CA 1® Tape Management

CA Graphical Management Interface (CA GMI) User Guide

Release 12.6

Third Edition

CA Technologies Product References

This document references the following CA Technologies products:

- CA 1® Tape Management (CA 1)
- CA ASTEX™ Performance (CA ASTEX)
- CA CREWS™ Catalog Recovery (CA CREWS)
- CA Datacom®/DB (CA Datacom)
- CA Disk™ Backup and Restore (CADisk)
- CAEncryption Key Manager
- CA Graphical Management Interface (CA GMI)
- CA IDMS™ /DB (CA IDMS)
- CA MasterCat™ VSAM Catalog Management (CA MasterCat)
- CA PDSMAN® PDS Library Management (CA PDSMAN)
- CA Storage Resource Manager (CA SRM)
- CA SYSVIEW® Performance Management (CA SYSVIEW)
- CATape Encryption
- CA TLMS® Tape Management (CA TLMS)
- CA Vantage™ Storage Resource Manager (CAVantage SRM)
- CA Vtape™ Virtual Tape System (CAVtapeVTS)

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Contents

Chapter 1: Introducing CA GMI

Note: The following software versions were used to create the screen samples and examples in this guide:

- CAVantage SRM Windows Client Release 12.5
- CAVantage SRM Web Client Release 12.5
- CAVantage SRM Release 12.5

This section contains the following topics:

About CA GMI

CA GMI is the graphical management interface product that allows you to view and manage mainframe activity from a PC. It consists of user-interface clients which interface with a z/OS server component to allow access to basic z/OS server functions.

The following user-interface clients are available:

Windows Client

This client provides full functionality. That is, you can manually perform view and analysis functions, filter and sort desired entries, zoom (drill-down) to related objects, and take actions upon selected entries. You can create customized colored reports in different formats, for example, tables and graphs in HTML, PDF, and XLS formats. These reports can be printed and exported to your PC directory, servers, intranet, and so on. The Windows Client has a Scheduler component that manages scheduled tasks defined in the Windows Client (for example, tasks scheduled using the View and Output Definitions, and Object Logging functions). You can create, manage, and view Summary Objects and Joined Objects. This client also provides designer wizards to create scripts to monitor and respond to any condition, exceptional or routine, in automatic ways. These automation services let you replace many manual processes of managing your system. It also has a JCL Management feature to manage JCL and includes the Host Config Client which you can use to set CAVantage SRM system parameters.

Note: The Joined Objects feature requires a CAVantage SRM base license and at least CAVantage SRM Release 12.5 on the z/OS hosts. Automation services requires a CAVantage SRM Automation Option license.

Web Client

As a browser interface, it can be used from any PC with internet access to the Web Client's application server. The current version of the Web Client provides the user-driven functionality of view and analysis, filtering and sorting, zooming, and the ability to take actions on selected entries. You can create customized colored reports in different formats, for example, tables and graphs in HTML, PDF, and XLS formats. These reports can be printed and exported to your PC directory, servers, intranet, and so on. The Web Client has a Scheduler component that manages scheduled tasks defined in the Web Client (for example, you can schedule output reports). You can create, manage, and view Joined Objects, and you can view Summary Objects.

Note: The Joined Objects feature requires a CAVantage SRM base license and at least CAVantage SRM Release 12.5 installed on the z/OS hosts.

3270-based interface (View 3270 Client)

This client provides partial functionality. It is limited to the user-driven functionality of view and analysis, filtering and sorting, zooming, and the ability to take actions on selected entries.

Note: The View 3270 Client is considered a character-based user-interface, not a graphic-based user-interface, so it is not discussed in this guide. For View 3270 Client installation and configuration information, see the *CAVantage SRM Configuration Guide*. For more information about using the View 3270 Client, see the chapter "Navigating the View 3270 Client" in the *CAVantage SRM User Guide*.

Note: This guide mostly displays examples from the Windows Client, which are similar in many respects to the Web Client. For more information about Web Client features, see the *CAVantage SRM Web Client Guide*.

CA GMI is included free of charge with many CA products. The CA GMI components only need to be installed once. However, you must configure the z/OS server component for each CA GMI enabled CA product you want to use CA GMI for, on each host where you want to use it. The following is the list of CA GMI enabled CA products:

- CA 1
- CA ASTEX
- CA CREWS
- CADisk
- CA IDMS/DB
- CAEncryption Key Manager
- CA MasterCat
- CA PDSMAN
- CA SYSVIEW

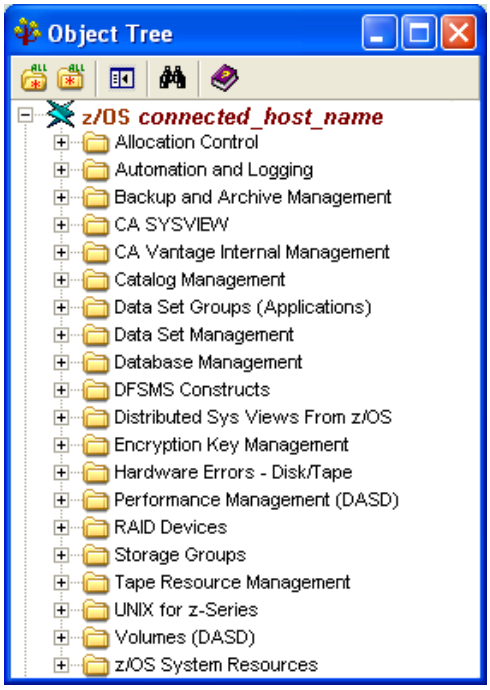
- CATape Encryption
- [set the ttm variable for your book]
- CAVantage SRM
- CAVtapeVTS

The Object Tree

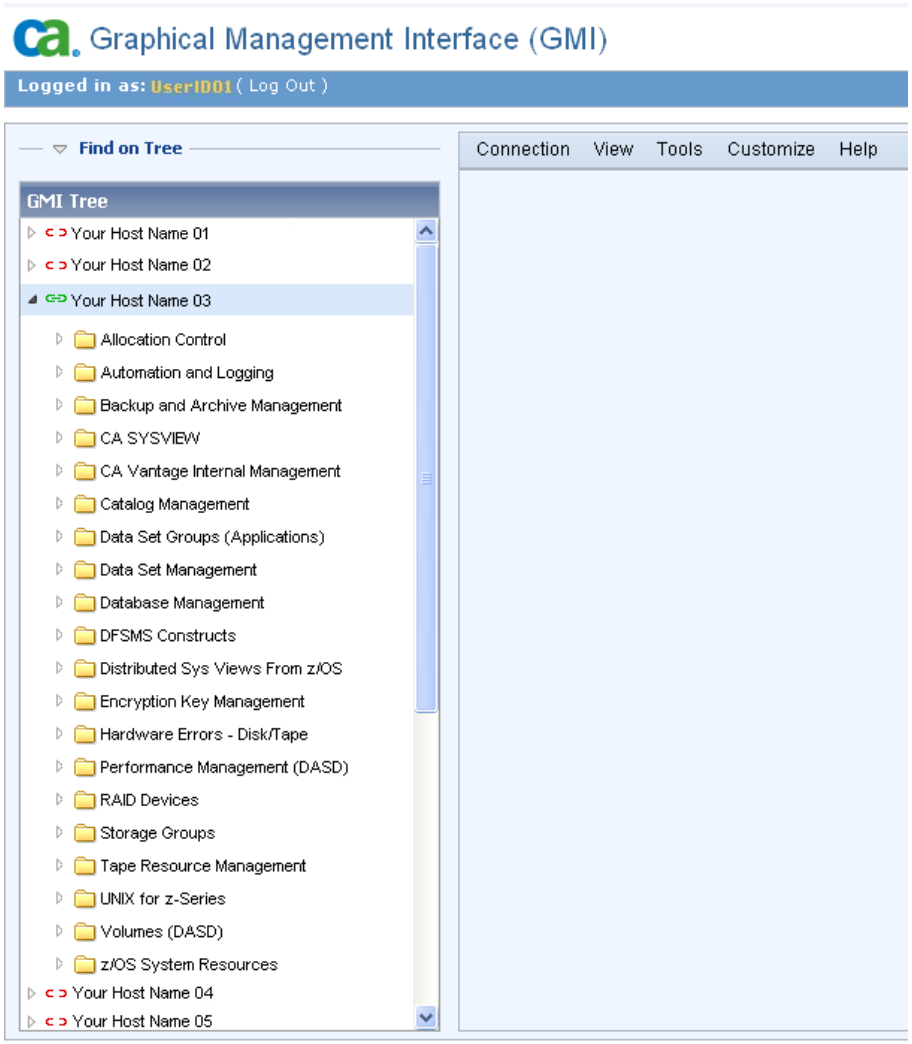
You access all user-interface functions from the main window of the user-interface. The Object Tree is a major feature on the main window of the user-interface.

The expandable and collapsible Object Tree lists all the source objects in a hierarchical tree structure. A folder icon represents a grouping of objects in the tree. When you expand a folder you will either view subfolders, the objects in the folder, or both. Different types of objects are represented by different icons and their title. A source object contains all the fields updated by the data collection services for that object. All fields-or any subset of them-can be included in user-defined views based on the source object.

In the Windows Client, the Object Tree is displayed in its own window. To display the Object Tree in the Windows Client, click the Object Tree icon in the Windows Client toolbar. The following is a sample of the Windows Client Object Tree window:



In the Web Client, the Object Tree is displayed in the GMI Tree navigation pane in the Web Client main window. The following is an example of the GMI Tree navigation pane in the Web Client main window:



You can access CA GMI enabled product objects using the user-interfaces, and the following basic CAVantage SRM storage management objects:

- CA Vantage Internal Management, which includes the following objects and sub-folders:
  - All Summary Objects
  - JCL Model List
  - Internal Status Monitor
  - Log and Warm Start Status

  - Sub-folder; Analysis Tools (memory usage, object dictionary, and component analysis)
  - Sub-folder; System Activity (Message Log, Mailbox, System Parameters, Operator Commands, and others)
- Catalog Management (locations, relationships, entries, and space usage)
- DFSMS Constructs (all attributes)
- Hardware Errors (current and historical, and tape units)
- Storage Groups (space usage and other attributes)
- Volumes (DASD - space usage and other attributes)
- z/OS System Resources (APF list, Link list, and so on)

To find out more about these objects in the Windows Client, right-click the object in the object tree and click the Help on Object option. To display the Object Help in the Web Client, open the object, click Help, and then Object *object_name* Help.

Standard CA GMI Features

CA GMI user-interfaces provide a rich set of standard features for working with your products and related object data. These features include the following:

- Simultaneous connection to several z/OS hosts, with separate views for each host, or all hosts consolidated into a single view
- Table views of all data, customizable with the ease of point-and-click
- Graphical views of any numeric data, easily customized, with a wide range of two-dimensional and three-dimensional features
- Filtering and sorting on any field
- Summary Totals and Statistics (aggregate functions such as total, average, minimum, and maximum)
- Scaling (KB, MB, GB, and so on) and color coding features
- Drill-down feature to zoom to related object data
- Wizards for simple or complex summaries (Summary Objects)

  Note: Currently, you can create and manage Summary Objects using only the Windows Client. You can view Summary Objects using both the Windows Client and the Web Client.
- Reporting features for customized and printed reports

- Multiple output formats, including:
  - Web page (HTML)
  - Email
  - PDF
  - Excel
  - Microsoft Access Database (MDB)

    Note: This output format is only available from the Windows Client.
  - Comma Separated Values (CSV)

    Note: This output format is only available from the Web Client.
- Schedulers for producing and sending report output on a regular basis
- JCL management (edit, model, drag and drop, substitute, submit, and schedule)

  Note: Currently, JCL management is only available in the Windows Client.

The following sections provide examples of some of the standard features of the Windows Client:

- Standard Object Views (see page 12)
- Standard View Options (see page 30)
- Other Standard Features (see page 49)

Standard Object Views

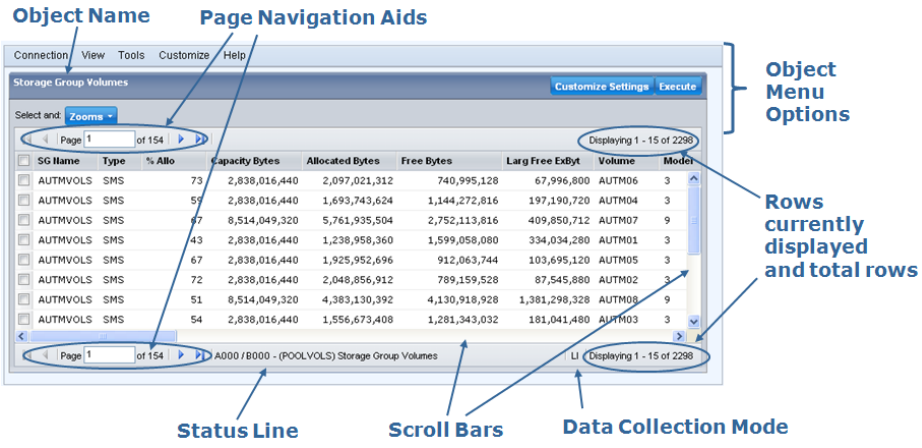
The standard object views in the Windows Client are the Table View, Graph View, and List View. The standard object view in the Web Client is the table view and you can create charts (graphs) of object information (data).

The following sections describe the Table View of both clients and the Graph View of the Windows Client.

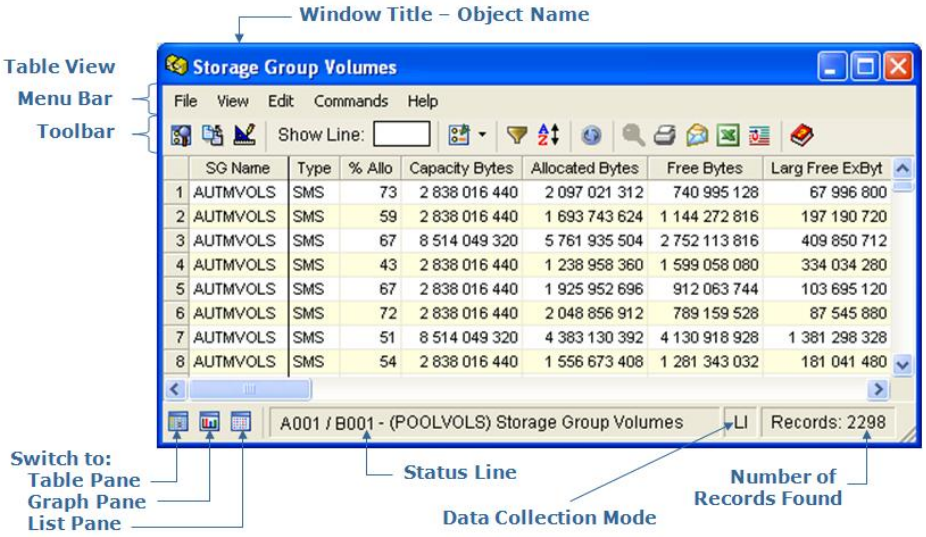
Table Views

In both the Windows Client and the Web Client, the default view of objects is the Table View. The Table View displays object information (data) in configurable tables. You can change display characteristics (such as the width and number of table columns, the number of rows displayed, and so on) and characteristics that apply to specific objects, such as sort and filter criteria. The display and object-specific characteristics determine the appearance of the table. When you save your user-defined views of objects, you automatically save the display and object characteristics with it.

The following is a sample of an object table displayed by the Web Client:



The following is a sample of a Table View of an object displayed by the Windows Client:

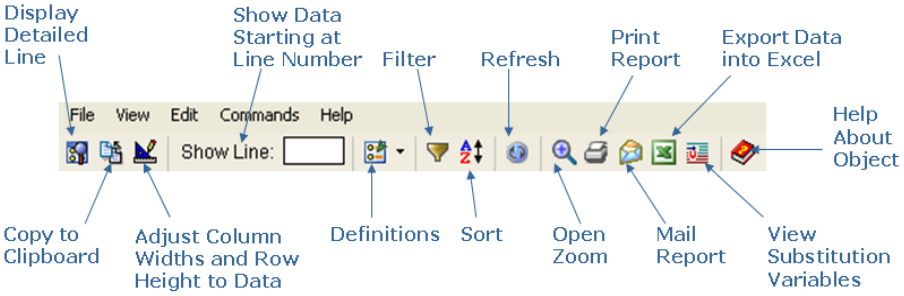


In the Windows Client, you can change the view type, for example from the Table View to the Graph View, or List View by clicking the *Switch to* icon in the bottom left corner of the object window, as shown in the sample Table View. In the Web Client, if you have created a chart (graphic) view of object data then the chart is displayed above the table.

Table View Dialog Toolbar Options

The Web Client Customize Menu provides access to the Customize View Wizard and the Customize Report Wizard. The Customize View Wizard provides object view customize options such as: filter, sort, charting (object graphs), hide or display columns, rename columns, and so on. The Customize Report Wizard allows you to create and manage output reports and output report schedules.

The Windows Client Table View dialog toolbar provides the following options:



The Windows Client Table View dialog toolbar icons can vary depending on the object being displayed. The following are just a couple of the additional icons that may appear depending on the object being displayed:

View Info Area Icon ( )

Displays an information area (Info Area) window that contains information unique to the object, or other information related to the entire object.

Note: To see an explanation of the information displayed in the information area window, open the *Help About Object* online help system from the object's toolbar.

Input List Icon ( )

Allows you to specify the input that creates the object. The type of input can vary from object to object. In some cases, such as when working with CA Disk archive and backup data, the Input List provides the names of one or more data sets from which the object data is extracted; that is, the CA Disk FILES Data Sets. In the case of the BCS Data Set Entries object (which lists catalog entries), the Input List is a data set name or data set name pattern to be found in the system catalogs. For other objects, the Input List is an input command to the specific product that produces the object.

In most cases, each Input List can be configured to provide system defaults. The Input List dialog allows you to override the default values. Click the Help button in the Input List dialog to find out how to use the dialog.

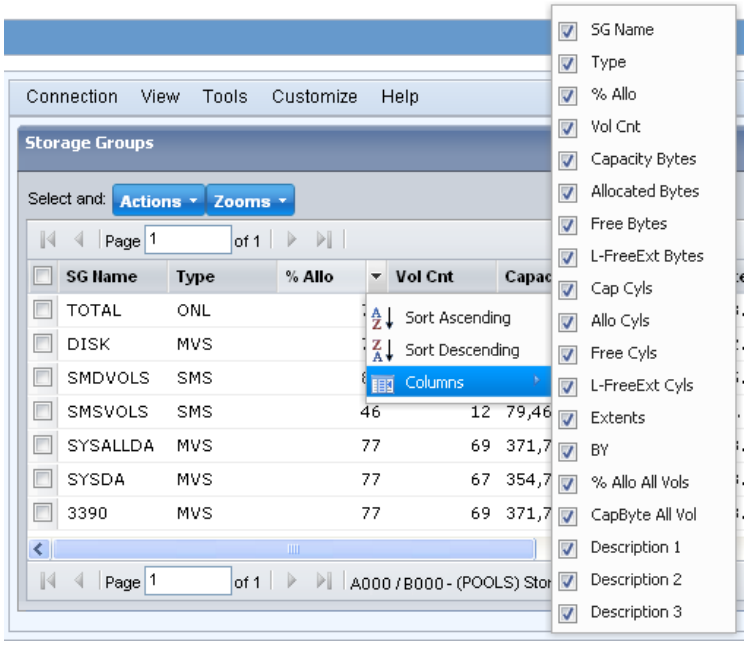
When the Input List consists of data set names, and GDGs are appropriate, either relative or absolute names may be entered. You may also specify System variables and System Symbols within the Input List, and their active values will be substituted.

Note: Because an Input List is not executed in any specific object context, you cannot use Object Related variables for substitution.

Note: For more information about the Table View dialog toolbar options, see the *CAVantage SRM Windows Client Guide* and the *Help About Window* online help system.

Additional Table View Options

In addition to the Web Client menu and toolbar options, you can click the down arrow next to a column heading and sort the object table by that column in ascending or descending order. You can also click the down arrow next to a column heading and specify which columns you want to display or hide. The following is an example of the Web Client's Object Column Headings Options menu, where the down-arrow next to the % Alloc column heading is selected:



Note: The Web Client Customize View Wizard also provides sort and column display or hide options.

In addition to the Windows Client Table View menu and toolbar options you can also perform some quick appearance changes to the Table View as follows:

- Quick Find in Column
- Quick Sort on Columns

- Quick Color Code a Column
- Move the Freeze Column Line
- Return a Table View to Factory Settings

How to perform these changes is explained in the following procedures.

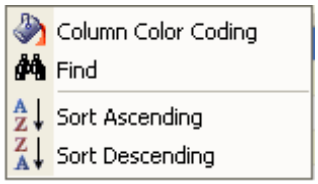
Note: The following Windows Client options and more options for customizing a view are available in the View and Output Definition feature. For more information, see the section Customized Reports (see page 42).

To Quick Find in Column

Instead of scrolling down to a row you can quickly find a particular item. To do this you can use the Quick Find in Column option by following these steps:

1. Right click the column heading which contains the item you want to find.

   The Column Options Menu is displayed as shown in the following sample:

2. Click the Find option in the Column Options Menu.

   The Find dialog is displayed.

3. In the Find What field type in the item you want to find. You can type in part of the item, for example if you wanted to find ABC123 then you could type in ABC, ABC1, and so on.

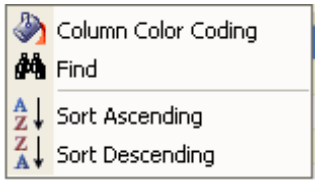
4. Click Find Next.

   The Table View of the object is updated and the first item containing your find criteria is displayed. If the criterion is not found in the column then you will receive a message advising it is not found.

To Quick Sort on Columns

You can perform quick sorts in the Table View by clicking a column heading title cell and the table will sort by that column in descending order. Click the column heading title cell again and the table will sort by that column in ascending order.

You can also right click a column heading and the Column Options Menu is displayed where you can select the Sort Ascending or Sort Descending options. The following is a sample of the Column Options Menu:



Note: After you have created a Table View column sort in this manner you may want to remove it; to remove a Table View column sort, click the Sort icon and use the Exclude a Field option or the Exclude all Fields option. For more information, see the section Sort Option (see page 32).

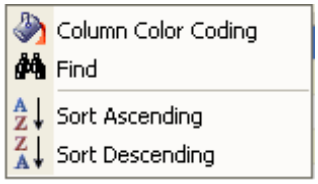
To Quick Color Code a Column

You can highlight certain values in columns by color coding them when specific criteria is met. You have two options for color coding, you can use the Quick Color Code a Column option or you can use the View and Output Destination – Fields option (the View and Output Destination – Fields option, is described in the section Color Code Option (see page 37)).

To use the Quick Color Code a Column option, perform the following steps:

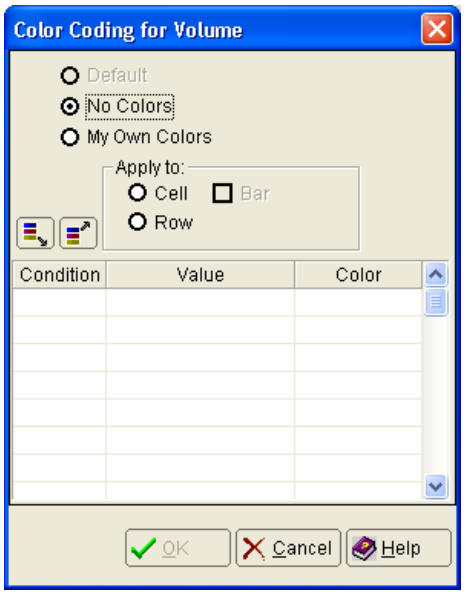
1. Right click the column heading of the column you want to color code.

   The Column Options Menu is displayed as shown in the following sample:



2. Click the Column Color Coding option in the Column Options Menu.

   The Column Color Code dialog is displayed. The following is a sample of the Column Color Code dialog displayed for the Volumes column in the Storage Group Volumes object:

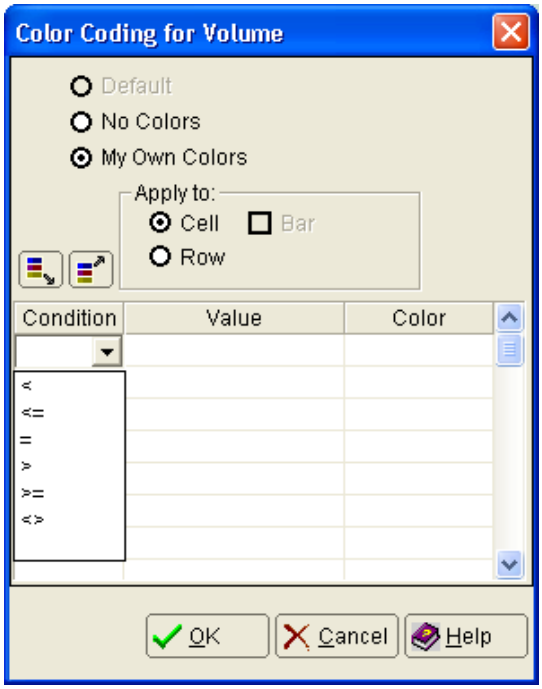


3. Click in the first empty Condition cell.

   A down arrow appears on the right side of the cell.

4. Click the down arrow on the right side of the cell.

   The Condition options are displayed as shown in the following sample:



5. Select the condition you want.

   The condition selected is displayed in the cell.

6. Click in the Value cell of the same row you selected the condition. Type in the value that you want the condition applied to.

   The value is displayed in the cell.

