Step by Step Guide to Deploy Crystal Reports on Top of SAP BW InfoCubes

Applies to:

SAP Netweaver 7.x, BOBJ CRYSTAL REPORTS 2008

Summary

This white paper is meant for SAP BW/BOBJ developers who are working on Crystal Reports using SAP Infocubes and BEx. This will help the readers to understand the implementation of Crystal Reports using SAP Infocubes. Also, this white paper will cover the pros and cons of using SAP Infocubes in Crystal Reports.

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Author Bio

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System Requirements

- Windows XP, Vista,7
- Minimum 2 GB RAM
- SAP GUI
- BOBJ ENTERPRISE XI 3.1 CLIENT TOOLS for Windows
- BOBJ CRYSTAL REPORTS 2008
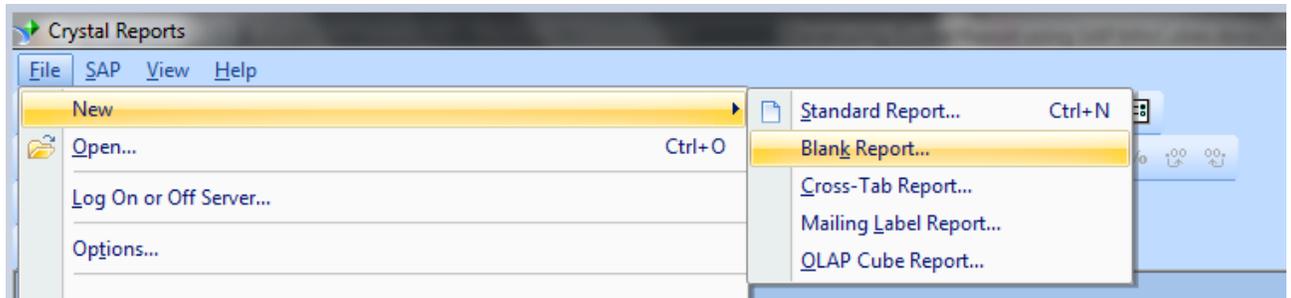- BOBJ ENTERPRISE XI 3.1 Integration Kit Windows

Step by Step process to create a Crystal Report using SAP Infocubes

1) Open Crystal Reports.

