

Przemysław Lech

SAP CONTROLLING – CO-OM

Contents

1.	Initial settings and assumptions	3
2.	SAP CO-OM – Overhead Management	4
2.1.	Master data	4
2.1.1.	Cost element maintenance	4
2.1.2.	Cost centers maintenance	6
2.1.3.	Internal orders maintenance	7
2.1.4.	Statistical key figures maintenance	8
2.2.	Postings	9
2.2.1.	Direct postings from FI	9
2.2.2.	Posting of the statistical key figure	13
2.3.	Information system	15
2.4.	Periodic allocations	18
2.4.1.	Creating of an assessment cycle	19
2.4.2.	Executing an assessment cycle	22
2.4.3.	Order settlement	23
2.5.	Planning	27
2.5.1.	Planning costs for cost centers	27
2.5.2.	Planning costs for orders	29

1. Initial settings and assumptions

The below scenario covers SAP CO-OM (Controlling – Overhead Management).

The exemplary enterprise, being the subject of the scenario deals with project development.

In the University of Gdańsk demo system a following basic settings were maintained for this enterprise:

- Client: **550**
- Users: **IB01 – IB20**
- Controlling area: **UG01**
- Chart of accounts: **CAPL**
- Company code: **UG01**
- Cost centers standard hierarchy: **UG01**
- Order type: **UG01**
- Cost elements were created for the accounts:
 - 411000 – 469400 – costs by origin (except asset depreciation)
 - 703000 - revenue
 - 713000 – cost of goods sold
- Cost element group – 4_ALL – groups all 4* cost elements

The company operations and its controlling requirements are reflected in SAP system as follows:

- 1) Company UG01 is currently doing 2 projects:
 - a. Building a warehouse
 - b. Renovating a hotel

Revenues and direct costs are collected on **internal orders of the type UG01**

- 2) The work is done by one construction department, which costs (indirect costs) are collected on the **cost center – DEPxx**. These costs are allocated to projects according to the workload in mandays using secondary cost element **UG000000xx**. Workload is reflected by the **statistical key figure – UGMHxx**
- 3) General costs are collected on **cost center – GENxx**
- 4) Costs from the orders are settled to G/L account to determine the cost of goods sold

2. SAP CO-OM – Overhead Management

2.1. Master data

2.1.1. Cost element maintenance

Primary cost elements

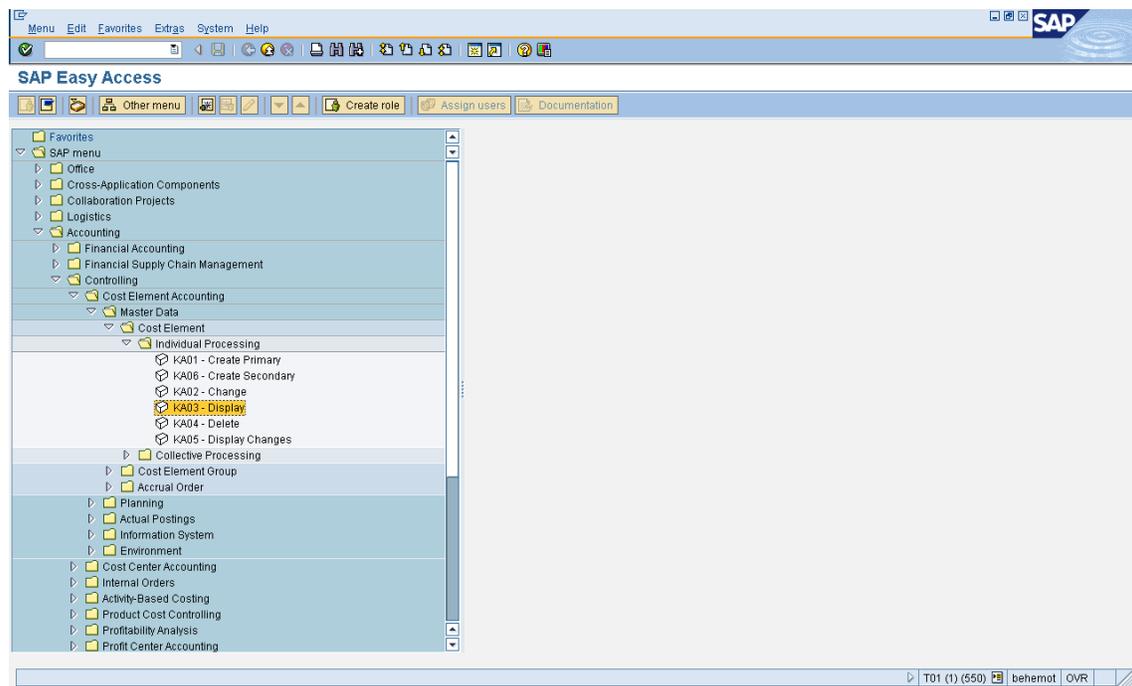
Primary cost elements are the link between SAP FI – Financials and SAP CO – Controlling.

For each General Ledger account that is CO relevant a **primary cost element** should be created with the same number. This has a following consequences in the system:

- If a posting is done in FI to an account that has a cost element – a cost object (cost center, order, CO-PA object) has to be entered. The posting will be then visible in CO under that cost element.
- If a posting is done in FI to an account that does not have a cost element – it is irrelevant for CO and no cost object can be entered.

- 1) Check the cost element master data in the system

Transaction: KA03



Restrict the list:

Cost element in chart of accounts Cost element Cost element name

Cost Element

Controlling Area

CElem category

Cost elem. short txt

Language Key

Maximum no. of hits

Push "Enter" to display the list

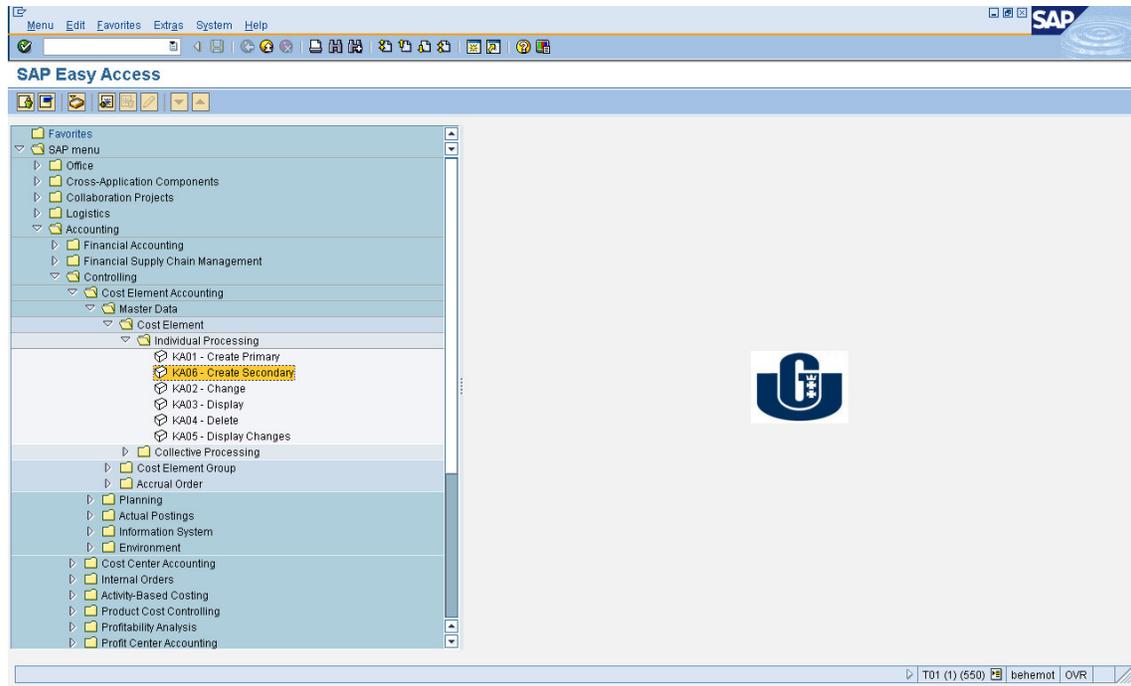
Click "Master data" or "Enter" to display master data

Secondary cost elements

Secondary cost elements are used for repostings and assessments of costs and revenues inside the CO.

- 2) Create the secondary cost element: UG000000xx:
 - a. Valid from: 01.01.2009
 - b. Valid to: 31.12.9999
 - c. Name: Dep. cost all. xx
 - d. Description: Department cost allocation xx
 - e. Cost element category: 42 – Assessment

Transaction: KA06



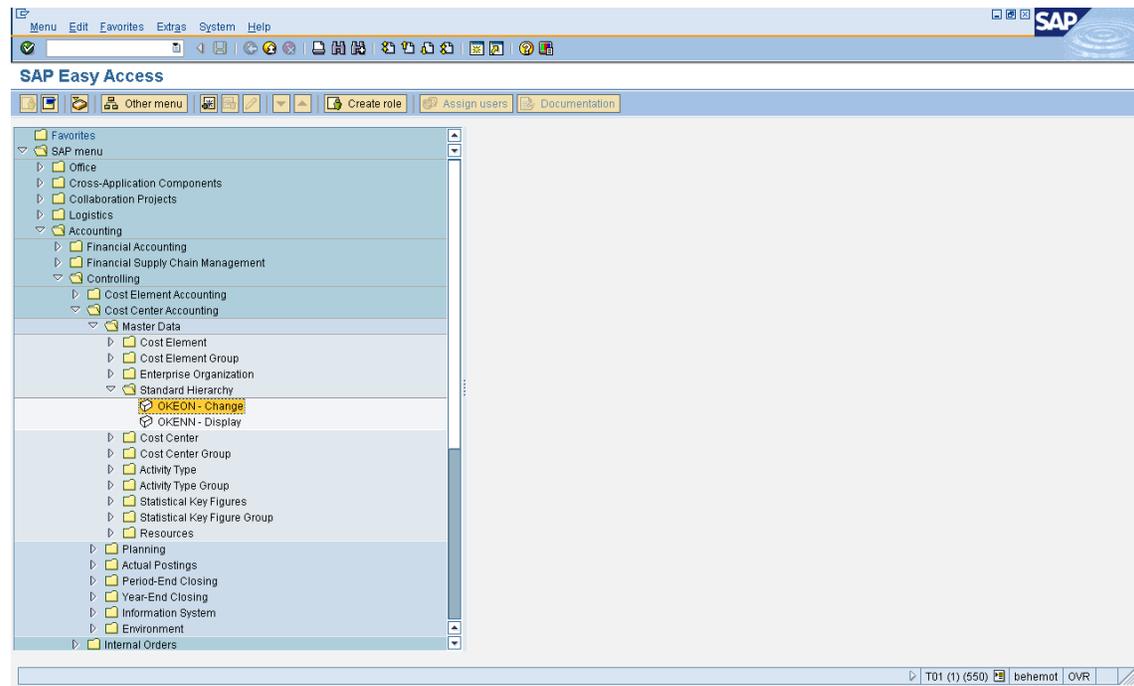
2.1.2. Cost centers maintenance

Cost centers are the basic CO object in CO-OM area. They reflect the enterprise's structure and are usually used to collect indirect costs (costs which cannot be assigned to the production calculation objects such as production order or project).

