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INTRODUCTION

Profitability Analysis reports (COPA module) has to deal with huge amount of characteristics such as products, product hierarchy, customers, country, profit center and many more characteristics. This can cause performance issues while executing the COPA reports (KE30) over a period of time. The reports can take a longer time for execution and sometimes even give an abap run time error.
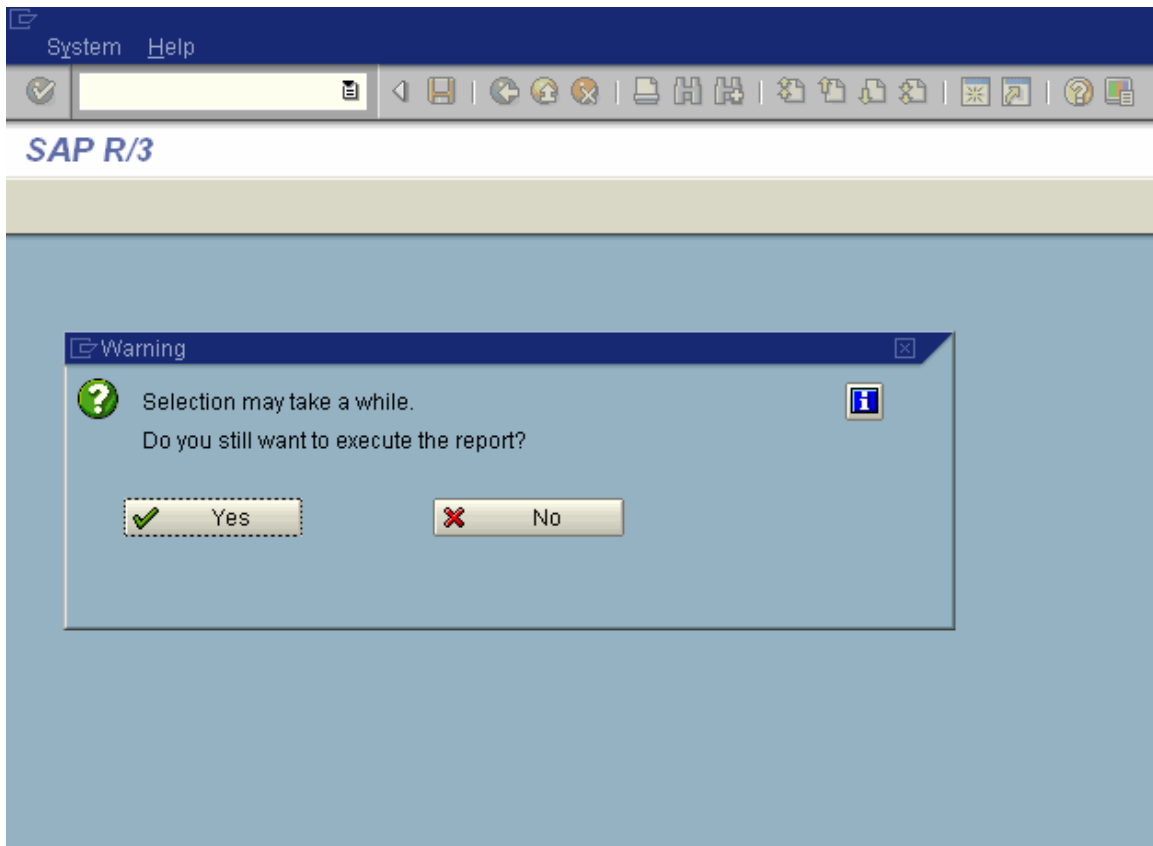
We cover in this document the different problems you normally face in execution of the COPA reports and the solution to these problems.

1. Problems on execution of COPA reports (KE30)

Often when you execute the Profitability analysis reports in transaction code KE30 you come across the following situation.

Scenario 1:

You get the following message

Scenario 2:

You get the following message

Scenario 3:

Sometimes you get an ABAP run time error due to time out.

The run time error is cause due to huge amount of data.

In such case you have to run the profitability report in background which actually does not help in real time analysis.

We discuss the solution for the aforesaid mentioned problems in the subsequent topics.

2. Solution to the COPA report problems

2.1 Create Automatic Proposal for Summarization Levels

SAP Customizing Implementation Guide→ Controlling→Profitability Analysis → Tools→ Summarization Levels→ Have Proposal Created Automatically

Transaction code: KEDVP

By defining Summarization levels, we can store the data in CO-PA in pre-summarized form. This makes it possible for the system to access the data more quickly.

We define a summarization level by specifying which **characteristics** we want to summarize. When we save the summarization level, the system generates two tables in the ABAP Dictionary: the "key table" and the "totals table". These tables only contain the fields required for that particular summarization.

Each summarization level can be created for fixed **characteristic values**. For example, if we only want to analyze the data for one plant, we only have to store data for that plant in the summarization level. That way we save the memory space which would otherwise be taken up for the other plants in the tables of that summarization level.

Theoretically, we can create up to 5000 summarization levels. However, the more we define, the more memory we will require and the longer it will take to update the summarization levels.

