

# Crystal Reports 9 OLAP Reports

## Parameter Management in OLAP Reports

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### Overview

Crystal Reports 9 enables the Report Designer to set parameters on Slice and Page dimension members in an OLAP report. This feature enables you to select the slice or page of data they want to view in the report. The techniques provided in this document allow you to optimize the time to develop and maintain OLAP reports with Crystal Parameters.

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## General Considerations

In Crystal Reports 9, Crystal parameters in an OLAP grid can be set on Slice and Page dimension members. There is no capability to parameterize the display of row or column members; this functionality is not currently part of the Crystal Reports 9 OLAP feature set.

Crystal parameters can be added, modified and removed if the report contains a single OLAP grid or multiple OLAP grids that do not share the same parameters. For example, multiple OLAP grids that each point to different cubes with different dimensions, or multiple OLAP grids each pointing to the same cube but which parameters are completely independent from each other. If a report contains multiple OLAP grids that each point to the same cube and share the same parameters, then it can be difficult to globally set or update parameters that apply across all OLAP grids in the Report Designer. There are preventative steps that minimize this effort.

This paper also discusses methods to remove shared parameters from an OLAP report to prevent any subsequent discrepancies in report formatting.

## Techniques and Tools

This section describes the tools and techniques that the designer should use to manage parameters and OLAP grid layouts within a Crystal Reports 9 OLAP report.

<b>NOTE</b>	To create Crystal parameters with OLAP Cubes use the <b>OLAP Report Creation Wizard</b> .  The <b>OLAP Expert</b> is based on the OLAP grid already created in the report and does not invoke the ability to create Crystal Parameters with OLAP Cubes.
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### OLAP Expert

The **OLAP Expert** is used to insert a new OLAP grid into a report.

The OLAP Expert enables you to select a cube and specify the cube layout. For example, you are able to specify the dimensions to be displayed in the rows, columns, pages and slices.

<b>NOTE</b>	In the <b>OLAP Expert</b> , parameters can be created, modified or removed for pages and slices. However, parameters cannot be created, modified or removed for rows and columns.
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The **Slice/Page** tab is used to modify members of a slice and/or page dimension that are not referenced by a parameter. When a slice and/or page dimension is referenced by a parameter then the **OLAP Expert** indicates that the **OLAP Report Creation Wizard** should be used.

Once the OLAP grid has been created, the **OLAP Expert** continues to be a useful tool to modify the OLAP grid layout, format and style.

<b>NOTE</b>	Changing the dimension layout by way of the <b>OLAP Expert</b> may resize the width of the OLAP grid columns, as they are automatically adjusted to the width of the largest cell value in the grid.
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Once an OLAP Grid has been created, you can invoke the OLAP Report Creation Wizard to create Crystal parameters to existing OLAP Grids.

### OLAP Report Creation Wizard

The OLAP Report Creation Wizard is used to define, modify or remove Crystal parameters in OLAP grids. It is automatically launched when you create a new OLAP report using the **Report Wizard** option, but it can also be invoked from the toolbar by clicking on the **OLAP Report Settings** icon, or from the **Report** menu.

The **OLAP Report Creation Wizard** enables you to choose a cube, specify the cube layout (such as the dimensions to be displayed in the rows, columns, pages and slice) and set parameters on slice and page dimensions, before inserting an OLAP grid into the report.

The **OLAP Report Creation Wizard** remembers the layout and parameters of the last OLAP grid that was inserted or pasted into the report.

<b>NOTE</b>	Changing the dimension layout by way of the <b>OLAP Report Creation Wizard</b> may resize the width of the OLAP grid columns, as they are automatically adjusted to the width of the largest cell value in the grid.
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Modifying the parameterization settings in the OLAP Report Creation Wizard impacts all the OLAP grids in the entire report.

### Duplicating an OLAP grid

The **Copy** and **Paste** technique can be used to duplicate an OLAP grid in a report. If the OLAP grid contains parameters then the duplicate OLAP grid will also contain the same parameters. After pasting the OLAP grid, the layout and parameters of the duplicate grid will be stored in the **OLAP Report Creation Wizard** settings.

## Methodology / Steps

The two recommended design methods documented are:

- How to share parameters across multiple OLAP grids that are all pointing to the same cube
- How to remove parameters from a report containing multiple OLAP grids

### Sharing parameters across multiple OLAP grids

Crystal Reports 9 does not currently allow you to add a global parameter to a report containing multiple OLAP grids that each point to a same cube. This is a known behavior that has been logged as an Enhancement Request (reference ADAPT 132599).