They are grouped in Standard hierarchy.

- 1) Create cost centers for general costs and for construction department indirect costs in the standard hierarchy nodes - UGGENxx – general costs UGDEPxx – department costs:
 - a. Cost center for general costs:
 - i. Cost center: GENxx
 - ii. Name: General costs xx
 - iii. Person responsible: xx
 - iv. Cost center category: W – Administration
 - b. Cost center for department indirect costs:
 - i. Cost center: DEPxx
 - ii. Name: Department costs xx
 - iii. Person responsible: xx
 - iv. Cost center category: W – Administration
- 2) Browse the Organization and Indicators tabs to see the default settings that came from the cost center category.

Transaction: OKEON



Go to your hierarchy node

Click Create -> Cost center

2.1.3. Internal orders maintenance

Internal orders are CO objects used for different purposes, depending on the controlling requirements of an enterprise. Main purposes are:

1. Detailed analysis of costs, primarily posted to the cost center, for example to determine:
 - a. Costs of marketing campaigns launched by the marketing department,
 - b. Costs of incidental initiatives run by general departments

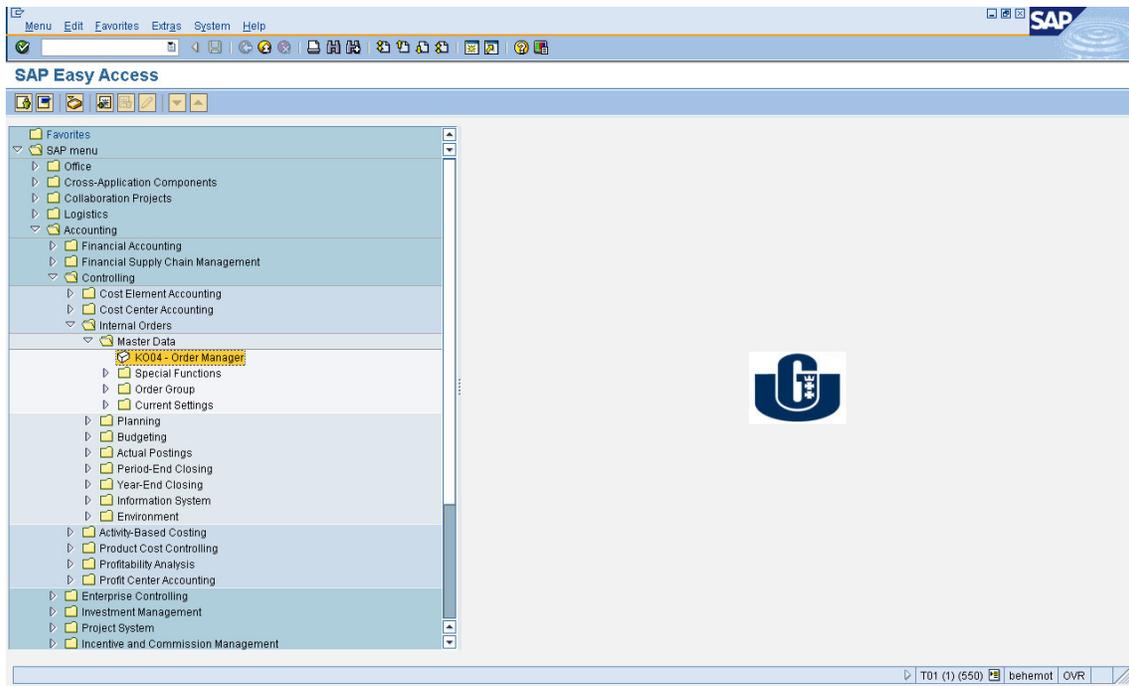
For such purposes **statistical orders** are created. This means that costs are posted to the cost center in a real run and they are posted in parallel to the internal order only for analysis purposes.

2. Analysis of direct costs of projects, production or service orders. For such purposes **real orders** are created.

- 1) Create internal orders for the projects performed by the enterprise UG01:
 - a. Order type: UG01
 - b. Order:

- i. UG00000001xx – for building a warehouse xx
- ii. UG00000002xx – for renovating a hotel xx
- c. Description – as above
- d. Settlement rule:
 - i. Category: G/L
 - ii. Settlement receiver: 711000
 - iii. %: 100
 - iv. Settlement type: PER
 - v. Source assignment: COS
 - vi. No.: 1

Transaction: KO04



Click: Create

Enter the master data as specified above

Click Settlement rule and enter the rule as above.

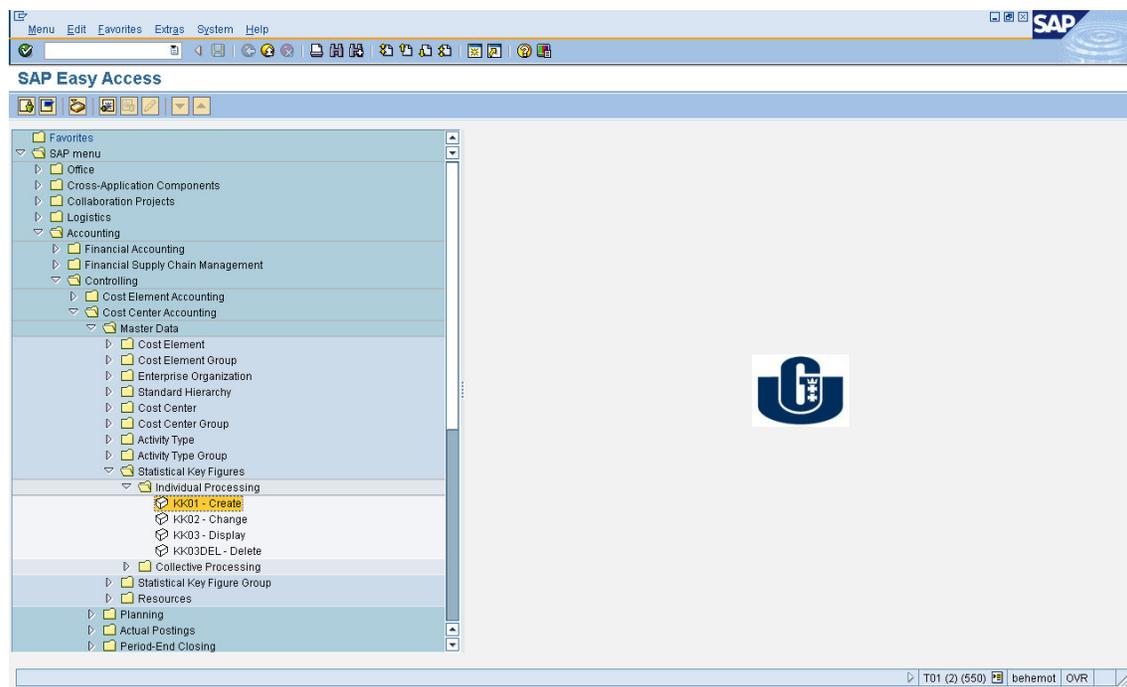
- 2) Check the Control data tab to see the order status and allowed transactions.

2.1.4. Statistical key figures maintenance

Statistical key figures are the base for cost allocation within controlling. They can be fixed, which means that they do not change frequently (ex. square meters, cubic meters, number of employees) or flexible, which means they change from period to period (ex. man hours, machine hours, number of products).

- 1) Create a statistical key figure master data for man hours used on projects:
 - a. Statistical key figure: UGMHxx
 - b. Name: Man hours xx
 - c. Unit of measure: h
 - d. Category: Total values

Transaction: KK01



2.2. Postings

2.2.1. Direct postings from FI

Any time a posting is done in FI on an account with a cost element, the costs flow to CO. The posting may be done directly in FI or can come from automatic postings in other areas of SAP system, such as for example:

- MM – Material management: purchase invoice, goods receipt, goods issue to production,
- SD – Sales and distribution: sales invoice, goods issue to customer,
- HR – payroll posting

After the costs flow to CO, they can be re-allocated within the CO objects and (optionally) settled back to FI.

In this scenario all the postings will be done via FI.

1) Post the following costs and revenues to the internal order created in the preceding step (corresponding account for all postings is: 134000)

a. Costs to a warehouse order:

G/L and cost element number	Cost by origin name	Amount
411100	Material consumption	300 000
429020	External services – buliding	150 000
431500	Production wages	100 000

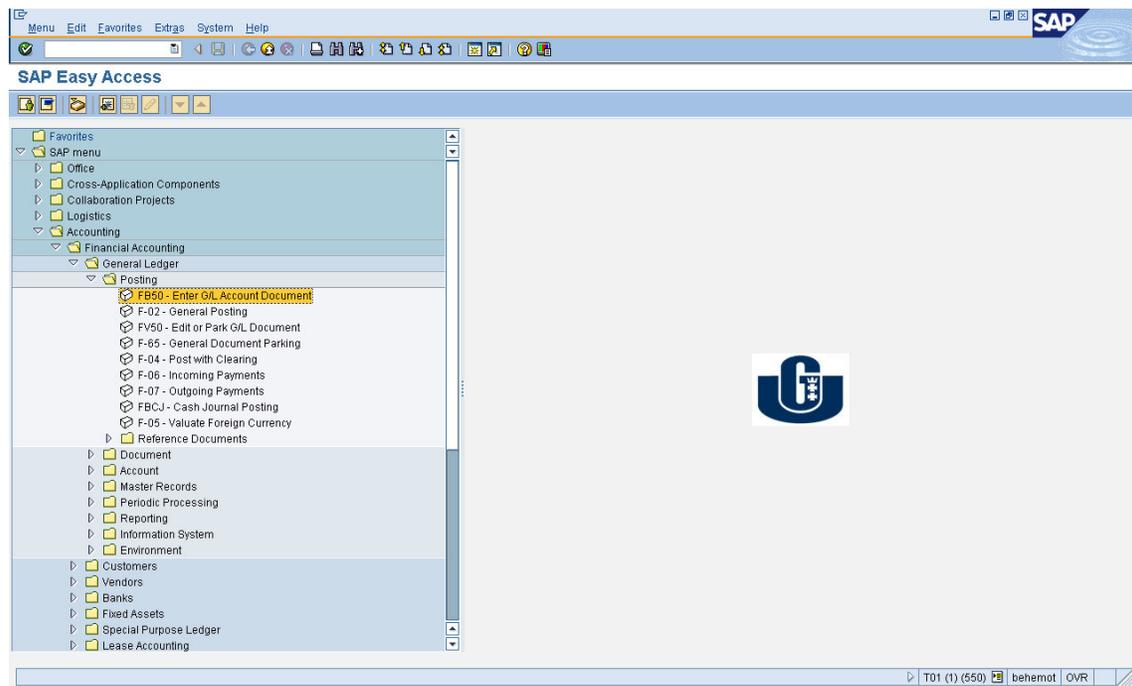
b. Costs to a hotel renovation order:

