

How to Display Result Row in One Line While Reporting On Multiprovider



Applies to:

SAP BW 3.x, BI 7.0 developers and Reporting Users. For more information, visit the [Business Intelligence home page](#)

Summary

This document helps to overcome multiple record problems while reporting on Multiprovider. The step by step solution explains, how to display all the required field values in a single line and also pros and cons of using “constant selection” option.

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1. Introduction

Multiprovider reports always display data in multiple records; Some times users are very particular in analyzing the keyfigure values with the respect to chars which are not available in all the existing cubes of Multiprovider. So it results into multiple record display. To suppress those records, a concept called “constant selection” was introduced in Bex. We will see more details on this option in this paper.

2. Business Scenario

When you wanted to analyze Sales cube key figure values based on Characteristics which are available in billing cube but not in sales, we often see an extra line with # values for the characteristics.

Note: Here, I choose the fields just to explain this problem and solution; you may adjust them with your required fields.

Sales Cube data looks like below

Sales document	Item	Customer Number	Sales Org	Quantity
1500003436	200	100000011	B101	2 KG
1500003436	300	100000011	B101	2 KG
1500004153	200	1000001203	B101	15 KG
1500004153	300	1000001203	B101	1 KG
1500004153	400	1000001203	B101	1 KG
1500004153	500	1000001203	B101	1 KG

Billing Cube looks like below

Bill doc	B Item	Comp code	Sales Document	S item	Billing net value
1000001954	200	B1	1500003436	200	400.00 EUR
1000001955	300	B1	1500003436	300	400.00 EUR
1000001944	200	B1	1500004153	200	6,000.00 EUR
1000001944	300	B1	1500004153	300	500.00 EUR
1000001944	400	B1	1500004153	400	600.00 EUR
1000001944	500	B1	1500004153	500	700.00 EUR

Sales Document number and item are common in both infocubes. Some Characteristics like Comp code and Billing doc are only available in Billing Cube, similarly Customer number and sales org fields are only available in Sales Cube.

If a Multiprovider is created on top of these two infocubes. Common chars are identified from both cubes; others can be identified only from the respective cubes.

When we build a query on this Multiprovider, keeping a char which is not part of both cubes will create an other line with # values present in that column as shown in below screen shot.

In this example, it is billing document

Sales document	Item	Billing document	Sales Quantity	Billing net value
1500003436	200	1000001954		400.00 EUR
		#	2 KG	
	300	1000001955		400.00 EUR
		#	2 KG	
1500004153	200	1000001944		6,000.00 EUR
		#	15 KG	
	300	1000001944		500.00 EUR
		#	1 KG	
	400	1000001944		600.00 EUR
		#	1 KG	
	500	1000001944		700.00 EUR
		#	1 KG	

