

Setting Up Integrated Excel

Prerequisites

Your Planning Layouts [Ext.] must be defined.

If you want to change a planning layout for which you have already created an Excel template, you must create a new Excel template.

For technical reasons, it is necessary that the system already contain planning data that corresponds to the planning layout (at least one row) before an Excel spreadsheet can be formatted as a template. If no such data is present in the system, you need to create some. One way of doing this is by entering data into the appropriate layout without integrated Excel.

Procedure

Activating Excel

Depending on the application you are working in, you should proceed as follows:

- **In Profitability Analysis (CO-PA)**, you set the integrated Excel indicator to "*active*" when you define a parameter set for the planning method *Enter planning data* or *Display planning data* (for more information, see the section Set Up Manual Entry of Planning Data [Ext.]). When you first select this parameter set in the planning framework, the structure that you specified in the planning layout is represented in the upper left-hand corner of an Excel sheet.
- **In the other applications**, select *Integrated Excel* in Customizing on the *Define Planner Profiles* screen when you assign planning layouts to the planner profile. This activates Excel as the planning tool for that layout in that planner profile. When you enter planning, the system displays the planning layout you defined in the upper left-hand corner of an Excel spreadsheet.

  When moving the planning layout, you can enter a specific name for the file description. This makes sense, for example, in cases where you intend to use the file description several times. If you do not enter anything here, the system automatically creates a file description when you save your planner profiles. This file description will reflect the position in the profile.

  If you want to customize a particular spreadsheet to be used uniquely with that layout in planning, you need to define an appropriate template (see "Defining an Excel Template").

  If you want to **upload** an Excel spreadsheet, you need to edit an Excel sheet template in order that the system can generate a file description. This file description is required for the upload. Furthermore, you need to make several additional settings (see Planning Offline and Uploading into the SAP System [Ext.]).

Defining an Excel Template

1. **CO-PA:** Execute the planning method *Enter planning data*, using the related parameter set. Doing so takes you to an unformatted Excel sheet. There you choose *Settings* → *Formatting*.

   Other applications: In the IMG for defining the planner profile, choose *Default Parameters* and enter values for the variables defined in the planning layout. You must do this so that you can open the spreadsheet in the next step. If desired, you can delete these entries again after you have customized your Excel template.

   To open Excel in the SAP window, choose .

2. In the *Maintain File Description* screen, you can now customize an Excel spreadsheet as a template for your planning screen.

   Note the following:

   – To **move** planning data within the spreadsheet, **only use the appropriate SAP function**. To do this, select the data you want to move using , and then position the cursor on the target location and choose . You save the link between the old position and the new position of the data by choosing *Save* file description [Ext.].

   – The first Excel spreadsheet is protected. Cells that were not locked against entries in the SAP entry screen, such as those that can be defined in the planning layout, are excluded from this protection in Excel. If you want to use functions in Excel that extend beyond editing those cells where entries can be made, you first need to remove the general spreadsheet protection in Excel.

     After editing, you should then reactivate the spreadsheet protection in Excel to ensure that, for subsequent planning, the only data that can be entered corresponds to that specified in the SAP System.

   – You can use the Excel formatting functions (such as different fonts or colors) to format the Excel template.

   – You can use Excel to create diagrams, macros and formulas and then use these for additional calculations, for example. It is recommended that you insert these into a second spreadsheet to avoid the data conflicting with the actual R/3 planning data later. The SAP planning data is imported from the first spreadsheet only.

   – When you enter formulas in the SAP data area in Excel, they are overwritten by the formula result during posting, and the formulas themselves are then discarded.

   – You can save the Excel formatting in the SAP System by choosing *Save Excel layout.*

3. If you later want to upload files from your PC to the SAP System, you must enter a generic file name [Ext.] (see the section Planning Offline and Uploading into the SAP System [Ext.]).

4. Choose in the toolbar. This function will also save the file description and the Excel template.

   Data saved with this function is permanent from then on.

5. Choose .

CO-PA: You then return to the planning framework.

Other applications: You return to the *Default Parameters* screen. Delete any values you entered for the variables if you do not want to have them displayed as the template in planning. Choose .

The default parameters are only saved temporarily at this point.

For this reason, you should then finish by saving the planner profile. Only then does the system assign a definitive file description to the planning layout and save the values for the variables are saved permanently.

How To Plan Using Integrated Excel

Prerequisites

To be able to use Microsoft Excel as your planning screen in the SAP System, you need to make the appropriate settings either in Customizing under *Define Planner Profile* or when defining the parameter set for the *Enter planning data* planning method (CO-PA only). For more information, see Setting Up Integrated Excel [Page 132].

Procedure

1. **CO-PA**: Execute the planning method *Enter planning data* using a parameter set for which Excel has been activated as the planning tool. This automatically calls up Excel within the SAP window.

   Other applications: Enter planning using a planner profile and choose a planning layout for which integrated Excel has been activated. To open Microsoft Excel in the SAP System window, choose . (It is not possible to use Excel to create planning data in the period screen.)

   – If you have used Customizing just to set the indicator for integrated Excel and no special formatting has been made in the Excel template for this planning layout, the system displays the planning data unformatted in the upper left-hand corner of the spreadsheet.

   – If you have formatted an Excel template in Customizing, the system opens this template in Excel.

2. Enter your planning data.

   Note the following:

   – You must **avoid** any use of the following **Excel functions**:
   - Delete
   - Paste
   - Sort
   Use of the above functions prevents data from being imported correctly into the SAP System.

   – If you want to **delete** data, choose in the **SAP System**.

   – Enter new objects for planning directly beneath the existing SAP data (where appropriate, beneath the totals row). To **paste**, use the **SAP possible entries** function (available via). Note that the system does not recognize data that is separated from the existing SAP planning data by an empty row.

   – You can **sort** additional data into existing data by choosing *Edit* → *Sort* in the **SAP menu**.

   – If the Excel spreadsheet is protected, then the entries that can be made in the individual cells correspond to those specified in the SAP System.

   – You can access **SAP possible entries** by choosing ..

   – The SAP System only imports data from the first spreadsheet in an Excel folder. You can perform additional calculations or add diagrams on a second spreadsheet. These

calculations and diagrams are only kept during your planning session if they have not already been created in Customizing.

- When you enter formulas in the SAP data area in Excel, they are overwritten by the formula result during posting, and the formulas themselves are then discarded.
- If you want to save, use an SAP planning function or run a validity check, you need to make sure that no cell is currently being edited in Excel. You can control this by displaying the "Formula Bar" in Excel (choose *View* → *Formula bar*).
- To run a validity check for the data you have entered, choose in the SAP System.

3. Post the data by choosing .

   You then return to the initial screen.

Flexible Upload of Data from Microsoft Excel

Use

You can load as much plan, transaction or master data as you wish from a Microsoft Excel sheet into one or more aspects of the EC-EIS or EC-BP.

Integration

To execute a flexible upload you require the data transfer tools.

Prerequisites

You must have created one or more sender structures, whose fields correspond to the cells of the file to be loaded. The Microsoft Excel files must be saved in TXT or CSV format.

Features

In Customizing you define which areas of the sheet are to be loaded into EC-EIS/EC-BP and which cells are to be assigned to the fields of the sender structure(s). This data description only has to be stored once for similarly structured files, for example, monthly reports.

With the upload you can load data from a single file or from the files of an entire path. If you load data from several files simultaneously, the system creates certain files on your PC. These are overwritten with each upload.

> Before you execute the first flexible upload for all the files of a path, check that you do not have any files on your PC in this path called **dir_file.TXT** or **dir_file.BAT**. If this is the case, you should rename the existing files, otherwise they will be overwritten.

As with importing a file, you enter the decimal display, the date format and the separator for CSV files. The tabulator is expected as the separator with TXT files.

If you choose the field *Test run,* no data will be written to the database.

Automatic Planning

Use

Automatic planning allows you to use existing plan or actual data from one version or time period as a template for plan data for another version or time period. The advantage is that you can easily edit larger amounts of data in this way, for example, if your plan data is based on the actual data of the previous year. You can also make certain changes to the data.

Integration

With the exception of top-down planning, the plan data can be updated with the tools of the component **data transfer.**

Features

Function	What you should know
Copy plan data	You use this function if you wish to copy plan or actual data from one version or time period to another version or time period. You can take reference data from more than one year (for example, 010.1997 to 004.1998), and also copy to more than one year. The number of reference periods however, must equal the number of plan periods.
Change plan data	You use this function if you wish to copy plan data and simultaneously change it using a seasonal distribution and/or a revaluation. You can take reference data from more than one year (for example, 010.1997 to 004.1998), and also copy to more than one year. The number of reference periods however, must equal the number of plan periods. The **seasonal distribution** of the reference data remains intact when copying, meaning that period values are copied. If the seasonality of the reference data is not to be adopted due to special circumstances, then you can enter a new seasonal distribution for the planning run. The reference data for all periods of the selected reference time frame is accumulated and distributed to the periods of the planning time frame according to the seasonal distribution key (see Seasonal Distribution [Page 144]). You can use certain SAP-delivered distribution keys for this or create your own (see Maintaining Distribution Keys [Page 145]). In the planning session you can either set a seasonal distribution for all data records, or (using a planning aid access) you can select a distribution for a specific characteristic combination. If you want to use existing plan or actual data (with a percentage increase or decrease) as a basis for new plan data, you can select a revaluation factor. The reference data will then be amended to take account of this increase/decrease (see Revaluation [Page 146]). You can either set the **revaluation** for all data records, or (using a planning aid access) you can select a revaluation for a specific characteristic combination (see Determining the Revaluation Factor [Page 147]).

Forecast plan data	You use this function when you wish to automatically forecast plan data (see Forecast [Page 148]). You can take reference data from more than one year (for example, 010.1997 to 004.1998), and also copy to more than one year. With the forecast function, the number of periods in the reference and plan areas may be different. Using a forecast profile, you can generate plan data based on already existing reference data (see Forecast Profile [Page 150]). You can either set the forecast for all data records, or (using a planning aid access) you can select a forecast for a specific characteristic combination. In addition, you can select a different forecast profile for each key figure.
Top-down planning	You use this function when you wish to automatically distribute plan data top-down within an aspect. Plan data is distributed from a higher level to lower levels, for example, from customer group level to customer level (see Top-Down Planning [Page 152]). You can take reference data from more than one year (for example, 010.1997 to 004.1998), and also plan for more than one year. The number of reference periods however, must equal the number of plan periods.

Updating the plan data

You can either update the plan data directly, or you can update with the functions of data transfer, using a sender structure and transfer rules.

The direct update (that is *without transfer rules*) is suitable for planning sessions in which you copy values into the same fields of a second version and, possibly a second time frame (or copy and revaluate, or distribute anew). You determine whether existing plan data is to be overwritten, or if the values are to added to existing records on the database. You do not have to carry out any activities in Customizing for the direct update of the data.

Note that:

- The direct update is only possible when planning in the same aspect
- Top-down planning can **only** be updated directly

If you wish to carry out one or more of the following functions while copying, you must update the data using a sender structure and *with transfer rules*:

- Update the data in a different aspect
- Translate currency
- Import data to another client or to another system
- Convert characteristics

The prerequisite for this is the maintenance of the sender structures and transfer rules in Customizing. When maintaining the transfer rules you determine whether existing plan data is to be overwritten or if the values are to added.

Authorizations

To protect the plan/actual indicator and the version in automatic planning, you use the authorization object K_KC_DB_VS. You can use data slices to protect the fiscal year and the period. If you wish to protect other characteristics use the general characteristic authorization for EC-EIS and EC-BP.

Edit Plan Data Automatically

Prerequisites

The functions of automatic planning run similarly to those of interactive planning. The procedures and various details of automatic planning are described below:

Procedure

Initial Screen

Enter the following details for *plan data*:

1. Enter the aspect to be planned.
2. Enter the plan version, into which the changed data will be transferred.
3. Enter the periods to be planned.

Enter the following details for *reference data*:

1. Enter the aspect from which data is to be transferred, or referenced.
2. Specify if you wish your plan to refer to actual data or to an existing plan version.
3. Enter a version from which the data is to be copied or referenced.
4. Determine from which periods the source data is to be copied or referenced.

Enter the necessary details for *function*:

The function determines how the plan data is to be processed. You can find more information about the various functions under:

Seasonal Distribution [Page 144]

Revaluation [Page 146]

Forecast [Page 148]

Top-Down Planning [Page 152]

Enter the following details for *extras*:

1. Select *Test run* if you wish to execute the function without any changes to the database.
2. Select *Log* to keep a log of the procedure.
3. Select *Background processing* for dealing with a large number of changed objects to avoid dialog processing (see section **Background Processing**).

Enter the necessary details for *updating*:

With the exception of top-down planning, which is always updated directly, you can either update the plan data directly or by using the data transfer functions. The latter entails updating using a sender structure and transfer rules. For more information see Automatic Planning [Page 138].

Selection of the Characteristics

After you have made your entries on the tab page *General settings*, choose the tab page *Characteristics*. Here, you can restrict the selection of plan data to be copied by selecting certain characteristics. If you only wish to edit data for regions and areas, for example, you can select the characteristics **region** and **area**.

If you are working with the characteristic **data area** in your aspect, you have to enter a characteristic value. The data area holds the default currency for the basic key figures and must, therefore, be specified.

Selection of Key Figures

Choose the tab page *Key figures* to determine which key figures you will plan with. If you want to plan only **sales volume** and **revenue**, for example, select these fields.

For automatic planning, select only those key figures for which "Summation" (**`sum`**) is defined as the aggregation behavior.

If you have created calculation formulas for certain basic key figures in planning, and wish to use these in automatic planning and write them to the database, select the relevant key figures. If you do not choose a basic key figure for calculation, it will not be calculated with the stored formula, but will be processed like the other key figures. For example, it might be increased by 5% or it might be forecast. You can find further information about this in Customizing.

In top-down planning you enter a reference base for the value distribution For more information see Top-Down Planning [Page 152].

Characteristic Value Restriction

Choose the tab page *Selections* to restrict the characteristic values. If you want to plan the regions **South** and **East** only, for example, enter single values or an interval.

Choose *Automatic planning* → *Execute* to carry out the automatic planning.

Save Parameterization

When you have made all settings for the planning run, you can save them as parameterization with a specific name. Enter a technical name and a description of the settings in the field *current parameterization* and choose , to save. This saving of the planning parameters is at the same time a prerequisite for being able to schedule planning runs in the background.

Background Processing

If you wish to change a lot of data, it is recommended to let the automatic planning run in background processing. While the automatic planning is running the program **RKCPLEXE** is called up. Using a variant for this program, you determine which parameterization is used for the planning. Then you plan the program in background processing.

Result

The plan data is generated automatically according to the function you have selected, and is saved to the database if required. If a log has been kept, it is displayed automatically during online execution, or written to the spool during background processing.

Seasonal Distribution

Use

Using the seasonal distribution, you can distribute values that you enter for the entire planning time frame to the individual periods according to a predefined distribution key. The default setting distributes values in line with those already existing. If no values already exist the distribution is carried out evenly.

You can use the seasonal distribution when changing plan data automatically, and in interactive planning (see Edit plan data automatically [Page 141]and Edit plan data interactively [Page 126]).

Prerequisites

You are using SAP-delivered distribution keys or you have created your own.

Features

Automatic Planning

The seasonal distribution of the reference data remains intact when copying, meaning that period values are copied. If the seasonality in the reference data is not to be adopted due to special circumstances, you can copy the plan data and change it at the same time. You do this by entering a new seasonal distribution for the planning run. The reference data for all periods of the selected reference time frame is accumulated and distributed to the periods of the planning time frame according to the seasonal distribution key. You can use certain SAP-delivered distribution keys for this or create your own (see Maintaining Distribution Keys [Page 145]).

In the planning session you can either enter a seasonal distribution for all data records, or you can select an object-dependent distribution for a specific characteristic combination. The object-dependent distribution is controlled by a planning aid access created in Customizing. For more information see Maintaining Distribution Keys [Page 145].

Note that, if the distribution key is not maintained for the time period to be planned or the characteristic combination, then the data will be copied but not distributed.

Interactive Planning

When planning interactively, you define a column for the distribution key in the planning layout. As a default, distribution key 2 (analogous distribution) is set. When entering the plan values, you can change the key in the overview screen. You can display the distributed values on the period screen, and change them if necessary.

