Allevo COPA

User Manual

Interface to SAP COPA

Allevo satellite tables are used for planning the COPA component. Thanks to their flexibility, there is a complete freedom about how the structure of planning COPA data should look like.

The interface can:

- Read data from COPA and transfer them to a satellite table as a basis for further planning

- Read plan values from a satellite table, process them and post them to COPA

Contents

Contents

1 The Idea

<Grafik="Allevo-Banner-COPA.png", Rahmen="0" ,permanent sichtbar>

Allevo satellite tables are used for planning the COPA component. Thanks to their flexibility, there is a complete freedom about how the structure of planning COPA data should look like.

The interface can:

• Read data from COPA and transfer them to a satellite table as a basis for further planning

• Read plan values from a satellite table, process them and post them to COPA

1.1 The Starting Condition: Separated Worlds

From a technical point of view, planning the profitability analysis is in SAP (COPA) a process completely isolated from Cost Center Accounting (CCA), since different data models and consequently different input screens exist for plan values. The COPA knows characteristics and value fields that can be used in a flexible and expanded in a client-specific way, while cost accounting or profit center accounting builds on a more or less static structure of cost elements (accounts), activity types and statistical key figures. Including both plans in a uniform process is not intended by SAP.

The difficulty already lies in finding a suitable access to COPA planning. In cost center planning, the cost center is the regular access object; in profit center planning, it is the profit center etc. But what is the access object in revenue planning? Plenty of characteristics are basically available here (division, sales employee, sales organization, articles etc.), while all of them can define the access by themselves or in combination.

1.2 The Solution: Allevo COPA Interface

In general, it is possible to stick to the usual approach. A start into COPA planning is made via a cost center, an order, a WBS element (CCA object) or a profit center. Alternatively, the Allevo own objects (object type KX) are suitable for an access specifically in this case.

Satellite tables are used to plan COPA components. Thanks to the flexibility of the Allevo satellite tables, there is a complete freedom about how the structure of planning the COPA data should look like.

During the planning process, COPA data are managed by representative objects of CCA, profit center accounting or by the Allevo own objects. Here, the representative object stands for a self-contained planning scope that is defined by certain forms of COPA characteristics, e.g. a division or a combination from a sales office and a sales employee etc.

Note:	The task consequently is to define the respective planning scope that is to be covered by a planer and to assign it to a representative object. This is achieved by the assignment table (see chapter 4.2) of the Allevo COPA interface.

The Allevo standard functions can now be used by means of the representative object (e.g. planning layouts, status management). Furthermore, the SAP authorization system can be used for controlling authorizations.

COPA data are provided by a classic satellite table. The communication between the Allevo planning form and the satellite table on the SAP side operates in the complete Allevo standard. In particular, all additional functions intended specifically for working with satellites are available in Allevo.

Example:	„Merge" function when reading satellite tables: especially when working with the COPA interface, it can be useful to mix data of two tables. In Allevo, the constant SATxx_MERGEyy is available for this purpose.
	Example of application: current plan data shall be completed regularly by inputs from an external system, while plan values that are already entered in Allevo shall be maintained (for details see F1 documentation about the constant).

It remains unclear, how reference data are transferred from the COPA tables to the satellite tables and how data that are to be planned are delivered from the satellite table to SAP. This exactly is the task of the COPA interface.

Note:	Allevo supports both the costing-based and the account-based operating concern (the latter however only during planning, not during reading).

2 Allevo COPA Interface

2.1 Functional Overview

The interface works with a line orientated specification of the data structure in the satellite, with lines depending on year, period, Plan/Actual indicator and version. In this structure, satellite data fields for columns correspond to the required value fields of COPA. The interface can:

- Read data from COPA and transfer them to a satellite table as a basis for further planning

- Read plan values from a satellite table, process them and post them to COPA

The structure of the satellite table varies depending on the project requirements.

Read Operations

COPA data can be read only from a costing-based operating concern.

Contents are:

1. Annual values (Actual / Plan values) or

2. Period values (Actual / Plan values), line by line

3. Period values in columns (constant MONTH_ACTIVE)

Plan/Write Operations

The aim of the planning can be a costing-based or account-based operating concern (see Constant TYPE_OF_PA account-based operating concern).

The interface allows to provide plan values via the satellite in different ways. These are:

1. Annual values equally distributed (including the calculation of remaining amounts in period 12)

2. Annual values distributed based on an integrated period distribution table

3. Period values in lines

4. Period values in columns (Constant MONTH_ACTIVE)

Except for case 2, also the distribution based on any characteristic is possible (Constant DISTRIBU-TION).

Other Functions

Both during reading and planning, various schemes per satellite can be established and actively involved in the Allevo planning process in the desired sequence (Constant ALLEVO_ACTIVE).

Read/write parameters can additionally or alternatively be taken from an Allevo layout (Constant AL-LEVO_ACTIVE).

All six object types provided by Allevo are supported especially in the mapping of satellite fields, also the Allevo own object type KX.

2.2   Program Fetch

The COPA interface can be started via two transaction names:

/ALLEVO/COPA or

/KERN/IPPCOPA

The transaction allows for both reading data from COPA and planning (writing to COPA). To start the COPA interface, a suitable license must be available (from version 3.3, see also Allevo SAP manual).

Calling one of the above-named transactions shows the following selection screen:

Figure 2.1: Start screen of the COPA interface

Here, parameters for the selection of the interface data are entered and all settings of the interface are made (see e.g. additional function „constants" in the standard toolbar, for detailed explanations see below).

In the former version of the interface, separated transactions were available explicitly for reading and writing data; today, this differentiation is made by the associated button on the start screen (see section „Action" in the figure above).

Note:	For completeness, former transactions are listed here:

- /KERN/IPPCOPA_NR for reading COPA data

- /KERN/IPPCOPA_N for planning in COPA

These transactions are no longer being supported. On transition to Allevo 3.3, also authorizations may need to be newly assigned.