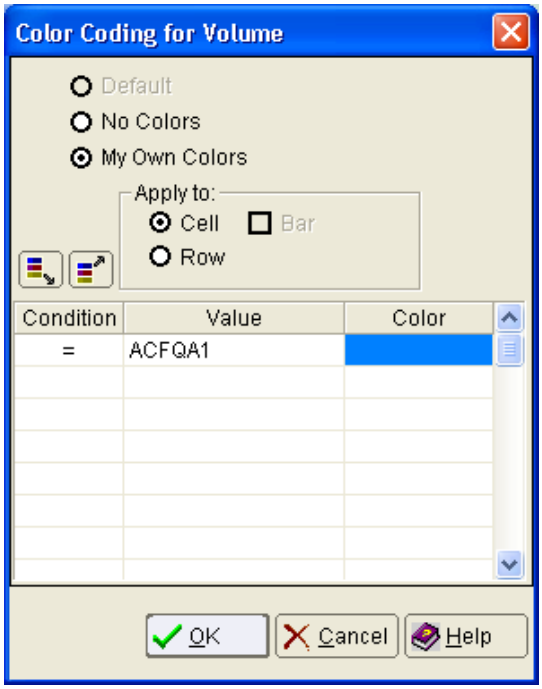
7. Click the Color cell of the same row you selected the condition and typed in a value.

   The Color dialog is displayed as shown in the following sample:

8. In the Color dialog select the color you want to appear as the background for the items that meet your criteria and click OK.

   The Column Color Code dialog is displayed showing the condition, value and color you have specified.

The following is an example of the Column Color Code dialog where the condition is '=', the value is 'ACFQA1' and the color is blue for the Volumes column in the Storage Group Volumes object:



9. Click OK.

   The Table View of the object is displayed with your color code settings.

10. In the Table View menu select File and then click Save, to save your settings.

If you save the Table View with the column color code setting then every time you open the object the color codes are applied. To remove the column color coding; display the object, right click the column, select No Colors, and then click OK in the Column Color Code dialog.

Observe the following:

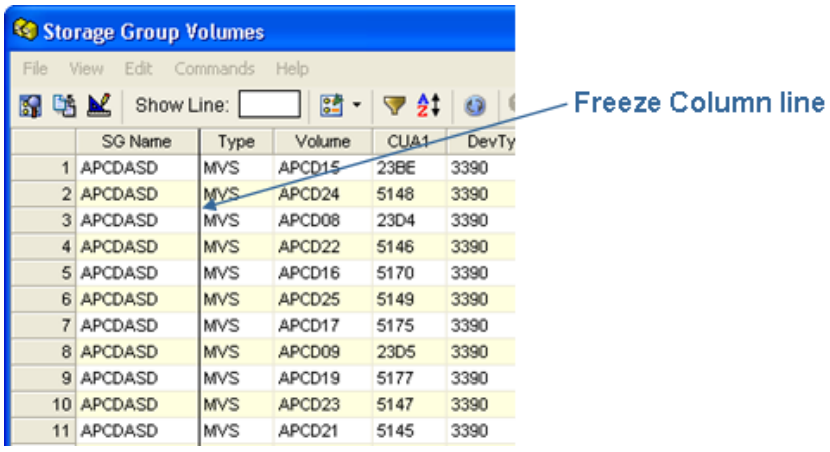
- You can apply the color coding to the cells in the column selected or you can apply the color coding to the whole row by selecting the *Apply to Row* option.
- You can apply predefined color code values by selecting the *Use predefined colors* button ( ).

- You can save the column color codes you have created so that you can use them later by selecting the *Store these colors as predefined* button ( ).
- You can have multiple conditions, values, and colors to the same column. However, the Windows Client checks the conditions sequentially until the first match occurs and it uses ANSII character sort order for the comparison (for example: 0-9, A-Z, and a-z). If one value meets two or more conditions then the first condition is applied.

  For example: if you color code two conditions in the dialog such that '= AAAA1 Blue' is listed first, and then '> AAAA0 Red' is listed second in the dialog then the Windows Client will apply the '= AAAA1 Blue' condition to all AAAA1 items, then it will apply the second condition, '> AAAA0 Red', to any items that meets the second condition but where the first condition has not been applied. If the conditions are reversed in the dialog so that '> AAAA0 Red' is first and '= AAAA1 Blue' is listed second in the dialog, then the second condition, '=AAAA1 Blue', would be ignored because items with values AAAA1 have already met the first condition and the red color coding is already applied to them.
- There are no "and" or "or" condition statements available for color coding multiple conditions, values, and colors to the same column. There are simply the 'less than', 'less than or equal to', 'equal to', 'greater than', 'greater than' or equal to', 'less than or greater than' and 'Range' (for numerical fields only) conditions available for comparison to the values you specify.

To Move the Freeze Column Line

You can freeze columns so that when you scroll to the right in a Table View, certain columns stay in the view. The black vertical line separating columns is the Freeze Column Line. The following illustration shows the factory default Freeze Column Line for the Storage Group Volumes object:



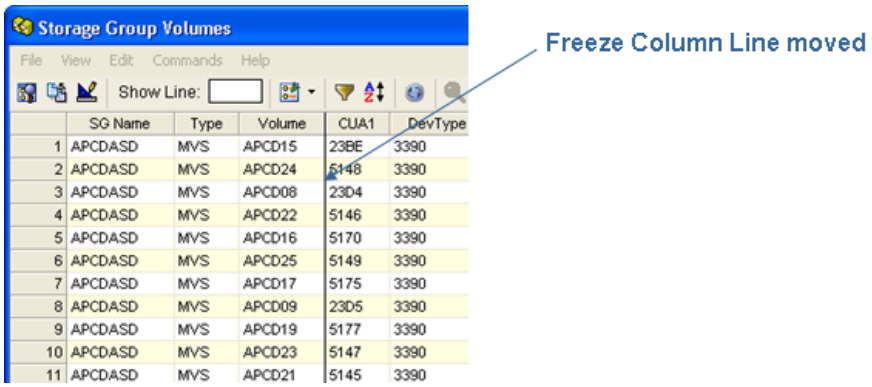
To include the Type and Volumes columns as Freeze Columns perform the following steps:

Note: You can similarly include as many columns as you want as Freeze columns in any Table View of an object.

1. Click on the vertical line between the SG Name and the Type columns and drag-and-drop it to the vertical line between the Volume and the CUA1 columns.

   Note: You must click and drag the line anywhere below the column heading portion of the line, that is, it will not work if you click and drag the section of the line between the column headings.

   The Freeze Column Line is now displayed between the Volume and the CUA1 columns as shown in the following sample:



   When you now scroll to the right in the Storage Group Volumes object the SG Name, Type and Volume columns will always be displayed in the left columns of the view.

2. In the object view menu click File and then Save, to save your settings.

   If you save your settings then every time you open the object the Freeze Columns line will be where you saved it. Alternatively you can just close the Table View without saving your Freeze Column Line change and the next time you open the Table View for the object the Freeze Column Line will be where it was with the factory setting.

To Return a Table View to Factory Settings

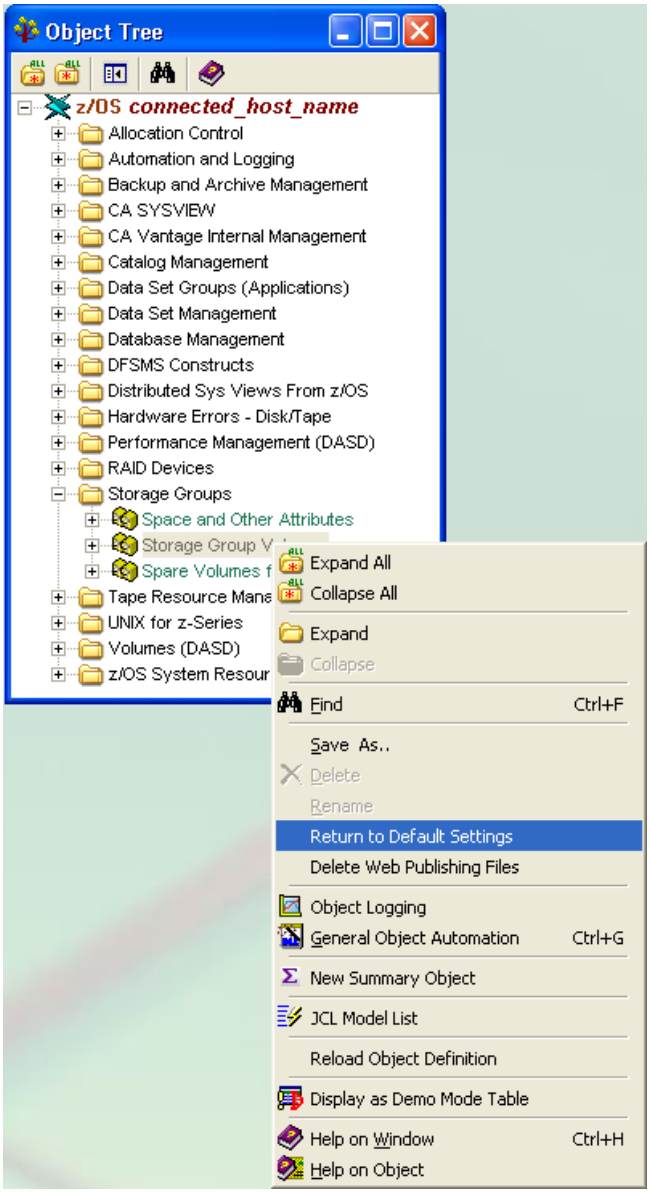
Before you return an object view to factory settings note the following:

- By following this procedure you will erase all your settings in the view of the object, for example the Sort settings, Column Color Coding settings, Freeze Columns settings, Filter settings and so on.
- If you only want to remove a particular setting but not all your customized settings then open the tool option for the setting you want to remove and remove it. The following are a few examples of how to remove particular settings:
  - To remove column color code settings, open the Color Coding dialog for the column colors you want to remove and select No Colors.
  - To remove a filter, open the Filter dialog and click the Clear icon () then Save. For more information, see the section Filter Option.
  - To remove your Freeze Columns settings, move the Freeze Columns line to the dividing line between the first and second column.
  - To remove column sorts, click the Sort icon () and use the Exclude a Field option or the Exclude all Fields option. For more information, see the section Sort Option.

To return an object view to factory settings, perform the following steps:

1. Right click the object in the Object Tree.

   The Object Options Menu is displayed. The following shows a sample of the Object Options Menu:



2. Click Return to Default Settings.

   A confirmation dialog is displayed.

3. Click Yes.

   All the changes to the object that you have previously saved will now be replaced with factory default settings. You will see this change the next time you open the object.

Graph Views

The Graph View feature displays a selected set of object data in a graph.

Note: For Web Client users; the Customize View Wizard in the Web Client provides Charting options. These options allow you to create charts (graphs) of object data. For more information, see the *CAVantage SRM Web Client Guide*.

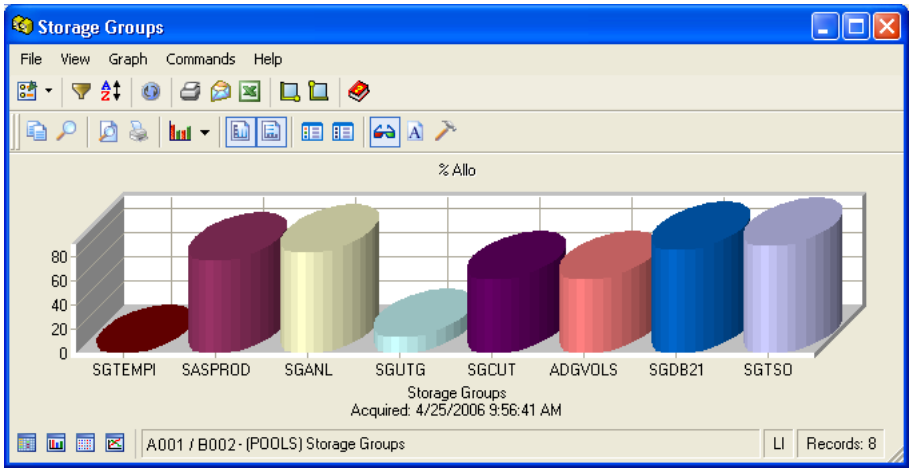
The Windows Client offers a large variation of graph types to present your data in a variety of formats. Some of the available graph types are:

- Line
- Point
- Area-curve
- Bar
- Pie
- Doughnut
- Pyramid
- Cube

You can specify the graph type and its format to obtain the kind of display you prefer. You can preview the general look of a graph while defining its various features.

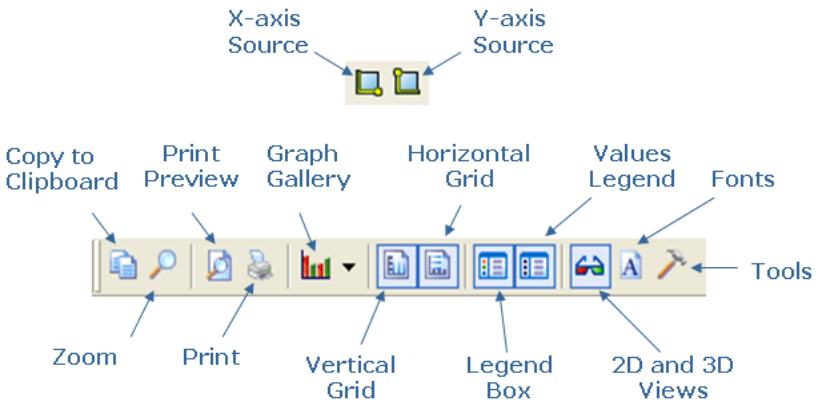
Note: To immediately view certain changes, you must click the Refresh icon ().

The following is a sample of the Windows Client Graph View of the Storage Groups object:



Graph View Dialog Toolbar Options

The Windows Client Graph View dialog toolbar provides the following options for working with graphs:



Note: For more information about the Graph View dialog toolbar options, see the *CAVantage SRM Windows Client Guide* and the *Help About Window* online help system.

Additional Graph View Options

In addition to the Windows Client Graph View menu and toolbar options you can also perform some quick appearance changes to the Graph View as follows:

- Increase or Decrease Number of Items Displayed
- Quick Gallery Option (to change graph type)
- Quick Color Option (to change graph color)

- Quick Multiple Colors Option

How to perform these changes is explained in the following procedures.

Note: The following options and more options for customizing a view are available in the Windows Client View and Output Definition option. For more information, see the section Customized Reports (see page 42).

Increase or Decrease Number of Items Displayed

When you switch the object view from Table View to Graph View by clicking the Graph icon in the bottom left corner of the view, the Graph View will display the same amount of items that were displayed in the Table View. For example, if the Table View displayed 8 rows of X records found then the Graph View will display only those 8 items. If you want the Graph View to display more items then switch back to the Table View and expand the window to display more rows. Then when you switch back to the Graph View it will display the same amount of items. For example, if the Table View displayed 8 rows and you expand the Table View to display 10 rows then when you switch to the Graph View it will display 10 items.

You can also use the Sort Option and the Filter Option in order to specify the order of the items and reduce the amount of items you want to display in the graph, prior to switching to the Graph View.

Note: When you print a Graph View, all records (not only the ones displayed in Graph View on your screen) will be included in the printout unless you specify a range in the print option.

Quick Gallery Option to Change Graph Type

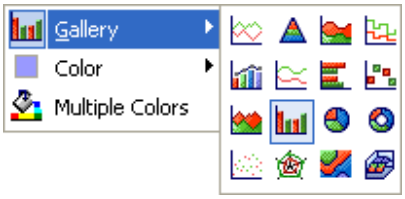
When a Graph View is displayed you can use the Quick Gallery option to change the graph type. (This option is the same as the Gallery icon option found on the Graph View toolbar, this is another method for initializing the same option.)

To use the Quick Graph Type Change option

1. Right click in the graph of the Graph View.

   The Graph Options Menu is displayed as shown in the following sample:

2. Click the Gallery option and a list of graph types is displayed as shown in the following sample:



3. Click on the graph type you want to change to.

   The Graph View is updated and the new graph type selected is displayed.

Quick Color Option to Change Graph Colors

When you switch to the Graph View, all the bars will have the same color. To apply different colors to the bars you must first use the Quick Multiple Colors Option. Then you can right click a particular bar and specify a color for that bar. The following procedure assumes you have the object displayed in the Graph View and all the bars have the same color.

To use the Quick Graph Color option to specify a color

1. Right click on a particular item (for example a bar) in the graph.

   The Graph Options Menu is displayed as shown in the following sample:

2. Select the Multiple Colors option.

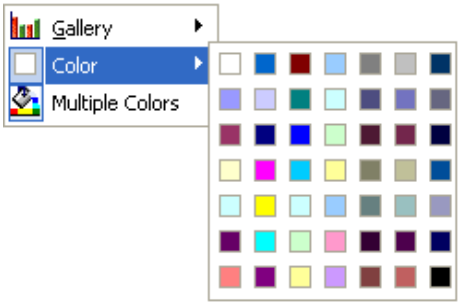
   The Graph View is displayed and the graph items are displayed by a different color.

3. Right click on the item (for example a bar) in the graph you want to specify a color for.

   The Graph Options Menu is displayed.

4. Click the Color option.

   A color chart is displayed as shown in the following sample:



5. Click on the color you want the item changed to.

   The item in the Graph View is displayed with the color selected.

Quick Multiple Colors Option

When you switch to the Graph View, all the bars will have the same color. To apply different colors to the bars you can use the Quick Multiple Colors Option. Then you can right click a particular bar and specify a color for that bar as described in the section Quick Color Option. The following procedure assumes you have the object displayed in the Graph View and all the bars have the same color.

To use the Multiple Colors Option

1. Right click on any item (for example a bar) in the graph.

   The Graph Options Menu is displayed as shown in the following sample:

2. Click the Multiple Colors option.

   The Graph View is updated with each item displayed by a different color.

   Note: To return the Graph View so that all items use the same color, right click an item (for example a bar) in the graph and select the Multiple Colors option.

Standard View Options

In both the Windows Client and the Web Client, each standard view of object data provides options you can use to manipulate object information so it is presented the way you like. Some of the more common Windows Client options are described in the following sections.

Note: For more information about these options in the Web Client, see the *CAVantage SRM Web Client Guide*.

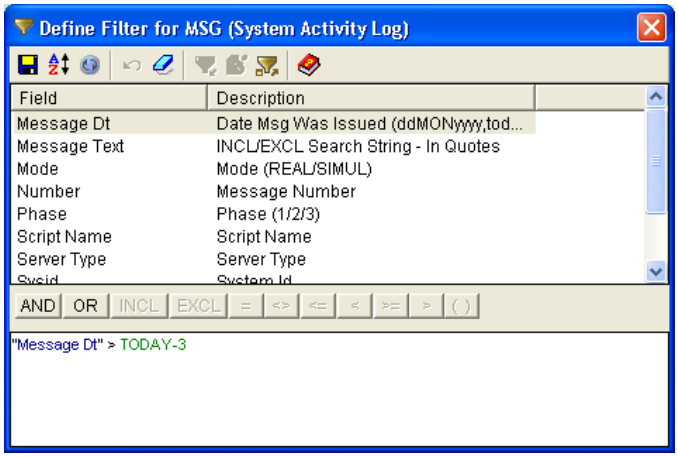
Filter Option

The Filter feature narrows the amount of object information (the number of rows) displayed in the table. The Windows Client lists the object fields in the Filter dialog in alphabetical order by field name. The Filter dialog guides you in the process of defining the filter expression by enabling and disabling the appropriate fields and controls at every step.

Note: For Web Client users; the Customize View Wizard in the Web Client provides a similar filtering feature. For more information, see the *CAVantage SRM Web Client Guide*.

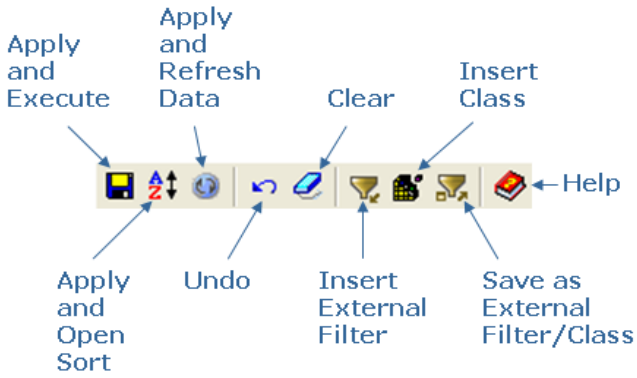
Example: Create a Filter

The following Windows Client example shows the filter criteria that would produce a user defined view showing only the CAVantage SRM messages issued in the last 3 days. In the example a relative date of TODAY-3 is used instead of an absolute date. A relative date allows for reuse of the filter without you having to calculate and update the date. However you can use absolute dates (specific dates).



Filter Dialog Toolbar Options

The Windows Client Filter dialog toolbar provides the following options:



How Filters Work

A filter can be built from the fields of the object by combining them into Boolean expressions. You can also use expressions that contain patterns with wildcard characters.

You can refine your filter by using the AND/OR logical operators to combine several expressions. Use parentheses to group sub-expressions.

You can enter a filter expression directly into the text box at the bottom of the Define Filter dialog or use the typing aids in the dialog. It is possible to edit any expression in the text box.

Observe the following:

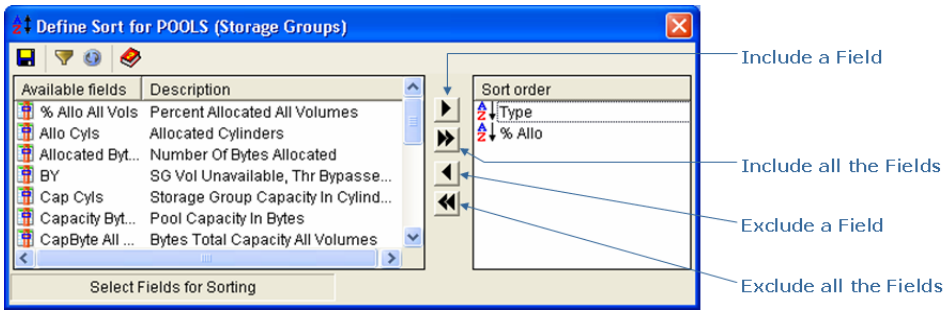
- For more information about how filters work click the Help icon in the Filter dialog.
- To immediately view the effect of your filter you must click the Apply and Refresh Data icon ( ).

Sort Option

The Sort feature sorts the table by the values in the columns of the table. Every object attribute (or field for z/OS) in a table can serve as a sort key. You can use the Windows Client Sort Dialog to sort object data in both the Table View and the Graph View.

Note: The Customize View Wizard in the Web Client provides a similar sort feature. For more information, see the *CAVantage SRM Web Client Guide*.

The following is a sample of the Windows Client Sort dialog for the POOLS object. It points out how to include and exclude fields the object view is sorted by.



To change the Sort order using the Windows Client Sort dialog

1. Double-click the Sort Order icon ( ) in the Sort Order pane of the Sort dialog.

   The Ascending Sort Order icon ( ) appears.
2. Double-click the Sort Order icon again in the Sort Order pane of the Sort dialog.

   The Descending Sort Order icon ( ) appears.

Note: To immediately view the effect of your sort you must click the Apply and Refresh Data icon ( ).

You can sort object data by columns directly in the Table View.

To sort the Table View by columns in the Windows Client

1. Click the column title you want the object data to be sorted by.

   The first time the column title is clicked the table is updated and sorted in ascending order by object data in that column.

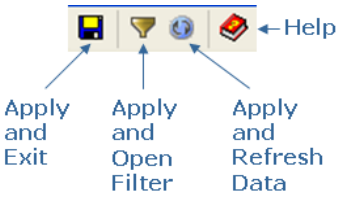
2. Click the column title again to change the sort to descending order.

   The table is updated and sorted in descending order by object data in that column.

After you have created a Table View column sort in this manner you may want to remove it; to remove a Table View column sort, click the Sort icon ( ) and use the Exclude a Field option or the Exclude all the Fields option.

Sort Dialog Toolbar Options

The Windows Client Sort dialog toolbar provides the following options:



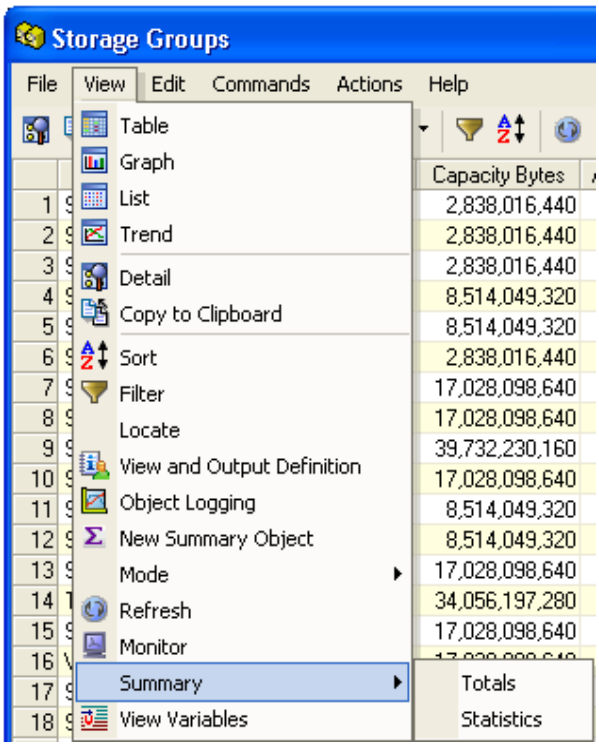
Summary Totals and Statistics

The Windows Client Totals and Statistics Summary options in the View menu let you request the total of every numeric field, or combine the totals with the average, minimum, and maximum values.

Note: The Statistics option in the View menu of the Web Client provides a statistics and totals view of the object. For more information, see the *CAVantage SRM Web Client Guide*.