3. Reason

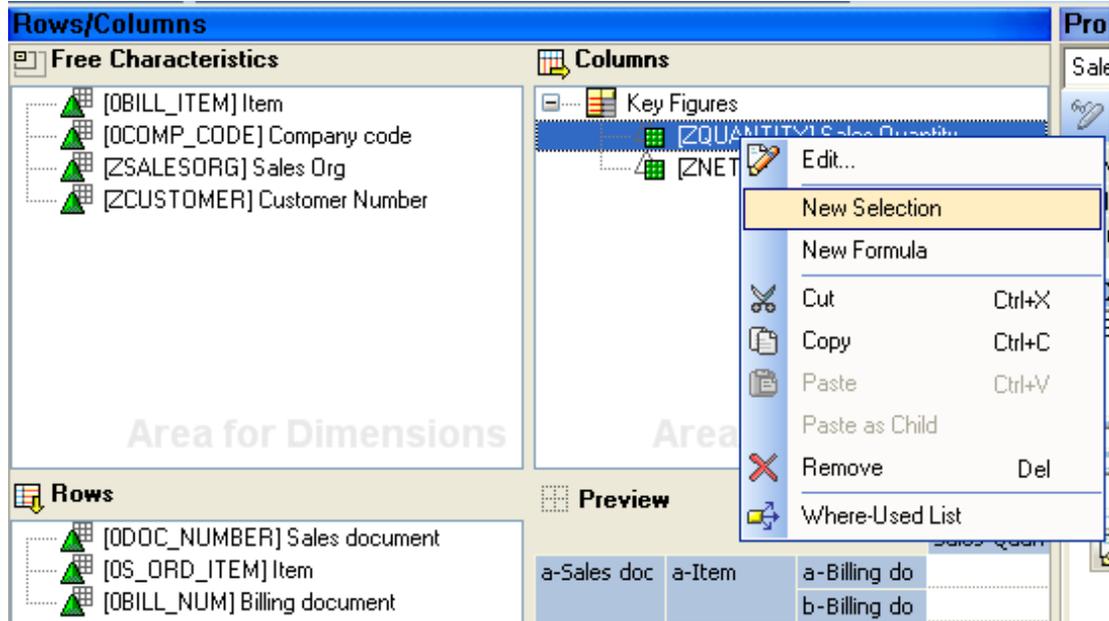
Here, we are trying to analyze Sales Quantity value which is coming from sales cube in the drill down of billing document. Since billing document is not present in sales cube, Bex can't show both values in one line.

So for the document 1500003436, it brings 2 records, one from sales cube and other from billing cube. Since sales cube does not have billing document number it gets # value in the next row.

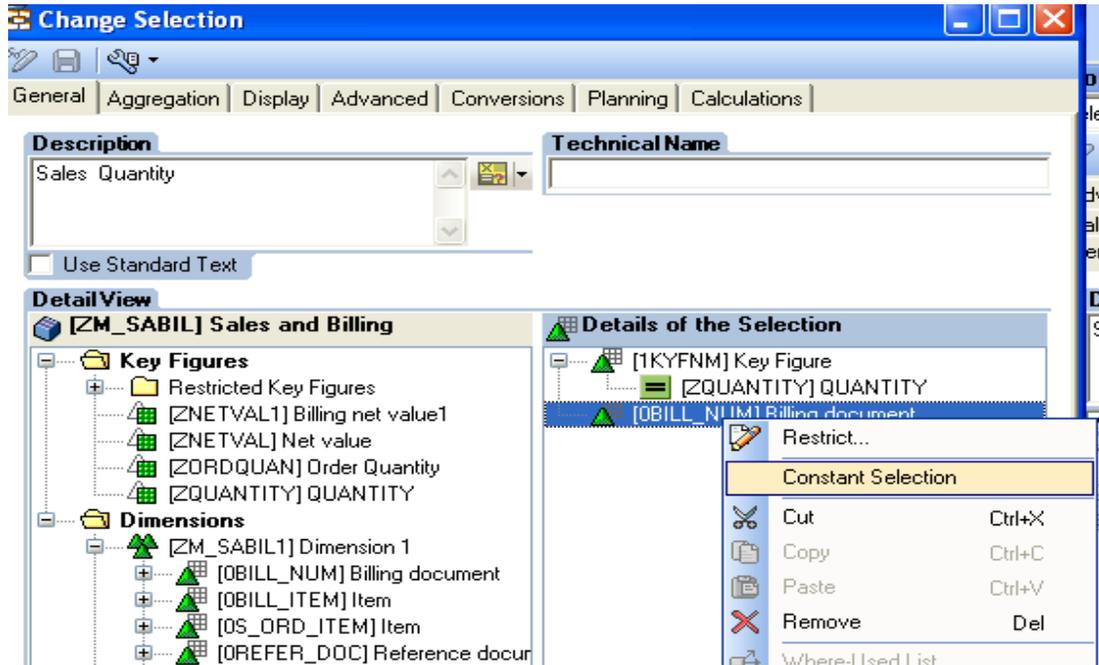
4. Step by step by solution

4.1. Creating a new selection in Bex Query designer

Go to the Query designer, Create a new selection on Quantity.



