



# TeraCloud Storage Framework (TSF)<sup>™</sup> User Guide

version 2.1.1

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# INTRODUCTION

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TeraCloud Storage Framework (TSF) v2.1.1 features a graphical user interface (GUI) that extends the storage reach to distributed platforms and lets you manage all storage from one console. The Java based console allows users to manage from their platform of choice.

On the IBM z/OS platform (mainframe), TSF provides this interface for Pools/Volumes, Datasets, DFSMSHsm Management, Tape, and History/Logging. Using the GUI, you can manage multiple systems from one console—whether the DASD is shared or not shared. Additionally, there are many features in the ISPF components that allow you to automatically schedule the population of numerous databases, and action menus that allow you to perform various actions throughout TSF.

On the Distributed platform, TSF provides comprehensive storage management for Solaris, Linux, Windows and even AIX in a simple to use, intuitive Java interface. Detail management, quick summarization, and the ability to launch corrective actions directly from the management console enable your organization to identify problems, monitor storage and make adjustments quickly.

## Getting Started

First, you must create a new password because access to the TSF GUI is encrypted-password protected. The logon dialog requires your TSF GUI password each time the application is started. You can change your password later.

Log on to TSF with this password. The first time you log on, the systems pane is empty. To get started, you must add a z/OS or distributed system to manage. When you add a system, it displays in this pane.

Next, you must select user and system preferences. Finally, you must connect to a system to start monitoring activity. After you create a GUI password, add a system, and connect to a system, you will be ready to filter and access all functions available to you in the TSF GUI.

## Create a New Password

The first time that you log on to the TSF GUI, you are presented with the **Enter New Password** dialog. The password that you enter here is not your mainframe or server password but is only used to provide access to the GUI. The password is not logged or stored in plain text. Follow these steps to create a new password:

- 1 In the **Enter New Password** dialog box, type a unique password in the **New password** field. GUI passwords are case-sensitive.
- 2 Retype the password in the **Retype password** field and then click **OK**. To begin using the GUI, see “Add Systems.” The next time that you log on you will see a **Login to System** dialog box.



## Change Password

Follow these steps to change the password. This password is not your mainframe or password but is only used to provide access to the GUI. Your password is not logged or stored in plain text. Passwords are case-sensitive.

- 1 On the **Tools** menu, select **Change Password**.
- 2 In the **Old password** box, type your old password.
- 3 In the **New password** box, type your new password.
- 4 In the **Retype password** box, type the new password again and then click **OK**.



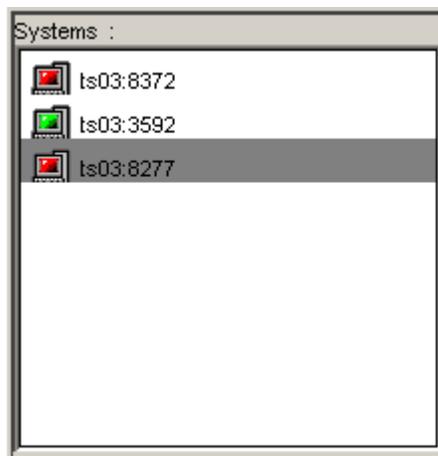
## Lock or Unlock a TSF Session

Your TSF session can be locked to prevent unauthorized access. Follow these steps to lock or unlock a TSF session:

- 1 On the **Tools** menu, select **Lock TSF Session**.
- 2 In the **Unlock TSF Session** dialog box, type your password in the **Password** box and then click **OK**.

## Systems Pane

This pane is empty when you first log on to the TSF interface. When you add a system, it displays in this pane. The LED indicator displays green when a system is connected and red when a system is not connected.



## Add Systems

Systems are added in the Configure Systems dialog. Follow these steps to add a system:

- 1 Do one of the following:
  - In the Systems pane, right-click and then select **Add New System** from the floating menu.
  - On the **View** menu, click **Configure Systems**.
- 2 In the **Configure Systems** dialog box, click **Add**.
- 3 Do one of the following:
  - To add a Distributed system, click the **Distributed** tab.
  - To add a z/OS system, click the **z/OS** tab.
- 4 Type the actual host name or the IP address in the **Host Name** field.
- 5 Tab to each remaining field in the dialog box and type a value. The field values depend on the type of system that you are configuring as follows:

For the **Distributed** tab:

- a Type the **Clear Text Port** number.
- b Type the **Secure Port** number.
- c Type your **User ID** and the system **Password**. You can optionally choose not to add your user ID and password at this time. However, you will be prompted for both when you access or select this system to query.
- d In the **Client-Server Communications** field, select **Encrypt All** (default) or select **Encrypt Passwords Only** from the drop-down list.

For the **z/OS** tab:

- a Type the **Port** number.
- b Type your **User ID** and the z/OS system **Password** in the corresponding fields.
- c In the **Database Name** field, if you entered a valid User ID and Password, the system will complete this field for you and connect to the VSAM database.
- d Check the **Budget Name** field. The system will complete this field for you.
- e In the **Communications** field, select **Encrypt All** (default) or select **Encrypt Passwords Only** from the drop-down list.

- 6 Do one of the following:
  - Click **OK** to complete the process.
  - Click **Add** and repeat the previous steps to add additional systems.

## Log on to a System

To log on to a system, do one of the following:

- In the Systems pane, click a system to log on to that system.
- On the View menu, click **Refresh Systems** to check status for all systems in the Systems pane.

# Preferences

User and system preferences must be set before you begin using the software. The options that you select in preferences are associated with your user logon. As such, they will not appear for any other user. Preferences can be changed at any time by repeating these steps.

## Set User Preferences

User preferences can be changed at any time by following these steps:

- 1 On the **Tools** menu, click **Preferences**.
- 2 In the **Preferences** dialog box, click **User** under the **Common** folder in the left pane.
- 3 In the right pane, click to select **Values** from the drop-down list for a User preference, or if there is no drop-down list, type a value in the **Values** text box. You are defining your display preferences. A short description of each is provided here.
- 4 Click **OK** when you are done.

User Preference	Value
Graphing	Select whether graphing is to be <b>Off</b> or <b>On</b> from drop-down list
Image and Reports Path	Type the path for the default location when printing various formats
Initial Graph Count	Type the number of returned rows to be included in the graph display
Log Filename	Type the name of the file for the text log output
Log Level	Select from the drop-down list the level of information to be logged: <b>Off</b> , <b>Info</b> , <b>Warning</b> , <b>Severe</b> , or <b>Debug</b> (default is <i>Info</i> )

## Set System Preferences

System preferences can be changed at any time by following these steps:

- 1 On the **Tools** menu, click **Preferences**.
- 2 In the **Preferences** dialog box, do one of the following:
  - Click **System** under the Common folder in the left pane.
  - Click **System** under the Distributed folder in the left pane.
  - Click **System** under the z/OS folder in the left pane.
- 3 In the right pane, click to select **Values** from the drop-down list for a System preference, or if there is no drop-down list, type a number in the **Values** text box. These preferences vary based on what you selected in step 2. A short description of each is provided here.

- 4 Click **OK** when you are done.

System Preference	Value
Byte Calculation	Defines how MB, GB, and TB are calculated based on bytes
Cost per megabyte (DAS, NAS, SAN for Distributed; Disk, HSM, Tape for z/OS)	Defines the unit to be used to calculate cost per MB. <b>Note:</b> Use the <b>Cost Per MB Storage</b> text box for cost calculation except for Drive, Drive Device Type Summary and Drive History, which use <b>Cost per megabyte (DAS)</b> and <b>Cost per megabyte (SAN)</b> .
Concurrent Threads	Provides the number of threads to be used concurrently
Fetch Warning	Defines the threshold for warning when the number of records returned is extensive for a filter criteria
Maximum rows for History	Defines the threshold for warning when the number of records returned is extensive for a filter criteria
Sort views	Defines whether saved views are sorted in ascending or descending order
Time Display Format	Applies to data in the date and time field in all the tables on the Distributed side. The selectable system date time display formats are: <ul style="list-style-type: none"><li>• UTC/GMT with Server Local Time Offset, for example: 6/12/04 6:02:12 AM (GMT-05:00)</li><li>• Server Local Time, for example: 06/12/04 1:02:12 AM</li><li>• Client Local Time, for example: 06/11/04 11:02:12 PM</li></ul>

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## Set Tape Capacity Preferences

Tape capacity preferences for z/OS systems can be changed at any time by following these steps:

- 1 On the **Tools** menu, click **Preferences**.
- 2 In the **Preferences** dialog box, click **Tape Capacity** under the z/OS folder in the left pane.
- 3 In the right pane, type a tape capacity preference in the **Values** text box for each tape type.
- 4 Click **OK** when you are done.

## Navigation

The tree view pane located beneath the systems pane provides a consistent layout throughout the application that makes it easy to use. To start monitoring a component, simply click  to expand the tree. This works for any system in the Systems pane (Distributed or z/OS).

- Single-click  or  icons to display that component's tab group (Filter tab has focus when the folder is single-clicked)
- Double-click the icon to execute a wildcard filter for that component; results display in the Detail tab.

## Menus

Menu options are accessed by clicking the menu name at the top of the application.

### File Menu

The File menu has two options:

- **Export Table** lets you export Detail tab results, Summary, and Zoom information.
- **Exit** logs you off when you are finished. As with any application, it is important to log off when you are finished working.

### View Menu

The View menu has two options:

- **Refresh Systems** – A connect-and-logon action for each system that is displayed in the systems pane.
- **Configure Systems** – Add systems to the Systems pane, using the Configure Systems dialog.

### Tools Menu

The Tools menu has four options:

- **Change Password** lets you change your TSF GUI password.
- **Lock TSF Session** -- Prevents unauthorized access. The password dialog displays for both of these options. To unlock your TSF session, type your password.
- **Preferences** lets you select user and system preferences that are associated with your user logon; they will not appear for any other user.
- **Edit ProActivity Templates** lets you create and edit new templates and save them on the client or save them locally.

## Help Menu

Help menu options include **Help F1**, which launches the online help, and **About**, which displays version, contact, and copyright information.

### Help Navigation Buttons



Navigates backward to the previously visited topics



Navigates forward to the previously visited topics



Prints the topic that is currently in the right pane of the online help



Launches a dialog that lets you define printed page settings

## Toolbar

The primary toolbar buttons provide unique capabilities (for example, toggling graph/table views) and duplicate some of the functions that are available from the menu (for example, Export to Flat File).



-- Refresh the last-executed filter as a shortcut



-- Cancel a filter request while it is being executed



-- Export tables



-- Display context-sensitive help that is relevant to your current view



-- Show the table only, not the graph



-- Show the graph only, not the table



-- Show the graph and table in a split horizontal view

## Working with Filters

A query (or filter) is created in the Filter tab for the component group that you select. Follow these steps to create a filter:

- 1 Navigate to the Filter tab of the desired component.
- 2 Select a filter from the Filters pane.
- 3 Select an item from the drop-down list to determine your filter criteria. This changes by filter. Here are some examples of what you can select:
  - Regular Expression to query using wildcards or exclude logic (or mainframe regular expression)
  - Begins With, Ends With, Contains, Between, Equal, or Is Anything
  - Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
  - Date or Days Ago or Date Attribute to create a date filter (if this filter option is available)
  - The Not checkbox, if available, to further exclude a filter option.
- 4 Type the appropriate values in the adjacent text field to define parameters for the filter. For example, type a regular expression, or type a fully qualified or partially qualified name for a dataset.

**Note:** Filter values are not case-sensitive. Multiple values for Begins With, Ends With, Contains, must be separated by commas. Shift-6 adds the exclude symbol to the Regular Expression text field

- 5 Click the **Apply logical operator** button (**AND**, **OR**) to continue building your filter criteria if you have more conditions and then click **Add**. The filter information appears in the Filter Criteria pane.



- 6 Click the **Change the level of logical operator** button, if necessary.



- 7 Do one of the following:
  - Click **Execute** to run the filter.
  - Click **Save** to save the filter. The filter is saved with a name that you type in the **Save View As** dialog box and it displays in the node below the current component in the Tree View pane.
- 8 Review the results that display in the Details tab. Summary results are available after the data load is complete. To display results in units other than those currently selected, select the desired display from the **Units** drop-down list on the toolbar.

## Wildcard Characters

The following wildcard characters can be used when typing a Regular Expression:

Symbol	Used for
<	positional placeholder for any alpha character
>	positional placeholder for any numeric character. For example, TLS<>.** results in any 5-character HLQ that begins with TLS, has an alpha character in position 4, and has a numeric character in position 5.
~	logical NOT operator *** Shift-6 adds the exclude symbol to the Regular Expression text field.***
%	positional placeholder for any single alpha or numeric character
*	any single alpha or numeric character from this position onward
**	any string of zero or more characters from this position onward across extents

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## Create a Date Filter

Follow these steps to create a date filter:

- 1 Select a Dates field from the filter pane.
- 2 Select an operator from the first drop-down list such as Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, or Between.
- 3 Select **Date**, **Days Ago**, or **Date Attribute** from the Date selection drop-down list (far right).

*If you select **Date**:*

- Click the middle drop-down list to display the calendar.
- Use the navigational arrows to select the date and populate the field.

*If you select **Days Ago**:*

- Provide the appropriate values in the text field to define parameters for the filter.

*If you select **Date Attribute**:*

- Select another date field from the middle drop-down list to compare against the currently selected Date filter.
- For example, if you are filtering on the Create date and you select Date Attribute, you can then select another Date field (such as Expiration Date) to compare against Create Date with a filter criteria, Create Date equals Expiration Date.

- 4 Click **Add** and the filter information appears in the Filter Criteria area.
- 5 Click the **Apply logical operator** button (AND, OR) to continue with filtering criteria and click **Add**, or click **Execute** to run the filter, or click **Save** to save the filter.

## Exclude a Filter Option

Follow these steps to exclude a filter option:

- 1 In the Filters pane, select a filter that has an available drop-down list with options, for example, **All** for all of the options or **Y** for Yes, and then click the **Not** check box.
- 2 Click the **Apply logical operator** button (**AND, OR**) to continue building your filter criteria if you have more conditions and then click **Add**. The filter information appears in the Filter Criteria pane.
- 3 Click the **Change the level of logical operator** button, if necessary.
- 4 Do one of the following:
  - Click **Execute** to run the filter.
  - Click **Save** to save the filter. The filter is saved with a name that you type in the **Save View As** dialog box and it displays in the node below the current component in the Tree View pane.
- 5 Review the results that display in the Details tab. Summary results are available after the dataload is complete. To display results in units other than those currently selected, select the desired display from the **Units** drop-down list on the toolbar.

## Execute a Filter from the Filter Tab

Filters can be executed from the filter tab, described here, or from the Tree View pane after they have been saved.

- 1 Navigate to the Filter tab of the desired component.
- 2 Use the drop-down lists or type a mainframe regular expression in the filters that you want to include.
- 3 Click **Add**. The filter parameters display in the Filter Criteria pane.
- 4 Click **Execute**.
- 5 Review the results that display in the Details tab.

## Execute a Saved Filter

Saved filters are saved in the Tree View pane as a sub-member of the component against which you want to execute them. For example, saved Datasets Inventory filters are located in the Inventory folder.

- 1 Expand the Tree View of the component where the predefined filter resides.
- 2 Double-click the filter name to execute it.
- 3 Review the results that display in the Detail tab of that component. Summary results are available in the Summary tab after the results dataload is complete.

## Modify a Filter

A filter can be refined as necessary. If a warning displays that the result set is larger than advisable, refine your filter criteria to narrow hits.

- 1 Navigate to the **View** tab of the desired component.
- 2 Use the drop-down lists or type a mainframe regular expression in the filters that you want to include.
- 3 Click **Add**.
- 4 Click **Execute**. Review the results that display in the Details tab.
- 5 Navigate to the Filter tab and click **Clear**. Filter criteria are cleared from the **Filter Criteria** pane. Repeat steps 2, 3, and 4 to make additional changes and execute the modified filter.

## Viewing Results

You can display all columns or only selected columns in the Detail tab (with the exception of Dataset tools Threshold and Candidate and Volume tool Esoteric). The order in which they appear from left to right is also user-definable.

## Select Columns to Display

Column display is defined in the **Columns** tab for the component group that you select. For example, to define columns for the Pool/Volume Short List Detail tab, navigate to Pool/Volume | Short List and click the **Column** tab to display selection options.

- 1 Navigate to the **Column** tab of the desired component. All available columns appear in the **Target** column by default.
- 2 In the **Target** column, use the cursor to select the columns that you want to show (Target) or hide (Source) from the list box that displays.
- 3 Click the **Move selected item to source list** button or click the **Move all items to source list** button.



- 4 Click **Apply**.
- 5 Click **Execute**. The new column selection and order display in the Details tab.

## Sort Columns

Column contents can be sorted in ascending or descending order.

- 1 Click the heading of the column to be sorted.
- 2 A corresponding UP ARROW ▲ or DOWN ARROW ▼ displays next to the column heading, indicating the sort order.
- 3 Click the column heading again to reverse the sort order.

## Export Tables

You can export Detail tab results, Summary, and Zoom information.

- 1 Navigate to the tab whose results you want to export.
- 2 Click the Export button on the toolbar. Alternatively, select File | Export from the menu.
- 3 In the dialog that displays, type a name for this .csv file and select the save location from the drop-down list.
- 4 Click **Save**.

## Topology Views

The Topology feature lets you view system volume composition graphically in logical topology map views. System and volume topology can be mapped. These topological views of the Storage Environment present a graphical map of storage resources and devices statistics for a selected system or volume. The logical Topology graph renders the storage configuration graphically in a way that is easy to grasp and is consistent across platforms. This capability allows you to quickly determine relations, such as a striped volume based on five SAN LUNs, and plan or react accordingly. Follow these steps to access topology views:

- 1 From a column in a result set, select an item by clicking on it. To select a sequence of items in the same row, click the first item and press and hold Shift, then click the last item in the sequence.
- 2 After you have selected the items, right-click and select **Show Topology**. The items you selected appear in a topology graph.
- 3 Use the toolbar buttons on the topology display to zoom, expand, and otherwise change the display to your preference.

## Graphing and Reporting

Graphing capabilities are available in Detail, Summary, and Zoom tabs of each TSF component. Follow these steps to graph Detail, Summary, or Zoom information:

- 1 Navigate to the component for which you want to graph filter results.
- 2 Execute a filter, if you have not already done so.
- 3 If the graph display is not on, click the **Show the graphs only** button on the Toolbar to toggle the display state between table view, split view, and graph-only view.
- 4 Right-click anywhere in the Graphical Display area.
- 5 In the **Graph View** dialog box, click the **Graph Properties** tab.
- 6 Click the **General** tab.
- 7 In the **Title** text box, type a description, which will be the graph title.
- 8 Select the **Type** from the drop-down list. This lets you decide whether the graph should appear as a bar graph, stacked bar graph, pie chart, or plot graph.
- 9 Select the **Graph Orientation**, Normal or Inverted, from the drop-down list. This lets you decide whether to show the graphic vertically or horizontally.
- 10 Select the **Label Orientation**, Normal or Inverted, from the drop-down list.
- 11 Click **Display Data Value** to show data values that are superimposed on the graph.
- 12 *Optional.* Click **Transparent** to show the graph behind the numbers transparently.
- 13 *Optional.* Click **Visible** to show or hide the graph.
- 14 Click the **Data Source** tab.
- 15 Select the **X-Label Column** from the drop-down list. This option lets you select column label names for the graphic. For example, you can select Address or Volume Serial if the graphic result set was filtered for volume detail.
- 16 Select the **Source** columns of the result set you want to include in a graph. The columns that are listed in this section of the Graph View window are different depending on the result set. To include a column for the graph, select it from the Source list and click the right arrow.  
  
**Note:** You can exclude a column so that it does not appear in the graph by selecting it from the Target list and clicking the left arrow.
- 17 Click **Apply**.
- 18 *Optional.* Click the **Data Series** tab to change the graph colors. You can also show or hide the X-Label axis by clicking **Visible** (toggle).
- 19 Click the **Graph Data Properties** tab.
- 20 Type a value for the Y Axis of the graph. You can enter a minimum and maximum value.
- 21 When you are satisfied with your selections, Select **Save** from the View menu to save the current view. You can also select **Save and Persist** to save a graph and then keep this graph for future evaluations.

**Note:** You can save graph properties for each graph view but graph data properties are not saved because every time that you create a graph, you generate the data points.

## Printing

To change the logo that appears in online and printed reports, see *Customize the Print Logo*. Follow these steps to print the current view:

- 1 Execute the desired filter and click the **Print** tab.
- 2 In the **Source** column of the **Print** tab, select the grid, bar graph, or pie chart view that you want to print and click the directional arrow to move your selection to the target column.
- 3 Type a description, which will be the printed report title, in the **Report Description** text box.
- 4 Select the **Output Type** from the drop-down list (Screen, Printer, HTML, or PDF).
- 5 Click the option button for the layout that you prefer: **Portrait** or **Landscape**.

**Note:** Layout options are available for Printer or Screen output only.

- 6 Click **Print**.
- 7 Do one of the following:
  - If **Screen** output was selected, the report preview pane is launched. Use the buttons located at the top of the preview pane to page through and view the report.
  - If **Printer** output was selected, the Print dialog is launched. Use the print dialog to send the report to the printer.
  - If **HTML** or **PDF** output was selected, the **Save As** dialog is launched. Use the dialog to save the report.

## Customize the Print Logo

The logo that appears at the top of printed and screen reports can be changed. Follow these steps to customize the print logo:

- 1 Select Tools | Preferences from the menu.
- 2 In the dialog, click the **User** tab.
- 3 Locate Printed Reports Logo path in the Preferences column.
- 4 Type the path and filename for image that you want to use on printed and online reports. For example, C:\My Images\<<yourCompanyLogo>.jpg.
- 5 Click **OK** at the bottom of the page.

## History Information

The History feature lets you select specific items from a result set (such as volumes and datasets), select a date and time frame of reference for those items, and view the history of those selected items. The result set that appears for history appears as a column table and as a plot graph.

Some components and filters allow you to view historical information. When you click on a component or filter in the Tree View pane the History tab appears, indicating history is available. If you click on a component or filter and the History tab doesn't appear, then no historical records are available for it. Follow these steps to access history information:

- 1 From a column in a result set, select an item by clicking on it.
- 2 Do one of the following:
  - To select a sequence of items in the same column, click the first item and press and hold the **Shift** key, then click the last item in the sequence.
  - To click items in different columns of the result set, click on the first item and press and hold the **Ctrl** key, then individually click to select the items you want.
- 3 After you have selected the item(s), right-click and select **Show History**. The History Start/End Dates dialog box appears. This is where you will choose a start and end date/time for the history of the items you selected.
- 4 Do one of the following:
  - Click the button next to the name of a predefined start/end date. The predefined start/end date selections include: Previous week, Previous 2 weeks, and Previous month.
  - Click the button next to Manually select dates. Then click on the drop-down lists in the Start timestamp and End timestamp fields to display a calendar that allows you to select a date and time for each field.
- 5 After you selected a date/time range, click **OK** and your history query starts to process. When the history query completes, the History tab and the item(s) you selected appear in a plot graph as well as in a result set table.

## Forecast Trending

The Forecast feature lets you select a history plot graph with a single series of data points and prepare a forecast trend graph. Follow these steps to access the forecast trend graph tool:

- 1 Right-click anywhere in the Graphical Display area for a History graph. The **Graph View** dialog box appears.
- 2 Select **Forecast Trend Graph** from the **Tools** menu. The Graph Properties window appears.

**Note:** If the History graph is a multiple series graph, the Forecast Trend Graph option is not available from this menu.
- 3 Click on the drop-down list in the **Forecast Date Time** field from to display a calendar that allows you to select a date and time for the forecast graph.
- 4 Select the **Time Interval** (Hour, Day, Week, or Month) from the drop-down list.
- 5 Type a value for the **Time Interval** that you selected.
- 6 Click **Create** and view the results.

## Contacting Technical Support

Use any of the following methods to contact TeraCloud technical support.

- E-mail – Ask questions and receive answers directly from Technical Support specialists by sending a message to [support@teracloud.com](mailto:support@teracloud.com).
- Telephone – Access TeraCloud Technical Support at 1.800.555.9397.
- Web Support – Open problem-oriented cases or track previously submitted ones.

### **To submit corrections or comments about documentation:**

- Send e-mail to [docs@teracloud.com](mailto:docs@teracloud.com).





## **z/OS PLATFORM**

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On the IBM z/OS platform, TeraCloud Storage Framework (TSF) v2.1.1 provides a graphical user interface (GUI) for Pools/Volumes, Datasets, DFSMSHsm Management, Tape, and History/Logging. Using the GUI, you can manage multiple systems from one console—whether the DASD is shared or not shared.

To learn about these features, see the following chapters in this book:

- Chapter 1, Pool/Volume
- Chapter 2, Datasets
- Chapter 3, DFSMSHsm Management
- Chapter 4, Tape



## CHAPTER

# 1

## POOL/VOLUME

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Pool/Volume provides DASD information at the volume level by grouping DASD volumes by logical pool, SMS storage group, or physical pool and reporting on their availability.

Five sections are comprised under the Pool/Volume umbrella: Detail, Esoteric, Response, Short List, Inventory and Logical Pools. Each section has a tab for Detail, Summary, Filter, Sort, and Column Selection. These sections help you to locate over-committed resources and identify space availability. Pool/Volume filters are available in the Filter tab for each Pool/Volume section.

## Esoteric Component

The Esoteric component lists all esoteric names associated with a device address, volume serial number, or device model type. It is useful when a user moves a volume serial number to a different address and in determining the availability of space on non-SMS-controlled storage volumes.

### Pool/Volume Esoteric Filter Tab

The Pool/Volume Esoteric filters provide specific information about esoteric names associated with a device address, volume serial number, or device model type. You can create a filter for this information by using values within the filter tab. Pool/Volume Esoteric filters are grouped alphabetically on the Filters pane as follows:

**Table 1.1: Pool/Volume Esoteric Filters**

Field Name	Lets you filter for...
Address	<p>Volume serial numbers by individual address. Returns only those addresses that are online. If this is the only criterion selected in the filter tab, all volumes that are available to the operating system though the specified addresses are returned.</p> <ul style="list-style-type: none"> <li>• Greater Than <i>0300</i> Less Than <i>303F</i> returns all addresses within this range</li> <li>• Equal <i>F130</i> returns address F130</li> <li>• Equal <i>IAF</i> returns address IAF</li> </ul>
Esoteric Names	<p>DASD pools by esoteric name</p> <ul style="list-style-type: none"> <li>• SYSDA returns information for all devices that can be obtained by specifying UNIT=SYSDA for allocation in JCL</li> <li>• SYS* returns information for all devices that have an Esoteric name that begins with SYS</li> </ul>
Model	<p>Volumes by device and model type</p> <ul style="list-style-type: none"> <li>• 3390* returns all 3390 devices</li> <li>• 33903 returns only 3390 model 3 devices</li> <li>• -33903 returns all devices except 3390 model 3s</li> </ul>
Volume Pool	<p>Volumes using the Volume Pool name, from 1 to 8 characters in length. Note: This field is user-created from the member POOLVOL, located in the PARMLIB library.</p> <ul style="list-style-type: none"> <li>• PAYROLL returns all volumes assigned to the PAYROLL system or application</li> </ul>
Volume Serial	<p>Volume serial number (Volser) associated with the dataset, according to filter criteria</p> <ul style="list-style-type: none"> <li>• TEST01 returns only information contained on volume TEST01</li> <li>• T* returns all information contained on all volumes that begin with T</li> <li>• -T* excludes information that is contained on any volume that begins with T</li> <li>• P*,SY* returns all volumes that begin with P and SY</li> <li>• -P* show all volumes except those that begin with P</li> <li>• -P*,SYS* show all volumes except those that begin with P and SYS</li> </ul>

## Pool/Volume Esoteric Detail Tab

Esoteric Detail lists all esoteric names associated with a device address, volume serial number, or device model type. The Pool/Volume Esoteric Detail tab does not feature graphical data and no charts display. The columns that appear in the Pool/Volume Esoteric Detail tab include the following:

**Table 1.2: Esoteric Detail Columns**

Column Name	Description
Address	Lists the device address of each volume
Volume Serial	Displays the volume serial number that the dataset resides on
Model	Displays the device model
Esoteric Names	A maximum of 20 esoteric names can be displayed in the Esoteric Names columns. After the first esoteric name, the columns are designated with a number - Esoteric Names (2), Esoteric Names (3), Esoteric Names (4), etc.