G/L and cost element number	Cost by origin name	Amount
411100	Material consumption	120 000
431500	Production wages	90 000

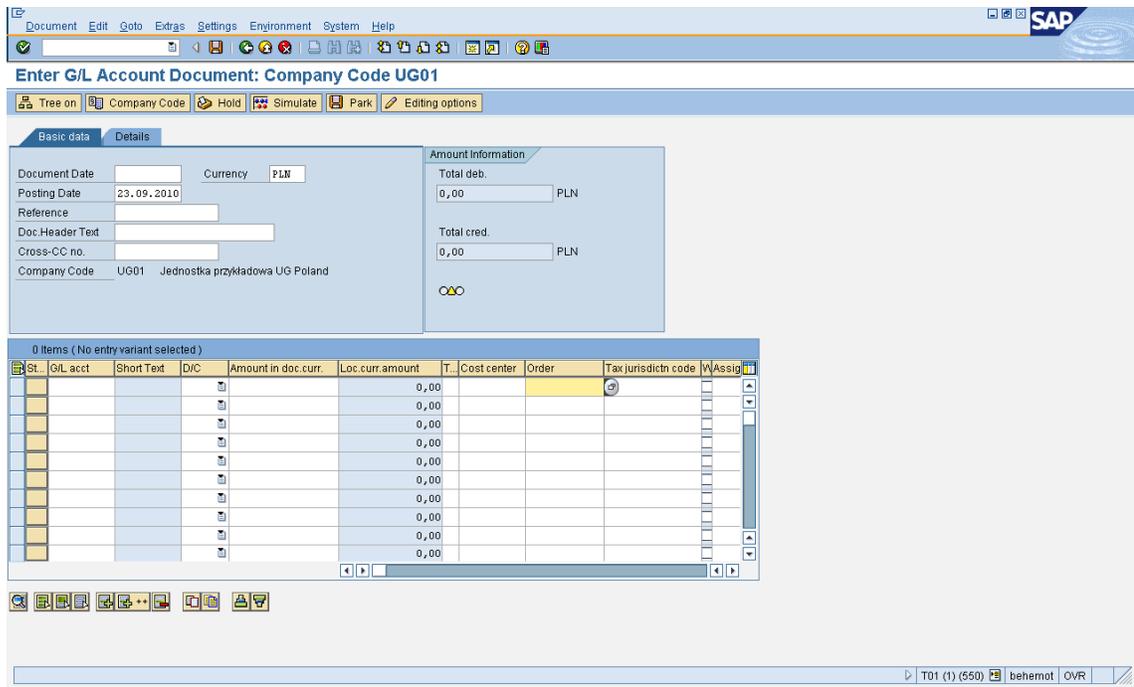
c. Revenues to a warehouse order: G/L account: 703000, amount 600 000

d. Revenues to a hotel renovation order: G/L account: 703000, amount 300 000

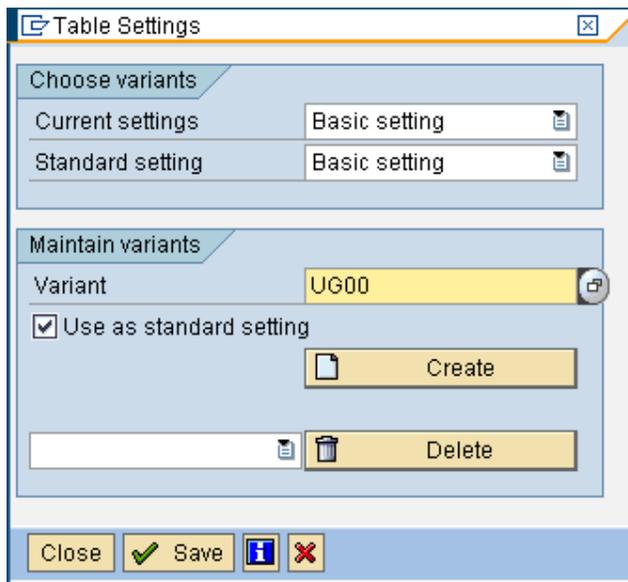
Transaction: FB50



Adjust the enter screen by moving the cost center and order number fields after the tax code.



Create and save a variant UGxx:



Enter a posting and a document date: 01.01.2010

Enter the document and save it. Example below:

Document Date: 01.01.2010 Currency: PLN
Posting Date: 01.01.2010
Reference:
Doc. Header Text:
Cross-CC no.:
Company Code: UG01 Jednostka przykładowa UG Poland

Amount Information
Total deb.: 0,00 PLN
Total cred.: 0,00 PLN
CO:

St.	G/L acct	Short Text	D/C	Amount in doc. curr.	Loc. curr. amount	T.	Cost center	Order	Tax juridicthn code	WAssig
	411100		Debit	300000	0,00			UG0000000001		
	429020		Debit	150000	0,00			UG0000000001		
	431500		Debit	100000	0,00			UG0000000001		
	134000		Cred.		0,00					
					0,00					
					0,00					
					0,00					
					0,00					
					0,00					

2) Post the following costs to the cost centers created in the preceding step (corresponding account for all postings is: 134000)

a. Costs to department cost center:

G/L and cost element number	Cost by origin name	Amount
411100	Material consumption	20 000
431100	Wages	100 000
469400	Other costs	230 000

b. Administration costs to a general cost center:

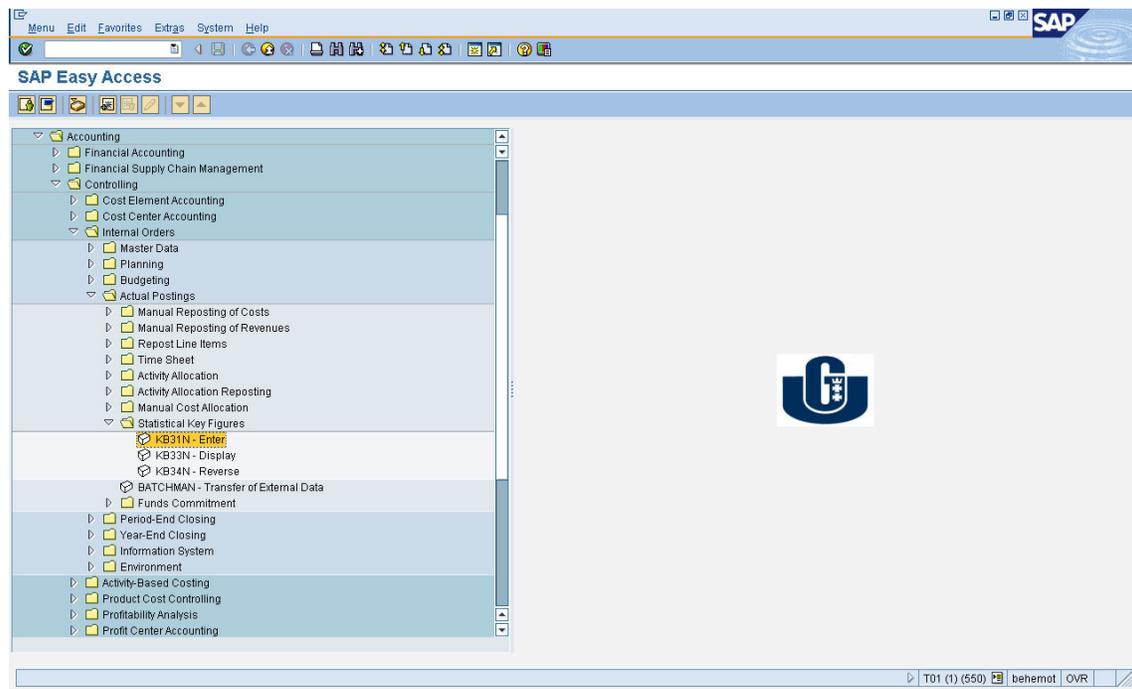
G/L and cost element number	Cost by origin name	Amount
411110	Small tools	50 000
429040	Telecommunications	20 000
431100	Wages	120 000
465000	Banking services	5 000

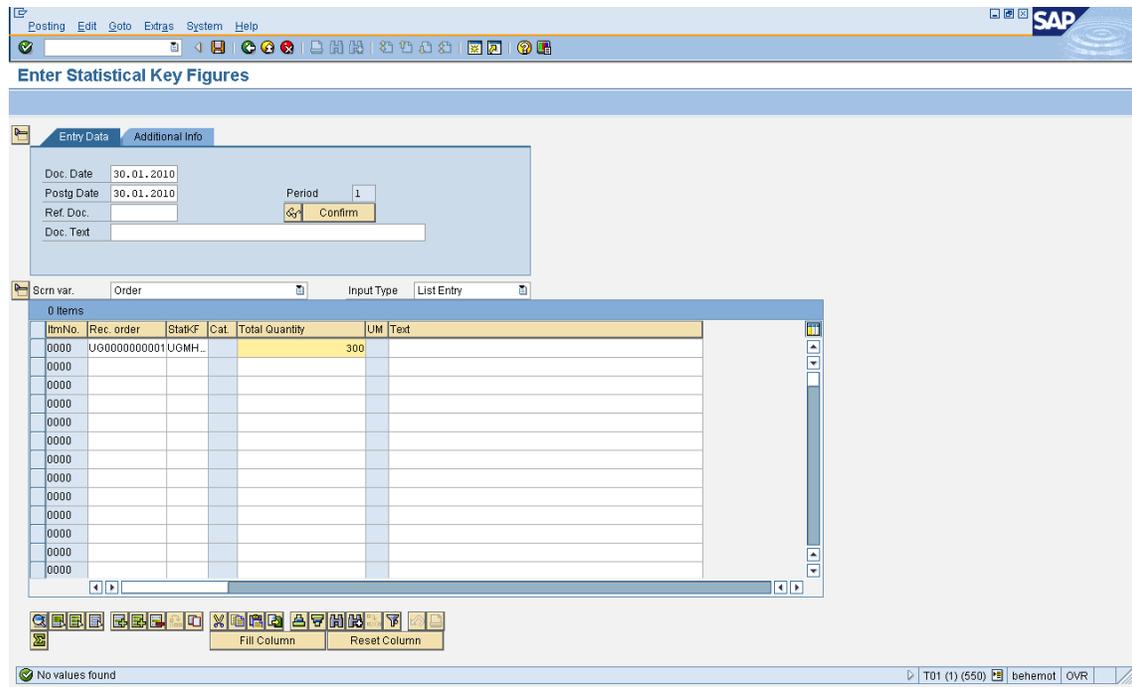
2.2.2. Posting of the statistical key figure

Except the posting of costs and revenues it is necessary to input the base for future cost allocation. In this scenario this base is a statistical key figure.