This transaction code will automatically propose summarization levels based on past data and the way users have used data.
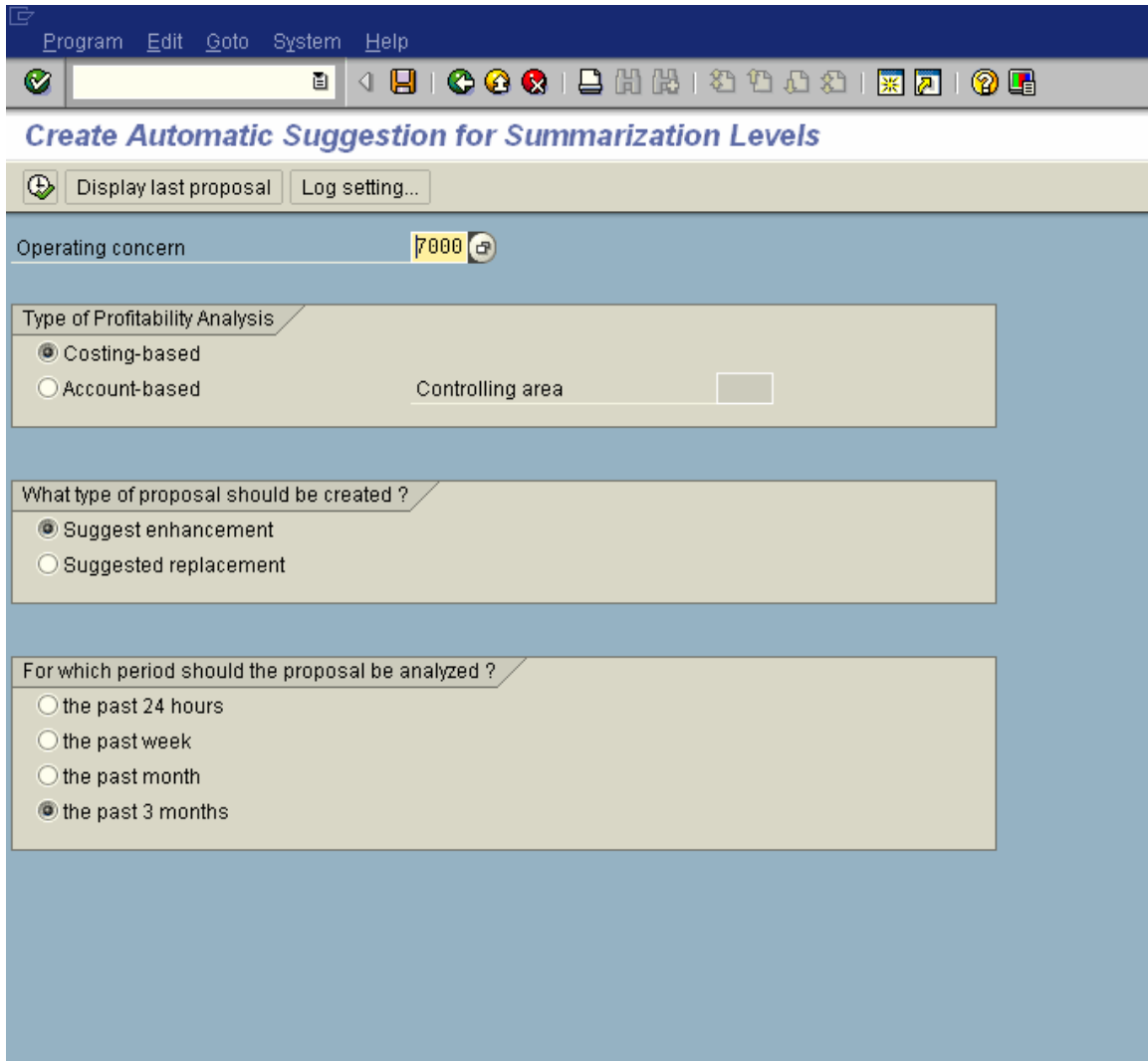
Select maximum period i.e. **the past 3 months**

Click

List   Edit   Goto   System   Help

Create Automatic Suggestion for Summarization Levels

Create levels

Create Automatic Suggestion for Summarization Levels

```
Operating concern                7000
Type of profitability analysis   Costing-based
Type of proposal                 Suggest enhancement
Analysis period                  the past 3 months
                                 08.03.2008, 19:21:16 - 09.07.2008, 19:21:16

Started on                       09.07.2008, 19:21:16
Started by
```

Analysis result

```
07 additional summarization levels were found. To create the
summarization levels, proceed as follows:
1. Press the pushbutton "Create levels" to transfer the suggested levels
   to summarization level definition.
2. Start new set-up for summarization levels.
```

Analysis details

Characteristics	800001	800002	800003	800004	800005	800006	800007
Product	*	*		*	*	*	*
Company code	*	*	*	*	*	*	*
Billing type							
Fiscal year	*	*	*	*	*	*	*
Business area							*

List   Edit   Goto   System   Help

Create Automatic Suggestion for Summarization Levels

Create levels

Create Automatic Suggestion for Summarization Levels   1

	1	2	3	4	5	6	7
Business area							*
CustomerHier01			*	*			
CustomerHier02			*				
CustomerHier03			*				
CustomerHier04			*				
CustomerHier05			*				
Customer			*	*			*
CO area	*	*	*	*	*	*	*
AcctAssgGr			*	*			*
Acct asgnmt grp	*		*	*			*
Bill-to party			*	*			
Payer							
Ship-to party				*			
Customer grp 1			*	*			*
Customer grp 2			*	*			*
MaterialEntered							
Currency type	*	*	*	*	*	*	*
ProdHier01-3	*	*	*	*	*		*
ProdHier01-4	*	*	*	*	*		*
ProdHier01-5	*	*	*	*	*		*
ProdHier01-6	*	*	*	*	*		*
Period	*	*	*	*	*	*	*
Plan/act.ind.	*	*	*	*	*	*	*
Partner pr.ctr							
Profit center	*		*	*			*
Prod.hierarchy	*	*	*	*	*		*
Division	*	*	*	*	*		*
Trading partner			*	*			*
Version	*	*	*	*	*	*	*
Sales group	*		*	*			*
Sales org.	*		*	*			*
Record type	*	*	*	*	*	*	*
Distr. channel	*		*	*			*

Click

Create Automatic Suggestion for Summarization Levels

List   Edit   Goto   System   Help

Create levels

Create Automatic Suggestion for Summarization Levels

Plan/act.ind.	*	*	*	*	*	*	*
Partner pr.ctr							

Information

The suggested summarization levels have been created.

    Before the summarization levels of reports, for example, can be used, the
    summarization levels must first be supplied with data.

    For this, please start a new set-up for the new summarization levels by
    choosing Tools -> Summarization levels -> Update -> Build new levels in
    the application menu for Profitability Analysis.

✔ Continue   ✖

800005	147,654	3.49
800006	6,777	2.95
800007	346,727	1.60

The summarization levels have been created and can be used when the summarization levels are supplied with data.