When reading COPA data with period values, it can be useful to additionally sort the read data by periods (especially with new SAP versions; before, the defined order was ensured via the used BAPI). See constant MONTH_ACTIVE.

Additionally, the interface structure has changed through the years towards a sequential display of period data in the satellite (one column for each value field). On transition from a former Allevo version (lower 3.0), it may be necessary to adjust satellite structures as well as the structure of the Allevo Master.

2.3   Scheme

Before using the program, the interface must be established. For this purpose, a scheme must be created by the |Schemes| button on the start screen of Allevo COPA.

Figure 2.2: Scheme maintenance of the Allevo COPA interface

Schemes can be created and deleted in the scheme maintenance. Schemes are created per controlling area, object type and satellite table. It is possible to carry along a sequence and a description apart from an up to 6-character name in the maintenance table.

2.4   Constants

A created scheme subsequently needs to be filled with content. This is carried out by the |Constants| button on the start screen of Allevo COPA (see Figure 2.1).

Constants are maintained depending on controlling area, object type, satellite table and scheme. Before using the |Constants| button, select these four parameters on the start screen.

Different constant settings can be saved simultaneously under the name of the scheme, which can be freely assigned. Already created schemes can be called using the function key F4.

The entire interface business process is controlled via the constants.

2.5 Authorizations

Only the authorization for calling the respective transaction must be available to execute the dialog program (e.g. /ALLEVO/COPA).

The execution of customizing functions for schemes, constants and the assignment of objects are usually reserved for employees with administration rights. Correspondingly, individual authorizations regarding the authorization groups ZIPP_CP1, ZIPP_CP2 and ZIPP_CP3 are saved here. Users of the higher authorization groups ZIPP_ADM automatically have access as well.

For further information see the notes regarding the authorization object ZIPP_PROG in the Allevo SAP manual.

3 Constants

3.1 Functional Overview

The program dialog for constant settings of the transaction /ALLEVO/COPA (or alternatively /KERN/IPPCOPA) separates into three areas (cf. Figure 3.1):

▪ **General Constants:**
  Basic settings for the COPA interface

▪ **Field-Mapping:**
  Here, fields of the satellite table are assigned to the characteristic and value fields of COPA.

▪ **Read-Write-Parameters:**
  Here you indicate what shall be read or planned.

All constants depend on the controlling area, object type, scheme and satellite table.
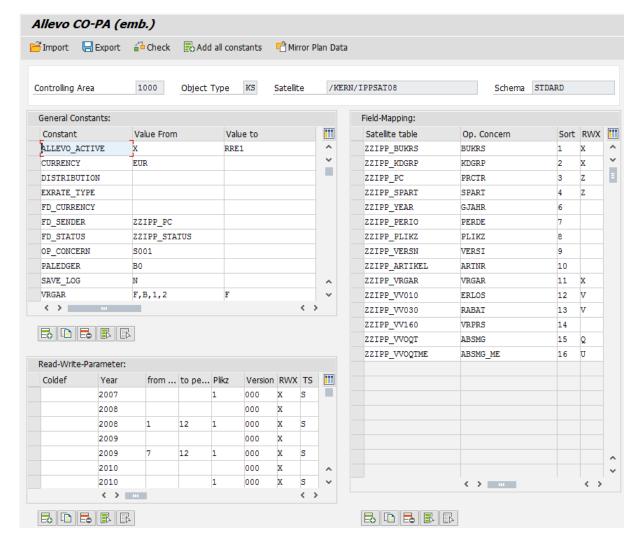

Figure 3.1: Constants of the Allevo COPA interface

3.2 General Constants

The following entries are possible with general constants (see Figure 3.1; top left) (supported by F4 help):

- ALLEVO_ACTIVE

  The COPA scheme can be integrated actively into the planning process of Allevo (however, it must be activated again via the Allevo constant). It can be limited to one or several Allevo layouts in „Value to". The registration of a layout is mandatory if you wish to use column definitions (see chapter 3.4).

- CURRENCY

  Upon activation, all values are assumed to be available in the satellite table in the indicated currency (e.g. USD. However, postings are made in the currency of the operating concern (see also section 7.1). If this specification is missing, the settings in the COPA plan version are considered as default.

- DISTRIBUTION

  Defines a table with specifications for a distribution function: „Value from" contains the name of the table comprising rules of the distribution; „Value to" contains a field name prefix. The distribution functions are described in chapter 4.

- EXRATE_TYPE

  Here you determine what course type to apply in the translation of currencies. If no course type is registered, the setting of the plan version will be used (e.g. **P** for the standard translation in cost accounting).

- FACTOR

  This constant allows multiplying values of the COPA interface with any factor. The function is available for reading and writing. During reading, this constant allows to add and subtract values fields.

- FD_CURRENCY

  Here you enter the name of the field in the satellite table that contains the currency for a data record (see chapter 7.2 in 2).

- FD_SENDER

  For this parameter, enter the name of the field in the satellite table that contains the partner object for the object named in the field COOBJECT. This field is only important if the table shall be mirrored, since object and partner object are exchanged in the data record in the mirror function (see section 3.6)).

- FD_STATUS

  Enter the name of the field in the satellite table that contains the status of a data record (see section 6.4).

- MONTH_ACTIVE

For reading and planning, period values can be saved with quantities and values in 12 separated columns of the satellite respectively. Activate this constant for this purpose. What columns are displayed monthly, is automatically recognized via the field assignment.

- OP_CONCERN

  Here you enter the name of the operating concern that data shall be read from and plan data shall be posted to.

- PALEDGER

  The currency key is only required to read actual data.

- SAVE_LOG

  Messages of the COPA interface can be edited into the SLG (SAP Application Log).