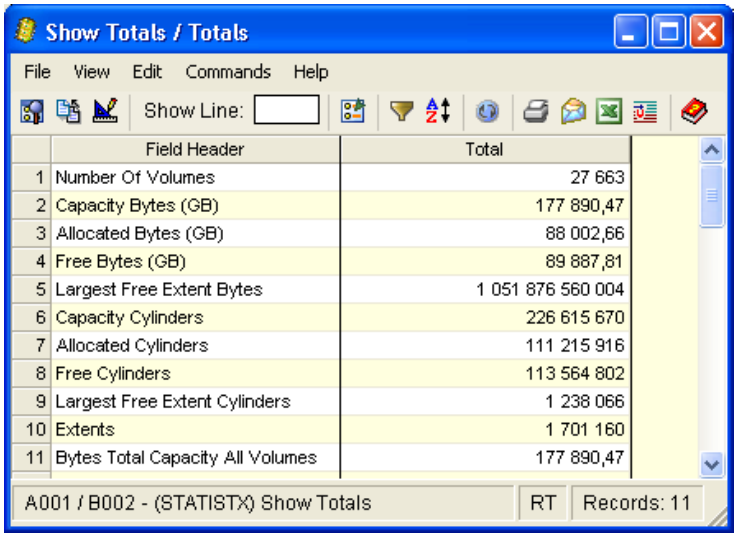
Example: Access Summary Totals and Statistics options

The following example shows where to access the Summary Totals and Statistics options from the Windows Client View drop-down menu option in the Table View.



Totals Option

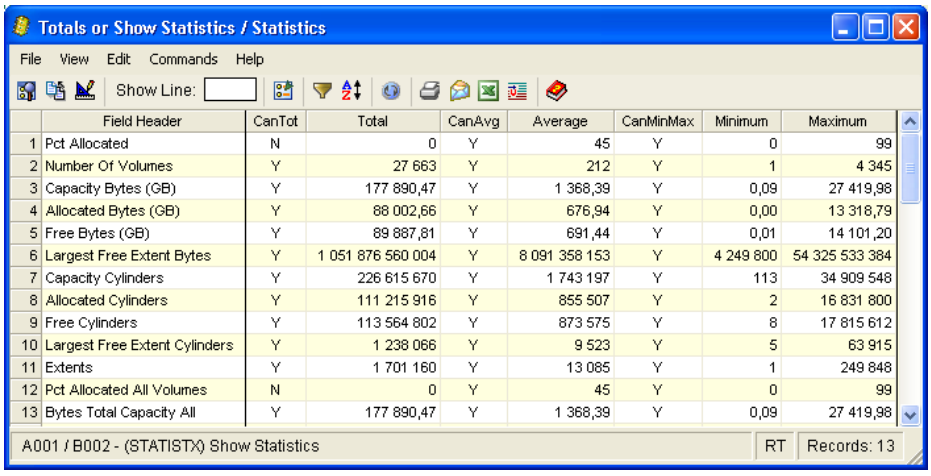
The Totals option provides the sum of all numeric fields, as shown in the following sample Windows Client Totals dialog.



	Field Header	Total
1	Number Of Volumes	27 663
2	Capacity Bytes (GB)	177 890,47
3	Allocated Bytes (GB)	88 002,66
4	Free Bytes (GB)	89 887,81
5	Largest Free Extent Bytes	1 051 876 560 004
6	Capacity Cylinders	226 615 670
7	Allocated Cylinders	111 215 916
8	Free Cylinders	113 564 802
9	Largest Free Extent Cylinders	1 238 066
10	Extents	1 701 160
11	Bytes Total Capacity All Volumes	177 890,47

Statistics Option

The Statistics option provides totals plus the average, minimum, and maximum values for all numeric fields, as shown in the following sample Windows Client Statistics dialog.



	Field Header	CanTot	Total	CanAvg	Average	CanMinMax	Minimum	Maximum
1	Pct Allocated	N	0	Y	45	Y	0	99
2	Number Of Volumes	Y	27 663	Y	212	Y	1	4 345
3	Capacity Bytes (GB)	Y	177 890,47	Y	1 368,39	Y	0,09	27 419,98
4	Allocated Bytes (GB)	Y	88 002,66	Y	676,94	Y	0,00	13 318,79
5	Free Bytes (GB)	Y	89 887,81	Y	691,44	Y	0,01	14 101,20
6	Largest Free Extent Bytes	Y	1 051 876 560 004	Y	8 091 358 153	Y	4 249 800	54 325 533 384
7	Capacity Cylinders	Y	226 615 670	Y	1 743 197	Y	113	34 909 548
8	Allocated Cylinders	Y	111 215 916	Y	855 507	Y	2	16 831 800
9	Free Cylinders	Y	113 564 802	Y	873 575	Y	8	17 815 612
10	Largest Free Extent Cylinders	Y	1 238 066	Y	9 523	Y	5	63 915
11	Extents	Y	1 701 160	Y	13 085	Y	1	249 848
12	Pct Allocated All Volumes	N	0	Y	45	Y	0	99
13	Bytes Total Capacity All	Y	177 890,47	Y	1 368,39	Y	0,09	27 419,98

Scale Option

The Scale option list lets you select the scale base units for displaying numerical data. The difference between requesting K, M, G, and so on, as opposed to KB, MB, GB and so on is that those with the appended B mean multiples of 1024, while those without the B mean multiples of 1000. For example:

- nnK = nn(1000), nnM = nn(1000)(1000), and so on.
- nnKB = nn(1024), nnMB = nn(1024)(1024), and so on.

Note: The Customize View Wizard in the Web Client provides a similar field scaling feature. For more information, see the *CAVantage SRM Web Client Guide*.

To scale a column of numeric data in the Windows Client

1. Click the Definitions icon ( ) on the Windows Client toolbar of the object view.

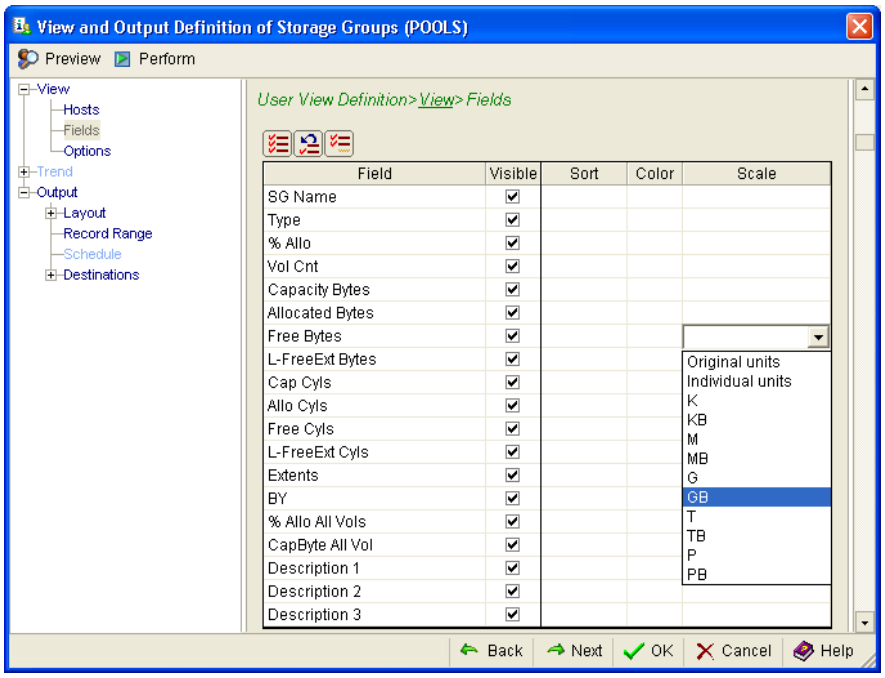
   The View and Output Definition dialog appears.

2. Click the Fields option in the left navigation pane of the View and Output Definition dialog.

   The Fields dialog appears.

3. Click the cell in the Scale column of the Field row for which you want to establish the scale for.

   A scale options list appears as show in the following sample:



4. Select the scale you want to use.

   The scale selected appears in the cell in the Scale column of the Field.

5. Click OK.

   The View and Output Definition dialog closes and the object view is updated with the scales selected. The column heading displays the scale after the heading title, for example if you selected a scale of GB for Free Bytes the column heading title will indicate the scale is GB and would look like the following sample in your object view:

Color Code Option

The Color Code option lets you set conditions for color coding values in object Table Views.

Note: The Customize View Wizard in the Web Client provides a row and field coloring feature. For more information, see the *CAVantage SRM Web Client Guide*.

To color code values in object views in the Windows Client

1. Click the Definitions icon () from the toolbar of the object Table View.

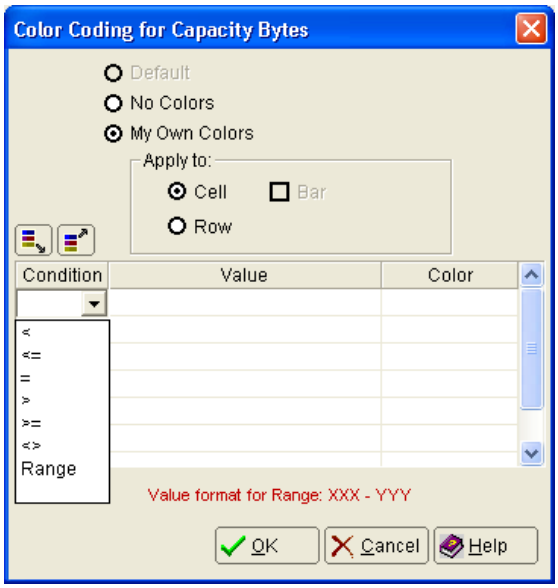
   The View and Output Definition dialog appears.

2. Click the Fields option in the left navigation pane of the View and Output Definition dialog.

   The Fields dialog appears.

3. Click in the Color cell for a field you want to assign a background color.

   The Color Coding dialog appears. The following Color Coding dialog sample shows how you can select a condition, enter a condition value, and then select a background color for the item that meets the condition.

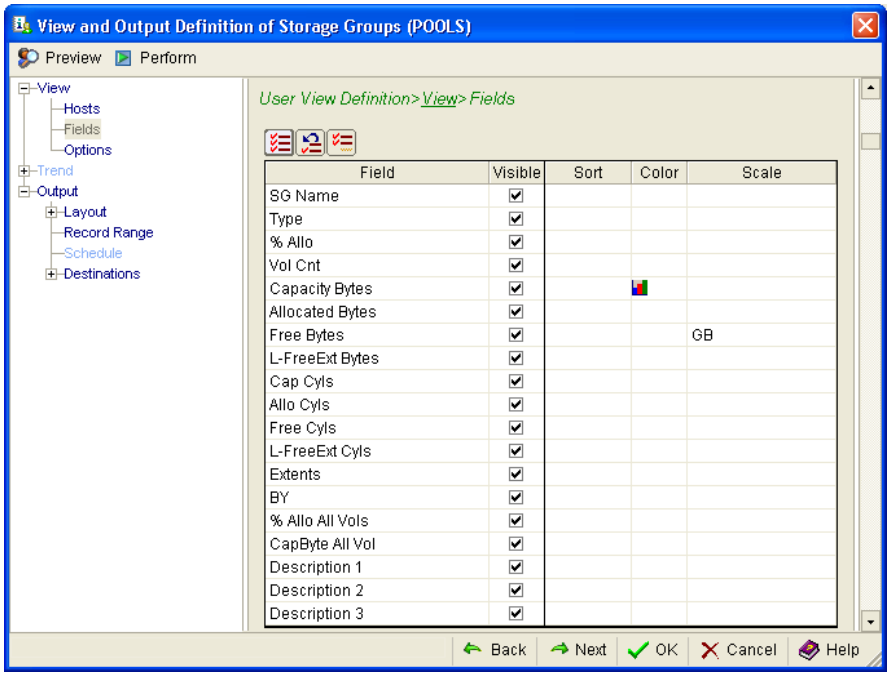


4. Complete the Color Code dialog.

   The condition, value, and color code you selected are displayed in the Color Code dialog.

5. Click OK in the Color Code dialog.

   The Color Code dialog closes and the Graph icon ( ) appears in the Color cell in the Fields dialog, as shown in the following sample.



6. Click OK.

   The View and Output Definition dialog closes. The object Table View appears with backgrounds of values that meet your conditions color coded.

Open Zoom Option (DrillDown Feature)

The Windows Client Open Zoom feature provides you with a list of objects that have related information. You can select an object from the Zoom list dialog to view the related information.

Note: The Web Client provides a Zoom feature on the Object toolbar. For more information, see the *CAVantage SRM Web Client Guide*.

To zoom to related objects in the Windows Client

1. Select a row in the object Table View.

   The selected row is highlighted.

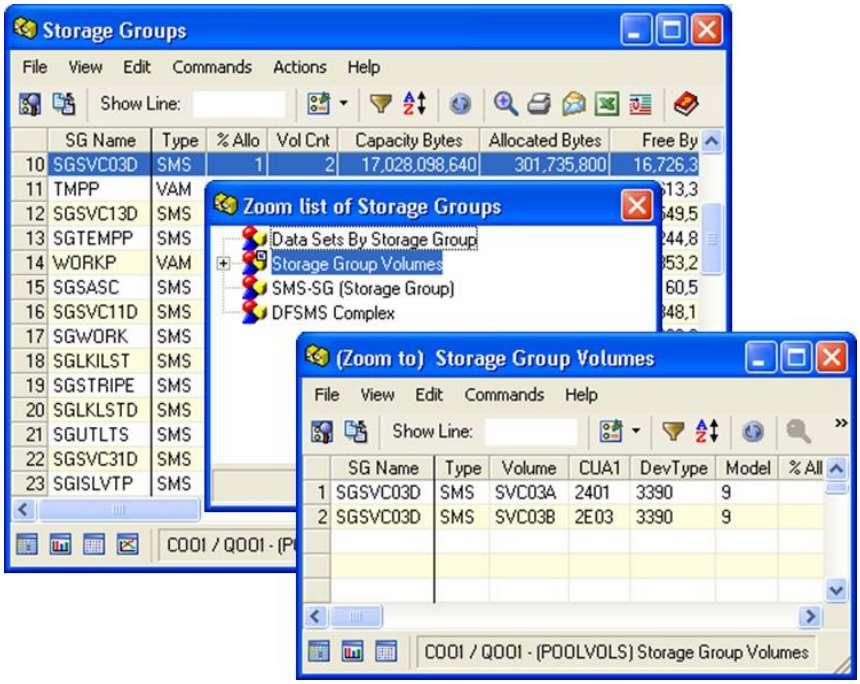
2. Click the Open Zoom icon ( ).

   The Zoom list dialog appears, listing related objects.

3. Click an object in the Zoom list.

   Object information in the object selected for that item appears.

The following sample illustrates a zoom from a particular Volume in the Volumes object to the same Volume in the Data Set Name Blocks (DSNBs) object.



New Summary Objects Option

The Windows Client Summary Designer helps you create new summary objects from any source object. You select the method for defining the summary groups and select the fields to include in the summary object. The summary object includes summary groups from a source object table, and then provides statistics about all the object rows that fall into each summary group. The statistics include counts, maximum values, minimum values, average values, and totals. These statistics are provided for each group of records and for all the records.

You can start the Windows Client Summary Designer two ways, from the object pop-up menu or from the Object view Menu Bar.

Note: Currently, you cannot create or manage Summary Objects using the Web Client. You can view Summary Objects using the Web Client.

To start the Windows Client Summary Designer from the object pop-up menu

1. Right-click on the object in the Object Tree view.

   The Object pop-up menu appears.

2. Select New Summary Object in the Object pop-up menu.

   The Summary Designer appears.

To start the Summary Designer from the object view Menu Bar

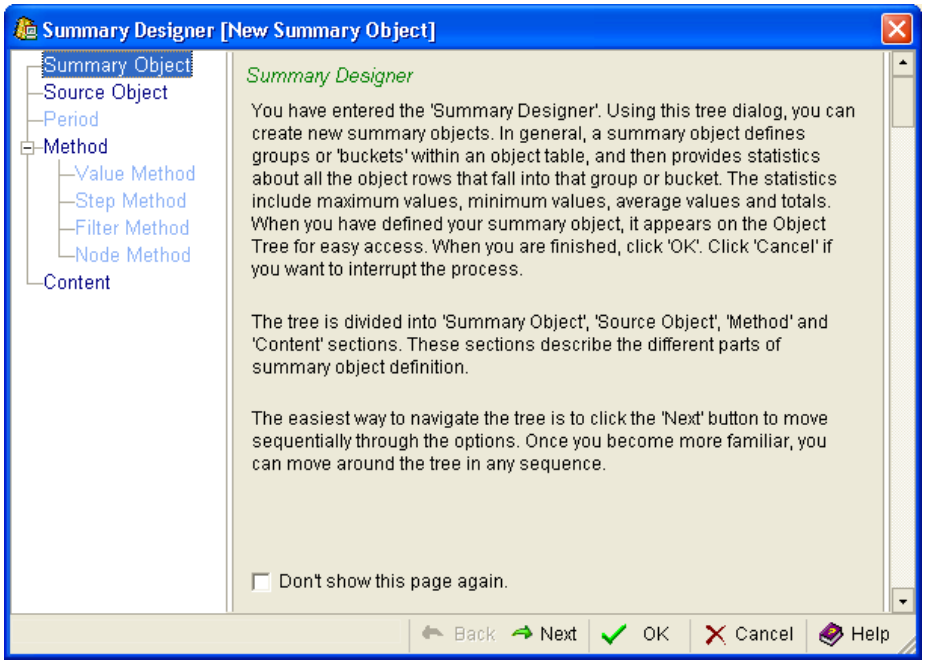
1. Click the object in the Object Tree view.

   The object view appears.

2. Select View, then New Summary Object from the object view Menu Bar.

   The Summary Designer appears.

The following is a sample of the Summary Designer.



Note: For more information about how to use the Summary Designer to create a new Summary Object click the Help icon in the Summary Designer dialog, or see the chapter "Working with Generalized Summary Objects" in the *CAVantage SRM User Guide*.

Customized Reports

You can customize reports with the appearance and information you want by using the Windows Client View and Output Definition feature.

Note: The Customize Reports Wizard in the Web Client provides an output report feature you can use to create and manage user-view object data output reports and schedules for output reports. For more information, see the *CAVantage SRM Web Client Guide*.

The Windows Client View and Output Definition feature allows you to define:

- The z/OS hosts from which data is to be retrieved.
- The fields (columns) to be included in the report.
- The order of the fields (columns) displayed in the report.
- The sort, color, and scale of the data in the report.
- The layout design, contents, and record range of the report. This includes the grouping of the fields (columns) displayed in the report (using the Grouping facility in this feature).
- The report format (print, web publishing, email, PDF, HTML, XML, TXT, Excel, FTP Server, and so on).
- The destination of the report (the printer, the directory, web server, email address, FTP server ID, and so on).

To start the View and Output Definition feature in the Windows Client

1. Click the object in the Object Tree view.

   The object view appears.

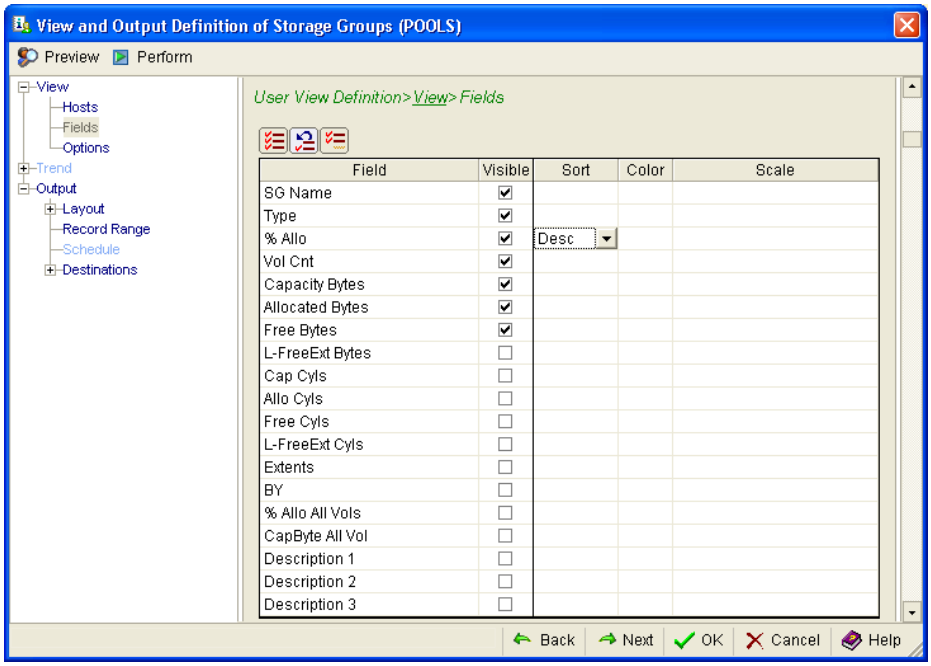
2. Click the Definitions icon () from the toolbar of the object view.

   The View and Output Definition dialog appears.

Example: Define fields to be displayed in a Storage Groups report

You can create a report based on the Storage Groups object that contains information on the SG Name, Type, % Allo, Vol Cnt, Capacity Bytes, Allocated Bytes and Free Bytes. You can then sort the report by descending % Allo.

The following example shows how you would define this report in the Windows Client View and Output Definition>View>Fields dialog.



Note: For more information about the View and Output Definition dialog, click the Help icon in the View and Output Definition dialog.

Multiple Output Formats

You can use the Windows Client Output Report feature to define output formats, schedules, and destinations of your object view as it is currently displayed. When you select Destinations in the Output Report feature, you can indicate the format of the report and where you want a report to be published.

Note: The Customize Reports Wizard in the Web Client provides a output report feature where you can define output formats, schedules, and destinations of object user-view data. For more information, see the *CAVantage SRM Web Client Guide*.

When using this feature in the Windows Client, the output includes all the information from your object view as it appears in your object view at the time you generate the report. Before you generate the report, you can use other object view options (such as filter, sort, color code, and so on) to design how the information appears in your object view and subsequently how the report appears. The number of records in the report depends on the Record Range settings. You also have the option of using the View and Output Definition feature to customize reports with the appearance and information you want.

To start the Output Report feature in the Windows Client

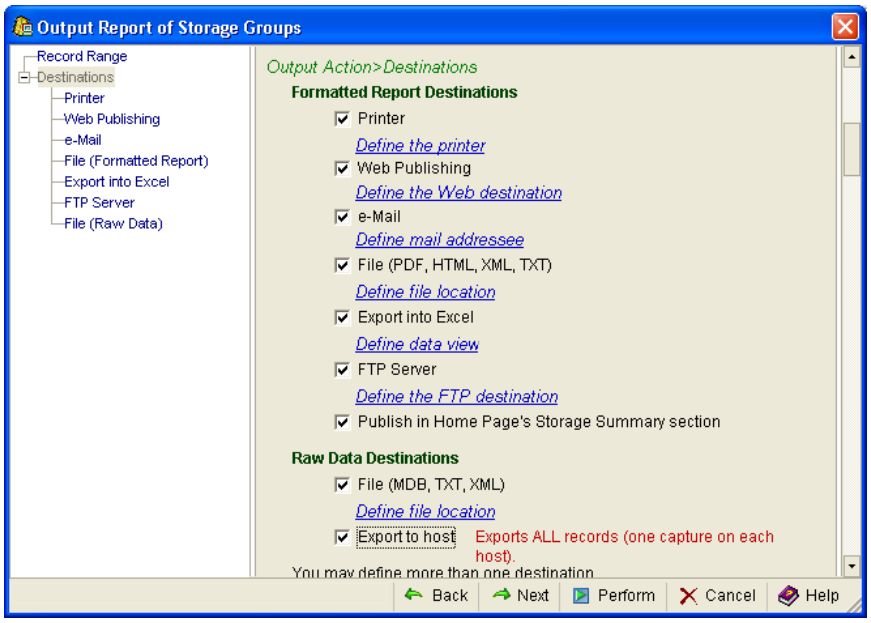
1. Click the object in the Object Tree view.

   The object view appears.

2. Select File, then Output Report from the object view menu.

   The Output Report dialog appears.

The following is a sample of the Windows Client Destinations dialog of the Output Report feature for the Storage Group object.



Each output destination gives you additional options as shown in the following example procedure for creating a Formatted File.

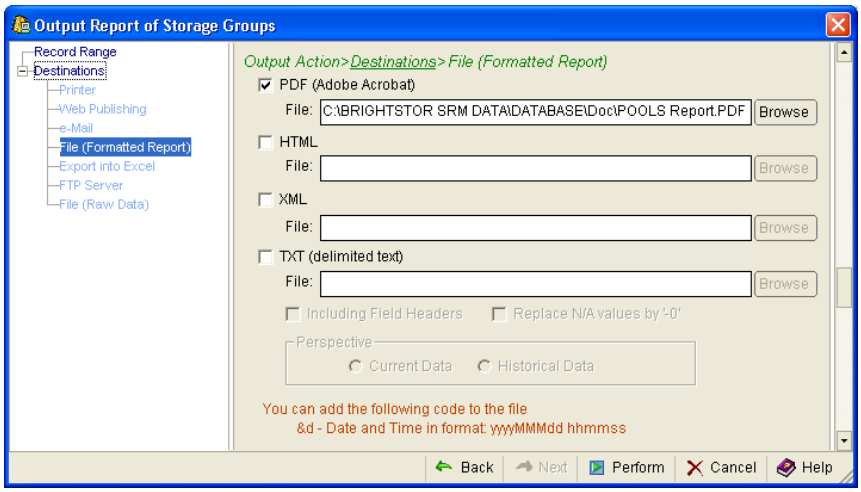
To produce a Formatted File using the Output Report feature

1. Click the box next to the File (PDF, HTML, XML, TXT) option in the Destinations dialog.

   A check mark appears in the box next to the File (PDF, HTML, XML, TXT) option and the Define file location link is highlighted.

