

Paper 008-29

Introducing the New Rich-Client OLAP Analyzer from SAS -- SAS Enterprise Guide 3.0 OLAP Analyzer

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ABSTRACT

The goal of this paper is to illustrate the new and improved OLAP user interface available in Enterprise Guide 3.0. This paper highlights the changes and new features.

INTRODUCTION

Customers have given their feedback on features they need to enable them to better do their jobs. SAS Research & Development (SAS R&D) listened. Customer feedback has been incorporated into the new release of the Enterprise Guide OLAP Analyzer. The purpose of this paper is to highlight the changes and show the new features.

NEW USER INTERFACE

You will notice the difference in user interface when you first open the software, and especially when you start using it to view cubes. The user interface has been redesigned to allow you to explore OLAP data easier than ever.

The cube logon screen has been redesigned to offer accessibility to any ODBO-compliant cube. When you first launch the software, you will notice that you can access any OLAP cube that adheres to the OLE DB for OLAP (ODBO) standard, such as SAS OLAP, Microsoft Analysis Services, or SAP B/W cubes.

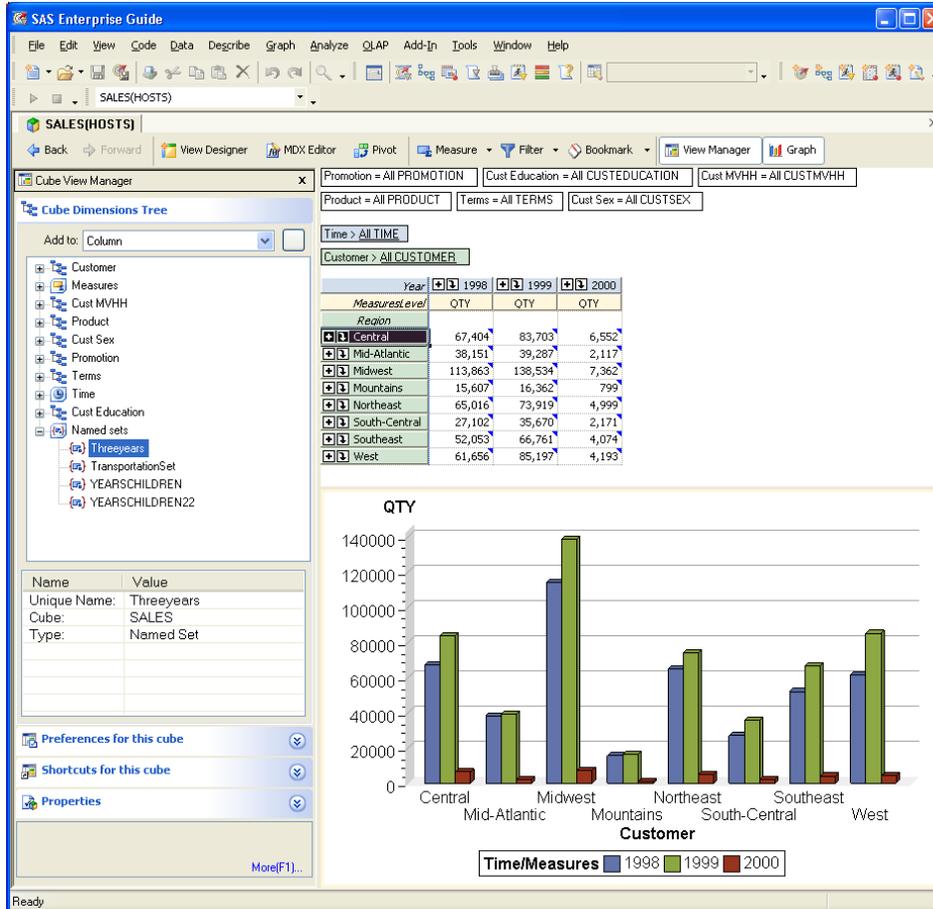
As much as possible, any functions related to viewing cubes are exposed at convenient locations on the user interface so that you can access them easily. On top of the OLAP Analyzer is the tool bar containing the most prominent functions. To the left is the Cube View Manager, which gives you the convenience of viewing any cube members from the dimension tree, preferences for the query, graph and table, shortcuts for views and filters, and property information for the cube. Throughout the table, you can right mouse click on the members, the level labels, the data cells, or a blank space for context-sensitive menus that enable users to quickly perform relevant actions to the cell being clicked on.