- TYPE_OF_PA

  Switch to the account-based operating concern.

- VRGAR

  Enter the activity category that shall be used to read or write plan data, e.g. **F** for invoice data or **D** for overhead costs.

  During Reading, all activity categories entered in the field „Value of" will be considered (various entries are possible: individual values need to be separated by comma and without blank).

  During Writing (Planning), postings will be made with the activity category entered in the field „Value to". The constant can however be replaced by providing the activity category in the satellite (see mapping about ZZIPP_VRGAR). The entries in the satellite are used if the respective field is marked (in the RWX-column with Z, X or W).

Note:	The general constants are depending on scheme and satellite table from version 3.2!

3.3 Field Assignment

The fields of the current satellite table are assigned to the characteristic and value fields in COPA using a field assignment table. While editing, the F4 value help is available (see area „Field-Mapping" at the right side in Figure 3.1)

A sequence of characteristics can be determined in the column "Sort": it defines the sequence in which data are read, grouped/totaled from COPA and displayed in the excel form.

The entries in the column "RWX" control the relevance of a characteristic/value field:

The following applies to **value fields**:

- Standard entry is **V** = Value Field,

- Quantity fields are to be marked with **Q**

- The field with the basic quantity unit is to be marked with **U**.

Important:	If quantity fields are addressed, also the corresponding unit must be defined. Therefore, the field in the satellite table containing the quantity unit must be linked with the corresponding unit field in SAP (and marked with **U**).

The following applies to **characteristic fields**:

- **X** means, this characteristic is relevant for reading and writing

- **Z** as X, but simultaneously with object assignment

- **R** stands for „read-only",

- **W** for „write-only"

- An entry „**D**" (= Distribute) determines that this characteristic shall be provided for the distribution function of the COPA interface (see section 4.3).

- No entry means no consideration.

Fields that are used for the object assignment (see chapter 4.2) must contain a **Z** instead of an **X**. There may be up to three fields. The sequence here must be the same as in the assignment table.

Any number of value fields may be created in a satellite table: you can decide again each year or for each scheme for which combination data are read or written.

Note:	It is recommended to create a summarization level of the operating concern according to the characteristics set here. The program will find them automatically and will therefore run faster. The corresponding transactions in SAP are KEDV (for creating) and KEDU (for filling with data).

If more than one planning year shall be read and written, it is necessary to create fields for the COPA characteristics GJAHR, PERDE, PLIKZ in the satellite append. It applies here:

- For the Plan/Actual indicator PLIKZ, 1 (= planning data) must be set in data records that shall be written, since the write program allows only planned values

- For reading and planning annual values, no entry should be made for the field PERDE in the RWX column. To edit period values, enter X.

- Please note that each data record of the satellite table will be posted to the arranged combination of write attributes. If the data record in the satellite table does not contain any entry, the characteristic will be adopted in COPA as "empty".

Note:	The company code can be identified by means of the object in the field COOBJECT of the satellite table (this applies for object types KS and KX). In this case, no explicit mapping for the company code is required.

3.4 Read/Write Parameter

In this section, you enter the time period that data should be read or planned in (see Figure 3.1; bottom left). The columns "year", "from period", "to period", „PLIKZ" and „version" define the time ranges and read the corresponding data fields of the satellite table (see section 3.3). There is a temporal limitation in „from period" and „to period" that is effective both during reading and writing. It is irrespective of whether annual or period values are edited.

Example: If annual values are planned but the year of writing is limited to period 1 to 6, the "annual" value will be divided by 6 and posted to these 6 periods.

Instead of entries for year, periods, PLIKZ, versions and RWX, also column definitions from Allevo can be entered in the first column. For this purpose, however, a layout must be entered in the "Value to" of the general constant ALLEVO_ACTIVE.

Note:	It is possible to leave this table completely empty and enter a layout only in the "Value to" of the general constant ALLEVO_ACTIVE. All (active) column definitions of this layout will then be used.

Additional remarks:

- If year and/or version are missing, the values of the start screen will be adopted (identical to the satellite key fields, where data were stored).

- If the version is not maintained, the version of the selection screen will be adopted as well.

- If the specification for the period field is missing (or value = 0), the values of the respective data record will be interpreted as annual values.

- If PLIKZ is not maintained, actual data (such as PLIKZ=0) will be read.

- If reference **plan** data shall be read, enter a 1 in the column PLIKZ with the Plan/Actual indicator and the version that shall be read in the column "version".

The column RWX determines what shall be done in the defined time range:

- Reference data must be marked with **R** (= Read).

- For **W** (= Write), enter the version that plan data shall be posted to.

- For entry **X** (= both), both reading and writing will be performed.

The column TS controls the posting type:

- With **T** (like Total, Table), the satellite will deliver a table with all entries (for the respective year, version…) to the posting module (this leads to maximum performance) and post it with a document number.

Note:	This mode undertakes the complete processing of all combinations of characteristics of selection criteria, given also by the object assignment for the handling process.
	Mode **T** should therefore only be used if data in the satellite display the respective complete picture or if the plan version is still blank. Otherwise, this mode can lead to the overwriting of existing data in COPA. This is the case if a combination of characteristics (with data) is already available in COPA but not in the satellite table and is however a subset of the selection criteria.
	This selection is also useful if data are read from COPA by the program and only value fields are changed by Allevo (no combination of characteristics are added as new data records then).

- With **S** (like Single, Structure) or no entry in the TS column, a safe variant for postings, e.g. for completing postings or new posting of single data records, will be selected. Postings will be made line by line from the satellite to COPA with a respective document number (corresponds to the approach in the former version of the COPA interface).

    Mode **S** offers full flexibility for the user on the Excel side.

3.5 Import, Export and Check

These functions are executed via the respective buttons in the maintenance of constants (see Figure 3.1).