2. Click the Define file location link.

   The Output Action>Destinations>File (Formatted Report Destinations) dialog appears with PDF (Adobe Acrobat) format selected as shown in the following sample.



3. Click the box next to the formats of the report you want to create and you can click the box next to PDF (Adobe Acrobat) option if you do not want to create a PDF file.

   The File: field is populated with a default location dependant on the formats selected.

4. Click the Browse button next to the File: field if you want to change where the report is to be filed.

   The File: field is populated with the new file location.

5. Click Perform.

   The Output Action>Destinations>File (Formatted Report Destinations) dialog closes, and the file is created and filed in the location indicated.

Note: For more information about the Output Report dialogs, click the Help icon in the Output Reports dialog.

Print Report Option

You can quickly print an object view using the Windows Client Print Report icon ( ) from the toolbar of the object view.

Note: The Customize Reports Wizard in the Web Client provides a output report feature with output report options. You can then print the output report as you would any report. For more information, see the *CAVantage SRM Web Client Guide*.

When using this Windows Client feature, the output includes all the information from your object view as it appears in your object view at the time you generate the report. Before you generate the report, you can use other object view options (such as filter, sort, color code, and so on) to design how the information appears in your object view and subsequently how the report appears. The number of records in the report depends on the Record Range settings. You also have the option of using the View and Output Definition feature to customize reports with the appearance and information you want.

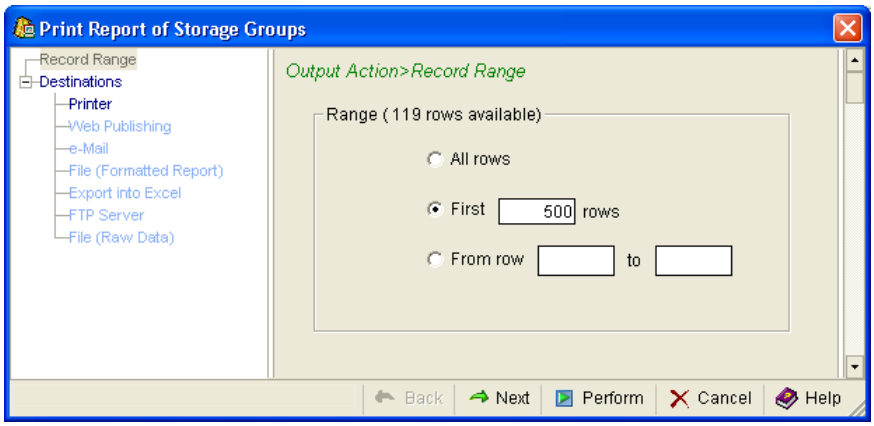
To quickly print an object view using the Print Report icon in the Windows Client

1. Click the object in the Object Tree view.

   The object view appears.

2. Click the Print Report icon ( ) from the toolbar of the object view.

   The Output Action>Record Range dialog appears as shown in the following sample.



3. Indicate how many rows of information you want printed.

   The number of rows you want included is indicated.

4. If you have defined a default printer in your Windows operating system and you want the print file sent to that printer click the Perform button.

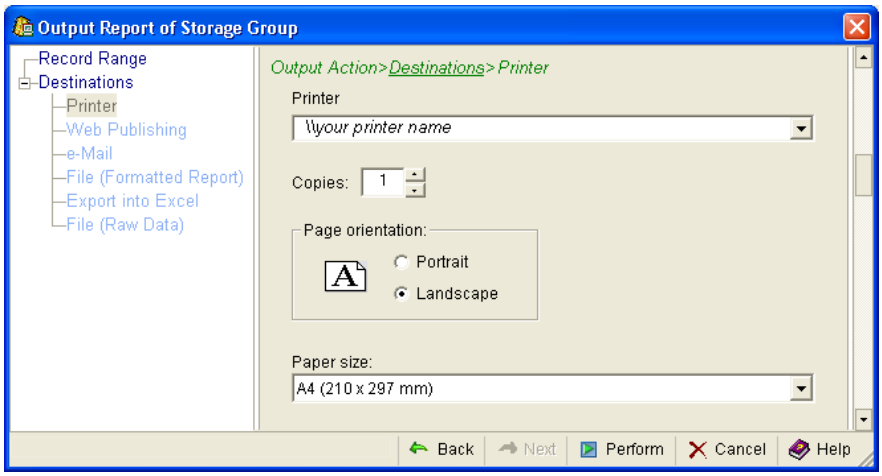
   The Output Action>Record Range dialog closes and the print file is sent to your default printer. You do not need to perform any more of the following steps.

5. If you want to indicate the printer you want the report sent to click the Next button.

   The Output Action>Destinations dialog appears.

6. Click the Define the printer link

   The Output Action>Destinations>Printer dialog is displayed as shown in the following sample:



7. Click the down arrow at the end of the Printer field and select the printer you want the report sent to.

   Note: The Printer drop-down list includes all printers you have defined in your Windows operating system printer setup.

   The printer name selected appears.

   You can also use the Output Action>Destinations>Printer dialog to indicate number of copies, page orientation, and paper size.

8. Click Perform.

   The Output Action>Destinations>Printer dialog closes and the print file is sent to the printer.

Note: For more information about the Output Report dialogs, click the Help icon in the Output Reports dialog.

Mail Report Option

You can email an object view report in PDF, HTML or Excel format using the Windows Client Mail Report icon () from the toolbar of the object view.

Note: The Customize Reports Wizard in the Web Client provides an email output report option. For more information, see the *CAVantage SRM Web Client Guide*.

When using this Windows Client feature, the output includes all the information from your object view as it appears in your object view at the time you generate the report. Before you generate the report, you can use other object view options (such as filter, sort, color code, and so on) to design how the information appears in your object view and subsequently how the report appears. The number of records in the report depends on the Record Range settings. You also have the option of using the View and Output Definition feature to customize reports with the appearance and information you want.

To quickly mail an object view using the Mail option in the Windows Client

1. Click the object in the Object Tree view.

   The object view appears.

2. Click the Mail Report icon () from the toolbar of the object view.

   The Output Action>Record Range dialog appears.

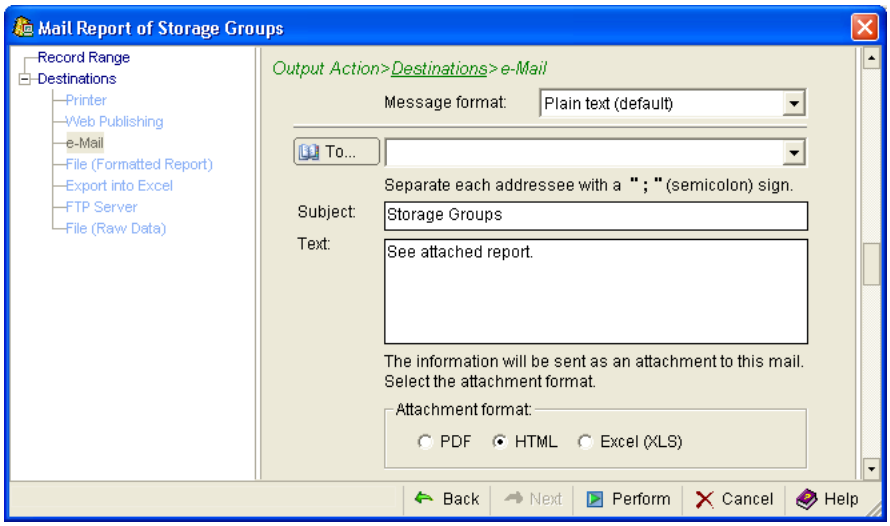
3. Indicate how many rows of information you want included in the attachment report.

4. Click Next.

   The Output Action>Destinations>e-Mail dialog appears with the box next to e-Mail checked and the Define mail addressee link highlighted.

5. Click Next.

   The Output Action > Destinations>e-Mail dialog appears as shown in the following sample:



   Note: If you have defined a Mail to Address in the Global Options feature then that defined email address will be displayed in the Output Action> Destinations>e-Mail dialog.

6. Provide the email address, subject, body text to be included in the email, and file format of the attachment object view report, then click Perform.

   The Output Action> Destinations>e-Mail dialog closes. An email is created and sent with the object view report attached.

Note: For more information about the Output Report dialogs, click the Help icon in the Output Reports dialog.

Other Standard Features

In addition to object views and related view options there are many additional standard features provided with both the Windows Client and the Web Client. These additional features can be found on the main window Menu Bar or Toolbar.

Windows Client

Windows Client additional features are explained in more detail in the *CAVantage SRM Windows Client Guide* and the Windows Client *Help About Window* online help system.

Web Client

The Web Client also provides a Scheduler feature. End-users can create output report schedules using the Customize Reports wizard. Schedules and scheduled items can be managed using the Schedule Status feature found in the Tools menu. The Web Client Scheduler currently does not provide a JCL Management feature. The Web Client Scheduler feature is explained in more detail in the *CAVantage SRM Web Client Guide* and the Web Client *Navigation* online help system.

The following sections give a short explanation to the Windows Client Scheduler and JCL Management features.

Scheduler

Both the Windows Client and the Web Client have Schedulers. The Schedulers provide a consistent set of scheduling services for all output activities within the user-interfaces. You can schedule events by month, week, day, hour, and minute.

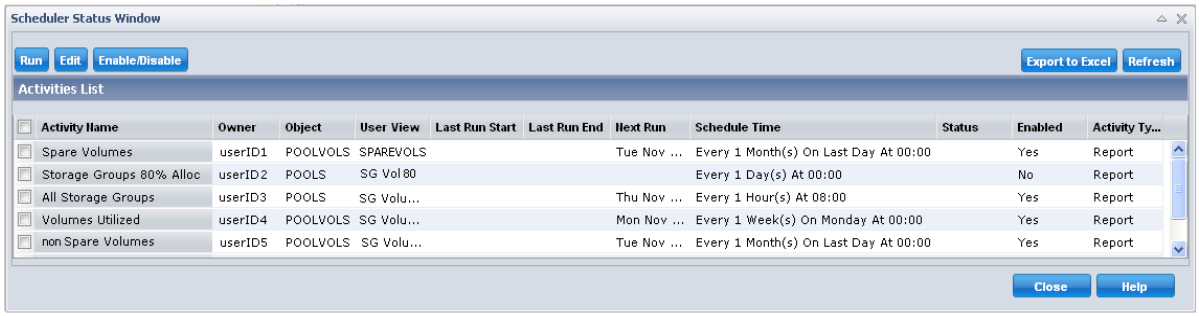
For example, suppose you wanted to be kept up to date on the scratch status of volumes by displaying a daily report on your web site. To do this, you could schedule a report based on the Volumes object to run every morning at 9:00 AM and set the Destination of the report to Web Publishing in the Windows Client, or Publish to Web in the Web Client. With this setup, the user-interface automatically runs a report on current volume activity every morning and publish the web report on your web server.

Note: For more information about Web Publishing using the Windows Client, see the *CAVantage SRM Windows Client Guide*. For more information about publishing reports to a web server using the Web Client, see the *CAVantage SRM Web Client Guide*.

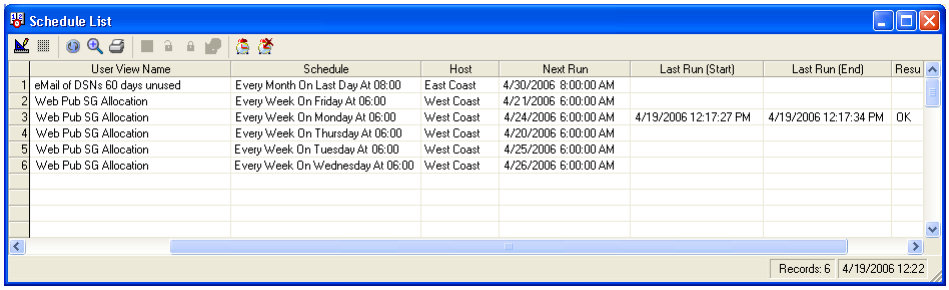
Both the Windows Client and the Web Client have Start Scheduler and Stop Scheduler options found under their Tools options. And the Windows Client has the Schedule List option and the Web Client has a Schedule Status option found under their Tools options which you can use to manage the different user-interface's scheduled items.

The Windows Client also has the Start Scheduler icon and the Schedule List icon in the Windows Client main menu Toolbar.

The following is an example of the Web Client Scheduler Status Window displayed when you select the Schedule Status option in the Tools menu:



The following is a sample of the Windows Client Schedule List window that is displayed when you select the Schedule List option:



Schedule List Dialog Toolbar Options

The Web Client Scheduler Status Window provides the following options:

Run

Runs the selected scheduled activities immediately.

Edit

Modifies a Schedule.

Enable/Disable

Enables or disables the selected schedules.

Export to Excel

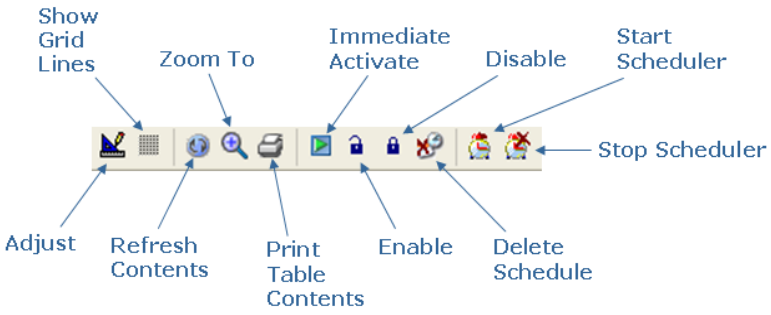
Exports the information displayed in the Activity List table.

Refresh

Refreshes the information displayed in the Activity List table with the latest data from the web application database.

Note: For more information about the Web Client Scheduler Status Window, see the *CAVantage SRM Web Client Guide*.

The Windows Client Schedule List dialog provides the following toolbar options:



Note: For more information about the Scheduler and Schedule List, see the *CAVantage SRM Windows Client Guide* and the *Help on Windows* online help system.

JCL Management

You can submit jobs manually from the Windows Client, either immediately or at a scheduled time. When you create a job (JCL stream) to submit, you determine the type of job being submitted, the number of steps, and so on. The job can involve your CA GMI enabled CA product, standard IBM utility programs, your own utility programs, or any combination of these. You can also use IEFBR14 jobs for testing purposes.

Note: Currently, the Web Client does not have a JCL Management feature.

The Windows Client helps you specify substitution variables (symbolic parameters) in the sample JCL you provide, allowing you to create generalized model JCL.

CA GMI provides two options for managing your JCLs:

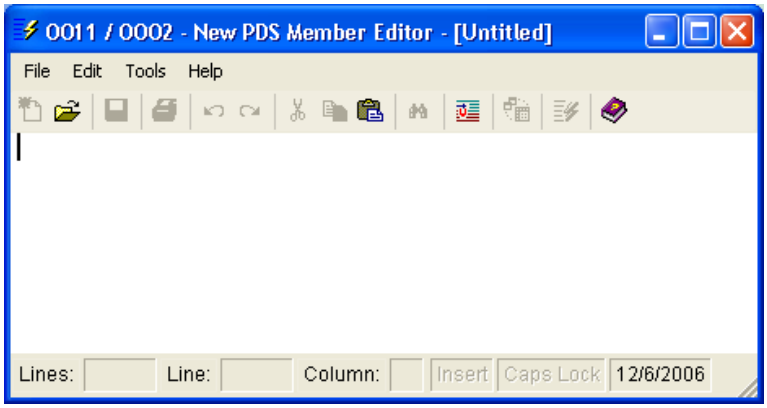
- The Member Editor (Submit) function
- The JCL Model List feature

The Member Editor (Submit) Function

The Windows Client Member Editor (Submit) function under the z/OS menu in the Main Window can be used to manage your JCLs. You can use it to specify substitution variables (symbolic parameters) in your sample JCLs. It has a drag-and-drop feature that allows you to drag rows from object displays and drop them onto a JCL template in the Edit dialog. When you drag and drop the rows, the variables from the rows are substituted into the template. You can also use the Member Editor (Submit) function to submit jobs manually, either immediately or at a scheduled time.

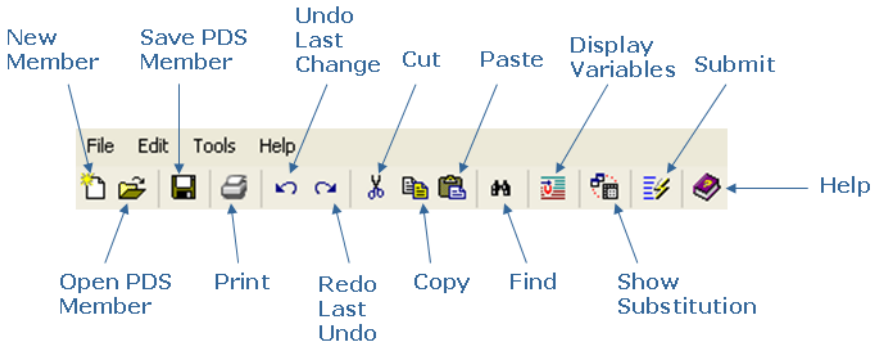
Note: Currently, the Web Client does not have a Member Editor (Submit) function.

The following is a sample of the Windows Client New PDS Member Editor dialog that is displayed when you select the Member Editor (Submit) function under the z/OS menu option.



PDS Member Editor Dialog Toolbar Options

The PDS Member Editor dialog provides the following toolbar options:



Note: For more information about PDS Member Editor options, click the Help icon on the PDS Member Editor dialog Toolbar.

The JCL Model List Feature

The Windows Client JCL Model List feature helps you manage JCL. The JCL Model List feature provides the same functionality as the Member Editor (Submit) function however it presents your JCL working environment (the Object Table, the Associated JCL Members, the Substitution Variable List, and the PDS Member Editor) in one window so that working with your JCL is much easier.

Note: Currently, the Web Client does not have a JCL Model List feature.

You can use the Windows Client JCL Model List feature to select JCL models to be used by objects or a group of objects using pattern matching. These models can be used to perform actions or mainframe management functions in batch jobs. The models can contain object variables that are substituted upon request or at submit time.

You can start the JCL Model List feature two ways, from the Object Tree Pop-up Menu or from the object view Toolbar.

To start the JCL Model List feature from the Object Tree pop-up menu in the Windows Client

1. Right-click an object in the object tree.

   The Object Tree pop-up menu appears.

2. Click the JCL Model List option.

   The JCL Model List dialog appears.

To start and use the JCL Model List feature from the object view Toolbar

1. Click the object in the object tree.

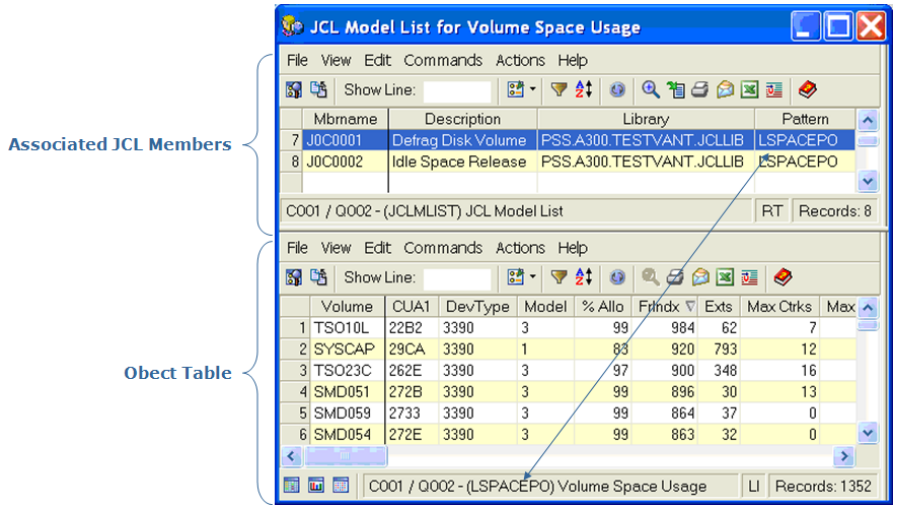
   The Object view appears.

2. Click the down arrow next to the Definitions icon in the object view Toolbar.

   The Definitions drop-down menu appears.

3. Click the JCL Model List option.

   The JCL Model List dialog appears. The JCL Model List dialog displays the object data and the list of JCL members associated with that object in separate panes as shown in the following sample:



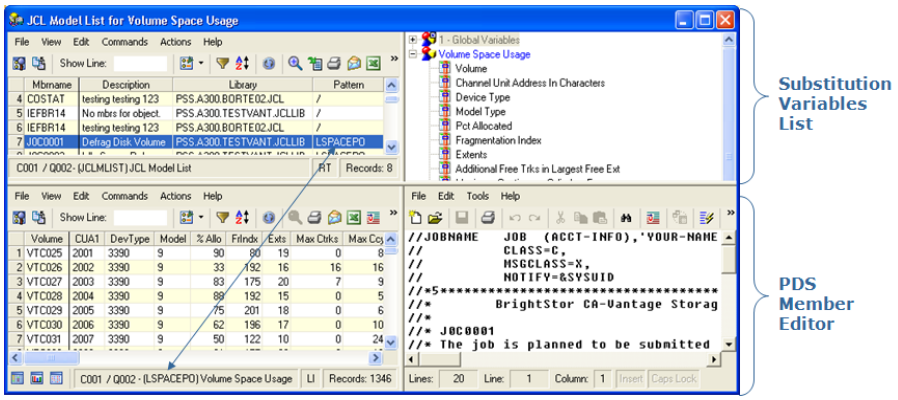
   The Object Table pane displays the object selected. You can use the object view menu options in the pane to change the object view, such as sort, filter, zoom, and so on.

   The Associated JCL Members pane displays the JCL models you have created and linked to the object selected. You can use the Associated JCL Members Action options to modify the JCL Model information displayed in the pane, add new JCL models, and to delete JCL Models.

   Note: For more information about the Associated JCL Members pane, click the menu bar Help option and select Help About Object.

4. Double-click a model line, and two additional panes appear in the JCL Model List dialog; the Substitution Variable List for the object, and the PDS Member Editor with the model JCL.

   The following sample shows how the JCL Model List displays all 4 panes in the JCL Model List dialog.



   Using the PDS Member Editor pane you can edit the model JCL, create new JCL Models, insert variables, substitute variables with object information, submit the JCL, and so on.

   Note: For more information about PDS Member Editor options click the Help option on the PDS Member Editor pane Menu Bar.

5. Click your cursor in the JCL in the PDS Member Editor pane where you want a variable to be inserted, and then double click the desired variable in the Substitution Variable List pane.

   The variable appears in the PDS Member Editor pane where you indicated.

6. Repeat step 5 until you have included all your variables in the PDS Member Editor pane.

   Now you are ready to substitute the variables in your JCL with object line information.

7. Click a line or multiple lines in the Object Table pane, then drag-and-drop them into the PDS Member Editor.

   When you do this, a new PDS Member Editor dialog is opened with the resulting JCL; that is, the field values from your selected object table lines are substituted into the variable locations in a copy of your JCL model in a new PDS Member Editor dialog.

8. Click the Submit icon in the PDS Member Editor Toolbar when your JCL is complete and you are ready to submit it.

   A message dialog appears advising that your JCL has been submitted.

Note: For more information about working with the JCL Model List, see the *CAVantage SRM User Guide.*

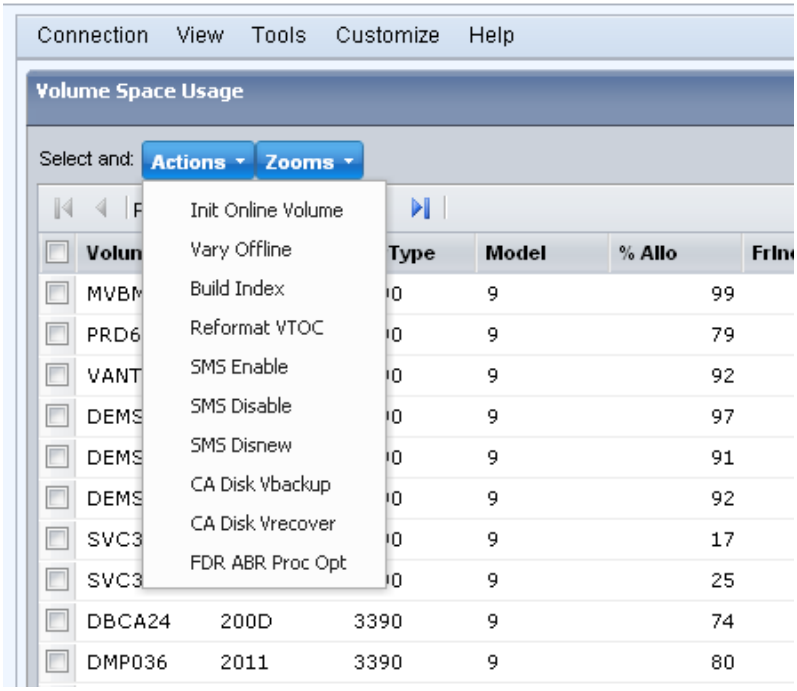
User-Interface Object Action Options

The Actions option is only available for certain objects and it is used to perform actions on specific object items. The actions available for an object relate to specific functionality of the object being accessed.