To connect the crystal reports to the SAP BW, click on the tab" Open Report from BW", login using SAP logon credentials.
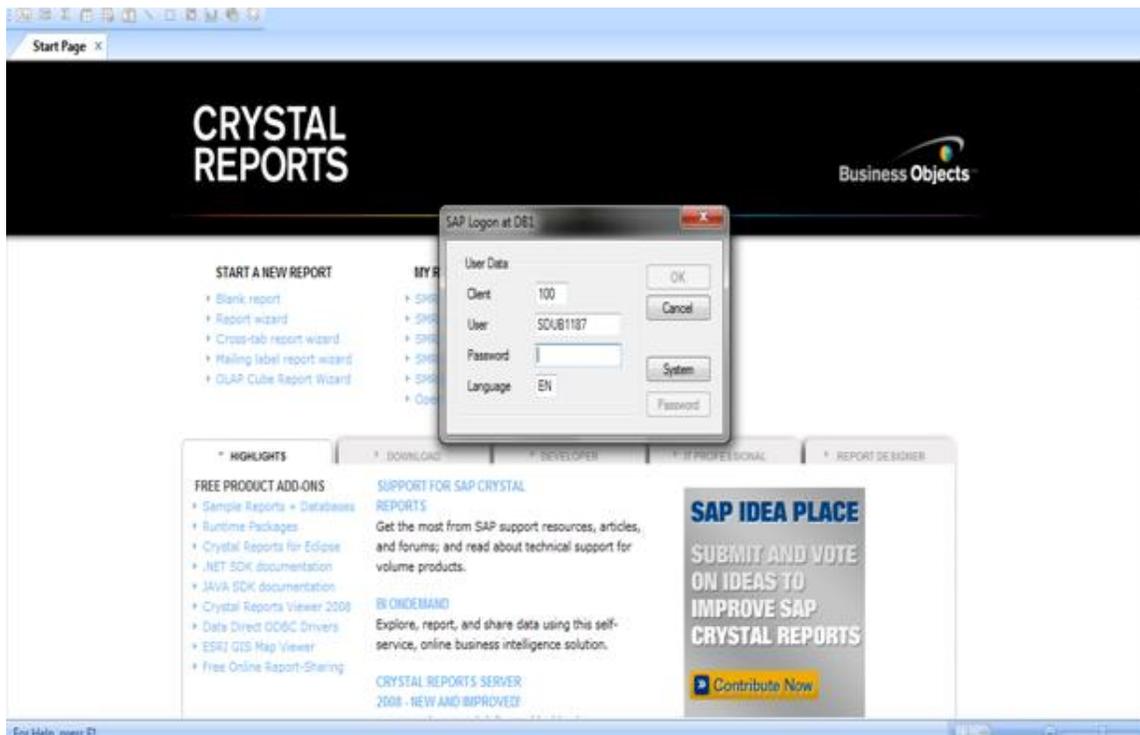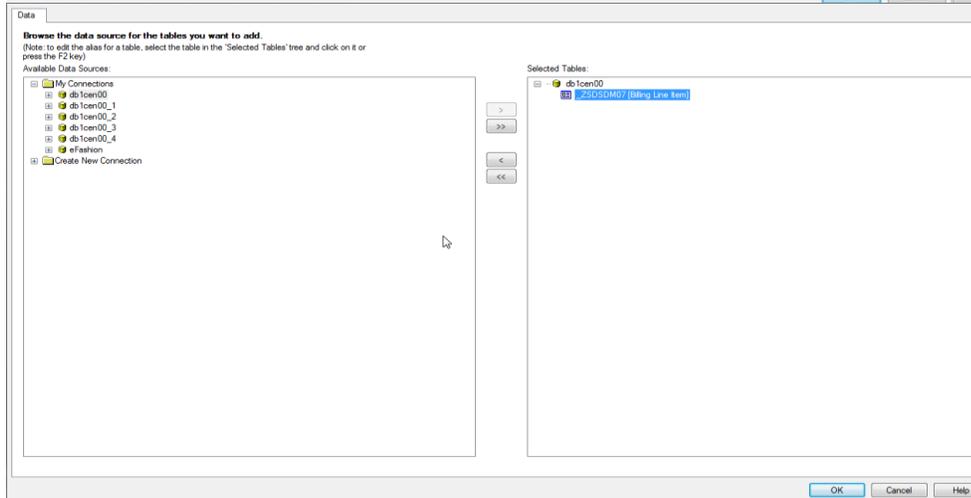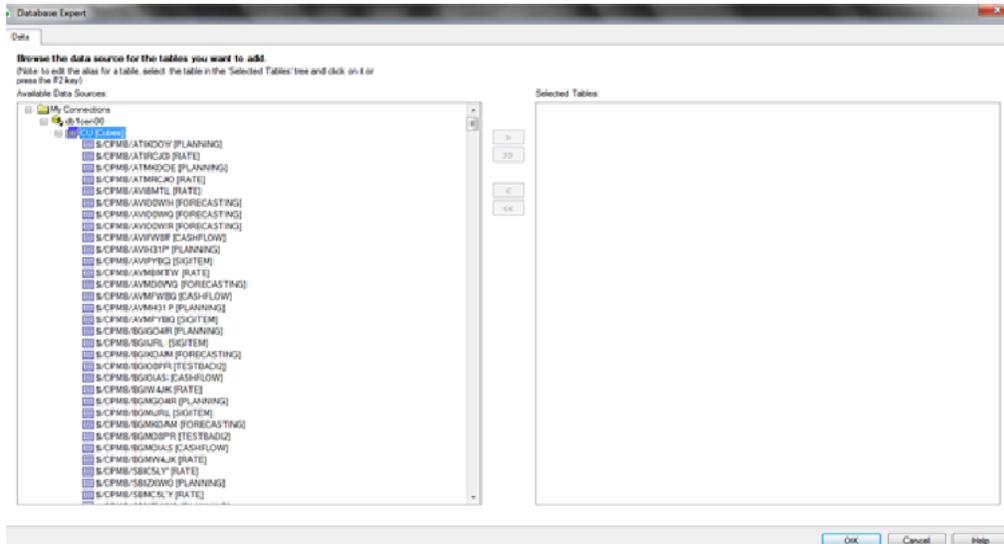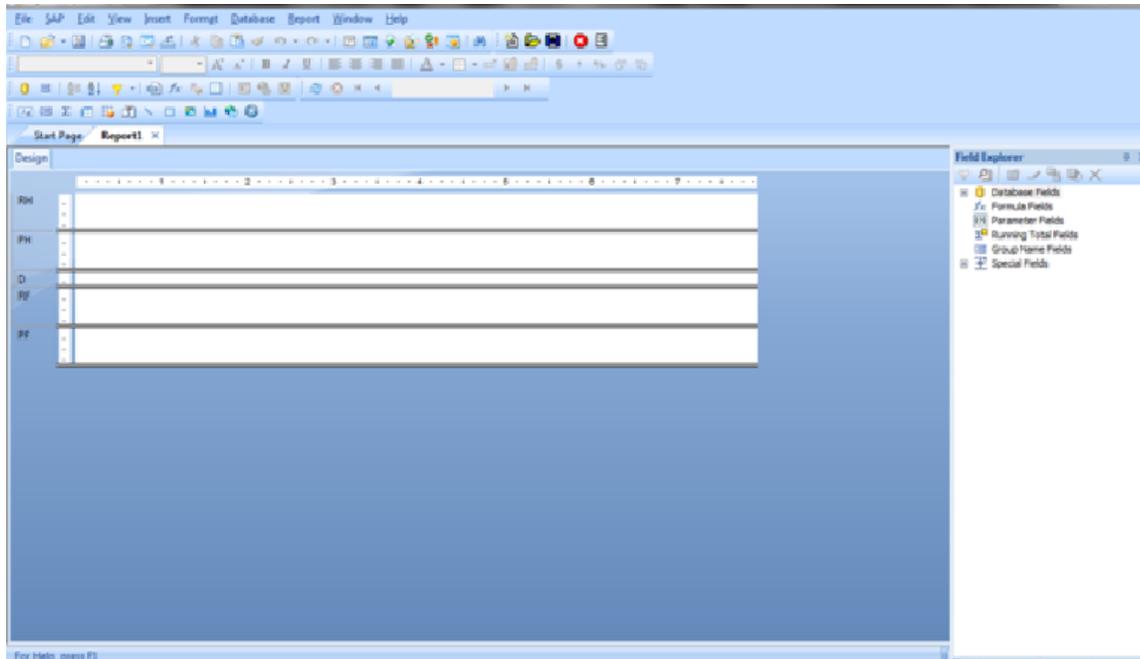