Via the „Export" button, the constants of the actual scheme will be saved in a text file. This can be used as a backup for these schemes but it can also be imported as a template for a different scheme (Import).

Using the button „Check", you can verify the correctness of the general constants, the presence of the operating concern entered under OP_CONCERN and the presence of the characteristics used in the field assignment, EXRATE_TYPE, PALEDGER and CURRENCY. Furthermore, the mapping of all satellite fields as well as data types of the fields for PLIKZ, VRGAR, VERSI, PERDE and GJAHR will be checked. A message will appear only in the case of check errors.

3.6 Display Period Values in Columns

Normally, the COPA interface expects period values in 12 consecutive lines of the satellite (with the corresponding values in columns). Via the constant MONTH_ACTIVE, a function allowing the display in defined period columns is activated: the period values are thereby saved in 12 columns of the satellite table (only one line).

For this function, the satellite append must contain 12 identical fields that differ only in the last 2 digits of the field name (with the obligatory endings 01 to 12). The corresponding prefix (without the last 2 digits) must be entered in the relevant value and quantity field.

The following figure shows an example.

ZZ_GJAHR	GJAHR	7	R
ZZ_PERDE	PERDE	8	R
ZZ_SALES_	VV010	10	V
ZZ_WERT	VV020	11	V

Figure 3.2: Period planning by defined columns

The satellite field ZZ_SALES_ is assigned to the value field VV010 as prefix. Definition by cases:

- If the field ZZ_SALES_ exists exactly like this in the satellite append, the content of VV010 will be expected or entered there.

- Otherwise, the COPA interface will automatically search for the fields ZZ_SALES_01 to ZZ_SALES_12 in the satellite append to store the respective period values.

Within the read/write parameters, you can of course further restrict the periods you want to work with.

Additional remarks:

The described function is available for reading and writing (planning). It is possible to simultaneously work with period values in columns and (!) annual values for different value fields.

Handling the period field PERDE when working with periods:

- If used for the COPA reading function, the field PERDE must be active for reading.

- When writing in COPA from period columns, PERDE must not be set active for writing, since the interface delivers period values during writing and may possibly create them before.

Consequently set "R" for the field PERDE if a layout shall be used simultaneously for reading and writing.

When reading COPA data with period values, it may be useful to additionally sort the read data; especially with new SAP versions (before, a defined order was ensured by the used BAPI). This setting is also performed via the constant MONTH_ACTIVE („Value to").

3.7 Adding up Values into a Satellite Field

If several COPA fields are assigned to the same satellite field in the mapping of constants, Allevo adds up the associated values when reading data from COPA (summation). In interplay with the constant FACTOR, a combination of addition and subtraction is possible.

Example: the value fields ERLOS, RABAT and PRABA are placed in a common satellite field. The discount fields RABAT and PRABA are saved with a negative sign in the constant FACTOR. The calculation of the corresponding satellite field will then be the following: ERLOS minus RABAT minus PRABA.

The aggregation functions are available also when working with period values in columns (see previous section).

3.8 Additional Function: Mirroring Plan Data

The COPA interface program additionally allows to mirror two Allevo satellite tables that are identical in their structure. Here, two fields of the satellite table are exchanged with each other and signs of the data related to value fields are switched.

This function is executed via the button |Mirror Plan Data| in the maintenance of constants (see Figure 3.1).

Note:	Mirroring two tables is recommended if sender-receiver relationships shall be mapped. A data record that for example displays the credit of the sender A (object, field COOBJECT in the satellite table) by allocating to the receiver B (partner object) is, after mirroring in table SAT06, a data record of the receiver B (object) that displays the debit by allocating to sender A (partner object).
	For this purpose, the constants of the COPA interface must be defined for the source table. Under „field mapping characteristics", you specify the field COOBJECT of the satellite table as well as the additional field whose contents shall be exchanged with COOBJECT. The field name of the additional field must further be entered in the parameter FD_SENDER of the general constants (section 3.2).
	Mapping with the actual characteristics of the operating concern may be omitted if no further processing by Allevo COPA besides mirroring is required.
	Under „field mapping value fields", fields whose signs are to be switched upon mirroring are now listed. Mapping with the corresponding value fields may be omitted here as well if no further processing to COPA is desired.
	Source and target table require an identical table append. The append must contain a field ZZ_STATUS (NUMC1).

4 Distribution Functions

4.1 Functional Overview

Planning for COPA may sometimes occur less in detail than desired in the operating concern. In such case, the COPA interface offers a possibility to distribute planned values/quantities according to self-determined rules. In the following, two distribution functions will be distinguished that are automatically performed by the interface before posting a plan value:

1. Distribution of annual values to periods

   The planning for COPA is often performed based on annual values per value field. In the standard case, entries will be distributed equally to periods. However, it may be desired to specify the distribution to periods (months) individually.

2. Distribution based on any characteristic

   In this case, the distribution of the planned values/quantities may be performed based on any characteristic (e.g. period values to sales days).

Both functions are activated using the general constant DISTRIBUTION: the „Value of" contains the name of a table that holds the rules for the distribution functions (e.g. about percentage rates); „Value to" additionally contains a field name prefix. To distribute based on any COPA characteristic, this characteristic must additionally be marked with „D" in the field assignments.

Note:	Distribution functions are available only from Allevo version 3.2.
	A combined approach is possible via various schemes by processing in consecutive steps: e.g. distribution to periods and subsequently to a different characteristic. The result of the first step can be saved with any version in COPA, these data would in the next step be read again and be saved in the satellite for another distribution.

The structure of the additional tables and the related rules will be explained in the two following sections.

4.2 Distribution Annual Values to Periods

The planning for COPA often occurs based on annual values per value field. In the standard case, entries will be distributed equally to periods. In some cases, however, it may be desired to define the distribution to periods (periods) individually. Here, the required distribution keys (distribution curves) are determined automatically with the help of a determination table in SAP; before executing the posting, the period values will be calculated.