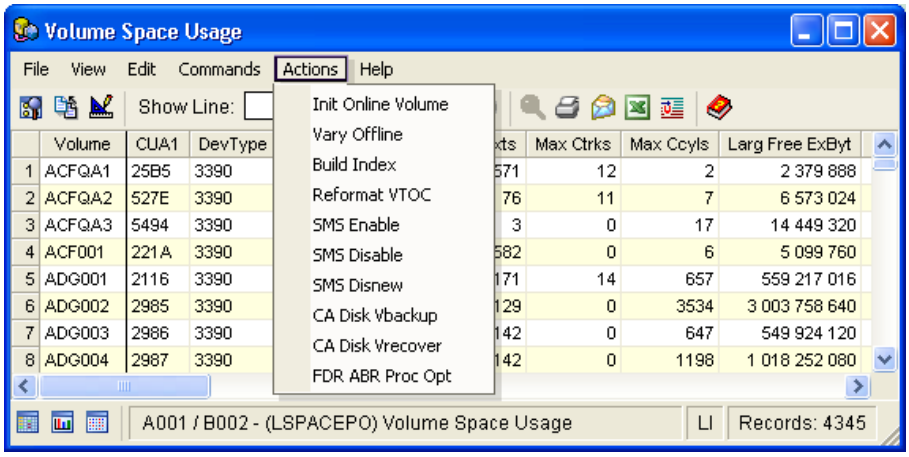
Note: If the Windows Client *Help on Object* or the Web Client *Object-object_name-Help* for an object lists Actions, but the Actions menu option does not display any Actions, it is because your CA GMI license does not authorize you to use them.

Example: Display of the Action menu of the Volume Space Usage object

The following is a sample of the Volume Space Usage object Action menu displayed in the Web Client:



The following is a sample of the Volume Space Usage object Action menu displayed in the Windows Client:



Note: When object actions are performed, security checks are made with the proper access levels. The user ID for each security check will be either the user ID associated with the CA GMI started task, or the user ID that owns the script (the person who created or last modified it). For more information about the security system, see the description of system parameter SECURSCR in the *CAVantage SRM Configuration Guide*.

Display Actions Dialog Feature

You can use the actions dialog feature to perform actions on certain objects.

To start the Actions dialog feature

1. Click an object in the Object Tree.

   An object in Table View appears in your user-interface window.

2. Select a line or group of object data in the object Table that you want to perform the action on.

   The line or lines of object data in the Table View is selected.

3. If you are using the Windows Client, click Actions in the Table View Menu Bar. If you are using the Web Client, click Actions in the object Menu Bar.

   The Actions drop down list appears.

4. Click the Action you want to perform.

   The Actions dialog appears.

Note: For more information about how to use the Actions dialog view the *Help on Window* online help system in the Windows Client or the *Navigation* online help system in the Web Client. For more information about an object and available object actions view the *Help on Object* online help system in the Windows Client or the *Object-object_name-Help* online help system in the Web Client. If the *Help on Object* for an object or the *Object-object_name-Help* online help system lists Actions, but the Actions menu option does not display any Actions, it is because your CA GMI license does not authorize you to use them.

User-Interface Online Help Systems

Both the Web Client and the Windows Client have two types of online help systems:

Windows Client

Help on Window (Help About Window)

Provides information on how to use Windows Client features and if you click Help About Window from a window or dialog Help menu option it provides help about the opened window or dialog. This online help system also has a search facility.

Note: From the object tree this help is called Help on Window and when you have a window open and you click the Help menu option this is called Help About Window.

Help on Object (Help About Object)

Provides object specific information. It includes a description of the object, actions available, and information about the object data fields in the object.

Note: If the *Help on Object* for an object lists Actions but the Actions menu option does not display any Actions it is because your CA GMI license does not authorize you to use them.

Note: From the object tree, this help is called Help on Object, and when you have the object open in a window and click the Help menu option, this is called Help About Object.

To access the Windows Client Help on Window (Help About Window) online help system

1. Click the Help icon () displayed in an open window or dialog.

   The help topic that pertains to that window or dialog is displayed.

   Most windows and dialogs also have a Help menu option where you can select Help About Window to display the help topic that pertains to that window or dialog is displayed.

You can also open this online help system from the main Windows Client menu by clicking the Help menu option and selecting CA SRM and CA Vantage Help Topics or by clicking the Help icon ( ) in the main Windows Client toolbar.

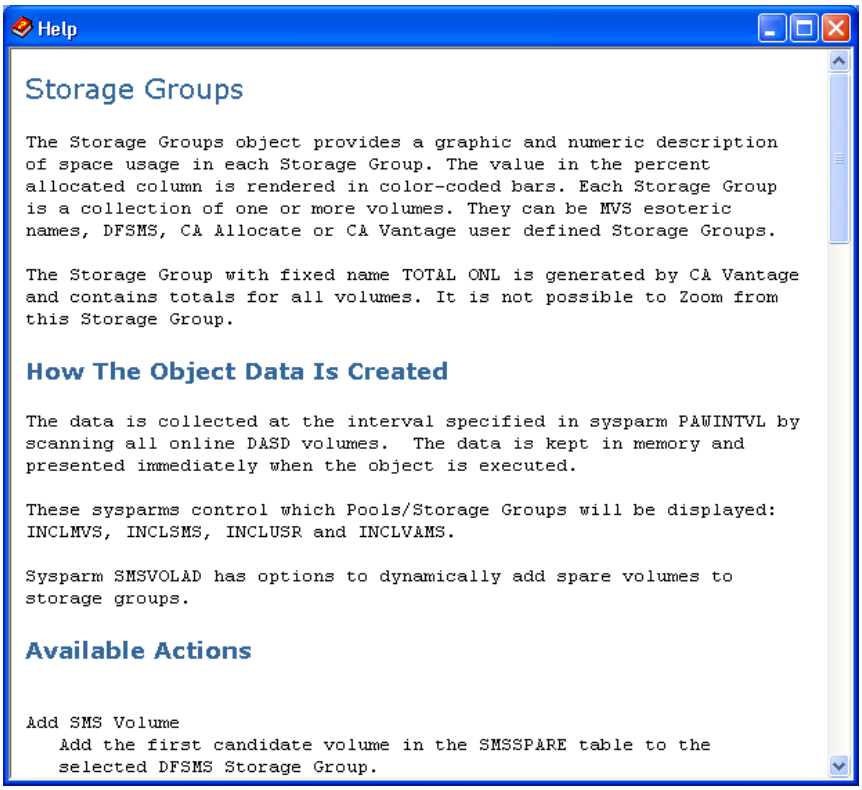
To access the Windows Client Help on Object (Help About Object) online help system

1. Right-click on an object in the Object Tree dialog.

   The Object pop-up menu appears.

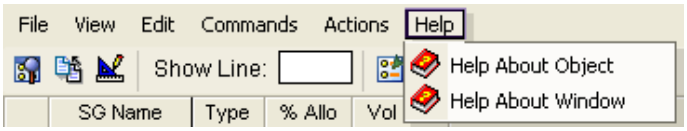
2. Click Help on Object.

   The Help on Object system appears showing the help page related to the object selected as shown in the following sample of the Help on Object for the Storage Groups object.



Example: Display help from an object view

You can also access the Help on Object (Help About Object) and the Help on Window (Help About Window) online help systems from the Help menu item in the object view Menu Bar as shown in the following sample of the an object table view Menu Bar.



Web Client

Navigation Online Help

Provides information on how to navigate the Web Client and use Web Client features. If you click Help then Navigation from a window, wizard, or dialog, the online Help topic displayed provides help about the opened window, wizard, or dialog. This online help system also has an index and a search facility.

Object - *object_name* - Help

Provides object specific information. It includes a description of the object, actions available, and information about the object data fields in the object.

Note: If the Object - *object_name* - Help for an object lists Actions, but the Actions menu option does not display any Actions, it is because your CA GMI license does not authorize you to use them.

To access the Web Client Navigation online help system

Click Help and then Navigation in the object Menu Bar, or in the opened window, wizard, or dialog. The help topic that pertains to that open window, wizard, or dialog is displayed. The help topic displayed when you click Help and then Navigation in the object Menu Bar is the Welcome page.

You can also open this online help system by clicking Help in the top line of the main Web Client window.

To access the Web Client Object - *object_name* - Help online help system

Click Help and then Object - *object_name* - Help on the object Menu Bar. The Object - *object_name* - Help appears showing the help page related to the displayed object.

Chapter 2: Setting Up CA GMI

This chapter explains how to set up CA GMI.

This section contains the following topics:

CA GMI Components

CA GMI consists of the following two components:

z/OS Server

Installed on the mainframe.

User-Interface (PC) Clients

The following user-interface clients are available:

Windows Client

This client is a Windows-based user-interface. This client provides full functionality and when you install the Windows Client you also install the Config Client and the CAVantage SRM documentation set. You can use the Config Client to set CAVantage SRM parameters.

Web Client

This client is a web-based user interface. The client can be used from any PC with internet access to the web client application server. You can access the CAVantage SRM documentation set from the web client. The current web client provides partial functionality compared to the Windows client.

Note: Install the Windows client first and then the web client. The Windows client contains the Config client which you can use to set CAVantage SRM system parameters.

3270-based interface (View 3270 Client)

This client provides partial functionality that is limited to:

- User-driven functionality of view and analysis
- Filtering and sorting, zooming
- Ability to initiate actions on selected entries

Note: The View 3270 Client is considered a character-based user-interface, not a graphic-based user-interface, so it is not discussed in this guide. For View 3270 Client installation and configuration information, see the chapter "Configuring CA GMI" in the *CAVantage SRM Configuration Guide*. For more information about using the View 3270 Client, see the chapter "Navigating the View 3270 Client" in the *CAVantage SRM User Guide*.

Install and Configure CA GMI

In order to use CA GMI you must install and configure both the z/OS component and at least one of the User-Interface (PC) Client components (you can use the Windows Client, the Web Client, or both).

Note: If you have already installed CA GMI components for one of the other CA GMI enabled products, there is no need to install the components again, however you must perform step 4 in the following procedure for the CA GMI qualified product. If you are installing the components for the first time, ensure that you have received the proper installation materials for the z/OS and the User-Interface (PC) Client components. If you do not have all the installation materials you need, then contact CA Support at http://ca.com/support.

To install and configure both components of CA GMI

Note: System software and hardware requirements for both components of CA GMI can be found in the *CAVantage SRM Installation Guide*.

1. Install the z/OS server as described in the *CAVantage SRM Installation Guide*.

   The z/OS server is installed on your z/OS system.

2. Install the Windows Client as described in the *CAVantage SRM Installation Guide*.

   The Windows Client is installed on at least one PC.

   Note: When you install the Windows Client, you also install the CAVantage SRM Config Client which you can use to set CAVantage SRM system parameters. If you want to use the Web Client, we suggest you install it after you have completed step 8. However, you can install the Web Client after you have completed step 3 and to be able to use it to work with CA GMI enabled product objects you must complete step 4 for each CA GMI enabled product. For more information about installing, navigating, and using the Web Client, see the *CAVantage SRM Web Client Guide*.

3. Configure the parts of the z/OS server that are common to all CA GMI enabled products as described in the chapter “Configuring CA GMI” in the *CAVantage SRM Configuration Guide*.

   Common CA GMI parts of the z/OS server are configured on your z/OS system.

4. Configure the parts of the z/OS server that are specific to your CA GMI enabled product according to the chapter “z/OS Host Configuration" in this guide.

   Your CA GMI enabled product objects are defined for retrieving your CA GMI enabled product object data by the CA GMI user-interface.

   Note: If you want to use the Web Client you can install it now or after you complete step 8. For more information about installation, starting, navigation, and using the Web Client, see the *CAVantage SRM Web Client Guide*.

5. Start the Windows Client according to the section Start and Log in to the Windows Client (see page 64).

   The Windows Client is up and running on your PC.

6. Define z/OS host connections as described in the section Define a z/OS Host (see page 68).

   At least one z/OS host is defined in your Host List.

7. Connect the Windows Client to a z/O host and login as described in the section Connect and Log In to the z/OS Host (see page 70).

   The Windows Client is connected and logged in to a z/OS host. You can start using it to view and work with object data.

8. Define the Windows Client data collection mode as described in the section Define the Data Collection (see page 72).

   Object data is automatically displayed in the object view when you open an object.

Note: The latest version of the CAVantage SRM documentation set is available at http://ca.com/support. However, you can install the Windows Client first (with no configuration) and then access the CAVantage SRM documentation set. To access the CAVantage SRM documentation set from the Windows Client click Start, Programs, CA, CA Storage Resource Manager, Documentation, and then Manuals - z/OS, or from the Windows Client main menu Help drop-down menu click Manuals - z/OS. The CAVantage SRM documentation set consists of the following documents:

- *CAVantage SRM Best Practices Guide*
- *CAVantage SRM Configuration Guide*
- *CAVantage SRM Installation Guide*
- *CAVantage SRM Message Reference Guide*
- *CAVantage SRM Reference Guide*
- *CAVantage SRM Release Notes*

- *CAVantage SRM User Guide*
- *CAVantage SRM Web Client Guide*
- *CAVantage SRM Windows Client Guide*

Start and Log In to the Windows Client

If you want to use the Windows Client for your CA GMI session then you must start it.

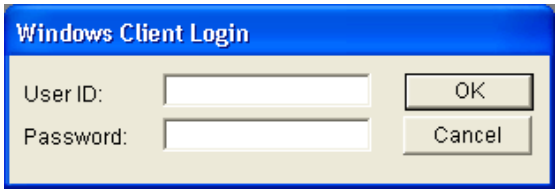
By default, when you start the Windows Client, you automatically log in as the ADMIN user (the default administrator), no Windows Client Login dialog appears, and the Windows Client Main Window appears. However, if this default was changed to require a specific user ID and password, the Windows Client Login dialog appears when you start the Windows Client and you must provide a valid user ID and password.

Note: For more information about creating and maintaining Windows Client logins, see the section User Manager in the *CAVantage SRM Windows Client Guide*.

To start and log in to the Windows Client

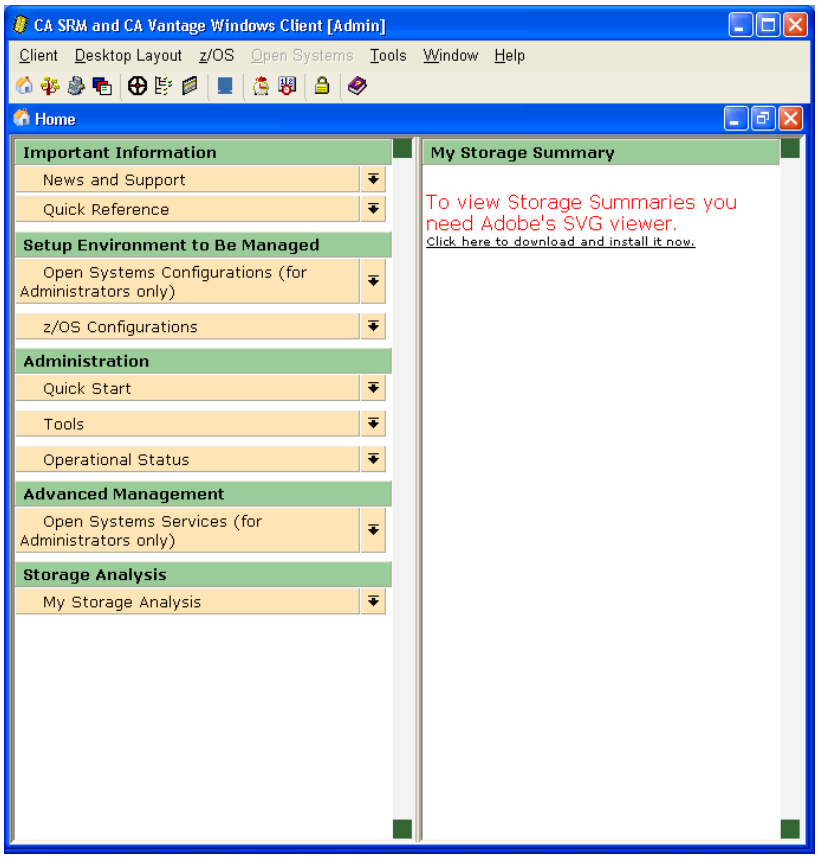
1. Click Start, Programs, CA, CA Storage Resource Manager, and select Windows Client.

   The Windows Client Login dialog appears as shown in the following sample.



2. Type in your Windows Client User ID and Password and click OK.

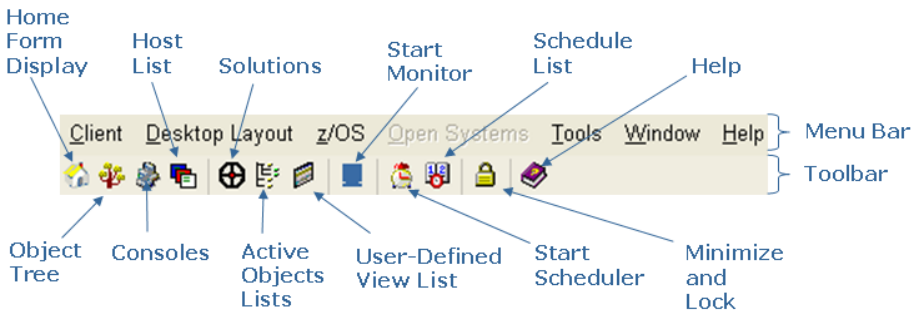
   The Windows Client Main Window appears with the Home Form dialog displayed as shown in the following sample.



To start the Windows Client, click Start, Programs, CA, CA Storage Resource Manager, and select Windows Client. If no Windows Client login is required, the Windows Client Main Window appears with the Home Form dialog displayed.

Windows Client Menu Bar and Toolbar Options

The top of the main window of the Windows Client has the following Menu Bar and Toolbar options:



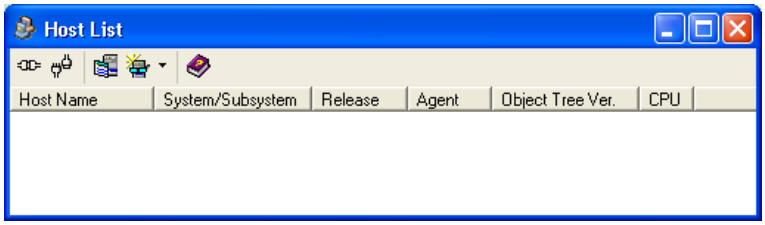
Note: For more information about the Windows Client Menu Bar and Toolbar options, see the *CAVantage SRM Windows Client Guide* or click the Help icon on the Windows Client Menu Bar.

The Windows Client View

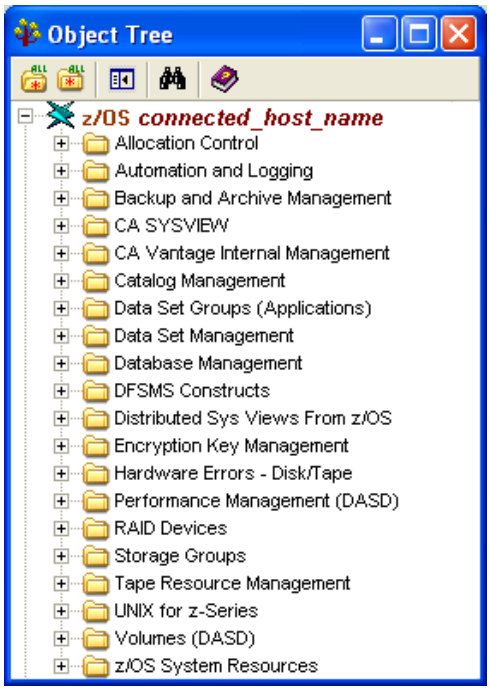
Many Windows Client users prefer to close the Home Form dialog and display the Host List dialog and the Object Tree dialog.

To close the Windows Client Home Form dialog click the Close dialog icon located at the top right hand corner of the Home Form dialog shown in the following sample.

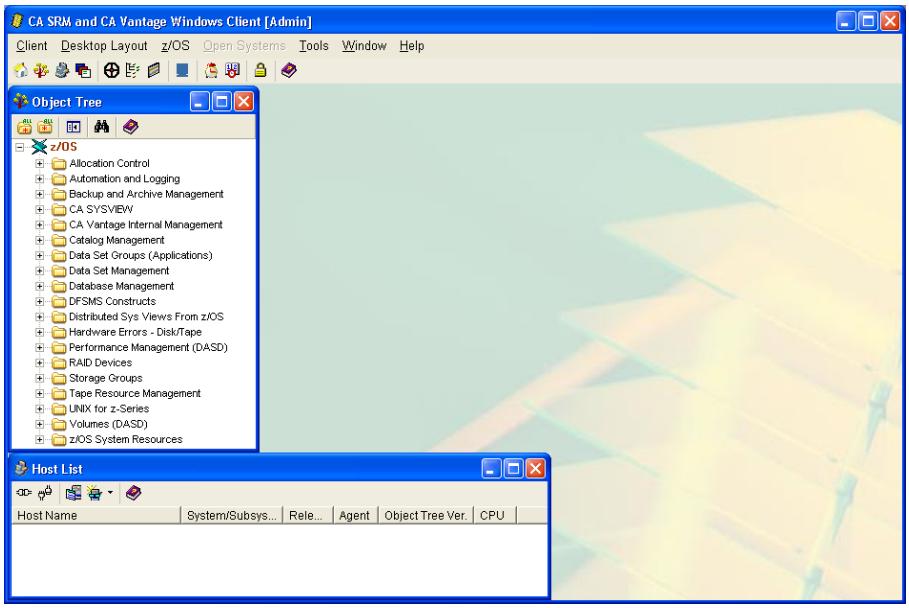
To display the Host List dialog click the Host List icon ( ) located in the Windows Client Toolbar. The following is a sample of the Host List dialog.



To display the Object Tree dialog click the Object Tree icon ( ) located in the Windows Client Toolbar. The following is a sample of the Object Tree dialog.



You can resize and move displayed dialogs in the Windows Client the same as you resize and move opened windows on your PC desktop. Arrange the Host List and Object Tree dialogs so they display as shown in the following screen capture sample.



Define a z/OS Host

After starting the Windows Client you need to connect the Windows Client to the z/OS server component. In order to connect the Windows Client to the z/OS server component, you must first define the z/OS server or servers that you plan to use. The Windows Client Host List feature is used to define z/OS server connections.

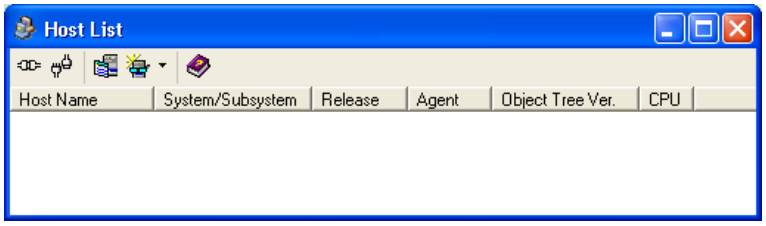
You can define as many z/OS servers as you want and you can simultaneously connect to as many z/OS servers as you want (as long you have installed and configured the z/OS server component on them).

To define a z/OS host

Note: The following procedure assumes you have started the Windows Client and the Host List dialog is not displayed. If the Host List dialog is already displayed then you can skip step 1.

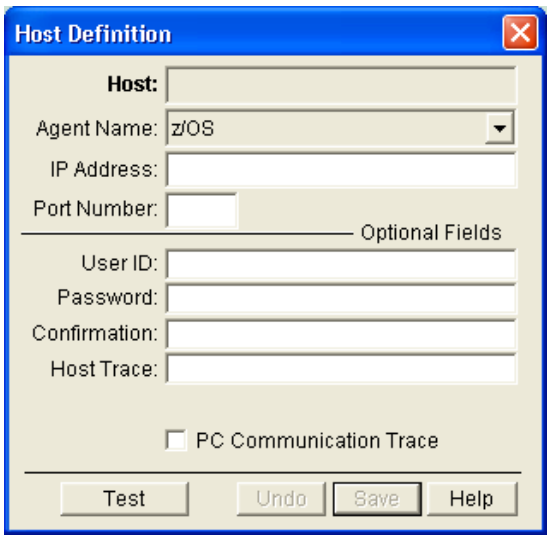
1. Click the Host List icon ( ) in the Windows Client Toolbar.

   The Host List dialog appears as shown in the following sample.



2. Click the New Host icon ( ) in the Host List dialog.

   The Host Definition dialog appears as shown in the following sample.



3. Complete the Host Definition dialog, the field options are:

   Host

   Provides the Host Name displayed in the Host List dialog.

   Agent Name

   Provides the name of the agent that collects data from the host. Select z/OS if it is not already displayed.

   IP Address

   Defines the IP address or server name of the z/OS host to which you are connecting.

   Port Number

   Defines the port number of the z/OS host to which you are connecting.

   User ID

   (Optional) Provides the user ID, which is sent to the host in encrypted form. If you do not specify a user ID then you must enter it every time you try to connect the Windows Client to the z/OS host.

   Password

   (Optional) Provides the password, which is sent to the host in encrypted form. If you do not specify a password then you must enter it every time you try to connect the Windows Client to the z/OS host.

   Note: You also have the option of providing the z/OS host user ID and not the password when setting up your Host Definition; this is often done at sites where security policies require Passwords to be changed periodically.

   Confirmation

   Confirms the password, if you provide a password then you must provide the same password in the confirmation field.

   Host Trace

   (Optional) Creates a trace on the host of all the messages exchanged between the z/OS host and the Windows Client. For more information about this field click the Help icon.

   PC Communication Trace

   (Optional) Indicates if the system should save the messages relating to host-client communication in a log file. For more information about this field click the Help icon.

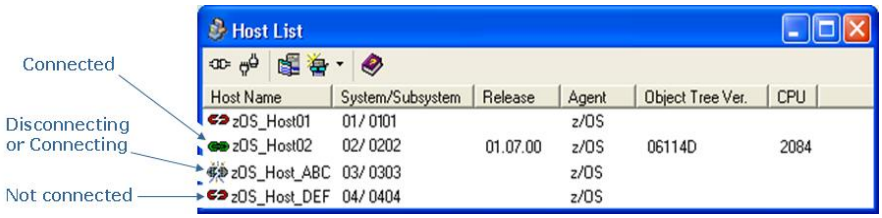
4. Click Test to test your connection information.

   The Windows Client advises you if your connection to the z/OS host is successful.