## Pool/Volume Esoteric Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions. After you have executed a filter from the Pool/Volume Esoteric Filter tab, and viewed the result set of information in the Pool/Volume Esoteric Detail tab, you can click the Summary tab. A result set appears in the Pool/Volume Esoteric Summary tab. The Summary tab contains a General sub-tab with columns that display the following information:

**Table 1.3: Esoteric Summary Columns**

Column Name	Description
Model	Displays the device model
Model Count	Lists the number of devices in this category

## Response Component

The Response component provides the ability to obtain a detailed view of the responsiveness of the devices in the context of the TSF product. This is accomplished by the following:

- TSF performs an STIMER before issuing the I/O request to the specified device
- On return of the I/O, TSF performs another STIMER to obtain the variance from the first store clock
- The variance is represented in milliseconds and displayed in the Response Time column

**Note:** The Response Time value is not an average response time but represents the exact time plus the instruction length for a store clock instruction of the responsiveness to a user I/O request.

## Pool/Volume Response Filter Tab

The Pool/Volume Response Filter tab provides specific information about responsiveness of the devices in the context of the TSF product. You can create a filter for pool/volume response information by using values within the filter tab. Use the drop-down list options to create a query in this field. Select the Not checkbox to apply a logical Exclude to the selected option. Pool/Volume Response filters are grouped alphabetically on the Filters pane as follows:

**Table 1.4: Pool/Volume Response Filters**

Field Name	Lets you filter for...
Address	<p>Volume serial numbers by individual address. Returns only those addresses that are online. If this is the only criterion selected in the filter tab, all volumes that are available to the operating system though the specified addresses are returned.</p> <ul style="list-style-type: none"> <li>• Greater Than <i>0300</i> Less Than <i>303F</i> returns all addresses within this range</li> <li>• Equal <i>F130</i> returns address F130</li> <li>• Equal <i>1AF</i> returns address 1AF</li> </ul>
Allocated Tracks	<p>Total megabytes allocated for each dataset by organization type</p> <ul style="list-style-type: none"> <li>• Between <i>150</i> and <i>1500</i> returns all datasets that are greater than 10 cylinders but less than 100 cylinders (useful in determining DFSMS Storage Group sizes)</li> <li>• Equal <i>0</i> Less Than <i>999999999</i> returns datasets that are 0 to 999999999 in either tracks or megabytes depending on the option and unit selected</li> </ul>
Available Tracks	<p>Valid numeric entries for the text field are from 0 to 99999.</p> <p>Note: Tracks or megabytes require that Tracks or MB is selected in the Units field.</p> <ul style="list-style-type: none"> <li>• Less Than <i>10000</i> returns all devices with fewer than 10000 tracks (when unit selection is Tracks)</li> </ul>

**Table 1.4: Pool/Volume Response Filters (Continued)**

Field Name	Lets you filter for...
Cache	Datasets according to cache criteria when database was created <ul style="list-style-type: none"> <li>• Cache Fast Write returns datasets under Cache Fast Write when the database was built</li> <li>• Track Caching returns datasets under Track Caching when the database was built</li> <li>• DASD Fast Write returns datasets under DASD Fast Write when the database was built</li> <li>• Not Under Cache returns datasets not under cache when the database was built</li> </ul>
Capacity Cylinders	Returns the number of capacity cylinders per volume, according to filter criteria. Valid numeric entries for the text field are from 0 to 99999. <ul style="list-style-type: none"> <li>• Greater Than 5000 returns all volumes with capacity cylinders more than 5000</li> </ul>
Channel Path ID	Volume serial numbers by individual channel path or ID. Returns only paths that are online to the volume. <ul style="list-style-type: none"> <li>• 1A returns devices that are on CHPID 1A</li> <li>• 1* returns devices that are on CHPIDs that begin with 1</li> <li>• ¬1A * returns all devices except those that are on CHPID 1A</li> </ul>
Contiguous Cylinders	All volumes based on a contiguous-cylinder filter. Valid numeric entries for the text field are from 0 to 99999. <ul style="list-style-type: none"> <li>• Less than 500 returns all devices with fewer than 500 contiguous cylinders</li> </ul>
Contiguous Tracks or MB	All volumes based on a contiguous track or MB filter (depending on Units selection). Valid numeric entries for the text field are from 0 to 99999.  Note: Tracks or megabytes require that Tracks or MB be selected in the Units field. <ul style="list-style-type: none"> <li>• Less than 5000 returns all devices with fewer than 5000 contiguous tracks (when unit selection is Tracks)</li> </ul>
Device Response	Devices by response time, which is useful in determining the relative device performance or channel path when initiating I/O. This is also useful for allocating to a device with faster response time and the least amount of concurrent usage. Valid numeric entries for the text field are from 0 to 999.  Note: The returned milliseconds value is determined by checking system clocks, so the response time for any device changes from one observation to another. <ul style="list-style-type: none"> <li>• Greater Than or Equal To 7 returns list of devices whose response time was 7 or more milliseconds</li> </ul>
Directory Blocks per Track	Number of directory blocks per track, according to filter criteria. Valid numeric entries for the text field are from 0 to 9999999.  Note: To include directory blocks across all volumes of multivolume datasets, you must use the Multivolume filter option in conjunction with this filter. <ul style="list-style-type: none"> <li>• Great Than Or Equal To returns all volumes that have 45 or more directory blocks per track</li> </ul>

**Table 1.4: Pool/Volume Response Filters (Continued)**

Field Name	Lets you filter for...
Esoteric Names	DASD pools by esoteric name <ul style="list-style-type: none"> <li>• SYSDA returns information for all devices that can be obtained by specifying UNIT=SYSDA for allocation in JCL</li> <li>• SYS* returns information for all devices that have an Esoteric name that begins with SYS</li> </ul>
Fragmentation Index	Fragmentation index value for a volume. Lower numbers indicate less fragmentation. Valid numeric entries for the text field are from 0 to 9999999. <ul style="list-style-type: none"> <li>• Greater than 4 returns volumes whose fragmentation index is more than 4</li> </ul>
Free DSCBs	Volumes with free DSCBs, according to filter criteria. Valid numeric entries for the text field are from 0 to 9999999. <ul style="list-style-type: none"> <li>• Greater Than 3000 returns all volumes with more than 3000 free DSCBs</li> </ul>
Free Extents	Number of free-space areas on a volume. A high number indicates that the volume is fragmented. The fragmentation index is used as a guide for locating volumes that are candidates for defragmentation. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>• Greater than 200 returns all volumes with more than 200 free-space extents</li> </ul>
Free VIRs	Volumes with free VIRs, according to filter criteria. Valid numeric entries for the text field are from 0 to 9999999. <ul style="list-style-type: none"> <li>• Greater Than 3000 returns all volumes with more than 3000 free VIRs</li> </ul>
Index VTOC	Volumes by VTOC status indicators: indexed or not-indexed VTOCs, depending on what you select from the drop-down list options for this field. <ul style="list-style-type: none"> <li>• Indexed Only (ENA) returns only those VTOCs that are indexed</li> <li>• Unindexed Only (DIS) returns devices that are either not indexed or disabled</li> </ul>
Model	Volumes by device and model type <ul style="list-style-type: none"> <li>• 3390* returns all 3390 devices</li> <li>• 33903 returns only 3390 model 3 devices</li> <li>• -33903 returns all devices except 3390 model 3s</li> </ul>
Percent Used	Volumes, pools, or storage groups by the allocated percentage. Valid numeric entries for the text field are from 0 to 100 percent. <ul style="list-style-type: none"> <li>• Greater than 80 returns volumes or volume pools that are more than 80% allocated</li> <li>• Less than 30 returns volume or volume pools that are less than 30% allocated</li> </ul>
Shared DASD	Volumes by shared DASD status <ul style="list-style-type: none"> <li>• Show Shared DASD units (Y) returns all shared DASD units</li> </ul>
SMS Indicator	DFSMS status of volumes. The default of blank returns both DFSMS and non-DFSMS volumes. <ul style="list-style-type: none"> <li>• DFSms Controlled returns all DFSMS-controlled volumes</li> <li>• Not DFSMS Controlled returns only those volumes that are not controlled by DFSMS</li> </ul>

**Table 1.4: Pool/Volume Response Filters (Continued)**

Field Name	Lets you filter for...
Storage Group	Detail and summary of datasets by storage group, according to query criteria. <ul style="list-style-type: none"> <li>• LARGE returns all datasets that are in the LARGE storage group</li> <li>• L* returns all datasets that are in a storage group that begins with L</li> </ul>
Tracks per Cylinder	Total number of tracks per cylinder according the query criteria. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>• Greater Than 15 returns all volumes with more than 15 tracks per cylinder</li> </ul>
UCB Use	Volumes that have special-use attributes <ul style="list-style-type: none"> <li>• Allocated Only (A) returns all devices that are currently allocated</li> <li>• Online, Unallocated (O) returns all devices that are online but not allocated</li> <li>• Current IPL Volume (S) returns the current IPL volume</li> <li>• Active Page Volumes (P) returns all active page volumes</li> </ul>
Volume Pool	Volumes using the Volume Pool name, from 1 to 8 characters in length. Note: This field is user-created from the member POOLVOL, located in the PARMLIB library. <ul style="list-style-type: none"> <li>• PAYROLL returns all volumes assigned to the PAYROLL system or application</li> </ul>
Volume Serial	Volume serial number (Volser) associated with the dataset, according to filter criteria. <ul style="list-style-type: none"> <li>• TEST01 returns only information contained on volume TEST01</li> <li>• T* returns all information contained on all volumes that begin with T</li> <li>• ¬T* excludes information that is contained on any volume that begins with T</li> <li>• P*,SY* returns all volumes that begin with P and SY</li> <li>• ¬P* show all volumes except those that begin with P</li> <li>• ¬P*,SYS* show all volumes except those that begin with P and SYS</li> </ul>
VTOC Percent Used	Volumes by VTOC percentage used according to filter criteria. Valid numeric entries for the text field are from 0 to 100. <ul style="list-style-type: none"> <li>• Greater Than 75 returns all volumes with VTOC use more than 75%</li> </ul>
VTOC Tracks	Returns volumes by percentage of VTOC tracks used, according to filter criteria. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>• Greater than 75 returns all volumes with VTOC tracks more than 75</li> </ul>

## Pool/Volume Response Detail Tab

Pool/Volume Response detail provides a detailed view of the responsiveness of the devices in the context of the TSF product. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 1.5: Response Detail Columns**

Column Name	Description
Address	Lists the device address of each volume
Volume Serial	Displays the volume serial number that the dataset resides on
Model	Displays the device model
Cache	Indicates whether the dataset was under cache when the database was built. Cache status of the specified device. <ul style="list-style-type: none"> <li>• + in the first position indicates Fast Write is enabled</li> <li>• + in the second position indicates Track Caching is enabled</li> <li>• + in the third position indicates add DASD Fast</li> <li>• Write is enabled --- devices are not cached</li> </ul>
Volume Pool	Displays the user-defined volume pool associated with the dataset
Physical Pool	Lists how the volume is mounted where the associated dataset resides: private, storage, or public
Storage Group	Lists datasets by storage group
Index VTOC	Indicates whether the volume VTOC is indexed; also indicates whether the index VTOC is disabled
Percent Used	Percentage that is currently allocated
Available (Units)	Total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Units)	Displays the total number of tracks, megabytes, or gigabytes that this volume has used
Capacity (Units)	Displays the total number of tracks, megabytes, or gigabytes for this device
Free Extents	The number of free extents on the volume
Channel Path ID	Displays volume serial numbers by individual channel path or ID
SMS Indicator	Indicates whether the volume is SMS-managed
UCB Use	Indicates volumes with special use attributes
Device Response	Displays the response time of a device. A device response time is returned in the milliseconds that TSF is required to return the I/O
Shared DASD	Identifies whether the DASD is shared
Tracks per Cylinder	Lists the number of tracks per cylinders
Capacity Cylinders	Displays the total number of cylinders for this device
Free DSCBs	Displays the number of free dataset control blocks
Free VIRs	Lists the number of free VSAM index records in the VTOC index
Fragmentation Index	Contains the fragmentation index of the DASD
Directory Blocks per Track	Displays the number of directory blocks
VTOC Tracks	Lists the number of tracks per VTOC
VTOC Percent Used	Displays the percentage used of the VTOC

## Pool/Volume Response Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions. After you have executed a filter from the Pool/Volume Response Filter tab, and viewed the result set of information in the Pool/Volume Response Detail tab, you can click the Summary tab. A result set appears in the Pool/Volume Response Summary tab.

The Summary tab contains the following three sub-tabs with various types of information:

- General (Default tab)
- Storage Group
- Volume Pool

**Table 1.6: Response Detail General Summary**

Column Name	Description
Pool Types	Lists the names of candidate volumes
Private (Units)	The summary of all volumes that have the PRIVATE mount attribute. This information can be displayed in tracks, cylinders, logical pools, DFSMS storage groups, or dollars.
Public (Units)	The summary of all volumes that have the PUBLIC mount attribute
Storage (Units)	The summary of all volumes with the STORAGE mount attribute
Total (Units)	The summaries of allocated, free, and total of all DASD MB available or used online. This information can be displayed in tracks, cylinders, megabytes, gigabytes, logical volume pools, DFSMS storage groups, or dollars. NOTE: Not all units are displayed in each Total column, depending on the component you are viewing.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 1.7: Response Detail Storage Group Summary**

Column Name	Description
Name	Lists datasets by storage group
Volumes	Shows the number of volumes associated with the datasets
Total (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 1.8: Response Detail Volume Pool Summary**

Column Name	Description
Name	Lists datasets by the user-defined volume pool name
Volumes	Shows the number of volumes associated with the datasets
Total (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection

**Table 1.8: Response Detail Volume Pool Summary (Continued)**

Column Name	Description
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

## Detail Component

Pool/Volume detail provides detailed information about the entire DASD environment.

### Pool/Volume Detail Filter Tab

You can create a filter for pool/volume detail by using values within this filter tab. Use the drop-down list options to define parameters for this filter. Select the Not checkbox to apply a logical Exclude to the selected option. The Pool/Volume Detail filters, which are provided for analysis of volume information, are grouped alphabetically on the Filters pane as follows:

**Table 1.9: Pool/Volume Detail Filters**

Field Name	Lets you filter for..
Address	<p>Volume serial numbers by individual address. Returns only those addresses that are online. If this is the only criterion selected in the filter tab, all volumes that are available to the operating system through the specified addresses are returned.</p> <ul style="list-style-type: none"> <li>• Greater Than <i>0300</i> Less Than <i>303F</i> returns all addresses within this range</li> <li>• Equal <i>F130</i> returns address F130</li> <li>• Equal <i>1AF</i> returns address 1AF</li> </ul>
Allocated Tracks	<p>Total megabytes allocated for each dataset by organization type</p> <ul style="list-style-type: none"> <li>• Between <i>150</i> and <i>1500</i> returns all datasets that are greater than 10 cylinders but less than 100 cylinders (useful in determining DFSMS Storage Group sizes)</li> <li>• Equal <i>0</i> Less Than <i>999999999</i> returns datasets that are 0 to 999999999 in either tracks or megabytes depending on the option and unit selected</li> </ul>
Available Tracks	<p>Valid numeric entries for the text field are from 0 to 99999.</p> <p>Note: Tracks or megabytes require that Tracks or MB is selected in the Units field.</p> <ul style="list-style-type: none"> <li>• Less Than <i>10000</i> returns all devices with fewer than 10000 tracks (when unit selection is Tracks)</li> </ul>
Cache	<p>Datasets according to cache criteria when database was created</p> <ul style="list-style-type: none"> <li>• Cache Fast Write returns datasets under Cache Fast Write when the database was built</li> <li>• Track Caching returns datasets under Track Caching when the database was built</li> <li>• DASD Fast Write returns datasets under DASD Fast Write when the database was built</li> <li>• Not Under Cache returns datasets not under cache when the database was built</li> </ul>
Capacity Cylinders	<p>Returns the number of capacity cylinders per volume, according to filter criteria. Valid numeric entries for the text field are from 0 to 99999.</p> <ul style="list-style-type: none"> <li>• Greater Than <i>5000</i> returns all volumes with capacity cylinders more than 5000</li> </ul>

**Table 1.9: Pool/Volume Detail Filters (Continued)**

Field Name	Lets you filter for...
Channel Path ID	Volume serial numbers by individual channel path or ID. Returns only paths that are online to the volume. <ul style="list-style-type: none"> <li>• 1A returns devices that are on CHPID 1A</li> <li>• 1* returns devices that are on CHPIDs that begin with 1</li> <li>• -1A * returns all devices except those that are on CHPID 1A</li> </ul>
Contiguous Cylinders	All volumes based on a contiguous-cylinder filter. Valid numeric entries for the text field are from 0 to 99999. <ul style="list-style-type: none"> <li>• Less than 500 returns all devices with fewer than 500 contiguous cylinders</li> </ul>
Contiguous Tracks or MB	All volumes based on a contiguous track or MB filter (depending on Units selection). Valid numeric entries for the text field are from 0 to 99999. Note: Tracks or megabytes require that Tracks or MB be selected in the Units field. <ul style="list-style-type: none"> <li>• Less than 5000 returns all devices with fewer than 5000 contiguous tracks (when unit selection is Tracks)</li> </ul>
Directory Blocks per Track	Number of directory blocks per track, according to filter criteria. Valid numeric entries for the text field are from 0 to 9999999. Note: To include directory blocks across all volumes of multivolume datasets, you must use the Multivolume filter option in conjunction with this filter. <ul style="list-style-type: none"> <li>• Greater Than Or Equal To 45 returns all volumes that have 45 or more directory blocks per track</li> </ul>
Esoteric Names	DASD pools by esoteric name <ul style="list-style-type: none"> <li>• SYSDA returns information for all devices that can be obtained by specifying UNIT=SYSDA for allocation in JCL</li> <li>• SYS* returns information for all devices that have an Esoteric name that begins with SYS</li> </ul>
Fragmentation Index	Fragmentation index value for a volume. Lower numbers indicate less fragmentation. Valid numeric entries for the text field are from 0 to 9999999. <ul style="list-style-type: none"> <li>• Greater than 4 returns volumes whose fragmentation index is more than 4</li> </ul>
Free DSCBs	Volumes with free DSCBs, according to filter criteria. Valid numeric entries for the text field are from 0 to 9999999. <ul style="list-style-type: none"> <li>• Greater Than 3000 returns all volumes with more than 3000 free DSCBs</li> </ul>
Free Extents	Number of free-space areas on a volume. A high number indicates that the volume is fragmented. The fragmentation index is used as a guide for locating volumes that are candidates for defragmentation. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>• Greater than 200 returns all volumes with more than 200 free-space extents</li> </ul>
Free VIRs	Volumes with free VIRs, according to filter criteria. Valid numeric entries for the text field are from 0 to 9999999. <ul style="list-style-type: none"> <li>• Greater Than 3000 returns all volumes with more than 3000 free VIRs</li> </ul>

**Table 1.9: Pool/Volume Detail Filters (Continued)**

Field Name	Lets you filter for..
Index VTOC	Volumes by VTOC status indicators: indexed or not-indexed VTOCs, depending on selected criterion. <ul style="list-style-type: none"> <li>Indexed Only (ENA) returns only those VTOCs that are indexed</li> <li>Unindexed Only (DIS) returns devices that are either not indexed or disabled</li> </ul>
Model	Volumes by device and model type <ul style="list-style-type: none"> <li>3390* returns all 3390 devices</li> <li>33903 returns only 3390 model 3 devices</li> <li>-33903 returns all devices except 3390 model 3s</li> </ul>
Open DCBs	Volumes based on the number of open files or DCBs. This filter is useful when allocating space and predetermining usage contention. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>Greater than 99 returns all volumes that have more than 99 open files or DCBs</li> </ul>
Percent Used	Volumes, pools, or storage groups by the allocated percentage. Valid numeric entries for the text field are from 0 to 100 percent. <ul style="list-style-type: none"> <li>Greater than 80 returns volumes or volume pools that are more than 80% allocated</li> <li>Less than 30 returns volume or volume pools that are less than 30% allocated</li> </ul>
Shared DASD	Volumes by shared DASD status. Show Shared DASD units (Y) returns all shared DASD units
SMS Indicator	DFSMS status of volumes. The default of blank returns both DFSMS and non-DFSMS volumes. <ul style="list-style-type: none"> <li>DFSms Controlled returns all DFSMS-controlled volumes</li> <li>Not DFSMS Controlled returns only those volumes that are not controlled by DFSMS</li> </ul>
Storage Group	Detail and summary of datasets by storage group, according to query criteria <ul style="list-style-type: none"> <li>LARGE returns all datasets that are in the LARGE storage group</li> <li>L* returns all datasets that are in a storage group that begins with L</li> </ul>
Tracks per Cylinder	Total number of tracks per cylinder according the query criteria. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>Greater Than 15 returns all volumes with more than 15 tracks per cylinder</li> </ul>
UCB Use	Volumes that have special-use attributes <ul style="list-style-type: none"> <li>Allocated Only (A) returns all devices that are currently allocated</li> <li>Online, Unallocated (O) returns all devices that are online but not allocated</li> <li>Current IPL Volume (S) returns the current IPL volume</li> <li>Active Page Volumes (P) returns all active page volumes</li> </ul>
Volume Pool	Volumes using the Volume Pool name, from 1 to 8 characters in length. Note: This field is user-created from the member POOLVOL, located in the PARMLIB library. <ul style="list-style-type: none"> <li>PAYROLL returns all volumes assigned to the PAYROLL system or application</li> </ul>

**Table 1.9: Pool/Volume Detail Filters (Continued)**

Field Name	Lets you filter for...
Volume Serial	Volume serial number (Volser) associated with the dataset, according to filter criteria <ul style="list-style-type: none"> <li>• TEST01 returns only information contained on volume TEST01</li> <li>• T* returns all information contained on all volumes that begin with T</li> <li>• -T* excludes information that is contained on any volume that begins with T</li> <li>• P*,SY* returns all volumes that begin with P and SY</li> <li>• -P* show all volumes except those that begin with P</li> <li>• -P*,SYS* show all volumes except those that begin with P and SYS</li> </ul>
VTOC Percent Used	Volumes by VTOC percentage used according to filter criteria. Valid numeric entries for the text field are from 0 to 100. <ul style="list-style-type: none"> <li>• Greater Than 75 returns all volumes with VTOC use more than 75%</li> </ul>
VTOC Tracks	Returns volumes by percentage of VTOC tracks used, according to filter criteria. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>• Greater than 75 returns all volumes with VTOC tracks more than 75</li> </ul>

## Pool/Volume Detail Tab

Pool/Volume Detail provides detailed information about the entire DASD environment. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 1.10: Pool/Volume Detail Columns**

Column Name	Description
Address	Lists the device address of each volume.
Volume Serial	Displays the volume serial number that the dataset resides on.
Model	Displays the device model.
Cache	Indicates whether the dataset was under cache when the database was built. Cache status of the specified device. <ul style="list-style-type: none"> <li>• + in the first position indicates Fast Write is enabled</li> <li>• + in the second position indicates Track Caching is enabled</li> <li>• + in the third position indicates add DASD Fast Write is enabled</li> <li>• --- devices are not cached</li> </ul>
Volume Pool	Displays the user-defined volume pool associated with the dataset.
Physical Pool	Lists how the volume is mounted where the associated dataset resides: private, storage, or public.
Storage Group	Lists datasets by storage group.
Index VTOC	Indicates whether the volume VTOC is indexed; also indicates whether the index VTOC is disabled.
Percent Used	Percentage that is currently allocated.
Available (Units)	Total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.

**Table 1.10: Pool/Volume Detail Columns**

Column Name	Description
Used (Units)	Displays the total number of tracks, megabytes, or gigabytes that this volume has used.
Capacity (Units)	Displays the total number of tracks, megabytes, or gigabytes for this device.
Free Extents	The number of free extents on the volume.
Extents On Volser	Displays the number of extents that a dataset occupies on the associated volume. Must be queried in conjunction with the Multivolume filter to reflect multivolume datasets.
Contiguous Tracks or MB	Largest contiguous tracks or megabytes (depending on Units selection) available for allocation.
Contiguous Cylinders	Largest contiguous cylinders available for allocation without incurring fragmentation.
SMS Indicator	Indicates whether the volume is SMS-managed.
UCB Use	Indicates volumes with special use attributes
Open DCBs	The number of files that were open at the time of the snapshot. Indicates concurrent active users.
Shared DASD	Identifies whether the DASD is shared.
Tracks per Cylinder	Lists the number of tracks per cylinders.
Capacity Cylinders	Displays the total number of cylinders for this device.
Free DSCBs	Displays the number of free dataset control blocks.
Free VIRs	Lists the number of free VSAM index records in the VTOC index.
Fragmentation Index	Contains the fragmentation index of the DASD.
Directory Blocks per Track	Displays the number of directory blocks.
VTOC Tracks	Lists the number of tracks per VTOC.
VTOC Percent Used	Displays the percentage used of the VTOC.

## Pool/Volume Detail Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions.

After you have executed a filter from the Pool/Volume Detail Filter tab, and viewed the result set of information in the Pool/Volume Detail tab, you can click the Summary tab. A result set appears in the Pool/Volume Detail Summary tab.

The Summary tab contains the following three sub-tabs with various types of information:

- General (Default tab)
- Storage Group
- Volume Pool

**Table 1.11: Detail General Summary**

Column Name	Description
Pool Types	Lists the names of candidate volumes
Private (Units)	The summary of all volumes that have the PRIVATE mount attribute. This information can be displayed in tracks, cylinders, logical pools, DFSMS storage groups, or dollars.

**Table 1.11: Detail General Summary**

Column Name	Description
Public (Units)	The summary of all volumes that have the PUBLIC mount attribute.
Storage (Units)	The summary of all volumes with the STORAGE mount attribute.
Total (Units)	The summaries of allocated, free, and total of all DASD MB available or used online. This information can be displayed in tracks, cylinders, megabytes, gigabytes, logical volume pools, DFSMS storage groups, or dollars. <b>NOTE: Not all units are displayed in each Total column, depending on the component you are viewing.</b>
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 1.12: Detail Storage Group Summary**

Column Name	Description
Name	Lists datasets by storage group.
Volumes	Shows the number of volumes associated with the datasets.
Total (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 1.13: Volume Pool Summary**

Column Name	Description
Name	Lists datasets by the user-defined volume pool name.
Volumes	Shows the number of volumes associated with the datasets.
Total (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

## Inventory Component

The Inventory component provides the ability to obtain exact information about either a device (located behind an IBM 3990 or IBM 3990-compatible controller) or the storage system configuration.

Note: Information about 3380s is limited to model and type.