Click ✔ Continue

Click 🔙 twice
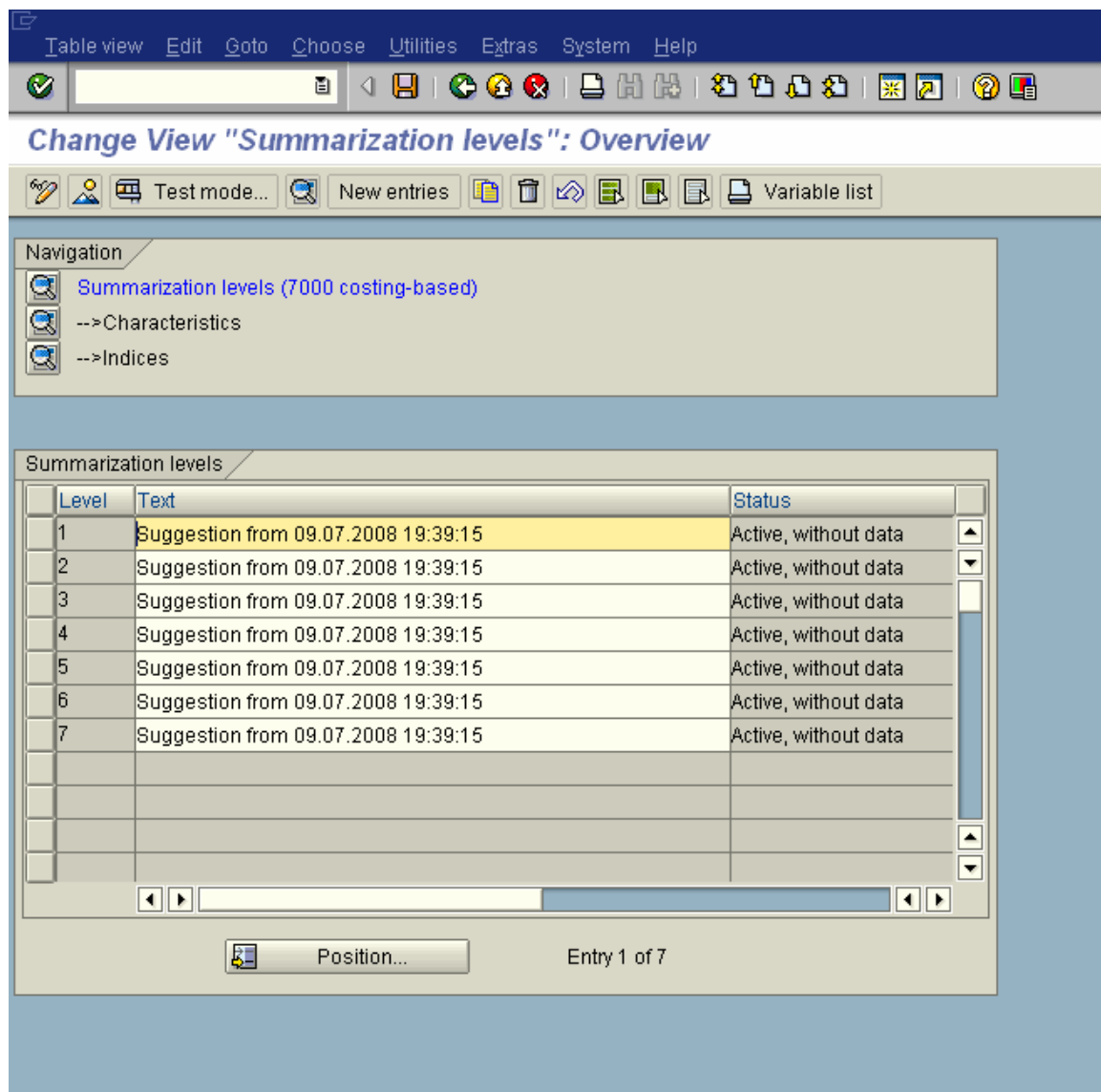
2.2 Define/Change Summarization Levels

SAP Customizing Implementation Guide→ Controlling→Profitability Analysis → Tools→ Summarization Levels→ Define Summarization Levels

Transaction code: KEDV

The summarization levels created in the first step can be viewed and changed in this transaction code. You can also create new summarization levels manually if required here.

\[-

You can change the levels

| 1 | Suggestion from 09.07.2008 19:39:15 | Active, without data |

Select one of the levels

Table view   Edit   Goto   Choose   Utilities   Extras   System   Help

Change View "Summarization levels": Overview

Test mode...   New entries   Variable list

Navigation

Summarization levels (7000 costing-based)
-->Characteristics
-->Indices

Summarization levels

Level	Text	Status
1	Suggestion from 09.07.2008 19:39:15	Active, without data
2	Suggestion from 09.07.2008 19:39:15	Active, without data
3	Suggestion from 09.07.2008 19:39:15	Active, without data
4	Suggestion from 09.07.2008 19:39:15	Active, without data
5	Suggestion from 09.07.2008 19:39:15	Active, without data
6	Suggestion from 09.07.2008 19:39:15	Active, without data
7	Suggestion from 09.07.2008 19:39:15	Active, without data

Position...   Entry 1 of 7

Click   -->Characteristics

Change View "Summarization levels": Overview

Table view   Edit   Goto   Choose   Utilities   Extras   System   Help

Test mode...   New entries   Variable list

Navigation

Summarization levels (7000 costing-based)
-->Characteristics
-->Indices

Summarization levels

Level	Text	Status	
1	Suggestion from 09.07.2008 19:39:15	Active, without data	
2	Suggestion from 09.07.2008 19:39:15	Active, without data	
3	Suggestion from 09.07.2008 19:39:15	Active, without data	
4	Suggestion from 09.07.2008 19:39:15	Active, without data	
5	Suggestion from 09.07.2008 19:39:15	Active, without data	
6	Suggestion from 09.07.2008 19:39:15	Active, without data	
7	Suggestion from 09.07.2008 19:39:15	Active, without data	

Position...   Entry 1 of 7

You have three options for each characteristic:

1. Summarized characteristics: The values of these characteristics are summarized and are not available for analysis in reporting. Do not enter anything in the field next to the characteristics that you want summarized.

2. Free characteristics: If you want to use certain characteristic values as selection criteria, you need to include those characteristics clearly in the list of characteristics. For characteristics that you want to break down by individual values, enter the value "*".

3. Fixed characteristics: Instead of entering "*", you can also enter a single characteristic value. This is required if you only want to analyze that one value of the characteristic (for example, only one company code) or only data of a specific record type). You can display a list of existing values for each characteristic by pressing function key F4 on that field.

By entering '#', it is also possible to have 'blank' as a fixed characteristic value. This means that only entries for which the corresponding value is blank will be taken over into the summarization level.

Some characteristics are automatically filled with "*" (period, fiscal year, plan/actual indicator, version and record type). These characteristics must be included in every summarization level.

Instead of "*", you can also enter a fixed value for these characteristics. If you try to delete the entry in one of these fields, the system displays an error message.

Now let us change the following:-

PAPH3	ProdHier01-3	*
PAPH4	ProdHier01-4	*
PAPH5	ProdHier01-5	*
PAPH6	ProdHier01-6	*
PERDE	Period	*

And make it blank so that data is summarized

PAPH3	ProdHier01-3	
PAPH4	ProdHier01-4	
PAPH5	ProdHier01-5	
PAPH6	ProdHier01-6	
PERDE	Period	*