Maintaining the Distribution Key

Use

The function **Create distribution key** is an optional planning aid, that makes the entry of plan data easier.

Using the distribution key, you can distribute values that you enter on the overview screen for the entire planning time frame, to the periods according to a predefined seasonal distribution. The default setting distributes values in line with those already existing. If no values already exist the distribution is carried out evenly.

You can assign a distribution key to certain combinations of characteristic values in Customizing in order to represent different planning scenarios in automatic planning. This assignment is done using an object-dependent parameter and a planning aid access. For each combination of characteristic values (for example, company code 0001, fiscal year 1999) you can portray several scenarios. You do this by storing several object-dependent parameters with different planning aid accesses. This enables you to store, for example, best-case and worst-case plans. For more information, see Customizing.

Features

If you would like to use a particular seasonal distribution, you can define new distribution keys. A relative factor is assigned to each period and the entered plan values are distributed according to this factor. All periods, to which no value has been assigned, implicitly receive the factor zero. The number of periods in the year is determined from the fiscal year variant of the aspect.

If you wish to set up a seasonal distribution that repeats each year, enter the data for any year you wish and check the field **Cyclical**.

If necessary, you can also delete distribution keys that are no longer required.

The creation of a distribution key is described in more detail in Customizing.

Revaluation

Use

When changing your plan data, you can revaluate the values using either a percentage increase or decrease. This enables you, for example, to base your plan values for 1999 on your actual values from 1998 plus 10%.

You can execute the revaluation when changing plan data automatically, and in interactive planning (see Edit Plan Data Automatically [Page 141] and Edit Plan Data Interactively [Page 126]).

Prerequisites

You have created revaluation factors for the revaluation in automatic planning.

Features

Automatic Planning

For automatic planning, you determine the percentage increase or decrease by means of a revaluation factor for each key figure (see Determining the Revaluation Factor [Page 147]). If you want to use existing plan or actual data (with a percentage increase or decrease) as a basis for new plan data, select a revaluation factor. The reference data will then be amended to take account of this increase/decrease.

In the planning session you can either enter a revaluation for all data records, or you can select an object-dependent revaluation for a specific characteristic combination. The object-dependent revaluation is controlled by a planning aid access created in Customizing. Note that, for object-dependent revaluation, the revaluation factor must be maintained for the **target** time period. The system executes the revaluation of the data in the target time period with the appropriate revaluation factor. For more information see Determining Revaluation Factors [Page 147].

Interactive Planning

In interactive planning you can enter the increase or decrease as a percentage, or you can enter it directly as a value. In this case you do not need a revaluation factor.

Select a cell, a column, or a row and choose *Edit* → *Change values*. In the dialog box which appears you can enter a percentage for the revaluation, or you can enter a value to be added.

Determining the Revaluation Factor

Use

A revaluation factor is an optional planning aid that makes the entry of plan data in the automatic planning easier.

A revaluation factor defines increase and decrease percentage rates for the key figures of an aspect. When maintaining the revaluation factors, enter a revaluation factor for each key figure that should be increased. For each key figure that should be decreased you enter a negative revaluation factor.

You can assign a revaluation factor to certain combinations of characteristic values in Customizing in order to represent different planning scenarios in automatic planning. This assignment is done using an object-dependent parameter and a planning aid access. For each combination of characteristic values (for example, company code 0001, fiscal year 1999) you can portray several scenarios. You do this by storing several object-dependent parameters with different planning aid accesses. This enables you to store, for example, best-case and worst-case plans. For more information, see Customizing.

Features

The plan for the year 1998 should be created as a proposal from the actual data from 1997, increased by 5%.

1. Using *New entries* you enter the name of the revaluation factor
2. Select *Assign factors*.
3. Using *New entries* you select the corresponding key figures for which an increase should be determined.
4. In each field enter *Percentage rate* **5**.
5. Save your entries.

Forecast

Use

A forecast is a projection of available data using statistical methods.

Based on existing plan or actual data, new plan data is generated for a certain time period. Various forecast strategies or models are supported such as moving average, 2nd order exponential smoothing, and seasonal models. The models and forecast parameters are maintained in forecast profiles. Using a forecast profile, you can forecast plan values for several combinations of characteristics and key figures. You can find more information on forecast profiles under Forecast Profile [Page 150].

You can use the forecast when changing plan data automatically, and in interactive planning (see Edit plan data automatically [Page 141] and Edit plan data interactively [Page 126]).

Integration

You can find more general information on the forecast in the online documentation on Sales and Operations Planning, section Planning Table: The Forecast [Ext.].

Prerequisites

You have created a suitable forecast profile in Customizing.

Features

Automatic Planning

In automatic planning, the data is projected according to the profile parameters.

In the planning session you can either enter a forecast for all data records, or you can select an object-dependent forecast for a specific combination of characteristics and key figures. The object-dependent forecast is controlled by a planning aid access created in Customizing. For more information see Forecast Profile [Page 150].

Interactive Planning

In interactive planning you also use a profile to execute a forecast. You can change the forecast parameters online, or you can modify the forecast data directly, or interactively using a graphic.

1. Position the cursor on the cell for which the forecast is to be executed.
2. Choose *Edit* → *Planning functions* → *Forecast* or press F9.
   The dialog box for the model selection appears.
3. Enter the start and end dates of the period for which you wish to forecast data. The time period you have already selected for planning appears as default in this field.
4. Enter the start and end date of the past period, from which the data for the forecast is to be taken. Also enter the version and the plan/actual indicator of the reference data.
5. Enter a *profile*. If you wish to execute the forecast interactively, choose also *Interactive forecast*.
   To display a log of any errors that may have occurred during the forecast, choose *Display forecast messages*.

6. In the next dialog box you set up the model. If necessary you can edit the values from past time periods. Then choose *Forecast*.
7. In this dialog box you change the parameters for the model. Then choose *Forecast*.
8. The results of the forecast are displayed in the next dialog box. You can change these either manually or by using the interactive graphic.
9. Then the log is displayed.
10. Save the data in the planning layout.

Forecast Profile

Use

A forecast profile consists of a strategy and a grouping of parameters, according to which, you can project existing plan or actual data into the future.

The profile allows you to execute the forecast repeatedly without having to make the forecast settings each time.

You can assign a planning profile to certain combinations of characteristic values in Customizing in order to represent different planning scenarios in automatic planning. This assignment is done using an object-dependent parameter and a planning aid access. For each combination of characteristic values, for example company code 0001, fiscal year 1999, you can portray several scenarios. You do this by storing several object-dependent parameters with different planning aid accesses. This enables you to store, for example, best-case and worst-case plans. For more information, see Customizing.

Features

Each profile has a forecast strategy. This defines the forecast model, for example constant, trend, seasonal model, together with the desired parameters.

See also the following information in the online documentation on Sales and Operations Planning:

Forecast Model [Ext.]

Forecast Profile [Ext.]

Forecast Parameters [Ext.]

In your forecast, you may wish to give certain values a higher weighting so that they will have a greater effect on the projection strategy. To do this, you must create weighting groups (see Weighting Group [Page 151]

Weighting Group

Use

A weighting group weights the data from certain previous periods using weighting factors.

It is required for a projection with a **weighted moving average** forecast model in order to determine the future values.

You can find further information about this in Customizing.

Top-Down Planning

Use

Top-down planning is a distribution of plan data from a high level to objects on a lower level.

You can distribute plan data that is planned at a higher level (for example, customer group) to a lower level (for example, customer). The plan data is distributed analogous to the existing reference data. Plan and actual data can be used as a reference.

Top-down planning is only possible in automatic planning For an example of top-down planning, see Top-Down Scenario [Page 154]. For general information on the procedure, see Edit Plan Data Automatically [Page 141].

Features

Methods for the Distribution

Here you can choose between two methods.

If you distribute the total value, the existing values on the lower level are summed with the values on the level to be distributed, and then newly distributed. This method is appropriate for a situation where existing values are also to be newly distributed according to the reference data.

If you choose the option *Distribute nonassigned values only*, the higher level values to be distributed are broken down according to the reference data and then added to the existing data on the lower level. This method is appropriate for a situation where the existing values are not to be newly distributed, for example, because you changed the values manually after the last distribution.

Reference Base

You have two possible reference bases for distribution of the values.

- You can use one specific basic key figure as a reference base for all key figures.

  This way all key figures are distributed on the basis of (for example) sales volume.

- You can use the relevant key figure as a reference base for itself.

  This way the revenue is distributed on the basis of revenue, sales commission on the basis of sales commission.

Processing of the Characteristics

You determine for each selected characteristic, how it should be processed in top-down distribution.

- Distribute

  The values are distributed to these characteristics.

- Transfer

  The values are distributed from this level to the other characteristics. Then, the data at this level is deleted.

Top-Down Scenario

Revenue is planned in two different categories:

- Split by region
- By country for businesss transactions for where a regional assignment is not appropriate.

The following plan data was planned at the level of the characteristic **Region** (in addition to the revenue not split by region).

Country	Region	Revenue in USD (thousands)
USA	East	100
USA	West	80

The following plan data was planned at the level of the characteristic **Country** (in addition to the regionally assigned values).

Country	Region	Revenue in USD (thousands)
USA	--	90

For the country USA, the planned revenue is to be newly distributed based on the previous year's values for the key figure **sales volume**.The following was selected as reference data:

Country	Region	Sales volume
USA	East	50
USA	West	100

The distribution of the previous year's sales volume data means that the revenue is to be distributed in a 1:2 relationship to the regions East and West. This distribution can be carried out using either of two strategies:

1. Result: Distribution by the 'Distribute total value' method

The planned values are summed to a total value of USD 270,000 and are newly distributed at regional level according to the reference base:

Country	Region	Revenue in USD (thousands)
USA	East	90
USA	West	180

2. Result: Distribution by the 'Distribute unassigned values only' method

Only the value at the higher level (**Country**), USD 90,000 is distributed based on the actual previous year's data for the key figure **sales volume,** and summed to a total value per region:

Country	Region	Revenue in USD (thousands)
USA	East	130
USA	West	140

The value at **country** level is deleted in both cases after the top-down planning.

Country	Region	Revenue in USD (thousands)
USA	--	--

Information System (EC-EIS)

Purpose

The information system is the presentation and analysis tool of the executive information system (EC-EIS). The EC-EIS data is presented in both the **report portfolio** and **drilldown reporting**.

The end user can view predefined reports, graphics and texts in the report portfolio. In drilldown reporting the Controller not only prepares reports for management, but also analyzes and makes comments on the data.

Implementation Considerations

You need this component for reporting on the EC-EIS data.

Integration

You can use the information system to report on the plan data from Business Planning (EC-BP).

Features

For more information on the functions in drilldown reporting see Interactive Drilldown Reporting [Page 157]

For more information on the functions in the report portfolio see Report Portfolio [Page 200].

Constraints

Interactive Drilldown Reporting

Purpose

Drilldown reporting is a dialog-orientated information system for evaluating the data on your EC-EIS database. The task of drilldown reporting is to portray business objects (combinations of characteristics) in such a way that you can quickly pinpoint noteworthy objects, because, for example, they contain unusually high or low values for a particular key figure. It is important to note that drilldown reporting always refers to the business objects of one particular aspect. Drilldown reporting can be used to evaluate the dataset according to all the characteristics contained in an aspect. You may use any key figures you wish in interactive drilldown reporting. The system also enables you to perform variance analyses (plan/actual comparisons, fiscal year comparisons, object comparisons, etc.). For each key figure, you can display several objects and for each object, several key figures.

Interactive drilldown is mainly used by employees from controlling and staff departments.

Integration

The EC-EIS data is presented in both the **report portfolio** and **drilldown reporting**. The end user can view predefined reports, graphics and texts in the report portfolio. For more information, see Report Portfolio [Page 200].

Features

Drilldown reporting contains convenient functions for navigating through the dataset, for example, next level (drilldown), next object within a level, hiding a level, detail list, and drilldown list. It also contains numerous additional functions for editing a report interactively (conditions, exceptions, sort orders, top n lists, etc.). In addition, drilldown reporting is connected to SAP graphics, SAPmail, and various printing functions with Microsoft Word and Excel. With the interface to the product "inSight" from arcplan Information Services, you can configure your own graphical user interface for interactive drilldown reporting.

Within drilldown reporting you can create and display reports which are simple in layout (data controlled) or more complex (formatted).

The data selected for a report can subsequently be saved. This leads to improved response times the next time you call up the report. This may lead to the report data not being completely up to date, which is not necessarily a disadvantage, for example, report data that only needs to be updated periodically.

The functions in drilldown reporting are split into three levels so that a user can access the function level which most suits his information requirements and tasks.

As well as the interactive functions, reporting contains functions for printing large numbers of reports.

You can find general information on drilldown reporting, and its procedures in the cross-application online documentation Drilldown Reporting [Ext.].

Drilldown Reports

Definition

A drilldown report is a report used for the interactive evaluation of data.

Use

Drilldown reports are created by members of the controlling department and other concerned departments according to their specific requirements. The subsequent evaluation of the selected data is normally carried out by the same people. The results of drilldown reporting can be assembled in a graphical report portfolio, for specific user groups.

Structure

A report can be created as either a basic report or a form report. The form report, in contrast to the basic one, lets you configure the layout as you wish.

In a report, we differentiate between two types of list. In a **drilldown list**, several objects (characteristic values) such as divisions, are shown in the rows and a selection of key figures (for example, revenue and contribution margin 1) are shown in the columns. In a **detail list**, a single object (for example, the combination of customer X in sales area 1) is broken down into all its component key figures. The rows of the list are composed of the key figures, and the columns may contain, for example, the planned and actual values for the object.

Creating a Report

Use

The construction of a drilldown report does not just involve the creation of the report itself but also the creation of other components of reporting. The functions that are valid generally are described in the online documentation Drilldown Reporting [Ext.]. Supplementary EC-EIS specific functions are described in this section. To get an overview of the necessary steps when creating a report, we recommend that you read this documentation first.

Creating and Changing a Form

When creating a new form in an aspect which was created before Release 4.0, you must first specify or change the data area. The data area determines the time frame in which the transaction data is stored, for example, in weekly or monthly values. Once you have saved the form, you can no longer change the data area.

When changing a form, you should be aware that it may already have been used in various reports. The change will automatically be made in all these reports. This is the case both for drilldown reports and for definition reports in the report portfolio. Changes to a form do not affect data reports in the report portfolio.

You can find general information on drilldown reporting, and also the appropriate procedures in the cross-application online documentation Drilldown Reporting [Ext.].

Copying a Form

In some situations it may be helpful to use the same form in two or more aspects. You can copy a form from one aspect to another by choosing menu sequence *Form* → *Copy* on the initial screen for maintaining a form (*Information system* → *Form* → *Create* or *Change*). Then you enter the form to be copied, the aspect from which it is to be copied, as well as the target aspect and the name of the new (copied) form. When the form has been copied, no relationship exists between the two forms.

You can find general information on drilldown reporting and on its procedures in the cross-application online documentation Drilldown Reporting [Ext.].

Characteristic Groups

Use

You can define characteristic groups for use in presentation in the Executive Information System. These let you call up a specific group of characteristics when you create a report.

When you define a report without entering a characteristic group, the system offers you all the characteristics of the aspect to choose from. If you enter a characteristic group, however, the system offers only those characteristics assigned to that group.

A typical way to use this function might be to group together all the region- and customer-related characteristics which the sales director might use when he or she calls up a report. For production management, you might define a second characteristic group which contains characteristics relevant to the product or profit center.

The characteristic groups are set up in Customizing.

Activities

You can define a specific characteristic group in your user parameters using parameter ID **MKG**; use *System → User defaults → Own data*. This lets you limit the choice of characteristics for individual users.

You can find general information on drilldown reporting, and also the appropriate procedures in cross-application online documentation CA - Drilldown Reporting [Ext.].

See also:

Key figure groups [Page 164]

Key Figure Groups

Use

You can define key figure groups for use in presentation in SAP-EIS. These let you call up a specific group of key figures when you create a report.

When you define a report without specifying a key figure group, the system offers you all the key figures of the aspect to choose from. If you specify a key figure group, however, the system offers only the key figures assigned to that group.