2) Then, go to **File ➞ New ➞ Blank Report**.

3) Expand **My Connections**.

4) Go to **My Connections ➞ db 1cen00 ➞ Cubes ➞ _ZSDSDM07 [Billing Line Item]**

5) Click **OK.**

This is the basic layout of the blank report using Infocube. Now, we have to add fields in the given layout to create a simple report.

Before we start with the development activity, it's good to have some familiarity with the some functional tabs that may be used in the report development. Please check the numbers assigned to each tab and their functionality under section"**Crystal Report tabs and their functionalities**".
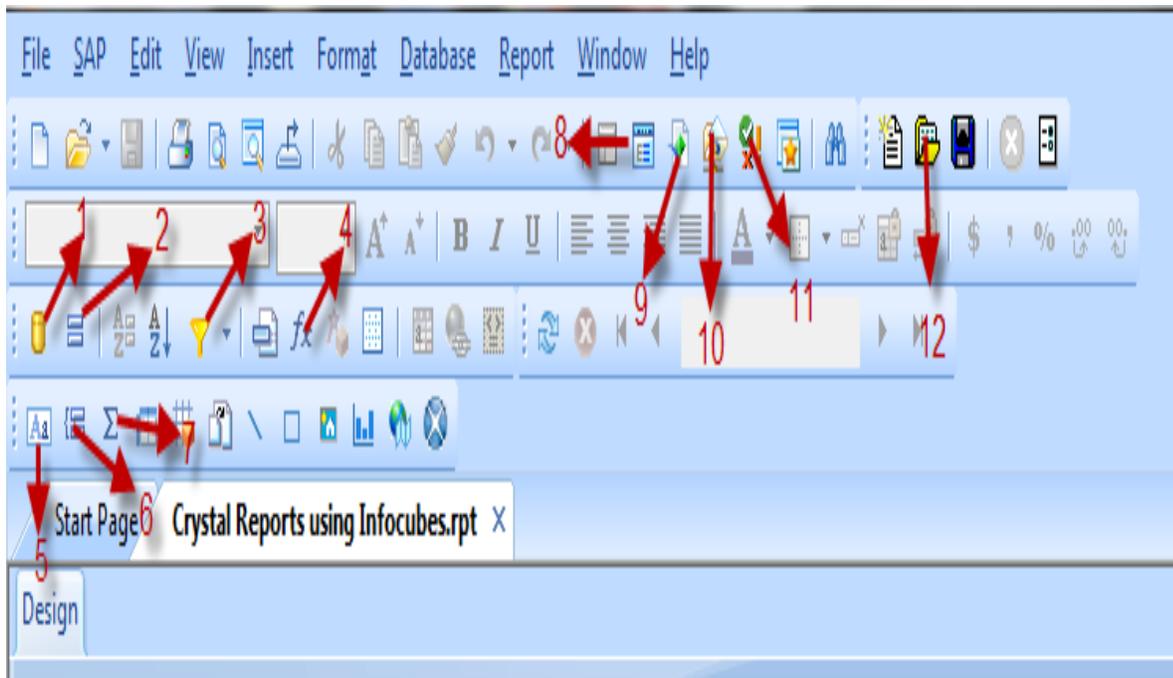
Crystal Report tabs and their functionalities

Tab No.	Name of the tab	Functionality
1	Database Expert	The Database Expert provides an integrated tree view of all data sources you can use with Crystal Reports.
2	Group Expert	Use the Group Expert to specify how fields will be grouped on your report.
3	Select Expert	This option is used to apply a where clause in the report.
4	Formula Workshop	This option is used to create formulae at the report level. All the operators and functions are available within this tab.
5	Insert Text Object	This is used to insert text in the report.
6	Insert Group	This is used to insert a Group By clause in the report. All the fields are available in this tab on which Group by can be implemented.
7	Insert Summary	This option is used to summarize the data in a field in the report.
8	Field Explorer	The Field Explorer is used to insert, modify or delete fields on the Design and Preview tabs of Crystal Reports
9	Report Explorer	The content of the Report Explorer represents the content of the report in a tree view. We can modify report fields and objects by selecting them in the Report Explorer.
10	Repository Explorer	This tab is used to view many types of objects commonly used in Crystal Reports like Text Objects, Bitmaps, SQL Commands, etc.
11	Dependency Checker	This option is used to set conditions you want to verify when you check for errors in the Workbench.
12	Open Report from BW	This tab is used to open reports lying in the BW Folder.

6) Drag all the required fields from Field Explorer.