Click

Click on

Click Yes

Table view   Edit   Goto   Choose   Utilities   Extras   System   Help

Change View "Summarization levels": Overview
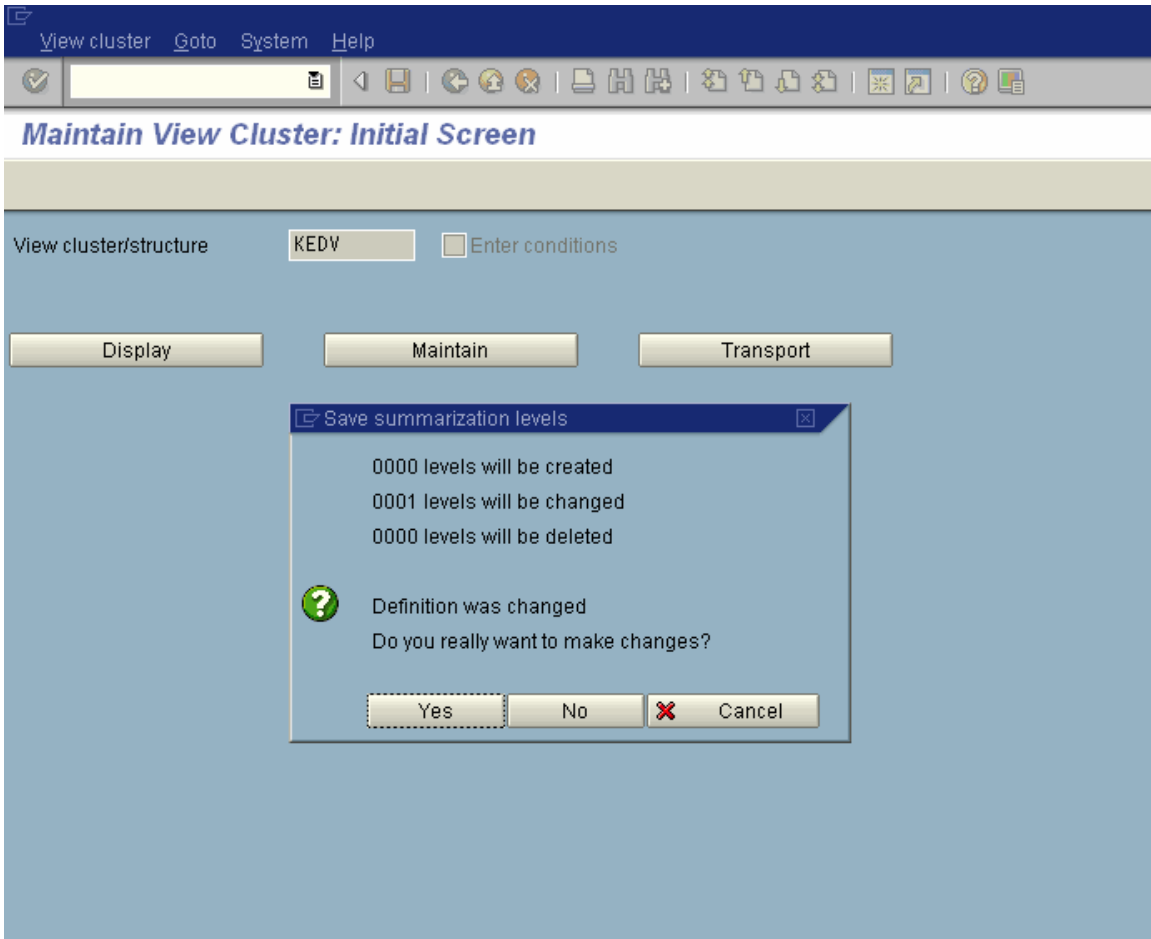
[icons] Test mode...   New entries   [icons]   Variable list

Navigation

Summarization levels (7000 costing-based)
-->Characteristics
-->Indices

Summarization levels

Level	Text	Status
1	Suggestion from 09.07.2008 19:39:15	Active, without data
2	Suggestion from 09.07.2008 19:39:15	Active, without data
3	Suggestion from 09.07.2008 19:39:15	Active, without data
4	Suggestion from 09.07.2008 19:39:15	Active, without data
5	Suggestion from 09.07.2008 19:39:15	Active, without data
6	Suggestion from 09.07.2008 19:39:15	Active, without data
7	Suggestion from 09.07.2008 19:39:15	Active, without data

Position...   Entry 1 of 7

2.3 Build Summarization Levels

SAP standard menu → Accounting→ Controlling→Profitability Analysis →
Tools→ Summarization Levels → KEDU – Update

Use this transaction code to populate your summarization levels with data.

You can populate summarization levels with data using a number of different methods:

In the earlier step, we had defined a new summarization level; this level has the status" active, without data".

We need to supply the summarization level with data now. This step of supplying a level with data for the first time is referred to as "building" the level.

When you do this, the status changes to "active", then you can use the summarization level in your application

Build Summarization Levels for Profitability Analysis

Operating concern	7000	
Type of Profitability Analysis	1	
Summarization levels		to

Data in the summarization levels

- Build new levels ○
- Update ◉
- Rebuild ○
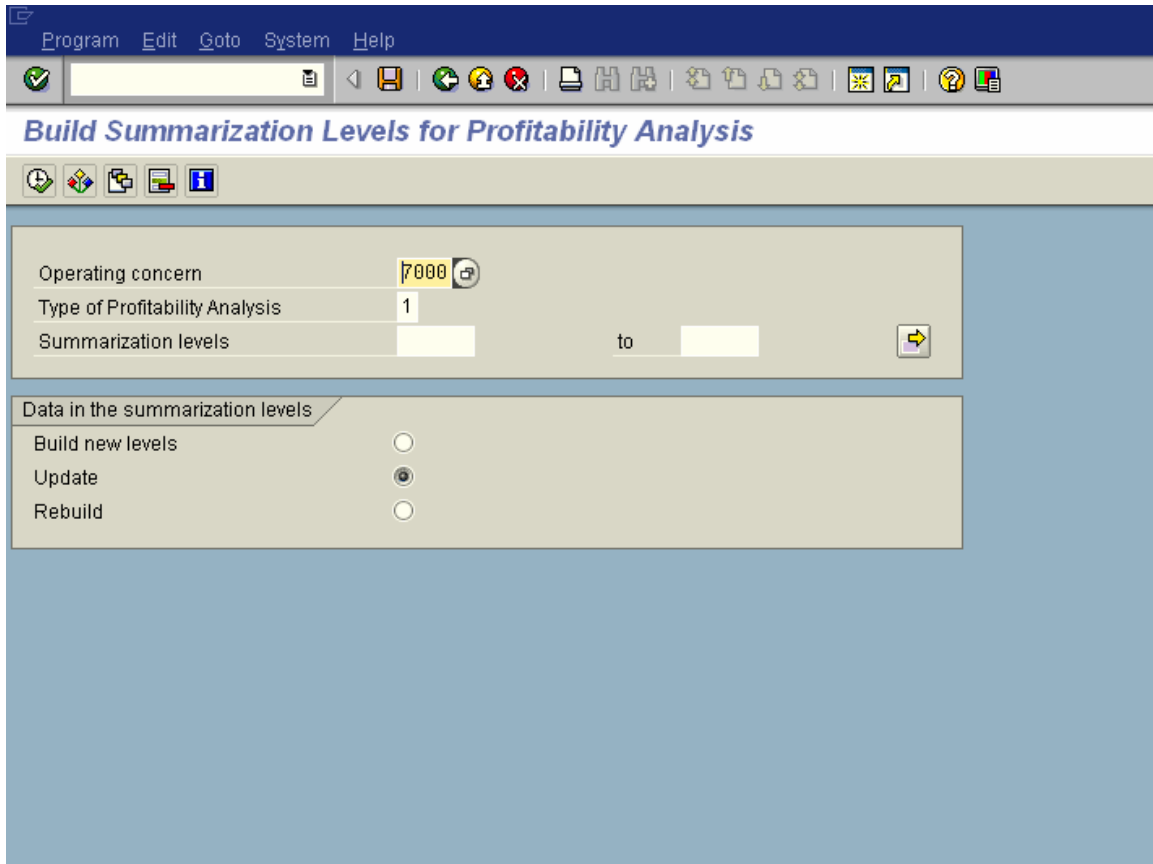
We will now build the summarization level.