#### To share parameters across multiple OLAP grids:

1. Carefully select the parameters required in an OLAP report by reviewing every cube dimension to determine which ones must be parameterized. When creating parameters, consider the broader context. For example, you may want to create a template for other OLAP reports. This approach will save time in design effort in a report development project.
2. Create the first OLAP grid in the **OLAP Report Creation Wizard**. This contains all the parameters that will be shared across multiple OLAP grids.

3. Copy and paste the OLAP grid in a section of the report. The OLAP grid can be into any of the Report Header and/or Page Header sections.
4. Select the duplicate OLAP grid and invoke the **OLAP Expert**. The duplicate OLAP grid retains the parameters defined in the original OLAP grid.
5. Identify the parameters that have been set in the slice dimensions of each OLAP grid in the **OLAP Expert**. Also, customize the dimension layout of each OLAP grid in the **OLAP Expert**.

When the report is refreshed, all the OLAP grids in the report containing the same parameters will be updated to display the new values.

This demonstrates the method for sharing parameters across multiple OLAP grids. However it is important to note that you will not be able to add an existing report parameter to an OLAP grid; the **OLAP Report Creation Wizard** allows a new parameter to be added, but an existing parameter cannot be used. Any attempt to create a new parameter using an existing parameter name will result in a message indicating that the parameter already exists.

This is why it is important to decide on the parameters to be used before you begin designing the OLAP report.

### Removing parameters from an OLAP report

Crystal Reports 9 allows you to remove parameters from an OLAP report. However there are currently known behaviors that can occur when performing this task. These behaviors have been tracked as reference ADAPT 138086 and ADAPT 132494.

The first known behavior (ADAPT 138086) occurs when you have sections (RH<sub>a</sub> and RH<sub>b</sub> for instance) in your report and an OLAP grid in one of the section (RH<sub>a</sub>). Then changing the OLAP grid using the **OLAP Report Creation Wizard** will remove the bottom section (RH<sub>b</sub>) causing major changes in the formatting of the report.

The desired behavior for this process (as referenced in ADAPT 132494) is to select the OLAP grid to be modified and launch the **OLAP Report Creation Wizard**; the data reflected in the Wizard should then reflect the selected OLAP grid and not the OLAP grid in the inner most section. After changes have been made to the OLAP grid the report sections and object positions in the sections should remain the same.

#### To work around these known behaviors:

1. Insert a new subsection to be used as a mock section below the first OLAP grid in the report.
2. Select an OLAP grid containing the parameter to be removed, and copy it. To identify which grid contains the required parameter, the **OLAP Expert** displays the relevant information on the **Slice/Page** tab.
3. Insert another mock section below the real section in the report.
4. Paste the copied OLAP grid into the new mock section at the end of the report. This ensures that the **OLAP Report Creation Wizard** contains the setting of the pasted OLAP grid. This effectively simulates the selection of the OLAP grid followed by the invocation of the **OLAP Report Creation Wizard**.
5. Invoke the **OLAP Report Creation Wizard** and, in the **Slice/Page** tab, delete the slice or page dimension parameter and set it to a new dimension member.
6. Click **OK** and note that the mock section inserted in step 1 has now disappeared.

7. Invoke the **OLAP Report Creation Wizard** again and delete the unwanted parameter in the **Slice/Page** tab. This change will affect the whole report and ensures that when a report is viewed, you are not prompted for the parameter.
8. Verify all other OLAP grids inserted into the report and set the slice or page dimensions to the appropriate value for each of them. This step is required because the slice or page dimension member value assigned to the duplicated OLAP grid will not affect other OLAP grids in the report.
9. Delete the duplicated OLAP grid and the mock section at the end of the report.

Upon completing these steps, changes that have been made to the OLAP grid the report sections and object positions in the sections should remain the same.

## Contacting Crystal Decisions for Technical Support

We recommend that you refer to the product documentation and that you visit our Technical Support web site for more resources.

### Self-serve Support:

<http://support.crystaldecisions.com/>

### Email Support:

<http://support.crystaldecisions.com/support/answers.asp>

### Telephone Support:

<http://www.crystaldecisions.com/contact/support.asp>