After dragging the required objects in the detail section of the report, the report will look like this:

7) Save the Report with the name "Crystal Report using InfoCubes".

Adding Formula to the Report

Now, to calculate the Total price of items, create a formula which will be calculated as Net price*Number of items.

1) Here, right click on **Formula Fields➝ New.**Give the name of the formula field as **Total Price.** Click **OK.**
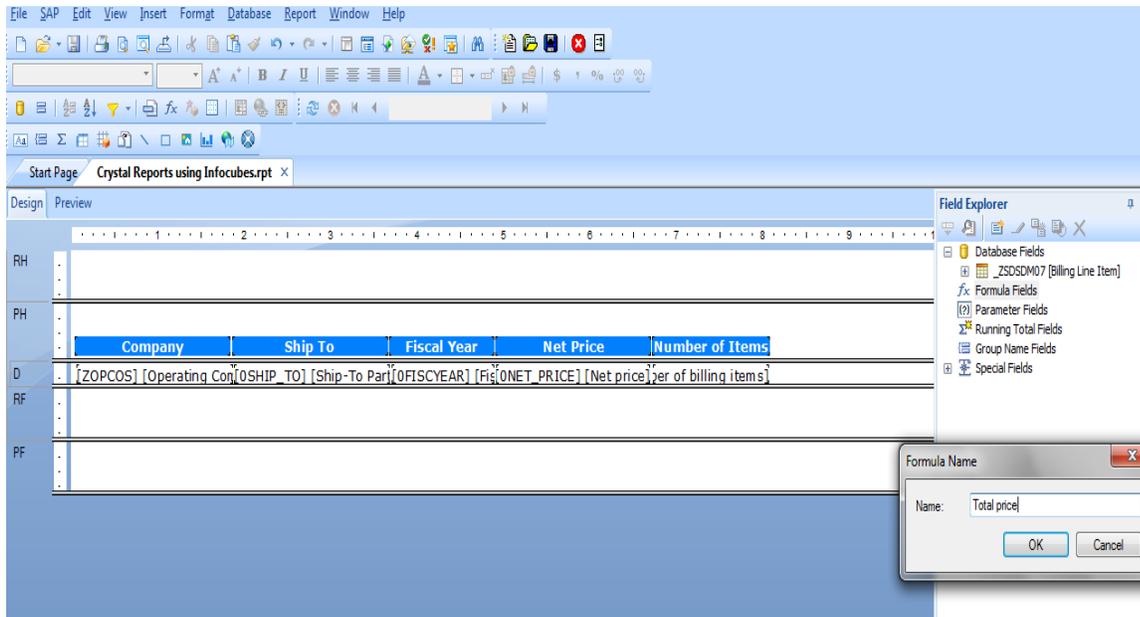
2) Here, select the fields from the db1cen00 on which we want to make the calculations. Like Net Price *Number of Items.Validate the formula using **Alt+C**, then **Save and Close** it.
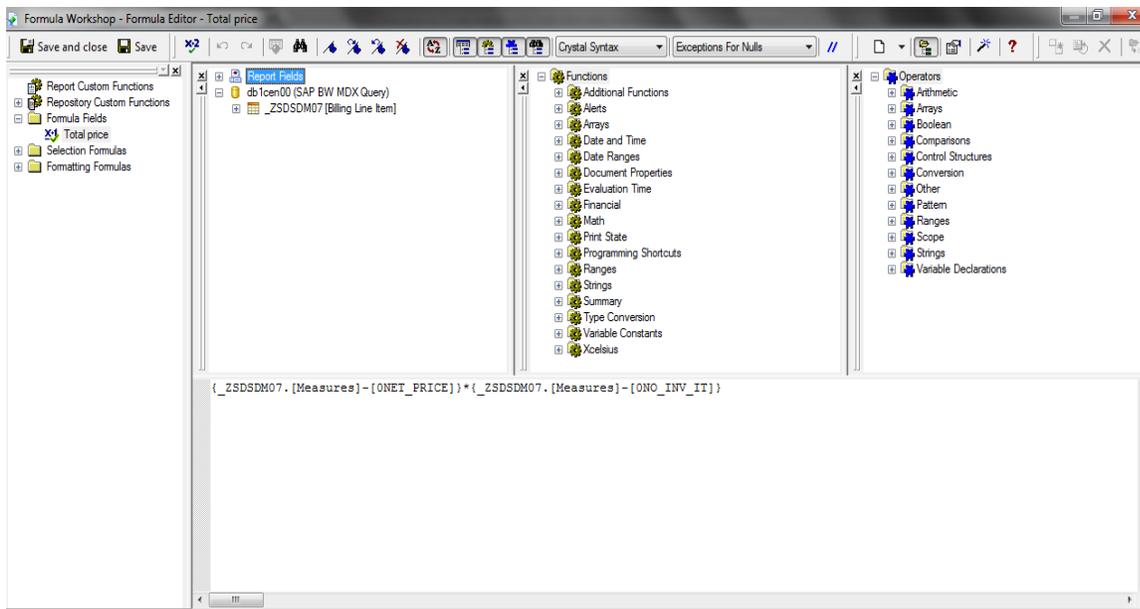
3) Now, drag the formula Total price in the Details Section. Give an appropriate header (e.g. **Total Price**) to it. Then Preview it.