Navigating the cubes is made easier by the following visual elements: Expand and Drill buttons are placed right on the table cells to enable the most common navigation functions. Breadcrumbs are added to the top of the table to provide the context for a drilled view. Back and Forward buttons on the tool bar allow users to easily recover previous views. Bookmarks are provided to allow users to return to a specific view they saved with one click.

VIEW DESIGNER

On the OLAP Analyzer tool bar, you can use the View Designer button to choose the items within the cube that you would like to explore. Although you see the default view of the cube when you first open it, you can change this view (also called creating a query) by clicking on the View Designer button. A dialog screen opens and shows you the list of available dimensions, measures, and named sets to choose from. You can drag and drop the dimensions or named sets to the columns or rows of your choice. You can also choose measures and drag and drop them onto the view. Once you have made your selections, you click on the Apply button to view your selection or simply click on the OK button to begin exploring your selection within the cube.

Figure 1: OLAP Analyzer User Interface



VIEW MANAGER

The View Manager window of the user interface allows for exploration of the cube schema information and cube properties. It also allows you to customize the user interface and save preferences. Click on the View Manager button on the OLAP Analyzer toolbar, and the dialog opens on the left of your screen. Within the View Manager, you can view the cube properties, add or edit bookmarks or filters, set preferences for your query, table, or graph, and even select the dimensions and measures.

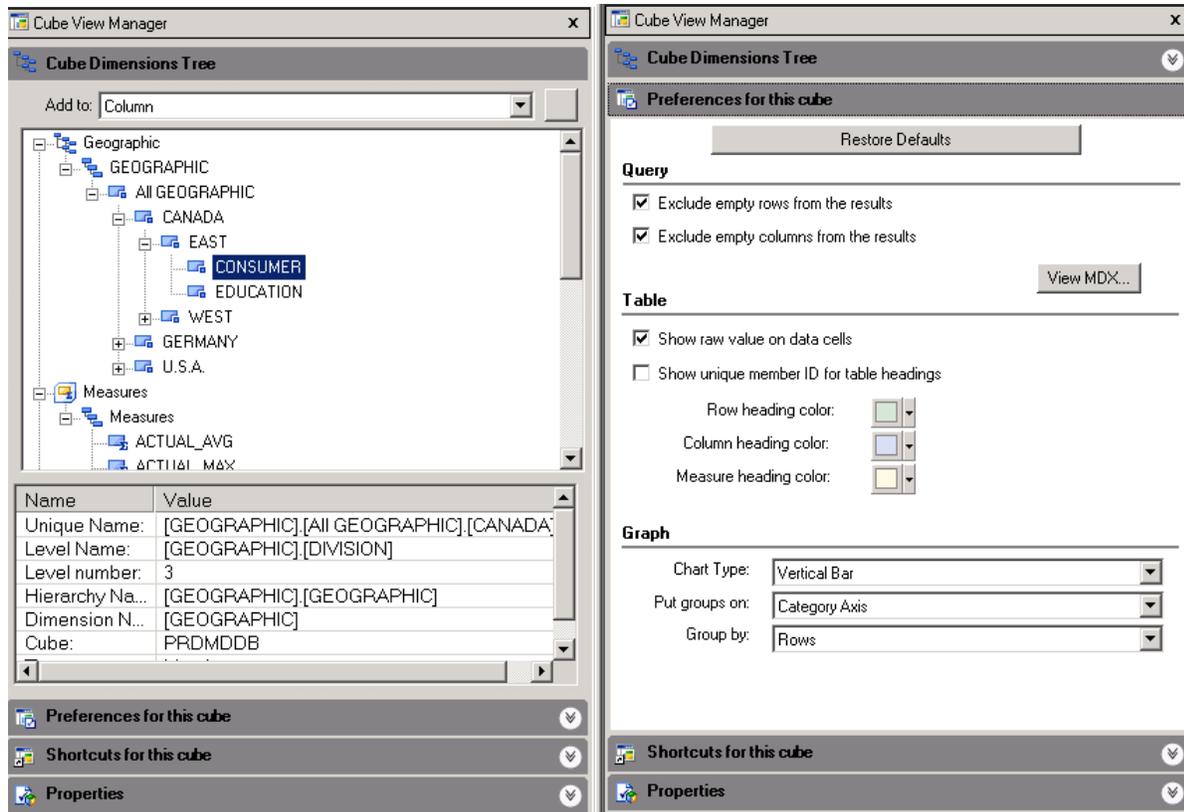
You can choose to open the View Manager window. Alternatively, you can close the View Manager window and still have the ability to open each of its panels from the menu bar on the far left of your screen. With the View Manager window closed, you have more space on your computer screen for cube exploration without compromising functionality.