For this application, the additional table contains the name of the value field and of further fields with percentages per period. Optionally, you can use up to 5 characteristics for an individual determination that will be evaluated upon executing the interface.

Basic properties:

- You can create the table as a client-specific Z-table or as append of a satellite table: in the latter case, it may be possible to update the monthly percentages directly when planning via the Allevo Master (you might need to pay attention to the sequence when saving!)

- The distribution function considers limited period frames; when planning a year completely, the rounding to the exact annual value will be considered in the last period.

- The distribution may be applied with any value or quantity field and for any year.

4.2.1 Table Structure for the Distribution Year to Periods

To find the respective right distribution, the table must contain fields with three different contents (please note the naming convention):

- Value Field VF: here you enter the name of a value field that the distribution shall be applied for.

- Characteristic C01 to C05: you may use up to five characteristic fields for the determination of the right distribution. These may involve any characteristics used also in COPA. In the simplest case, only one distribution per value field is intended: no characteristics are necessary then.

- Percentage period P01 to P12: period values reflect the desired distribution function. At least the fields P01 to P11 must be available. It will not be verified whether the percentages per table line result in a sum of 100.

The following figure shows an extract of the table structure as an example.

ZZVF	☐	☐	FIELDNAME	CHAR	30	0	Feldname
ZZC01	☐	☐	/KERN/IPPCOPACHAR…	CHAR	50	0	IPP COPA Merkmal
ZZC02	☐	☐	/KERN/IPPCOPACHAR…	CHAR	50	0	IPP COPA Merkmal
ZZC03	☐	☐	/KERN/IPPCOPACHAR…	CHAR	50	0	IPP COPA Merkmal
ZZC04	☐	☐	/KERN/IPPCOPACHAR…	CHAR	50	0	IPP COPA Merkmal
ZZC05	☐	☐	/KERN/IPPCOPACHAR…	CHAR	50	0	IPP COPA Merkmal
ZZP01	☐	☐		DEC	5	2	
ZZP02	☐	☐		DEC	5	2	
ZZP03	☐	☐		DEC	5	2	
ZZP04	☐	☐		DEC	5	2	
ZZP05	☐	☐		DEC	5	2	

Figure 4.1: Period distribution: Table structure for the distribution function

In this example, the maximum possible five characteristics for the determination are provided (fields ZZ01 to ZZ05). The concrete characteristics of the interface expected there are described in chapter 4.2.2.

Note:	In this example, general data elements are saved with C01, C02 etc. If contents of the fields are known, you will choose appropriate data elements that are also self-explaining to some extent.

The field names in the table correspond to the identification codes listed above. Additionally, a „ZZ" is preceding: this prefix can be freely selected: however, it must be specified in the constant DISTRIBUTION in „Value to".

The table name itself must be specified in the general constant DISTRIBUTION in „Value from".

4.2.2 Field Assignment with Constants of the COPA Interface

For the interpretation of the presented table, it must be known what COPA characteristic to look for in column C01, which one in column C02 etc. upon execution of the COPA interface. This decision is made by means of the sort sequence saved in the settings of the COPA interface.

Satellite table	Op. Concern	Sort	RWX
ZZIPP_BUKRS	BUKRS	1	X
ZZIPP_KDGRP	KDGRP	2	X
ZZIPP_PC	PRCTR	3	Z
ZZIPP_SPART	SPART	4	Z
ZZIPP_YEAR	GJAHR	6	X
ZZIPP_PERIO	PERDE	7	

Figure 4.2: Period distribution: Field assignment with sort sequence

The example shows the company code in the sort sequence in position 1; a company code is consequently expected in column 01, customer group KDGRP in column 02 etc.

The sorting number must exactly match the number entered in the general field mapping (see the corresponding list in Figure 3.1).

4.2.3 Determination Logics

The following example shows the table above with data.

Field	CH1	CH1	CH1	CH1	CH1	Percentage Value Jan	Percentage Value Feb	Percentage Value Mar	Pe
ERLOS	1000	02	0000001015	01		10,00	10,00	5,00	
ERLOS	1000	02	0000001015			10,00	10,00	5,00	
ABSMG	1000	02				10,00	10,00	5,00	
RABAT	1000	02	0000001015			8,00	8,00	8,00	
ERLOS	1000	02	0000001016			10,00	0,00	5,00	
ERLOS	2000					0,00	0,00	0,00	

Figure 4.3: Period Distribution: Example data for determination

The first column shows the relevant value field. Entries were maintained with a maximum of four characteristics of determination (first line).

Upon executing the COPA interface, the table is interpreted in the following way:

- The interface first tries to read one data record across all fields, since five characteristic fields are created in the table.

- Then without the fifth characteristic, without the fourth etc.: up to the first match.

- If no matching line can be found, the interface will eventually read the line that contains all characteristic fields empty. The percentages in such a line consequently describe the most general distribution (Default Distribution).

- Without any match, a linear distribution will be applied (same procedure without using a distribution table).

If the table is created without fields for characteristics (not even C01), you may enter only one valid line per value field (this corresponds to the already mentioned Default Distribution).

Note:	The parameters can additionally depend on year and version (see section 4.4).

4.2.4 Explanations on the Period Distribution

The interface distributes based on percentages entered in the fields P01 to P11. Period 12 is filled with the rest (this prevents rounding errors).

Read-Write-Parameter:

Year	from period	to period	PLIKZ	Version	RWX	T..
2007			1	000		S
2008				000		
2008			1	000	W	T
2009				000		
2009	7	12	1	000	X	S
2010				000		
2010	1	14	1	000	X	T

Figure 4.4: Distribution to periods: Effects of period frames

However, it is possible to continue working with a deviating period frame in the write parameters. Examples from Figure 4.4):

- Here, the year 2008 is posted completely (Months 1 to 12, Dec. with remaining amount)

- For the year 2009, only the 2nd half-year is provided: again, the percentages of the belonging periods are used (including the percentage in December, no calculation of remaining amounts is carried out here).