### Pool/Volume Inventory Filter Tab

The Pool/Volume Inventory Filter tab provides the ability to obtain detailed information about the model, vendor, and serial numbers of all devices and their respective controllers. You can create a filter for pool/volume detail by using values within the filter tab. Pool/Volume Inventory filters are grouped alphabetically on the Filters pane as follows

**Table 1.14: Pool/Volume Inventory Filters**

Field Name	Lets you filter for..
Address	Volume serial numbers by individual address. Returns only those addresses that are online. If this is the only criterion selected in the filter tab, all volumes that are available to the operating system though the specified addresses are returned. <ul style="list-style-type: none"> <li>Greater Than <i>0300</i> Less Than <i>303F</i> returns all addresses within this range</li> <li>Equal <i>F130</i> returns address F130</li> <li>Equal <i>1AF</i> returns address 1AF</li> </ul>
Control Unit: Model	Devices by controller type. If an address range (high- to low-end) is queried, an edit mask cannot be used. <ul style="list-style-type: none"> <li>3990* returns all devices associated with 3990 model 3 controllers</li> </ul>
Control Unit: Serial Number	Address, volser, and other attributes when a valid controller serial number is queried. <ul style="list-style-type: none"> <li>00010B7A returns controllers with this serial number</li> </ul>
Control Unit: Vendor Code	Devices by vendor code <ul style="list-style-type: none"> <li>IBM returns only IBM devices</li> <li>AMD returns Amdahl devices</li> <li>STK returns only StorageTek devices</li> <li>EMC returns only EMC devices</li> <li>HTC returns only Hitachi devices</li> </ul>
Control Unit: Vendor Location	Vendor location code where the controller was manufactured. This is a two-digit numeric field provided by the vendor's microcode. <ul style="list-style-type: none"> <li>02 returns devices whose internal vendor location microcode for the controller is Equal to 02</li> </ul>
DASD: Vendor Code	Devices by vendor code <ul style="list-style-type: none"> <li>IBM returns only IBM devices</li> <li>AMD returns Amdahl devices</li> <li>STK returns only StorageTek devices</li> <li>EMC returns only EMC devices</li> <li>HTC returns only Hitachi devices</li> </ul>

**Table 1.14: Pool/Volume Inventory Filters**

Field Name	Lets you filter for...
DASD: Vendor Location	Vendor location code where the device was manufactured. This is a two-digit numeric field provided by the vendor's microcode. <ul style="list-style-type: none"> <li>• 13 returns devices whose internal location code is 13</li> </ul>
DASD: Vendor Serial Number	Returns address, volser, and other attributes. <ul style="list-style-type: none"> <li>• 00010B7A returns devices with this serial number</li> </ul>
Model	Device and model type <ul style="list-style-type: none"> <li>• 3390* returns all 3390 devices</li> </ul>
Volume Pool	Volumes using the Volume Pool name, from 1 to 8 characters in length. Note: This field is user-created from the member POOLVOL, located in the PARMLIB library. <ul style="list-style-type: none"> <li>• PAYROLL returns all volumes assigned to the PAYROLL system or application</li> </ul>
Volume Serial	Volume serial number (Volser) associated with the dataset, according to filter criteria. <ul style="list-style-type: none"> <li>• TEST01 returns only information contained on volume TEST01</li> <li>• T* returns all information contained on all volumes that begin with T</li> <li>• -T* excludes information that is contained on any volume that begins with T</li> <li>• P*,SY* returns all volumes that begin with P and SY</li> <li>• -P* show all volumes except those that begin with P</li> <li>• -P*,SYS* show all volumes except those that begin with P and SYS</li> </ul>

## Pool/Volume Inventory Detail Tab

**Pool/Volume Inventory** detail provides detailed information about a device or the storage system configuration. The columns that appear in the Pool/Volume Inventory Detail tab include the following:

**Table 1.15: Inventory Detail Columns**

Column Name	Description
Address	Lists the device address of each volume.
Volume Serial	Displays the volume serial number that the dataset resides on.
Model	Displays the device model.
DASD: Vendor Code	Lists the vendor of the DASD.
DASD: Vendor Location	Indicates the location code of the manufacturer.
DASD: Vendor Serial Number	Identifies the vendor serial number of the DASD.
Volume Pool	Displays the user-defined volume pool associated with the dataset.
Control Unit: Model	Identifies the model and device type.
Control Unit: Vendor Code	Identifies the vendor of the control unit.
Control Unit: Vendor Location	Indicates the location code of the manufacturer.
Control Unit: Serial Number	Identifies the control unit serial number that a device is connected to.

## Pool/Volume Inventory Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions.

After you have executed a filter from the Pool/Volume Inventory Filter tab, and viewed the result set of information in the Pool/Volume Inventory Detail tab, you can click the Summary tab. A result set appears in the Pool/Volume Inventory Summary tab. The Summary tab contains a General sub-tab with various types of information.

**Table 1.16: Inventory General Summary**

Column Name	Description
Model	Displays the device model.
Model Count	Lists the number of devices in this category.

## Short List Component

The Short List component provides the ability to indicate the current configuration of the storage environment without having to create a detail listing. The display contains all devices behind a specific channel path or channel path ID associated with either a single device or a range of devices.

### Pool/Volume Short List Filter Tab

The Pool/Volume Short List Filter tab provides specific information about the current configuration of the storage environment. You can create a filter for pool/volume short list by using values within the filter tab. Use the drop-down list options to define parameters for this filter. Select the Not checkbox to apply a logical Exclude to the selected option. Pool/Volume Short List filters are grouped alphabetically on the Filters pane as follows:

**Table 1.17: Pool/Volume Short List Filters**

Field Name	Lets you filter for...
Address	<p>Volume serial numbers by individual address. Returns only those addresses that are online. If this is the only criterion selected in the filter tab, all volumes that are available to the operating system through the specified addresses are returned.</p> <ul style="list-style-type: none"> <li>Greater Than <i>0300</i> Less Than <i>303F</i> returns all addresses within this range</li> <li>Equal <i>F130</i> returns address F130</li> <li>Equal <i>IAF</i> returns address 1AF</li> </ul>
Cache	<p>Datasets according to cache criteria when database was created</p> <ul style="list-style-type: none"> <li>Cache Fast Write returns datasets under Cache Fast Write when the database was built</li> <li>Track Caching returns datasets under Track Caching when the database was built</li> <li>DASD Fast Write returns datasets under DASD Fast Write when the database was built</li> <li>Not Under Cache returns datasets not under cache when the database was built</li> </ul>
Channel Path ID	<p>Volume serial numbers by individual channel path or ID. Returns only paths that are online to the volume.</p> <ul style="list-style-type: none"> <li>1A returns devices that are on CHPID 1A</li> <li>1* returns devices that are on CHPIDs that begin with 1</li> <li>¬1A * returns all devices except those that are on CHPID 1A</li> </ul>
Esoteric Names	<p>DASD pools by esoteric name</p> <ul style="list-style-type: none"> <li>SYSDA returns information for all devices that can be obtained by specifying UNIT=SYSDA for allocation in JCL</li> <li>SYS* returns information for all devices that have an Esoteric name that begins with SYS</li> </ul>
Index VTOC	<ul style="list-style-type: none"> <li>Volumes by VTOC status indicators: indexed or not-indexed VTOCs, depending on selected criterion.</li> <li>Indexed Only (ENA) returns only those VTOCs that are indexed</li> <li>Unindexed Only (DIS) returns devices that are either not indexed or disabled</li> </ul>

**Table 1.17: Pool/Volume Short List Filters**

Field Name	Lets you filter for..
Model	Volumes by device and model type <ul style="list-style-type: none"> <li>• 3390* returns all 3390 devices</li> <li>• 3390-3 returns only 3390 model 3 devices</li> <li>• ¬3390-3 returns all devices except 3390 model 3s</li> </ul>
Open DCBs	Volumes based on the number of open files or DCBs. This filter is useful when allocating space and predetermining usage contention. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>• Greater than 99 returns all volumes that have more than 99 open files or DCBs</li> </ul>
Storage Group	Detail and summary of datasets by storage group, according to query criteria. <ul style="list-style-type: none"> <li>• LARGE returns all datasets that are in the LARGE storage group</li> <li>• L* returns all datasets that are in a storage group that begins with L</li> </ul>
UCB Use	Volumes that have special-use attributes <ul style="list-style-type: none"> <li>• Allocated Only (A) returns all devices that are currently allocated</li> <li>• Online, Unallocated (O) returns all devices that are online but not allocated</li> <li>• Current IPL Volume (S) returns the current IPL volume</li> <li>• Active Page Volumes (P) returns all active page volumes</li> </ul>
Volume Pool	Volumes using the Volume Pool name, from 1 to 8 characters in length. Note: This field is user-created from the member POOLVOL, located in the PARMLIB library. <ul style="list-style-type: none"> <li>• PAYROLL returns all volumes assigned to the PAYROLL system or application</li> </ul>
Volume Serial	Volume serial number (Volser) associated with the dataset, according to filter criteria <ul style="list-style-type: none"> <li>• TEST01 returns only information contained on volume TEST01</li> <li>• T* returns all information contained on all volumes that begin with T</li> <li>• ¬T* excludes information that is contained on any volume that begins with T</li> <li>• P*,SY* returns all volumes that begin with P and SY</li> <li>• ¬P* show all volumes except those that begin with P</li> <li>• ¬P*,SYS* show all volumes except those that begin with P and SYS</li> </ul>

## Pool/Volume Short List Detail Tab

Pool/Volume Short List detail provides detailed information about the current configuration of the storage environment. The columns that appear in the Pool/Volume Short List Detail tab include the following:

**Table 1.18: Short List Detail Columns**

Column Name	Description
Address	Lists the device address of each volume.
Volume Serial	Displays the volume serial number that the dataset resides on.
Model	Displays the device model.
Cache	<ul style="list-style-type: none"> <li>Indicates whether the dataset was under cache when the database was built. Cache status of the specified device.</li> <li>+ in the first position indicates Fast Write is enabled</li> <li>+ in the second position indicates Track Caching is enabled</li> <li>+ in the third position indicates add DASD Fast Write is enabled</li> <li>--- devices are not cached</li> </ul>
Physical Pool	Lists how the volume is mounted where the associated dataset resides: private, storage, or public.
Storage Group	Lists datasets by storage group.
Index VTOC	Indicates whether the volume VTOC is indexed; also indicates whether the index VTOC is disabled.
Volume Status	Shows the current status of a volume.
Number Users	Shows the number of users for a particular volume.
Channel Path ID	Displays volume serial numbers by individual channel path or ID.
UCB Use	Indicates volumes with special use attributes
Open DCBs	The number of files that were open at the time of the snapshot. Indicates concurrent active users.

## Pool/Volume Short List Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions.

After you have executed a filter from the Pool/Volume Short List Filter tab, and viewed the result set of information in the Pool/Volume Short List Detail tab, you can click the Summary tab. A result set appears in the Pool/Volume Short List Summary tab.

The Summary tab contains a General sub-tab with various types of information. The columns for the General sub-tab include the following:

**Table 1.19: Short List General Summary**

Column Name	Description
Model	Displays the device model.
Model Count	Lists the number of devices in this category.

# Logical Pools Component

## To view the Pool/Volume Logical Pools Filter Tab:

- 1 Expand the Pool/Volume Tree View pane and double-click Logical Pools.
- 2 Select the pool type from the Pool Type drop-down list.

Note: Select the Not checkbox to apply a logical Exclude to the selected option.

- 3 Click Save and type a name in the Save View As dialog (optional), or Click Execute.
- 4 The selected pool type and its members display in the Zoom tab.

## Pool/Volume Logical Pools Zoom

The Logical Pools Zoom information is displayed after you select the pool type and execute filters from the Pool/Volume Logical Pools filter tab. The Logical Pools information displayed here features a wealth of information about logical pools as well as cost. You can display this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

You can zoom from Pool Utilization information to volume detail displayed on the Zoom Volume tab.

**Table 1.20: Logical Pools Zoom Columns**

Column Name	Description
Pool Name	Displays the name assigned to the volume pool.
Count	Lists the number of candidate volumes for this dataset.
Percent Used	Percentage that is currently allocated.
Percent Free	Displays the percentage of free space for an associated dataset.
Allocated (unit)	Lists the total allocation of space by unit (megabytes, gigabytes, tracks and so on).
Used (unit)	Displays the total allocation of space by unit that the dataset has used (megabytes, gigabytes, tracks and so on).
Free (unit)	Displays the amount of allocated but unused (free) storage in this category.
ML1 DASD Allocated	Number of megabytes, gigabytes, or tracks allocated to migration level 1.
ML1 Backup Allocated	Number of megabytes, gigabytes, or tracks allocated for backup to migration level 1.
ML1 DASD Used	Number of megabytes used in migration level 1.
ML1 DASD Free	Number of megabytes free in migration level 1.
ML2 DASD Allocated	Number of megabytes allocated to migration level 2.
CI Splits	Number of control interval splits for a pool. This column information only applies to VSAM databases.
ML2 DASD Free	Number of megabytes free in migration level 2.
CA Splits	Number of control access splits for a volume pool. This column information only applies to VSAM databases.
ML2 DASD Used	Number of megabytes used in migration level 2.
ML1 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 1.

**Table 1.20: Logical Pools Zoom Columns (Continued)**

Column Name	Description
ML2 Tape Used	Number of megabytes used by tapes in migration level 2.
ML2 Tape Allocated	Number of megabytes of tape capacity in migration level 2.
ML2 Tape Free	Number of megabytes free in tapes that reside in migration level 2.
Backup Tape Allocated	Number of megabytes allocated to backup tapes.
Backup Tape Free	Number of megabytes free in backup tapes.
Dump Tape Used	Number of megabytes used by dump tapes.
Backup Tape Used	Number of megabytes used by backup tapes.
Tape Allocated	Number of megabytes of tape capacity.
Dump Tape Allocated	Capacity of dump tapes in megabytes.
ML1 Percent Used	Percent of space used in migration level 1.
Backup DASD Percent Used	Percent of space used in backups.
Tape Free	Number of megabytes with space free in tape.
ML1 Percent Free	Percent of space free in migration level 1.
Dump Tape Free	Number of megabytes free in dump tapes.
Tape Used	Number of megabytes used by tape.
ML2 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 2.
Total Allocated	Total number of megabytes.
ML2 DASD Percent Used	Percent of space used in migration level 2.
ML2 DASD Percent Free	Percent of space free in migration level 2.
ML2 Tape Volume/ Dataset Count	Number of tapes used in migration level 2.
ML2 Tape Percent Used	Percent of used space by tapes in migration level 2.
ML2 Tape Percent Free	Percent of space free in tapes that reside in migration level 2.
Backup Tape Volume/ Dataset Count	Number of tape backups.
Backup Tape Percent Used	Percent of space used in backups.
Backup Tape Percent Free	Percent of space free in backups.
Dump Tape Volume/ Dataset Count	Number of dump tapes.
Dump Tape Percent Used	Percent of dump tapes that are used.
Dump Tape Percent Free	Percent of dump tapes that are free.
Tape Volume/Dataset Count	Number of tapes.
Tape Percent Used	Percent of tapes that are used.
Tape Percent Free	Percent of tapes that are free.
Total Cost of DASD	Cost of DASD. The cost is derived from the TSF Settings.
Total Cost of HSM	Cost of HSM.
Total Cost of Tape	Cost of tape.
Total Volume/Dataset Count	The total number of files or volumes, depending on the type of pool.
Total Cost	Total cost of DASD, tape, and HSM.

**Table 1.20: Logical Pools Zoom Columns (Continued)**

Column Name	Description
Pool Type	Displays the user-defined volume pool type.
Pool Type Description	Displays the user-defined volume pool associated with the dataset.

## Zoom Volume

### To zoom to volume detail:

- 1 Select and right-click the pool name that you want to list (your selection is indicated by a yellow outline).
- 2 From the floating menu that displays, select **Zoom Volume**.
- 3 The zoomed volumes display in the **Zoom** tab. Zoom history selection is available from the drop-down list at the top and results display in the **Zoom Volume** view at the bottom. Graph information is also displayed



## CHAPTER

# 2

## DATASETS

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Datasets is designed to analyze the entire environment and provide views at a summary and detail level about the status of all datasets in the environment.

Six sections are comprised under the **Datasets** umbrella: Detail, Threshold, Logical Pool, Candidate, Multi Volume and Logical Pools. Each section has a tab for Detail, Summary, Filter, Sort, and Column Selection. These sections help you to evaluate, sort, and report on user-selected datasets. Dataset detail and summary data can be produced in a report or exported as a flat file.

## Filter Groups

You can create a filter for datasets by specifying regular expressions or other values within the filter groups. Use the drop-down list options Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, or Between and type the appropriate values in the text field to define parameters for the filter. Typed filter values are not case sensitive. Multiple values must be separated by commas. If applicable, you can also select the Not checkbox to apply a logical Exclude to the selected option. Shift-6 adds the exclude symbol to the Regular Expression text field.

### Attributes Filter Group

The following is a list of fields that are available for the Attributes filter group.

**Table 2.1: Attributes Filters**

Field Name	Lets you filter for...
Address	Volume serial numbers by individual address. Returns only those addresses that are online. If this is the only criterion selected in the filter tab, all volumes that are available to the operating system though the specified addresses are returned. <ul style="list-style-type: none"> <li>• Greater Than <i>0300</i> Less Than <i>303F</i> returns all addresses within this range</li> <li>• Equal <i>F130</i> returns address F130</li> <li>• Equal <i>IAF</i> returns address IAF</li> </ul>
Block Size	Block size of datasets that reside in a volume
Candidate Volume	Datasets that are or are not associated with a candidate volume <ul style="list-style-type: none"> <li>• Has Candidate Volume returns all datasets associated with a candidate volume</li> <li>• No Candidate Volume returns all datasets NOT associated with a candidate volume</li> </ul>
Cache	Datasets according to cache criteria when database was created <ul style="list-style-type: none"> <li>• Cache Fast Write returns datasets under Cache Fast Write when the database was built</li> <li>• Track Caching returns datasets under Track Caching when the database was built</li> <li>• DASD Fast Write returns datasets under DASD Fast Write when the database was built</li> <li>• Not Under Cache returns datasets not under cache when the database was built</li> </ul>
Catalog	Status--cataloged, not-cataloged, cataloged duplicates, not-cataloged duplicates. Note: options *E and NE are available only when using job BLDUCBMT to build the database; NC option is valid only if the catalog option was specified as Y in the batch database build job. VE returns all orphaned VVR entries found in the VVDS. <ul style="list-style-type: none"> <li>• All Uncataloged Datasets (NC) returns all datasets that are not cataloged</li> </ul>

**Table 2.1: Attributes Filters**

Field Name	Lets you filter for...
Catalog Name	<p>Dataset name of the catalog that the dataset is cataloged in, according to query criteria.</p> <ul style="list-style-type: none"> <li>CATALOG.VPROD01 returns all datasets cataloged in this catalog</li> <li>CAT*.* returns all datasets cataloged in catalogs starting with CAT</li> </ul>
Catalog/VDDS Compare	<p>Cataloged datasets whose catalog name in the VVDS differs from the actual cataloged name of the dataset. This option is effective only if the database was built using the CATLOG(Y) option in SFBLDMST. The new build, BLDUCBMT, defaults to Y. Also, this option is effective for all SMS-controlled datasets. If non-SMS-controlled, only VSAM datasets are returned.</p> <ul style="list-style-type: none"> <li>Different Catalog Name in VVDS (Y) returns all cataloged datasets that have a catalog name in the VVDS different from catalog name</li> </ul>
Dataset Name	<p>Dataset names according to query criteria. A dataset name can be up to 44 characters in length.</p> <ul style="list-style-type: none"> <li>SYS1.PARMLIB returns all SYS1.PARMLIB datasets</li> <li>SYS1.* returns all datasets that begin with SYS1.</li> <li>SYS1.*.*.D*.* returns all datasets that begin with SYS1 except those that have a second-level qualifier that contains a D.</li> </ul>
Dataset Organization	<p>Datasets by organization type--for example, PDS for partitioned datasets. Note: Only PS datasets in the user's environment are returned.</p> <ul style="list-style-type: none"> <li>PDS returns partitioned datasets</li> <li>Physical Sequential returns only physical sequential datasets</li> <li>VSAM returns only VSAM datasets</li> <li>VSAM Extended returns only VSAM extended datasets</li> <li>VSAM Extended Addr returns only VSAM extended-address datasets</li> <li>Unknown Dataset returns only unknown datasets</li> <li>Invalid Format 1 DSCB returns all datasets that have an invalid format 1 DSCB</li> <li>ICF Catalog returns all ICF catalogs</li> <li>Direct Access returns all direct access datasets</li> <li>HFS Files returns all HFS datasets</li> <li>PDSE Files returns all PDSE datasets</li> <li>DB2 Files returns all DB2 datasets</li> <li>ZFS Files returns all ZFS datasets</li> <li>Unmovable PDS returns all unmovable PDS datasets</li> <li>Unmovable PS all unmovable PS datasets</li> <li>All Unmovable Files all unmovable datasets</li> </ul>
Device Type	<p>Datasets by device type.</p> <ul style="list-style-type: none"> <li>3380* returns all datasets on 3380 devices</li> <li>3390-3* all datasets on 3390 model 3s</li> <li>¬3380* returns all datasets except those that are on 3380s</li> </ul>

**Table 2.1: Attributes Filters**

Field Name	Lets you filter for...
Directory Block Maximum	
Directory Block Used	
Logical Pool	<p>Datasets by user-defined logical pools</p> <ul style="list-style-type: none"> <li>• PAYROLL all datasets that have been assigned to the PAYROLL system or application</li> </ul>
Logical Record Length	<p>Datasets by logical record length. Valid numeric entries for the text field are from 0 to 99999.</p> <ul style="list-style-type: none"> <li>• Equal 80 returns all datasets that have a logical record length equal to 80</li> <li>• Greater Than 80 returns all datasets that have a logical record length longer than 80</li> <li>• Less Than 80 returns all datasets that have a logical record length less than 80</li> </ul>
Model	<p>Datasets by model type.</p> <ul style="list-style-type: none"> <li>• 3390* returns all 3390 devices</li> <li>• 3390-3 returns only 3390 model 3 devices</li> <li>• -3390-3 returns all devices except 3390 model 3s</li> </ul>
Multi-Volume	<p>Datasets stored across multiple volumes</p> <ul style="list-style-type: none"> <li>• Multivolume Datasets (Y) returns all multivolume datasets</li> </ul>
Physical Pool	<p>Information by device mount attribute</p> <ul style="list-style-type: none"> <li>• Devices mounted as Private (PRIV) returns all datasets on devices mounted as private</li> <li>• Devices mounted as Storage (STRG) returns all datasets on devices mounted as storage</li> <li>• Devices mounted as Public (PUB) returns all datasets on devices mounted as public</li> </ul>
Record Format	<p>Datasets by record format criteria.</p> <ul style="list-style-type: none"> <li>• Fixed Blocked (FB) returns fixed blocked datasets</li> <li>• Fixed (F) returns fixed datasets</li> <li>• Variable (V) returns variable datasets</li> <li>• Variable Blocked (VB) returns variable blocked datasets</li> </ul>
System ID	<p>Databases from different systems. You can select any given system by providing the SMF system ID in this field. It is user-dependent. The default is all systems.</p> <p>THO3 returns system whose SMS ID is TH03</p>

**Table 2.1: Attributes Filters**

Field Name	Lets you filter for...
Volume Pool	<p>Volumes using the Volume Pool name, from 1 to 8 characters in length.</p> <p>Note: This field is user-created from the member POOLVOL, located in the PARMLIB library.</p> <p>PAYROLL returns all volumes assigned to the PAYROLL system or application</p>
Volume Serial	<p>Volume serial number (Volser) associated with the dataset, according to filter criteria.</p> <ul style="list-style-type: none"> <li>• TEST01 returns only information contained on volume TEST01</li> <li>• T* returns all information contained on all volumes that begin with T</li> <li>• ¬T* excludes information that is contained on any volume that begins with T</li> <li>• P*,SY* returns all volumes that begin with P and SY</li> <li>• ¬P* show all volumes except those that begin with P</li> <li>• ¬P*,SYS* show all volumes except those that begin with P and SYS</li> </ul>

## Space Filter Group

The following is a list of fields that are available for the Space filter group. To filter for space across all components of multivolume datasets, use Space filters in conjunction with the Multi-Volume filter from the Attributes group.

**Table 2.2: Space Filters**

Field Name	Lets you filter for...
Allocated Space	<p>Number of bytes allocated for this dataset or number of allocated bytes that dataset has used.</p> <ul style="list-style-type: none"> <li>• Between 150 and 1500 returns all datasets that are greater than 10 cylinders but less than 100 cylinders (useful in determining DFSMS Storage Group sizes).</li> <li>• Equal 0 Less Than 999999999 returns datasets that are 0 to 999999999 in either tracks or megabytes depending on the option and unit selected</li> </ul>
Allocation Type	<p>Datasets based on the allocation type, according to query criteria.</p> <ul style="list-style-type: none"> <li>• Allocated in Tracks (T) returns all datasets that were allocated in tracks</li> <li>• Allocated in Cylinders (C) returns all datasets that were allocated in cylinders</li> <li>• Allocated in Blocks (B) returns all datasets that were allocated in blocks</li> </ul>

**Table 2.2: Space Filters**

Field Name	Lets you filter for...
Allocated Tracks	<p>Total megabytes allocated for each dataset by organization type.</p> <ul style="list-style-type: none"> <li>Between <i>150</i> and <i>1500</i> returns all datasets that are greater than 10 cylinders but less than 100 cylinders (useful in determining DFSMS Storage Group sizes.)</li> <li>Equal <i>0</i> Less Than <i>999999999</i> returns datasets that are 0 to 999999999 in either tracks or megabytes depending on the option and unit selected</li> </ul>
Extents on Volser	<p>Number of extents that a dataset is on, according to query parameters. Valid numeric entries for the text field are from 0 to 999.</p> <ul style="list-style-type: none"> <li>Greater Than 100 returns all datasets that are in 101 or more extents</li> </ul>
Percent Free	<p>Volumes or datasets by size and range according to space used. A range is useful in determining DFSMS Storage Group sizes. Valid numeric entries for the text field are from 0 to 100 percent.</p>
Unused Space-Kilobytes	<p>Datasets based on bad block size versus optimum blocksize. Valid numeric entries for the text field are from 0 to 999999999 in kilobytes of unused space (K= 1024).</p> <p>Note: To obtain the optimum block size and calculate waste, a PARM has been added to BLDUCBMT called UnusedKB= . The default value for this PARM is N and must be set to Y.</p> <ul style="list-style-type: none"> <li>Greater Than 150 returns all datasets that have unused space in kilobytes (K=1024) greater that 150k</li> </ul>
Used Space	<p>Volumes or datasets by size and range according to space used. Valid numeric entries for the text field are from 0 to 100 percent.</p> <ul style="list-style-type: none"> <li>Greater Than 80 returns volumes or volume pools that are more than 80% allocated</li> </ul>
Used Tracks	<p>Total megabytes being used in dataset organization.</p> <ul style="list-style-type: none"> <li>Between <i>150</i> and <i>1500</i> returns all datasets that are greater than 10 cylinders but less than 100 cylinders (useful in determining DFSMS Storage Group sizes.)</li> <li>Equal <i>0</i> Less Than <i>999999999</i> returns datasets that are 0 to 999999999 in either tracks or megabytes depending on the option and unit selected</li> </ul>

## GDG Filter Group

The following is a list of fields that are available for the GDG filter group.