- 1) Post the number of man-hours used by the employees on the projects:
 - a. Posting and document date: 30.01.2010
 - b. Warehouse: 700
 - c. Hotel renovation: 300

Transaction: KB31N





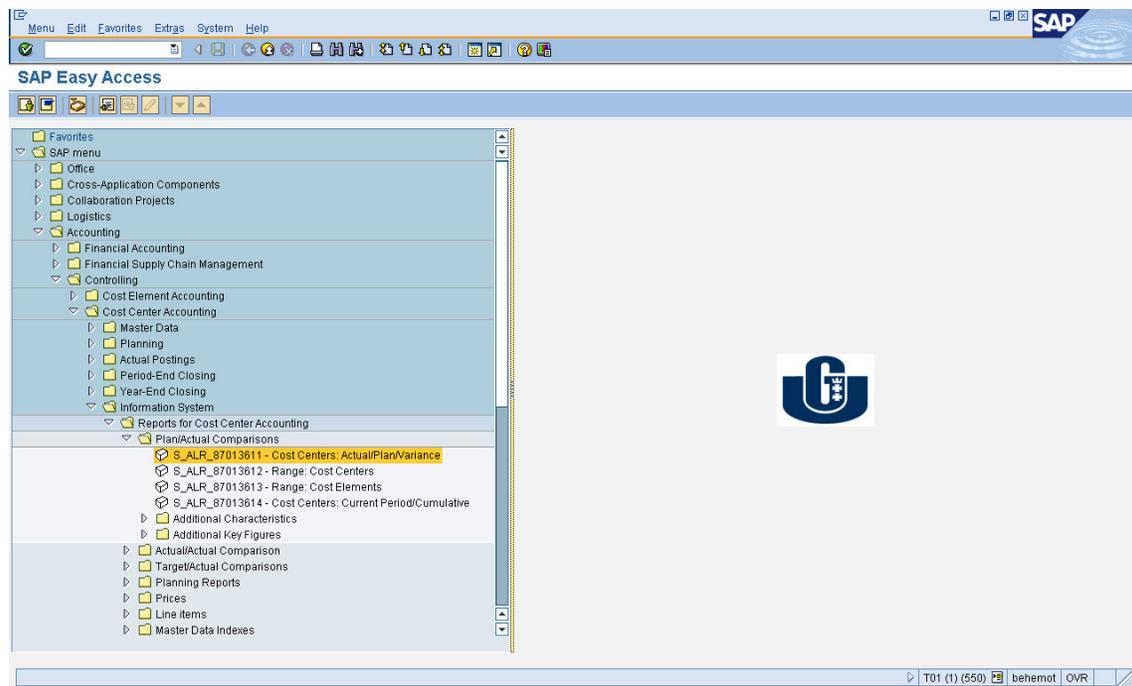
Post the document.

2.3. Information system

Each sub-area of SAP CO has its own information system which allows you to analyze the cost/revenue information.

- 1) Analyze the cost information for your cost centers.

Run a report:



Input the selection criteria for the report:

The screenshot shows the SAP 'Cost Centers: Actual/Plan/Variance: Selection' dialog box. It contains the following fields:

- Selection values:**
 - Controlling Area: U601
 - Fiscal Year: 2010
 - From Period: 1
 - To Period: 1
 - Plan Version: 0
- Selection groups:**
 - Cost Center Group: [] to []
 - Cost Element Group: [] to []

At the bottom, a status bar indicates 'Report group 1SIP has been generated' and the user 'behemot' is logged in.

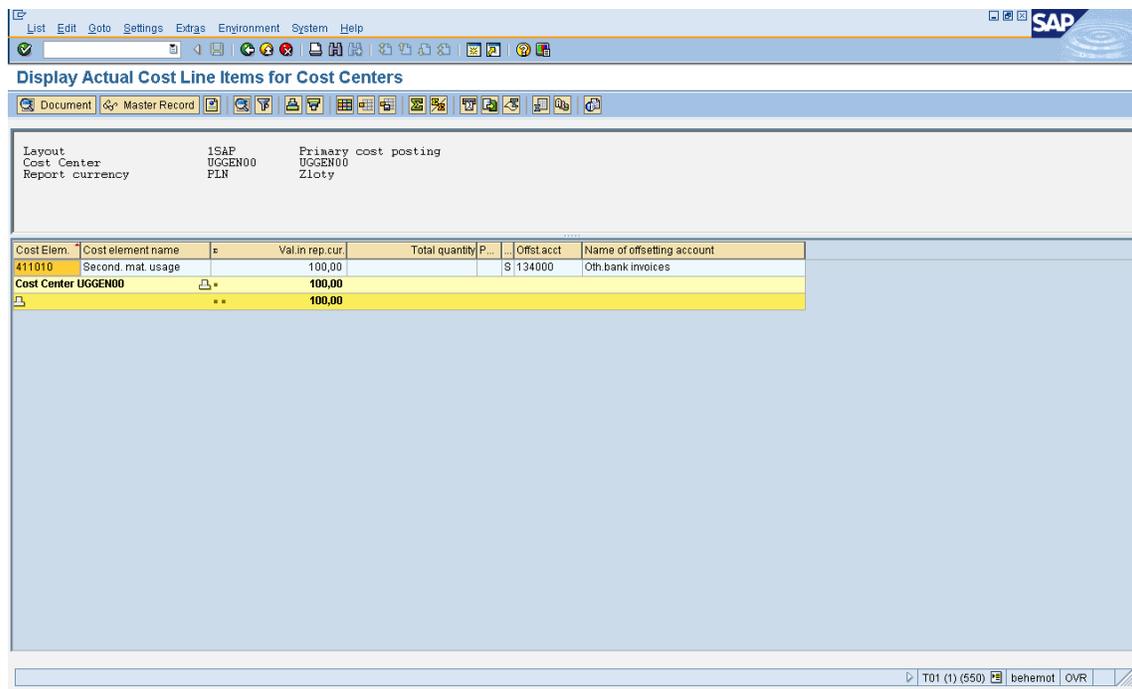
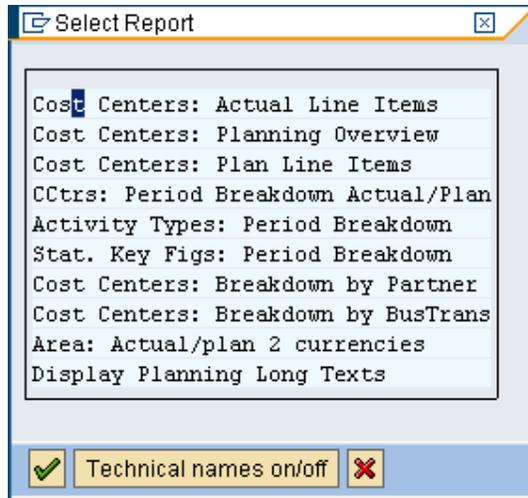
Select your cost center on the left-hand side of the report:

The screenshot shows the SAP 'Cost Centers: Actual/Plan/Variance' report. The left-hand side shows a tree view with 'Cost Center Group' selected. The main area displays a table with the following data:

Cost Elements	Act. Costs	Plan Costs	Var. (Abs.)	Var. (%)
411010 Second. mat. usage	100,00		100,00	
426000 Ext. services-trans	122,00		122,00	
* Debit	222,00		222,00	
** Over/Underabsorption	222,00		222,00	

The report header includes 'Date: 23.09.2010', 'Page: 2 / 2', and 'Reporting period: 1 to 1 2010'. The status bar at the bottom shows 'T01 (1) (550) behemot OVR'.

Double click the line and choose the first report to see the line items



Double click a line to see a document that created that line

Document Number: 100000005 Company Code: 0601 Fiscal Year: 2010
 Document Date: 01.01.2010 Posting Date: 01.01.2010 Period: 1
 Reference: Cross-CC no.: Texts exist: Ledger Group: Currency: PLN

C.	Item	PK	S	Account	Description	Amount	Curr.	Tx
UG...	1	50		134000	Oth bank invoices	200,00	PLN	
	2	40		411010	Second. mat. usage	100,00	PLN	
	3	40		411010	Second. mat. usage	150,00	PLN	
	4	50		703000	Rev. from sale-serv.	50,00	PLN	A0

T01 (1) (550) behemot OVR

2) Analyze the cost information for your orders.

Run a report:

Menu Edit Favorites Extras System Help

SAP Easy Access

- Logistics
 - Accounting
 - Financial Accounting
 - Financial Supply Chain Management
 - Controlling
 - Cost Element Accounting
 - Cost Center Accounting
 - Internal Orders
 - Master Data
 - Planning
 - Budgeting
 - Actual Postings
 - Period-End Closing
 - Year-End Closing
 - Information System
 - Reports for Internal Orders
 - Plan/Actual Comparisons
 - S_ALR_87012993 - Orders: Actual/Plan/Variance**
 - S_ALR_87012994 - Orders: Current Period/Cumulative
 - S_ALR_87012995 - List: Orders
 - S_ALR_87012996 - List: Orders by Cost Element
 - S_ALR_87012997 - List: Cost Elements by Order
 - Additional Characteristics
 - Additional Key Figures
 - Actual/Actual Comparison
 - Planning Reports
 - Line Items
 - Master Data Indexes
 - Summarization Reports
 - More Reports
 - RP00 - User Settings
 - Tools

T01 (1) (550) behemot OVR

Proceed as for cost centers report

2.4. Periodic allocations

In most enterprises the costs should be allocated from one object to another to obtain the unit costs of production.