Inside that, maintain description and drag the keyfigure "Quantity" from left pane to selection pane, drag characteristic "Billing doc" into the selection. In the context menu of billing doc, choose "constant selection" option.



4.2. Executing the query for the result

Execute the query, the duplicate row for the billing document is removed.
Now the result will show like this.

Sales document	Item	Billing document	Sales Quantity	Billing net value
1500003436	200	1000001954	2 KG	400.00 EUR
	300	1000001955	2 KG	400.00 EUR
1500004153	200	1000001944	15 KG	6,000.00 EUR
	300	1000001944	1 KG	500.00 EUR
	400	1000001944	1 KG	600.00 EUR
	500	1000001944	1 KG	700.00 EUR

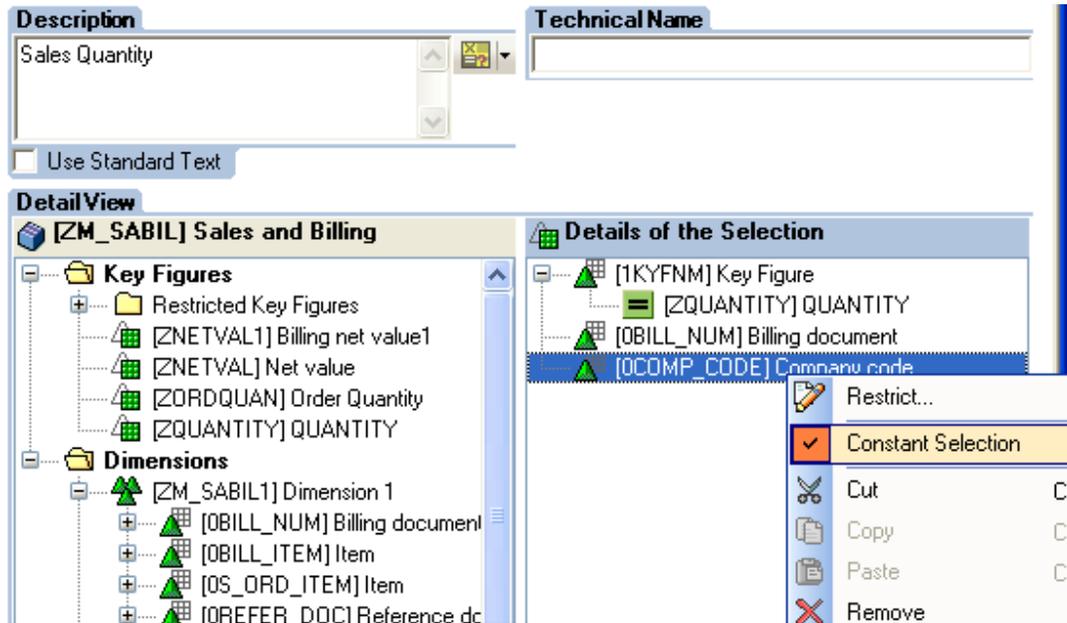
4.3 Adding an other characteristic to drill-down

Now, we add company code characteristic to rows. Company code char is present only in billing cube. So in the drill down, we get one line but no sales quantity available.

Ideally company code should create a new line with # value, but it is displayed in one line and not able to analyze sales quantity value. This is because sales quantity is already restricted with constant selection option for billing doc. So it will not form an other line even though a new char is added to drill down.

Sales document	Item	Billing document	Company code	Sales Quantity	Billing net value
1500003436	200	1000001954	B1		400.00 EUR
	300	1000001955	B1		400.00 EUR
1500004153	200	1000001944	B1		6,000.00 EUR
	300	1000001944	B1		500.00 EUR
	400	1000001944	B1		600.00 EUR
	500	1000001944	B1		700.00 EUR

So now, we should get the value in sales quantity field also in presence of B1. For that, go back to query designer, Select the sales order quantity -> edit



This time, we add company code to selections and in the context menu, choose the option “constant selection”.