**Table 2.3: GDG Filters**

Field Name	Lets you filter for...
Deferred GDG	Datasets according to status relative to deferred GDG. Three drop-down lists are provided for this filter type: <ul style="list-style-type: none"> <li>• All</li> <li>• All Deferred GDG returns all datasets that are Deferred GDG</li> <li>• All Non-GDG returns all datasets that are not GDG</li> </ul>
GDG	Datasets according to status relative to GDG. Three drop-down lists are provided for this filter type: <ul style="list-style-type: none"> <li>• All</li> <li>• All GDG returns all data sets that are GDG</li> <li>• All Non-Deferred GDG returns all datasets that are not Deferred GDG</li> </ul>
Relative GDG Number	
Relative Generation Number	GDG datasets according to the generation-number query criteria. Valid numeric entries for the text field are from 0 to 999999999. Greater Than 10 returns all datasets that more than 10 relative generation numbers
Rolled Off GDG	Datasets according to status relative to rolled-off GDG. Three drop-down lists are provided for this filter type: <ul style="list-style-type: none"> <li>• All</li> <li>• All Rolled Off GDG returns all datasets that are Rolled Off GDG</li> <li>• All Non-Rolled Off GDG returns all datasets that are not Rolled Off GDG</li> </ul>

## RVA Filter Group

The following is a list of fields that are available for the RVA filter group.

**Table 2.4: RVA Filters**

Field Name	Lets you filter for...
RVA	Whether the dataset is on or is <i>not</i> on an RVA device. Note: For datasets residing on RVA devices, if the MB display option is selected, actual MB used on the RVA device displays. <ul style="list-style-type: none"> <li>• Datasets on an RVA Device returns datasets on an RVA device</li> <li>• Datasets not on an RVA Device returns datasets not on an RVA device</li> </ul>
RVA Compression Ratio	Amount of space reclaimed by compression on RVA DASD versus that which the dataset would occupy if it were on a non-RVA device. Returns the RVA compression ratio for datasets on RVA devices, according to query criteria. Valid numeric entries for this field are from 0 to 9999. < 20 returns all RVA datasets that have a compression ratio less than 20

## SMS Filter Group

You can create a filter for datasets by using regular expressions or other values within the SMS filter group. The following is a list of fields that are available for the SMS filter group.

**Table 2.5: SMS Filters**

Field Name	Lets you filter for...
SMS: Controlled	Detail and summary information of all datasets by DFSMS-controlled status. <ul style="list-style-type: none"> <li>• (All) default; returns all datasets</li> <li>• Controlled by DFsms returns all datasets controlled by DFSMS</li> <li>• SMS Extended Datasets returns all SMS extended datasets</li> <li>• SMS Compressed Datasets returns all SMS compressed datasets</li> <li>• SMS Extended Datasets returns all SMS extended datasets</li> <li>• NOT Controlled by DFSMS returns all datasets not controlled by DFSMS</li> </ul>
SMS: Data Class	Detail and summary information for datasets by data class, according to query criteria. <ul style="list-style-type: none"> <li>• DAY90 returns all datasets that are assigned a Data Class of Day90</li> <li>• D* returns all datasets that have a Data class assigned that begins with the letter D</li> <li>• UNASSIGN returns all DFSMS datasets that do not have a Data Class assigned</li> </ul>
SMS: Management Class	Detail and summary information for datasets by management class, according to query criteria. <ul style="list-style-type: none"> <li>• MIG90 returns all datasets that are assigned a Management Class of MIG90</li> <li>• A* returns all datasets that have a Management Class that begins with an A</li> <li>• UNASSIGN returns all DFSMS datasets that do not have a Management Class assigned</li> </ul>
SMS: Storage Class	Detail and summary information for datasets by storage class, according to query criteria. <ul style="list-style-type: none"> <li>• TSOSM returns all datasets that are in the TSOSM storage class</li> <li>• T* returns all datasets that are in a storage class that begins with T</li> </ul>
SMS: Storage Group	Detail and summary of datasets by storage group, according to query criteria. LARGE returns all datasets that are in the LARGE storage group L* returns all datasets that are in a storage group that begins with L

## Dates Filter Group

You can create a filter for datasets by using values within the Dates filter group.

### To create a dates filter:

- 1 Select a Dates field from the filter pane.
- 2 Select an operator from the first drop-down list such as Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, or Between.
- 3 Select Date, Days Ago, or Date Attribute from the Date selection drop-down list (far right).
  - a If you select Date  
Click the middle drop-down list to display the calendar and use the navigational arrows to select the date and populate the field.
  - b If you select Days Ago  
Provide the appropriate values in the text field to define parameters for the filter, for example, a numeric value representing the number of days.
  - c If you select Date Attribute  
Select another date field from the middle drop-down list to compare against the currently selected Date filter. For example, if you are filtering on the Create date and you select Date Attribute, you can then select another Date field (such as Expiration Date) to compare against Create Date. In this example, you can create a filter like Create Date equals Expiration Date.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

The following is a list of fields that are available for the Dates filter group.

**Table 2.6: Dates Filter Group**

Field Name	Lets you filter for...
Backup Date	Datasets by backup date or number of days since backup.
Create Date	Datasets by file creation date or the number of days since file creation.
Expiration Date	Datasets by expiration date or number of days since expiration.
Last Referenced Date	Datasets by last referenced date or number of days since expiration.

## VSAM Filter Group

The following is a list of fields that are available for the VSAM filter group.

**Table 2.7: VSAM Filters**

Field Name	Lets you filter for...
Alternate Index	VSAM datasets that contain an alternate index. Use the drop-down list options to create a query in this field. Contains an Alternate Index returns all datasets that have an alternate index
Average Record Length	<ul style="list-style-type: none"> <li>Less Than 2870 returns all datasets that have an average record length of more than 2870 bytes</li> <li>Between 0 to 999999 returns datasets that have an average record length between 0 and 999999, inclusive</li> </ul>
Cluster Name	Valid VSAM cluster names. If an address range (high- To low-end) is queried, an edit mask cannot be used. <ul style="list-style-type: none"> <li>SYS1.** returns all VSAM datasets that begin with SYS1</li> <li>-SYS1.** excludes all VSAM datasets that begin with SYS1</li> </ul>
Control Area Percent Free	Datasets according to control-area filter criteria. Valid numeric entries for the text field are any number from 0 to 100 percent. Greater Than 10 returns all datasets that contain a control area size with 10-percent free space or more
Control Area Splits	Control-area splits information, according to query criteria. Valid numeric entries for the text field are from 0 to 999999999. Less Than 20 returns VSAM datasets with fewer than 20 control-area splits
Control Intervals per Control Area	Valid numeric entries for the text field are from 0 to 99999. Greater Than 8 returns all datasets that contain more than 8 control intervals per control area
Control Interval Percent Free	Datasets that contain control free space according to query criteria. Valid numeric entries for the text field are any number from 0 to 100 percent. Greater Than 10 returns all datasets that contain a control free space of 10 percent or more
Control Interval Size	Control-interval size in bytes, according to filter criteria. Valid numeric entries for the text field are from 0 to 99999. Greater Than 100 returns all datasets that contain a control interval size more than 100 bytes in length
Control Interval Splits	Control-interval splits information, according to query criteria. Valid numeric entries for the text field are from 0 to 999999999. Greater Than or Equal To 32 returns VSAM datasets with 32 or more CI splits
Erase	VSAM datasets that were created with the ERASE option specified. Created with the Erase Option (Y) returns datasets that were created with the ERASE option
High Allocated RBA	
High Key RBA	
High Used RBA	
Key Length	

**Table 2.7: VSAM Filters**

Field Name	Lets you filter for...
Imbed	VSAM datasets that were created with imbedded keys. Contains Imbedded Keys returns VSAM datasets that were created with imbedded keys
Indexed VSAM	VSAM datasets that are index components. Includes Files That are Indexes returns all files that are index components
Maximum Record Length	Datasets by maximum record length. Valid numeric entries for the text field are from 0 to 999999. Greater Than 2870 returns all datasets that have an average record length of more than 2870 bytes
Minimum Buffer Size	
Multi-Volume Extents	
Number of Buffers	
Number of Members	
Number of Records Retrieved	Number of records retrieved in the VSAM dataset. Valid numeric entries for the text field are from 0 to 999999999. Greater Than 1000000 returns all datasets that have retrieved more than 1 million records
Number of Records Updated	Number of records updated in the VSAM dataset. Valid numeric entries for the text field are from 0 to 999999999. Greater Than 1000000 returns all datasets that have updated more than 1 million records
Numbered Index Level	
Open when DB Built	Datasets that were open when the VSAM database was built. Open at DB Build Time (Y) returns only those datasets that were open when VSAM database was built.
Page Size	
Page Total	
Page Used	
Primary Allocation	Information on VSAM datasets by primary allocation, according to query criteria. Valid numeric entries for the text field are from 0 to 99999. Greater Than 15 returns datasets that have more than 15 primary allocations
Relative Key Position	
Replicate	VSAM datasets that were defined with REPLICATE. Contains Replicated Keys returns VSAM datasets that contain replicated keys
Reuse	VSAM datasets that were created with the REUSE option specified. Specified with the Reuse Option returns VSAM datasets that were created with the REUSE option
Secondary Allocation	VSAM datasets by secondary allocation, according to query criteria. Valid numeric entries for the text field are from 0 to 99999. Greater Than 3 returns datasets with more than 3 secondary allocations
Share Options	Datasets by Cross Region Share option. Valid numeric entries for the text field are 1,2,3,4. <ul style="list-style-type: none"> <li>• 3 returns only type 3 sharing VSAM datasets</li> <li>• 2 returns only type 2 sharing VSAM datasets</li> </ul>

**Table 2.7: VSAM Filters**

Field Name	Lets you filter for...
Spanned	VSAM datasets that were created with the SPANNED option specified. Specified with the Span Option returns all datasets that were created with the SPAN option
Speed	Datasets that were created with the SPEED option specified. Specified with the Speed Option returns only datasets that were specified with the SPEED Option
Synchronization Error	Datasets that have had a synchronization error since the last close of the dataset. Had a Synchronization Error Since Last Close (Y) returns only those datasets that have had an error
Total Number of EXCPs	Datasets by the total number of exceptions. Valid numeric entries for the text field are from 0 to 999999999. Greater Than 30 returns all datasets that have more than 30 associated exceptions
Total Records	Total number of records in a dataset according to the query criteria. Valid numeric entries for the text field are from 0 to 999999999. Greater Than 10 returns all datasets that contain more than 10 records
Total Records Deleted	Number of records deleted in the VSAM dataset. Valid numeric entries for the text field are from 0 to 999999999. Greater Than 1000000 returns all datasets that have deleted more than 1 million records
Total Records Inserted	Number of records inserted in the VSAM dataset. Valid numeric entries for the text field are from 0 to 999999999. Greater Than 1000000 returns all datasets that have inserted more than 1 million records
Verify Required	Datasets that require that a VERIFY be run before the dataset can be opened. Requires Verification returns only those datasets that require verification
VSAM	
VSAM: Type	Datasets by VSAM type. Use the drop-down list options: All, Keyed Sequence Data Sets, Entry Sequence Data Sets, Relative Record Data Sets, or Linear VSAM Data Sets and select the appropriate values from the VSAM subset filters to define parameters. <ul style="list-style-type: none"> <li>• Keyed Sequence Data Sets returns only keyed sequence datasets</li> <li>• Entry Sequence Data Sets returns only entry sequence datasets</li> <li>• Relative Record Data Sets returns all relative record datasets</li> <li>• Linear VSAM Data Sets returns all linear VSAM datasets (DB2)</li> </ul>
Write Check	VSAM datasets that were created with the WRITE CHECK option specified. Specified with the Write Check Option returns only datasets that were specified with the WRITE CHECK option

## Detail Component

The Datasets Detail component provides detailed information about all datasets in the environment. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

### Datasets Detail Filter Tab

The Datasets Detail Filter tab allows you to view detailed information about all datasets in the environment. All Datasets Detail filters are grouped alphabetically on the Filters pane. See Filter Groups, page 2-2.

### Datasets Detail Tab

After the Datasets Detail filter is executed, a result set of information appears in the Datasets Detail tab. Datasets Detail tab provides detailed information about all datasets in the environment. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

#### To view Datasets detail:

- 1 From Datasets located in the Tree View pane, execute a filter in the Detail filter tab.  
— or —
- 2 In the Tree View pane, expand Datasets and double-click the Detail node.

**Table 2.8: Datasets Detail Column Descriptions**

Column Name	Description
Dataset Name	Lists the dataset name (can be up to 44 characters in length).
Volume Serial	Name of the volume serial that is on tape.
Percent Used	Lists datasets with the allocated percentage.
Dataset Organization	Identifies the dataset organization.
Record Format	Displays the record format for the associated dataset.
Logical Record Length	Displays the logical record length of the dataset.
Block Size	Contains the block size for the associated dataset.
Extents On Volser	Displays the number of extents that a dataset occupies on the associated volume. Must be queried in conjunction with the Multivolume filter to reflect multivolume datasets.
SMS: Controlled	Indicates whether a dataset is SMS-managed.
Catalog	Displays catalog status: cataloged, not-cataloged, cataloged duplicates, not-cataloged duplicates. The asterisk (*) indicates a duplicate dataset of that status. <b>Note:</b> Options *E and NE are available only when job BLDUCBMT is used to build the database.
Create Date	Date that the dataset was created; provides the ability to evaluate datasets based on creation date.
Last Referenced Date	Displays the last reference date of the associated dataset.
Backup Date	Date that the dataset was backed up; provides the ability to evaluate datasets based on backup date.
SMS: Storage Class	Displays the SMS storage class associated with the dataset.

**Table 2.8: Datasets Detail Column Descriptions**

Column Name	Description
SMS: Data Class	Displays the SMS data class associated with the dataset.
SMS: Management Class	Displays the SMS management class associated with the dataset.
SMS: Storage Group	Lists datasets by storage group.
Volume Pool	Displays the user-defined volume pool associated with the dataset.
Model	Displays the device model.
Cache Indicator	Indicates whether the dataset was under cache when the database was built.
RVA	Indicates whether a dataset is under the control of an RVA device.
Address	Displays the unit address of the volume serial that the dataset resides on
Candidate Volume	Indicates whether that dataset has an associated candidate volume.
System ID	Lists the SMF system ID on which TSF is running or the name of the system where activity took place.
GDG	Indicates whether GDG or non-GDG dataset.
Rolled Off GDG	Indicates whether rolled-off GDG or not rolled-off GDG dataset.
Deferred GDG	Indicates whether deferred GDG or non-deferred GDG dataset.
Relative GDG Number	Lists the relative generation number associated with a GDG file.
Relative Generation Number	Lists GDG dataset generation number, depending on query criteria.
Ext DS	Indicates whether this is an extended dataset.
Ext Cmp	Indicates whether this is an extended compressed dataset.
Cmp Mtd	Indicates compressed method for this dataset.
Cmprs Ratio	Indicates the SMS compression ratio for datasets that reside on devices other than RVA. The number shows the amount of space reclaimed by compression, as opposed to what the dataset would occupy if it were not compressed.
Expiration Date	Date that the dataset expires; provides the ability to evaluate datasets based on expiration date.
Stripe Count	Indicates the number of stripes used when writing this dataset to disk if stripe technology was used.
Opt Blksz	Identifies the optimum block size.
Multi-Volume	Displays multivolume datasets according to query criteria, multivolume, or first file of a multivolume dataset, second file of a multivolume dataset, and so on.
Percent Free	Displays the percentage of free space for an associated dataset. When displayed in the Summary tab, it displays the free space within the category (free space divided by total space).
Catalog Name	Displays the datasets defined in the catalog.
Catalog/VVDS Compare	Provides the ability to locate all cataloged datasets that have a cataloged name in the VVDS that is different from the catalog name.
Directory Block Maximum	Displays the VSAM type of the associated dataset.
Directory Block Used	Displays the VSAM type of the associated dataset.
Number of Members	Displays the VSAM type of the associated dataset.
Page Total	Lists the total number of pages.
Page Used	Displays the number of pages used.
Page Size	Displays the size of the page.

**Table 2.8: Datasets Detail Column Descriptions**

Column Name	Description
VSAM	Indicates whether the dataset is a VSAM dataset.
VSAM: Type	Displays the VSAM type of the associated dataset.
Control Interval Splits	Displays the number of control intervals for the associated dataset.
Control Area Splits	Displays the number of control-area splits associated with the dataset.
Primary Allocation	Displays the amount of the primary allocation for the associated dataset.
Secondary Allocation	Provides information on VSAM datasets relative to secondary allocation space.
Allocation Type	Displays the allocation attribute that the associated dataset was allocated with.
Physical Pool	Lists how the volume is mounted where the associated dataset resides: private, storage, or public.
Unused Space-Kilobytes	Displays unused space in KB, based on bad block size versus optimum block size.
RVA Compression Ratio	Indicates the RVA compression ratio for datasets that reside on RVA devices. The number shows the amount of space reclaimed by compression on the RVA DASD, as opposed to what the dataset would occupy if it were on a non-RVA device.
Allocated (Unit)	Displays the number of tracks, megabytes, or gigabytes that are allocated for this dataset.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Device Type	Displays datasets by device type. For example, 33903 - Shows all datasets on 3390 model 3's.
Share Options	Displays datasets by Cross Region Share option. Valid values: 1,2,3,4.
Control Interval Size	Displays control-interval size in bytes, according to filter criteria.
Control Interval Percent Free	Displays all datasets as a percentage of control interval free space, according to query criteria.
Control Area Percent Free	Displays all datasets as a percentage of control area free space, according to query criteria.
Total Records	Displays total number of records in a dataset according the query criteria.
Total Records Inserted	Displays the number of records inserted in the VSAM dataset.
Number of Records Updated	Displays the number of records updated in the VSAM dataset.
Total Records Deleted	Displays the number of records deleted in the VSAM dataset.
Indexed VSAM	Indicates whether VSAM datasets are index components.
Imbed	Indicates whether VSAM datasets were created with imbedded keys.
Reuse	Indicates whether VSAM datasets were created with the REUSE option specified.
Verify Required	Indicates whether datasets require that a VERIFY be run before the dataset can be opened.
Control Intervals per Control Area	Displays the number of control intervals per control area, according to filter criteria.
Average Record Length	Displays datasets having a logical record length that corresponds to the filter criteria (greater than, less than, equal to, and so on).

**Table 2.8: Datasets Detail Column Descriptions**

Column Name	Description
Maximum Record Length	Displays datasets by maximum record length.
Number of Records Retrieved	Displays the number of records retrieved in the VSAM dataset.
Total Number of EXCPs	Displays the total number of exceptions
Synchronization Error	Indicates whether datasets have had a synchronization error since the last close of the dataset.
Open when DB Built	Indicates whether VSAM datasets were open at the time the database was built.
Cluster Name	Displays valid VSAM cluster names. For example, SYS1 for all VSAM datasets that begin with SYS1.
High Allocated RBA	Displays the high allocated RBA for the dataset, in decimal format.
High Used RBA	Displays the high used RBA for the dataset, in decimal format.
High Key RBA	Displays the high key RBA for the dataset.
Key Length	Displays the length of the key.
Number of Buffers	Lists the number of buffers.
Minimum Buffer Size	Shows the minimum buffer size.
Relative Key Position	Shows the relative key position.
Numbered Index Level	Displays the index level for the dataset.
Speed	Indicates whether datasets were created with the SPEED option specified.
Spanned	Indicates whether VSAM datasets were created with the SPANNED option specified.
Alternate Index	Indicates whether VSAM datasets contain an alternate index.
Replicate	Indicates whether VSAM datasets were defined with REPLICATE.
Erase	Indicates whether VSAM datasets were created with the ERASE option specified.
Write Check	Indicates whether VSAM datasets were created with the WRITE CHECK option specified.
Logical Pool	Displays the logical pool name associated with the dataset.

## Datasets Detail Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions. After you have executed a filter from the Datasets Detail Filter tab, and viewed the result set of information in the Datasets Detail tab, you can click the Summary tab. A result set appears in the Datasets Detail Summary tab. The Summary tab contains the following nine sub-tabs with various types of information:

- General (Default tab)
- VSAM
- VSAM (SMS)
- Non-VSAM
- Storage Group
- Storage Class
- Data Class
- Management Class
- Volume Pool

**Table 2.9: Datasets Detail General Summary**

Column Name	Description
Dataset Organization	Identifies the dataset organization.
Amount	Displays the number of datasets in this category.
Percent Total	Displays the percentage of total dataset categories represented.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.10: Datasets Detail VSAM Summary**

Column Name	Description
VSAM Type	Displays the VSAM type of the associated dataset.
Amount	Displays the number of datasets in this category.
Percent Total	Displays the percentage of total dataset categories represented.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.11: Datasets Detail VSAM (SMS) Summary**

Column Name	Description
SMS Managed	Displays the number of SMS managed datasets in this category.
Non-SMS Managed	Displays the number of non-SMS managed datasets in this category.
Largest CA Splits	Displays the largest number of control-area splits associated with the datasets in this category.
Largest CI Splits	Displays the largest number of control-interval splits associated with the datasets in this category.
Largest Free Space (Unit)	Displays the largest total number of tracks, megabytes, or gigabytes that are free in this category.
Largest Extent	Displays the largest number of extents occupied on the associated volume in this category.

**Table 2.12: Datasets Detail Non-VSAM Summary**

Column Name	Description
Name	Lists datasets by non-VSAM type.
Amount	Displays the number of datasets in this category.
Percent Total	Displays the percentage of total dataset categories represented.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.13: Datasets Detail Storage Group Summary**

Column Name	Description
Name	Lists datasets by storage group.
Volumes	Shows the number of volumes associated with the datasets.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.14: Datasets Detail Storage Class Summary**

Column Name	Description
Name	Lists datasets by storage class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.

**Table 2.14: Datasets Detail Storage Class Summary**

Column Name	Description
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.15: Datasets Detail Data Class Summary**

Column Name	Description
Name	Lists datasets by data class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.16: Datasets Detail Management Class Summary**

Column Name	Description
Name	Lists datasets by management class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.17: Datasets Detail Volume Pool Summary**

Column Name	Description
Name	Lists datasets by the user-defined volume pool name.
Volumes	Shows the number of volumes associated with the datasets.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

## Threshold Component

The Threshold component provides the ability to view logical pool budget information according to thresholds defined in the Budget table.

### Datasets Threshold Filter Tab

The Datasets Threshold Filter tab allows you to perform analysis of logical pool budget information according to thresholds defined in the Budget table. All Datasets Threshold filters are grouped alphabetically on the Filters pane. See Filter Groups, page 2-2.

### Datasets Threshold Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions. After you have executed a filter from the Datasets Threshold Filter tab, and viewed the result set of information in the Threshold Detail tab, you can click the Summary tab. A result set appears in the Datasets Threshold Summary tab.

The Summary tab contains seven sub-tabs with various types of information. The sub-tabs include:

- General (Default tab)
- SMS
- Storage Group
- Storage Class
- Data Class
- Management Class
- Volume Pool

**Table 2.18: Datasets Threshold General Summary**

Column Name	Description
Name	Identifies the dataset organization.
Files	Displays the number of datasets in this category.
Total (Unit)	Displays the percentage of total dataset categories represented.

**Table 2.19: Datasets Threshold SMS Summary**

Column Name	Description
Name	Displays the number of SMS managed datasets in this category.
Total	Displays the number of non-SMS managed datasets in this category.
Total (Unit)	Displays the largest number of control-area splits associated with the datasets in this category.
Single Waste (Unit)	Displays the largest number of control-interval splits associated with the datasets in this category.
Largest Extent	Displays the largest number of extents occupied on the associated volume in this category.

**Table 2.20: Datasets Threshold Storage Group Summary**

Column Name	Description
Name	Lists datasets by storage group.
Volumes	Shows the number of volumes associated with the datasets.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.21: Datasets Threshold Storage Class Summary**

Column Name	Description
Name	Lists datasets by storage class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.22: Datasets Threshold Data Class Summary**

Column Name	Description
Name	Lists datasets by data class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.23: Datasets Threshold Management Class Summary**

Column Name	Description
Name	Lists datasets by management class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.

**Table 2.23: Datasets Threshold Management Class Summary**

Column Name	Description
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.24: Datasets Threshold Volume Pool Summary**

Column Name	Description
Name	Lists datasets by the user-defined volume pool name.
Volumes	Shows the number of volumes associated with the datasets.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

## Datasets Threshold Detail Tab

After the Datasets Threshold filter is executed, a result set of information appears in the Datasets Threshold Detail tab. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

### To view Datasets Threshold detail:

- 1 From Datasets located in the Tree View pane, execute a filter in the Threshold filter tab.  
— or —
- 2 In the Tree View pane, expand Datasets and double-click the Threshold node.

**Table 2.25: Datasets Threshold Detail Columns**

Column Name	Description
Logical Pool	Lists the name of the logical pool budget.
Files	Lists the number of files in this category.
Percent Total	Shows the total percent of files associated with the logical pool budget.
Budget Allocated Megabyte	Shows the logical pool budget in allocated megabyte size.
Percent Budget	Shows the total percent of the logical pool budget.
Allocated (Unit)	Lists allocation in (MB, GB, Tracks, Cost per MB) depending on the Units field.
Used (Unit)	Shows the used space of the logical pool budget in (MB, GB, Tracks, Cost per MB) depending on the Units field.
Free (Unit)	Shows the free space of the logical pool budget in (MB, GB, Tracks, Cost per MB) depending on the Units field.
Percent Free	Shows the percent of the logical pool budget that is free.
Days Left	Shows the number of days left.

## Logical Pool Component

The Logical Pool component can be used to find and review logical pool groupings and review pool-group member datasets.

### Datasets Logical Pool Detail Tab

After the Datasets Logical Pool filter is executed, a result set of information appears in the Datasets Logical Pool Detail tab. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

#### To view Datasets Logical Pool detail:

- 1 From Datasets located in the Tree View pane, execute a filter in the Logical Pool filter tab.  
— or —
- 2 In the Tree View pane, expand Datasets and double-click the Logical Pool node.

**Table 2.26: Logical Pool Detail Columns**

Column Name	Description
Dataset Name	Lists the dataset name (can be up to 44 characters in length)
Logical Pool	Displays the logical pool name associated with the dataset

### Datasets Logical Pool Filter Tab

The Datasets Logical Pool Filter tab allows you to view logical pool groupings and pool-group member datasets. All Datasets Logical Pool filters are grouped alphabetically on the Filters pane. See Filter Groups, page 2-2.

### Datasets Logical Pool Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions. After you have executed a filter from the Datasets Logical Pool Filter tab, and viewed the result set of information in the Datasets Logical Pool Detail tab, you can click the Summary tab. A result set appears in the Datasets Logical Pool Summary tab. The Summary tab contains the following five sub-tabs with various types of information:

- Storage Group
- Storage Class
- Data Class
- Management Class
- Volume Pool

**Table 2.27: Logical Pool Storage Group Summary**

Column Name	Description
Name	Lists datasets by storage group
Volumes	Shows the number of volumes associated with the datasets

**Table 2.27: Logical Pool Storage Group Summary**

Column Name	Description
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.28: Logical Pool Storage Class Summary**

Column Name	Description
Name	Lists datasets by storage class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.29: Logical Pool Data Class Summary**

Column Name	Description
Name	Lists datasets by data class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.30: Logical Pool Management Class Summary**

Column Name	Description
Name	Lists datasets by management class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used

**Table 2.27: Logical Pool Storage Group Summary**

Column Name	Description
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.28: Logical Pool Storage Class Summary**

Column Name	Description
Name	Lists datasets by storage class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.29: Logical Pool Data Class Summary**

Column Name	Description
Name	Lists datasets by data class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.30: Logical Pool Management Class Summary**

Column Name	Description
Name	Lists datasets by management class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used

**Table 2.30: Logical Pool Management Class Summary**

Column Name	Description
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.31: Logical Pool Volume Pool Summary**

Column Name	Description
Name	Lists datasets by the user-defined volume pool name
Volumes	Shows the number of volumes associated with the datasets
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

# Candidate Component

The Candidate component can be used to identify the potential candidate volumes associated with a non-SMS dataset but not yet allocated.

## Datasets Candidate Filter Tab

The Datasets Candidate Filter tab allows you to view potential candidate volumes associated with a non-SMS dataset but not yet allocated. All Datasets Candidate filters are grouped alphabetically on the Filters pane. See Filter Groups, page 2-2.