Build Summarization Levels for Profitability Analysis

Operating concern   7000

Type of Profitability Analysis   1

Summarization levels   to

Data in the summarization levels

Build new levels   ◉

Update   ○

Rebuild   ○
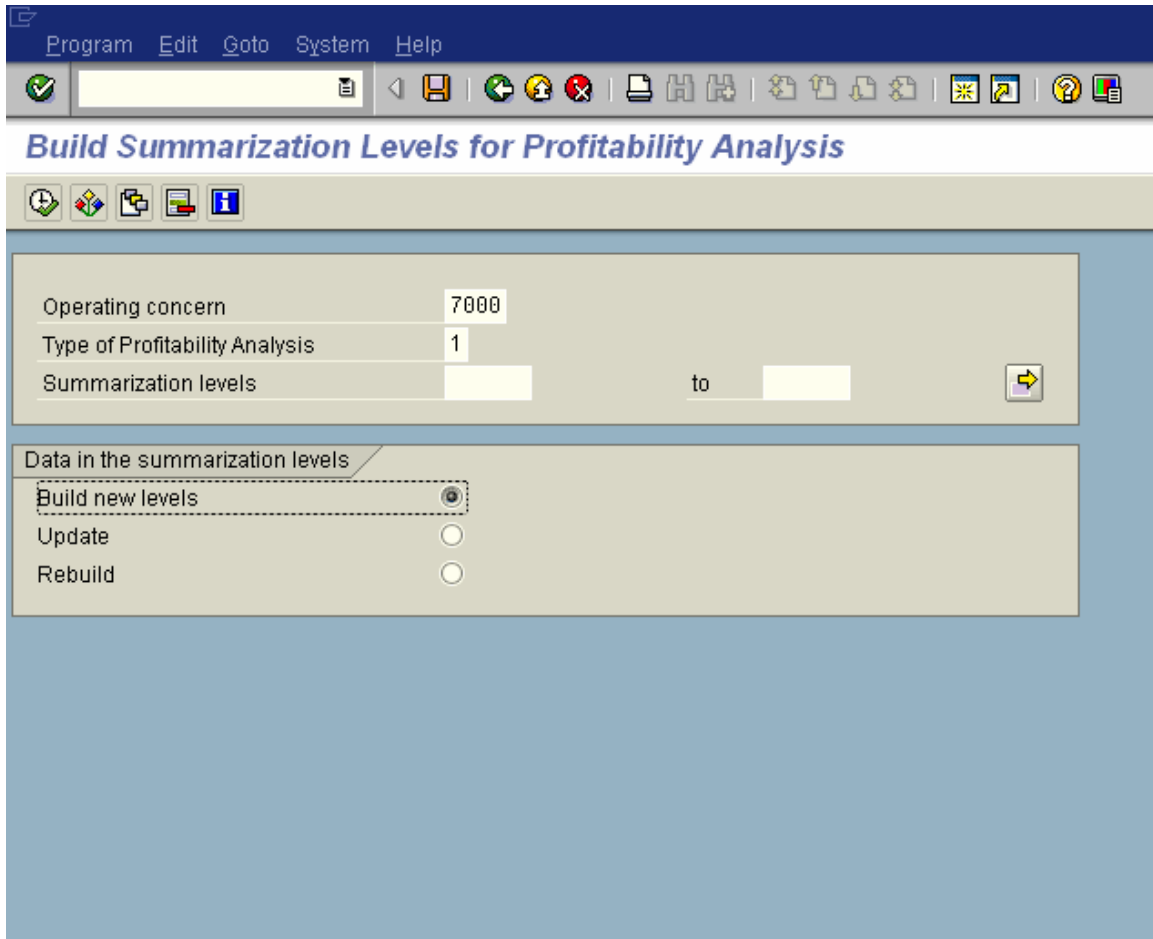
Execute the program in background as it might give a run time error if you run it online.

Program	Edit	Goto	System	Help

Execute	F8
Execute and print	Ctrl+P
Execute in background	F9
Exit	Shift+F3

B...s for Profitability Analysis

Operating concern	7000
Type of Profitability Analysis	1
Summarization levels	to

Data in the summarization levels

- ● Build new levels
- ○ Update
- ○ Rebuild
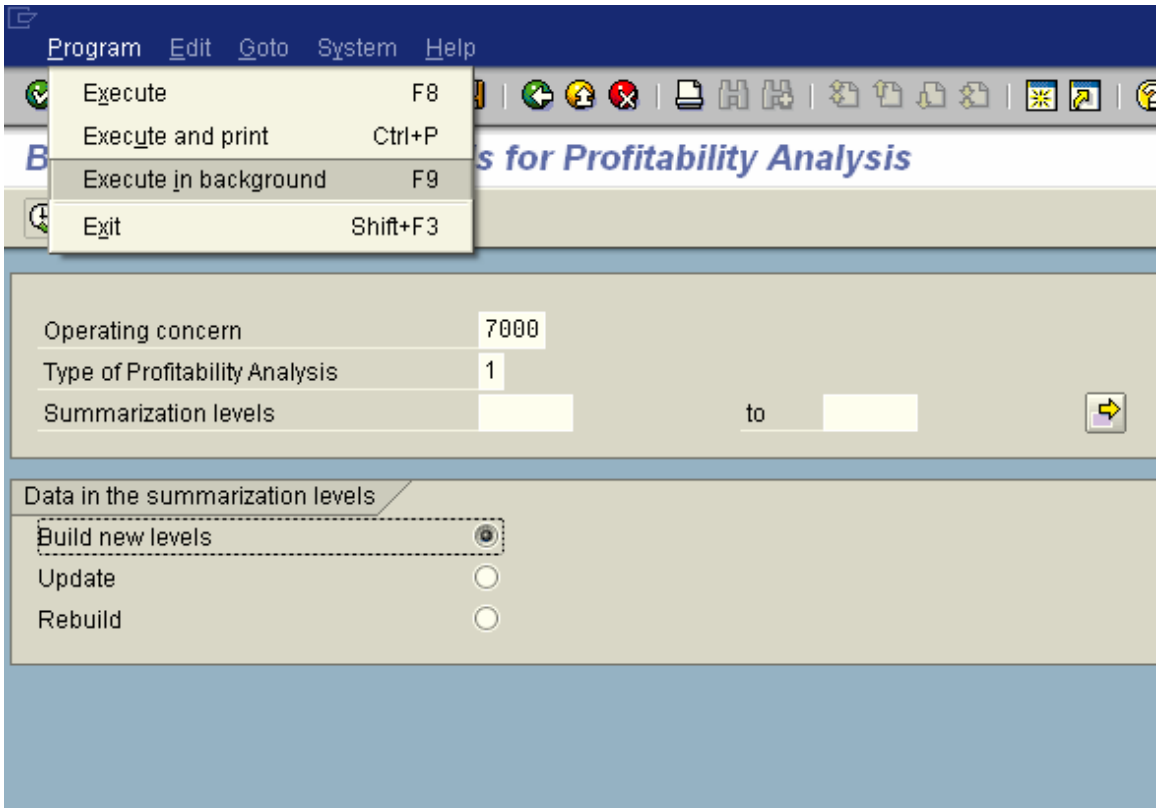
Output device	LOCAL		⊡ WIndows Local Default Printer
Windows printer	Microsoft Office Document Image Writer	🗐	
Number of copies	1		