A typical way to use this function might be to group together all the personnel-related key figures or all the finance-related key figures. Note that, unlike characteristics in characteristic groups, a key figure can only be assigned to one key figure group. Also note that key figure groups are not dependent on the client, a key figure group is valid for all clients.

Activities

You create a key figure group in Customizing. You can then assign a key figure to the key figure group under *Information system* → *Key figures* → *Maintain*. For more information on this, see Maintaining Calculated Key Figures [Page 38]

You can find general information on drilldown reporting, and also the appropriate procedures in cross-application online documentation Drilldown Reporting [Ext.].

See also:

Characteristic Groups [Page 163]

Creating Constants

To use constants in the formula for a calculated key figure, you need to first create the constants. You create constants under *Information system → Key figures → Constants.*

User Exit: Elimination of Internal Business Volume

A user exit is available to enable an elimination of internal business volume in drilldown reporting. With this enhancement you can, for example, eliminate the turnover between characteristic values (for example, between sender company and receiver company) on the basis of rules in the user exit.

Setting up the User Exit

The user exit can be called up from the SAP menu under Tools → *ABAP-Workbench* → *Utilities* → *Enhancements* → *Project management* → *Utilities* → *SAP Enhancements*.

1. Enter the name **`KKDR0002`** in the field *Enhancement* and select *Program* → *Execute*.

   The name of the enhancement is displayed.

2. Position the cursor on the enhancement name and choose *Edit* → *Components +/-*. The available enhancement components are displayed.

   Position the cursor on the line "Technical name of the enhancement is displayed.

3. Position the cursor on the line "Drilldown user EIS: Elimination of Internal Business Volume" and select *Edit* → *Display SAP Docu.*

Here you will find the necessary technical information to set up an exit, and a note about example coding.

Rules for Elimination of Internal Business Volume

There are four different rules for elimination in the user exit. These can be used individually or in conjunction with one another. The rules are explained in the following section. The technical formula and an example are given for each rule:

1. The characteristic values in the sender and receiver data records are identical.

   Formula notation: Data record (sender) = Data record (receiver)

   If, for example, company X sells to itself, no revenue is generated from an external point of view. This value will be eliminated in the report according to rule 1.

Sender	Receiver	Amount	Result
X	X	50,-	is eliminated

2. The sender characteristic value in the report cell is the same as the receiver characteristic value in the data record.

   Formula notation: Report cell (sender) → = → Characteristic value → = → Data record (receiver)

   If the sender characteristic value in a certain cell of the report agrees with the receiver characteristic value in the data record then the value is eliminated in the report.

   Rule 2 is normally used in conjunction with rule 3. See Example of Elimination with Rules 2 and 3 [Page 170].

3. The sender characteristic in the cell is not fixed.

Formula notation: Report cell (sender) = → *****

If the sender characteristic is not specified in the cell, the value of the key figure is eliminated in the cell.

Rule 3 is dependent on the current drilldown level. It is normally only meaningful when used in conjunction with another rule. Otherwise elimination is usually carried out entirely or not at all in a whole column depending on the current drilldown characteristic. See Example of Elimination with Rules 2 and 3 [Page 170].

4. The sender characteristic value in the report cell is the parent node of the receiver characteristic value in the data record.

   Formula notation: → Report cell (sender) → = → Node → = → Parent of data record (receiver)

   In a master data hierarchy, the characteristic values A1 and A2, for example, are subordinate to characteristic value A. Characteristic value A1 achieves a revenue of 200 DM in a business transaction with characteristic value A2. From the point of view of characteristic value A1 external revenue was achieved, but from the point of view of characteristic value A however, the business transaction was internal. The amount is eliminated in cell A. See Example of Elimination with Rule 4 [Page 173].

When do I use which Rule?

Rule 4 is mostly used in reports which display a master data hierarchy,. This rule eliminates along a master data hierarchy.

If the hierarchy of the characteristic values is set up in the database, you should use a combination of rules 2 and 3.

Setting Elimination Conditions

The elimination rules can either be used individually or in conjunction with others. They can be switched on for either a single characteristic pair (for example, sender company and receiver company) or for several characteristic pairs. It also possible to form various combinations of rules and characteristic pairs.

Maintaining Simple Conditions

By simple conditions we mean a single combination of rules(s) and characteristic pair(s), which determine the elimination.

Elimination of the key figure **Ext**. **revenue** according to rule 4 for the characteristic pair **Company**.

The first step when maintaining an elimination condition is the selection of the key figure to be eliminated. This should be a formula key figure defined for the elimination, for example, EXREVEN = REVEN.

Then you must decide for which characteristic pair or pairs the values are to be eliminated. A characteristic pair consists of a sender characteristic value and a receiver characteristic value, for example, sender company and receiver company.

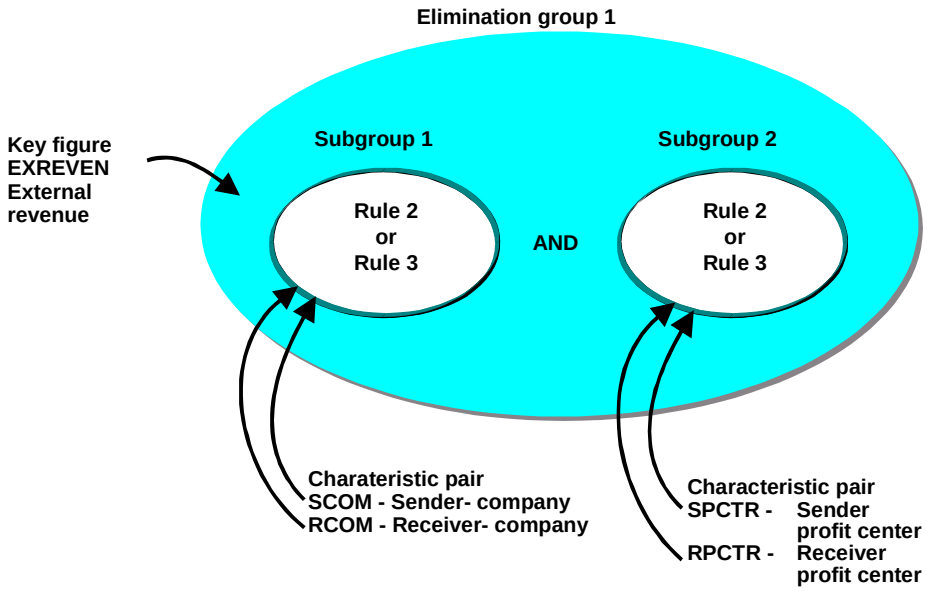
In the third step, you select the rule to execute the elimination with. You summarize this data in an elimination group

If you enter more than one rule, the system checks whether at least one rule, for example rule 2 or 3 has been fulfilled at time of execution of the report. This is because rules are combined in a simple condition using ‘OR’.

Maintaining Complex Conditions

You wish to eliminate according to rule 2 or 3 for the characteristic pair "Company", but only if rule 2 or 3 is fulfilled for the characteristic pair "Profit Center".

The following graphic should clarify the relationship between the elements of this elimination group.



In this example, the key figure EXREVEN is assigned to the elimination group 1. Within this elimination group there are two subgroups, one for the characteristic pair "Company" and one for the characteristic pair "Profit Center". Two rules are assigned to each subgroup. In this example these are rules 2 and 3.

According to this condition, an elimination is only made when at least one rule in both subgroups is fulfilled:

Subgroup 1 **Company:**		**Subgroup 2** **Profit center**
(Rule 2 **OR** rule 3)	**AND**	(Rule 2 **OR** rule 3)

When executing a report the system checks in each cell whether rule 2 or rule 3 is fulfilled for the characteristic pair "Company". Then it checks if rule 2 or 3 is fulfilled for the characteristic pair "Profit Center". If at least one rule is fulfilled in each

subgroup then the value of the affected cell is eliminated in the report. See also Example of Elimination with Rules 2 and 3 [Page 170].

By a complex condition we mean several simple conditions which, in conjunction with each other, determine the elimination. From a technical point of view, the simple conditions are combined with a logical ‘AND’. If you want to connect these conditions using ‘AND’, you must assign each simple condition to a subgroup.

A subgroup consists of one simple condition, which is one or more characteristic pairs and their corresponding rule(s). All subgroups to be evaluated in conjunction with one another make up an elimination group.

Within a subgroup the rules are connected by ‘OR’, so when executing a report the system checks whether at least one condition is fulfilled. The various subgroups are connected by ‘AND’. This means that the system only eliminates the affected value when at least one condition is fulfilled in all subgroups of an elimination group.

Example of Elimination with Rules 2 and 3

Before you look at this example you should read the section called **Setting Elimination Conditions** in the chapter User Exit: Elimination of Internal Business Volume [Page 166]. The example shown there refers to the same data as used below.

You wish to eliminate for the characteristic pair "Company" according to rule 2 or 3, but only if rule 2 or 3 is also fulfilled for the characteristic pair "Profit Center".

The following information is necessary for maintaining the user exit:

Element	**Technical Name**	**Meaning**
Elimination group	1	
Subgroup	1	
Sender characteristic	SCOM	Sender company
Receiver characteristic	RCOM	Receiver company
Rules	2 and 3	
Key figure	EXREVEN	Ext. revenue

and

Element	**Technical Name**	**Meaning**
Elimination group	1	
Subgroup	2	
Sender characteristic	SPCTR	Sender profit center
Receiver characteristic	RPCTR	Receiver profit center
Rules	2 and 3	
Key figure	EXREVEN	Ext. revenue

According to this condition, an elimination is only made when at least one rule in both subgroups is fulfilled:

Subgroup 1 **Company:**		**Subgroup 2** **Profit center**
(Rule 2 **OR** rule 3)	**AND**	(Rule 2 **OR** rule 3)

In the following graphic you can see the posted data records and two pages of the report for the characteristics Sender Company, Receiver Company, Sender Profit Center and Receiver Profit Center with a comparison of the eliminated and total revenues.

Value type 0 Actual data
Fiscal year 1997 Fiscal year 1997
Period 1 to 3

SC	RC	SP	RP	Revenue	Reven. Curr.
A		X	X	32.000	DEM
A	A	X	X	10.000	DEM
A	A	Y1	Y2	20.000	DEM
A1	A	X1	X	30.000	DEM
A1	A1	X	Y	40.000	DEM
A1	A2	Y1	Y2	80.000	DEM
A1	A2	Y2	Y2	60.000	DEM
A11	A11	Y2	Y2	16.000	DEM
A2	A1	X1	Y2	18.000	DEM
B		Y	X	44.000	DEM
B	C	X		52.000	DEM
Sum				402.000	DEM

TEST Ext. revenue (1)
Navigation
SPCTR SGESL A1 Company A1
RCOM

RPCTR		Revenue TDM	Ext.revenue TDM
Display			
X	Profit Center X	30	30
Y	Profit Center Y	40	0
Y2	Profit Center Y2	140	140
Result		210	170

TEST Ext. revenue (2)
Navigation
EGESL SCOM A1 Company A1
RPCTR Y Profit Center Y

SPCTR		Revenue TDM	Ext.revenue TDM
Display			
X	Profit Center X	40	40
Result		40	0

Using the following table, you can see which rules are fulfilled in the three rows on the first report page:

Row	Subgroup 1 (Company) Rule 2	Subgroup 1 (Company) Rule 3	Subgroup 2 (Prof.Center) Rule 2	Subgroup 2 (Prof.Center) Rule 3

X	not fulfilled	not fulfilled	not fulfilled	**fulfilled**
Y	**fulfilled**	not fulfilled	not fulfilled	**fulfilled**
Y2	not fulfilled	not fulfilled	not fulfilled	**fulfilled**

Only in row Y is a rule fulfilled for both subgroups. Let's look more closely at the row **Profit Center Y**. The characteristic Sender Company is specified in the report header (**A1**). Therefore, rule 3 is not valid for subgroup 1. Rule 2, however, is fulfilled in this case as the sender company in the cell is identical to the receiver company in the data record. Therefore, one rule is fulfilled for subgroup 1.

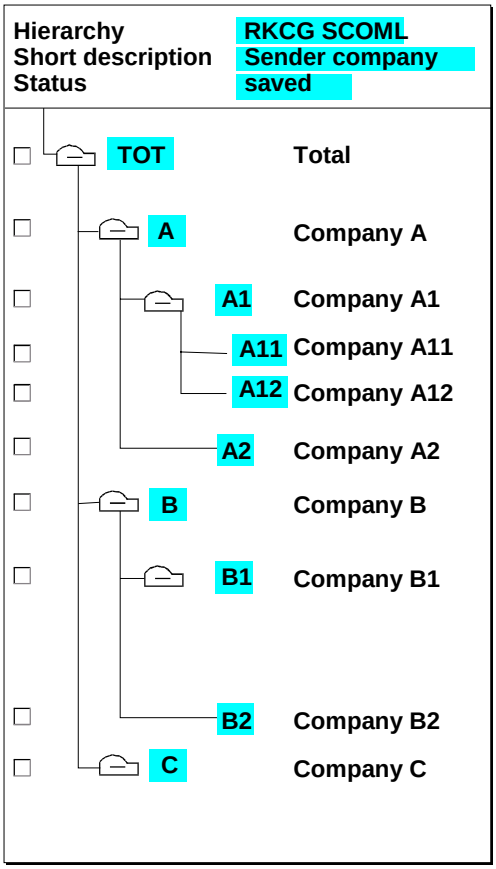
Then the system checks the rules of subgroup 2. Rule 3 is valid for this cell and subgroup 2 as the Sender Profit Center is not specified. One rule from both subgroups has been fulfilled and thereby the value of cell **Profit Center Y / Ext. revenue** eliminated.

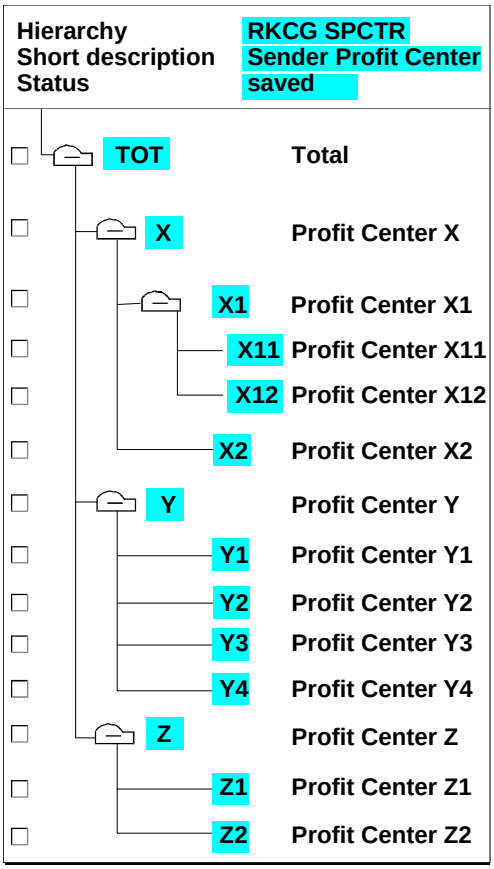
As the elimination using rule 3 is dependent on the drilldown level, row **Profit Center Y** is now drilled down in the report. On the second report page you can see that the characteristic Sender Company (**A1**) and the characteristic Receiver Profit Center (**Y**) are defined in the header. There is now an external revenue in the cell **Profit Center X / Ext. revenue**. This is due to the fact that, although rule 2 is fulfilled for subgroup 1 (Sender Company identical to Receiver Company), no rule is valid for subgroup 2. In this case therefore, the value is not eliminated.

See also User Exit: Elimination of Internal Business Volume [Page 166]

Example of Elimination with Rule 4

In the following example, for the characteristic Sender Profit Center (SPCTR), you will see the posted records and the report with the eliminated and total revenues for comparison. The master data hierarchy for the characteristic Profit Center is displayed below.