## Datasets Candidate Detail Tab

After the Datasets Candidate filter is executed, a result set of information appears in the Datasets Candidate Detail tab. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

### To view Datasets Candidate detail:

- 1 From Datasets located in the Tree View pane, execute a filter in the Candidate filter tab.  
— or —
- 2 In the Tree View pane, expand Datasets and double-click the Candidate node.

**Table 2.32: Datasets Candidate Detail Columns**

Column Name	Description
Dataset Name	Lists the dataset name (can be up to 44 characters in length)
Count	Dataset count
Volume Serial	Volume serial number candidate associated with the dataset
Volume Serial (2)	Second volume serial number candidate associated with the dataset
Volume Serial (3)	Third volume serial number candidate associated with the dataset

## Datasets Candidate Summary Tab

Summary information is key to management reporting and should be used to guide business decisions. After you have executed a filter from the Datasets Candidate Filter tab, and viewed the result set of information in the Datasets Candidate Detail tab, you can click the Summary tab. A result set appears in the Datasets Candidate Summary tab. The Summary tab contains the following five sub-tabs with various types of information:

- Storage Group
- Storage Class
- Data Class
- Management Class
- Volume Pool

The columns for each of the sub-tabs includes the following:

**Table 2.33: Candidate Storage Group Summary**

Column Name	Description
Name	Lists datasets by storage group
Volumes	Shows the number of volumes associated with the datasets
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.34: Candidate Storage Class Summary**

Column Name	Description
Name	Lists datasets by storage class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.35: Candidate Data Class Summary**

Column Name	Description
Name	Lists datasets by data class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection

**Table 2.35: Candidate Data Class Summary**

Column Name	Description
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.36: Candidate Management Class Summary**

Column Name	Description
Name	Lists datasets by management class
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.37: Candidate Volume Pool Summary**

Column Name	Description
Name	Lists datasets by the user-defined volume pool name
Volumes	Shows the number of volumes associated with the datasets
Files	Lists the number of files in this category
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

## Multi Volume Component

The Multi Volume component can be used to identify datasets associated with multiple volumes.

### Datasets Multi Volume Filter Tab

The Datasets Multi Volume Filter tab allows you to identify datasets that are associated with multiple volumes. The following is a list of fields that are available for the Space filter group.

### Space Filter Group Field Descriptions

**Table 2.38: Space Filters**

Field Name	Lets you filter for..
Allocated Space	Number of bytes allocated for this dataset or number of allocated bytes that dataset has used <ul style="list-style-type: none"> <li>Between <i>150</i> and <i>1500</i> returns all datasets that are greater than 10 cylinders but less than 100 cylinders (useful in determining DFSMS Storage Group sizes)</li> <li>Equal <i>0</i> Less Than <i>999999999</i> returns datasets that are 0 to 999999999 in either tracks or megabytes depending on the option and unit selected</li> </ul>
Allocated Tracks	Total megabytes allocated for each dataset by organization type. <ul style="list-style-type: none"> <li>Between <i>150</i> and <i>1500</i> returns all datasets that are greater than 10 cylinders but less than 100 cylinders (useful in determining DFSMS Storage Group sizes.)</li> <li>Equal <i>0</i> Less Than <i>999999999</i> returns datasets that are 0 to 999999999 in either tracks or megabytes depending on the option and unit selected</li> </ul>
Dataset Name	Dataset names according to query criteria. A dataset name can be up to 44 characters in length. <ul style="list-style-type: none"> <li><i>SYS1.PARMLIB</i> returns all <i>SYS1.PARMLIB</i> datasets</li> <li><i>SYS1.**</i> returns all datasets that begin with <i>SYS1</i>.</li> <li><i>SYS1.**,*D**</i> returns all datasets that begin with <i>SYS1</i> except those that have a second-level qualifier that contains a <i>D</i>.</li> </ul>
Extents on Volser	Number of extents that a dataset is on, according to query parameters. Valid numeric entries for the text field are from 0 to 999. <ul style="list-style-type: none"> <li>Greater Than <i>100</i> returns all datasets that are in 101 or more extents</li> </ul>
Multi-Volume Extents	Datasets based on multiple volume extents
Percent Free	Volumes or datasets by size and range according to space used. A range is useful in determining DFSMS Storage Group sizes. Valid numeric entries for the text field are from 0 to 100 percent.

**Table 2.38: Space Filters**

Field Name	Lets you filter for...
Unused Space-Kilobytes	<p>Datasets based on bad block size versus optimum blocksize. Valid numeric entries for the text field are from 0 to 999999999 in kilobytes of unused space (K= 1024).</p> <p>Note: To obtain the optimum block size and calculate waste, a PARM has been added to BLDUCBMT called UnusedKB= . The default value for this PARM is N and must be set to Y</p> <ul style="list-style-type: none"> <li>• Greater Than 150 returns all datasets that have unused space in kilobytes (K=1024) greater that 150k</li> </ul>
Used Space	<p>Volumes or datasets by size and range according to space used. Valid numeric entries for the text field are from 0 to 100 percent.</p> <ul style="list-style-type: none"> <li>• Greater Than 80 returns volumes or volume pools that are more than 80% allocated</li> </ul>
Used Tracks	<p>Total megabytes being used in dataset organization</p> <ul style="list-style-type: none"> <li>• Between 150 and 1500 returns all datasets that are greater than 10 cylinders but less than 100 cylinders (useful in determining DFSMS Storage Group sizes.)</li> <li>• Equal 0 Less Than 999999999 returns datasets that are 0 to 999999999 in either tracks or megabytes depending on the option and unit selected</li> </ul>
Volume Serial	<p>Volume serial number (Volser) associated with the dataset, according to filter criteria.</p> <p>TEST01 returns only information contained on volume TEST01</p> <p>T* returns all information contained on all volumes that begin with T</p> <p>¬T* excludes information that is contained on any volume that begins with T</p> <p>P*,SY* returns all volumes that begin with P and SY</p> <p>¬P* show all volumes except those that begin with P</p> <p>¬P*,SYS* show all volumes except those that begin with P and SYS</p>

## Datasets Multi Volume Detail Tab

After the Datasets Multi Volume filter is executed, a result set of information appears in the Datasets Multi Volume Detail tab. Datasets Multi Volume Detail tab provides detailed information about all datasets in the environment. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

### To view Datasets Multi Volume detail:

- 1 From Datasets located in the Tree View pane, execute a filter in the Multi Volume filter tab.  
— or —
- 2 In the Tree View pane, expand Datasets and double-click the Multi Volume node.

**Table 2.39: Multi Volume Detail Columns**

Column Name	Description
Dataset Name	Lists the dataset name (can be up to 44 characters in length)
Volume Serial	Name of the volume serial that is on tape
Multi-Volume	Displays multivolume datasets according to query criteria, multivolume, or first file of a multivolume dataset, second file of a multivolume dataset, and so on
Extents On Volser	Displays the number of extents that a dataset occupies on the associated volume
Multi-Volume Extents	Displays the number of datasets that are based on multiple volume extents
Unused Space-Kilobytes	Displays unused space in KB, based on bad block size versus optimum block size
Allocated (Unit)	Displays the number of tracks, megabytes, or gigabytes that are allocated for this dataset
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset. When displayed in the Summary tab, it displays the free space within the category (free space divided by total space)

## Datasets Multi Volume Summary Tab

Summary information is key to management reporting and should be used to guide business decisions. After you have executed a filter from the Multi Volume Filter tab, and viewed the result set of information in the Multi Volume Detail tab, you can click the Summary tab. A result set appears in the Multi Volume Summary tab.

The Summary tab contains nine sub-tabs that give you various information. The sub-tabs include:

- General (Default tab)
- VSAM
- VSAM (SMS)

- Non-VSAM
- Storage Group
- Storage Class
- Data Class
- Management Class
- Volume Pool

The columns for each of the sub-tabs includes the following:

**Table 2.40: Multi Volume General Summary**

Column Name	Description
Dataset Organization	Identifies the dataset organization
Amount	Displays the number of datasets in this category
Percent Total	Displays the percentage of total dataset categories represented
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space)

**Table 2.41: Multi Volume VSAM Summary**

Column Name	Description
VSAM Type	Displays the VSAM type of the associated dataset.
Amount	Displays the number of datasets in this category.
Percent Total	Displays the percentage of total dataset categories represented.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.42: Multi Volume VSAM (SMS) Summary**

Column Name	Description
SMS Managed	Displays the number of SMS managed datasets in this category.
Non-SMS Managed	Displays the number of non-SMS managed datasets in this category.
Largest CA Splits	Displays the largest number of control-area splits associated with the datasets in this category.
Largest CI Splits	Displays the largest number of control-interval splits associated with the datasets in this category.
Largest Free Space (Unit)	Displays the largest total number of tracks, megabytes, or gigabytes that are free in this category.
Largest Extent	Displays the largest number of extents occupied on the associated volume in this category.

**Table 2.43: Multi Volume Non-VSAM Summary**

Column Name	Description
Name	Lists datasets by non-VSAM type.
Amount	Displays the number of datasets in this category.
Percent Total	Displays the percentage of total dataset categories represented.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.44: Multi Volume Storage Group Summary**

Column Name	Description
Name	Lists datasets by storage group.
Volumes	Shows the number of volumes associated with the datasets.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.45: Multi Volume Storage Class Summary**

Column Name	Description
Name	Lists datasets by storage class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.46: Multi Volume Data Class Summary**

Column Name	Description
Name	Lists datasets by data class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.

**Table 2.46: Multi Volume Data Class Summary**

Column Name	Description
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.47: Multi Volume Management Class Summary**

Column Name	Description
Name	Lists datasets by management class.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

**Table 2.48: Multi Volume Pool Summary**

Column Name	Description
Name	Lists datasets by the user-defined volume pool name.
Volumes	Shows the number of volumes associated with the datasets.
Files	Lists the number of files in this category.
Allocated (Unit)	Displays the total available tracks, megabytes, or gigabytes on the volume, depending on Units selection.
Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this dataset has used.
Free (Unit)	Displays the total number of tracks, megabytes, or gigabytes that are free.
Percent Free	Displays the percentage of free space for an associated dataset within the category (free space divided by total space).

## Logical Pools Component

### To view the Datasets Logical Pools Filter tab:

- 1 Expand the Datasets Tree View pane and double-click Logical Pools.
- 2 Select the pool type from the Pool Type drop-down list.  
**Note:** Select the Not checkbox to apply a logical Exclude to the selected option.
- 3 Click Save and type a name in the **Save View As** dialog (optional), or Click **Execute**.
- 4 The selected pool type and its members display in the Zoom tab

### Datasets Logical Pools Zoom

The Logical Pools Zoom information is displayed after you select the dataset pool type and execute filters from the Datasets Logical Pools filter tab. The Logical Pools information displayed here features a wealth of information about logical pools as well as cost. You can display this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

You can zoom from Pool Utilization information to dataset detail displayed on the Zoom Dataset tab.

**Table 2.49: Logical Pools Zoom Columns**

Column Name	Description
Pool Name	Displays the name assigned to the volume pool
Count	Lists the number of candidate volumes for this dataset
Percent Used	Percentage that is currently allocated
Percent Free	Displays the percentage of free space for an associated dataset
Allocated (unit)	Lists the total allocation of space by unit (megabytes, gigabytes, tracks and so on)
Used (unit)	Displays the total allocation of space by unit that the dataset has used (megabytes, gigabytes, tracks and so on)
Free (unit)	Displays the amount of allocated but unused (free) storage in this category
ML1 DASD Allocated	Number of megabytes, gigabytes, or tracks allocated to migration level 1
ML1 Backup Allocated	Number of megabytes, gigabytes, or tracks allocated for backup to migration level 1
ML1 DASD Used	Number of megabytes used in migration level 1
ML1 DASD Free	Number of megabytes free in migration level 1
ML2 DASD Allocated	Number of megabytes allocated to migration level 2
CI Splits	Number of control interval splits for a pool. This column information only applies to VSAM databases.
ML2 DASD Free	Number of megabytes free in migration level 2
CA Splits	Number of control access splits for a volume pool. This column information only applies to VSAM databases.
ML2 DASD Used	Number of megabytes used in migration level 2

**Table 2.49: Logical Pools Zoom Columns**

Column Name	Description
ML1 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 1
ML2 Tape Used	Number of megabytes used by tapes in migration level 2
ML2 Tape Allocated	Number of megabytes of tape capacity in migration level 2
ML2 Tape Free	Number of megabytes free in tapes that reside in migration level 2
Backup Tape Allocated	Number of megabytes allocated to backup tapes
Backup Tape Free	Number of megabytes free in backup tapes
Dump Tape Used	Number of megabytes used by dump tapes
Backup Tape Used	Number of megabytes used by backup tapes
Tape Allocated	Number of megabytes of tape capacity
Dump Tape Allocated	Capacity of dump tapes in megabytes
ML1 Percent Used	Percent of space used in migration level 1
Backup DASD Percent Used	Percent of space used in backups
Tape Free	Number of megabytes with space free in tape
ML1 Percent Free	Percent of space free in migration level 1
Dump Tape Free	Number of megabytes free in dump tapes
Tape Used	Number of megabytes used by tape
ML2 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 2
Total Allocated	Total number of megabytes
ML2 DASD Percent Used	Percent of space used in migration level 2
ML2 DASD Percent Free	Percent of space free in migration level 2
ML2 Tape Volume/ Dataset Count	Number of tapes used in migration level 2
ML2 Tape Percent Used	Percent of used space by tapes in migration level 2
ML2 Tape Percent Free	Percent of space free in tapes that reside in migration level 2
Backup Tape Volume/ Dataset Count	Number of tape backups
Backup Tape Percent Used	Percent of space used in backups
Backup Tape Percent Free	Percent of space free in backups
Dump Tape Volume/ Dataset Count	Number of dump tapes
Dump Tape Percent Used	Percent of dump tapes that are used
Dump Tape Percent Free	Percent of dump tapes that are free
Tape Volume/Dataset Count	Number of tapes
Tape Percent Used	Percent of tapes that are used
Tape Percent Free	Percent of tapes that are free
Total Cost of DASD	Cost of DASD. The cost is derived from the TSF Settings
Total Cost of HSM	Cost of HSM
Total Cost of Tape	Cost of tape

**Table 2.49: Logical Pools Zoom Columns**

Column Name	Description
Total Volume/Dataset Count	The total number of files or volumes, depending on the type of pool
Total Cost	Total cost of DASD, tape, and HSM.
Pool Type	Displays the user-defined volume pool type
Pool Type Description	Displays the user-defined volume pool associated with the dataset

## Datasets Pool Utilization Zoom

### To zoom to dataset detail:

- 1 Select and right-click the pool name whose datasets you want to list (your selection is indicated by a yellow outline).
- 2 From the floating menu that displays, select **Zoom Datasets**.
- 3 The zoomed datasets display in the **Zoom** tab. Zoom history selection is available from the drop-down list at the top and results display in the **Zoom Datasets** view at the bottom. Graph information is also displayed



## **DFSMSHSM MANAGEMENT**

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DFSMSHsm Management reports on DFHSM activity such as recall rate, migration and backup failures, and activity by dataset, application, or user.

Five sections are comprised under the DFSMSHsm Mgmt umbrella: Activity, MCDS, BCDS, and Logical Pools. Each section has a tab for Detail, Summary, Filter, Sort, and Column Selection. DFSMSHsm filters are available in the Filter tab for each DFSMSHsm section.

## Activity Component

The Activity component provides the ability to monitor HSM activity in real-time, using SMF data that are captured and stored. The Activity component includes Thrashing, Activity Zoom, and Activity Dataset Job.

The Activity component is located below DFSMSHsm Mgmt in the Tree View pane. You can display all the activity information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

### Activity Thrashing Filter Tab

The DFSMSHsm Mgmt Activity Thrashing Filter tab lets you see how many times a dataset has been recalled within a certain time frame. In addition, it lets you select a date or date range when thrashing conditions occurred.

The Activity Thrashing filter provides parameters to identify all files that were recalled more than x number of times within x number of days.

#### To filter thrashing conditions by Times Dataset Recalled:

- 1 Select the Times dataset recalled field for filtering from the Filters pane.
- 2 From the drop-down list, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, or Between.
- 3 Type a numeric value for filtering in the next field (far right).
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

#### To filter thrashing conditions by Date:

- 1 Select the Date field for filtering from the Filters pane.
- 2 From the drop-down list, select a value such as Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, or Between.
- 3 In the Date selection drop-down list (far right) select either Date or Days Ago.
  - If you select Date:
    - a Click the middle drop-down list to display the calendar.
    - b Click a date to populate the field or use the navigational arrows to select a different month and year and then click a date. The date format is `yyyymmdd`, for example, 2005-09-05.
  - If you select Days Ago:
    - a Type in a numeric value representing the number of days in the middle field.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

## Activity Thrashing Zoom Tab

After you have executed a filter from the Thrashing Filter tab, a result set appears in the Thrashing Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 3.1: Thrashing Zoom Columns**

Column Name	Description
Dataset Name	Name of the dataset that met Thrashing conditions.
Times dataset recalled	Number of times the dataset has been recalled.

## Activity Zoom Filter Tab

The Activity Zoom Filter tab lets you filter for daily or monthly HSM activity. The default is Daily as the Query Option criteria states Daily or Monthly. The filter lets you select a date or date range when dataset activity has occurred.

- 1 Click to select Daily or Monthly in the Query Option box.
- 2 Select the Date field for filtering from the Filters pane.
- 3 From the drop-down list, select a value such as Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, or Between.
- 4 In the Date selection drop-down list (far right) select either Date or Days Ago.
 

If you select Date:

  - a Click the middle drop-down list to display the calendar.
  - b Click a date to populate the field or use the navigational arrows to select a different month and year and then click a date. The date format is yyyyymmdd, for example, 2005-09-05.

If you select Days Ago:

  - a Type in a numeric value representing the number of days in the middle field.
- 5 Click Apply and the filter information appears in the Filter Criteria area.
- 6 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter

## Activity Zoom Tab

Activity Zoom provides the ability to monitor HSM activity in real-time, using SMF data that are captured and stored. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 3.2: Activity Zoom Columns**

Column Name	Description
Date	Date the activity took place.
Day	Day of the week the activity occurred for the dataset.
Migrate L0->L1	Number of datasets in that period migrated from Level 0 to Level 1.
Migrate L1->L2	Type of request for the dataset.
Migrate L0->L2	Number of datasets in that period migrated from Level 0 to Level 2.
Recall L1->L0	Number of datasets in that period recalled from Level 1 to Level 0.
Recall L2->L0	Number of datasets in that period recalled from Level 2 to Level 0.
Delete Mig DS	Number of migrated datasets deleted.
Errors	Number of errors.
Daily Backup	Number of daily backups.
Spill Backup	Number of spill backups.
Recover	Number of datasets recovered.
Recycle Back VI	Number of recycles on backup volumes.
Delete by Age	Number of datasets deleted by age.
Recycle Mig Vol	Number of migration volume recycles.
Full Vol Dmp	Number of full volume dumps taken.
Vol DS Restore	Number of dataset restored.
ABackup	Number of ABARS backup taken.
ARecover	Number of ABARS recoveries performed.
Expire Pri Mig	Expired datasets on primary migration volumes.
PartRel Functn	Number of partial space release performed.
Expire IncrBack	Number of expired incremental backups.
HBDELETE IncrBack	Number of incremental backups deleted by command.
Migrate L0->L1 (MB)	Number of megabytes in that period migrated from Level 0 to Level 1.
Migrate L1->L2 (MB)	Number of megabytes in that period migrated from Level 1 to Level 2.

## Activity Dataset/Job Filter Tab

The Activity Dataset/Job Filter tab lets you filter for dataset migration activity by using parameters to identify datasets associated with a specific dataset name or a specific job name. It also lets you select a date or date range when data set activity has occurred.

### To filter dataset activity by Dataset Name or Job Name:

- 1 Select the Dataset Name field or Job Name field for filtering from the Filters pane.
- 2 From the drop-down list, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, or Between.
- 3 Type a numeric value for filtering in the next field (far right).
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

### To filter dataset activity by Date:

- 1 Select the Date field for filtering from the Filters pane.
- 2 From the drop-down list, select a value such as Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, or Between.
- 3 In the Date selection drop-down list (far right) select either Date or Days Ago.

If you select Date:

- a Click the middle drop-down list to display the calendar.
- b Click a date to populate the field or use the navigational arrows to select a different month and year and then click a date. The date format is *yyyymmdd*, for example, 2005-09-05.

If you select Days Ago:

- a Type in a numeric value representing the number of days in the middle field.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter

## Activity Dataset/Job Detail Tab

DFSMSHsm Activity Dataset/Job detail tab shows the results of DFSMSHsm dataset activity (daily or monthly). You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 3.3: Dataset/Job Detail Columns**

Column Name	Description
Dataset Name	Name of the dataset.
Date	Date the activity took place.
Day	Day of the week the activity occurred for the dataset.
Time	Time the dataset was created.

**Table 3.3: Dataset/Job Detail Columns**

Column Name	Description
Request Type	Type of request for the dataset.
User ID	User ID of the person who initiated the activity.
Job Name	Name of the job.
System ID	Name of the system where activity took place.
CPU Sec	Number of CPU seconds for activity.
User Request	Y (Yes) or N (No) indicates whether this was a requested activity by a user.
Tso Request	Y (Yes) or N (No) indicates whether this was a TSO request.
Receiving Vol	Volser where the dataset went.
Original Vol	Volser where the dataset originated from.
Date Request Made	Date the request was made.
Time Request Made	Time the request was made.
Time Process Started	Time the process began.
Time Process Completed	Time the process ended.
Time Allocated Completed	Time the allocation completed.
DASD Read Space	DASD space read in a specific unit of measurement.
DASD Write Space	DASD space write in a specific unit of measurement.
Last Referenced Date	Date the dataset was last referenced.
Date Last Moved	Date last moved.
Age Since Reference	Days since referencing.
Dataset Organization	Dataset Organization type.
Record Format	Record format for the dataset.
Management Class	Management class associated with the dataset.
RACF Group	RACF Group name.
Volume Mounted	Y (Yes) or N (No) indicates whether a volume is currently mounted.
Wait Request	Y (Yes) or N (No) indicates whether there is a wait request.
Vol Specf Recl	Y (Yes) or N (No) indicates whether a volume was specified on a recall.
ML2 Specf	Y (Yes) or N (No) indicates whether a migration level 2 was specified.
From Vol Specf	Y (Yes) or N (No) indicates whether a from volume was specified.
Replace Specf	Y (Yes) or N (No) indicates whether a replace was specified.
Moved by DFDSS	Y (Yes) or N (No) indicates whether a move by DFDSS occurred.
Number of Tape VL	Number of tape volumes used.
Tape Vol	Tape volume.

## MCDS Component

Combines information contained in the MCDS and SMF log data to create a database file. The MCDS component allows you to view information associated with dataset migration and recall. MCDS includes the following:

- Migrate/Recall Summary
- Migrate/Recall Detail

The MCDS component is located below the Activity component in the Tree View pane.

### To view MCDS:

Double-click the DFSMSHsm Mgmt node in the Tree View pane. The MCDS component appears.

## Migrate/Recall Summary Filter Tab

The Migrate/Recall Summary Filter tab lets you filter for dataset migration and recall activity. The result set that is returned gives you a summation of those types of activities. After you have executed a filter from the Migrate/Recall Summary Filter tab, a result set appears in the Migrate/Recall Summary tab.

### To filter for dataset migration and recall activity:

- 1 Select a field for filtering from the Filters pane.
- 2 From the drop-down list, select Regular Expression or Begins With, Ends With, Contains, or Between; or, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
- 3 Type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

Migrate/Recall Summary filters are grouped alphabetically on the Filters pane as follows:.

**Table 3.4: Migrate/Recall Summary Filters**

Field Name	Lets you filter for...
Age Since Reference	Age of the dataset since it was last referenced.
CPU Sec	CPU time in.01 seconds that it took to run the dataset migration or recall.
DASD Kbytes Read	DASD Kbytes of read that is associated with the migrate or recall.
DASD Kbytes Write	DASD Kbytes of write that is associated with the migrate or recall.
Dataset Name	Specific dataset name.
Dataset Organization	Datasets associated with a dataset organization.
Date	Date or date range when a dataset migration or recall occurred.
Date Last Moved	Date the dataset last moved.
Date Request Made	Date the dataset migration or recall was made.

**Table 3.4: Migrate/Recall Summary Filters (Continued)**

Field Name	Lets you filter for...
From Vol Specf	Whether a from volume was specified. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a from volume was specified</li> <li>• N (No) if a from volume was not specified</li> </ul>
Job Name	Name of the job that was run for the dataset migration or recall.
Last Referenced Date	Datasets by the last referenced date, or number of days since last reference.
Management Class	Datasets associated by management class.
ML2 Specf	Whether a migration level 2 was specified. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a migration level 2 was specified</li> <li>• N (No) if a migration level 2 was not specified</li> </ul>
Moved by DFDSS	Whether a move by DFDSS occurred. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a move by DFDSS occurred</li> <li>• N (No) if a move by DFDSS did not occur</li> </ul>
Number of Tape VL	Number of tape volumes used.
Original Vol	Original volume that is associated with the dataset.
RACF Group	RACF group name that is associated with the dataset migration or recall.
Record Format	Record format associated with the dataset. Select one of the record format filter options or exclude the option. <ul style="list-style-type: none"> <li>• (All) - All of the options is the default.</li> <li>• Fixed Blocked (FB) returns fixed blocked datasets</li> <li>• Fixed (F) returns fixed datasets</li> <li>• Variable (V) returns variable datasets</li> <li>• Variable Blocked (VB) returns variable blocked datasets</li> </ul>
Receiving Vol	Receiving volume that is associated with the dataset.
Replace Specf	Whether a replace was specified. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a replace was specified</li> <li>• N (No) if a replace was not specified</li> </ul>
System ID	System ID that the dataset ran on when it was migrated or recalled.
Tape Vol	Tape volume.
Time	Time when the dataset migration or recall occurred.
Time Allocated Completed	Time of the day when the allocation completed.
Time Process Completed	Time of the day when the dataset migration or recall process completed.
Time Process Started	Time of the day when the dataset migration or recall process started.
Time Request Made	Time of day when the dataset migration or recall was made.
TSO Request	Whether the dataset migration or recall was done by TSO request. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes)</li> <li>• N (No)</li> </ul>
User ID	User Identification of the person last associated with the dataset migration or recall.

**Table 3.4: Migrate/Recall Summary Filters (Continued)**

Field Name	Lets you filter for...
User Request	Whether the dataset migration or recall was done by user request. Select one of the following options <ul style="list-style-type: none"> <li>• Y (Yes)</li> <li>• N (No)</li> </ul>
Vol Specf Recl	Whether a volume was specified on a recall. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a volume was specified</li> <li>• N (No) if a volume was not specified</li> </ul>
Volume Mounted	Whether a dataset is associated with a mounted volume. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes)</li> <li>• N (No)</li> </ul>
Wait Request	Whether a dataset is associated with a wait request. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes)</li> <li>• N (No)</li> </ul>

## Migrate/Recall Summary Tab

After you have executed a filter from the Migrate/Recall Summary Filter tab, a result set appears in the Migrate/Recall Summary tab. The Summary tab contains three sub-tabs that give you various information. The sub-tabs include:

- Migrate/Recall Statistics (Default tab)
- Most Recalled Datasets
- Largest Recalls

The columns for each of the sub-tabs includes the following:

**Table 3.5: Migrate/Recall Statistics Summary**

Column Name	Description
Statistics	Shows the level of recall or migration of the dataset.
Files	Number of files involved in the recall or migration.
Errors	Number of errors made during the recall or migration.
Space (Unit)	Shows the amount of free space by unit, for example, megabytes (MB).