The first panel of the View Manager displays the Cube Dimension Tree. You can use it to drill through the dimensions and measures of your cube and obtain properties of the cube, its members and measures. (For a visual picture of the View Manager cube dimension tree and cube preferences panels, please see Figure 2: View Manager Cube Dimension Tree and Cube Preferences).

In the cube preferences panel of the View Manager, you can make certain changes, such as excluding (or including) empty rows or columns from the results, show (or hide) the raw value of the data as a tool tip, display (or hide) the column headings, choose your default graph type and your choice of how the data is displayed on the graph. You can also choose the color scheme of the cube. Last, you can view the MDX syntax that was used to retrieve the cube. Advanced users may want to copy the syntax for later use or to further refine the query using MDX.

In the shortcut for the cube panel, you can view available bookmarks and filters. You can also add or edit existing bookmarks and filters. The properties panel displays properties of the cube, such as the ability to drill to detail. Properties depend on server support.

Figure 2: View Manager Cube Dimension Tree and Cube Preferences



IT IS EASY TO OPEN THE CUBE

To explore a cube, from the Menu Bar, select File, Open, OLAP Cube. Then, choose the server where the cube resides and the appropriate ODBO-compliant provider, click the OK button, and you will see a list of available cubes within your selected repository. Select the cube of your choice to begin exploration. The default query into the cube is formulated for you. Now you are ready to explore your multi-dimensional data.

IT IS EASY TO EXPLORE THE CUBE

TABULAR AND GRAPH VIEW

The first way to explore the cubes is through either the tabular or graph view. The tabular and graph views are on the right of the OLAP Analyzer window. The plus (+) sign expands the level; the arrow drills down. Notice that both the table and graph change views according to each click. The single query result is displayed in both tabular and graphic format.

Additionally, the context menu provides you with further navigational abilities, such as drill up/down, collapse, and sort. You can reach the context menu by clicking on your right mouse button within the different areas of the OLAP Analyzer.

BREADCRUMBS AND SLICER

Breadcrumbs and slicer are also new additions to the product. Their goal is to help you keep track of your drill path – where you are in the data. They also allow an easy way to drill up within the hierarchy. You find the breadcrumbs and slicer at the top left of the screen.

At the top of the screen, in white, you see the current slice or view of the data. You can change it by clicking on the link in the white box. The breadcrumb, in green, allows you to drill up through the dimension levels.

PIVOT/ROTATE

Since moving the data from the rows to the columns and vice-versa (pivoting or rotating the cube) is a popular action, the function has its own button on the toolbar. If you want to pivot the table, simply click on its button.

BOOKMARKS

Another popular function is the ability to save the view of the cube – also called book marking. If you have a view of the cube that you would like to keep, you can select the bookmark button on the menu bar, then click “Add a bookmark”. You can also choose to edit an existing bookmark. Under book marking, you can also choose to return to the original default view of the cube.

BACKWARD AND FORWARD OPTIONS

Two additional toolbar options are the Back and Forward options. Similar to the way the backward and forward buttons work on a Web browser, they enable you to see previous views of the data as you maneuver through the cube. You can find them on the leftmost window of the OLAP Analyzer toolbar.

FILTERS

The filter selection can be found on the OLAP Analyzer toolbar. Filters allow you to subset your data by either a rank or value. For example, you can create a filter that displays the top n rank of a measure. You can also create a filter that subsets your query based on a range of values. Once the filter is created, simply return to the filter menu and de-select the filter to remove it from the query, or reselect it to add it back to the query once again. You can also return to the original query by choosing the None option.