The following information is necessary for maintaining the user exit:

Elimination group	1	
Subgroup	none	
Sender characteristic	SPCTR	Sender profit center
Receiver characteristic	RPCTR	Receiver profit center
Rule	4	
Key figure	EXREVEN	Ext. revenue

User Exit: Elimination of Internal Business Volume

Value type	0		Actual data
Fiscal year	1997		Fiscal year 1997
Period	1	bis	3

SP	EP	Revenue	Reven.curr.
X	X	32.000	DEM
X	X	10.000	DEM
Y1	Y2	20.000	DEM
X1	X	30.000	DEM
X	Y	40.000	DEM
Y1	Y2	80.000	DEM
Y2	Y2	60.000	DEM
Y2	Y2	16.000	DEM
X1	Y2	18.000	DEM
Y	X	44.000	DEM
X		52.000	DEM
Sum		402.000	DEM

EXREVEN Quarterly report

Navigation

Period
RPCTR
RCOM
SCOM

SPCTR / Display		Revenue TDM	Ext.revenue TDM
TOT	Total	402	52
X	Profit Center X	182	110
X	Profit Center X	134	92
X1	Profit Center X1	48	48
X1	Profit Center X1	48	48
Y	Profit Center Y	220	44
Y	Profit Center Y	44	44
Y1	Profit Center Y1	100	100
Y2	Profit Center Y2	76	0

Look at the node **Profit Center Y** in the examp le. Y is the parent node of Y1 and Y2. In the report the revenues for Y2 are eliminated as it has only attained revenue with itself. Profit Center Y1, however, achieves revenue of 100 thousand DMs, as it settled two transactions with Profit Center Y2. Profit Center Y achieved revenue of 44 thousand DMs with Profit Center X. On the group level of Y, however, only 44 thousand DMs are shown in the report since the internal business volume of the group is eliminated. The internal business volume for Profit Center X and its subnodes is also eliminated.

On the top level of the report you can see that an external revenue of 52 thousand DMs is displayed. As rule 4 eliminates along a hierarchy, the revenue which was generated between Profit Centers X and Y is also eliminated. Only the revenue which was achieved with an external receiver counts as external revenue.

See also User Exit: Elimination of Internal Business Volume [Page 166]

Creating a Report

The functions used to define a report can be accessed from the SAP-EIS menu (*Information system → Report → Create*). You can find general help on report definition in the cross-application online documentation Drilldown Reporting [Ext.]. SAP-EIS specific functions and features are described here.

From the initial screen, you can access the various components of a report in any order. Below, you will find an explanation of the features relating to SAP-EIS in the order in which they are described in the cross-application online handbook.

Note for Users of Aspects that were created before Release 4.0

While you process the components of the report, you can specify or change the data area under menu sequence *Extras → Data area..* The data area determines the time frame in which the transaction data is stored, for example, in weekly or monthly values. A report in SAP-EIS is always based on one version.
With form reports the version is set during the form definition. This data area is taken as the default for the report. You can however, choose another data area for the report, if the two versions use the same fiscal year variant.
With the parameter-ID VRS you can define a certain data area in the user master record using *System → User profile → User parameters*. This data area is then used as the default in the basic report. It is only a proposal and you can overwrite it.

As the data area is of considerable importance when defining a report, it cannot be changed afterwards.

For more information see Master Data [Page 45] .

Entering Variables

In a basic report in SAP-EIS, the fields **Fiscal year**, **Period** (from/to), **Plan/Actual indicator** (actual/plan) and **Version** are automatically stored as variables. You must specify them either on this screen or when you execute the report.

In a form report, the fields vary depending on the form definition.

Selecting Characteristics

On the screen *Characteristics* the system displays a list of the characteristics in the relevant aspect. You select those characteristics which interest you. If you have created characteristic groups, a field *Characteristic group* appears on the screen. If you make an entry in this field, the system only displays the characteristics contained in that group (see Characteristic Groups [Page 163]).

On this screen, you can also maintain comments on the report under *Extras → Comment*.

Using *Extras → inSight on/off*, you can activate or deactivate the current report for access from *inSight.* Only reports which are activated here can be called up in *inSight*. The switch is set to ‘off’ as a default.

The latter two functions can also be carried out on the screens *Characteristic Values* and *Key Figures*.

Characteristic Values

If you choose a characteristic for which one or more hierarchy variants have been created, you can choose one of these variants for the report under *Extras* → *Select hierarchy...*. If you do not yet know which of the hierarchy variants will be of interest when the report is executed, you can choose *Entry at execution*.

If certain characteristics were correspondingly created in the current aspect and master data hierarchies exist for these in the original application, you can also select these hierarchies here. This applies to cost center, cost element and profit center hierarchies as well as for HR organizational structures, company groupings, and balance sheet/P&L structures. For more information see Master Data Hierarchy [Page 49]

To be able to select a hierarchy for cost centers, cost elements or profit centers, you have to have selected the characteristic **Controlling area** in the report.

To be able to select a P&L structure you have to have selected the characteristics **Company code** and **Chart of accounts** in the report.

Key Figures

On the screen *Key Figures*, the system lists all the key figures that relate to the chosen aspect. If you have assigned key figures to key figure groups, a field *Key figure group* appears on this screen. If you make an entry in this field, the system will offer the key figures in the desired group, rather than all the key figures for the aspect (see Key Figure Groups [Page 164]).

The function *Extras* → *Key figure info.* is used to display further information about the key figure on which you have positioned the cursor. The key figures are subdivided into basic key figures which are stored on the database, and calculated key figures, which are calculated when you execute the report. Derived key figures can result from operations using basic key figures, and also from operations using other calculated key figures. This function displays the formula behind a calculated key figure.

Elimination of Internal Business Volume

If you wish to eliminate the revenue between two internal organizational units in your reports there is a corresponding user exit which you can use. For more information see User Exit: Elimination of Internal Business Volume [Page 166]

Changing Reports and Displaying Reports

When you use the functions *Information system* → *Report* → *Change* and *Display,* you process the same screens as when you create a report.

When you change a drilldown report in SAP-EIS, the same SAP-EIS-specific features need to be taken into account as when you create a report (see Creating Reports [Page 176]).

In addition to the functions described in the cross-application online handbook, you can also display comments when you display a drilldown report in SAP-EIS.

If you wish to delete a report, you can do so from the *Change* transaction. However, if you wish to delete a group of reports, it is easier to do this under *Tools* → *Info system*→ *Delete reports*.

You can find general information on drilldown reporting, and also the appropriate procedures in cross-application online documentation Drilldown Reporting [Ext.].

Working with Reports

Use

There is a series of functions available with which you can edit a report. You can find a detailed description of the available cross-application functions in the online documentation CA - Drilldown Reporting [Ext.]. The supplementary functions specific to EC-EIS are explained here.

Selecting a Report [Page 180]

Executing a Report [Page 182]

Freezing Report Data and Printing Reports in the Background [Page 186]

Connection to inSight for SAP-EIS [Page 189]

Selecting a Report

Report Tree

In Customizing it is possible to build up a hierarchy of drill-down reports. This hierarchy is called a **reporting tree** and is used to:

- collect all reports for a certain area
- structure reports hierarchically.

In Customizing, you define

- which reports are to be contained in the reporting tree and
- how the hierarchy is to be structured.

You access the reporting tree in the Executive Menu under *Information system* → *Report selection*.

You can also create a reporting tree which consists of those reports which you regularly use. The user tree is stored under your user name. When you call up the reporting tree, the system only displays the reports contained in your user tree. Using *Goto* → *Standard tree on/off* you can switch back to the reporting tree defined in Customizing.

To call up a report, position the cursor on an end node of the reporting tree and choose *Select*.

For more information on the functions in the reporting tree see *Utilities* → *Online manual*.

Standard Reports

The standard reports for aspect 1 (Profitability Analysis) and aspect 50 (Balance sheet/P&L) are available under the EC-EIS report selection. These can be used as models for further EIS reports.

In detail, the following are reports for aspect 1:

Plan/actual comparison	0-SAP01
Division comparison	0-SAP02
Ranking list according to customer groups	0-SAP03
Contribution margin: Region / business area / Prod. group	0-SAP04
Percentage	0-SAP05
Comparison: Current year / previous year	0-SAP06
Quarterly comparison: Customer group / division	0-SAP07
Quarterly comparison: State list	0-SAP08
Quarterly comparison: Product group list	0-SAP09

The following reports are delivered for aspect 50:

Group: Year / previous year in group currency	0-SAP01

Company: Year / previous year in local currency	0-SAP02
Company code: Closing year / previous yr in grp / local currency	0-SAP05
Company code: Financial statement year / prev. year in local curr	0-SAP06
Overview company codes: Key figures in group currency	0-SAP07
Company code: results structure year / previous year in local curr.	0-SAP08

Working in the Report

After you have executed the report, you have the use of the usual drilldown functions. For more information on navigation and editing within a drilldown report, see the online documentation Drilldown Reporting [Ext.].

Executing a Report

On the initial screen of the function *Information system* → *Report* → *Execute,* you will find the functions *Execute* and *New selection*. The first thing to mention in order to understand these functions is that you can select new data when calling up a report, or you can work with a dataset which was saved previously.

- *The function Execute*

  If saved data is available the system calls up the last report saved. If no report data was saved, but data is available on a corresponding summarization level, then the summarized data is displayed. If there is no saved or summarized data available then the data is selected anew.

- The function *New Selection*

  The current dataset is always selected.

  In the top right corner of the report, the system always displays information about the dataset used (Current data or *Data of MM.DD.YY HH:MM:SS*).

You save the data from a report either under *Information system* → *Report* → *Execute* using function *Save data,* or, using a variant in background processing (see Freezing Report Data and Printing Reports in the Background [Page 186]). If saved data exists for a report, the system does not have to select the data from the SAP-EIS database when the report is next executed. This has a positive effect on the runtime of the report.

If you want current data but would still like to shorten the runtime of the report, you can set up a summarization level for the report. For more information see Summarization Levels [Page 195]

For general information on performance in reporting see Optimizing Response Times [Page 193]

Function Levels for Different User Categories

The functions in drilldown reporting are divided into three groups so that different user categories can use different functions depending on their information requirements and tasks. This means that users can quickly learn how to use the functions they require. You can access these levels under *Extras* → *Other functions*.

Level 1 contains the basic drilldown reporting functions, a connection to any available documents or comments to a report, and the interface to SAPoffice. Using the assigned functions, you can navigate through a defined hierarchy of characteristics in a predefined report. To analyze larger datasets, you can use the functions in the detail list.

This level is aimed at users who occasionally wish to analyze form reports in drilldown reporting without requiring the full navigation functionality.

Level 2 contains the functions in Level 1 and the remaining navigation functions in drilldown reporting, the interface to the report portfolio, and also Excel List Viewer and PC download, graphic functions, functions for changing the display and all functions for working with hierarchies. The user can also display exceptions.

This level is aimed at users who require the complete analysis functionality in drilldown reporting, and also the interfaces mentioned above.

All functions includes the functions in Level 2 plus the print setting functions, the functions for saving reports, defining exceptions and maintaining reports in drilldown reporting.

This level is aimed at users who not only require the full functionality of drilldown reporting, but also need to maintain reports and print settings.

Using parameter IDs **RLV1** (Level 1), **RLV2** (Level 2) and **RLV0** (All functions), you can assign a level to each user master parameter via menu sequence *System* → *User defaults* → *Own data*. This enables you to assign a function level to a user depending on his or her requirements. You can change the level in a report under *Extras* → *Other functions.* Before the function level is changed the system runs an authorization check.

SAP-EIS-specific Functions

- *Report* →*Export*

  Using this function you can copy the current sheet or a sequence of sheets, with or without data into the report portfolio. For more information see Copying Reports from Drilldown Reporting [Page 206]

- *Goto* → *Graphics* → *Graphics...*

  You can show portfolio graphics on the drilldown list. Portfolio graphics are used to display various objects in two dimensions in certain positions using an X/Y coordinate system. You can define the radius of the objects using a third dimension. You can also create pie charts for objects using further dimensions. The system displays two dialog boxes where you specify what the portfolio graphic should look like. You can call up the graphic from the first dialog box. You will find more information in the online help on the portfolio graphic itself.

  - *Goto* → *R/2 report*

    This function passes on all the selection conditions of a specific cell in a report to an R/2 system. From there, as of the next R/2 release, it will be possible to call up the transaction relevant to the contents of the cell automatically. This function will enable a form of navigation between SAP-EIS and an R/2 system.

- *Extras* → *Transfer log*

  Using this function, you can display a list of the last nine data transfers and their status.

- *Extras* → *Comment* → *Display*

  Comments to entire reports, to key figures, to characteristics and to characteristic values may be available. To determine for which objects comments are available, select *Extras* → *Comment* → *Highlight*. The objects are then emphasized in color. Position the cursor on the desired emphasized text and select *Extras* → *Comment* → *Display*. The comment is displayed in a dialog box.

  If a comment is available for the object in the language in which you have logged on, it will be displayed in this language. If it exists in several foreign languages, it will be displayed in the language which was defined next in the sequence in the system.

- *Extras* → *Comment* → *Maintain*

  If you wish to create or change a comment select this. With this function, you access the editor with which you can create a new comment or change an existing one.

  For objects such as characteristics, key figures and characteristic values, you maintain comments under menu options *Master Data* → *Comments* → *Maintain* in the SAP-EIS

application menu. For maintaining comments on other objects see Maintaining Comments [Page 81].

- *Extras → Comment → Highlight*

  This function highlights all fields for which a comment has been stored. You are therefore recommended to use this option before displaying or maintaining comments. Please note that objects for which comments exist for transaction data are not highlighted with this function.

- *Extras → Comment → Comment on numbers*

  Using this function, you can create, display, change, or delete comments to transaction data. Position the cursor in the cell, row, or column for which you wish to see comments and then select the function. Existing comments on the selected transaction data are listed in a dialog window. The comments are chosen according to the selection condition of the report, drilldown level and cursor position. The more specific the data selection, the more specific the corresponding comments will be. If you position the cursor in the report header you get comments on characteristics in the header and in the navigational area, for example. However, if you navigate through the report, drilldown in a row, and then position the cursor in a cell, you will find comments on the combination of characteristic values and key figures that determine the contents of this cell.

  With the help of the corresponding icons you can display, change or delete these comments. If you want to create a comment for the selected transaction data another dialog window appears.

  – If you wish to enter the comment in SAPscript, enter a short text and select *Continue*. You can enter and format your text.

  – If you wish to upload the comment from a PC application, enter a short text and select *Import...*. You can select a file from your PC.

  The necessary preparations for maintaining comments on transaction data are described in Customizing.

- *Extras → Document → Display*

  Document Management [Ext.] is connected to SAP-EIS. The functions under this menu are only of interest to you if you have the document management system installed.

  Using master data maintenance, you can store documents for SAP-EIS master data, for specific characteristic values. If you position the cursor on an object for which a document has been stored, the system displays a dialog box listing all the documents stored for this object. From here, you can access a function in the document management system and display a document in bitmap format, for example.

- *Extras → Document → Select*

  This function highlights all fields for which a document has been stored. You are therefore recommended to use this function before calling up *Display*.

- *Extras → Key figure info.*

  Using this function, you can display further information on a key figure. The formula for calculating the key figure is displayed.

You can find general information on drilldown reporting, and also the appropriate procedures in cross-application online documentation Drilldown Reporting [Ext.].

Freezing Report Data and Printing Reports in the Background

This section describes how you can select and freeze data in the background for a report . Using variants and variant groups to save data means that, when you execute the report, data no longer needs to be selected from the EC-EIS database. The data is already formatted, which greatly reduces the amount of time it takes to execute the report. For general information on system performance in reporting, see Optimizing Response Times [Page 193]

This section also describes how you can print reports using variants and variant groups. As with saving data, you can also have reports printed out in background processing at specific points in time, including periodically.

The variants and variant groups in Release 4.0 replace the variable groups of earlier releases. You can get details on the conversion from Release 3.x to 4.0 in the Release Information in the system.

1. Step: Creating Variants

In order to freeze report data or print a report, you first have to define **variants**. In a variant you determine how the variables are filled in the report, in order to be able to process the report in the background. Select *Information system* → *Report data* → *Maintain variants*.

Establish the selection data for the report and set how the report should be processed in the background:

- Printing a report

  If you wish to print data, choose *Print report(s)*. You must specify whether you wish to print the drilldown or detail list. You must also decide whether you want a new selection of data, or to print existing frozen data.

- Selecting and freezing data

  If you wish to select data in the background, choose *Freeze report data*. The selected data will then be saved.