**Table 3.6: Most Recalled Datasets Summary**

Column Name	Description
Name	Name of the dataset that is migrated or recalled.
Times Recalled	Number of times the dataset has been recalled.

**Table 3.7: Largest Recalls Summary**

Column Name	Description
Name	Name of the dataset that is migrated or recalled.
Disk Space (Unit)	Total disk space of the dataset that is migrated or recalled. The unit of measure can be in megabytes, gigabytes, tracks, and so on.

## Migrate/Recall Detail Filter Tab

The Migrate/Recall Detail Filter tab lets you filter for dataset migration and recall activity. The filters give you a multitude of options for filtering for migrated or recalled datasets. This includes checking for any errors that may have occurred during the migration or recall process.

### To check for errors (optional):

- 1 Click to select Error Summary Information in the Query Option box.
- 2 Type a number in the Days Back for Error Record field.

**Note:** This process may take some additional time to complete.

### To filter for dataset migration and recall activity:

- 1 Select a field for filtering from the Filters pane.
- 2 From the drop-down list, select Regular Expression or Begins With, Ends With, Contains, or Between; or, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
- 3 Type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

Migrate/Recall Detail filters are grouped alphabetically on the Filters pane as follows:

**Table 3.8: Migrate/Recall Detail Filters**

Field Name	Lets you filter for...
Data Class	Datasets associated by a specific DFSMS data class.
Dataset Deleted	Datasets that may have been deleted. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Dataset Deleted (Y) if the dataset has been deleted.</li> <li>• Dataset Deleted (N) if the dataset has not been deleted.</li> </ul>
Dataset Name	Specific dataset name.
Dataset Organization	Datasets associated with a dataset organization.
Date of Backup	Datasets by the date of backup.
Date of Creation	Datasets by the date of creation.
Expiration Date	Datasets by the date of expiration.
Date of Last Recall	Datasets by the last recall date, or number of days since last recall.
Last Date Referenced	Datasets by the last referenced date, or number of days since last reference.
Migrate Date	Datasets by the last migration date.
DFHSM Dataset Name	Datasets associated with a DFHSM dataset name.

**Table 3.8: Migrate/Recall Detail Filters (Continued)**

Field Name	Lets you filter for..
DFSMS Controlled	Whether the datasets are DFSMS controlled. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• DFSMS Controlled (Y)</li> <li>• Non-DFSMS Controlled (N)</li> </ul>
From Device Type	Datasets migrated or recalled from a specific device type.
GDG	Whether the datasets are a GDG or non-GDG. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• All GDG (Y)</li> <li>• All Non-GDG (N)</li> </ul>
HSM Level	Hierarchical Storage Management (HSM) level.
Management Class	Datasets associated by management class.
Migrate From	Datasets migrated from a specific volume or volumes.
Multi-Volume	Whether the datasets are associated with multi-volumes. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Multi-Volume (Y)</li> <li>• Multi-Volume (N)</li> </ul>
Need Backup	Whether the datasets need a backup. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Need Backup</li> <li>• Does not Need Backup</li> </ul>
Percent Saved	Datasets by the space percentage saved through migration.
Roll GDG	Whether the datasets are rolled-off GDG. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• All Rolled Off GDG (R) if the datasets are rolled off GDG</li> <li>• All Non-Rolled Off GDG if the datasets are not rolled off GDG</li> </ul>
Small DS Pack	Whether the dataset is part of a compressed DFHSM dataset. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Small DS Pack (Y) if the dataset is part of a compressed DFHSM dataset</li> <li>• Small DS Pack (N) if the dataset is not part of a compressed DFHSM dataset</li> </ul>
Storage Class	Datasets by storage class.
Used Space	Parameters to identify datasets associated with the amount of bytes, kilobytes, megabytes, gigabytes, or terabytes they have used.

## Migrate/Recall Detail Tab

After the DFSMSHsm Mgmt Migrate/Recall Detail filter is executed, a result set of information appears in the DFSMSHsm Mgmt Migrate/Recall Detail tab.

You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 3.9: Migrate/Recall Detail Columns**

Column Name	Description
Dataset Name	Name of the dataset.
Allocated (Unit)	Allocated space associated with the dataset name.
Free (Unit)	Free space associated with the dataset name.
Used (Unit)	Used space associated with the dataset name.
DFHSM Dataset Name	DFHSM dataset name that is associated with the dataset.
Percent Saved	Shows the percent saved through migration.
GDG	Y (Yes) indicates the dataset is GDG. N (No) designates it is not GDG.
Roll GDG	Y (Yes) shows that the dataset is rolled off. N (No) shows that it is not rolled off.
Small DS Pack	Y (Yes) indicates that the dataset is a small dataset pack. N (No) shows that it is not a small dataset pack.
Last Date Reference	Date the last time the dataset was referenced.
Migrate Date	Date when the dataset was migrated.
Date of Last Recall	Date when the dataset was last recalled.
Date of Creation	Date when the dataset was created.
Expiration Date	Date of expiration for the dataset.
Date of Backup	Date when the dataset had a back up.
DFSMS Controlled	Y (Yes) shows that the dataset is DFSMS controlled. N (No) shows that it is not DFSMS controlled.
Storage Class	Shows the storage class associated with the dataset.
Data Class	Shows the data class associated with the dataset.
Management Class	Shows the management class associated with the dataset.
Migrate From	Display where the dataset was migrated from.
From Device Type	Shows the device type where the dataset came from.
MultiVolume	Y (Yes) indicates the dataset belongs to multivolumes. N (No) shows that the dataset does not belong to multi-volumes.
Need Backup	Y (Yes) indicates whether the dataset needs a back up. N (No) shows the dataset does not need a back up.
Dataset Organization	Shows the dataset organization associated with the dataset.
Dataset Deleted	Y (Yes) indicates whether a dataset has been deleted. N (No) shows the dataset has not been deleted.

## Migrate/Recall Detail Summary Tab

After you have executed a filter from the Migrate/Recall Detail Filter tab, and viewed the result set of information in the Migrate/Recall Detail tab, you can click the Summary tab. A result set appears in the Migrate/Recall Detail Summary tab.

The Summary tab shows recall history statistics. The columns include the following:

**Table 3.10: Recall History**

Column Name	Description
Recall History	Number of days since last recall.
Files	Number of files involved in the recall or migration.
DFSMS Controlled	Number of files that are DFSMS controlled.
Non-DFSMS Controlled	Number of files that are non-DFSMS controlled.
Space (Unit)	Amount of free space by unit, for example, megabytes (MB).

## BCDS Component

The BCDS component lets you view information associated with dataset backup. BCDS includes the following:

- Backup Summary
- Backup Detail
- Backup Version Detail

The BCDS component is located below the MCDS component in the Tree View pane.

### To view BCDS:

Double-click DFSMSHsm Mgmt in the Tree View pane to expand it. The BCDS component appears.

## Backup Summary Filter Tab

The Backup Summary Filter tab lets you filter for dataset backup information. The result set that is returned gives you a summation of backup information. After you have executed a filter from the Backup Summary Filter tab, a result set appears in the Backup Summary tab.

### To filter for dataset backup information:

- 1 Select a field for filtering from the Filters pane.
- 2 From the drop-down list, select Regular Expression or Begins With, Ends With, Contains, or Between; or, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
- 3 Type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

Backup Summary filters are grouped alphabetically on the Filters pane as follows:

**Table 3.11: Backup Summary Filters**

Field Name	Lets you filter for...
Age Since Reference	Age of the dataset since it was last referenced.
CPU Sec	CPU time in .01 seconds that it took to run the dataset backup.
DASD Kbytes Read	DASD Kbytes of read that is associated with the backup.
DASD Kbytes Write	DASD Kbytes of write that is associated with the backup.
Dataset Name	Specific dataset name.
Dataset Organization	Datasets associated with a dataset organization.
Date	Date or date range when a dataset backup occurred.
Date Last Moved	Date the dataset last moved.
Date Request Made	Date the dataset backup was made.

**Table 3.11: Backup Summary Filters (Continued)**

Field Name	Lets you filter for..
From Vol Specf	Whether a from volume was specified. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a from volume was specified</li> <li>• N (No) if a from volume was not specified</li> </ul>
Job Name	Name of the job that was run for the dataset backup.
Last Referenced Date	Datasets by the last referenced date, or number of days since last reference.
Management Class	Datasets associated by management class.
ML2 Specf	Whether a migration level 2 was specified. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a migration level 2 was specified</li> <li>• N (No) if a migration level 2 was not specified</li> </ul>
Moved by DFDSS	Whether a move by DFDSS occurred. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a move by DFDSS occurred</li> <li>• N (No) if a move by DFDSS did not occur</li> </ul>
Number of Tape VL	Number of tape volumes used.
Original Vol	Original volume that is associated with the dataset.
RACF Group	RACF group name that is associated with the dataset backup.
Record Format	Record format associated with the dataset. Select one of the record format filter options or exclude the option. <ul style="list-style-type: none"> <li>• (All) - All of the options is the default.</li> <li>• Fixed Blocked (FB) returns fixed blocked datasets</li> <li>• Fixed (F) returns fixed datasets</li> <li>• Variable (V) returns variable datasets</li> <li>• Variable Blocked (VB) returns variable blocked datasets</li> </ul>
Receiving Vol	Receiving volume that is associated with the dataset.
Replace Specf	Whether a replace was specified. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a replace was specified</li> <li>• N (No) if a replace was not specified</li> </ul>
System ID	System ID that the dataset ran on when it was backed up.
Tape Vol	Tape volume.
Time	Time when the dataset backup occurred.
Time Allocated Completed	Time of the day when the allocation completed.
Time Process Completed	Time of the day when the dataset backup process completed.
Time Process Started	Time of the day when the dataset backup process started.
Time Request Made	Time of day when the dataset backup was made.
TSO Request	Whether the dataset backup was done by TSO request. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes)</li> <li>• N (No)</li> </ul>
User ID	User Identification of the person last associated with the dataset backup.

**Table 3.11: Backup Summary Filters (Continued)**

Field Name	Lets you filter for...
User Request	Whether the dataset backup was done by user request. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes)</li> <li>• N (No)</li> </ul>
Vol Specf Recl	Whether a volume was specified on a recall. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if a volume was specified</li> <li>• N (No) if a volume was not specified</li> </ul>
Volume Mounted	Whether a dataset is associated with a mounted volume. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes)</li> <li>• N (No)</li> </ul>
Wait Request	Whether a dataset is associated with a wait request. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes)</li> <li>• N (No)</li> </ul>

## Backup Summary Tab

Backup Summary tab shows an abbreviated view of dataset backup statistics, backup history, most single back up file, and the largest single backup file. After the DFSMSHsm Mgmt Backup Summary filter is executed, a result set of information appears in the DFSMSHsm Mgmt Backup Summary tab. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

The Summary tab contains three sub-tabs that give you various information. The sub-tabs include:

- Backup Statistics (Default tab)
- Most Backed Up Datasets
- Largest Backups

**Table 3.12: Backup Statistics Summary**

Column Name	Description
Statistics	Type of statistical backup. For example, Daily Backup or Spill Backup.
Files	Number of files involved in the backup.
Errors	Number of errors made during backup.
Space (Unit)	Unit size of the backup. For example, megabytes (MB).

**Table 3.13: Most Backed Up Datasets**

Column Name	Description
Name	Name of the dataset that is backed up.
Times Backed Up	Number of times the dataset has been backed up.

**Table 3.14: Largest Backups Summary**

Column Name	Description
Name	Name of the dataset that is backed up.
Disk Space (Unit)	Total disk space of the dataset that is backed up. The unit of measure can be in megabytes, gigabytes, tracks, etc.

## Backup Detail Filter Tab

The Backup Detail Filter tab lets you filter for dataset backup information. The filters give you a multitude of options for filtering for backup datasets. This includes checking for any errors that may have occurred during the backup process.

The result set of information that is returned gives you comprehensive backup information. After you have executed a filter from the Backup Detail Filter tab, a result set appears in the Backup Detail tab.

### To check for errors (optional):

- 1 Click to select Error Summary Information in the Query Option box.
- 2 Type a number in the Days Back for Error Record field.

**Note:** This process may take some additional time to complete.

### To filter for dataset backup information:

- 1 Select a field for filtering from the Filters pane.
- 2 From the drop-down list, select Regular Expression or Begins With, Ends With, Contains, or Between; or, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
- 3 Type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

Backup Detail filters are grouped alphabetically on the Filters pane as follows:

**Table 3.15: Backup Detail Filters**

Field Name	Lets you filter for...
Allocated Bytes	Parameters to specify the allocated bytes for the dataset backup.
Backup Completed	Whether the backup was completed. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Backup Completed (Y) if the backup was completed.</li> <li>• Backup Not Completed (N)</li> </ul>
Backup from Volser	Datasets backed up from a specific Volser.

**Table 3.15: Backup Detail Filters (Continued)**

Field Name	Lets you filter for...
Cataloged on user Volser	Whether the dataset was cataloged on the user volume serial number. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Cataloged on user Volser (Y)</li> <li>• Not Cataloged on user Volser (N)</li> </ul>
Dataset Name	Specific dataset name.
Dataset Organization	Datasets associated with a dataset organization.
Date Backup Completed	Date or date range when the backup was completed.
DFSMS Controlled	Whether the datasets are DFSMS controlled. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• DFSMS Controlled (Y)</li> <li>• Non-DFSMS Controlled (N)</li> </ul>
Frequency in Days	Dataset backups by the frequency of backups that have been completed in days.
HSM Backup Volser	Datasets according to the HSM backup volume serial number.
Profile Exists	Whether a profile exists. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Profile Exists (Y)</li> <li>• Profile Does Not Exist (N)</li> </ul>
Resides on ML1	Whether dataset resides on migration level one. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Resides in ML1 (Y)</li> <li>• Not Resides in ML1 (N)</li> </ul>
Resides on Tape	Whether dataset resides on tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Resides on Tape (Y)</li> <li>• Not Resides on Tape (N)</li> </ul>
Retired Dataset	Whether the datasets is retired. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Retired Dataset (Y)</li> <li>• Not Retired Dataset (N)</li> </ul>
Total Number of Backup Versions	Total number of backup versions associated with a dataset.

## Backup Detail Tab

The Backup Detail tab shows specific backup information about datasets including whether there were any errors in the backup, whether it is SMS, whether it is on tape, whether it has been migrated to level 1, whether it has finished, and the backup date.

You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab. You can also zoom from the DFSMSHsm Mgmt Backup Detail tab downward to show backup version information associated with a specific dataset.

**Table 3.16: Backup Detail Columns**

Column Name	Description
Dataset Name	Name of the dataset.
Total Number of Backup Versions	Total number of backup versions related to the dataset.
DFSMS Controlled	Y (Yes) if the dataset is DFSMS controlled. Otherwise, N (No).
Resides on Tape	Y (Yes) if the backup resides on tape. Otherwise, N (No).
Resides on ML1	Y (Yes) if the backup resides on migration level 1. Otherwise, N (No).
Backup Completed	Y (Yes) if the backup associated with the dataset was completed. Otherwise, N (No).
Date Backup Completed	Date when the backup was completed.

## Zoom Backup Version Tab

You can zoom from the DFSMSHsm Mgmt Backup Detail tab downward to show backup version information associated with a specific dataset.

### To zoom to backup version information:

- 1 From the Backup Detail tab, click (indicated by a yellow highlight around the cell name) a selection in the Dataset Name row or another row that is associated with it and right-click to display menu options.
- 2 From the floating menu, select Zoom Backup Version. The Zoom Backup Version tab appears with a result set.
- 3 If you want to retrace your steps, you can Zoom up one level at a time from the dataset level. Click Back, located above the Graphical Display area.

The History field that is located above the Graphical Display area, allows you to select each level of zoom you previously took and navigate to that level. The columns that appear on the Backup Version Zoom tab include the following:

**Table 3.17: Backup Version Zoom Columns**

Column Name	Description
Dataset Name	Name of the dataset.
DFHSM Dataset Name	Name of the DFHSM dataset.
Backup Version	Shows the number of backup versions created for the dataset.
Date Backup Completed	Displays the date when the backup was completed.
Time Backup Completed	Displays the time when the backup was completed.
Residing Volume	Shows the volume where the dataset currently resides.

**Table 3.17: Backup Version Zoom Columns (Continued)**

Column Name	Description
Valid Backup Version	Y (Yes) if the backup version is valid. Otherwise, N (No).
VSAM Dataset	Y (Yes) if there is an association with a VSAM dataset. Otherwise, N (No).
Cataloged on user Volser	Y (Yes) if the dataset was cataloged on a user volume serial number. Otherwise, N (No).
Cataloged in ICF	Y (Yes) if the dataset was cataloged in ICF. Otherwise, N (No).
Security Controlled by Password	Y (Yes) if security associated with the dataset is password controlled. Otherwise, N (No).
Security Controlled by Date	Y (Yes) if security for the dataset is controlled by a specified date. Otherwise, N (No).
Erased upon Volume Scratch	Y (Yes) if the dataset will be erased upon a volume scratch. Otherwise, N (No).
Data Mover was DFSMSDSS	Y (Yes) if the data mover was DFSMSDSS. Otherwise, N (No).
PDSE Dataset	Y (Yes) if this is a PDSE dataset. Otherwise, N (No).
Standard Serialization Backup	Y (Yes) if the backup was standard serialization. Otherwise, N (No).
Striped on Backup	Y (Yes) if the dataset is striped on backup. Otherwise, N (No).
Resides on Tape	Y (Yes) if the backup resides on tape. Otherwise, N (No).
Tracks on User Volume	Shows the number of tracks that are on the user volume.
Allocated Bytes	Displays the total number of allocated bytes.
2k Blocks	Shows the number of 2K blocks.
Storage Class	Displays the name of the storage class associated with the dataset.
Data Class	Shows the data class that is associated with the dataset.
Management Class	Shows the management class that is associated with the dataset.
Dataset Organization	Shows the data organization that is associated with the dataset.
Volser of Backup Volume	Displays the volume serial number of the backup volume.
Additional Volser of Backup Volume	Displays the additional volume serial number of the backup volume.

## Backup Detail Summary Tab

Backup Detail Summary tab shows an abbreviated view of dataset backup history.

**Table 3.18: Backup History Columns**

Column Name	Description
Backup History	Backup history in days.
Files	Number of files involved in the backup.
DFSMS Controlled	Number of datasets that are DFSMS controlled.
Non-DFSMS Controlled	Number of datasets that are non-DFSMS controlled.
Space (Unit)	Unit size of the backup. For example, megabytes (MB).

## Backup Version Detail Filter Tab

The Backup Version Detail Filter tab lets you filter for backup version information regarding a dataset. After you have executed a filter from the Backup Version Detail Filter tab, a result set of information appears in the Backup Version Detail tab.

### To filter for dataset backup version information:

- 1 Select a field for filtering from the Filters pane.
- 2 From the drop-down list, select Regular Expression or Begins With, Ends With, Contains, or Between; or, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
- 3 Type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

Backup Version Detail filters are grouped alphabetically on the Filters pane as follows:

**Table 3.19: Backup Version Detail Filters**

Field Name	Lets you filter for..
Allocated Bytes	Parameters to specify the allocated bytes for the dataset backup.
Backup from Volser	Datasets according to the backup volume serial number.
Cataloged on user Volser	Whether the dataset was cataloged on the user volume serial number. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Cataloged on user Volser (Y)</li> <li>• Not Cataloged on user Volser (N)</li> </ul>
Data Class	Datasets associated by a specific DFSMS data class.
Date Backup Completed	Date or date range when the backup was completed.
Dataset Name	Specific dataset name.
Dataset Organization	Datasets associated with a dataset organization.
DFSMS Controlled	Whether the datasets are DFSMS controlled. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• DFSMS Controlled (Y)</li> <li>• Non-DFSMS Controlled (N)</li> </ul>
HSM Backup Volser	Datasets according to the HSM backup volume serial number.
Management Class	Datasets associated by a specific management class.
Resides on Tape	Whether dataset resides on tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Resides on Tape (Y)</li> <li>• Not Resides on Tape (N)</li> </ul>

**Table 3.19: Backup Version Detail Filters (Continued)**

Field Name	Lets you filter for...
Storage Class	Storage class that is associated with the dataset.
Valid Backup Version	Whether the dataset is associated with a valid backup version. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Valid Version (Y)</li> <li>Invalid Version (N)</li> </ul>

## Backup Version Detail Tab

Backup Version Detail tab provides the version information including valid backup version and the storage, data, and management class.

You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 3.20: Backup Version Detail Columns**

Column Name	Description
Dataset Name	Name of the dataset.
DFHSM Dataset Name	Name of the DFHSM dataset.
Backup Version	Version number for the specific backup created for that dataset.
Date Backup Completed	Date when the backup was completed.
Time Backup Completed	Time when the backup was completed.
Residing Volume	Volume where the dataset currently resides.
Valid Backup Version	Y (Yes) if the backup version is valid. Otherwise, N (No).
VSAM Dataset	Y (Yes) if this is a VSAM dataset. Otherwise, N (No).
Cataloged on User Volser	Y (Yes) if the dataset was cataloged on a user volume serial number. Otherwise, N (No).
Cataloged in ICF	Y (Yes) if the dataset was cataloged in ICF. Otherwise, N (No).
Security Controlled by Password	Y (Yes) if security associated with the dataset is password controlled. Otherwise, N (No).
Security Controlled by Date	Y (Yes) if security for the dataset is controlled by a specified date. Otherwise, N (No).
Erase Upon Volume Scratch	Y (Yes) if the dataset will be erased upon a volume scratch. Otherwise, N (No).
Data Mover was DFSMSDSS	Y (Yes) if the data mover was DFSMSDSS. Otherwise, N (No).
PDSE Dataset	Y (Yes) if this is a PDSE dataset. Otherwise, N (No).
Standard Serialization Backup	Y (Yes) if the backup was standard serialization. Otherwise, N (No).
Striped on Backup	Y (Yes) if the dataset is striped on backup. Otherwise, N (No).
Resides on Tape	Y (Yes) if the dataset resides on tape. Otherwise, N (No).
Tracks on User Volume	Number of tracks that are on the user volume
Allocated Bytes	Total number of allocated bytes.
2K Blocks	Number of 2K blocks.
Storage Class	Name of the storage class associated with the dataset.
Data Class	Data class that is associated with the dataset.

**Table 3.20: Backup Version Detail Columns**

Column Name	Description
Management Class	Management class that is associated with the dataset.
Dataset Organization	Data organization that is associated with the dataset.
Volser of Backup Volume	Volume serial number of the backup volume.

## Logical Pools Component

The Logical Pools filter can be used to find and review logical pool groupings and review pool-group member datasets.

### To view logical pools utilization:

- 1 Expand the DFSMSHsm Mgmt Tree View pane and double-click Logical Pools.
- 2 Select the pool type from the Pool Type drop-down list.  
**Note:** Select the NOT check box to apply a logical Exclude to the selected option.
- 3 Click Apply and your filter information appears in the Filter Criteria area.
- 4 Click Execute and the selected dataset pool type is displayed in the Logical Pools Detail tab.

Click this link to zoom datasets from these results.

### Logical Pools Detail Tab

The Logical Pools Detail tab is displayed after you select the dataset pool type and execute filters from the Logical Pools filter tab. You can “zoom” from the DFSMSHsm Mgmt Logical Pools Detail tab downward to show logical pool information associated with a specific dataset.

**Table 3.21: Logical Pools Detail Columns**

Column Name	Description
Pool Name	Displays the name assigned to the volume pool.
Count	Lists the number of candidate volumes for this dataset.
Percent Used	Percentage that is currently allocated.
Percent Free	Displays the percentage of free space for an associated dataset.
Allocated	Lists the total allocation of space by unit (megabytes, gigabytes, tracks and so on).
Used	Displays the total allocation of space by unit that the dataset has used (megabytes, gigabytes, tracks and so on).
Free	Displays the amount of allocated but unused (free) storage in this category.
ML1 DASD Allocated	Number of megabytes, gigabytes, or tracks allocated to migration level 1.
ML1 Backup Allocated	Number of megabytes, gigabytes, or tracks allocated for backup to migration level 1.
ML1 DASD Used	Number of megabytes used in migration level 1.
ML1 DASD Free	Number of megabytes free in migration level 1.
ML2 DASD Allocated	Number of megabytes allocated to migration level 2.
CI Splits	Number of control interval splits for a pool. This column information only applies to VSAM databases.
ML2 DASD Free	Number of megabytes free in migration level 2.
CA Splits	Number of control access splits for a volume pool. This column information only applies to VSAM databases.
ML2 DASD Used	Number of megabytes used in migration level 2.

**Table 3.21: Logical Pools Detail Columns (Continued)**

Column Name	Description
ML1 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 1.
ML2 Tape Used	Number of megabytes used by tapes in migration level 2.
ML2 Tape Allocated	Number of megabytes of tape capacity in migration level 2.
ML2 Tape Free	Number of megabytes free in tapes that reside in migration level 2.
Backup Tape Allocated	Number of megabytes allocated to backup tapes.
Backup Tape Free	Number of megabytes free in backup tapes.
Dump Tape Used	Number of megabytes used by dump tapes.
Backup Tape Used	Number of megabytes used by backup tapes.
Tape Allocated	Number of megabytes of tape capacity.
Dump Tape Allocated	Capacity of dump tapes in megabytes.
ML1 Percent Used	Percent of space used in migration level 1.
Backup DASD Percent Used	Percent of space used in backups.
Tape Free	Number of megabytes with space free in tape.
ML1 Percent Free	Percent of space free in migration level 1.
Dump Tape Free	Number of megabytes free in dump tapes.
Tape Used	Number of megabytes used by tape.
ML2 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 2.
Total Allocated	Total number of megabytes.
ML2 DASD Percent Used	Percent of space used in migration level 2.
ML2 DASD Percent Free	Percent of space free in migration level 2.
ML2 Tape Volume/ Dataset Count	Number of tapes used in migration level 2.
ML2 Tape Percent Used	Percent of used space by tapes in migration level 2.
ML2 Tape Percent Free	Percent of space free in tapes that reside in migration level 2.
Backup Tape Volume/ Dataset Count	Number of tape backups.
Backup Tape Percent Used	Percent of space used in backups.
Backup Tape Percent Free	Percent of space free in backups.
Dump Tape Volume/ Dataset Count	Number of dump tapes.
Dump Tape Percent Used	Percent of dump tapes that are used.
Dump Tape Percent Free	Percent of dump tapes that are free.
Tape Volume/Dataset Count	Number of tapes.
Tape Percent Used	Percent of tapes that are used.
Tape Percent Free	Percent of tapes that are free.
Total Cost of DASD	Cost of DASD. The cost is derived from the TSF Settings.
Total Cost of HSM	Cost of HSM.
Total Cost of Tape	Cost of tape.

**Table 3.21: Logical Pools Detail Columns (Continued)**

Column Name	Description
Total Volume/Dataset Count	The total number of files or volumes, depending on the type of pool.
Total Cost	Total cost of DASD, tape, and HSM.
Pool Type	Displays the user-defined volume pool type.
Pool Type Description	Displays the user-defined volume pool associated with the dataset.

## Logical Pools Zoom Dataset Tab

You can “zoom” from the Logical Pools Detail tab downward to show information associated with a specific dataset.

### To zoom to specific dataset information:

- 1 From the Logical Pools Detail tab, click on a pool name to select it (indicated by a yellow outline).
- 2 Right-click on the selected pool name and a floating menu appears.
- 3 From the floating menu, click Zoom Datasets. The Zoom tab appears with a dataset result set.