Figure 3: Create a New Filter

New Filter

Name of Filter: Query Filter 1

Measures: QTY

Members: TIME = All TIME

By Rank: Top 5 Count

By Range: Is greater than > 0.00

Add to Shortcuts panel in the Cube View Manager

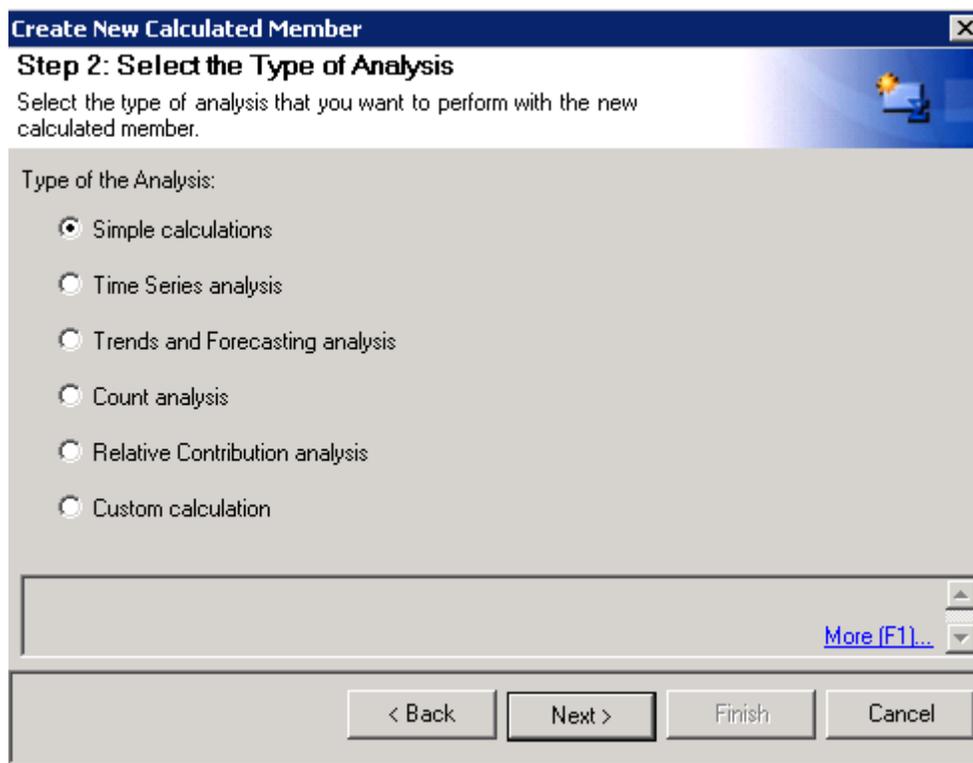
Use filter to subset the query results based on a ranking function. You can also define a subset conditions based on ranges of values.

OK Cancel

ADVANCED OLAP FUNCTIONALITY**CALCULATED MEMBERS WIZARD**

One of the new items within the OLAP Analyzer is the Calculated Members Wizard. Using calculated members, you can take your OLAP exploration a few steps further. The wizard allows you to choose the type of analysis you want to perform and guides you in selecting the variables you need to calculate the formula. For example, you can perform parallel period comparisons, distinct counts, percent increase or decrease, or create a simple ratio of two measures. You can use calculated members in your query at any time.

Figure 4: Calculated Measures Dialog Box



DRILL TO DETAIL DATA

Sometimes you need to examine the detail data from the multidimensional cube. If your cube server allows this functionality, you can easily view it by right-clicking on the cell that you want to view the detail data and select the “Drill through Detail” option. From the submenu, select the tuple that represent the crossing of the members of the dimensions. The detail data window will now open. Please note that by default, the first 2000 rows of the detail data are displayed. This limit can be increased or decreased based on your preference from the EG options window.

Once you have the detail data, you can choose to save it into a separate data set in order to perform further analytical functions on the data.

If your OLAP server does not support drill to detail, you can create snapshots of your query data, create a slice and run SAS tasks on it.

NAMED SETS

A named set is an alias for a group of dimension members. For example, you can create a named set called “North America” to represent the countries in North America. A named set is surfaced in the user interface and can be included in your query.

MDX EDITOR

Advanced users who would like to submit Multidimensional Expression (MDX) strings directly can use the MDX editor. You can also copy and paste from the MDX editor and use the string in other applications.

NEXT RELEASE

New features are added into future releases of the OLAP Analyzer based on customer input. Customer feedback is very important to us; we would like you to be very happy with our software. If you have a need for functionality that is not currently included, please let us know.

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