Number of pages

◉ Print all

○ Print from page [   ] to [   ]

Spool request

Name	RKETRERU_MBM
Title	
Authorization	

Spool options

☑ Print immediately
☑ Delete after output
☑ New spool request

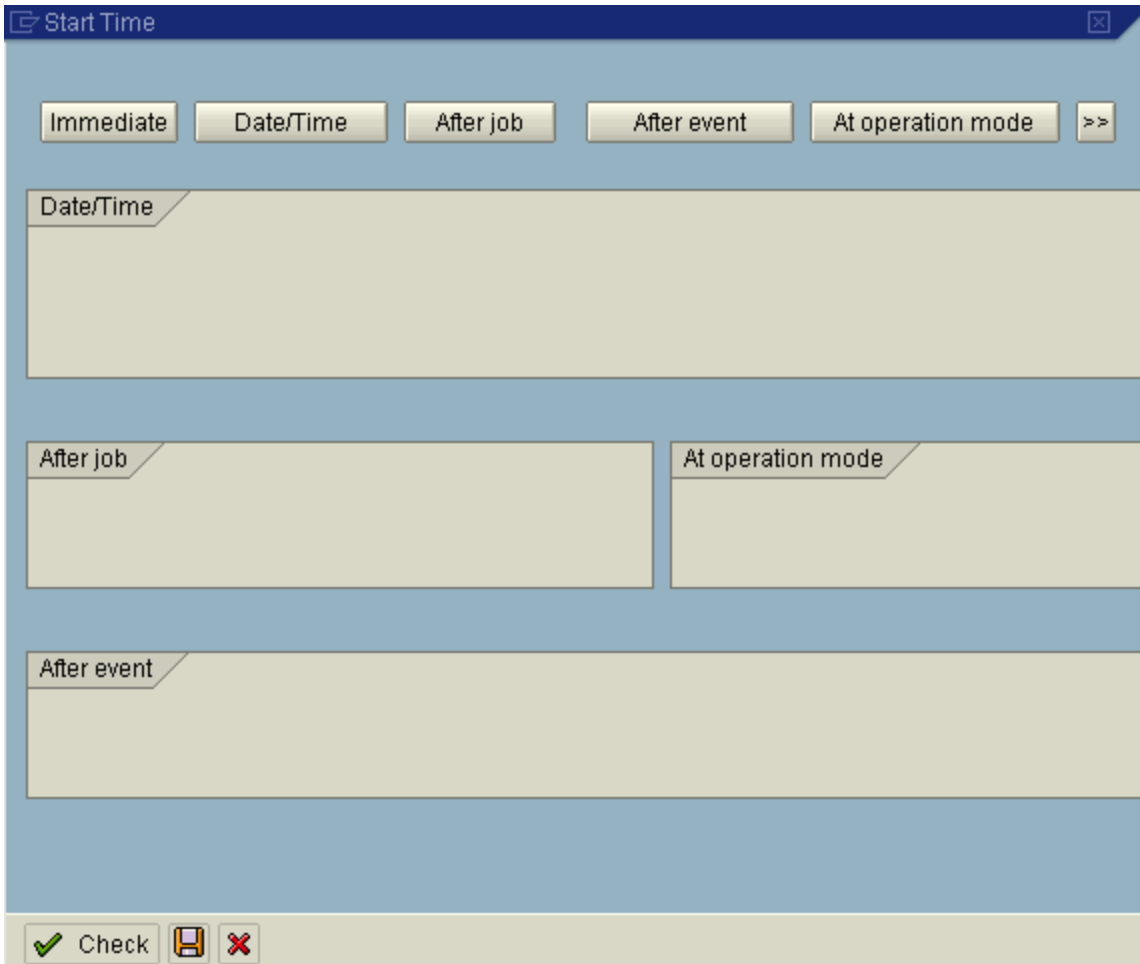| Print priority | 5 Medium |
| Retention period | 8 Day(s) |
| Archiving mode | Print only 🗐 |

Cover sheets

D SAP cover page
D OperSys cover page
☐ Selection cover page

| Recipient | |
| Department | |

Print settings

Lines	65	
Columns	78	☐ Without control chars
Format	X_65_80	ABAP/4 list: At least 65 rows by 80 colu