- For the year 2010, postings shall be made with 14 periods: the interface uses the percentages from 01 to 11 according to the distribution table; period 12 again receives the remaining amount, periods 13 and 14 stay on 0.

4.3 Distribution Based on any Characteristic

Planning for COPA can occur less in detail than desired in the operating concern. In this case, it is possible to distribute the planned values/quantities based on any characteristic according to self-determined rules (e.g. period values to sales days).

This function is also activated by the constant DISTRIBUTION and configured with the aid of an additional table.

To distinguish from the period distribution, the COPA characteristic that shall be used for distributing must additionally be marked with "D" (= Distribute) in the column RWX of the field assignments (see Figure 4.5).

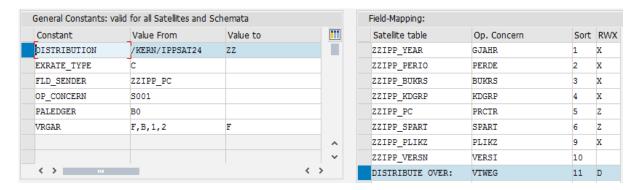| General Constants: valid for all Satellites and Schemata				Field-Mapping:			
Constant	Value From	Value to		Satellite table	Op. Concern	Sort	RWX
DISTRIBUTION	/KERN/IPPSAT24	ZZ		ZZIPP_YEAR	GJAHR	1	X
EXRATE_TYPE	C			ZZIPP_PERIO	PERDE	2	X
FLD_SENDER	ZZIPP_PC			ZZIPP_BUKRS	BUKRS	3	X
OP_CONCERN	S001			ZZIPP_KDGRP	KDGRP	4	X
PALEDGER	B0			ZZIPP_PC	PRCTR	5	Z
VRGAR	F,B,1,2	F		ZZIPP_SPART	SPART	6	Z
				ZZIPP_PLIKZ	PLIKZ	9	X
				ZZIPP_VERSN	VERSI	10	
				DISTRIBUTE OVER:	VTWEG	11	D

Figure 4.5: Constant settings for the distribution based on any characteristic

4.3.1 Table Structure for the Distribution Function

The functionality, including the determination rules, is identical to the functions for the distribution year to periods: however, each line of the additional table contains only one percentage value (see Figure 4.6).

Component	RT...	Component type	Data Type	Length	Deci...	Short Description
ZZDF	☐	FIELDNAME	CHAR	30	0	Field Name
ZZVF	☐	FIELDNAME	CHAR	30	0	Field Name
ZZC01	☐	/KERN/IPPCOPACHAR...	CHAR	50	0	IPP COPA Characteristics
ZZC02	☐	/KERN/IPPCOPACHAR...	CHAR	50	0	IPP COPA Characteristics
ZZC03	☐	/KERN/IPPCOPACHAR...	CHAR	50	0	IPP COPA Characteristics
ZZC04	☐	/KERN/IPPCOPACHAR...	CHAR	50	0	IPP COPA Characteristics
ZZC05	☐	/KERN/IPPCOPACHAR...	CHAR	50	0	IPP COPA Characteristics
ZZCD	☐	/KERN/IPPCOPACHAR...	CHAR	50	0	IPP COPA Characteristics
ZZPV	☐		DEC	5	2	Percentage Value

Figure 4.6: Distribution to any characteristic: Structure of the table for the distribution function

The table for this distribution function requires fields with the following suffix nomenclature; only the last two lines (see Figure 4.6) are compulsively needed.

- CD (= Characteristic Distribution) for the specification of the characteristic that shall be distributed
- PV (= Percentage value) for the corresponding percentage value.

As usual, you can further define dependencies of up to 5 characteristics (C01 to C05) as well as fields for the validity of the distribution criterion (DF= characteristic name in COPA) or of the value field in VF (= Value Field name in COPA).

4.3.2 Explanations on the Distribution

The following example shows the previously described table with data:

ZZDF	ZZVF	ZZC01	ZZC02	ZZC03	ZZC04	ZZC05	ZZCD	ZZPV
VTWEG	ABSMG	2009					01	80,00
VTWEG	ABSMG						10	20,00
VTWEG		2010					01	35,00
VTWEG							10	65,00
VTWEG			02				01	0,00
VTWEG							10	100,00

Figure 4.7: Distribution to any characteristic: Example data for the determination

The following rules apply:

- A distribution is performed only if suitable entries are found in the table. In the example above, only data for 2009 and 2010 are available for the first criterion „year", postings to different years would therefore be made without any distribution.
- In the example, only distributions for the quantity field ABSMG are active in year 2009. Different value fields would in this case be distributed equally.
- The two distribution criteria VTWEG "01" and "10" of the example are always "completely" maintained here, that is: if a distribution was defined for "01", another one was also performed for "10". This "clean" maintenance is recommended. If a criterion is missing, the quantity/value = 0 will be posted in the standard manner.

4.4   Distribution depending on Year and Version

If the additional table is created according to the rules of the distribution in a satellite, the key fields "PJAHR" and „VERSION" may be considered as well; i.e. the distribution itself may be different depending on year and version (the corresponding parameters in the start screen of COPA will then be used for searching).

Data are read in the following order:

- Read with „Plan Year" and „Version". If no data are found:

- Read only with "Plan Year". If no data are found:

- Read only with „Version". If no data are found:

- Read without „Plan Year" and without „Version": in this case, the data from the latest year and the highest version will be adopted.

5 Object Assignment

Allevo supports six start scenarios for planning: the cost center, the order, the WBS element, the profit center, the business process and the Allevo own object. A direct start into COPA planning is not possible since potential selectable characteristics are too numerous. For this reason, planning is always performed via the main object from the selection mentioned before.