Adding Prompts to the Report

Note: Like BEx queries, prompts can not be defined at the Infocubes level. These can only be created at the Report level.

So, we are following up with this exercise mentioned below:

1) Right click on Parameter Fields, click New. In this, give the name of the prompt, select the type of prompt i.e. static or dynamic.
2) Choose the Value field from the drop down and click on options.
3) To append all the values for this field in the list of Values, click on Append all database values. Then, click **OK.**

In the value option as shown above, we can configure the settings of the prompt based on our requirement.

Prompt Properties

Show on (Viewer) Panel: Choose whether the parameter will display on the parameter panel and whether it will be editable or read-only.

Prompt Text: This will allow to write the text you want to display while running the prompt.

Prompt With Description Only: On selecting the value as **'True',** this will allow to add the description of the fields concatenated with the Value in the List of Values. For this, we have to append the database values in the Description field also (if available).

Optional Prompt: By default, the value of this is **'False'**. It means, the prompt has been configured as mandatory and we have to compulsorily give values to the corresponding prompt in order to run the report. But on making it as **'True'**, we can run the report without choosing the value for this prompt. In that case, we will get all the values in the report for this field which exists in the database.

Default Value: This option is used to fix the prompt value to **'Default'**. Like in the snapshot given below, we can select any default values for the field Country as given in the dropdown. On running the prompt, the default value will appear as the one selected below. Now, it will be the user choice whether he/she wants to change it during the execution of the report prompt. Please check snapshot (b) for this.

(b)**Allow custom values:** On setting this option to **'True'**, users can choose values that have been entered or values of their own choice. Otherwise, users can choose only values that are entered in the List of Values area

Allow multiple values: On making this field to **'True'**, we can select multiple values from the List of Values area while running the prompt. By default, the value is set as False.

Allow discrete values: This field allows selecting only discrete, or singular, values for the parameter field. If "Allow multiple values" are selected, we can select more than one discrete value for the parameter field.

Allow range values: This will allow selecting a range of values for the parameter field. While executing the report, it will ask you for the Start Range and End Range of the parameter field.

For ex: choosing a date range from 1-June-2010 to 30-August-2010 for the date parameter.