Now, we save and execute the query, the sales quantity values are displayed correctly in presence of all required chars. below is the output result.

Sales document	Item	Billing document	Company code		Sales Quantity	Billing net value
1500003436	200	1000001954	B1	B1	2 KG	400.00 EUR
	300	1000001955	B1	B1	2 KG	400.00 EUR
1500004153	200	1000001944	B1	B1	15 KG	6,000.00 EUR
	300	1000001944	B1	B1	1 KG	500.00 EUR
	400	1000001944	B1	B1	1 KG	600.00 EUR
	500	1000001944	B1	B1	1 KG	700.00 EUR

Similarly we can add any number of characteristics from billing cube, which are not part of sales cube and analyze the results in a single row out put by keep choosing “constant selection” for them.

Similarly we can add any number of characteristics from sales Cube, which are not part of billing cube and analyze the results in a single row.

Sales document	Item	Sales Org		Customer Number		Sales Quantity	Billing net value
1500003436	200	B101	B101	1000000011	1000000011	2 KG	400.00 EUR
	300	B101	B101	1000000011	1000000011	2 KG	400.00 EUR
1500004153	200	B101	B101	1000001203	1000001203	15 KG	6,000.00 EUR
	300	B101	B101	1000001203	1000001203	1 KG	500.00 EUR
	400	B101	B101	1000001203	1000001203	1 KG	600.00 EUR
	500	B101	B101	1000001203	1000001203	1 KG	700.00 EUR

Note: When we are adding all sales Chars (not part of billing) in the drill down there should not be any other billing char present and sales keyfigure should not have “constant selection” option. This is explained later in the example on limitation of constant selection.

5. Constant selection

What is Constant Selection?

Generally we use selections/Restricted keyfigures in query designer to restrict the data we want. We can change this data during report runtime using navigations and filters.

If we use *Constant Selection* function for a Char in selection/RKF. It makes the selection value constant all the time. This means that navigation and filtering have no effect on the selection at runtime.

5.1. Limitation

Constant selection option is not worked correctly, if it is used in all selection elements of query or two selection elements which are part of different cubes.

For our old example, we added sales org char to the rows or drill down, it shows # values for the all records.

Sales document	Item	Billing document	Company code		Sales Org		Sales Quantity	Billing net value
1500003436	200	1000001954	B1	B1	#	Not assigned		400.00 EUR
	300	1000001955	B1	B1	#	Not assigned		400.00 EUR
1500004153	200	1000001944	B1	B1	#	Not assigned		6,000.00 EUR
	300	1000001944	B1	B1	#	Not assigned		500.00 EUR
	400	1000001944	B1	B1	#	Not assigned		600.00 EUR
	500	1000001944	B1	B1	#	Not assigned		700.00 EUR

Even though, we keep “constant selection” for sales org in the selection of billing net value, we get results in multiple rows.