5. Click Save.

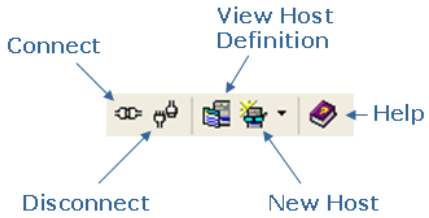
   The Windows Client stores the host definition. The new host definition appears in the Host List dialog. The Host List dialog displays all your defined hosts and their connection status.

   The following is a sample of the Host List dialog showing the different connection status icons.



Host List Dialog Toolbar Options

The Windows Client Host List dialog provides the following toolbar options:



Connect and Log In to the z/OS Host

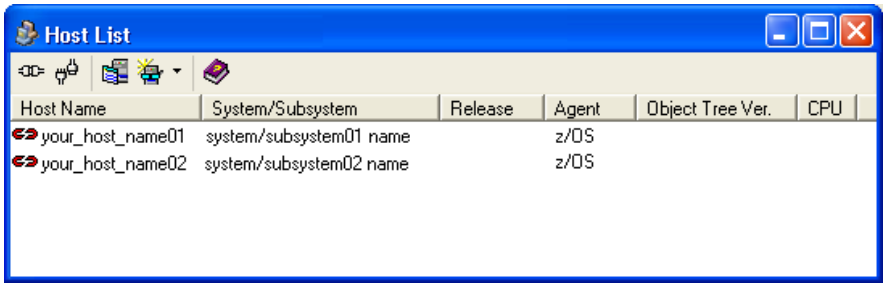
After you start the Windows Client and have defined z/OS host connections, you can then connect the Windows Client to a z/OS host and log in to the z/OS host. Once that is done you can start using CA GMI.

To connect and log in to the z/OS host

Note: The following procedure assumes you have predefined your z/OS hosts and they are displayed in the Host List dialog. If you do not have predefined hosts in the Host List dialog then see the section Define a z/OS Host. If the Host List dialog is already displayed in your Windows Client window then skip step 1.

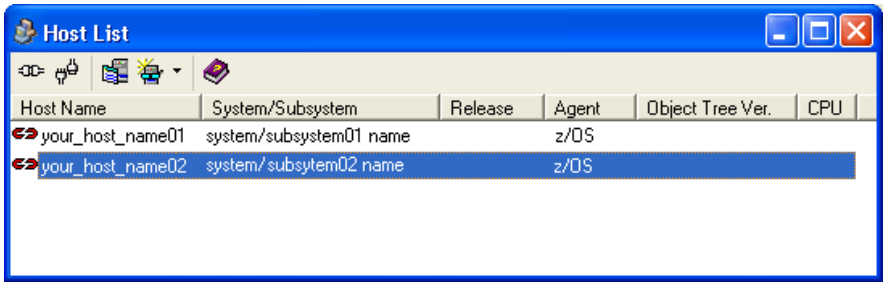
1. Click the Host List icon ( ) in the toolbar.

   The Host List dialog appears. The following is a sample of the Host List dialog.



2. Select the host to which you want to log in to from the Host List dialog.

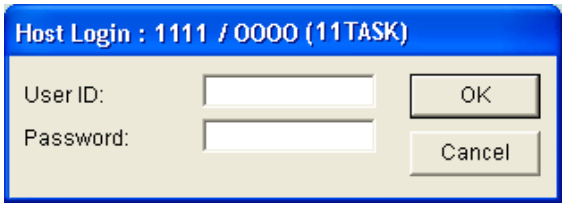
   The selected host definition is highlighted as shown in the following sample.



3. Click the Connect icon ( ) in the Host List dialog toolbar.

   If your user ID and password were provided in the Host Definition dialog for the selected host, the Windows Client attempts to connect to the host. If the connection is successful then the connection status icon changes from the Not Connected icon ( ) to the Connected icon ( ). You can begin using CA GMI and you can skip step 4.

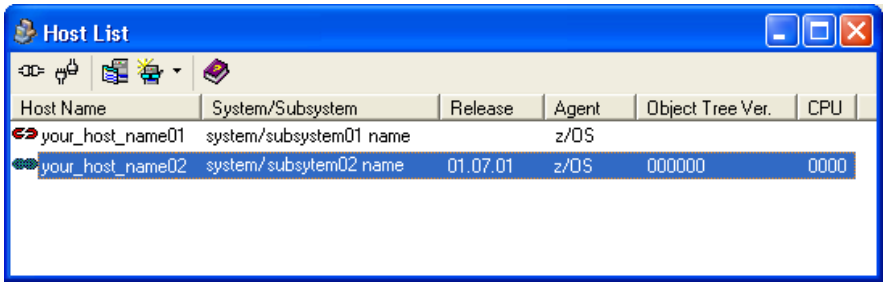
   If your user ID and password were not provided in the Host Definition dialog for the selected host, then the Host Login dialog appears as shown in the following sample dialog, and you must proceed to the next step.



4. Enter a valid user ID and password in the Host Login dialog, and click OK.

   The Host Login dialog disappears.

   The Windows Client attempts to connect and log on to the z/OS host. When the connection and log on is complete, the connection icon in the Host List Dialog changes from the Connecting icon ( ) to the Connected icon ( ), as shown in the following sample, and you can begin using CA GMI.



Note: For more information about defining hosts and connecting to hosts, see the *CAVantage SRM Windows Client Guide* or the online help.

Define the Data Collection Mode

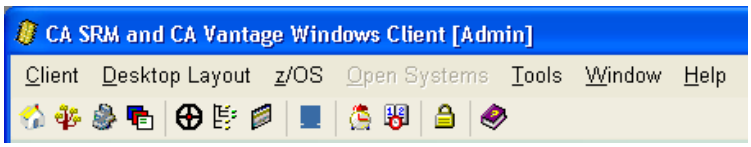
CA GMI can be configured to collect data in either Automatic or Manual mode.

- In Automatic mode, object data is collected automatically when you open an object.
- In Manual mode, object data is only collected by the Windows Client when you click the Execute icon ( ) in the open object view Toolbar.

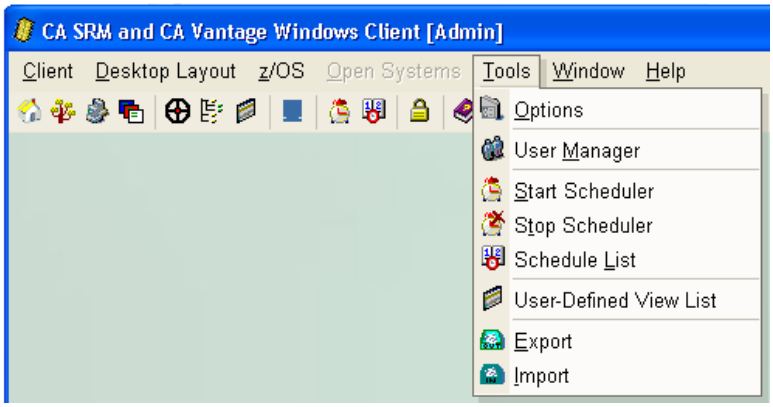
To define the data collection mode in the Windows Client

1. Click Tools in the Windows Client main window Menu Bar.

   The following is a sample of the Windows Client main window Menu Bar and Toolbar.

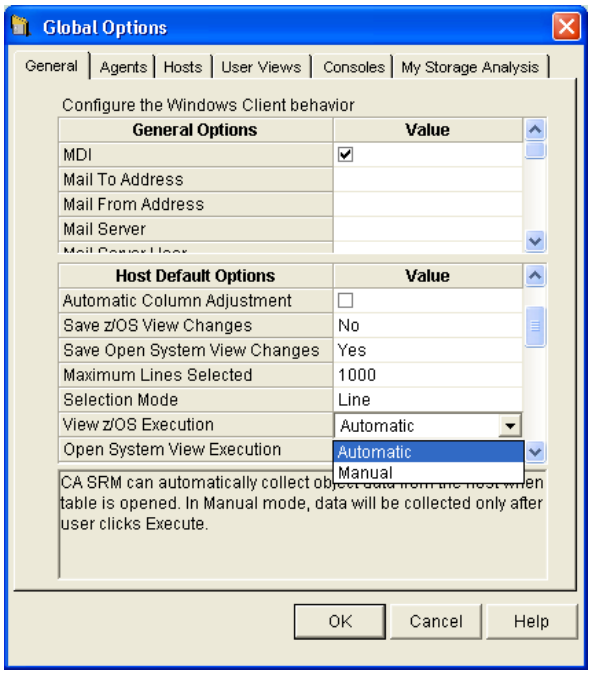


The Tools menu expands to display available items, as shown in the following sample:



2. Select Options from the Tools menu drop-down list.

   The Global Options dialog appears, as shown in the following sample:



3. Select the General tab.

   The General tab is displayed in the Global Options dialog.

4. Select View z/OS Execution.

   A down arrow is displayed in the View z/OS Execution field.

5. Select the down arrow in the View z/OS Execution field.

   A drop down list with choices of Automatic or Manual is displayed.

6. Select the mode you want the system to use and click OK.

   The Global Options dialog closes. When you select an object in the Object Tree the Windows Client will collect data based on the mode that you have selected.

   Note: The examples in this guide assume that Automatic mode is selected.

Closing the Windows Client

When you close the Windows Client it will log you off from your connected hosts. However, when you are finished working you should disconnect from hosts first then close the Windows Client.

To close the Windows Client

1. Select the host you are connected to in the Host List dialog.

   The selected host is highlighted.

2. Click the disconnect icon () in the Host List dialog.

   The status icon of the selected host will change from connected () to disconnected ().

3. Repeat steps 1 and 2 and close all host connections.

   All hosts displayed in the Host List dialog are displayed with the disconnected icon ().

4. Close the Windows Client by clicking the Close icon () in the top right hand corner of the Windows Client.

   The Windows Client is no longer displayed.

Chapter 3: z/OS Host Configuration

This section contains the following topics:

Before You Start

The instructions in this chapter assume you have performed the first two steps described in the section Install and Configure CA GMI (see page 62). Do not perform the instructions in this chapter before you have completed those steps.

After you have completed the instructions in this chapter, return to the chapter "Setting up CA GMI", and perform the rest of the steps listed in the section Install and Configure CA GMI (see page 62).

Configure CA GMI for CA 1

A storage administrator usually performs most of the steps in the following procedure. To find the exceptions, tasks typically done by a system programmer, look for items starting with (SYSPROG).

Some steps in the following procedure involve setting security access authority, see your security administrator to confirm or establish the proper access authorities for those steps. For more information about security, see the section Actions Against Tape Related Objects in the topic "Security Topics" in the *CAVantage SRM Reference Guide*.

To configure CA GMI for CA 1

1. Run INSTALL Job J05CA1.

   This job copies system script and parmlib members for CA 1 to the script and parmlib data sets. This job is located in the CCTUSAMP library, customize it to your needs as instructed in the comments at the beginning of the member, and run it now.

2. Configure Disk Interval Scripts for CA 1.

   This product's Disk Checkpoint service enhances system performance for vendor objects in which the vendor APIs are considered too slow for retrieving a large number of records. Tape management (volume and file) objects are in this group.

Disk Checkpoint data sets are dynamically allocated and written with the aid of scripts. Sample scripts are distributed in the CCTUSAMP library. Each script uses the tape management system's native API (which can be rather slow) to retrieve the needed data, at a scheduled low-impact time, and checkpoint it to a sequential disk file.

When you request these objects from any of this product's clients, View Mode=DC is automatically used (it is the default), and the data is read from the checkpoint data set at a much higher speed. View Mode=RT may also be a choice, which means that the slower native API will be used to get the data in Real-Time, and you will have to wait considerably longer to get the data.

Proper configuration involves scheduling the checkpoint scripts to run just frequently enough to allow normal analysis to be done from the checkpoint data.

The reformatted data buffers are written to a pair of high-performance Disk Interval files. CTSXUTIL also performs the following tasks:

- Create disk interval file containing VMF volume records
- Create disk interval file containing VMF file (data set) records
- A SYSPRINT audit report that details the number and type of records processed
- Create a z/OS name and token pair to pass the disk interval data set names to CA Vantage SRM

Note: The z/OS name and token pairs created (CTSXUTIL$VANTAGE) is online and accessible until the next system IPL.

The J05CA1 job copies the following scripts from the CCTUSAMP library to your system-script library, as named by system parameter SYSTSCR. We recommend that you enable these scripts. The header of each sample contains information on how to activate the script.

DSKTMCF

Object: Files

Type: DC

DSKTMCV

Object: Volumes

Type: DC

3. Configure the first part of the Summary Reports for CA 1.

   This product provides several tape summary reports for CA 1. To enable these reports do the following:

   Edit PARMLIB member SUMMARY to activate the reports. If this member does not exist, copy it from the CCTUSAMP library. The following is an example of part of the SUMMARY member:

```
*********************************************************************
*
* TAPE MANAGEMENT SYSTEMS SUPPORTED:
*
*********************************************************************
*%%INCLUDE MEMBER=SUMRVIS   * SUMMARY DEFS FOR CA 1 - TMC SUMMARIES
*%%INCLUDE MEMBER=SUMRTLMS  * SUMMARY DEFS FOR CA TLMS SUMMARIES
*%%INCLUDE MEMBER=SUMRRMM   * SUMMARY DEFS FOR DFSMSRMM SUMMARIES
*%%INCLUDE MEMBER=SUMRZAR   * SUMMARY DEFS FOR ASG-ZARA SUMMARIES
```

   To activate the summaries for CA 1, delete the asterisk in column 1 in the following line:

```
*%%INCLUDE MEMBER=SUMRVIS   * SUMMARY DEFS FOR CA 1 - TMC SUMMARIES
```

   Note: Additional configuration is required to complete the configuration of Summary Reports for CA 1 as described in subsequent steps.

4. Configure Tape Summary Report Filters for CA 1.

   Note: The following FILTVIxx members must be created and customized for tape volume summaries to work properly. If they do not exist in your PARMLIB yet, copy them from the CCTUSAMP library.

   The following is a list of PARMLIB members for the CA 1 Tape Volume Summaries:

   FILTVIJO

   Used to qualify tapes into groups depending on the last job name that used the tape.

   FILTVIMB

   Used to qualify tapes into groups depending on MBs written to the tape.

   FILTVIMC

   Used to qualify tapes into groups depending on the SMS management class (MC) of the tape.

   FILTVIOU

   Used to qualify tapes into groups depending on the OUTCODE defined for the tape.

FILTVIRO

Used to qualify tapes into groups depending on the Robot ID saved in the CA 1 TMC records. To make use of this summary group function, you must update the ROBID field in the TMC (you can use the TMSUPDTE utility).

FILTVITD

Used to qualify data set name patterns into groups that correspond to your installation.

5. Perform the following steps to configure the FILTVI*xx* Members:

   a. Observe that the sample FILTVITD member looks like the following:

```
*
SET_SUM_LABEL=GRP PSS.A300./
SET_SUM_FILTER=SCRATCH = N AND 'DATA SET NAME' INCL 'PSS.A300./'
*
SET_SUM_LABEL=GRP2 DMSOS./.104
SET_SUM_FILTER=SCRATCH = N AND 'DATA SET NAME' INCL 'DMS0S./'
*
SET_SUM_LABEL=G3 SYS4S.MVSS./
SET_SUM_FILTER=SCRATCH = N AND 'DATA SET NAME' INCL 'SYS4S.MVSS./
*
```

   b. Customize this member to suit your installation.

   Create groups consisting of the following two keywords:

```
SET_SUM_LABEL=
SET_SUM_FILTER=
```

   A maximum of 1000 such groups is allowed.

   SET_SUM_LABEL=

   Gives the grouping its group name. In the example above, the group name for the first group is GRP PSS.A300./. A maximum of 16 characters can be used to describe the group name.

   SET_SUM_FILTER=

   Qualifies the tapes into the different groups you create. Use the SCRATCH = N keyword to select only active tapes in the group (not tapes with scratch status). For a list of other field variables that can be used in the filter, run the GENMAP utility for object VISTMCS. See member MAPPINGS in the CCTUSAMP library for this utility. All the substitution variables (without the enclosing %% signs) can be used within the filter.

The SET_SUM_FILTER= statement has the following general syntax:

```
SET_SUM_FILTER=('field name' comparator value) AND|OR
  ('field name' comparator value)
```

Observe the following SET_SUM_FILTER syntax rules:

- This statement must begin in column one. Comment statements are indicated by an asterisk in column one.

- You can use as many *field name comparator value* criteria as necessary, connected through any combination of logical AND and OR operators. Parentheses are needed only to clarify the desired logic when multiple AND and OR operations are specified.

- Do not go beyond position 72 in a definition line. If the definition extends to a second line, split the text between words (not in the middle of a word). Leaving a blank in position one of the new line is recommended.

- When a field name contains a blank, it must be contained within single quotes. If the field name does not contain a blank, the quotes are not needed.

- For numeric fields, the comparator can be any of the common LE, LT, EQ, NE, GE, or GT comparison operators.

- For character fields, use the INCL or EXCL operators to indicate that the following list of test values are to be either included or excluded respectively. Parentheses can be used around a list of test values, and are recommended for clarity when more than one value is given. However the parentheses are not required. Items in a list can be separated by commas or blanks. For example:

```
'DATA SET NAME' INCL (PSS.A300./,SYS4/,DB2/)
```

- Test values for character fields can be either exact character strings, or pattern strings. For patterns, use the question mark (?) to represent any variable character, and the forward slash (/) to match any characters that follow. For example, TSO?5/ accepts any character after TSO and any suffix after the digit 5.

Note: For more information on wildcard characters, using quotes, and filtering, see the section Global Concepts, Functions, and Features in the *CAVantage SRM User Guide*.

c. Customize the other FILTVI*xx* members to suit your installation.

Note: For information regarding syntax rules, see the topic "Filter Syntax Rules" in the *CAVantage SRM Reference Guide* for more information.

6. (SYSPROG) Identify the CA 1 Common Options Library.

Specify CAVantage SRM system parameter CAPPOPT (dsname) with the name of your CA 1 common options library (the CAI.CTAPOPTN data set). CAVantage SRM needs to find this data set in order to retrieve various CA 1 option members.

7. Configure TMCDSNB Script for Performance - DSNB Information.

   When displaying tape volume information, summary information about all the data sets on each volume is included. If this information is fetched using the native API to the Tape Management Catalog (TMC) at the time of the request (in real-time (RT) mode), it can take considerable time, depending on the number of data sets stacked on individual tapes (the number of DSNBs per volume).

   To speed up this process, you should use script TMCDSNB, which collects the summary information in advance, on a schedule you specify, and keeps it in memory. This memory copy is then used as the source of the DSNB summary information whenever a real-time (RT) view of the tape volume object is requested - dramatically improving performance.

   Note: Disk Checkpoint (DC) objects are provided for similar performance reasons and are the default mode whenever appropriate. However, real-time (RT) views of tape volumes are also needed at times, which is why this performance script should be used.

   The TMC DSNB performance script is TMCDSNB for CA 1 object Volumes (RT).

   To enable this performance related script

   a. Schedule when this script should run. To schedule when this script should run, do the following:

      Note: Run once every 24 hours after your daily TMC clean process has been completed.

      Use TSO/ISPF to edit the TMCDSNB member and set PERFORM_EVT_PROC to the desired day and time you want it to run. To do this, uncomment the statement that looks like the following, and specify the correct day and time. (Delete the asterisk in column 1, and ensure PERFORM … starts in the first column.) Valid values for the ON_DAY= parameter are: ALL, MON, TUE, WED, THU, FRI, SAT, or SUN.

      ```
      *PERFORM_EVT_PROC=ON_DAY=ALL,AT_TIME=0700
      ```

   b. Activate and Execute the script. To activate and execute the script, perform the following steps:

      1. Specify system parameter TMCPERFS (Y).

      2. Enter the following commands:

      ```
      F SAMS,AUTO,REFRESH=SYSTEM,TMCDSNB
      F SAMS,AUTO,FIRE=SYSTEM,TMCDSNB
      ```

      Wait until the script completes execution before requesting the TMC volume object. The following console message is given when it ends:

      VAN0735I Automation Script SYSTEM TMCDSNB: Control returned from the Event Procedure

After the above message is given, the DSNB data will be available in memory immediately, and the tape volumes object can be created and displayed much more quickly.

8. (SYSPROG) Identify the CA 1 TMOSYS*xx* Member Name as follows:

   Specify CAVantage SRM system parameter CATMOSYS (TMOSYS*xx*) with the correct name of the CA 1 member containing its active system options. CAVantage SRM uses this to find and display the other CA 1 option members in the common options library.

9. (SYSPROG) Grant Security Authority to Perform TMC Actions as follows:

   To allow users the ability to perform actions on objects residing in the Tape Management Catalog (TMC), you must give them authority within your security system to update the TMC data set.

   Note: For more information, see the topic “Security Topics” in the *CAVantage SRM Reference Guide*.

10. Stop and Restart CAVantage SRM.

    CA GMI is up and running.

11. Return to the section Install and Configure CA GMI (see page 62) and continue the rest of the setup. The instructions tell you how to start the Windows Client and create host definitions so that you can work with CA 1 objects described in the chapter "CA 1 Objects."

Chapter 4: Using CA 1 Objects

This chapter explains how to use the CA 1 objects that are available in the GMI Windows Client Object Tree.

Use the GMI Windows Client GUI to Access CA 1 Objects

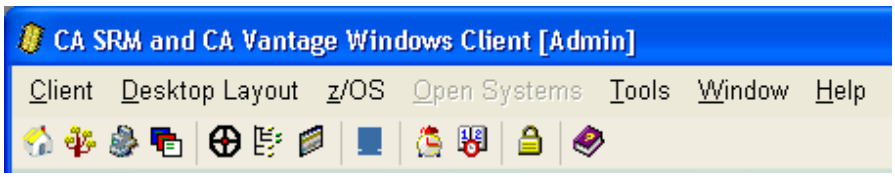
All CA 1 objects are included in the Tape Resource Management folder of the Object Tree.

Note: Before you begin, make sure that the z/OS host that you want to connect to is up-and-running.

To access CA 1 objects

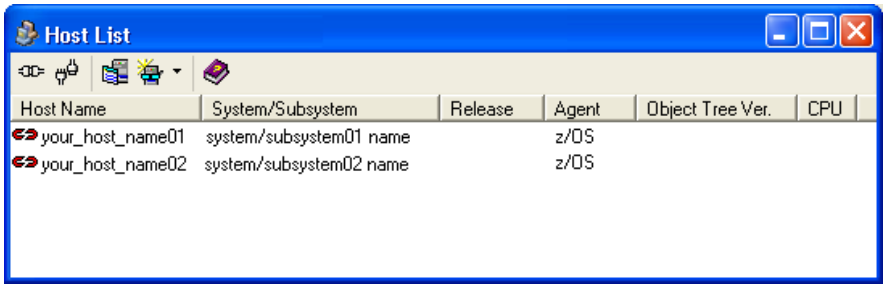
1. Click Start, Programs, CA, CA Storage Resource Manager, and select Windows Client.

   The GMI Windows Client appears. The following is a sample of the GMI Windows Client main window Menu Bar and Toolbar.



2. Click the Host List icon  in the GMI Windows Client main windows Toolbar.

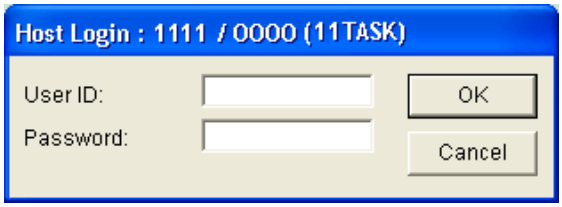
   The Host List dialog opens. The following is a sample of the Host List dialog.



3. Select the z/OS host that you want to connect to and click the Connect icon .

   If your user ID and password were provided in the Host Definition dialog for the selected host, the GMI Windows Client attempts to connect to the host. If the connection is successful then the connection status icon changes from the Not Connected icon to the Connected icon . You can skip step 4.

   If your user ID and password were not provided in the Host Definition dialog for the selected host, then the Host Login dialog appears as shown in the following sample. You must proceed to step 4.

   Enter a valid user ID and password in the Host Login dialog, and click OK.

   The Host Login dialog disappears.

   The GMI Windows Client will attempt to connect and log on to the z/OS host. If the connection is successful then the connection status icon in the Host List dialog changes from the Not Connected icon to the Connected icon . GMI will collect information from the z/OS host that you have chosen to connect to.

4. Click the Object Tree icon  in the GMI Windows Client main windows Toolbar.

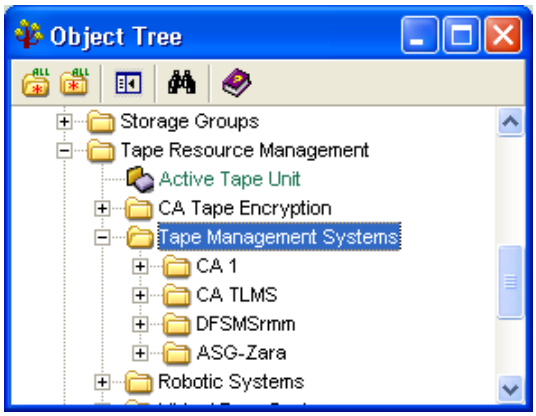
   The Object Tree dialog appears. The following is a sample of an Object Tree.

5. Click the plus sign next to the Tape Resource Management folder.

   The Tape Resource Management folder is expanded, as shown in the following sample.