Note:	We recommend getting started via the Allevo own object type KX, since this access is understandable also for the user (e.g. the object titles can correspond to the actual contents/characteristics of planning). Object type KX is available from version 3.3.

Therefore, it is necessary to create the link between the CO objects of Allevo and the relevant characteristic combinations of the profitability analysis. This is performed in the object assignment table that you open using the button |Object Mapping|.
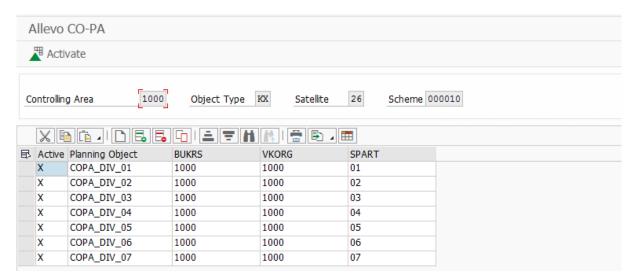

Allevo CO-PA

Activate

| Controlling Area | 1000 | Object Type | KX | Satellite | 26 | Scheme | 000010 |

	Active	Planning Object	BUKRS	VKORG	SPART
	X	COPA_DIV_01	1000	1000	01
	X	COPA_DIV_02	1000	1000	02
	X	COPA_DIV_03	1000	1000	03
	X	COPA_DIV_04	1000	1000	04
	X	COPA_DIV_05	1000	1000	05
	X	COPA_DIV_06	1000	1000	06
	X	COPA_DIV_07	1000	1000	07

Figure 5.3: Object Assignment in the Allevo COPA Interface

The object assignment depends, just like constant maintenance, on the controlling area, object type, satellite table and scheme on the start screen. You can now assign a COPA characteristic or a combination of up to three characteristics in the table.

Note:	The characteristics defined by Z via the "field assignment characteristics" in the RWX column are listed in the fields "Characteristics 1" to „Characteristic 3" (see section above).

The individual entries must be activated for them to be considered for reading or writing upon executing the interface.

Note:	During the reading process, data are read from COPA only for the active characteristic combinations and are placed beneath the indicated CO objects in the satellite table.
	During the writing process, data are extracted from the satellite table only for active CO objects and are posted to COPA.

Data are activated by marking several or all records. Unmarked records are automatically being deactivated.

6 Allevo COPA: Select and Post

6.1 Program Start

After starting the Allevo COPA interface program, a start screen (see Figure 2.1) containing the following selection criteria will appear:

Controlling Area

Selection of the relevant controlling area

Object Type

Short name of the respective object (KS = cost center, OR = order, PR = WBS elements)

Satellite Table

Selection of the respective satellite table

Scheme

Selection of the scheme that constants shall be edited for, reference data shall be read after or plan data shall be posted to

Fiscal Year/Version

Important:	This information refers to the entries of the satellite table that shall be processed. You do <u>not</u> determine here in what year and version postings in COPA are made. This is defined in the view for constants.

Only Activated Objects

If the check is set with "only activated objects", only data for the CO-objects that are marked in the object assignment table are read or posted (see section 4.2.)

Delete Existing Data

During reading, the satellite table is emptied <u>prior to</u> the transfer of selected data – however only for the selected combination of access object(s), year and version.

Important:	If the check is not set while reading the reference data, data records whose key does not receive any new information will be maintained.

Only Unmarked (Status)

If you set this check, the posting process (writing) will be performed depending on the status field of the satellite table (see Figure 6.4).

Test Run

If this check is set, no writing of data read from COPA into the satellite table and no real posting in COPA will be performed. The relevant function modules will still be addressed in SAP and a log will be generated. The test run is ideal to determine if data material in the satellite table contains errors or if read data from COPA are usable.

Display Data

A protocol displaying all read data and postings will be generated (may be very extensive!).

Output Level

All messages are collected and displayed at the end of the program execution or attached to the protocol upon calling from Allevo. In the dialog mode, the specification with „Message level" defines from what stage on program messages shall be displayed (e.g. only errors)

6.2 Execute as Background Job

The COPA interface report is often executed as background job.

In the spool entry for job execution, usually only error messages will be issued. (see constant SAVE_LOG): this may be used for an automated notification by email via the SAP job administration.

6.3 Start via Transaction of the Allevo Planning

It may be desired that postings are made at the time that the user executes the function |Save plan data| in the Allevo main program. An automatic call must be established for this application. Allevo then directly transfers the required selection parameters (such as controlling area, planning year, version, cost center…) and starts the COPA interface.

Two conditions must be met for the automatic call:

- The constant ALLEVO_ACTIVE of the COPA interface must be active and the relevant Allevo layout must be entered in „Value to". Several entries for the layout (separated by comma) are possible: the COPA interface will be executed only for the layouts named here.

- In the Allevo main module, the constant for the activation of these functions must additionally be set (see constant SATxx_COPA) (with xx as satellite number). All COPA schemes with the constant ALLEVO_ACTIVE active for the current layout are executed.

The COPA interface can also be activated for several satellites within one layout via the constant SATxx_COPA. The sequence of processing results from the satellite number (e.g. Sat.01, then Sat.02…). Especially with dependencies, this should be taken into account (e.g. with satellites with distribution curves).

The call may be performed also in the background or via RFC. These functions are activated via the Allevo constant ACTIVE_COPA_PARAM:

- The call in the background will improve the performance if a large number of postings shall be performed by the interface. In this case, Allevo does not wait for the execution of the interface to be finished. Error messages are written into a protocol.

- RFC-call: a planner does not always have all authorizations required for posting in COPA. In such case, it can be useful to perform the posting via RFC. Here, only the user saved for the RFC destination must have the necessary authorization.