- Checking exceptions in the report portfolio

  If the report is stored in the report portfolio, you can choose *Check exceptions*. This flag controls whether the exceptions created in a report portfolio report are to be evaluated in the report portfolio. If you select this flag, the system first selects the data and then checks whether any exception thresholds have been exceeded. For more information on this topic see Exception Reporting in the Report Portfolio [Page 211].

If you have made your entries select *Goto* → *Variants* → *Save as variant...* (see the online documentation BC Computing Center Management System [Ext.]). You can schedule this variant in the background processing or execute the report directly online. If it is necessary to schedule several reports regularly in background processing, you can combine several reports with their variants in one variant group (see step 2).

2. Step: Defining and Maintaining Variant Groups

Using a variant group you can do the following in one step:

- schedule several variants for one report, meaning that you can process different variable combinations of a report,
- schedule variants for several reports, meaning that you can process different reports (see Example of the Use of a Variant Group [Page 188])

Using *Information system* → *Report data* → *Define variant gr.* you can create a variant group. Then under *Information system* → *Report data* → *Maintain variant gr.* you enter the reports and variants that you wish to process with this variant group. On the start screen you determine for which report type you would now like to enter variants. You can however, enter drilldown reports and report portfolio reports in the same variant group.

3. Step: Scheduling Variant Groups in Background Processing

In the third step, you schedule the variant group in background processing. If you only wish to schedule certain reports of the variant group, you can enter the reports to be executed. Based on the variant group and the selected reports, a job will be scheduled in background processing. You can have this job carried out regularly at fixed points in time. For more information, see the online handbook BC Computing Center Management System [Ext.].

Example of the Use of a Variant Group

Report REPORT1 contains one variable for the **period** and another for the **division** which you would like to analyze. A second report, REPORT2, contains variables for the **period** and the **sales region**.

The marketing department of your company is particularly interested in the division **Pharmaceuticals** and in the regions **`Northeast`** and **`South`** for period **`1`**. You create variant **`MARKA`** for this department. For this variant **`MARKA`** of report REPORT1, you define the period as period **`1`** and the division as **Pharmaceuticals**.

For **`MARKB`** in REPORT2, you define the variable combinations: period **`1`** and region **`Northeast`**, as well as period **`1`** and region **`South`**.

Then you create a variant group MARKET and enter the variants MARKA and MARKB for the reports REPORT1 and REPORT2.

In order to print or save the reports you schedule the variant group MARKET in the background processing.

Connection to inSight for SAP R/3

inSight for SAP R/3 is a special version of the PC application *inSight*, which is suitable for the presentation of data from various *R/3* components. It offers an alternative to the SAP-GUI user interface for displaying drilldown reports.

inSight accesses an R/3 System online via an interface. The elements of the individual drilldown reports are then available in *inSight*. In *inSight*, you can drag-and-drop the elements of the drilldown report to design a new report. The *inSight* interface is then actively connected to R/3 using RFC (Remote Function Call). This ensures that both the users who access R/3 via *inSight* and those who work directly in drilldown reporting have access to the same figures.

Functions in inSight

In an *inSight* document you can display several drilldown lists and graphics at once, insert bitmaps and configure and position control elements such as radio buttons and push buttons as you like.

You can also use the *inSight* interface to present reports that use variables or master data hierarchies. You specify the variable or hierarchy when setting up the document in *inSight*. You can set conditions and change sort orders just as in drilldown reporting. If exceptions were defined in the drilldown report, the corresponding colors are displayed in *inSight*.

inSight is an ideal tool for the controller or management assistant because of the diversity of its functions. You can, for example, create quite a complex presentation or choose a specific selection of reports relevant to a manager's area of responsibility. Managers can use *inSight* as a user interface. Using push buttons and radio buttons, they can call up further data, reports, lists, graphics and pictures. A document can also be created so that navigation through various levels is possible.

inSight for SAP is attractive to managers because it combines the business functionality of SAP R/3 with a convenient, user-friendly interface. There are various display options and you can configure the documents as you wish (see graphic: Drilldown Report in inSight [Page 192]).

Interface between R/3 and inSight

To display report data from R/3 in *inSight*, you must first log on to an R/3 system from *inSight* (see inSight for SAP R/3: Installation and Logging on [Page 191]). An index of the R/3 reports is then automatically created in the *inSight* developer mode and is displayed in the *inSight* database window. When you select a report with the mouse, the report definition is read from R/3 and the drilldown report is opened with RFC. All the necessary data for the report is read from the R/3 database when the report is opened. The data remains in R/3 however, and is transferred individually for each view in *inSight*. If you wish to display the data according to another characteristic value in *inSight*, the data is prepared in R/3 for this new selection and then sent to *inSight*.

Only a selection of drilldown reports are available in *inSight*. You can determine whether a report can be called up from *inSight* or not when you are creating or changing a report in R/3 (see Creating a Report [Page 176]).

If you want to display data from several SAP R/3 reports in *inSight*, then *inSight* logs on to R/3 several times. For each log on, the system uses the same details that you entered when you

logged on first. You can also display report data from other systems in an *inSight* file. In this case, the logon box appears for each system that data is taken from.

The facility to simultaneously display data from more than one report in an *inSight* file is available only indirectly (by opening several parallel sessions in the same system). However, overuse of this facility can lead to an excessive load on the system and poorer response times. As a reference, the critical limit lies between 20 and 30 reports per *inSight* file.

inSight for SAP R/3: Installation and Logging on

Installation

To install *inSight for SAP R/3* under the Windows NT operating system you will need Windows NT 3.51 or higher. For installation under the Windows 3.11 and Windows for Workgroups operating systems you need the Win32S Version 1.30 system enhancement.

To enable *inSight* to communicate with the R/3 system you must install the SAP Automation Server. The Automation Server is delivered with the R/3 system. For more information on the installation of the SAP Automation Server see the *BC - SAP Assistant* documentation.

Logging on

After you have fulfilled the prerequisites above and installed *inSight*, you can set up the connection to the R/3 system. Proceed as follows:

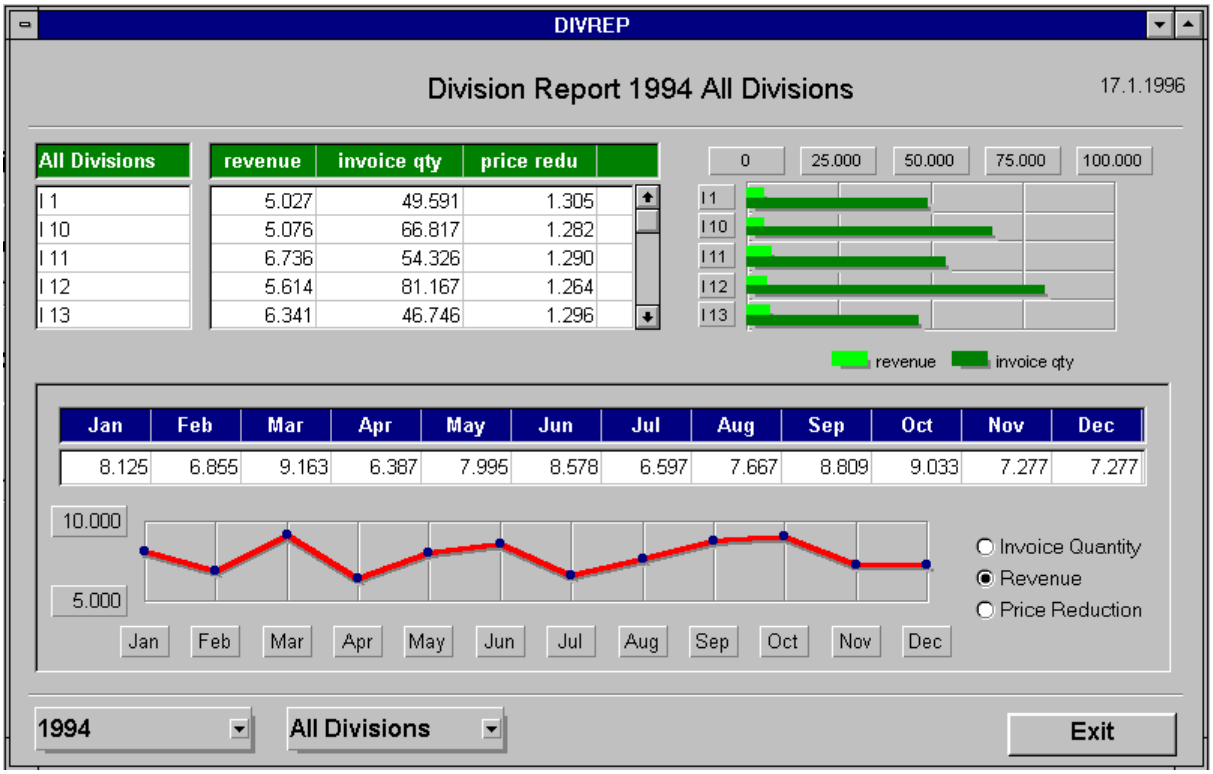
1. Call up *inSight* and open the database window.
2. Click on the *Create new connection file* button in the database window.
3. In the *Create new connection* dialog box select the option *External database* and interface *SAP R/3*.
4. In the following dialog box, *Create new connection,* enter a name for the connection file.
5. A dialog box for logging on to the R/3 system is displayed.

   Enter the name of the R/3 system and the client. In addition, enter your R/3 user name, password and the desired language (English or German). You must also fill out the fields with the necessary server and gateway information. The *Host Name* is the name or IP address of the application server. Enter the R/3 instance number in the field *System*. The *Gateway Host* is the name or IP address of the gateway server. The normal entry in the field *Gateway Service* is **`sapgw`** plus the system number, for example **`sapgw00.`** If you require more detailed information about these entries you should contact your system administrator or use the menu path *Tools* → *Administration* → *Monitoring* → *System monitoring* → *Gateway monitor*.

For general information on inSight see Connection to inSight for SAP-EIS [Page 189].

Drilldown Report in *inSight*

This is an example of the display options in a drilldown report in *inSight*. You can include graphics, bitmaps, push buttons and radio buttons with the report lists.



Optimizing Response Times

This section contains notes about the optimization of response times in a report. It is most relevant for the project team and the system administrator.

Typically, in an executive information system, reports with aggregated data are required. In these reports the end user navigates down to the level of detail which is of business interest to him or her. If the report is executed, the transaction data records are read and summarized so that the user can navigate as he or she wishes through the free characteristics selected in the report definition. Further summarizations over the free characteristics take place during the terminal session, in order to put the lists together. This data is contained in the main memory and can sometimes lead to a large volume of data and longer response times. In order to read 100,000 records of a length of 500 bytes from the hard-drive, the system typically requires about 3 minutes. The quantities of data are often much larger than that. This means, that in many cases, executing reports online takes too long. In the following section we detail some of the possibilities for obtaining optimal response times in reporting.

Executing the Report Online

To call up a report, which reads data from the transaction database, with an appropriate response time only small quantities of data should be read. As a rule, it makes sense to execute reports of up to 20,000 records online. With special tuning measures this figure can be higher, for example, when the database buffer is enlarged and access to the hard drive is no longer required. Creating special indices can also be of use. The details of the tuning measures are dependent on both the database system and the operating system.

Executing the Report in the Background and Saving Data

You can execute a report in the background and save the data contained in the main memory. This data is then known as **saved data**.

This method has the advantage that the end user does not have to wait for the reading of transaction data. The report can be scheduled in the background and the end user automatically receives the most recently saved data. The saved data is also in exactly the level of detail which the end user requires. A report with saved data can be called up much more quickly than a report which is executed online, since little demand is placed on the database server.

The disadvantage of this method is that you must create a variant for each variable combination. This can be troublesome if many, different variable combinations are required. However, these variants can be summarized in one variant group and executed together in the background

With large, complex reports it makes sense to use saved data..

Summarization Levels

You can reduce the quantity of data to be read (and, therefore, the response time of a report) by holding the dataset in a summarized form. These summarized datasets are called **summarization levels**. You can determine both the number of levels required and the respective degree of detail.

This process does not just have the advantage that the data which is read from the summarization levels can be called up quickly, the data is also always up to date compared to the saved data. The data is always updated at the same time as the aspect transaction database. A disadvantage of this process is that the data transfer becomes slower with an increasing number of summarization levels.

Optimizing Response Times

The use of summarization levels makes sense if the data is required by several reports.

As not every summarization level can produce an improvement in response times compared to a report which is executed online, there are guidelines for defining your summarization levels.

Using the Report-Report Interface

With the report-report interface you can connect several individual reports, each with a limited number of characteristics, to one another like building blocks in order to be able to navigate from highly aggregated objects into detail, or to other types of objects. To achieve optimal response times you start with a highly summarized report. Few free characteristics should be included in this report. Using the report-report interface you can call up (connected) reports, which contain additional characteristics with which the objects are described in more detail. These connected reports normally have good response times as only a small and very specific quantity of data must be selected.

These processes are in many cases not mutually exclusive. A better result is often attained with a combination of the methods, for example,

- saved data for a large, complex report, but a summarization level for a report using highly aggregated data
- a report with summarized data, which calls up an online report using the report-report interface. See Example: How can I Improve the Response Times of my Report? [Page 198]

See also:

Freezing Report Data and Printing Reports in the Background [Page 186]

Summarization Levels [Page 195]

Overview: Report/Report-Interface [Ext.]

Summarization Levels

What are Summarization Levels?

Typically in an executive information system, reports with aggregated data are required. In these reports the end user navigates from a highly aggregated level down to the level of detail which is of business interest to him. The selected report data is contained in the main memory and can sometimes lead to a large volume of data and long response times. There are various alternatives for improving the response times of a report. See Optimizing Response Times [Page 193] In this section the alternative using summarization levels is described, and the guidelines according to which your summarization levels are to be defined are also explained. You can find out how to create and build up summarization levels in Customizing.

A summarization level saves transaction data of an aspect in additional compressed forms. In such transaction data individual objects are described using a range of characteristics. Summarizing means that selected characteristics are left out. Objects from the original dataset, which are no longer differentiated once characteristics have been left out, are summarized in one object in the summarization level. The summarization allows for quick access to the data in reporting.

These simple example shows how the transaction data records can be summarized on the database in order to improve the reading times in the report.

Employee xxx in cost center 100 in company code 1000 worked 50 hours overtime.

Employee yyy in cost center 100 in company code 1000 worked 30 hours overtime.

Employee zzz in cost center 200 in company code 1000 worked 20 hours overtime.

If the transaction data were transferred in this way then three records would be written in the transaction database table:

Employee	Cost center	Company code	Overtime
xxx	100	1000	50
yyy	100	1000	30
zzz	200	1000	20

As a rule relatively few analysis paths are used in reporting, so you can define a summarization level for the example above.

A summarization level is formed at the cost center level, meaning a summarization is made over the characteristic **employee**. The records are compressed together and the following structure ensues:

Cost center	Company code	Overtime
100	1000	80
200	1000	20

In this case, you could set the summarization level even higher, by forming it at the company code level.

Company code	Overtime
1000	100

The more characteristics that are summarized, the higher the level of compression of the data and the more limited the use of the level. You must decide between the shortened response time because of the level of summarization and the possible use of the level in reporting. Highly summarized data will not be of much use to you, if it can only be used in a very few reports.

At the definition stage you have the following options.:

1. Characteristics, above which the summarization will occur

   The key figure values are summarized above a characteristic.
   Afterwards you can no longer evaluate the characteristic in the report.

2. Free characteristics

   The key figure values cannot be summarized over the characteristic.
   Afterwards you can evaluate whatever characteristic values you like in the report.

3. Fixed characteristics

   The key figure values are only retained for a certain characteristic value.
   Afterwards you can only evaluate this characteristic value in the report.

Depending on how you have specified a characteristic in your report, you decide whether a characteristic is to be summarized, given a fixed value, or left free. You define the summarization levels in Customizing. To enable the summarization levels to be used by reports, the levels have to be supplied with data. To do this, you schedule a job in the background processing to build up the summarization levels. Only then can the levels be used by reports. After the levels have been built up, the data is always updated at the same time as the aspect is supplied from the transaction database. In this way, the summarized data is as up to date as the transaction data. You can find more information about this in Customizing.