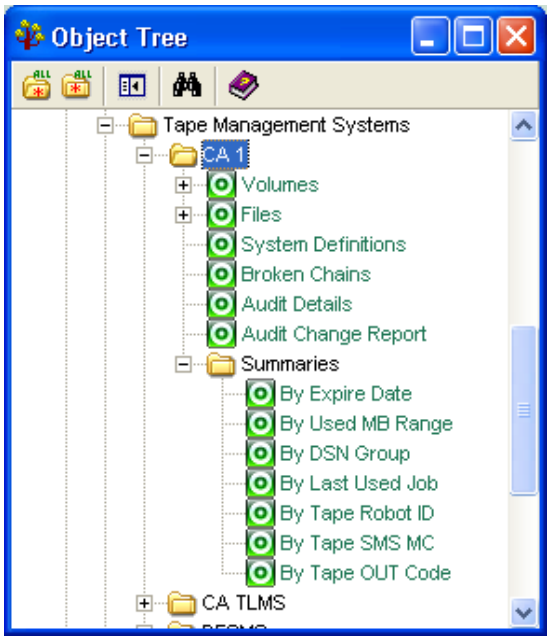
6. Click the plus sign next to the Tape Management Systems folder.

   The Tape Management Systems folder is expanded, as shown in the following sample.



7. Click the plus sign next to the CA 1 folder.

   The CA 1 objects are displayed in the Object Tree, as shown in the following sample.



Use the Online Help Systems for More Information

You can access two types of online help systems from the GMI Windows Client:

Help on Window

Provides information on how to use GMI Windows Client features.

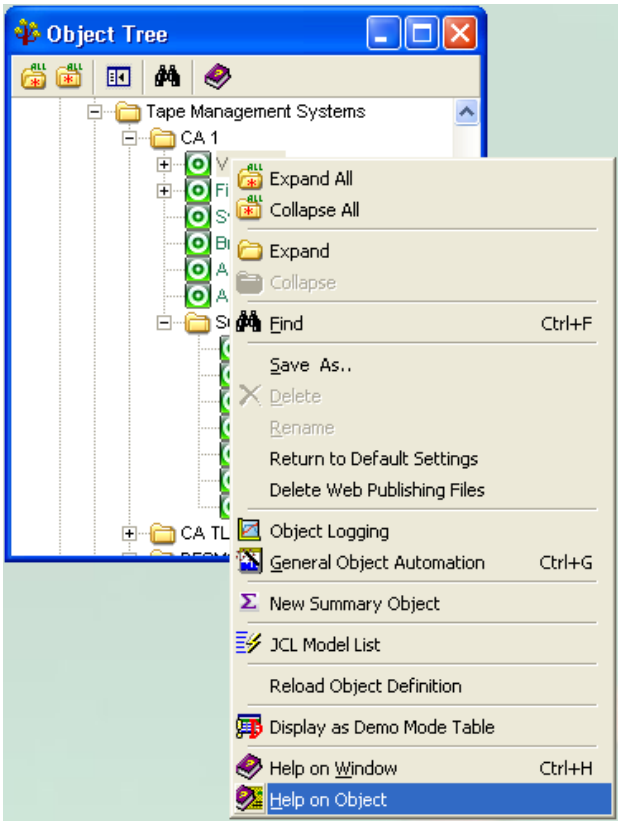
Help on Object

Provides object specific information, including information about the object data fields in each object.

To access the Help on Window online help system

1. Right-click on an object in the Object Tree dialog.

   The Object pop-up menu appears as shown in the following sample.



2. Click **Help on Window.**

   The GMI Windows Client online help system appears showing the help page related to the window from which the Help on Window was selected.

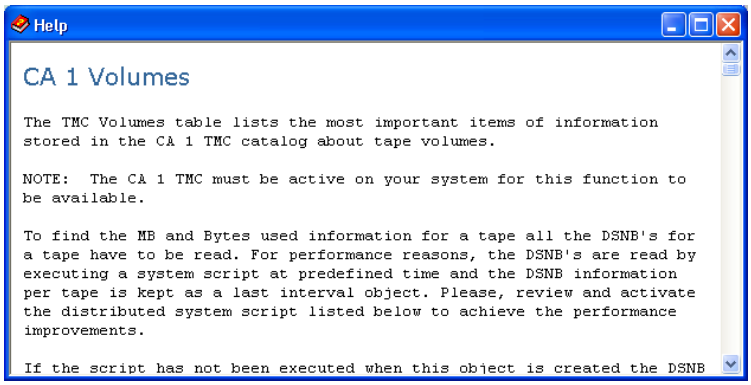
To access the Help on Object online help system

1. Right-click on an object in the Object Tree dialog.

   The Object pop-up menu appears.

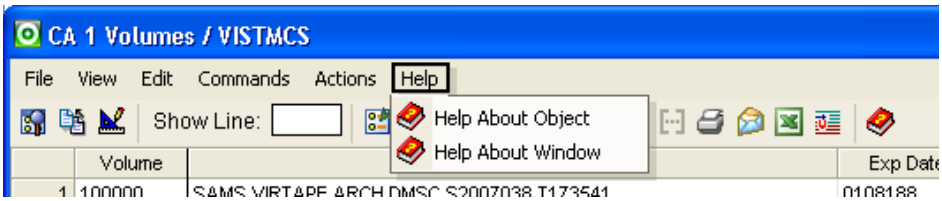
2. Click **Help on Object**.

   The Help on Object system appears showing the help page related to the object selected as shown in the following sample of the Help on Object for the CA 1 Volumes object.



Example: Display help from an object view

You can also access the **Help on Object** (Help About Object) and the **Help on Window** (Help About Window) online help systems from the Help menu item in the object view Menu Bar as shown in the following sample of the CA 1 Volumes object view Menu Bar.

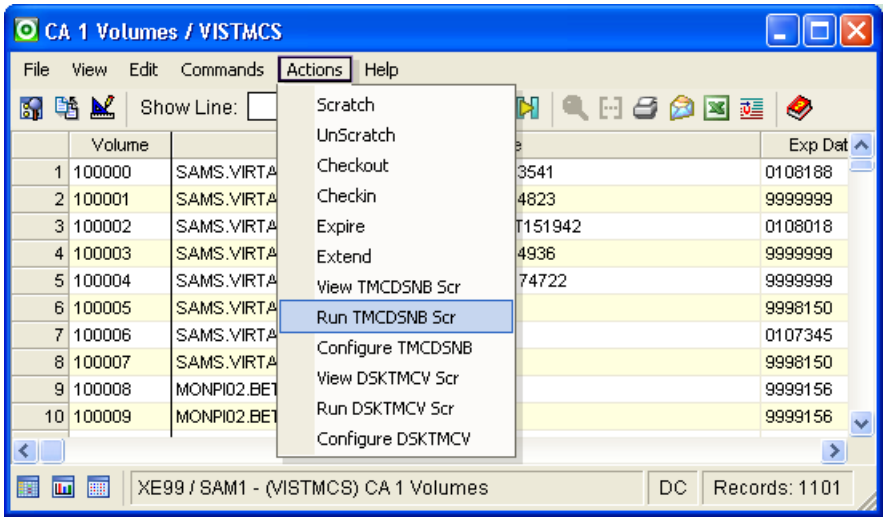


GMI Object Action Options

The Actions option is available only for certain objects and it is used to perform actions on specific object items. The actions available for an object relate to specific functionality of the object being accessed. For CA 1 objects the Actions feature is available for Volumes and Files objects.

Example: Display Volumes object Action menu

The following is a sample of the Volumes object Action menu.



Note: When object actions are performed, security checks are made with the proper access levels. The user ID for each security check will be either the user ID associated with the GMI started task, or the user ID that owns the script (the person who created or last modified it). For more information about the security system see the description of system parameter SECURSCR in the *CA Vantage Storage Resource Manager Reference Guide*.

Display Actions Dialog Feature

You can use the actions dialog feature to perform actions on some objects.

To start the Actions dialog feature

1. Click an object in the Object Tree dialog.

   An object in Table View appears in your GMI Windows Client.

2. Select a line of object data in the object Table View that you want to perform the action on.

   The line of object data in the Table View is highlighted.

3. Click Actions in the Table View Menu Bar.

   The Actions drop down list appears.

4. Click the Action you want to perform.

   The Actions dialog appears.

Note: For more information about how to use the Actions dialog view the **Help on Window** online help system. For more information about an object and available object actions view the **Help on Object** online help system.

GMI Objects for Analyzing CA 1 Activity

The following sections explain how to use CA 1 objects to analyze your tape information.

The following objects are available:

Object	Task
Volumes	Display detailed information on volumes stored in the CA 1 Tape Management Catalog (TMC).
Files	Display the files that reside on tape volumes.
System Definitions	Display the names of CA 1 Initialization members in the CTAPOPTN Data Set, and the status of each member (Active/Inactive).
Broken Chains	Display the broken chains in the CA 1 TMC.
Audit Details	Display detailed information from CA 1 TMC Audit Records.
Audit Change Report	Display a report of the TMC records that have changed, along with a list of the fields that were modified.
By Expire Date	Display summary of tapes grouped by expiration date type.
By Used MB Range	Display summary of tapes grouped by used MB range.
By DSN Group	Display summary of tapes grouped by data set name.
By Last Used Job	Display summary of tapes grouped by last used job.
By Tape RobotID	Display summary of tapes grouped by tape robotID.
By Tape SMSMC	Display summary of tapes grouped by tape SMS Management Class.
By Tape OUTCode	Display summary of tapes grouped by tape OUTCode.

These objects are described in the following sections in the order that they appear in the Object Tree.

Volumes Object

The Volumes object lists all items of information about tape volumes stored in the CA 1 Tape Management Catalog (TMC).

The Volumes object is useful in monitoring the tape activity in your CA 1 environment. It provides visibility to the tape data sets on the system and the volumes that they reside on.

Display Volumes Object

You can display the Volumes object to view information about tape volumes stored in the CA 1 TMC.

Note: **The CA 1 TMC must be active or batch active on your system for this function to be available.**

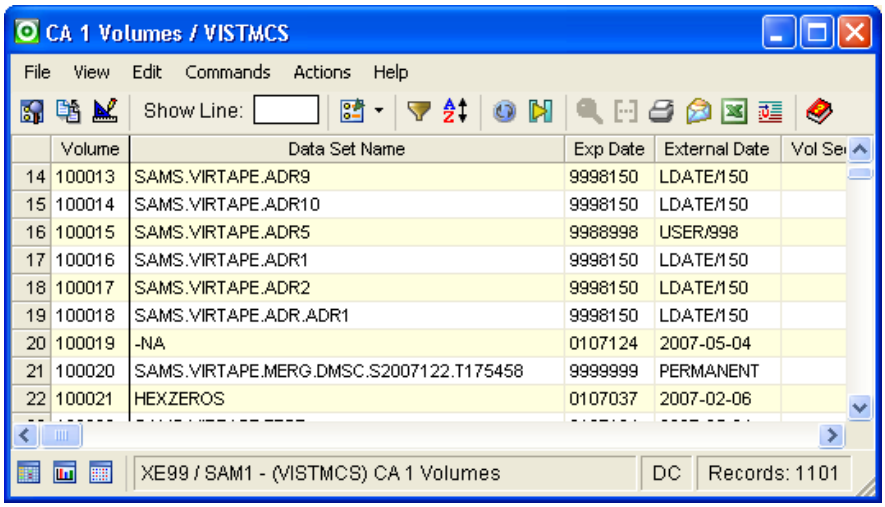
To display CA 1 volume information

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access the CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **Volumes** object in the Object Tree.

   The Table View of the **Volumes** object appears as shown in the following sample.



Volume Object Actions Menu

The following actions are available from the Actions option located on the **Volumes** object view Menu Bar.

Scratch

Sets the status of the selected volume to Scratch, making the volume reusable.

Note: Tapes that are under Catalog control must be uncataloged before they can be scratched or the expiration date (expdt) must be changed to today's date.

UnScratch

Removes the Scratch status from the selected volume.

Note: Data Set Name Blocks (DSNBs) that were related to this volume are not restored. They can be manually updated using batch job TMSAGGR.

Checkout

Checks out the selected tape to a vault.

Checkin

Checks in a checked out tape volume.

Expire

Expires the selected volume. The Expiration date is changed to the current date.

Note: If the tape is a part of a multi volume chain, all tapes on the chain are expired. You must select the first tape on the chain. The new expiration date is set to the current date plus an optional delay value specified by the CA 1 option RR (from the T*MO*OPTxx member of the CA 1 options library). By default, the RR value is zero.

Extend

Extends the expiration date of the selected volume by the number of days specified in the Days field.

View TMCDSNB Scr

Opens the PDS Member Editor dialog showing the source text of the TMCDSNB script.

Run TMCDSNB Scr

Executes the TMCDSNB script.

Configure TMCDSNB

Opens the Systems Script Builder feature for editing the selected script.

View DSKTMCV Scr

Opens the PDS Member Editor dialog showing the DC mode script for this object.

Run DSKTMCV Scr

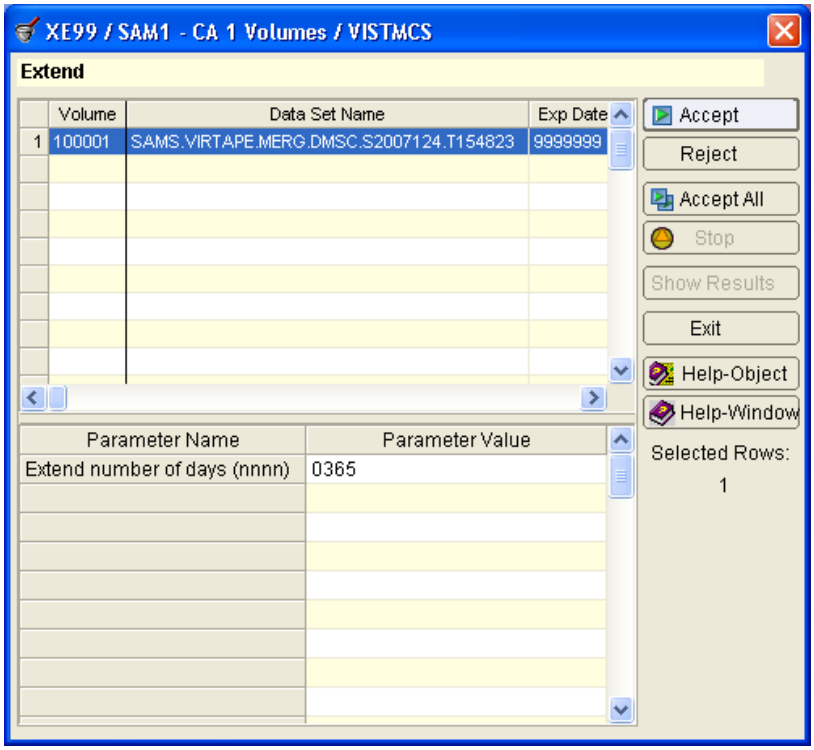
Runs the DC mode script associated with this object.

Configure DSKTMCV

Opens the Systems Script Builder feature for editing the selected script.

Example: Display the Volume Object Extend action dialog

The following is a sample of the Action dialog that appears when you select the Extend action. The sample shows that the selected data set on volume 100001 is extended 365 days.



View Detailed Volume Object Information

You can use the Details dialog to view detailed information associated with a Volume object line item.

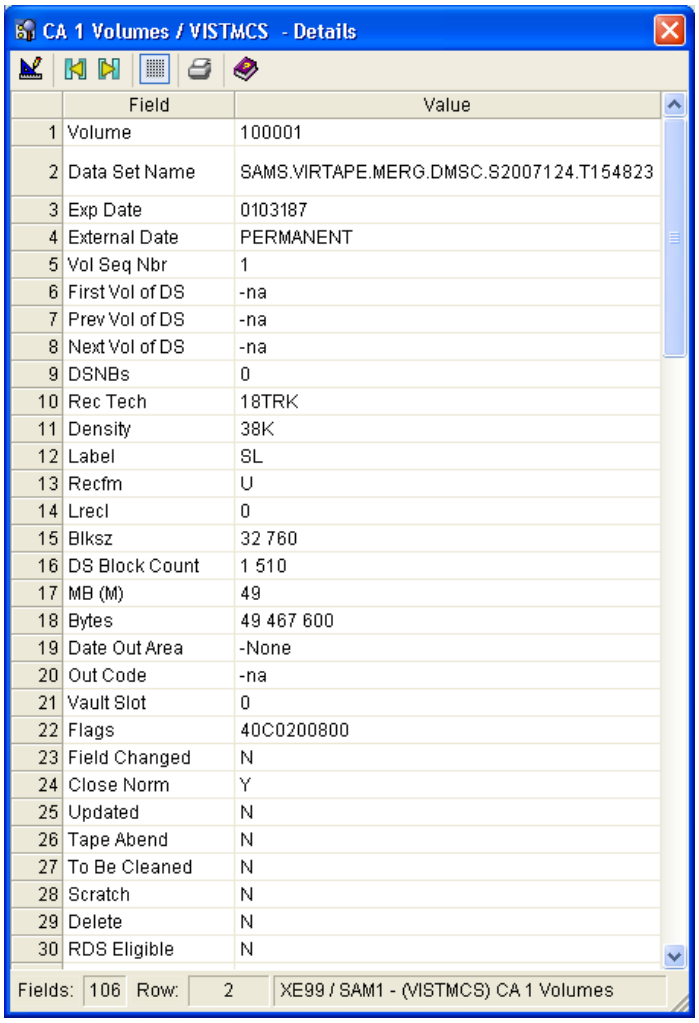
To view detail item Volume information

1. Select an object item line in the Table View of the Volume object.

   The object item line is highlighted.

2. Click the Display Detailed Line icon on the object view Menu Bar.

   The Details dialog appears. The following is a sample of the CA 1 Volumes/VISTMCS - Details dialog for Volume 100001.



Note: For field definitions click the help icon on the Details dialog Menu Bar.

Zoom to Another Object from the Volume Object

You can work with multiple objects at the same time using zooms. A zoom is a view of another z/OS object related to the currently displayed object.

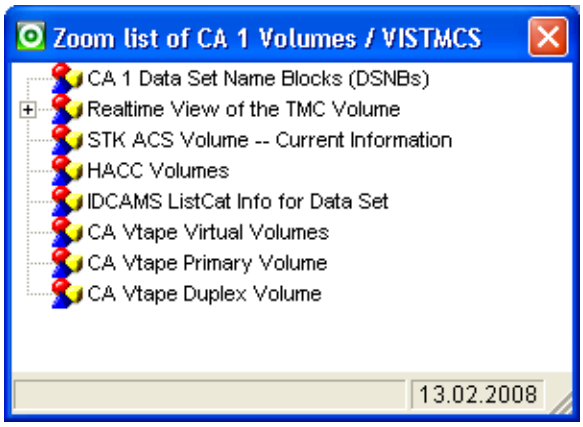
To zoom to object information in another object

1. Click a row in the Table View of the CA 1 Volumes/VISTMCS object.

   The row is highlighted.

2. Click the Open Zoom icon  in the Table View Menu Bar.

   The **Zoom list of CA 1 Volumes/VISTMCS** dialog appears. The list consists of objects related to the CA 1 Volumes/VISTMCS object. The following is a sample of the **Zoom list of CA 1 Volumes/VISTMCS** dialog.



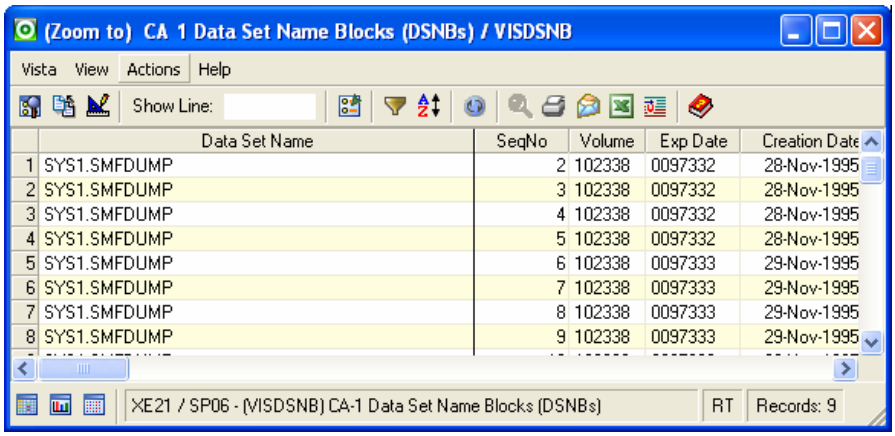
   The Zoom list allows you to select a CA 1 object and open a window that displays only the data associated with the selected volume.

3. Click an object in the **Zoom list of CA 1 Volumes/VISTMCS** dialog.

   The Table View of the object selected appears showing only information found in the object selected that is related to the Volume highlighted in step 1.

Example: Display CA 1 Data Set Name Blocks (DSNBS) object information related to CA 1 Volume 102338

In the following example the Zoom to CA 1 Data Set Name Blocks (DSNBs)/VISDSNB displays the data set associated with the selected volume 102338.



Files Object

The CA 1 Files object shows the files that reside on tape volumes. Data is collected by reading the TMC volume and DSNB records to obtain the information for the first file, then the DSNBs are read to obtain information on every file on the volume. Volumes with the Delete flag set to Yes are excluded.

Display Files Object

You can display the Files object to view files that reside on tape volumes.

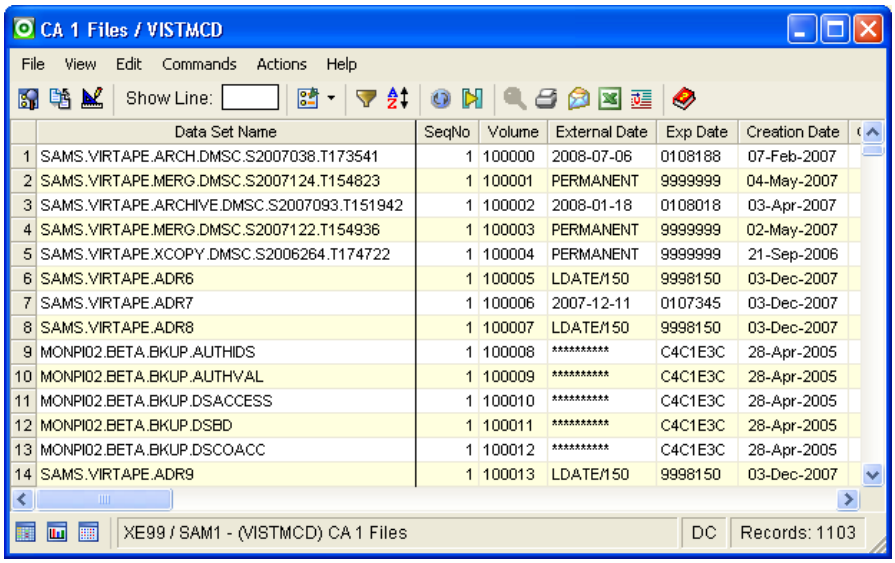
To display CA 1 files on tape volumes

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **Files** object in the Object Tree.

   The Table View of the Files object appears. The following is a sample of the Files object Table View.



	Data Set Name	SeqNo	Volume	External Date	Exp Date	Creation Date
1	SAMS.VIRTAPE.ARCH.DMSC.S2007038.T173541	1	100000	2008-07-06	0108188	07-Feb-2007
2	SAMS.VIRTAPE.MERG.DMSC.S2007124.T154823	1	100001	PERMANENT	9999999	04-May-2007
3	SAMS.VIRTAPE.ARCHIVE.DMSC.S2007093.T151942	1	100002	2008-01-18	0108018	03-Apr-2007
4	SAMS.VIRTAPE.MERG.DMSC.S2007122.T154936	1	100003	PERMANENT	9999999	02-May-2007
5	SAMS.VIRTAPE.XCOPY.DMSC.S2006264.T174722	1	100004	PERMANENT	9999999	21-Sep-2006
6	SAMS.VIRTAPE.ADR6	1	100005	LDATE/150	9998150	03-Dec-2007
7	SAMS.VIRTAPE.ADR7	1	100006	2007-12-11	0107345	03-Dec-2007
8	SAMS.VIRTAPE.ADR8	1	100007	LDATE/150	9998150	03-Dec-2007
9	MONPI02.BETA.BKUP.AUTHIDS	1	100008	**********	C4C1E3C	28-Apr-2005
10	MONPI02.BETA.BKUP.AUTHVAL	1	100009	**********	C4C1E3C	28-Apr-2005
11	MONPI02.BETA.BKUP.DSACCESS	1	100010	**********	C4C1E3C	28-Apr-2005
12	MONPI02.BETA.BKUP.DSBD	1	100011	**********	C4C1E3C	28-Apr-2005
13	MONPI02.BETA.BKUP.DSCOACC	1	100012	**********	C4C1E3C	28-Apr-2005
14	SAMS.VIRTAPE.ADR9	1	100013	LDATE/150	9998150	03-Dec-2007

Files Object Actions Menu

The following actions are available from the Actions option found on the **Files** object view Menu Bar.

View DSKTMCF Scr

Opens PDS Member Editor dialog that shows the DC-mode script for this object.

Run DSKTMCF Scr

Runs the DC-mode script associated with this object.

Configure DSKTMCF

Opens the Systems Script Builder feature for editing the selected script.

System Definitions Object

The CA 1 System Definitions object shows the names of CA 1 Initialization members in the CTAPOPTN Data Set, and the status of each member (Active/Inactive).

Display System Definitions Object

You can display the Volumes object to view the names and status of CA 1 Initialization members in the CTAPOPTN Data Set.

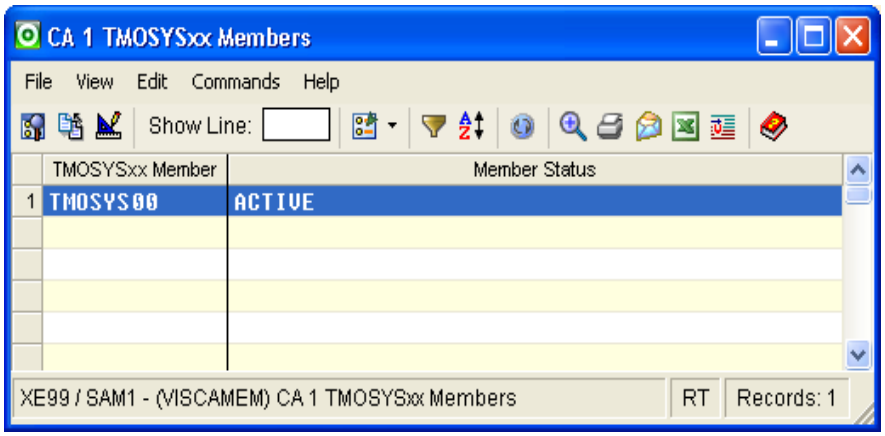
To display CA 1 system definitions

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **System Definitions** object in the Object Tree.