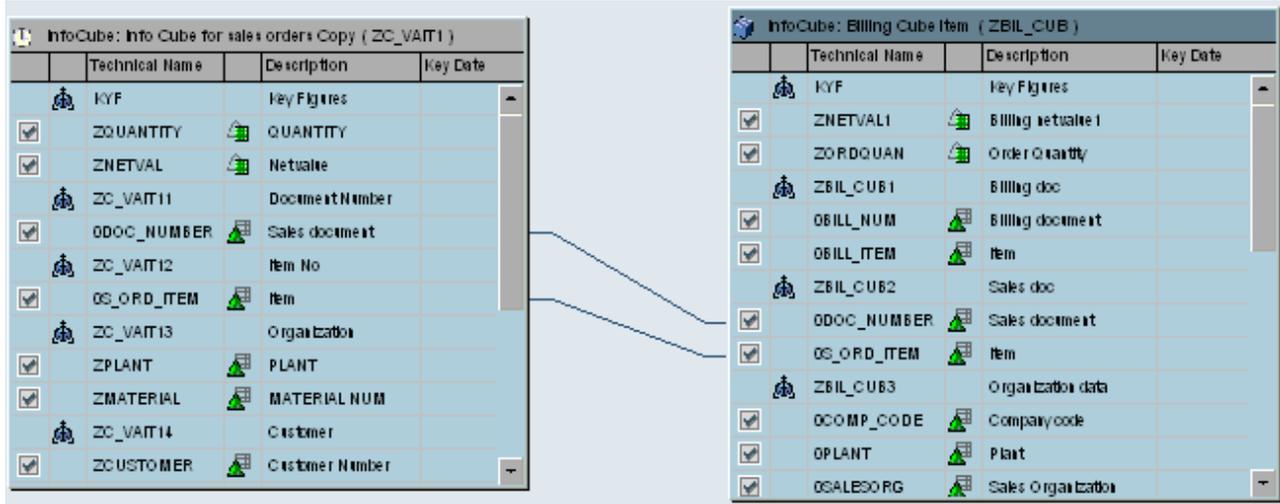
Sales document	Item	Billing document	Company code		Sales Org		Sales Quantity	Billing net value
1500003436	200	1000001954	B1	B1	#	Not assigned		400.00 EUR
	#	#	#	Not assigned	B101	B101	2 KG	
	300	1000001955	B1	B1	#	Not assigned		400.00 EUR
	#	#	#	Not assigned	B101	B101	2 KG	
1500004153	200	1000001944	B1	B1	#	Not assigned		6,000.00 EUR
	#	#	#	Not assigned	B101	B101	15 KG	
	300	1000001944	B1	B1	#	Not assigned		500.00 EUR
	#	#	#	Not assigned	B101	B101	1 KG	
	400	1000001944	B1	B1	#	Not assigned		600.00 EUR
	#	#	#	Not assigned	B101	B101	1 KG	
	500	1000001944	B1	B1	#	Not assigned		700.00 EUR
	#	#	#	Not assigned	B101	B101	1 KG	

This is because, “constant selection” option works as left outer join function. If Sales Cube is right operand in this join, we can't analyze the key figures of both cubes in the presence of sales and billing characteristics.

6. Alternate solution with Infocube

The other alternative solution is using infocube, which acts as an inner join.

Create an infocube on Sales and billing Cubes, join with common chars sales doc number and item.



Now create a query on infocube, we can take chars from any cube and keep them into rows or drill down, result will be shown in one line.

Table	Sales document	Item	Billing document	Sales Org		QUANTITY	Billing net value1
	1500003436	200	1000001954	B101	B101	2 KG	400.00 EUR
		300	1000001955	B101	B101	2 KG	400.00 EUR
	1500004153	200	1000001944	B101	B101	15 KG	6,000.00 EUR
		300	1000001944	B101	B101	1 KG	500.00 EUR
		400	1000001944	B101	B101	1 KG	600.00 EUR
		500	1000001944	B101	B101	1 KG	700.00 EUR

If you use infocube, there is no problem of having duplicate records. But while analyzing you can get only common records in both cubes. If the sales document no 1500003436 is present in both cubes, then only you can have this view.

Infocube with Left outer join:

In BI 7.0, an infocube can't be a right operand of left outer join due to performance issues.

7. Conclusion

So according to our requirement we have to model the objects and use them in reporting. If your requirement is not able to achieve by above two solutions, then you should go by changing the key of the DSO to most detailed level and load them to cubes. Moreover you can add the char to cubes if they are not present and making duplicate lines.

Related Contents

http://help.sap.com/saphelp_nw70/helpdata/EN/e7/5f983c1a356858e1000000a114084/content.htm

<http://www.sdn.sap.com/irj/scn/weblogs?blog=/pub/wlg/4478>

[SAP Note 944815](#)

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