In the Zoom tab, the Zoom history displays at the top. The dataset results set displays in the Results block, and graph information can be displayed by using the scroll bar to move to the bottom of the tab. The columns that appear on the Logical Pools Zoom Dataset tab include the following:

**Table 3.22: Logical Pools Zoom Columns**

Column Name	Description
Dataset Name	Displays the name of the dataset.
Volume Serial	Displays the volume serial number (Volser) associated with the dataset.
Percent Used	Shows the percent of the dataset used.
Dataset Organization	Shows the dataset organization type.
Record Format	Shows the record format of the dataset.
Logical Record Length	Displays the record length of the dataset.
Block Size	Shows the block size of the dataset.
Extents On Volser	Indicates the number of free-space areas on a volume.
SMS: Controlled	Indicates whether the volume is SMS controlled or not. Options: <ul style="list-style-type: none"> <li>• Y - Indicates an SMS controlled volume</li> <li>• N - Designates a non-SMS controlled volume</li> </ul>
Catalog	Returns status--cataloged (C), not-cataloged (NC), cataloged duplicates, not-cataloged duplicates. <b>Note:</b> options *E and NE are available only when using job BLDUCBMT to build the database; NC option is valid only if the catalog option was specified as Y in the batch database build job. <ul style="list-style-type: none"> <li>• VE returns all orphaned VVR entries found in the VVDS.</li> </ul>
Create Date	Shows either file creation date or the number of days since file creation.
Last Referenced Date	Shows the date that the dataset was last referenced.

**Table 3.22: Logical Pools Zoom Columns (Continued)**

Column Name	Description
Backup Date	Shows the date when the dataset was backed up.
SMS: Storage Class	Displays the storage class.
SMS: Data Class	Shows the data class.
SMS: Management Class	Shows the management class.
SMS: Storage Group	Shows the storage group.
Volume Pool	Displays the volume pool associated with the dataset.
Model	Shows the model number.
Cache Indicator	Shows a Y or N if cache was used for the dataset.
RVA	Shows a Y or N if RVA was associated with the dataset.
Address	Displays the address of the dataset.
Candidate Volume	Returns datasets that are or are not associated with a candidate volume. <ul style="list-style-type: none"> <li>• Y - Display all datasets that have an associated candidate volume</li> <li>• N - Do not display datasets that have an associated candidate volume</li> </ul>
System ID	Displays the system ID.
GDG	Returns all datasets according to status relative to GDG. <ul style="list-style-type: none"> <li>• Y - All GDG</li> <li>• N - All Non-GDG</li> </ul>
Rolled Off GDG	Lists all GDG datasets that have rolled off. <ul style="list-style-type: none"> <li>• Y - Rolled Off GDG</li> <li>• N - Non Rolled Off GDG.</li> </ul>
Deferred GDG	Returns all datasets associated with the status of deferred GDG.
Relative GDG Number	Returns GDG datasets according the generation-number query criteria.
Relative Generation Number	GDG files associated with a relative generation number.
Ext DS	Y (Yes) appears if this is an extended dataset.
Ext Cmp	Y (Yes) appears if this is an extended dataset that is compressed.
Cmp Mtd	Shows the dataset compression method.
Cmprs Ratio	Shows the dataset compression ratio.
Expiration Date	Shows the expiration date.
Stripe Count	Shows the stripe count.
Opt Blksz	Displays the optimized block size.
Multi-Volume	Y (Yes) appears if the dataset is associated with multiple volumes.
Percent Free	Displays the percentage of free space for an associated dataset.
Catalog Name	Returns the dataset name defined in the catalog, according to query criteria.
Catalog/VVDS Compare	Returns cataloged datasets whose catalog name in the VVDS differs from the actual cataloged name of the dataset.
Directory Block Maximum	Displays the maximum number of directory blocks.
Directory Block Used	Displays the number of directory blocks used.
Number of Members	Returns the number of members associated with a VSAM dataset.
Page Total	Lists the total number of pages.
Page Used	Shows the number of pages used.

**Table 3.22: Logical Pools Zoom Columns (Continued)**

Column Name	Description
Page Size	Displays the size of the page.
VSAM	Shows or excludes VSAM datasets <ul style="list-style-type: none"> <li>• Y - VSAM datasets</li> <li>• N - Non-VSAM datasets</li> </ul>
VSAM: Type	Returns datasets by VSAM type <ul style="list-style-type: none"> <li>• KSDS - Returns only keyed VSAM datasets</li> <li>• ESDS - Returns only entry sequence datasets</li> <li>• RRDS - Returns all relative record datasets</li> <li>• LVDS - Returns all linear VSAM datasets (DB2)</li> </ul>
Control Interval Splits	Returns control interval split information for VSAM datasets that are above a selected range.
Control Area Splits	Returns control-area splits information, according to query criteria.
Primary Allocation	Returns information on VSAM datasets by primary allocation, according to query criteria.
Secondary Allocation	Returns information on VSAM datasets by secondary allocation, according to query criteria.
Allocation Type	Datasets based on the allocation type, according to query criteria. <ul style="list-style-type: none"> <li>• T - Displays all datasets that were allocated in tracks</li> <li>• C - Displays all datasets that were allocated in cylinders</li> <li>• B - Displays all datasets that were allocated in blocks</li> </ul>
Physical Pool	Returns information by device mount attribute <ul style="list-style-type: none"> <li>• PRIV - Displays all datasets on devices mounted as PRIVATE</li> <li>• STRG - Displays all datasets on devices mounted as STORAGE</li> <li>• PUB - Displays all datasets on devices mounted as PUBLIC</li> </ul>
Unused Space-Kilobytes	Datasets based on bad block size versus optimum block size
RVA Compression Ratio	Amount of space reclaimed by compression on RVA DASD versus that which the dataset would occupy if it were on a non- RVA device. Returns the RVA compression ratio for datasets on RVA devices, according to query criteria.
Allocated (Unit)	Shows a dataset allocated by specific unit (Tracks, MB, GB, \$).
Used (Unit)	Shows a dataset used space by specific unit (Tracks, MB, GB, \$).
Free (Unit)	The total number of tracks, cylinders, megabytes, or gigabytes available for allocation.
Device Type	Provides the ability to report on datasets by device type. 339003 - Shows all datasets on 3390 model 3's.
Share Options	Provides the ability to locate datasets by Cross Region Share option.
Control Interval Size	Returns control-interval size in bytes, according to filter criteria.
Control Interval Percent Free	Returns all datasets as a percentage of control interval free space, according to query criteria.
Control Area Percent Free	Returns all datasets as a percentage of control area free space, according to query criteria.
Total Records	Returns total number of records in a dataset according the query criteria.
Total Records Inserted	Returns the number of records inserted in the VSAM dataset.
Number of Records Updated	Returns the number of records updated in the VSAM dataset.

**Table 3.22: Logical Pools Zoom Columns (Continued)**

Column Name	Description
Total Records Deleted	Returns the number of records deleted in the VSAM dataset.
Indexed VSAM	Returns all VSAM datasets that are index components.
Imbed	Datasets that were created with imbedded keys. <ul style="list-style-type: none"> <li>• Y - Includes only datasets that contain Imbedded keys.</li> </ul>
Reuse	Lists all VSAM datasets that were created with the REUSE option specified.
Verify Required	Returns all datasets that require that a VERIFY be run before the dataset can be opened. <ul style="list-style-type: none"> <li>• Y - Lists only those datasets that require verification</li> </ul>
Control Intervals per Control Area	Returns the number of control intervals per control area, according to filter criteria.
Average Record Length	Returns datasets having a logical record length that corresponds to the filter criteria (greater than, less than, equal to, and so on).
Maximum Record Length	Provides the ability to find and analyze datasets by maximum record length.
Number of Records Retrieved	Returns the number of records retrieved in the VSAM dataset.
Total Number of EXCP's	Provides the ability to find and analyze datasets by the total number of EXCPs.
Synchronization Error	Returns all datasets that have had a synchronization error since the last close of the dataset. <ul style="list-style-type: none"> <li>• Y - Lists only those datasets that have had an error.</li> </ul>
Open when DB Built	Identifies VSAM datasets that were open at the time the database was built. <ul style="list-style-type: none"> <li>• Y - Includes only datasets that were open at DB build time.</li> </ul>
Cluster Name	Returns valid VSAM cluster names, for example, SYS1.
High Allocated RBA	Shows the high allocated RBA.
High Used RBA	Shows the high used RBA.
High Key RBA	Shows the high key RBA.
Key Length	Shows the length of the key.
Number of Buffers	Lists the number of buffers.
Minimum Buffer Size	Shows the minimum buffer size.
Relative Key Position	Shows the relative key position.
Numbered Index Level	Shows the index level.
Speed	Returns datasets that were created with the SPEED option specified. <ul style="list-style-type: none"> <li>• Y - Includes only datasets that were specified with the SPEED Option</li> </ul>
Spanned	Returns all VSAM datasets that were created with the SPANNED option specified. <ul style="list-style-type: none"> <li>• Y - Includes only datasets that were specified with the SPANNED Option.</li> </ul>
Alternate Index	Returns VSAM datasets that contain an alternate index. <ul style="list-style-type: none"> <li>• Y - Includes only datasets that contain an alternate index.</li> </ul>
Replicate	Returns all VSAM datasets that were defined with REPLICATE. <ul style="list-style-type: none"> <li>• Y - Includes only files that contain replicated keys.</li> </ul>

**Table 3.22: Logical Pools Zoom Columns (Continued)**

Column Name	Description
Erase	Returns all VSAM datasets that were created with the ERASE option specified. <ul style="list-style-type: none"><li>• Y - Includes only datasets that were created with the ERASE option.</li></ul>
Write Check	Returns all VSAM datasets that were created with the WRITE CHECK option specified. <ul style="list-style-type: none"><li>• Y - Includes only datasets that were specified with the WRITE CHECK Option.</li></ul>
Logical Pool	Returns datasets by 'user-defined' logical pools.

## CHAPTER

# 4

## TAPE

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The Tape component enhances the ability of the TSF Workbench by letting you evaluate tape usage within the enterprise environment. TSF provides support for the following tape management systems:

- CA-1
- TLMS
- RMM

## Filter Groups for Tape Volumes

You can create a filter for tape volumes by using regular expressions or other values within the filter groups

### Attributes Filter Group

The following is a list of fields that are available for the Attributes filter group.

**Table 4.1: Attributes Filters**

Field Name	Lets you filter for...
Block Count	Block count of datasets that reside in a volume.
Create Job Name	Tapes that were created by a specific job.
Create Program Name	Tapes that were created by a specific program name, for example, PJB001 shows tapes that were created with a program name of PJB001.
Create Time	When a tape was created.
Create Unit	Tapes created on a certain unit.
External Manager ID	External tape manager ID.
Externally Managed?	Tapes that are externally managed. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Externally Managed (Y)</li> </ul>
Files Count	File count on tape.
First Volser	Tapes that have a first volume Volser, for example, 012345 shows all tapes that have a first volume Volser of 012345.
HSM Tape Type	Select the HSM tape type or exclude the option.
Label	Tapes that have specific tape labels, for example, SL shows tapes with standard labels.
Last Used Job	Tapes that were last used by a specific job name.
Last Used Program Name	Tapes that were last used by a specific program name, for example, PAY shows tapes that were last used with a program name beginning with PAY.
Last Used Unit	Tapes that were last used on a certain unit.
Next Volser	Tapes that have a next volume Volser, for example, 012345 shows all tapes that have a next volume Volser of 012345.
Number Times Tape Opened	Number of times a tape has been opened.
Out Code	Tapes that have a specific out code name.
Out Coded?	Tapes that are out coded. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Outcoded (Y)</li> </ul>
Percent Used	Total percentage of tape used.
Previous Volser	Tapes that have a previous volume Volser, for example, 012345 shows all tapes that have a previous volume Volser of 012345.

**Table 4.1: Attributes Filters (Continued)**

Field Name	Lets you filter for...
Scratch Status	Whether a tape is scratch. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Scratch (Y)</li> </ul>
Tape BPI	Tapes that use a Bytes Per Inch (BPI) number. Some current valid BPIs include: 800, 1600, 6250, 38K, and CMPRS. For example, 6250 displays only information contained on tapes with a BPI of 6250.
Tape Vendor Name	Tapes with certain vendor names.
TF-Media Type	Specific media type, for example, REEL shows information contained only on the media type REEL.
Times Tape Cleaned	Number of times that the tape has been cleaned.
Used Space	Total space used in bytes, kilobytes, megabytes, gigabytes, or terabytes.
Vault Slot Number	Vault slot number for the tape.
Volume Pool	Volume pool on the tape.
Volume Sequence Number	Volume sequence number on the tape.
Volume Serial	Volume serial number (Volser) associated with the dataset.

## Dates Filter Group

You can filter tape volumes by Last Referenced Date or by Number of Days Since Last Reference within the Dates filter group. The following is a list of fields that are available for the Dates filter group.

**Table 4.2: Dates Filters**

Field Name	Lets you filter for...
Birth Date	Birth date
Create Date	File creation date or the number of days since file creation
Expiration Date	Expiration date or numbers of days since expiration
Internal Expiration	Internal expiration date in YYDDD format. The DDD represents the number of days in that year. Example: 05162 - Shows an internal expiration date as 2005 with the 162nd day of the year
Last Cleaning Date	Last date the tape was cleaned
Last Used Date	Last use date or numbers of days since last used
Out Code Date	Out code date in YYYYMMDD format

## RMM Filter Group

You can filter RMM tape volumes by using regular expressions or other values within the RMM filter group.

Select an RMM field for filtering from the Filters pane.

From the drop-down list, select Regular Expression and type a value for filtering, or select Begins With, Ends With, Contains, or Between and type a value for filtering.

Click Apply and the filter information appears in the Filter Criteria area.

Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

To filter date fields:

Select an RMM field such as Retention Date or Volume Last Write Date from the Filters pane.

From the drop-down list, select a value (such as greater than, less than, equal to, etc.).

In the Date selection drop-down list, select either Date or Days Ago.

If Date is selected a calendar appears in the drop-down list in the middle field. Select the date from the calendar.

If Days Ago is selected, type a numeric value representing the number of days since retention in the middle field.

To exclude a filter option:

Select an RMM field such as Tape Compaction or Volume Type from the Filters pane.

Click the Not check box.

Click the logical operator (AND, OR).

Click Apply. The excluded option appears in the Filter Criteria box

The following is a list of fields that are available for the RMM filter group.

**Table 4.3: RMM Filters**

Field Name	Lets you filter for...
Create CDS ID	CDS ID of tape.
Create Sys ID	System ID where the tape was created.
Description	Specific description of a tape volume. For example, RACF shows tapes that have been assigned a description of RACF.
Desired Location Name	Desired location name of tape.
Destination Name	Destination name of tape.
Destination Bin Media Name	Destination bin media name of tape.
Destination Bin Number	Destination bin number of tape.
First Dataset Name	Dataset name of the first file on tape.
Home Location Code	Home location of the tape.
Last Change Date	Last date they were changed or the number of days since they were last changed.
Last Change Sys ID	System ID where the tape was last changed.
Last Change User ID	User ID of the person who made the last change to the tape.
Last User Change Date	Tapes by the last date they were changed by a user or the number of days since they were last changed by a user.
Last Dataset Name	Dataset name of the last file on tape.
Loan Location	Tape by the loan location name.
Location	Specific location code of a tape volume. For example, SHELF shows tapes that have an assigned location code of SHELF.
Location Name	Specific location name where a tape resides.

**Table 4.3: RMM Filters (Continued)**

Field Name	Lets you filter for...
Old Bin Media Name	Old bin media name of the tape.
Old Bin Number	Old bin number of the tape.
Old Loan Location	Tape by the old loan location name.
Old Previous Volser	Previous volume serial number.
Previous Location Name	Previous location name where a tape resided.
Rack Number	Specific rack number.
Retention Date	Retention date for a tape or how many days ago there was a retention date for a tape.
RMM Media Type	RMM media type of the tape volume.
Shelf Managed Store Bin Number	Old storage bin number of the tape.
Storage Group Name	Storage group name of the tape.
Store Bin Number	Stored bin number of the tape.
System ID	Specific system ID for the tape.
Tape Compaction	Whether a tape has been tape compacted. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default</li> <li>• Unknown</li> <li>• Not Compacted</li> <li>• Compacted</li> </ul>
Volume Last Write Date	Date when the last volume was written to tape or how many days ago the tape had a last volume written to it.
Volume Owner User ID	Volume owner's user ID for the tape.
Volume Capacity	Total volume capacity in bytes, kilobytes, megabytes, gigabytes, or terabytes.
Volume Type	Specific volume type. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All - Includes all of the types. This is the default.</li> <li>• Physical</li> <li>• Logical</li> <li>• Stacked</li> </ul>

## Volume Status Filter Group

You can create a filter for tape volumes by using regular expressions or other values within the Status filter group. The following is a list of fields that are available for the Status filter group.

**Table 4.4: Volume Status Filters**

Field Name	Lets you filter for...
Bad Tape?	Tapes that are marked as Bad Tape, No Scratch Mount. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Bad Tape (Y)</li> </ul>
Cycle Controlled?	Tapes that are cycle controlled. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Cycle Controlled (Y)</li> </ul>
Default Expire Date Used	Tapes where the default expire date was used. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Default Expiration Date Used (Y)</li> </ul>
Deleted Status	Tapes that are marked as deleted. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Record Deleted (Y)</li> <li>Record Not Deleted (N)</li> </ul>
Expired by SMS	Tapes that are expired by SMS. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Expired by SMS (Y)</li> </ul>
Expired by TMS	Tapes that are expired by TMS. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Expired by TMS (Y)</li> </ul>
Frequency Controlled?	Tapes that are frequency controlled. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Frequency Controlled (Y)</li> </ul>
Tape In Robot?	Tapes that are in a tape robotic device. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Tape in Robot? (Y)</li> </ul>
Multiple Files?	Whether tape has more than one file associated with it. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Multiple Files? (Y)</li> </ul>
Multiple Tapes?	Whether tape has more than one volume associated with it. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Multi Tapes? (Y)</li> </ul>

**Table 4.4: Volume Status Filters (Continued)**

Field Name	Lets you filter for...
Released by External Vault Manager?	Tapes that have been released by the external vault manager. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Tape Released by External Manager? (Y)</li> </ul>
To Be Cleaned?	Tapes that are marked to be cleaned. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Tape Is To Be Cleaned (Y)</li> </ul>
Volume Closed by Abend	Tapes that are marked as closed by an abend. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Volume Closed By Abend (Y)</li> </ul>
Volume Closed By TMS	Whether the tape was closed by TMS. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Volume Closed By TMS (Y)</li> </ul>
Volume opened for output?	Tapes that were last opened as output. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Volume opened for output (Y)</li> </ul>

## Errors Since Cleaned Filter Group

You can create a filter for tape volumes by using regular expressions or other values within the Errors Since Cleaned filter group.

The following is a list of fields that are available for the Errors Since Cleaned filter group.

**Table 4.5: Errors Since Cleaned Filters**

Field Name	Lets you filter for...
Permanent Read Error	Tape with a permanent read error since it was last cleaned.
Permanent Write Error	Tape with a permanent write error since it was last cleaned.
Temporary Read Error	Tape with a temporary read error since it was last cleaned.
Temporary Write Error	Tape with a temporary write error since it was last cleaned.

## Errors Since Initialized Filter Group

You can create a filter for tape volumes by using regular expressions or other values within the Errors Since Initialized filter group.

The following is a list of fields that are available for the Errors Since Initialized filter group.

**Table 4.6: Errors Since Initialized Filters**

Field Name	Lets you filter for...
Permanent Read Error	Tape with a permanent read error since it was initialized.
Permanent Write Error	Tape with a permanent write error since it was initialized.
Temporary Read Error	Tape with a temporary read error since it was initialized.
Temporary Write Error	Tape with a temporary write error since it was initialized.

## General Filter Group (CA-1 and TLMS Tape Volumes)

You can create a filter for tape volumes by using regular expressions or other values within the General filter group. The following is a list of fields that are available for the General filter group.

**Table 4.7: General Filters**

Field Name	Lets you filter for...
Additional Files Exist on Tape	Whether there are additional files that exist on tape. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default</li> <li>Additional Files Exist (Y)</li> </ul>
Address of First DSNB	Address of the first DSNB on tape.
Address of Last DSNB	Address of the last DSNB on tape.
Block Count	Block count of datasets that reside in a volume.
Block Size	Block size of datasets that reside in a volume.
Catalog Controlled	Datasets residing in a volume are cataloged controlled. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Catalog Controlled (Y)</li> </ul>
Create DD Name	MVS JCL Data Definition name that is used to associate a dataset with the application program processing element.
Create Step Name	Datasets were created by a specific step name. <ul style="list-style-type: none"> <li>Example: PJB001 - Show datasets that were created with a step name of PJB001.</li> </ul>
Dataset Erase Required	Dataset erase is required. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Dataset Erase Required (Y)</li> </ul>
Dataset is Cataloged	Dataset residing in a volume has been cataloged. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Dataset is Cataloged (Y)</li> </ul>

**Table 4.7: General Filters (Continued)**

Field Name	Lets you filter for...
Dataset Recreated	Dataset residing in a volume has been recreated. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Dataset Recreated (Y)</li> </ul>
Default Expiration Date Used at Open	Default expiration date was used. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Default Expiration Date Used at Open (Y)</li> </ul>
Description	Tapes that have a specific description.Example:RACF - Shows tapes that have been assigned a description of RACF.
Dynam-T Owned Tape	Tapes are Dynam-T owned. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Dynam-T Owned Tape (Y)</li> </ul>
External Managed Tape	Tapes are externally managed. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• External Managed Tape (Y)</li> </ul>
Files	Number of files on a tape.
File Created by CA-1 Copycat	Files on the tape were created by CA-1 Copycat. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• File Created by CA-1 Copycat (Y)</li> </ul>
GDG	Datasets are marked as GDG and reside in a volume. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• All GDG (Y)</li> <li>• All Non-GDG (N)</li> </ul>
Internal Field Changed by User	Internal field was changed by the user. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Internal Field Changed by User (Y)</li> </ul>
Is File Cataloged?	First file on the tape is cataloged. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• First File Cataloged (Y)</li> </ul>
Last Cleaning Use Count	Last cleaning use count for the tape.
Location	Tapes that have a specific location code.SHELF - Shows tapes that have an assigned location code of SHELF.
Logical Pool	Logical pool on the tape.
Logical Record Length	Record length of datasets that reside in a volume.
Record Date	Record date of the tape.
Record Format	Dataset record formats that reside in a volume.
Record Version Number	Record version number associated with the tape.
Relative GDG Number	GDG files associated with a relative generation number.

**Table 4.7: General Filters (Continued)**

Field Name	Lets you filter for...
Robotic Device Indicator	Robotic device indicator that is associated with a tape. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Robotic Device Indicator (Y)</li> </ul>
SMS Management Class	SMS Management Class associated with the tape.
System ID	Tapes by the system ID where created.
Temporary Dataset	Whether the dataset residing in a volume is temporary. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Temporary Dataset (Y)</li> </ul>
TMC Record Updated by User	Whether the TMC record was updated by the user. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>TMC Record Updated by User (Y)</li> </ul>
TMS Read Protected	Whether the tape is TMS read protected. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>TMS Read Protected (Y)</li> </ul>
TMS Security Protected	Whether the tape is TMS security protected. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>TMS Security Protected (Y)</li> </ul>
TMS Write Protected	Whether the tape is TMS write protected. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>TMS Write Protected (Y)</li> </ul>

## General Filter Group (RMM Tape Volumes)

You can create a filter for tape volumes by using regular expressions or other values within the General filter group.

The following is a list of fields that are available for the General filter group.

**Table 4.8: General Filters (RMM)**

Field Name	Lets you filter for...
1st Dataset Create Sys ID	First dataset that created the system ID.
Abend in OCEOV	Abend in an open and close end of volume (OCEOV) procedure. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Abend in OCEOV (Y) if there was an abend during the OCEOV procedure.</li> <li>Not Abend in OCEOV (N)</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Abend When Dataset Closed	Abend procedure when a dataset closed. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Abend When Dataset Closed (Y) if there was an abend when the dataset closed.</li> <li>Not Abend When Dataset Closed (N)</li> </ul>
Accounting Information	Accounting information.
Additional Files Exist on Tape	Whether there are additional files that exist on tape. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Additional Files Exist (Y)</li> </ul>
Address of First DSNB	Address of the first DSNB on tape.
Address of Last DSNB	Address of the last DSNB on tape.
Assigned Date	Date when the tape was assigned to a library or to storage.
Authorized User	Authorized user IDs of the tape.
Bin Media Name	Bin media name associated with the tape.
Block Size	Block size of datasets that reside in a volume.
Catalog Controlled	Datasets residing in a volume are cataloged controlled. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Catalog Controlled (Y)</li> </ul>
Container	Container number associated with the tape.
Copy of JFCBDEN	Number of JFCBDEN copies on a tape.
Copy of JFCBLTYP	Number of JFCBLTYP copies on a tape.
Copy of UCBTYP Field from UCB	Number of UCBTYP field from UCB copies on a tape.
Create DD Name	MVS JCL Data Definition name that is used to associate a dataset with the application program processing element.
Create Step Name	Datasets were created by a specific step name. Example: PJB001 - Show datasets that were created with a step name of PJB001.
Current Label Version	Label version of the tape that is currently in binary.
D Location Type	Storage location is a distant location. Select a location type or exclude the option. All is the default.
Dataset Erase Required	Dataset erase is required. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Dataset Erase Required (Y)</li> </ul>
Dataset is Cataloged	Dataset residing in a volume has been cataloged. Select one of the following options or exclude the option. <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Dataset is Cataloged (Y)</li> </ul>
Dataset Recreated	Dataset residing in a volume has been recreated. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Dataset Recreated (Y)</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Default Expiration Date Used at Open	Default expiration date was used. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Default Expiration Date Used at Open (Y)</li> </ul>
Default Retention Period Used	Default retention period was used. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Default Retention Period Used (Y)• Default Retention Period Not Used (N)</li> </ul>
Degaus - Security Erase	Tapes have been degaussed for security erasure purposes. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Degaus - Security Erase (Y)</li> <li>• Not Degaus - Security Erase (N)</li> </ul>
DSN Used 3480 IDRC	Dataset name (DSN) used 3480 IDRC density. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• DSN Used 3480 IDRC (Y)</li> <li>• DSN Not Used 3480 IDRC (N)</li> </ul>
Dummy Record Allow TSO Add	Dummy record is allowed for a TSO add. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Dummy Record Allow TSO Add (Y)</li> <li>• Not Dummy Record Allow TSO Add (N)</li> </ul>
Dynam-T Owned Tape	Tapes are Dynam-T owned. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Dynam-T Owned Tape (Y)</li> </ul>
Error Counts	Error counts on tape volume.
Error - Permanent Read	Tapes that have permanent read errors.
Error - Permanent Write	Tapes that have permanent write errors.
Error - Temporary Read	Tapes that have temporary read errors.
Error - Temporary Write	Tapes that have temporary write errors.
Expiration Date Ignore	Whether the expiration date is ignored for tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Expiration Date Ignores (Y)</li> <li>• Expiration Date Uses (N)</li> </ul>
Expiration Date Original	Original expiration date for tape volume.
Export Token	Date of the export token.
Extended Bin Applied	Whether an extended bin has been applied. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Extended Bin Applied (Y)</li> <li>• Extended Bin Not Applied (N)</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
External Managed Tape	Tapes are externally managed. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• External Managed Tape (Y)</li> </ul>
Feature Code	Feature code.
Files	Number of files on a tape.
File Created by CA-1 Copycat	Files on the tape were created by CA-1 Copycat. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• File Created by CA-1 Copycat (Y)</li> </ul>
First DS Record	First dataset located on a volume has been recorded. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Only 1st Tape is Recorded (Y)</li> <li>• Not Only 1st Tape is Recorded (N)</li> </ul>
Force Supplied	Whether there is a force that has been supplied. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Force Supplied (Y)</li> <li>• Not Force Supplied (N)</li> </ul>
GDG	Datasets are marked as GDG and reside in a volume. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• All GDG (Y)</li> <li>• All Non-GDG (N)</li> </ul>
H Location Type	Storage location is a home location. Select a location type or exclude the option. All is the default.
IDRC Support	Level of IDRC support.
Init Request for ATL Volume	Initial request to automatically tape load (ATL) a volume. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Init Requested for ATL Volume (Y)</li> <li>• Not Init Requested for ATL Volume (N)</li> </ul>
Internal Field Changed by User	Internal field was changed by the user. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Internal Field Changed by User (Y)</li> </ul>
Is File Cataloged?	First file on the tape is cataloged. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• First File Cataloged (Y)</li> </ul>
L Location Type	Storage location is a local location. Select a location type or exclude the option. All is the default.