   The **Table View of the System Definitions** object appears. The following is a sample of the System Definitions object Table View.



Broken Chains Object

The CA 1 Broken Chains object shows the broken chains and errors in the CA 1 TMC. The following types of errors can be listed in the display:

- Errors encountered while scanning the DSNB chain
- Errors encountered while scanning the DSNB freechain
- Errors encountered while scanning the multivolume chain

Note: For information on how to repair broken chains and errors in the TMC see the *Utilities and Report Reference Guide*.

Display Broken Chains Object

You can display the Broken Chains object to view chains and errors in the CA 1 TMC.

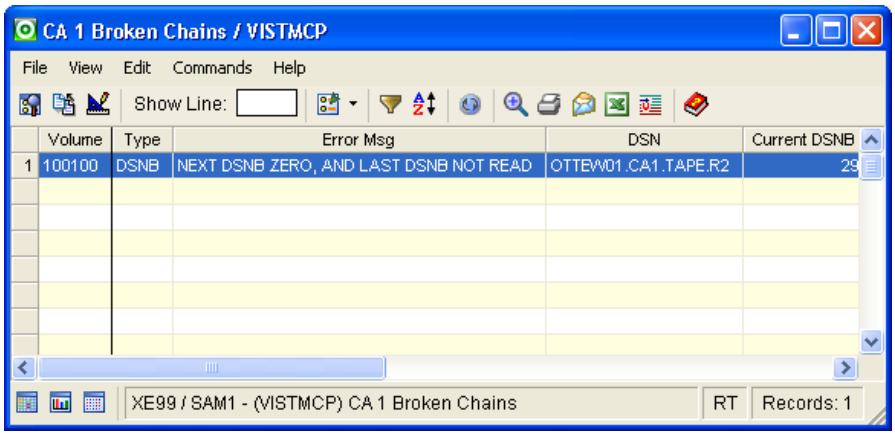
To display CA 1 broken chains

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **Broken Chains** object in the Object Tree.

   The Table View of the **Broken Chains** object appears. The following is a sample of the Broken Chains object Table View.



Audit Details Object

The Audit Details object shows detailed information from the CA 1 TMC Audit Records. The Audit data set serves as a transaction log. An Audit record is written to reflect every update to the TMC data set and other tape processing and CA 1 initialization events. In the event the TMC is destroyed, the Audit data written since the last backup of the TMC is used in restore processing. There are six types of Audit records:

- Batch or online TMC update activity
- Tape input processing activity
- Tape output processing activity
- Exceptions (nonresident tape processing, password violations, record updates bypassed by user exits, and so forth)
- Tapes rejected for use by CA 1 (not scratch violations)
- TMC structural modification and CA 1 initialization information

Display Audit Details Object

You can display the Audit Details object to view details of audit records.

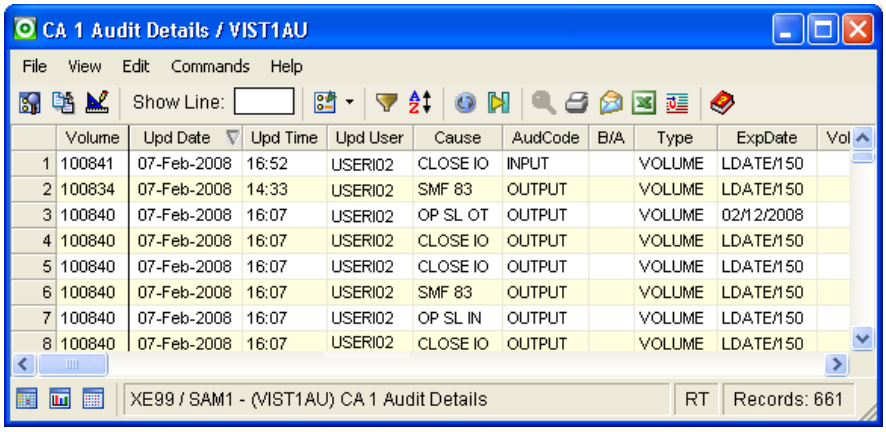
To display audit details records

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **Audit Details** object in the Object Tree.

   The Table View of the **Audit Details** object appears. The following is a sample of the Audit Details object Table View.



Audit Change Report Object

The CA 1 Audit Change Report object shows detailed information for the TMC records that have changed along with a list of the fields that were modified. Reports on one, all, or a combination of Audit record types can be produced. You can set the Sort sequence by data set name, volume serial number, or Audit date/time. Audit reports can also be requested for specific volume serial numbers or a range of volume serial numbers to assist in researching tape activity.

You can zoom from this object to the Audit Details object to get a look at the detailed before and after images of the affected TMC record.

Note: This report is only available if the CTAPOPTN field AUDB4 is set to BATCH or ALL.

Display Audit Change Report Object

You can display the Audit Change Report object to view details of changed audit records.

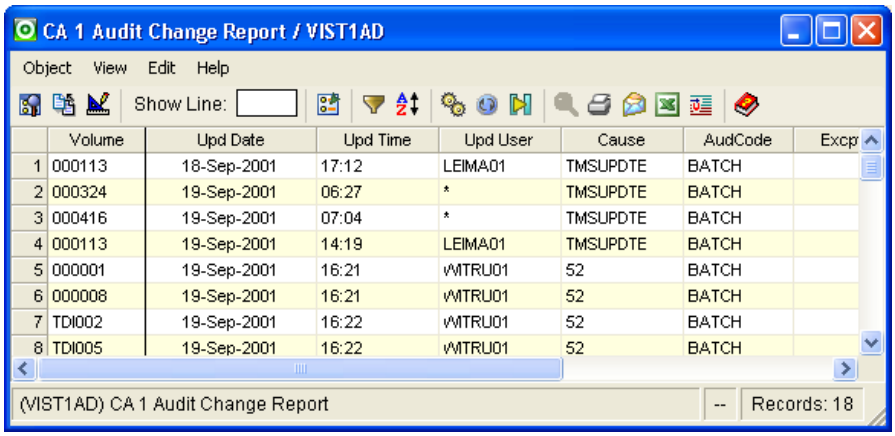
To display the CA 1 Audit Change Report

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **Audit Change Report** object in the Object Tree.

   The Table View of the **Audit Change Report** object appears. The following is a sample of the Audit Change Report object Table View.



Note: To display the changed fields for this object, you must set the CTAPOPTN field AUDB4 to BATCH or ALL. This causes the before update image of the TMC record to be saved in the Audit file.

Summary of Tapes By Expire Date Object

The CA 1 summary of tapes **By Expire Date** object shows a summary of tapes grouped by expiration date type. The CA 1 TMC controls all of the tapes in the summary. The CA 1 Tape Volume unfiltered records provide input to this summary.

For each type of external expiration date found in the TMC, one summary record is generated that contains:

- The external expiration date
- The number of tapes in that group
- What percent of the total that group represents

- Total allocated MB
- Average, minimum, and maximum allocated space for the tapes in that group

Display By Expire Date Object

You can display the By Expire Date object to view a summary of tapes grouped by expiration date type.

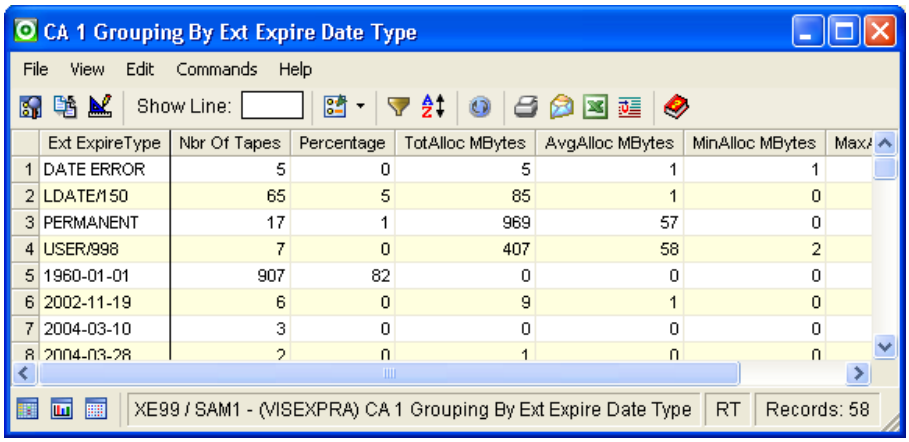
To display a CA 1 summary of tapes by expiration date type

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **By Expire Date** object in the Object Tree.

   The Table View of the Summary of Tapes **By Expiration Date** object appears. The following is a sample of the Table View of the By Expire Date summary information.



	Ext ExpireType	Nbr Of Tapes	Percentage	TotAlloc MBytes	AvgAlloc MBytes	MinAlloc MBytes	MaxA
1	DATE ERROR	5	0	5	1	1	
2	LDATE150	65	5	85	1	0	
3	PERMANENT	17	1	969	57	0	
4	USER998	7	0	407	58	2	
5	1960-01-01	907	82	0	0	0	
6	2002-11-19	6	0	9	1	0	
7	2004-03-10	3	0	0	0	0	
8	2004-03-28	2	0	1	0	0	

Summary of Tapes By Used MB Range Object

The CA 1 summary of tapes **By Used MB Range** object shows a summary of active tape MB ranges. Tapes are grouped based upon the number of bytes written to the tape. The CA 1 TMC catalog controls all of the tapes in the summary. The CA 1 Tape Volume unfiltered records provide input to this summary.

This summary is organized by filters defined in the CA Vantage parmlib data set member FILTVIMB. Update member FILTVIMB to use the MB range groupings in effect at your site.

For each group or MB range (as defined in FILTVIMB), this object creates one summary record containing:

- Group name
- Number of tapes in the group
- Percent of the total the group represents
- Total allocated MB
- Average, minimum, and maximum allocated space for the tape in that group

Display By Used MB Range Object

You can display the By Used MB Range object to view a summary of tapes grouped based upon the number of bytes written to the tape.

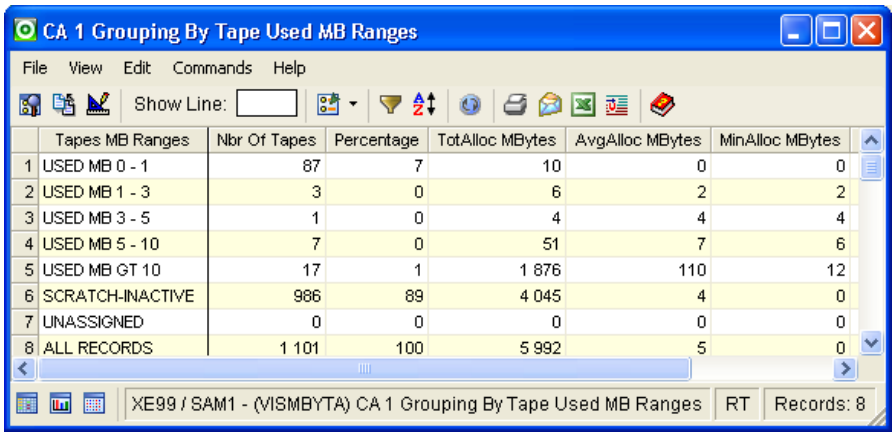
To display CA 1 summary of tapes by used MB range

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **By Used MB Range** object in the Object Tree.

   The Table View of the Summary of Tapes **By Used MB Range** object appears. The following is a sample of the Table View of the By Used MB Range summary information.



	Tapes MB Ranges	Nbr Of Tapes	Percentage	TotAlloc MBytes	AvgAlloc MBytes	MinAlloc MBytes
1	USED MB 0 - 1	87	7	10	0	0
2	USED MB 1 - 3	3	0	6	2	2
3	USED MB 3 - 5	1	0	4	4	4
4	USED MB 5 - 10	7	0	51	7	6
5	USED MB GT 10	17	1	1 876	110	12
6	SCRATCH-INACTIVE	986	89	4 045	4	0
7	UNASSIGNED	0	0	0	0	0
8	ALL RECORDS	1 101	100	5 992	5	0

Summary of Tapes By DSN Group Object

The CA 1 summary of tapes **By DSN Group** object shows a summary of active tapes grouped by data set name. Tapes are grouped based upon the first data set name written on the tape. The CA 1 Tape Volume record accounts for all DSNBs on a tape. The CA 1 TMC controls all of the tapes in the summary. The CA 1 Tape Volume unfiltered records provide input to this summary.

Note: Secondary DSNBs do not influence the assignment of a tape to its data set group, but the space they occupy is included in the totals.

This summary is organized by filters defined in the CA Vantage parmlib data set member FILTVITD. Update member FILTVITD to use the DSN groupings in effect at your site.

For each group of tapes (as defined in <parmlibMember>), this object creates one summary record containing:

- Group name
- Number of tapes in the group
- Percent of the total the group represents
- Total allocated MB
- Average, minimum, and maximum allocated space for the tape in that group

In addition, this table shows the average, minimum, and maximum values for the total number of:

- DSNBs on the selected tapes
- Opens for all the tapes in the group
- Tape blocks on all the tapes in the group

Display By DSN Group Object

You can display the By DSN Group object to view a summary of active tapes grouped by data set name.

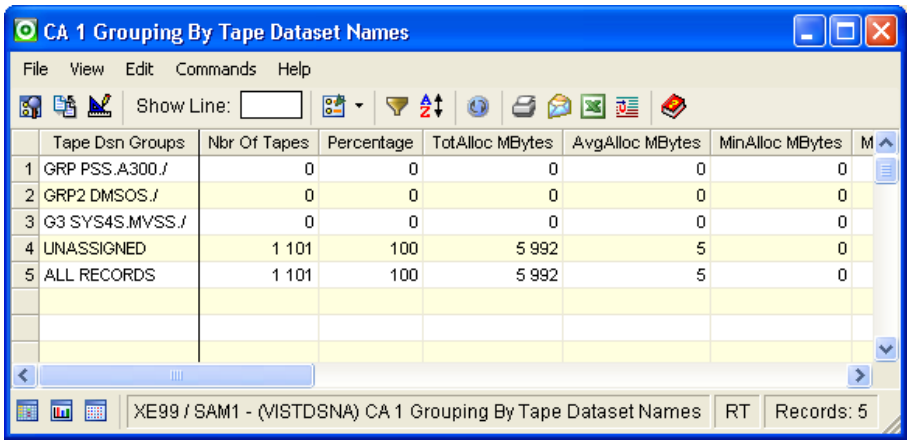
To display summary of tapes by DSN group

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **By DSN Group** object in the Object Tree.

   The Table View of the Summary of Tapes **By DSN Group** object appears. The following is a sample of the Table View of the By DSN Group summary information.



	Tape Dsn Groups	Nbr Of Tapes	Percentage	TotAlloc MBytes	AvgAlloc MBytes	MinAlloc MBytes	M
1	GRP PSS.A300./	0	0	0	0	0	
2	GRP2 DMSOS./	0	0	0	0	0	
3	G3 SYS4S.MVSS./	0	0	0	0	0	
4	UNASSIGNED	1 101	100	5 992	5	0	
5	ALL RECORDS	1 101	100	5 992	5	0	

Summary of Tapes By Last Used Job Object

The CA 1 summary of tapes **By Last Used Job** object shows a summary of active tapes grouped by the last jobname that used the tape (TMC field LJOB). The CA 1 TMC controls all of the tapes in the summary. The CA 1 Tape Volume unfiltered records provide input to this summary.

This summary is organized by filters defined in the CA Vantage parmlib data set member FILTVIJO. Update member FILTVIJO to use the last used jobname groupings in effect at your site.

For each group of tapes (as defined in <parmlibMember>), this object creates one summary record containing:

- Group name
- Number of tapes in the group
- Percent of the total the group represents
- Total allocated MB
- Average, minimum, and maximum allocated space for the tape in that group

In addition, this table shows the average, minimum, and maximum values for the total number of:

- DSNBs on the selected tapes
- Opens for all the tapes in the group
- Tape blocks on all the tapes in the group

Display By Last Used Job Object

You can display the By Last Used Job object to view a summary of active tapes grouped by the last jobname that used the tape (TMC field LJOB).

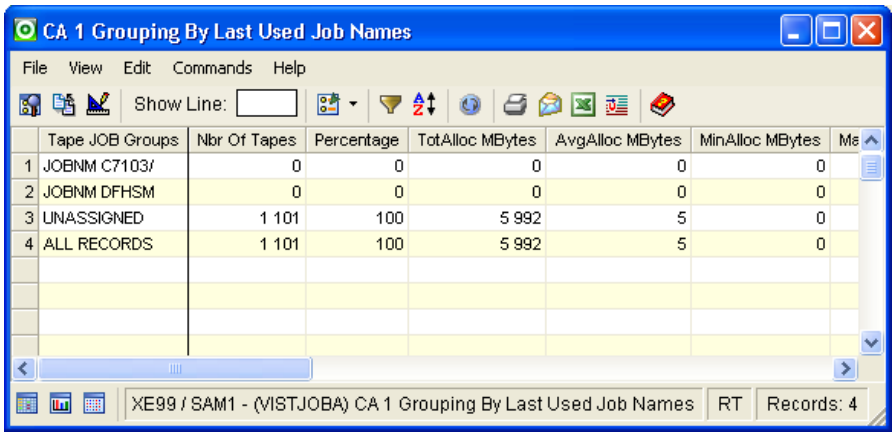
To display a CA 1 summary of tapes by last used job

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **By Last Used Job** object in the Object Tree.

   The Table View of the Summary of Tapes **By Last Used Job** object appears. The following is a sample of the Table View of the By Last Used Job summary information.



Summary of Tapes By Tape RobotID Object

The CA 1 summary of tapes **By Tape RobotID** object shows a summary of active tapes grouped by the ROBID field in the CA 1 TMC. You should contact your storage administrator or systems programmer to update the ROBID field in the TMC (for example, by using the TMSUPDTE utility) to make use of the summary group function. The CA 1 TMC controls all of the tapes in the summary. The CA 1 Tape Volume unfiltered records provide input to this summary.

This summary is organized by filters defined in the CA Vantage parmlib data set member FILTVIRO. Update member FILTVIRO to use the tape robotID groupings in effect at your site.

For each group of tapes (as defined in <parmlibMember>), this object creates one summary record containing:

- Group name
- Number of tapes in the group
- Percent of the total the group represents
- Total allocated MB
- Average, minimum, and maximum allocated space for the tape in that group

In addition, this table shows the average, minimum, and maximum values for the total number of:

- DSNBs on the selected tapes
- Opens for all the tapes in the group
- Tape blocks on all the tapes in the group

Display By Tape RobotID Object

You can display the By Tape RobotID object to view a summary of active tapes grouped by the ROBID field in the CA 1 TMC.

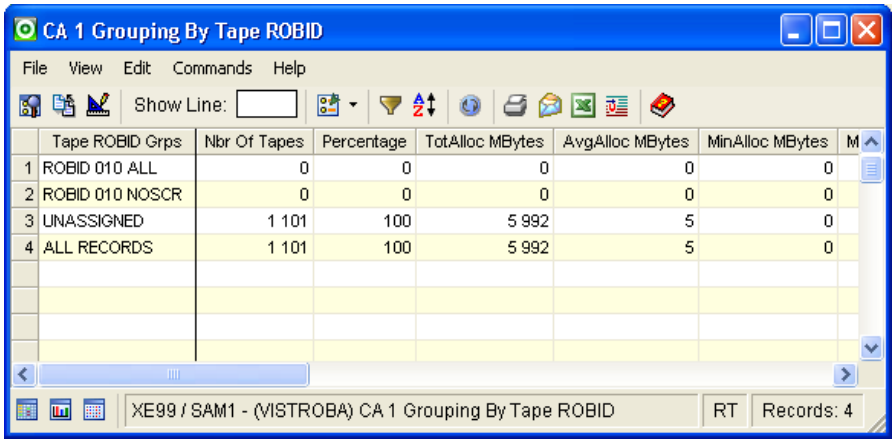
To display CA 1 summary of tapes by tape robotID

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **By Tape RobotID** object in the Object Tree.

   The Table View of the Summary of Tapes **By Tape RobotID** object appears. The following is a sample of the Table View of the By Tape RobotID summary information.



Summary of Tapes By Tape SMSMC Object

The CA 1 summary of tapes **By Tape SMSMC** object shows a summary of active tapes grouped by the SMS Management Class field in the CA 1 TMC. The CA 1 TMC controls all of the tapes in the summary. The CA 1 Tape Volume unfiltered records provide input to this summary.

This summary is organized by filters defined in the CA Vantage parmlib data set member FILTVIMC. Update member FILTVIMC to use the SMSMC groupings in effect at your site.

For each group of tapes (as defined in <parmlibMember>), this object creates one summary record containing:

- Group name
- Number of tapes in the group
- Percent of the total the group represents
- Total allocated MB
- Average, minimum, and maximum allocated space for the tape in that group

In addition, this table shows the average, minimum, and maximum values for the total number of:

- DSNBs on the selected tapes
- Opens for all the tapes in the group
- Tape blocks on all the tapes in the group

Display By Tape SMSMC Object

You can display the By Tape SMSMC object to view a summary of active tapes grouped by the SMS Management Class field in the CA 1 TMC.

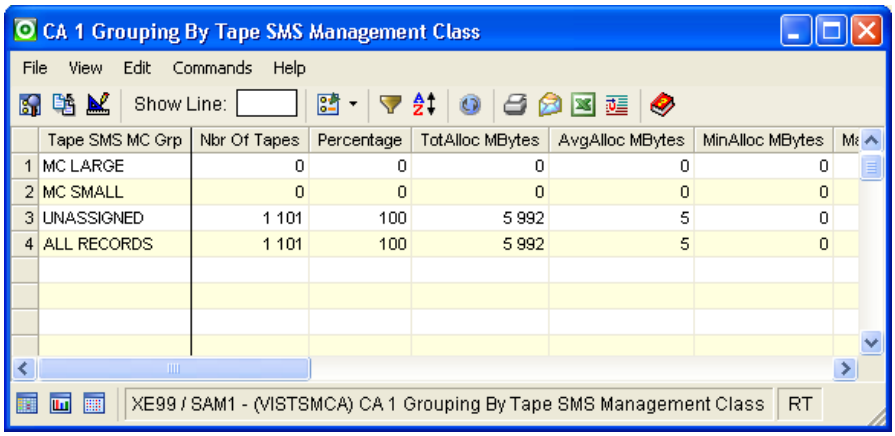
To display CA 1 summary of tapes by tape SMSMC

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **By Tape SMSMC** object in the Object Tree.

   The Table View of the Summary of Tapes **By Tape SMSMC** object appears. The following is a sample of the Table View of the By Tape SMSMC summary information.



Summary of Tapes by Tape OUTCode Object

The CA 1 summary of tapes **By Tape OUTCode** object shows a summary of active tapes grouped by the TMC OUTCODE field (also referred to as the Vault). The CA 1 TMC controls all of the tapes in the summary. The CA 1 Tape Volume unfiltered records provide input to this summary.

This summary is organized by filters defined in the CA Vantage parmlib data set member FILTVIOU. Update member FILTVIOU to use the OUTCode groupings in effect at your site.

For each group of tapes (as defined in <parmlibMember>), this object creates one summary record containing:

- Group name
- Number of tapes in the group
- Percent of the total the group represents
- Total allocated MB
- Average, minimum, and maximum allocated space for the tape in that group

In addition, this table shows the average, minimum, and maximum values for the total number of:

- DSNBs on the selected tapes
- Opens for all the tapes in the group
- Tape blocks on all the tapes in the group

Display By Tape OUTCode Object

You can display the By Tape OUTCode object to view a summary of active tapes grouped by the TMC OUTCODE field.

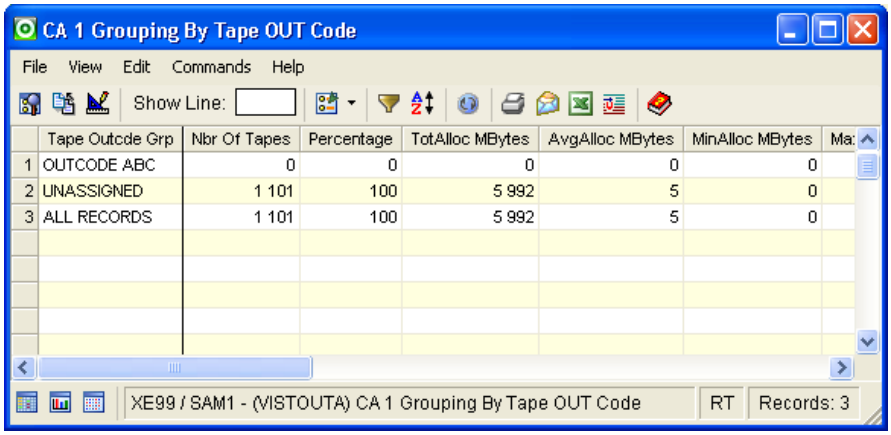
To display CA 1 summary of tapes by tape OUTCode

1. Open the Object Tree so it is showing the CA 1 objects as described in the section Use the GMI Windows Client GUI to Access CA 1 Objects (see page 83).

   CA 1 objects are displayed in the Object Tree.

2. Click the **By Tape OUTCode** object in the Object Tree.

   The Table View of the Summary of Tapes **By Tape OUTCode** object appears. The following is a sample of the Table View of the By Tape OUTCode summary information.



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