When executing a report, the system checks whether there is saved data available for the report. If data has already been saved it will be displayed. If no data has been saved for the report but a suitable summarization level exists, then the data from the summarization level will be called up. If there is neither saved data nor a suitable summarization level, the data is selected as new.

When do I use Summarization Levels?

If you are not satisfied with the response times of the reports in your Executive Information System you should consider defining some summarization levels.

However, before you decide on summarization levels you should find out about the other ways of improving response times. You can read about these under Optimizing Response Times [Page 193]

Guidelines for Creating a Summarization Level

When defining a summarization level there are often several possible combinations of characteristics. Since not every summarization level can produce an improvement in response

times compared to a report executed online, there are guidelines for defining summarization levels. To attain the optimum summarization effect you must analyze the desired report for each summarization level, determine the affected master and transaction data and consider the following guidelines:

1. A summarization level should contain as few records as possible compared to the number of records in the transaction data.

   Estimate the number of records to be read on the database, and the number of records in your planned summarization level. A minimum factor of 10 should be attained.

   Where possible, summarization levels should be defined above characteristics with many values. You can attain a greater summarization effect if you summarize above the characteristics **product** and **customer** as these characteristics typically contain many values.

   If your summarization level contains many records, the corresponding report must be defined in such a way that it does not have to read more than 10,000 to 20,000 records from the summarization level.

2. As few summarization levels as possible should exist

   Since the summarization levels are updated automatically, each change to the transaction data leads to an update in all the summarization levels. This means that a change to one transaction data record leads to several writing processes in the database. If there are many summarization levels, performance in the data transfer is impaired.

   If you generate a proposal for a summarization level you should edit it manually. You should also check whether a similar summarization level already exists You will find this information when maintaining the summarization levels in the overview and detail screen. You should check this data for all summarization levels occasionally, as the number of accesses, for example, can help you to decide whether a particular level is still required. You can find more information about this in Customizing.

3. Dependent characteristics should always be included in a summarization level.

   In many cases there is a dependency between several characteristics. If, for example, the product group is derived from the product number, then the product group is dependent on the product. The volume of data in the summarization level is not enlarged by the inclusion of the product group and therefore does not impair performance. The advantage is that the summarization level can also be used by reports which contain these dependent characteristics.

   The dependency between two characteristics normally exists because of derivation (see Derivation of characteristic values [Page 54]) or is already given by previous systems, for example a representative for customers in a customer master.

A detailed description of how you create and build up summarization levels is given in Customizing.

For an example of defining a summarization level see Example: How can I Improve the Response Times of my Report? [Page 198].

Example: How to Improve Response Time of Report?

An aspect contains the following characteristics:

- 10 main product groups (each with 10 product groups)
- 100 product groups (each with 10 products)
- 1,000 products
- 100 customer groups (each with 10 customers)
- 1,000 customers

In this example the main product group is dependent on the product group, and the product group is dependent on the product. Furthermore, the customer group is dependent on the customer. There is no dependency between other characteristics. Each customer buys each product. One million records (1,000 products * 1,000 customers) result from this in the transaction database.

In your report you wish to navigate from the list of the main product groups, via the characteristics **product group**, **product** and **customer group**, to the **customer**. If you define a report for this with all characteristics, it would lead to long response times when executing the report online because the data would be loaded into the memory from the deepest level of detail.

You can solve this problem as follows:

1. You define the first report using the free characteristics **main product group**, **product group** and **product**.
2. Then you define the second report using all five characteristics where the characteristics **main product group**, **product group** and **product** are defined as required variables. You define the characteristics **customer group** and **customer** as free characteristics.
3. You link the reports using the report-report interface.
4. You create a summarization level for the first report with the characteristics **main product group**, **product group** and **product**.

When you execute the first report, 1,000 records are read from the summarization level, since the product group and main product group depend on the product, and there are 1,000 products.

In order to navigate as far as the customer, you navigate to a product in the first report. Then call up the second report using the report-report interface. Since the three required variables are adopted from the first report, a maximum of 1,000 records must be read from the transaction database. You can now navigate as far as the customer for this product.

Compared to a single report with all characteristics, where a million records must be read, in this case just 1,000 records must be read twice, and the reports can be executed online.

Authorization Objects in the Information System

In Customizing you will find information on authorization protection for the characteristics, and on individual functions when executing reports.

Report Portfolio

Purpose

This component is used for the collection of predefined reports for different users or groups of users. Each report portfolio consists of a collection of reports, that are put together for one particular user.

Implementation Considerations

This component is intended for users who, with minimal knowledge of the system, wish to call up information put together specifically for them, especially therefore, for top management.

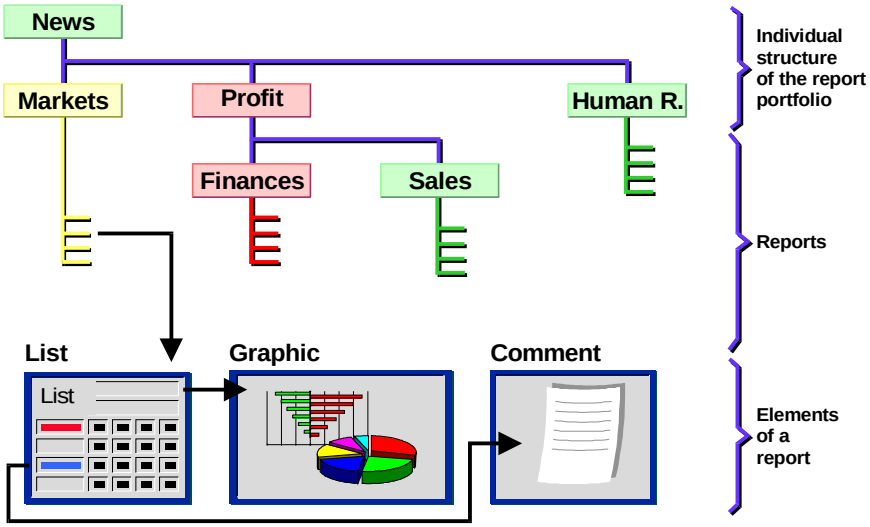
Features

Access to the report portfolio is via a hierarchy, that can also be displayed graphically. This hierarchy is configured individually by subordinating the nodes, for example to the user's area of responsibility. You can assign any number of reports or PC applications to each hierarchy node. You can individually prepare reports can for the user of the report portfolio, by compiling a sequence of lists, graphics, and comments. The report data can be either saved in the displayed state, or regularly updated.

Report Portfolio

Definition

A 'report portfolio' is a hierarchical structure of all the reports available to a user group. The nodes of the structure are called report classes. The individual reports, composed of various elements, are assigned to report classes for a better overview.



The figure above is an example of how you access the reports via a graphic in the report portfolio. Examples of report classes in the above figure are **news, profit, finances**.

You can arrange the report classes as you wish. You can define a number of different variations by creating different hierarchies. A user is assigned an appropriate hierarchy of report classes via his or her user group. The hierarchy can be structured according to area of responsibility such as division, region or business function. It can contain as many levels as you wish.

A report class contains several reports. An individual report can consist of one sheet, a sequence of sheets or an external report. A single sheet can be either a table, a graphic, or text.

Use

In the Executive Information System a user is assigned to one or more user groups. Each user group has exactly one report portfolio. Using this assignment, the user accesses the information that is of interest to him or her.

Maintaining User Groups [Page 202]

Maintaining Report Classes [Page 203]

Transferring a Report to the Report Portfolio [Page 204]

Using the Executive Menu [Page 215]

Maintaining User Groups

The first step when setting up the report portfolio is to create user groups. Each user group is then assigned a specific report class hierarchy. When creating a user group you can use an existing user group as a reference. If the referenced user group has existing report classes or reports, a dialog box appears asking you if you wish to copy these also.

To create a user group, choose *Information system* → *Report portfolio* → *User group* → *Create.*

1. Enter a two-character name and a text for the user group.

   You can use an existing user group as a reference .

2. Then choose *Goto* → *User grp detail scr.*

   On the next screen, you define what the hierarchy graphic of the report classes within the user group should look like.

   You must choose a background color, representation form, orientation (whether the upper node should appear at the top, bottom, left or right side of the window) and size (whether the graphic should be optimized to fit in the window or whether it should remain a standard size). The system displays proposal values for the hierarchy graphic. You can overwrite these by having the possible entries displayed and then choosing values.

3. When you have entered the values save your entries.

   In addition to the parameters which you previously defined, you can change many settings within the hierarchy graphic itself and then save them. You can access the graphic under: *Change user group* → *Report class overview*. You can find more detailed information on the graphic display under *Help* in the graphic window.

You can change and display a report class in a similar way. User groups can be printed from Microsoft Word for Windows. For more information see Printing with Microsoft Word for Windows in the Report Portfolio [Page 221].

Most users of the report portfolio wish to have their user group displayed automatically, without having to actually enter it. To do this, enter the appropriate user group in parameter *HID* in each user's parameters (*System* → *User profile* → *Own data*).

If you work with various user groups, you can enter the user group you are currently working with in the report portfolio under menu option *Report portfolio* → *Set user group*. This user group is then automatically called up when you choose *Information system* → *Report portfolio* in the *Executive Menu*. This setting is stored by the system until you change it, or until you log off the system. The user group you enter here temporarily overrides any setting made for you in parameter *HID*.

Maintaining Report Classes

You create the structure of report classes in the report portfolio under *Information system* → *Report portfolio* → *Report class* → *Create*. If you wish to create a hierarchy for a new user group, you should create the top report class first and then build the hierarchy from top to bottom.

1. Enter the name of the user group and a description for the new report class.

   Here also, you can use an existing report class as a reference.

   Choose *Goto* → *Report class overview.*

2. On the next screen, a number is automatically assigned to the report class. Here, you define which color the report class should be displayed in. You also maintain the structure of the report portfolio, the hierarchical arrangement of the report classes. When you create the top position in the hierarchy you do not have to specify the position of the node. If you wish to position a new report class under an existing class, enter the existing report class number in the field *Upper-level report class*. If several report classes are already positioned under a report class, a new report class is positioned at the far right, as long as the field *Right report class* remains vacant. If you make an entry in this field, however, you can specify exactly where the new report class is to be positioned.

3. Save your entries.

   You can change and display a report class in a similar way.

4. After you have created some report classes, you should call up the hierarchy graphic using *Report class overview*. This shows the structure in graphic form. To change the display of the graphic, you must access the hierarchy graphic via the user group (see Maintaining User Groups [Page 202]).

You can print a report class using MS Winword. For more information see Printing with Microsoft Word for Windows in the Report Portfolio [Page 221].

Transferring a Report to the Report Portfolio

After you have created user groups and report classes, the third step is to transfer reports to the report portfolio. You can either copy reports from SAP-EIS drilldown reporting, or copy them from an external source using SAP-EIS data transfer.

Transferring Reports from Drilldown Reporting

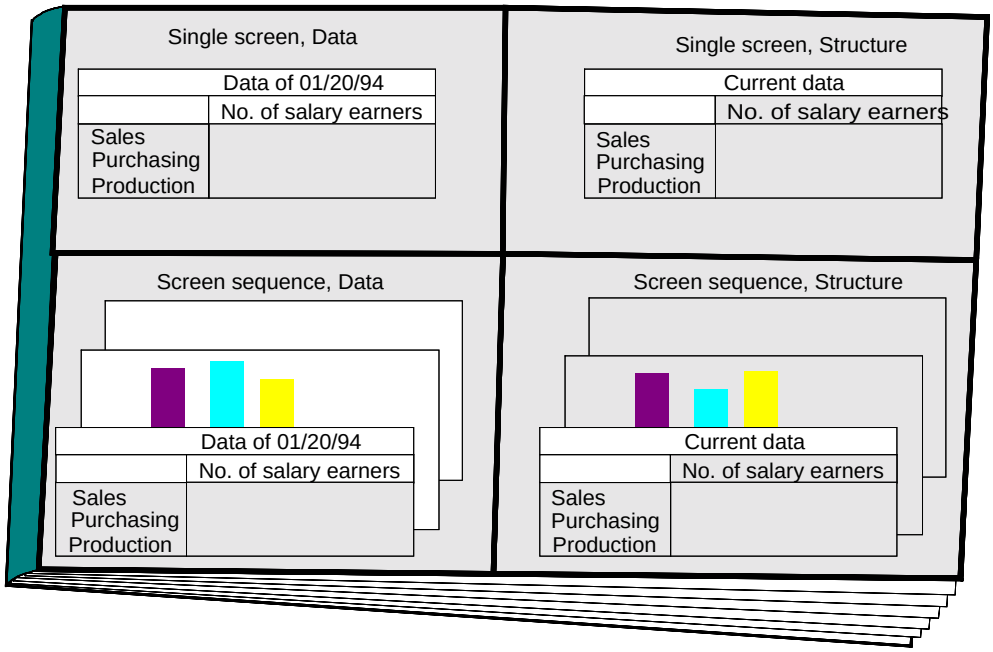
When you transfer a report from drilldown reporting, you can choose to save the *Data* or the *Structure* of the report in the report portfolio.

Reports stored with **data** are saved (or 'frozen') with the data or graphics they contain at the time of transfer. This means that when you execute the report, the data displayed is exactly the same as when it was transferred. When you store reports with the **structure**, the report definition or a sequence of screens are saved. If new data records are posted to the SAP-EIS database, these are included when you execute the report in the report portfolio.

Since data can be selected at different points in time, you need to differentiate between two further cases with **structure** reports. If no data has been selected, the data is read when you call up the report. The data can, however, also be selected in the background processing(see Freezing Report Data and Printing Reports in the Background [Page 186] A scheduled job can run at regular intervals, for example, every night. From the point of view of performance, it is advisable to use frozen data, and to only select current data when you need it. To select current data when calling up a report, choose *Extras* → *New selection*.

You can copy both individual screens and screen sequences from drilldown reporting. A screen sequence can consist of tables, graphics and comments.

The four possible types of report portfolio report are shown in the following figure. They are: the single screen with frozen data, the single screen with current data, the screen sequence with frozen data and the screen sequence with current data.



If you have defined exceptions in a report to be copied, these are also transferred to the report portfolio. For more information see Exception Reporting in the Report Portfolio [Page 211]

Note that changes made to a drilldown report after the report was copied into the report portfolio do not have any effect on the report portfolio report. Changes made to a form at a later date are, however, automatically made in structure reports based on that form. Since data reports always represent a copy of a list or screen sequence at a particular point in time, changes in the form on which such reports are based do not have any influence on the data report in the report portfolio.

You can access the transfer functions in the drilldown reports under *Report* → *Export.* For more information see Copying Reports from Drilldown Reporting [Page 206]

Transferring Reports from External Sources

There are two types of report which are transferred from external sources.

- Data reports with individual screens

  With this type of report, a list is copied into the report portfolio. No interactive functions are supported with these lists.

- Reports which can be started using the report/report interface

  From within the report portfolio you can execute drilldown reports, Report Writer reports and ABAP/4 programs. By calling up certain ABAP/4 programs (for example, RKCWINEX) you can also start any PC program you choose.

You copy these into the report portfolio under *Report portfolio* → *Rep.portfolio report* → *Transf.other->Portf*. For more information see Transferring Data to the Report Portfolio [Page 113].

Copying Reports from Drilldown Reporting

To copy a drilldown report to the report portfolio, proceed as follows:

1. Choose *Report* → *Export* in the report you wish to transfer. A dialog box will appear. Tick the radio button *Transfer to report portfolio*

   A dialog box appears in which you enter how, and to which part of the report portfolio the report is to be transferred.

   First you enter the *Report name*. Note that this does not have to be identical to the name of the original drilldown report.

2. Then specify in which *User group*, in which *Report class,* and with which *Color* the report is to be stored.

   Normally you assign the report to just one user group and one report class. If the report needs to be accessible by several user groups, you can define this in the report portfolio (see Maintaining a Report Portfolio Report [Page 208]).

3. Then you define what is to be transferred.

   You have to make two important decisions here:

– You can choose between a *Single screen* and a *Screen sequence*. If you choose a *Single screen*, the list currently displayed is copied to the report portfolio. If you choose a *Screen sequence*, the list currently displayed and a desired sequence of functions and lists is copied.