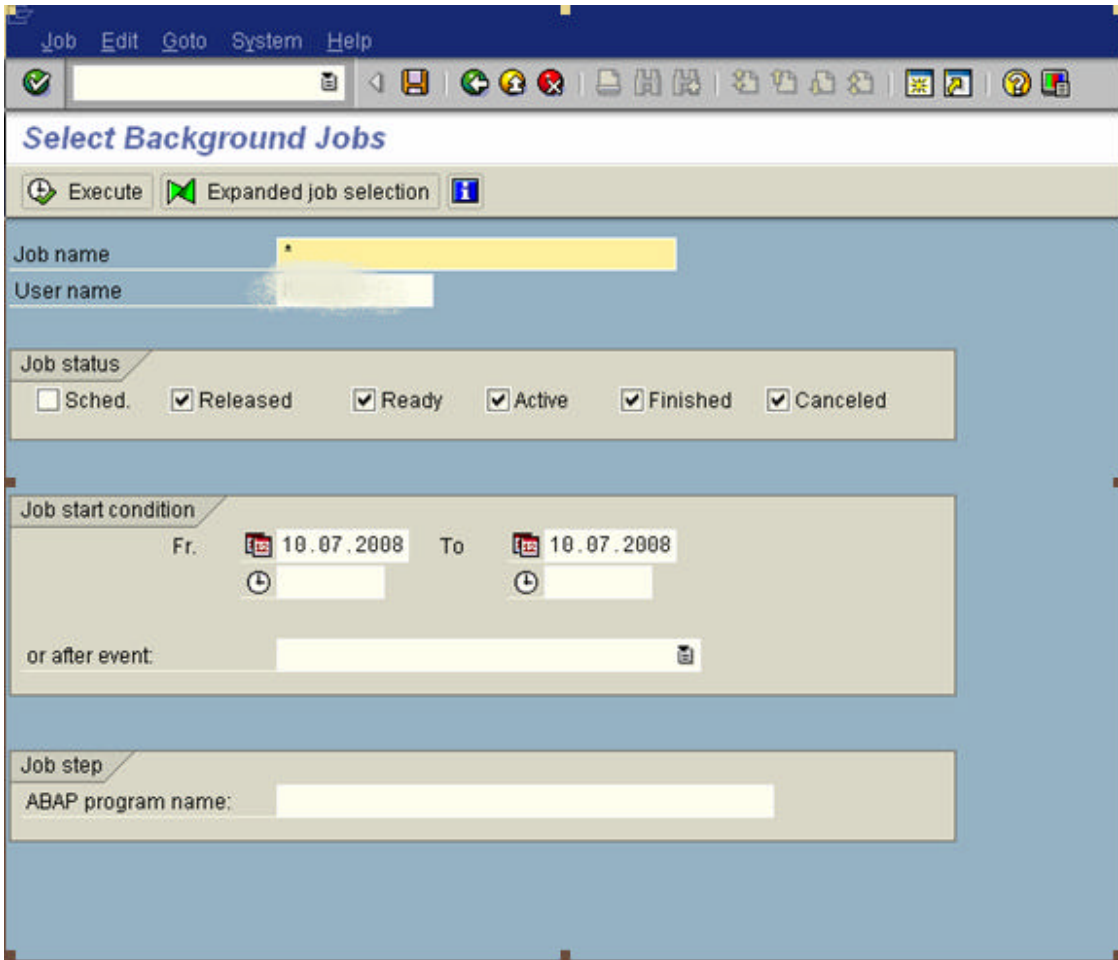✔ 🔄 User-specific print parameters ✖

Click ☐ Print immediately

Click ✔

Click **Immediate**

Click 💾

Build Summarization Levels for Profitability Analysis

Operating concern	7000	
Type of Profitability Analysis	1	
Summarization levels		to

Data in the summarization levels

- ● Build new levels
- ○ Update
- ○ Rebuild

Background job was scheduled for program RKETRERU
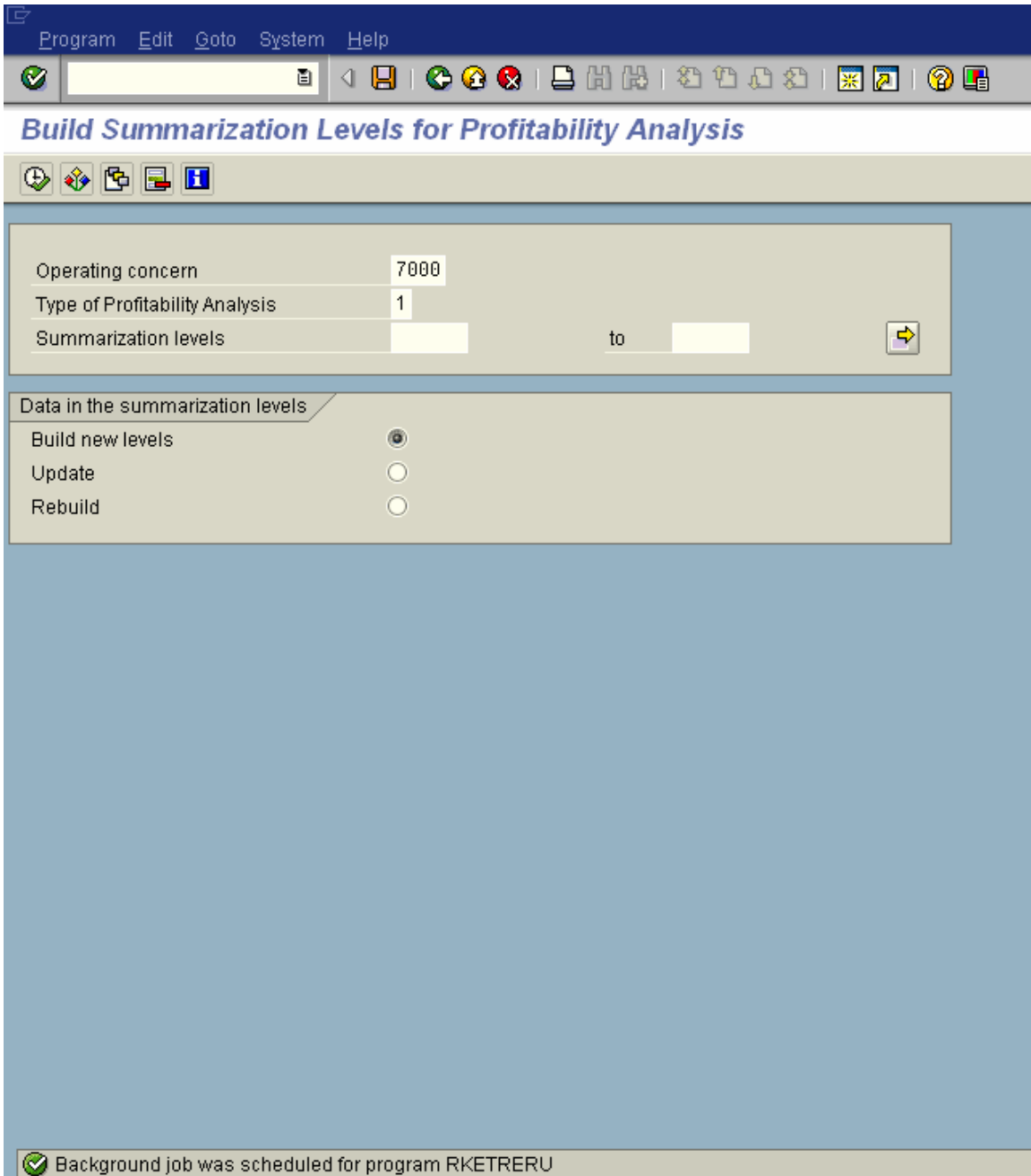
Use transaction code SM37 to monitor the background job