4) Now, drag the parameter field Company to the Row Header RH. For ex: in the snapshot given below, the Company prompt has been added in the Report header RH.
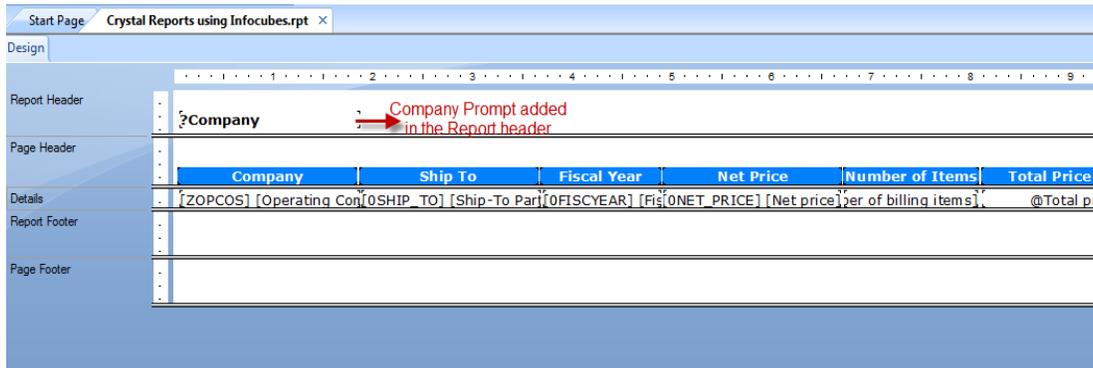
Also, if required, this prompt value can be hidden by using Suppress (No Drill-Down).

5) For this, right click on Report header and click on Suppress (No Drill-Down).
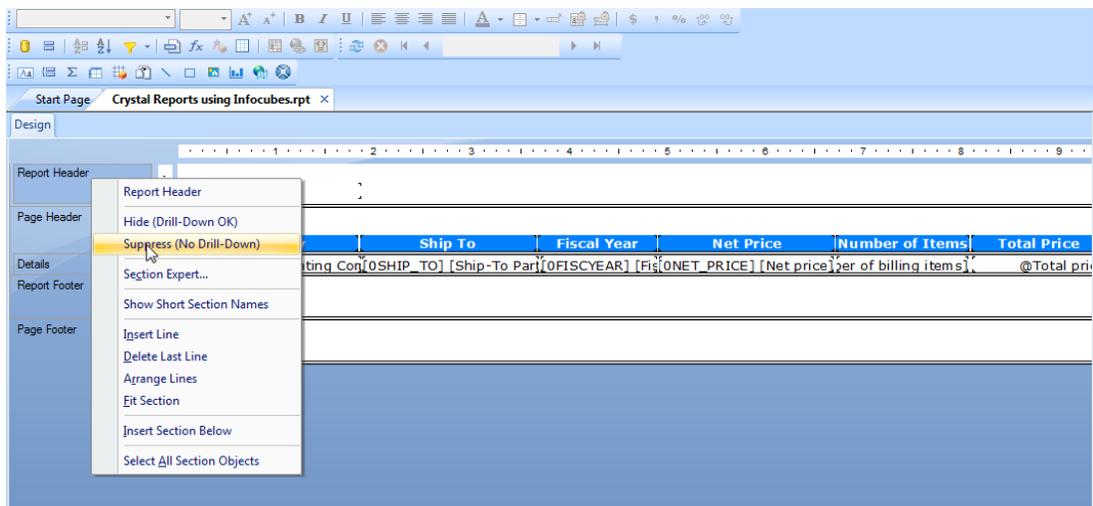
Advantages of Infocubes over BEX Queries
➢ If the reports require less or no calculations, then accessing the Infocube directly is a better option.
➢ This gives a complete visibility as the entire data set is available at the time of reporting.
➢ All the operations that can be performed at the reporting level using BEX or any other Data source can be implemented using SAP infocubes also.

Limitations
➢ Performing aggregations at the report affects the performance as the entire data from the infocube is fetched to the report.

Related Content

[Forum Topics/Crystal Reports page](#)

[SAP Crystal Reports Development Support](#)

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