SAP supplies several allocation mechanisms, most popular of which are:

- Distribution,
- and Assessment.

The difference between is as follows:

1. Distribution allocates costs under original cost elements. This allows detailed analysis of costs on the receiving object but creates many line items in the system.
2. Assessment sums up all the costs on the sender and allocates them to the receiver under one **secondary cost element**.

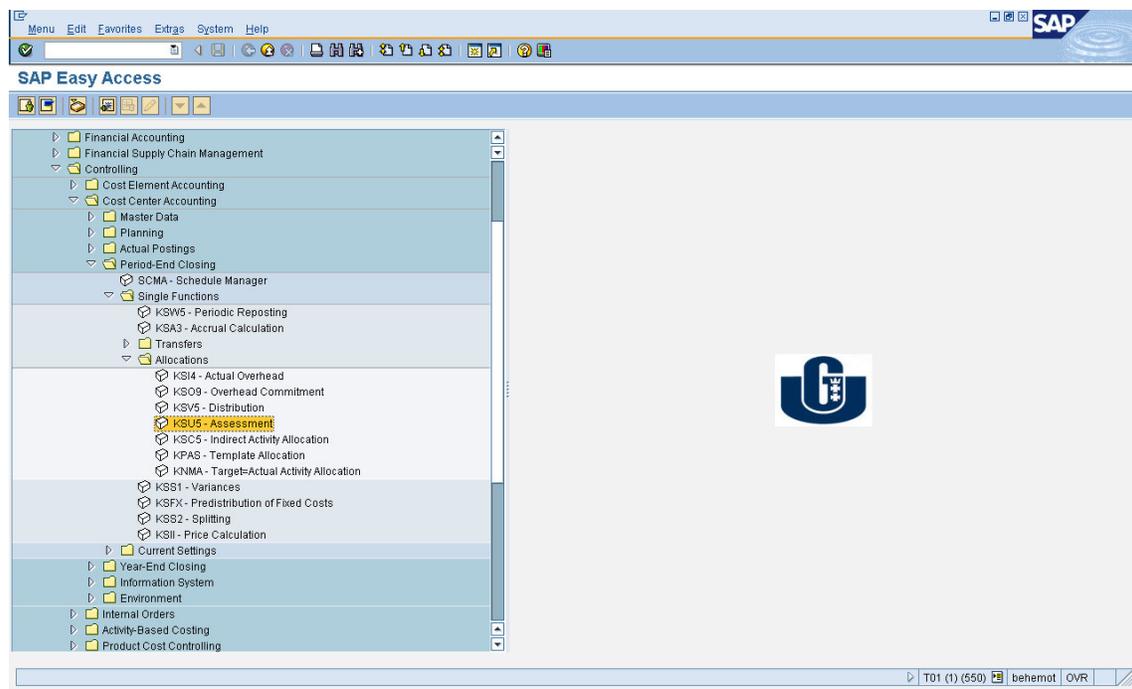
In this scenario the second option will be used to allocate indirect production costs from the department cost center to the project orders.

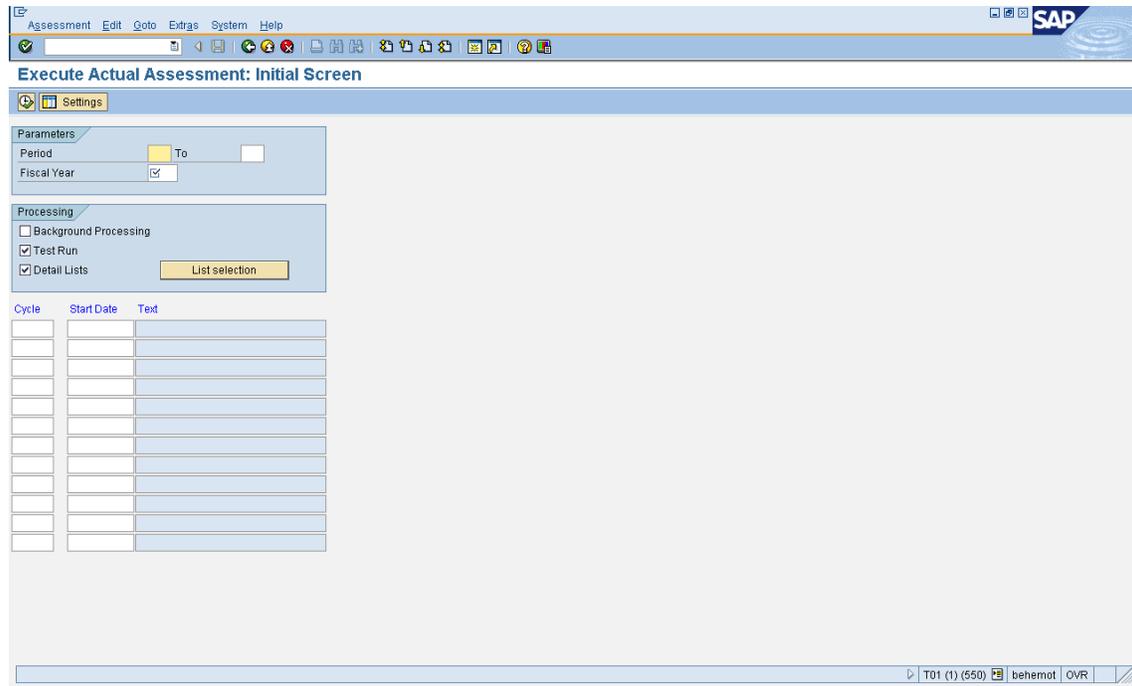
2.4.1. Creating of an assessment cycle

Assessment cycle defines how the costs will be automatically allocated. You define a sender, a receiver, cost elements to be allocated as well as the allocation basis.

- 1) Create an assessment cycle UGxx which would allocate all 4* costs (group 4_ALL) from a department cost center to project orders, according to man-hours used for each order, under the secondary cost element UG000000xx.

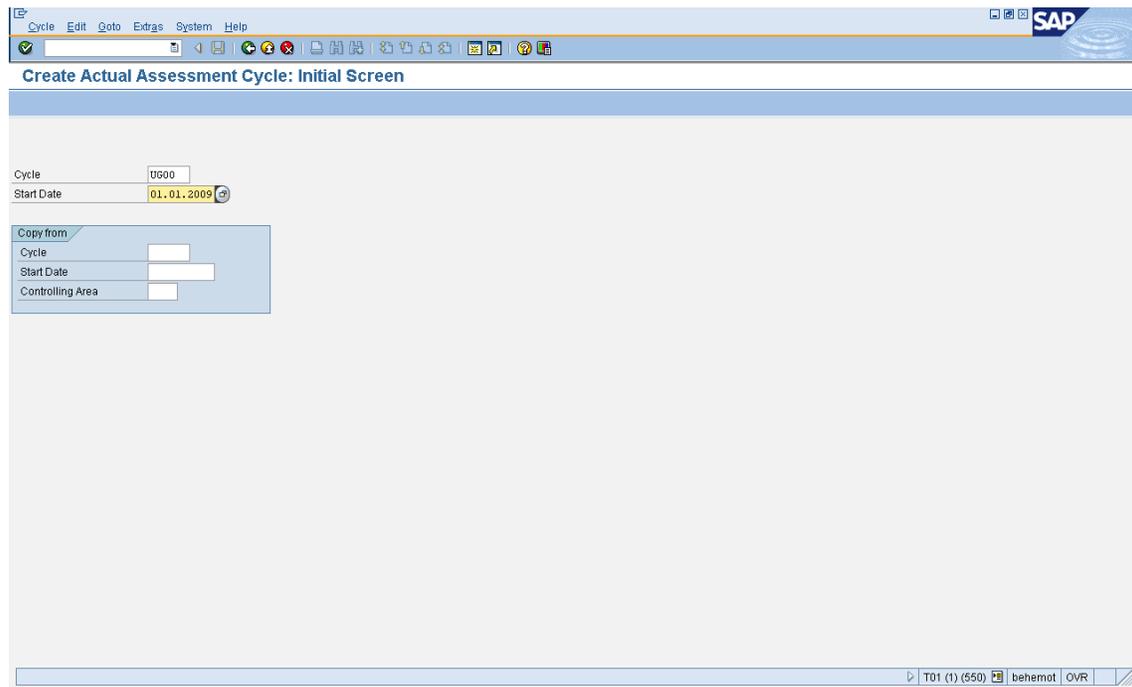
Transaction: KSU1





From the upper menu choose Extras -> Cycle -> Create

Enter cycle name and starting date:



On the header screen change the end date and enter a description of a cycle:

The screenshot shows the 'Create Actual Assessment Cycle: Header Data' screen in SAP. The 'Attach segment' button is highlighted in yellow. The form contains the following data:

Controlling Area	UG01	ORK UG
Cycle	UG00	Status: new
Start Date	01.01.2009	To: 31.12.9999
Text	Assessment 00	

Indicators: Iterative, Cumulative
Field Groups: Object Currency, Transaction Currency

Push the Attach segment button

On the segment header tab input the allocation cost element, sender and receiver rule:

The screenshot shows the 'Create Actual Assessment Cycle: Segment' screen in SAP. The 'Attach segment' button is highlighted in yellow. The 'Segment Header' tab is selected, showing the following data:

Controlling Area	UG01	ORK UG
Cycle	UG00	Assessment 00
Segment Name	100	100

Assessment CEle: 000000000 Assessment
Allocation structure:

Sender values:
Sender rule: Posted amounts
Share in %: 100,00 %
 Actual value origin Plan value origin

Receiver tracing factor:
Receiver rule: Variable portions
Var portion type: Actual Statistical Key Figures
Scale Neg. Tracing Factors: No scaling

On the Senders/Receivers tab enter the sending cost center, cost element group to be allocated and receiving orders:

Create Actual Assessment Cycle: Segment

Controlling Area: UG01 ORK UG
 Cycle: UG00 Assessment 00
 Segment Name: 100 100 Lock indicator

Receiver Tracing Factor

Sender	From	To	Group
Cost Center	UGDEP00		
Cost Element			4_ALL
Receiver			
Order	UG0000000100	UG0000000200	
Cost Center			

On the Receiver tracing factor tab enter the Statistical key figure:

Create Actual Assessment Cycle: Segment

Controlling Area: UG01 ORK UG
 Cycle: UG00 Assessment 00
 Segment Name: 100 100 Lock indicator

Receiver Tracing Factor

Tracing Factor

Var. portion type: Actual Statistical Key Figures
 Scale Neg. Tracing Factors: No scaling

Selection Criteria

	From	to	Group
Stat. key fig.	UG0000		
Activity Type			

No values found

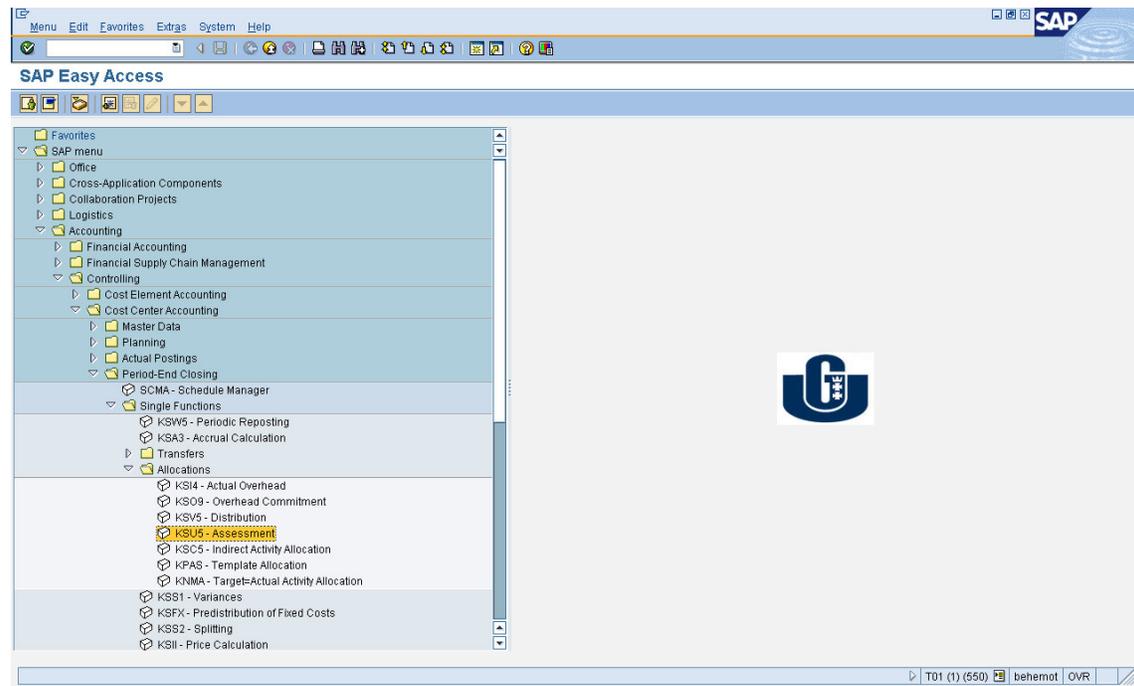
Save a segment and then a cycle

2.4.2. Executing an assessment cycle

Once a cycle is created it must be executed by the end of each month to automatically allocate the costs.

- 1) Run the cycle for period 01.2010

Transaction KSU5



Fill in the period and cycle. Run the cycle in the test run

After checking the cycle results run it in a real run.

- 2) Examine the result of running the cycle by running the reports for cost centers and orders.

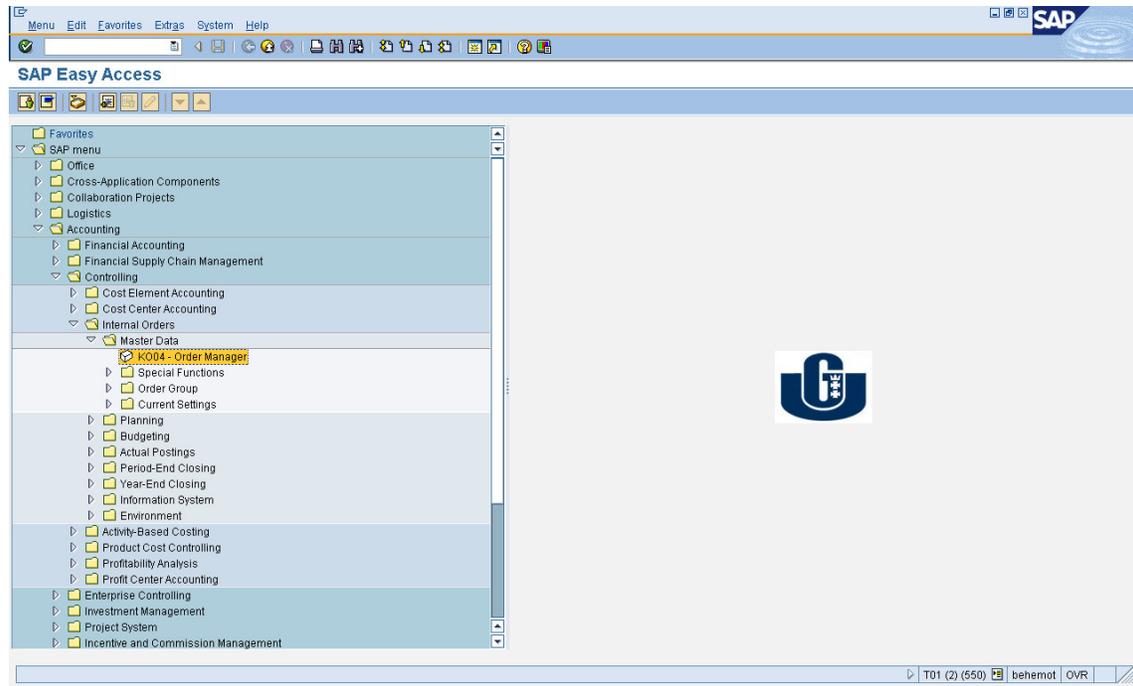
2.4.3. Order settlement

In standard SAP solution orders cannot be senders in assessment or distribution cycles.

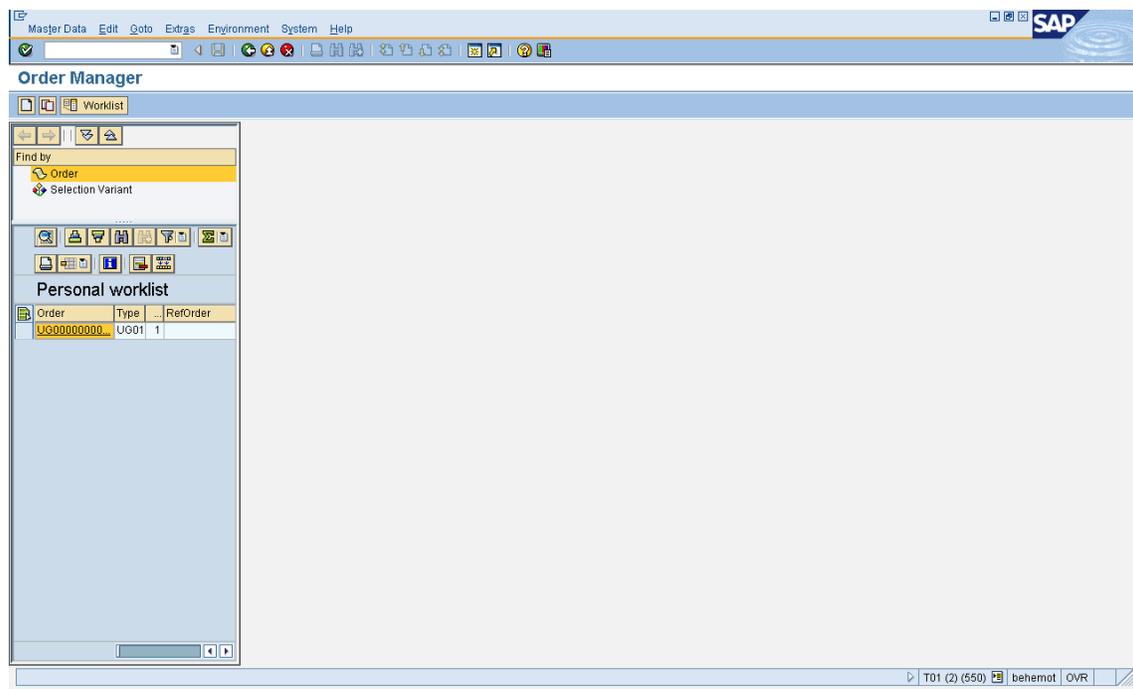
However costs from an order can be **settled** to one or many receivers. The rules for this settlement are stored in an order master data. The possible receivers and cost elements to be allocated are derived from the order type.