COPA data are provided by a classic satellite table. The communication between the Allevo planning form and the satellite table on SAP side operates here in the complete Allevo standard. In particular, all additional functions intended specifically for the work with satellites are available in Allevo.

Example:	„Merge" function when reading satellite tables: especially when working with the COPA interface, it can be useful to mix data of two tables. In Allevo, the constant SATxx_MERGEyy is available for this purpose. Example of application: current plan data should be completed regularly by inputs from an external system, while plan values that are already entered in Allevo should be maintained.

For further details see F1 help on the mentioned constants.

6.4 Status field

As long as there is a status field available in the satellite table (field type „CHAR1"), the value **1** will be entered here after processing each data record. Enter the name of this field in the parameter FD_STATUS of the general constants (see section 3.2).

This allows to activate the function „Only unmarked" prior to posting data in the start screen, resulting in only those data records being processed that do not contain a 1 in the status field. From the perspective of the planning process, there are two options to handle the status field of the satellite table:

1. It will simply be left out on the Excel side. This leads to the field being empty again each time data in the cost center are being updated.

2. The field is operated actively on the Excel side, either through manual entry by the planer or by means of a formula.

Note:	As long as the Allevo COPA interface is executed automatically via an Allevo layout, the usage of the status field is determined by the Allevo constant SATxx_COPA (therefore no COPA constant). If an "X" is set here with "**Value to**", the status field is will be checked. Only lines without entry in the status column are posted then.

7 Special Features of the COPA Interface

7.1 Use of Currency

When handling the currency, distinction should be made about how the values of the satellite table are to be interpreted and in what currency data are processed to COPA upon posting.

1. The most important parameter is the constant CURRENCY. If this contains a currency entry, each value of the satellite table that shall be posted to a value field will be interpreted as a value in the indicated currency. Upon posting, this value is translated to the currency of the operating concern at the plan exchange rate.

2. It is furthermore possible to furnish the satellite table with a field for the currency. Already in the satellite table, each data record can then be provided with a currency that will be used for the translation to the currency of the operating concern when posting to COPA. Enter the field name in the parameter FD_CURRENCY of the general constants (section 3.2). The parameter CURRENCY may not be used then.

3. If neither the parameter CURRENCY nor any currency field is available, the currency of the plan version will be decisive. If **B0** or **B2** are entered in the PALEDGER, the currency of the operating concern will apply; if PALEDGER contains **10** or **12**, the currency of the respective company code will apply. There will be no currency translation. The interface program expects the amount to exist in the right currency.

7.2 Unit for Quantity Fields

For posting quantities, SAP needs the belonging unit which must be present also in the satellite table as an independent field. This is necessary, since the unit conforms to the characteristic (normally the article) and not to the quantity field. For example, the sales volume for bolts can occur in the unit of pieces, the one for water however in the unit of liters. In consequence, it must be possible to assign an own unit to each data record.

7.3 Data Formats of the Satellite Table

In general, it is to be ensured that data formats in the satellite table correspond to the format for COPA. For example, the key field for profit center is an alphanumeric field with a length of 10. An entry **4711** in the satellite table can therefore be interpreted differently in the interface from the entry **0000004711**.

Note:	This format rule is relevant for almost all characteristics, especially also for the company code.
	All value and quantity fields must further be created in the satellite table with the data type DEC and a minimum of two decimal places.

.APPEND	☐	☐	ZZIPPSAT08	STRU	0	0	Append zu sAt08
ZZIPP_PC	☐	☐	PRCTR	CHAR	10	0	Profitcenter
ZZIPP_BUKRS	☐	☐	BUKRS	CHAR	4	0	Buchungskreis
ZZIPP_VKORG	☐	☐	VKORG	CHAR	4	0	Verkaufsorganisation
ZZIPP_PPC	☐	☐	PPRCTR	CHAR	10	0	Partnerprofitcenter
ZZIPP_KDGRP	☐	☐	KDGRP	CHAR	2	0	Kundengruppe
ZZIPP_VTWEG	☐	☐	VTWEG	CHAR	2	0	Vertriebsweg
ZZIPP_KUNDE	☐	☐	KUNNR	CHAR	10	0	Debitorennummer 1
ZZIPP_SPART	☐	☐	SPART	CHAR	2	0	Sparte
ZZIPP_ARTIKEL	☐	☐	ARTNR	CHAR	18	0	Artikelnummer
ZZIPP_WARGRP	☐	☐	MATKL	CHAR	9	0	Warengruppe
ZZIPP_YEAR	☐	☐	GJAHR	NUMC	4	0	Geschäftsjahr
ZZIPP_PERIO	☐	☐	PERBL	NUMC	3	0	Periodenblock
ZZIPP_PLIKZ	☐	☐	PLIKZ	CHAR	1	0	Plan-/Istkennzeichen
ZZIPP_VERSN	☐	☐	VERSN	CHAR	3	0	Version
ZZIPP_ABM_ACT	☐	☐		DEC	15	3	Absatzmenge Ist
ZZIPP_ABM_PLA	☐	☐		DEC	15	3	Absatzmenge Plan
ZZIPP_ABM_ME	☐	☐	UNIT	UNIT	3	0	Unit
ZZIPP_ERLOS_ACT	☐	☐		DEC	15	3	Erlös Ist
ZZIPP_ERLOS_PLA	☐	☐		DEC	15	3	Erlös Plan

Figure 7.1: Example of a COPA append

7.4 Used BAPIs of the COPA Interface

The Allevo interface uses the following SAP standard BAPIs for reading and writing (planning) COPA data:

- BAPI_COPAPLANNING_POSTDATA Writing of plan data

- BAPI_COPAQUERY_GETCOST_ACTDATA Reading of actual data

- BAPI_COPAQUERY_GETCOST_PLANDAT Reading of plan data