Click
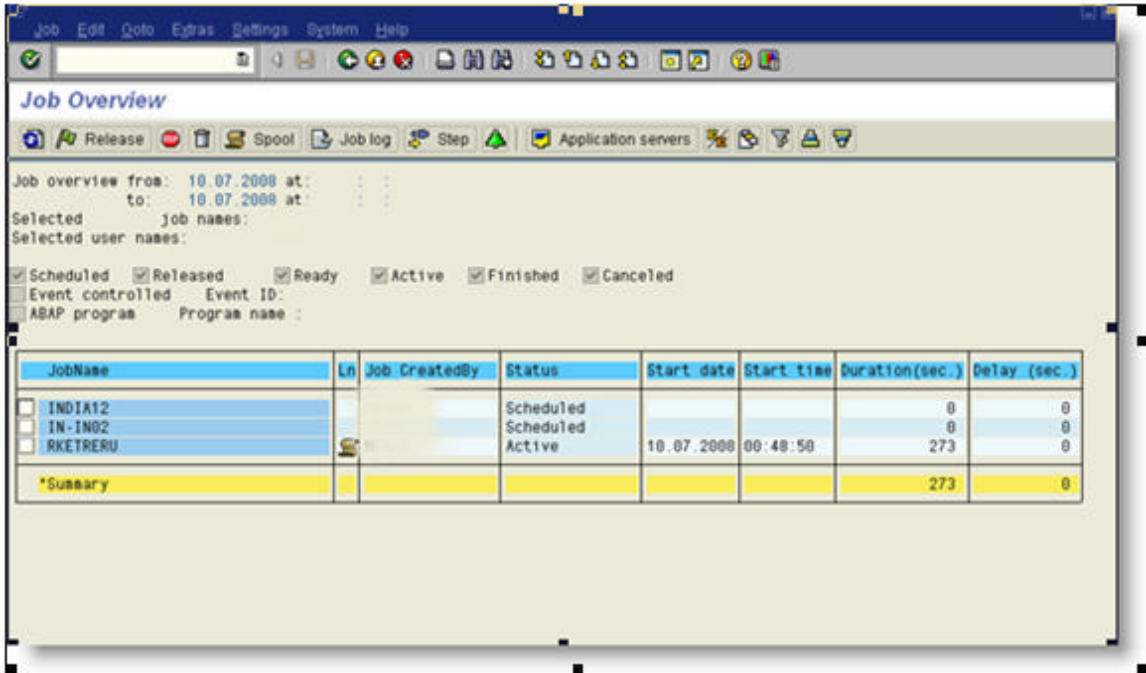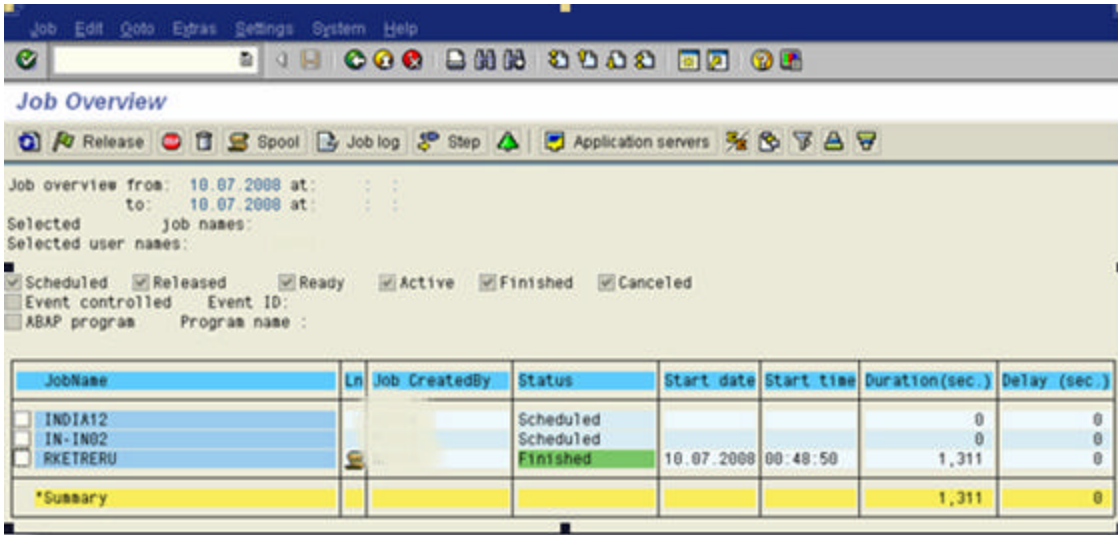
Click

Click

Click RKETRERU

Click Spool

Output Controller: List of Spool Requests

Spool no.	Date	Time	Status	Pages	Title
10875	09.07.2008	22:18	-	1	LIST1S LOCM RKETRERU_MBM

Spool no.	Date	Time	Status	Pages	Title
10875	09.07.2008	22:18	-	1	LIST1S LOCM RKETRERU_MBM

Click

Click

Graphical display of spool request 10875 in system SQ

Call parameter

Operating concern:	7000
Type:	1 Costing-based
Summarization levels:	All levels
Data in summarization levels:	X Build new levels
	Update
	Rebuild

Statistics

The data was read from the segment level. Data from the last 30 minutes was ignored for reasons of consistency.

The summarization levels have been supplied with data.
The processed levels now contain the data up to
10.07.2008, 00:19:00.

Program started:	10.07.2008 00:48:50
Program completed:	10.07.2008 01:10:41
Runtime:	00:21:51
required for update:	00:13:13
Number of records read:	384,610

Level	Time (s)	Comment
000001	85.64	OK
000002	174.48	OK
000003	6.67	OK
000004	173.66	OK
000005	118.90	OK

Graphical display of spool request 10875 in system SQ

The summarization levels have been supplied with data.
The processed levels now contain the data up to
10.07.2008, 00:19:00.

```
Program started:            10.07.2008 00:48:50
Program completed:          10.07.2008 01:10:41

Runtime:                            00:21:51
   required for update:             00:13:13

Number of records read:     384,610
```

Level	Time (s)	Comment
000001	85.64	OK
000002	174.48	OK
000003	6.67	OK
000004	173.66	OK
000005	118.09	OK
000006	65.56	OK
000007	168.36	OK

Level	Number Records	Inserts Key table	Inserts Summ. table	Updates Ttls table	Number Steps
000001	384,610	23,191	161,696	58,731	37
000002	384,610	113,561	360,031	16,154	58
000003	384,610	88	1,766	0	1
000004	384,610	109,392	355,748	18,491	56
000005	384,610	46,384	230,253	50,131	42
000006	384,610	19,119	106,695	49,597	26
000007	384,610	118,814	367,772	9,310	57

The summarization levels are now build (i.e. supplied with data)

2.4 Update Summarization levels

Thereafter,

To keep the data in your active summarization levels current, you need to update them in regular intervals. When you do this, the system adds the changes made since the last update to the summarization level.

Schedule this program to be executed in the background at regular intervals (i.e. daily or hourly).

Updating your summarization levels with data regularly e.g. every 20 minutes is an important step to reduce COPA report performance issues.

To ensure that all your data remains consistent, the system excludes any data posted in the last 30 minutes before execution. .

A log is displayed telling you whether or not the summarization levels were filled properly.

Schedule the execution of this tcode in update mode in background every 20 minutes to supply data to the summarization levels.

Now the KE30 – Profitability analysis report should give you a very fast output.

Hope you enjoyed reading it.