- 1) Check the settlement rule of your orders

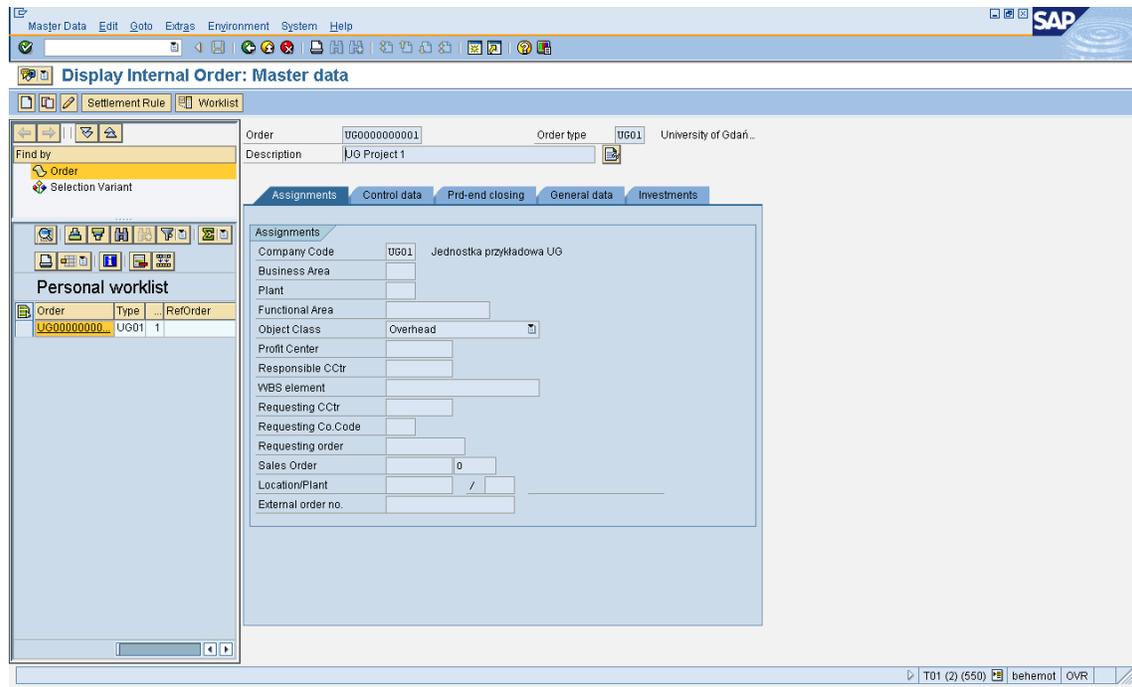
Transaction KO04



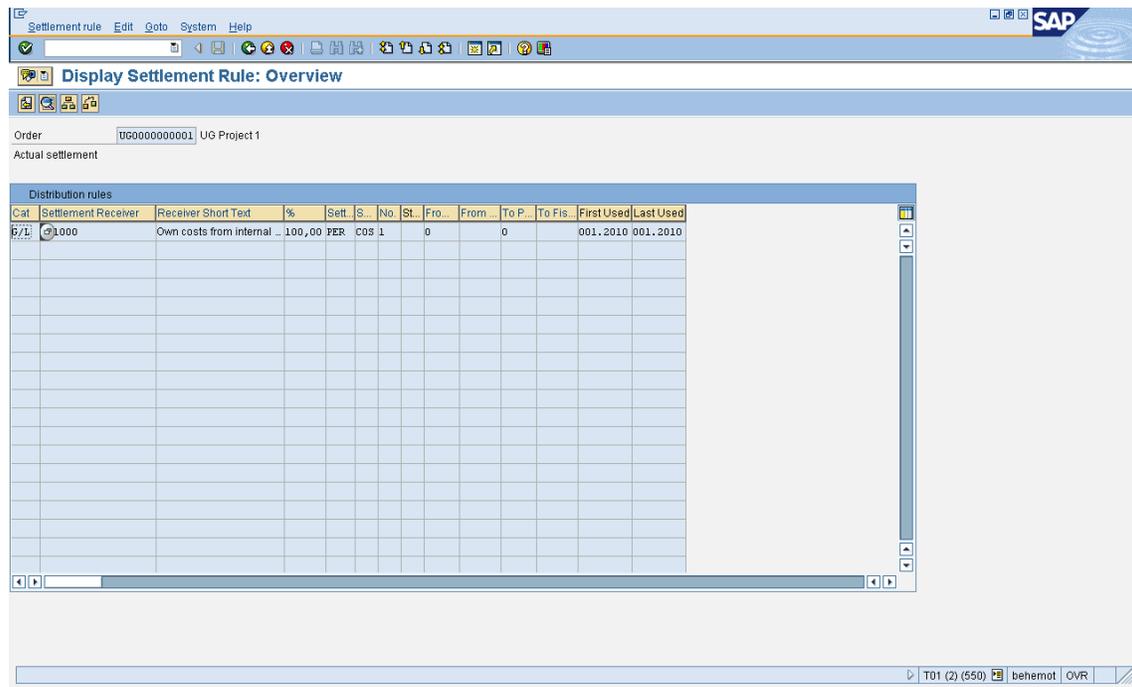
Choose your order:



Master data will be displayed:

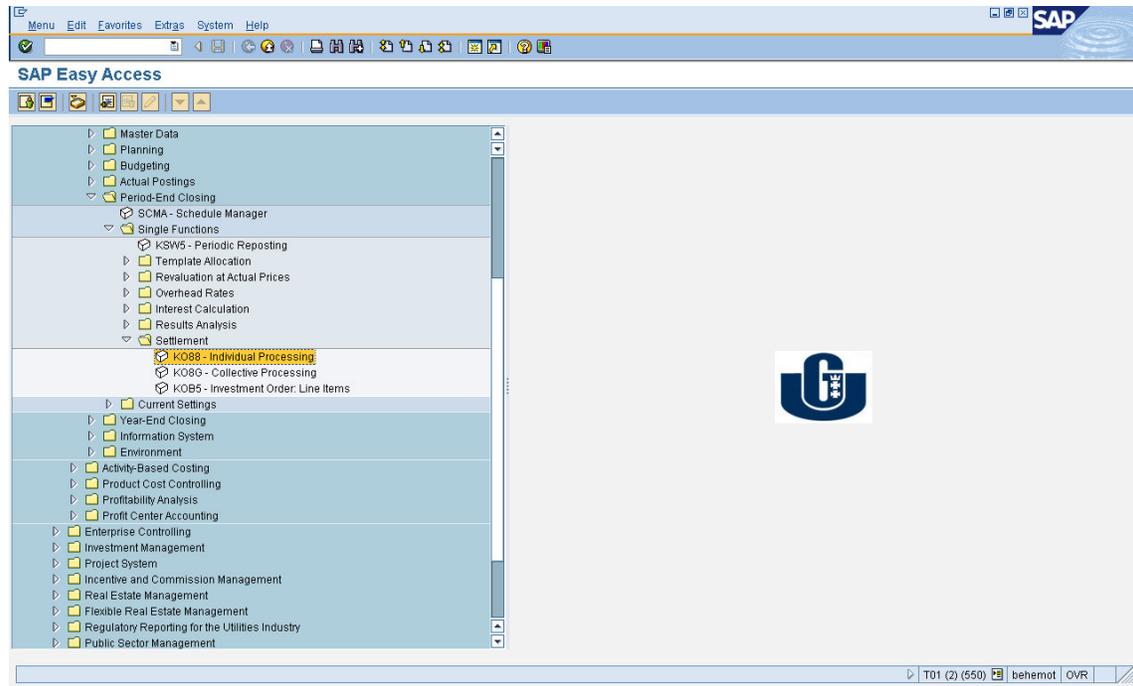


Click the Settlement Rule button

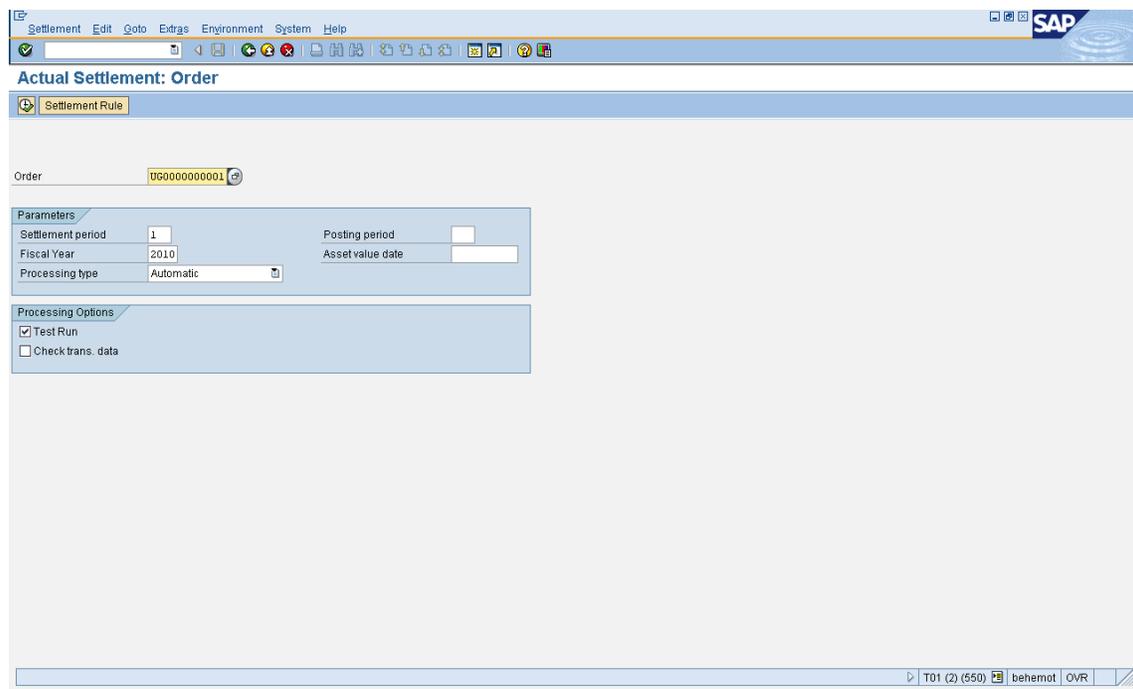


2) Execute a settlement of costs from your orders to the G/L account

Transaction: KO88



Enter your order and run the settlement in a test run



If the results of the test run are satisfactory, execute the settlement in a real run.