– Now you still need to specify whether the report should be saved with the data as it is currently displayed, or if only the structure (definition) should be saved. This very important distinction is explained in detail in Transferring a Report to the Report Portfolio [Page 204]

  Using the *Comment* button, you can create a comment which is exported, along with the report, into the report portfolio. Not only can you display this comment in the report portfolio but you can update it too (see Maintaining a Report Portfolio Report [Page 208]).

  The *Report texts* button enables you to maintain the descriptive texts for the report. A dialog box is displayed. Here you can copy the short text using the button *Short descr*., the long text using the *Long text* button, or you can enter text manually.

4. Then choose *Continue*.

   If you had selected the option *Single screen*, the current screen will be copied to the report portfolio automatically. If you had selected the option *Screen sequence,* you can now perform several of the interactive functions and thereby ‘record’ them. When you have created the desired sequence choose menu sequence *Report* → *Export* → *Close Copy* → *rep. portfolio* again. A dialog box appears in which you can decide whether you wish to save the sequence recorded.

   Note the following two points concerning the recording of a screen sequence.

   – When saving graphics, the first screen of the graphic is saved.

   – For many functions you have to specify the parameters in dialog boxes. If, for example, you wish to sort the list according to a certain column, you must position the cursor on the relevant column and then specify in a dialog box whether you wish

to sort in ascending or descending order. When the end user displays the sequence in the report portfolio, the system does not display any dialog boxes as this is not relevant. However, it does display a message informing him or her how the column was sorted.

If you have saved a report in the report portfolio with or without data, you can then edit it. For more information see Maintaining a Report Portfolio Report [Page 208].

Maintaining a Report Portfolio Report

If you have saved a report with or without data in the report portfolio, you can edit it later under *Information system → Report portfolio → Rep.portfolio report → Change.*

We can distinguish between two types of changes:

Changes that affect the report itself and mean that the report will be displayed differently during execution (see **Changing a report** and **Executing and changing a report**).
Changes that affect only the assignment of the report to a report class or to a user group (see **Changing the assignment of a report to a report class**).

Changing a Report

If a comment was created during the export of a drilldown report, you can call up the text using the menu path *Extras → Display comment* If no comment is maintained for the report you can create a text using *Extras → Maintain comment*.

When you execute a definition report containing variables in the report portfolio, , no variables will be offered for entry (default). The values are automatically taken from the user parameters or from the drilldown report. Under *Extras → Variables* you can set other proposal values, or make the variables ready for input by the user of the report portfolio report.

The functions *Report → Execute, Edit → Execute and Change,* and *Extras → New selection* are available on this screen You can select new data when calling up a definition report, or you can work with a dataset which was saved previously. The functions *Execute + Change* and *Execute* use the report saved in the background processing (where available), whereas the function *New selection* selects the current dataset in every case In the top right corner of the report, the system displays information about the dataset used (*Current data* or *Data from MM.DD.YY HH:MM:SS*).

With the function *Extras → Report assignment*, you can change an existing assignment between the report portfolio and a report, which can be called up using the report-report interface You define this assignment in the SAP-EIS application menu using the menu path *Information system → Report portfolio → Report portfolio report → Transf. other -> Portf*. For more information see Transferring Data to the Report Portfolio [Page 113].

The menu sequence *Extras → Report texts* enables you to maintain the descriptive texts for the report. A dialog box is displayed. Here you can copy the short text using the button *Short descr.*, the long text using the *Long text* button, or you can enter text manually.

Using the menu path *Extras → Layout → Header* or *Footer*, you can create or change headers or footers for **definition reports**, or you can copy them from other reports. In addition to normal texts, you can insert general text variables (for example, report author, date of selection, last person who made a change), selection parameters (for example, current fiscal period) and characteristics.

Using the menu path *Extras → Layout → Header on/off* or *Footer on/off*, you can turn the headers and footers created for the report on and off.

It is also possible to delete a report from the function *Change*. When you want to delete a large number of reports, it is easiest to do it under *Tools→ Drilldown→ Delete report*

Executing and Changing a Report

The function *Execute and change* is possible for all types of reports except those which are called up via the report-report interface.

1. On the initial screen you can choose whether you wish to display all the sheets in the report or only the active ones.

   A distinction is necessary because you can hide individual screens within a screen sequence

2. If you choose menu option *Edit* → *Execute + Change*, you can:

   – scroll through a sequence of screens (*Previous page*, *Next page*),

   – display and hide report lists and graphics (*Activate screen*, *Deactivate screen*, *Activ.prev.graphic*, *Deactiv.prev.graphic*). This is useful if you record a long sequence of screens in the drilldown and then decide that some of the screens are not required. It is not necessary then to transfer the report to the report portfolio once again. Using the function *Deactivate screen, y*ou can change the report in such a way that certain screens are suppressed from the end user's view when he or she chooses *Rep.portfolio report* in the *Executive Menu* Note that it is not always possible to deactivate a screen. You cannot deactivate the last active screen in a sequence. Also, in a screen sequence containing graphics at least one report list in the screen sequence must remain active. The activation and deactivation of graphics does not occur within the graphics themselves but rather in the subsequent report list,

   – save changes to settings in 2D and 3D graphics,

   – edit reports which were copied as lists from external sources,

   – maintain the comment for the report here. You do that on the initial screen (see *Change report*).

   – create or display a comment for each page. When you use the function *Execute report* you can display these comments but not maintain them.

   – create, display, change and delete exceptions as in drilldown reporting. You can also control which exceptions are relevant for the graphical menu (see Exception Reporting in the Report Portfolio [Page 211])

   - change the three different *Report texts* (of differing length) for a report.

   When you have made your changes, do not forget to save the report.

Changing the Assignment of a Report to a Report Class

Once you have transferred a report to the report portfolio, it is assigned to a report class and a user group. You can, however, make the same report available to several user groups or assign the report to several report classes within a user group. Under menu options *Edit* → *Report class assignment* you can find the functions for doing this *Create / Change / Display / Delete*. The functions are similar to those described under Maintaining Report Classes [Page 203]

When you *Create* an assignment, you can make the new assignment to the same user group or to a different one. The existing report assignment can be used as a reference.

Maintaining a Report Portfolio Report

When you use *Change*, *Display* and *Delete*, the system issues a list of existing report assignments. After you have chosen a report assignment, you can perform the desired function.

Exception Reporting in the Report Portfolio

Exceptions are of importance in two instances in the report portfolio. Firstly they are used to portray the report lists in color. Secondly they are used to color reports and report classes in the graphic menu. The procedure for creating exceptions is described in the cross-application online documentation Drilldown Reporting [Page 211].

Displaying Exceptions in Report Portfolio Reports

The following points should be noted when presenting report lists:

If a report is stored as a data report in the report portfolio, a copy of the drilldown report is saved simultaneously in the report portfolio. That means that in the report portfolio report the colors are exactly the same. You see the colors at a certain point in time. These are never updated.

If a report is transferred as a definition report into the report portfolio, the exceptions defined for the drilldown report are also transferred. These exceptions are then evaluated in the report portfolio every time new data is selected, just as they would be in drilldown reporting.

Using menu option *Report portfolio* → *Rep. portfolio report* → *Change,* you can create, change and delete exceptions in the report portfolio report, just as in drilldown reporting (see below).

Displaying Exceptions in the Hierarchy Graphic

Colors are assigned to reports and report classes in the graphical menu as follows:

Reports and report classes are all assigned default colors which apply if no exception is defined, or if the exception is in the ”normal” state (has not been exceeded or fallen short of). Red and green are not valid default colors as these are reserved for values which have either exceeded or fallen short of an exception. If you use exceptions, we recommend that you use yellow as the default color. This means that reports and report classes which are in a “normal” state will appear yellow in the hierarchy graphic. This traffic light effect enables an immediate overview of the status of the different reports and report classes.

An important difference between displaying exceptions in the graphical menu and in a report list is that the exceptions have to be evaluated before the report is executed. In a report list, the exceptions can, of course, be evaluated when you execute the report. When you display a graphical overview of several reports in the hierarchy graphic, you have not yet executed the reports. It is not possible to evaluate the exceptions in all the reports when you display the graphical menu. This is because of the effect it would have on performance The exceptions can be evaluated using a job which saves the data in background processing. The flag *Check exceptions*, which can be found under *Information system* → *Report data* → *Maintain variants* controls whether the exceptions should be evaluated in background processing. See Freezing Report Data and Printing Reports in the Background [Page 186]

Using *Information system* → *Report portfolio* → *Rep.portfolio report* → *Change,* you can change exceptions in a report. Using this function, you also define which exceptions are relevant for the graphical menu. The dialog box in which you process the exceptions contains the function *Graphical menu*. This function offers three options: *Display red and green, Not to be used* and *Display red*. The default setting is *Display red and green*, which means that the exception is highlighted in the graphic whether it is red or green. If more than one exception has been defined, red has priority over green which has priority over normal.

Exception Reporting in the Report Portfolio

Let us assume that a report was created with three exceptions and then executed in the background. The first exception was in the state *green*, the second *normal*, and the third *red*. The date and time when the exceptions were evaluated is also recorded.

If, in the above example, we set parameter *Display red and green* for the first exception and parameter *Not to be used* for the second and third exceptions, the report would appear green in the graphical menu.

The color of the definition report in the graphic is passed on to the report class to which the report belongs. That means that, if just one of the reports in a report class is red, the whole report class is colored red.

Evaluation of the Exceptions with Different Combinations of Variables

A closer look is required when the exceptions for a report with variables are evaluated in the background. It is possible, with such reports, that for one variable group several combinations of variables are checked one after the other.

You have defined fiscal year and region as variables and want to check the exceptions for

a.) *fiscal year 1995, region North* and

b.) *fiscal year 1996, region South*.

.

In the first case the report is in the “red” state, but in the second it is in the “green” state. The color with the highest priority in the hierarchy graphic is displayed for you in the report portfolio, in this case ”red”. (The rule is that *red* takes priority over *green* and *normal*).

When you execute the report a dialog window appears for the variable entry. With the function *Variable (Exception)*, the respective variable combination, which is responsible for the coloring of the hierarchy graphic, is set in the entry fields. In our example therefore, the **Fiscal Year 1995** and **Region North** are set as variables.

Display Exceptions

If you choose the menu option *Display exceptions* in the report portfolio report, information about the last time the exceptions were evaluated in background processing is displayed. The list contains the date and time as well as a color for each exception. You can therefore see which exceptions have led to which color in the hierarchy graphic.

You can find more detailed information about the state of an exception under *Extras* → *Report parameters*. Here you can see on which sheet of the report an exception has a certain state. When, for example, you have an exception which is of importance on various sheets of a report you can see that the state varies. It could be *green* on sheet 1, *normal* on sheet 2, and *red* on sheet 3.

Changes That Have an Effect on the Report Portfolio Report

A report portfolio report, that is recorded from a drilldown report at a certain point in time, can be saved either with or without data.

A report portfolio report, that is saved with data is not affected by changes to either the data basis or drilldown reporting. As data reports always display a copy of a list or screen sequence at a certain point in time, changes do not have an affect on the data report in the report portfolio.

A report, whose definition has been set in the report portfolio, contains the corresponding report components, meaning characteristics, key figures, form, variables, columns etc.; that you defined at the time. The data itself is selected in the report portfolio. If you change a sub-object in the databasis or in the form, which is referred to in the definition, the affected report portfolio report is automatically adjusted in as far as is possible. However, you can undertake changes, that make it necessary to adjust the report manually. If such a situation should occur, the system will produce the relevant message when executing the report portfolio report. You always have the possibility of deleting the report and recording anew in drilldown reporting. Other possibilities are listed below.

The following section describes the changes that cannot be automatically converted by the system. Before you undertake such changes in your EIS system, you should bear in mind the possible effects on already existing report portfolio reports.

Change	Description	Effect on report portfolio report	Solution
Delete characteristic	You delete at least one characteristic from the affected aspect.	The characteristic(s) is/are no longer available for the report. The data for these characteristics can no longer be evaluated.	You recreate the characteristic(s) in the databasis.
Delete key figure	You delete at least one basic or calculated key figure from the affected aspect.	The key figure(s) is/are no longer available for the report. The data for these key figures can no longer be evaluated.	You recreate the key figure(s) in the databasis.
No free characteristic available in the form	You provide all the characteristics in your form with a value.	The characteristics are no longer available for the characteristic selection. In order to be able to execute a report at least **one** free characteristic must be available.	You change the form in such a way that at least one characteristic is not specified or only as an interval.
Specify free characteristic in the general data selections	You provide one characteristic in your form with a value.	If your report contains, for example, a drilldown according to this free characteristic, the drilldown is no longer possible.	Undo the changes in the form.

Changes That Have an Effect on the Report Portfolio Report

Delete global variable	You delete a global variable	The variable is no longer available for the report.	Recreate the variable.
Change global or local variable	You change the setting for a variable from optional to mandatory entry.	When executing the report, the system expects a previous entry that is not available as the variable was optional up until now.	Change the report portfolio report. Enter a default value for the variable or highlight the indicator *Enter when executing.*
Delete rows/column in the form	You delete a row or column in the form.	If your report uses the affected row or column for a function, e.g. for a graphic; this function is no longer possible here.	In this case, delete the report and create a new report portfolio report.
Hide row or column in the form	You hide a row or column in the form.	If your report uses the affected row or column for a function, e.g. for a graphic; this function is no longer possible here.	Switch the row or column back on in the form.
Delete hierarchy	You delete a master data hierarchy	The master data hierarchy that was used in the report, is no longer available.	You recreate the master data hierarchy.
Create new hierarchy	You have created one or more new hierarchies for a characteristic with a mandatory hierarchy.	Some characteristics from other applications can have a so-called mandatory hierarchy. This setting means that only this hierarchy is permitted for the characteristic. A single hierarchy exists at the time of the definition of the report. The report does not now have an unequivocal assignment to a mandatory hierarchy.	In this case, delete the report and create a new report portfolio report.

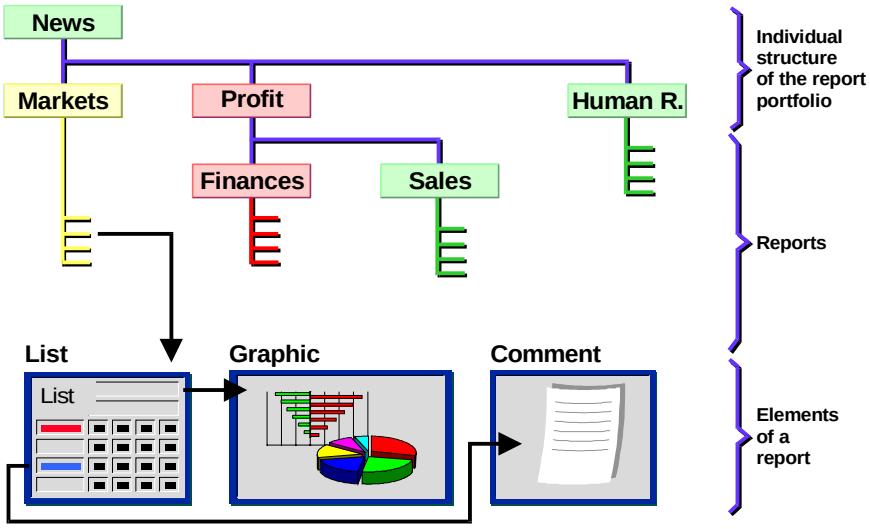
Using the Executive Menu

The Executive menu is intended for users who require quick access to information especially prepared for them.

Going from this menu, you have three different access possibilities to a selection of reports.

- Using *Info system* → *Report portfolio*, you call up the hierarchy graphic defined for you for access to your own report portfolio. You can find details on the report portfolio and how you can display reports from there in the section Executing the Report Portfolio using the Hierarchy Graphic [Page 216] .
- Using *Info system* → *Report portfolio report*, you can enter the name of an individual report portfolio report and display it. You find out how to display a report in the section Executing A Report Portfolio Report Directly [Page 218] .
- Using *Info system* → *Report selection*, you call up either the general report tree of drilldown reports or one especially created for you. You can find out how to execute a report from there in the section Selecting a Report [Page 180] .