2.5. Planning

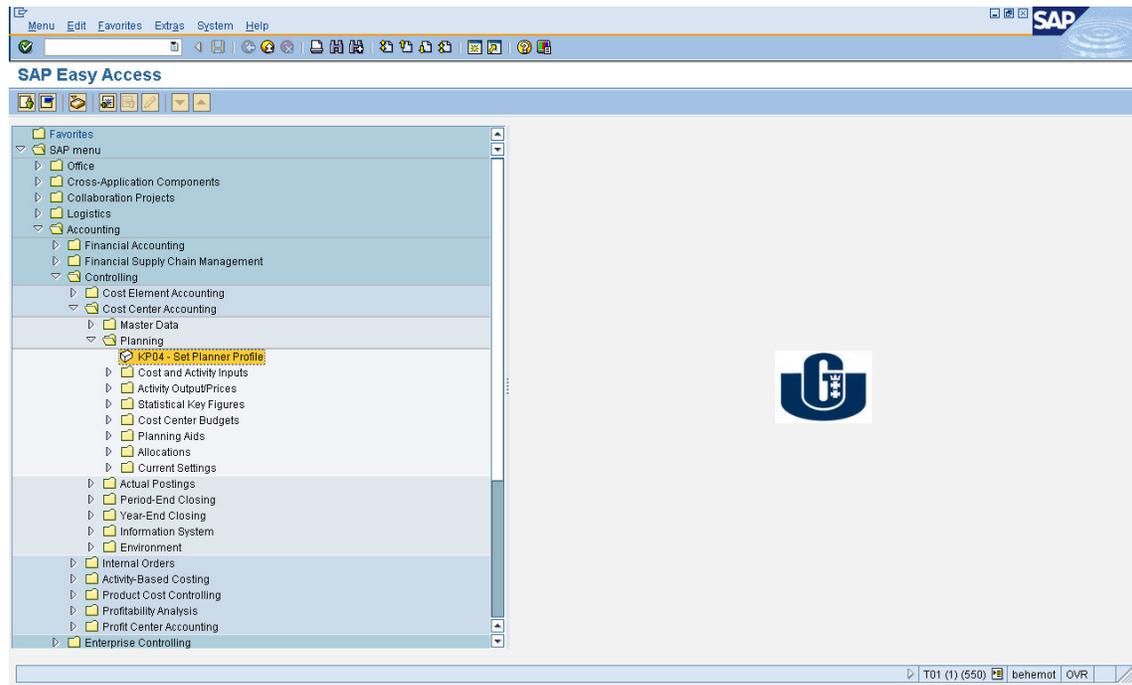
SAP allows to plan costs and revenues on all CO objects. Planning layouts are grouped in called Planner profiles. Standard planner profiles delivered by SAP are:

- SAPEASY – containing basic planning layouts,
- SAPALL – containing more sophisticated planning layouts.

In this scenario a planner profile SAPEASY will be used.

- 1) Set the planner profile to SAPEASY

Transaction: KP04

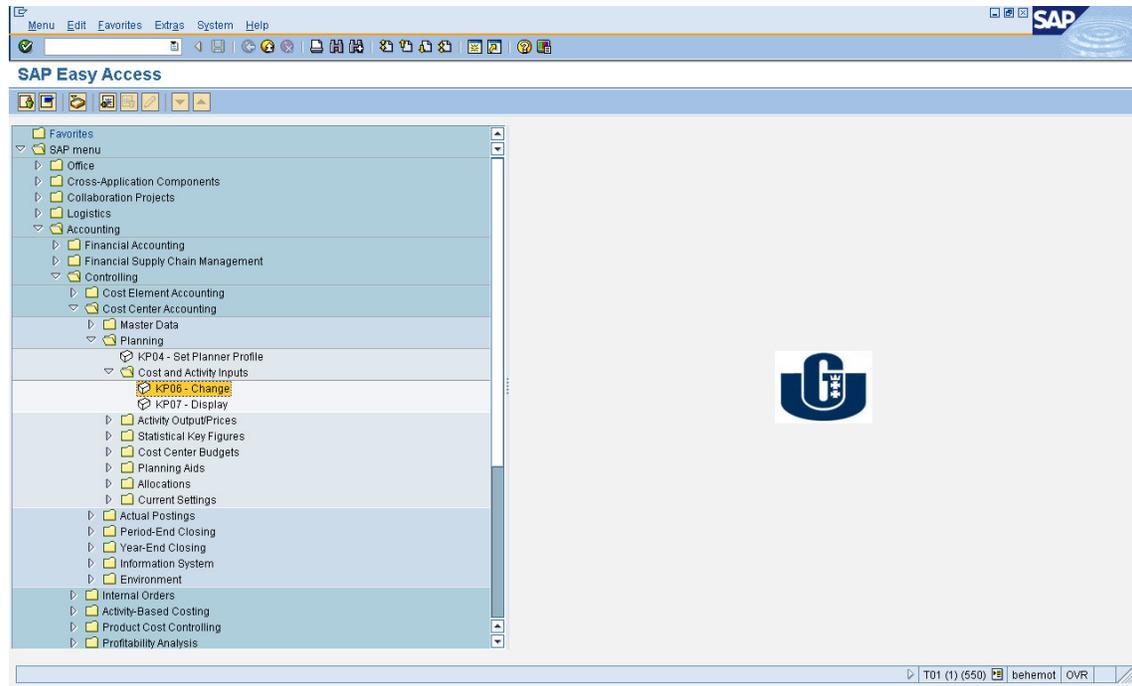


2.5.1. Planning costs for cost centers

- 1) Plan costs for the construction department:

G/L and cost element number	Cost by origin name	Amount
411100	Material consumption	200 000
469400	Other costs	2 000 000
431100	Wages	1 000 000

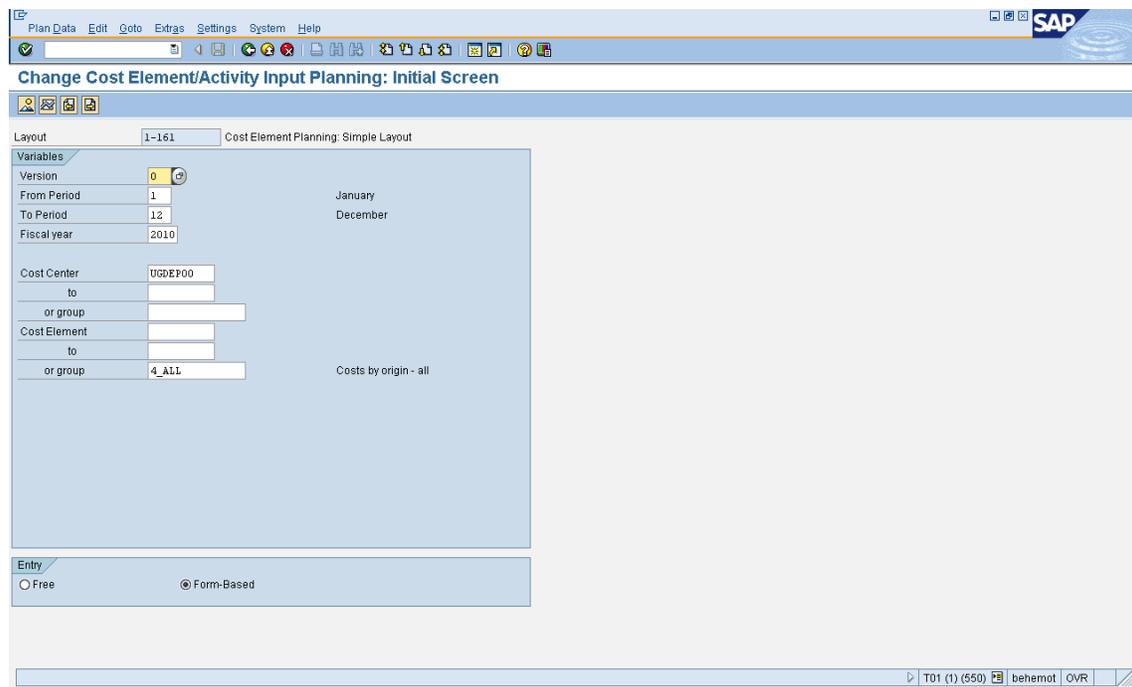
Transaction: KP06



Choose planning layout 1-161

Enter periods, year, cost center and cost element group to be planned.

Choose form-based entry



Plan the costs and save the plan.

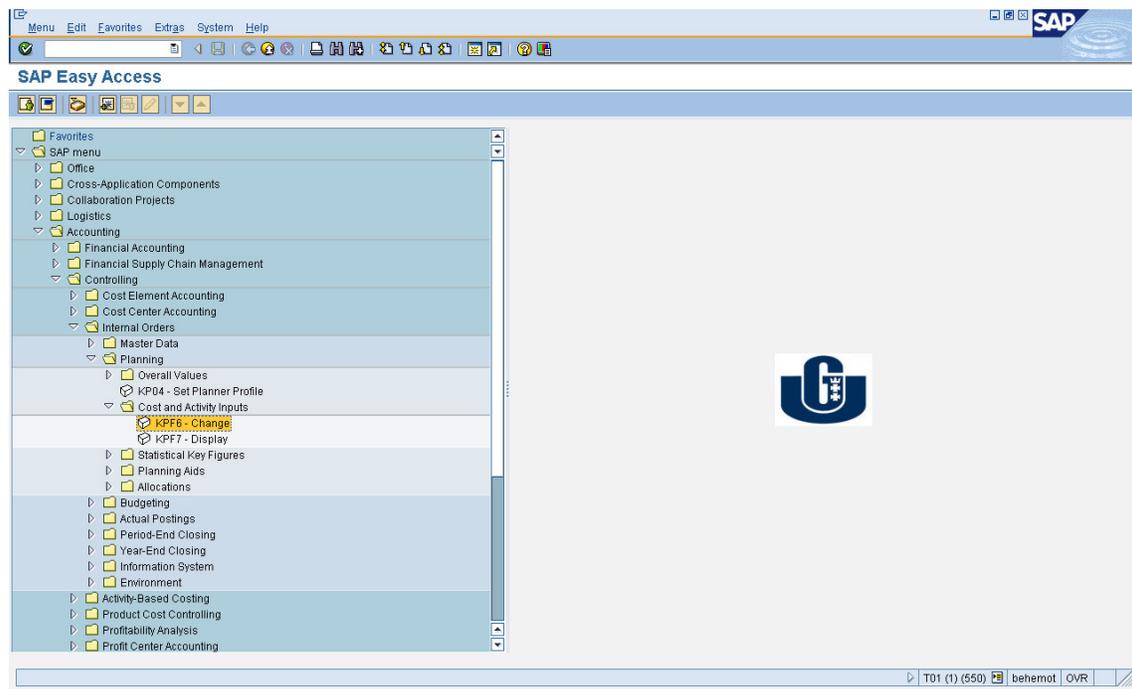
- 2) Check the result by running the cost centers report

2.5.2. Planning costs for orders

1) Plan costs for the building the warehouse order:

G/L and cost element number	Cost by origin name	Amount
411100	Material consumption	900 000
429020	External services – buliding	600 000
431500	Production wages	500 000

Transaction: KPF6



Enter the necessary data on the initial screen:

Plan Data Edit Goto Extras Settings System Help

Plan Data

Planning Cost Elements/Activity Inputs Change: Initial screen

Layout 1-461 Cost Element Planning: Simple Layout

Variables

Version 0

From period 1 January

To period 12 December

Fiscal Year 2010

Order UG0000000001 UG Project 1

to

or group

Cost Element

to

or group 4_ALL Costs by origin - all

Entry

Free Form-Based

T01 (1) (550) behemot OVR

Plan the costs and save

- 2) Check the result by running the orders report