Executing the Report Portfolio using the Hierarchy Graphic



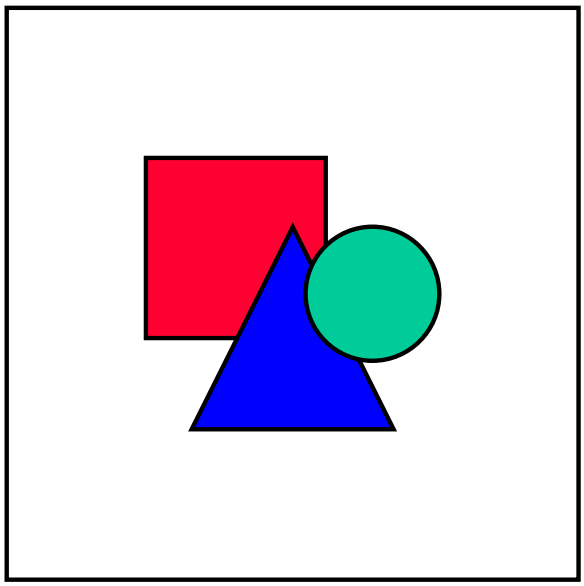
In the figure above you can see an example of a user group, which is represented in hierarchy graphic form. The hierarchy contains the names of report classes in the relevant user group. The report classes contain the reports assigned to them. Examples of report classes are: **Profit, Finances, News**. The report classes contain their assigned reports and elements such as lists of graphics. Default colors are assigned to the reports and report classes.

A report can contain one or more so-called exceptions. An exception is a condition that determines whether a object is striking, meaning whether unexpectedly high or low values appear with respect to a key figure. If one or more exceptions are determined by the system, a report or report class can automatically be colored red or green accordingly. In this example, the report class Market appears in the default color yellow. For more information see Exception Reporting in the Report Portfolio [Page 211].

In order to display a report in your report portfolio proceed as follows:

1. Select *Info system* → *Report portfolio*.

   The hierarchy graphic of the report class in your user group is displayed.



Note that when you choose the function *Report portfolio,* the graphic is usually displayed immediately. You will only be asked to enter your user group if this has not been set.

2. Choose a report class by clicking on it with the left mouse button.

   The system displays an overview of all the reports assigned to that class in the form of a graphic.

3. hoose the report you require by clicking once on it with the left mouse button.

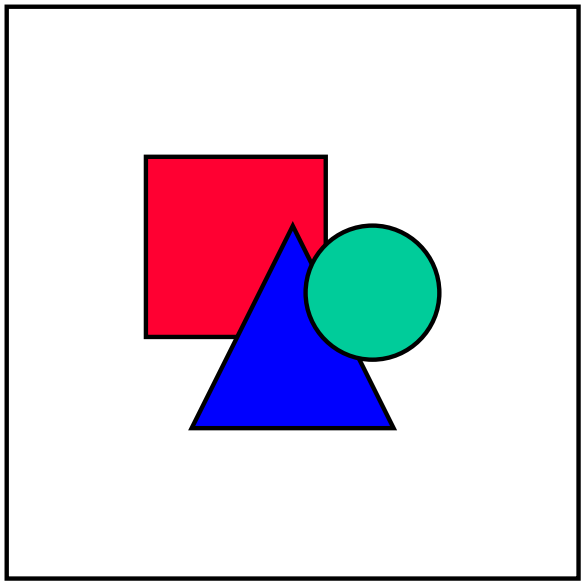
   It is possible that a dialog window will appear before you see the first report list. You can transfer the suggested values for the variables or enter your own values in this dialog window. These are normally variables for characteristic values (for example, fiscal year 1996), which determine the dimensions of the report. Text variables can also be offered. You can enter a text here which is displayed in the report list. Furthermore, there are variables for hierarchies, hierarchy nodes and formulas.

   If exceptions are defined for the report, it is possible that the key Variable (Exception) is offered in the dialog window. Via this function the combination of characteristic values in the entry fields, which is responsible for the coloring of the hierarchy graphic, is presented to you.

Executing A Report Portfolio Report Directly

You can display a report in the report portfolio without using the graphical menu. Proceed as follows:

1. Choose *Information system* → *Rep.portfolio report*.
2. Enter a report name by entering a name directly or by choosing one from the possible entries (F4).
3. Choose *Execute*.



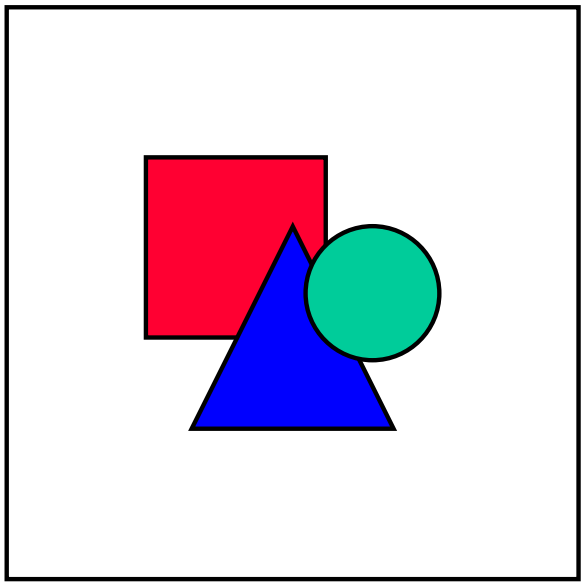
If data has been saved in a report structure in background processing, the saved data is automatically displayed when you call up the report from the hierarchy graphic or using direct call up (see Transferring a Report to the Report Portfolio [Page 204]).

It is possible that a dialog window will appear before you see the first report list. You can transfer the suggested values for the variables or enter your own values in this dialog window. These are normally variables for characteristic values (for example, fiscal year 1996), which determine the dimensions of the report. Text variables can also be offered. You can enter a text here which is displayed in the report list. Furthermore, there are variables for hierarchies, hierarchy nodes and formulas.

Functions in a Report Portfolio

The functions which are available when you execute a report portfolio report depend on the type of report. If you access a report which is started using the report/report interface, you can use the functions which are available in the program started. If you start an ABAP/4 program which calls up a PC program, you can use the functions of the PC program (for example, Microsoft Word or Microsoft Excel). If you call up a drill-down report which has been copied from EIS drill-down reporting, the following functions are available:

- Using the function *Previous page* and *Next page*, you can scroll through the sequence of pages in the report.
- Using *Display comment*, you can display the comments stored for individual pages by the user who created the report.
- Using *Display exceptions,* you can display the settings made for individual exceptions.
- Under *Report parameters*, the system displays the most important information about the report (author, date created, etc.). In addition here you can find out the condition of a certain exception on a particular sheet of a report.
- Using the function *Print*, you can print the report page displayed. To print from Microsoft Word for Windows, read Printing with Microsoft Word for Windows in the Report Portfolio [Page 221].
- Using *Send*, you can send the displayed report page to another user via the SAPmail system.
- Choose *Back* to leave the report. If you accessed the report from the report class overview, you will return to the hierarchy graphic. You will then be on the screen which displays all reports for a report class. By choosing the report class, you access the overview of all report classes. If you choose *Back* again, you return to the hierarchy graphic.



If no data is available for a characteristic value contained in the definition report at the time of execution of the report portfolio report or there is no saved data

available in the background processing, you may not be able to use functions based on this characteristic value. You will be able to carry out the functions again when data is selected for that characteristic value.

Printing with Microsoft Word for Windows in the Report Portfolio

To use the functions described here, you must have an English, German or French version of Microsoft Word for Windows version 6.0 installed. These print functions are only active under operating systems Windows and Windows NT.

You set up the interface to Microsoft Word for Windows in Customizing. The guidelines tell you how to carry out the installation.

In the report portfolio, you can use this function when you execute a report with the function *Rep.portfolio report*. It is also possible to print report classes and user groups.

You can print all those reports in Microsoft Word which are **not** called up using the report/report interface.

If you print a report class or user group which contains a report that is accessed via the report/report interface, this report will not be printed.

The following section describes how you print a report.

1. Choose *Print in MS Winword.*

   First of all you get a dialog box, in which you can make various settings.

   – Contents page
   – Cover page
   – Chapter number(s)
   – Page numbers
   – Only printing

     .If you select this field, the system will automatically format and print the Microsoft Word document without displaying it. If you choose the other option, system will display the Microsoft Word document for you to edit. Once you have made the desired changes, you can print it manually.

   – Interactive printing

     If you do not wish to save the document in the default file but rather in another file, maintain *Settings for interactive print functions.*

   Then all the active pages and any comments are collected. All graphics, with the exception of portfolio graphics, are also collected. These components, which are referred to as print modules, are transferred to Microsoft Word.

2. If the report contains variables a dialog box appears. Enter the corresponding characteristic values.

3. In the next dialog box, you can make various settings. The system automatically divides the print modules into chapters. Here, you can change the dynamic chapter headers and sort the chapters. In addition, you can also set whether a new page should be started for a new print

module. You can then save these settings, which means that the next time you use the function for the same object, you can use the same settings.

By choosing *Additional settings,* you can make settings for the print modules. You can also save these settings.

If you wish to change the standard layout, you can create a Microsoft Word macro for each print module. If you only wish to change the layout for one printout, you can do this when you edit the document (see above). If, on the other hand, you want to print the report many times, each time with the changed layout, you should use a macro.

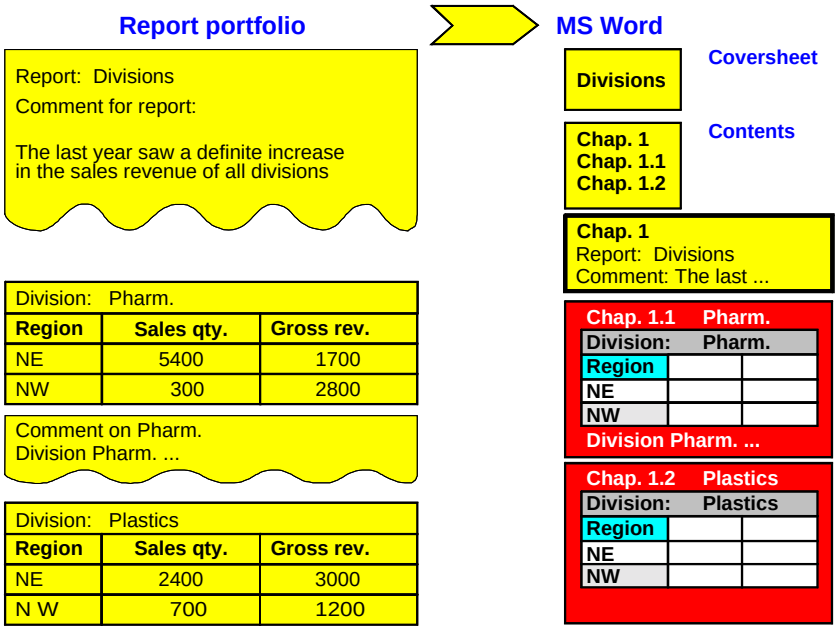
When you print a report class, the system first looks for all the reports which belong to the report class. The procedure after that is the same as that for printing a single report.

Likewise, the system collects all the report classes and reports for a user group.

Please see Example of Printing a Report from Microsoft Word [Page 223].

Example of Printing a Report from Microsoft Word

The following figure represents an example of a report portfolio report, transferred from Microsoft Word for Windows 6.0. The report portfolio report **Divisions** is made up of two lists, one for each division, a comment on the entire report and a comment on one of the lists. If the settings *Cover sheet*, *Chapter numbers* and *Page numbers* have been chosen for the transfer to MS Word, the report will be printed in the format you see in the example. The first three sheets contain the Cover sheet, Table of Contents and comment on the entire report respectively.



Tools (EC-EIS/EC-BP)

Purpose

This component contains functions that the system administration executes in a productive system, for example, reorganization in the information system or archiving of transaction data and plan data. You can find more details under:

Translating Texts [Page 225]

Reorganization in the Information System (EC-EIS) [Page 227]

Archiving [Page 229].

Translating Texts

Under *Tools* → *Translation tool,* you can translate user-defined or user-generated EC-EIS and EC-BP-specific texts, which are language dependent, into another language. This is necessary if these texts are to be used in the other language, for example in a report,. You can find and translate these texts directly in your system using the translation tool. To do this, proceed as follows:

1. Enter the source and target languages.
2. Select the object type you wish to translate and enter the name of the object.
3. Choose option *Selected object only* or *Object + all dependent objects*.

   If you choose *Selected object only*, the system searches for the texts belonging to that object only. If you enter an aspect, for example, the system searches for the aspect texts only.

   If you choose *Object + all dependent objects*, the system searches for all subobjects which can be assigned to this object. For example, if you enter an aspect, the system searches not only for the aspect texts but also for the for the key figure texts, the characteristic texts and the characteristic value texts belonging to the aspect.

   The system may take some time to search, especially if you choose *Object + all dependent objects*, as it may have to search many EC-EIS objects for texts.

On the following screen, the system displays a list of the object classes found. These classes are listed according to their translation status:

not translated	*no objects of this class are translated*
partly translated	*some objects of this class are translated*
translated	*all objects of this class are translated* *(objects of this class are also highlighted)*

1. Select the object classes that you wish to translate. Choose *Object list*.

   In the object list, all the objects in the object classes you selected are displayed with the object class, the name and the text of the object in the source language. For translated objects, the text of the object in the target language also appears.

2. Select the objects you wish to process.

   If you wish to change the target text of an object which has already been translated, choose this object also.

3. Choose option *Translate* or *Fast translation*.

   If you choose option *Fast translation*, the system attempts to find proposals from the SAP proposal pool. If it finds a proposal, the proposal is entered automatically. If the system cannot find a proposal, the text in the source language is copied to the text in the target language. This option is only available for texts which have not been translated.

   If you choose option *Translate*, you can enter translations for all the selected objects yourself.

Translating Texts

4. If you chose *Translate*, the selected objects are displayed on the next screen. Attempt to find proposals for the texts by choosing *Get proposals*. If no proposal exists for a text, enter the translation in the field beneath the source text.
5. Save your entries.

Reorganization in the Information System (EC-EIS)

Deleting report data

The report data is the data that has been saved for a drilldown report or report portfolio report at a certain time. If you delete this data, the corresponding report remains intact. The next time you call up the report, the system selects new data for the report.

If you no longer require certain report data, you can delete it under *Tools* → *Information system* → *Delete report data*. Proceed as follows:

1. Specify the report data you wish to delete (for example, all report data saved by the user Smith). Choose *Execute*.

   The system displays a list of the objects you selected.

2. Select the objects to be deleted and choose *Delete*.

   The system then displays the status of the objects.

Deleting reports

You can delete individual drilldown reports under *Information system* → *Report* → *Change*. You can also delete individual report portfolio reports under *Information system* → *Report portfolio* → *Report portfolio report* → *Change*. However, if you wish to delete several reports, you should do this under *Tools* → *Information system* → *Delete reports*. Proceed as follows:

1. Specify the reports you wish to delete (for example, all reports which are based on a certain form). Choose *Execute*.

   The system displays a list of the objects you selected.

2. Select the objects to be deleted and choose *Delete*.

   The system then displays the status of the objects.

Deleting forms

You can only delete a form if it is no longer used in any report. If you select a form to be deleted, the system checks whether the form is still being used in any report. If it is, the system will not delete the form.

If you no longer require certain forms, choose *Tools* → *Information system* → *Delete forms*. Proceed as follows:

1. Specify the forms to be deleted (for example, all single coordinate forms in a certain aspect). Choose *Execute*.

   The system displays a list of the objects you selected.

2. Select the objects to be deleted and choose *Delete*.

   The system then displays the status of the objects. If there are reports that still use a form you have selected to be deleted, the form is flagged with status *Not deleted* and the message *Object is still being used*. You can select the form to display a list of the reports based on that form. From here you can execute these reports and delete them if appropriate.

Archiving

Use

The transaction data, that is transferred or posted into the executive information system or into business planning, can be reorganized using an archiving program.

The following functions are available for archiving:

- Storing the transaction data or plan data
- Deleting the transaction data or plan data
- Reloading the transaction data or plan data from the archive

With the appropriate authorization, you can call up archiving in the EC-EIS application menu under *Tools* → *Data* → *Archive trans. data.* You can call it up in the EC-BP application menu under *Tools* → *Data* → *Archive plan data*

The above functions are described in detail in the documentation on archiving and deleting application data: Archiving transaction data/plan data (EC-EIS/EC-BP) [Ext.]