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Label AL	Automatic Load (AL) labeled tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Label Tape is AL (Y)</li> <li>• Label Tape is not AL (N)</li> </ul>
Label NL	Non-Loaded (NL) labeled tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Label Tape is NL (Y)</li> <li>• Label Tape is not NL (N)</li> </ul>
Label Number of 1st File	Label number of the first file on the tape.
Label SL	Scratch label (SL) tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Label Tape is SL (Y)</li> <li>• Label Tape is not SL (N)</li> </ul>
Last Cleaning Use Count	Last cleaning use count for the tape.
Last File End Media Position	Last file number that ends the media.
Last Used Device	Device number where the tape was last used.
Last Write - BLP	Last write on the tape is a BLP. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Tape Last Written Using BLP (Y)</li> <li>• Tape Last Written Not Using BLP (N)</li> </ul>
Length of A/C Field	Length of the A/C field.
Length of First Dataset Name on Tape	Length of the first dataset name that resides on a volume.
Length of Last Dataset Name on Tape	Length of the last dataset name that resides on a volume.
Length of User Data	Length of user data.
Logical Pool	Logical pool on the tape.
Logical Record Length	Record length of datasets that reside in a volume.
Media Type	Specific media type of tape. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Non-Cartridge</li> <li>• CST</li> <li>• ECCST</li> <li>• HPCT</li> <li>• EHPCT</li> </ul>
Move Mode	Specific move mode associated with the tape. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Auto Move</li> <li>• Manual Move</li> </ul>
N Location Type	Storage location is a new location. Select a location type or exclude the option. All is the default.

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
New Store Location	Newest location of the tape.
No Compaction	Tape is not compacted. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• No Compaction (Y)</li> <li>• Compaction (N)</li> </ul>
Notify Owner	Owner should be notified about the tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Notify Owner (Y)</li> <li>• Not Notify Owner (N)</li> </ul>
Number of Access List Entries	Number of access list entries on the tape.
Number of Files	
Old Container	Old container number associated with the tape.
Old Location Type	Storage location is an old location. Select a location type or exclude the option. All is the default.
Owner Alter Volume	Owner can alter the volume on the tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Owner May Alter Volume (Y)</li> <li>• Owner May Not Alter Volume (N)</li> </ul>
Owner Read Volume	Owner can read the volume on the tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Owner May Read Volume (Y)</li> <li>• Owner May Not Read Volume (N)</li> </ul>
Owner Update Volume	Owner can update the volume on the tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Owner May Update Volume (Y)</li> <li>• Owner May Not Update Volume (N)</li> </ul>
Pend - Degaus/Security	Pending request for a Degaus/Secure Erase. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Pend - Degaus - Security Erase (Y)</li> <li>• Pend - Not Degaus - Security Erase (N)</li> </ul>
Pend - Notify Owner	Pending request to notify the owner regarding the tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Pend - Notify Owner (Y)</li> <li>• Pend - Not Notify Owner (N)</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Pend - Re-Init	<p>Pending request to re-initialize the tape. Select one of the following options:</p> <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Pend - Reinitialize (Y)</li> <li>• Pend - Not Reinitialize (N)</li> </ul>
Pend - Replace on Release	<p>Pending request to replace the tape on release. Select one of the following options:</p> <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Pend - Replace Tape on Release (Y)</li> <li>• Pend - Not Replace Tape on Release (N)</li> </ul>
Pend - Return to Owner	<p>Pending request to return the tape to the owner. Select one of the following options:</p> <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Pend - Return to Owner (Y)</li> <li>• Pend - Not Return to Owner (N)</li> </ul>
Pend - Return to Scratch Pool	<p>Pending request to return the tape to the scratch pool. Select one of the following options:</p> <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Pend - Return to Scratch Pool (Y)</li> <li>• Pend - Not Return to Scratch Pool (N)</li> </ul>
Program Product Data	Program product data found on a tape.
Program Product Number	Program product number found on a tape.
Program Product Tape	<p>Whether this is a program product tape. Select one of the following options:</p> <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Program Product Tape (Y)</li> <li>• Non Program Product Tape (N)</li> </ul>
Read Only	<p>Tape is for read only. Select one of the following options:</p> <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Read-Only Protection (Y)</li> <li>• Not Read-Only Protection (N)</li> </ul>
Record Date	Record date of the tape.
Record Format	Dataset record formats that reside in a volume.
Record Level Number	Record level number associated with the tape.
Record Version Number	Record version number associated with the tape.
Recording Density	<p>Select a recording density for the tape or exclude the option.</p> <ul style="list-style-type: none"> <li>• All - Includes all of the options. This is the default.</li> <li>• 1600 BPI</li> <li>• 6250 BPI</li> <li>• 3480 BPI</li> <li>• 3480 Compacted (IRDC)</li> <li>• Undefined</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Re-Init	Whether the tape should be reinitialized. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Reinitialize (Y)</li> <li>• Not Reinitialize (N)</li> </ul>
Relative GDG Number	GDG files associated with a relative generation number.
Release Actions	Whether any release actions were taken for the tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Release Actions (Y)</li> <li>• Not Release Actions (N)</li> </ul>
Replace on Release	Whether the tape should be replaced on release. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Replace Tape on Release (Y)</li> <li>• Not Replace Tape on Release (N)</li> </ul>
Required Label Version	Required label version of the tape in binary.
Required Location Priority	Required location priority number.
Retained by Set	Whether the tape is retained by a set. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Retained by Set (Y)</li> <li>• Not Retained by Set (N)</li> </ul>
Return to Owner	Whether the tape should return to its owner. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Return to Owner (Y)</li> <li>• Not Return to Owner (N)</li> </ul>
Return to Scratch Pool	Whether the tape has returned to the scratch pool. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Return to Scratch Pool (Y)</li> <li>• Not Return to Scratch Pool (N)</li> </ul>
Robotic Device Indicator	Robotic device indicator that is associated with a tape. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Robotic Device Indicator (Y)</li> </ul>
Scratch Immediate	Whether the tape has been designated for immediate scratch. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Scratch Immediate (Y)</li> <li>• Scratch Later (N)</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Scratch Volume Claimed via GetVol	Whether the scratch volume came from a volume. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Scratch Volume Claimed via GetVol (Y)</li> <li>• Not Scratch Volume Claimed via GetVol (N)</li> </ul>
Scratch Volume Has Never Been Initialized	Whether a scratch volume has never been initialized. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Scratch Volume Has Never Been Initialized (Y)</li> <li>• Scratch Volume Has Been Initialized (N)</li> </ul>
Scratch Volume Init Pending	Whether a scratch volume is pending initialization. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Scratch Volume with Init Action Pending (Y)</li> <li>• Scratch Volume without Init Action Pending (N)</li> </ul>
Scratch Volume Waiting to Enter ATL	Whether a scratch volume is waiting to enter an automatic tape load (ATL). Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Scratch Volume Waiting to Enter ATL (Y)</li> <li>• Scratch Volume Not Waiting to Enter ATL (N)</li> </ul>
Security Classification Level	Level of security classification for the tape.
Select Proc by Satellite	Whether the select process is done by satellite. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Select Proc by Satellite (Y)</li> <li>• Select Not Proc by Satellite (N)</li> </ul>
Shelf Managed Store Old Bin Number	Old storage bin number of the tape.
SMS Management Class	SMS Management Class associated with the tape.
Special Attributes	Special attributes on the tape. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• No Special Attributes</li> <li>• 18 Track Read Only</li> </ul>
Stored Date	Storage date of the tape or how many days ago the tape was put in storage.
Stored Location ID	Specific store location ID. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All - Includes all of the options. This is the default.</li> <li>• Distant Store</li> <li>• Local Store</li> <li>• Remote Store</li> <li>• Tape Library</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Stored Status	Storage status level. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the store status options. This is the default.</li> <li>• Tape Library to Remote Store</li> <li>• Remote Store to Tape Library</li> <li>• Tape Library to Local Store</li> <li>• Local Store to Tape Library</li> <li>• Local Store to Distant Store</li> <li>• Tape Library to Distant Store</li> <li>• Distant Store to Tape Library</li> <li>• Store Location Valid</li> </ul>
STV Recorded by Export	Whether an STV was recorded by an export process. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• STV Recorded by Export (Y)</li> <li>• STV Not Recorded by Export (N)</li> </ul>
Tape is On Loan	Whether tape is on loan. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Tape is On Loan (Y)</li> <li>• Tape is not On Loan (N)</li> </ul>
Tape Media Type Information	Tape media type information.
Tape Opened not Closed	Whether tape status is currently open and not closed. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Tape Opened (Y)</li> <li>• Tape Closed (N)</li> </ul>
Temporary Dataset	Whether the dataset residing in a volume is temporary. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Temporary Dataset (Y)</li> </ul>
TMS Read Protected	Whether the tape is TMS read protected. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• TMS Read Protected (Y)</li> </ul>
TMS Security Protected	Whether the tape is TMS security protected. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• TMS Security Protected (Y)</li> </ul>
TMS Write Protected	Whether the tape is TMS write protected. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• TMS Write Protected (Y)</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Update Protect	Whether protection for the tape has been updated. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Update Protection (Y)</li> <li>• Not Update Protection (N)</li> </ul>
Used on MVS	Whether the tape is associated with MVS. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Used on MVS Systems (Y)</li> <li>• Not Used on MVS Systems (N)</li> </ul>
Used on VM	Whether the tape is associated with VM. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Used on VM Systems (Y)</li> <li>• Not Used on VM Systems (N)</li> </ul>
User Description	User description for a tape.
User Label	Whether this is a user supplied label. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• SL or AL Tape Has Used Labels (Y)</li> <li>• SL or AL Tape Has No Used Labels (N)</li> </ul>
User Tape	Whether this is a user tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• User Tape (Y)</li> <li>• Non User Tape (N)</li> </ul>
Version/Release/Mod Number	Version release model number.
Vital Record	Whether the volume contains a vital record and is not pending release. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Vital Record (Y)</li> <li>• Non Vital Record (N)</li> </ul>
Volume 1 Label Volser	First volume's label Volser.
Volume in Transit	Whether the volume on the tape is designated for transit. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Volume in Transit (Y)</li> <li>• Volume not in Transit (N)</li> </ul>
Volume is Master	Whether the volume is the master. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Volume is Master (Y)</li> <li>• Volume is not Master (N)</li> </ul>

**Table 4.8: General Filters (RMM) (Continued)**

Field Name	Lets you filter for...
Volume is Scratch	Whether the volume is classified as scratch. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Volume is Scratch (Y)</li> <li>• Volume is not Scratch (N)</li> </ul>
Volume Last Change Token	Volume last change token located on a tape.
Volume Last Read Date	Date the volume was last read.
Volume Pending Release	Whether the volume is pending a release. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Volume Pending Release (Y)</li> <li>• Volume Not Pending Release (N)</li> </ul>
Volume Pool	Volume pool on the tape.
Volume Recorded by OCEOV	Whether a tape's volume has recorded an open and close, end of volume (OCEOV) procedure. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Volume Recorded by OCEOV (Y)</li> <li>• Volume Not Recorded by OCEOV (N)</li> </ul>
Volume Recording Format	Volume recording format. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Non Cartridge</li> <li>• 18 Tracks</li> <li>• 36 Tracks</li> <li>• 128 Tracks</li> <li>• 256 Tracks</li> <li>• 384 Tracks</li> </ul>
Volume Use Count	Volume use count.
VRS Release Options	Owner can update the volume on the tape. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Owner May Update Volume (Y)</li> <li>• Owner May Not Update Volume (N)</li> </ul>

## Filter Groups for Tape Datasets

You can filter RMM tape datasets by using regular expressions or other values within the Attributes filter group.

### Attributes Filter Group

You can filter RMM tape datasets by using regular expressions or other values within the Attributes filter group.

- 1 Select an Attributes field for filtering from the Filters pane.
- 2 From the drop-down list, select Regular Expression or Begins With, Ends With, Contains, or Between; or, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
- 3 Type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

#### To exclude a filter option:

- 1 Select an Attributes field that has All or Y options for filtering from the Filters pane, for example, HSM Tape Type or Scratch Status.
- 2 Click the Not check box.
- 3 Click the logical operator (AND, OR).
- 4 Click Apply. The excluded option appears in the Filter Criteria box.

The following is a list of fields that are available for the Attributes filter group.

**Table 4.9: Attributes Filters**

Field Name	Lets you filter for...
Block Count	Block count of datasets that reside in a volume.
Block Size	Block size of datasets that reside in a volume.
Create Job	Datasets that were created by a specific job.
Create Program	Datasets that were created by a specific program name, for example, PJB001 shows datasets that were created with a program name of PJB001.
Create Step Name	Datasets that were created by a specific step name, for example, PJB001 shows datasets that were created with a step name of PJB001.
Dataset Name	Specific dataset name.
File Sequence Number	File sequence number located on the tape.
GDG	Datasets that are marked as GDG and reside in a volume. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• All GDG (Y)</li> <li>• All Non-GDG (N)</li> </ul>

**Table 4.9: Attributes Filters (Continued)**

Field Name	Lets you filter for...
HSM Tape Type	HSM tape type. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Not HSM (blank)</li> <li>• Backup Tape (B)</li> <li>• Dump Type (D)</li> <li>• Migrated Type (M)</li> <li>• Invalid Type (X)</li> </ul>
Logical Pool	Logical pool on the tape.
Logical Record Length	Record length of datasets that reside in a volume.
Multiple Files?	Whether multiple files are associated with a dataset. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Multiple Files (Y)</li> </ul>
Out Code	Tapes that have a specific out code number.
Record Format	Dataset record format.
Relative GDG Number	GDG files associated with a relative generation number.
Scratch Status	Whether a tape is scratch. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Scratch (Y)</li> </ul>
Tape in Robot?	Tapes that are in a tape robotic device. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Tape in Robot (Y)</li> </ul>
TF-Cataloged?	Datasets that have been cataloged. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Dataset is Cataloged (Y)</li> <li>• Dataset is not Cataloged (N)</li> </ul>
TF-Media Type	Fully qualified media type, for example, REEL shows information contained only on the media type REEL.
Used Space	Total space used in bytes, kilobytes, megabytes, gigabytes, or terabytes.
Volume Pool	Volume pool name.
Volume Sequence Number	Volume sequence number located on the tape.
Volume Serial	Volume serial number (Volser) associated with the dataset.

## Dates Filter Group

You can filter RMM tape datasets by Date or by Days Ago within the Dates filter group.

### To filter RMM datasets by Date:

- 1 Select a Date field for filtering from the Filters pane.
- 2 From the first drop-down list, select a value such as Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between, or Regular Expression.
- 3 For all selections except Regular Expression, click the middle drop-down list to display the calendar and use the navigational arrows to select the date and populate the field.
- 4 Select Date from the farthest right drop-down list.
- 5 Click Apply and the filter information appears in the Filter Criteria area.
- 6 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

### To filter RMM datasets by Days Ago:

- 1 Select a Date field for filtering from the Filters pane.
- 2 From the first drop-down list, select a value such as Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between, or Regular Expression.
- 3 For all selections except Regular Expression, click the middle drop-down list to display the calendar and use the navigational arrows to select the date and populate the field.
- 4 Select Days Ago from the farthest right drop-down list.
- 5 Click Apply and the filter information appears in the Filter Criteria area.
- 6 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

The following is a list of fields that are available for the Dates filter group.

**Table 4.10: Dates Filters**

Field Name	Lets you filter for...
Create Date	File creation date or the number of days since file creation.
Expiration Date	Expiration date or numbers of days since expiration.
Last Change Date	Last date the tape was changed or the number of days since tape was last changed.
Last Read Date	Date the tape was last read.
Last User Change Date	Date the tape was last changed by a user.
Last Write Date	Date the tape was last written.
Retention Date	Retention date or how many days ago there was a retention date for a tape.

## RMM Filter Group

- 1 You can filter RMM tape datasets by using regular expressions or other values within the RMM filter group.
- 2 Select an RMM field for filtering from the Filters pane.
- 3 From the drop-down list, select Regular Expression and type a value for filtering, or select Begins With, Ends With, Contains, or Between and type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

### To exclude a filter option:

- 1 Select an RMM field such as Matching VRS Type from the Filters pane.
- 2 Click the Not check box.
- 3 Click the logical operator (AND, OR).
- 4 Click Apply. The excluded option appears in the Filter Criteria box

The following is a list of fields that are available for the RMM filter group.

**Table 4.11: RMM Filters**

Field Name	Lets you filter for...
Create Unit	Tapes created on a certain unit.
Dataset Owner	Dataset owner.
Dataset Retained by VRS	Whether dataset is retained by VRS. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Dataset is retained by VRS (Y)</li> <li>• Dataset is not retained by VRS (N)</li> </ul>
Description	Specific description of a tape. For example, RACF shows tapes that have been assigned a description of RACF.
Last Change Sys ID	System ID where the tape was last changed.
Last Change User ID	User ID of the person who made the last change to the tape.
Location	Specific location code of a tape. For example, SHELF shows tapes that have an assigned location code of SHELF.
Matching VRS Type	Specific VRS type. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All - Includes all of the types. This is the default.</li> <li>• Dataset</li> <li>• SMSMC</li> <li>• VRSMV</li> <li>• DSNMV</li> </ul>

**Table 4.11: RMM Filters (Continued)**

Field Name	Lets you filter for...
Record Deleted	Whether tape is marked as deleted. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Record Deleted (Y)</li> <li>• Record Not Deleted (N)</li> </ul>
RMM Media Type	RMM media type of the tape.
Security Classification Level	Level of security classification for the tape.
System ID	Specific system ID for the tape.

## General Filter Group

You can filter RMM tape datasets by using regular expressions or other values within the General filter group.

- 1 Select a General field for filtering from the Filters pane.
- 2 From the drop-down list, select Regular Expression or Begins With, Ends With, Contains, or Between; or, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
- 3 Type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

### To exclude a filter option:

- 1 Select a General field that has All or Y options for filtering from the Filters pane.
- 2 Click the Not check box.
- 3 Click the logical operator (AND, OR).
- 4 Click Apply. The excluded option appears in the Filter Criteria box.

### To filter date fields:

- 1 Select a General field that has a date value from the Filters pane.
- 2 From the drop-down list, select a value (such as greater than, less than, equal to, and so on).
- 3 In the Date selection drop-down list, select either Date or Days Ago.
- 4 If Date is selected a appears in the drop-down list in the middle field. Select the date from the calendar.
- 5 If Days Ago is selected, type a numeric value representing the number of days in the middle field.

The following is a list of fields that are available for the General filter group.

**Table 4.12: General Filters**

Field Name	Lets you filter for...
Abend in OCEOV	Abend in an open and close end of volume (OCEOV) procedure. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Abend in OCEOV (Y) if there was an abend during the OCEOV procedure.</li> <li>Not Abend in OCEOV (N)</li> </ul>
Abend When Dataset Closed	Abend procedure when a dataset closed. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Abend When Dataset Closed (Y) if there was an abend when the dataset closed.</li> <li>Not Abend When Dataset Closed (N)</li> </ul>
Address of next DSNB in Chain	Address of the next DSNB in a chain.
Address of Previous DSNB in Chain	Address of the previous DSNB in a chain.
Create Date	Date value; file creation date or the number of days since file creation.
Create DDName	MVS JCL Data Definition name that is used to associate a dataset with the application program processing element.
Create Job Name	Datasets that were created by a specific job name.
Create Program Name	Datasets that were created with a specific program name.
Create Step Name	Datasets were created by a specific step name. Example: PJB001 - Show datasets that were created with a step name of PJB001.
Create Sys ID	System ID where the dataset was created.
Current DSNB Number	DSNB number.
Dataset Size	Total dataset size in bytes, kilobytes, megabytes, gigabytes, or terabytes.
Default Expiration Date Used at Open	Default expiration date was used during the open procedure. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Default Expiration Date Used at Open (Y)</li> </ul>
Default Expire Date Used	Default expiration date was used. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Default Expiration Date Used (Y)</li> </ul>
Default Retention Period Used	Default retention period was used. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Default Retention Period Used (Y)</li> <li>Default Retention Period Not Used (N)</li> </ul>
DSN Used 3480 IDRC	Dataset name (DSN) used 3480 IDRC density. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>DSN Used 3480 IDRC (Y)</li> <li>DSN Not Used 3480 IDRC (N)</li> </ul>

**Table 4.12: General Filters (Continued)**

Field Name	Lets you filter for...
Dummy Record Allow TSO Add	Dummy record is allowed for a TSO add. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Dummy Record Allow TSO Add (Y)</li> <li>Not Dummy Record Allow TSO Add (N)</li> </ul>
Expiration Date Original	Date value; original expiration date.
Expired by Catalog Control	Dataset expired due to catalog control. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Expired by Catalog Control (Y)</li> </ul>
Expired by TMS Interface	Dataset expired due to a TMS interface. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Expired by TMS Interface (Y)</li> </ul>
File End Block ID	Block ID where the file ends.
File End Media Position	File end media position.
File Start Block ID	Block ID where the file starts.
File Start Media Position	File start media position.
Force Supplied	Whether there is a force that has been supplied. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Force Supplied (Y)</li> <li>Not Force Supplied (N)</li> </ul>
Is File Cataloged?	First file on the tape is cataloged. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>First File Cataloged (Y)</li> </ul>
Last Use DD Name	Tapes that were last used by a specific MVS JCL Data Definition.
Last Use Job Name	Tapes that were last used by a specific job name.
Last Used Program Name	Tapes that were last used by a specific program name, for example PAY shows tapes that were last used with a program name beginning with PAY.
Last Use Step Name	Tapes that were last used by a step name.
Last Use Unit	Tapes last used on a certain unit.
Old SMS Management Class Name	Old management class name.
No Compaction	Tape is not compacted. Select one of the following options: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>No Compaction (Y)</li> <li>Compaction (N)</li> </ul>
Not Cataloged During VRS	Datasets that have not been cataloged during VRS. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>All of the options. This is the default.</li> <li>Not Cataloged During VRS (Y)</li> <li>Cataloged During VRS (N)</li> </ul>

**Table 4.12: General Filters (Continued)**

Field Name	Lets you filter for...
Physical File Sequence Number	Physical file sequence number located on the tape.
Primary VRS Subsequent Subchain Name	Primary VRS subsequent subchain name.
Primary VRS Subsequent Subchain Start Date	Date value; primary VRS subsequent subchain start date.
Record Create CDS ID	Tapes by the record created CDS ID.
Record Date	Date value; record date of the tape.
Record Level	Record level number associated with the tape.
Record Previous Deleted	Whether a record was previously deleted. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Record Previous Deleted (Y)</li> <li>• Record Previous Not Deleted (N)</li> </ul>
Record Version Number	Record version number associated with the tape.
Select Processed by Satellite	Whether the select process is done by satellite. Select one of the following options: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Select Proc by Satellite (Y)</li> <li>• Select Not Proc by Satellite (N)</li> </ul>
SMS Data Class	SMS data class.
SMS Management Class	SMS management class associated with the tape.
SMS Storage Class	SMS storage class associated with the tape.
SMS Storage Group	SMS storage group.
Start Volser	Start volser on tape that is associated with the dataset.
Total Block Count Across All Volumes	Total block count across all volumes on the tape.
Volume Closed by Abend	Whether the volume closed by an abend. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Volume Closed by Abend (Y)</li> </ul>
VRS Job Name	VRS job name.
VRS Management Value	VRS management value.

## CA-1 Component

The CAOne component allows you to view CAOne tape management related information. This information includes the following:

- Volumes
- Datasets
- HSM OCDS
- Dataset Pools
- Volume Pools

The CAOne component is located below Tape in the Tree View pane.

### To view Tape CAOne information:

Double-click CAOne in the Tape Tree View pane to expand it. The CAOne component appears.

### Volumes Filter Tab

The CAOne Volumes Filter tab allows you to view CAOne volumes and datasets that are located on tape. All CAOne volumes filters are grouped alphabetically on the Filters pane. See Filter Groups for Tape Volumes, page 4-2.

Attributes filter group

Dates filter group

Volume Status filter group

Errors Since Cleaned filter group

Errors Since Initialized filter group

General filter group

### Volumes Zoom

After the Tape CAOne Volumes filter is executed, a result set of information appears in the Tape CAOne Volumes Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.13: Volumes Zoom Columns**

Column Name	Description
Volume Serial	Name of the volume serial that is on tape.
Scratch Status	Volume is scratch. Values: Y (Yes) or N (No).
TF-Media Type	Specifies the media type. Some current valid media types include: REEL, 3480,3490, 3490E, 3590T128, 3590T256, 3590E128,3590E256, 9840, RDWD12, RDWD25, RDWD50, and OTHER. Examples: REEL - Shows information contained only on the media type REEL.
Volume Sequence Number	Volume sequence number. Numeric value (no decimal points).

**Table 4.13: Volumes Zoom Columns (Continued)**

Column Name	Description
Files Count	Files on tape volume. Numeric value (no decimal points).
Label	Tape label type; for example, SL returns tapes with standard labels.
External Manager ID	Y (Yes) if a tape is externally managed. Otherwise, N (No).
Multiple Tapes?	Y (Yes) if there are multiple tapes. Otherwise, N (No).
Outcoded?	Y (Yes) if there are out coded tapes. Otherwise, N (No) = Non-outcoded tapes.
Tape Used Space on Tape Volume (MB)	Shows the usage of the volume.
Percent Used	Shows the total percentage of tape used by a specific Volser.
Create Date	Volume create date. Numeric value (no decimal points). Format is YYYYMMDD.
Create Time	Volume create time. Numeric value (no decimal points). Format is HHMMSS.
Last Used Date	Last use date (Gregorian). Character length is 10 or less.
Expiration Date	Date when the volume expires.
Internal Expiration	Displays the internal expiration date in year and number of days (YYYYDDD) format.
Out Code Date	Provides the ability to filter by the out code date.
Last Cleaning Date	The last date the tape was cleaned.
Birth Date	Provides the ability to filter by birth date.
Create Job Name	Creating job name. Character length is 8 or less.
Create Program Name	Allows you to view tapes that were created with a specific program name. Example: PJB001 - Shows tapes that were created with a program name of PJB001.
Create Unit	Creating unit. Character length is 4 or less.
Last Used Job	Job name that last used the volume. Character length is 8 or less.
Last Used Program Name	Tapes that were last used by a specific program name.
Last Used Unit	Displays tapes last used on a certain unit number.
Record Date	Displays the record date of the tape.
Record Version Number	Displays the record version number associated with the tape.
First Volser	First volume of the data set named in DSN. Character length is 6 or less.
Previous Volser	Previous volume of a multi-volume set. Character length is 6 or less.
Next Volser	Displays the next Volser.
Files	Displays the number of files on a tape.
Address of First DSNB	Displays the address of the first DSNB on the tape.
Address of Last DSNB	Displays the address of the last DSNB on the tape.
Internal Field Changed by User	Y (Yes) if the internal field was changed by the user. Otherwise, N (No).
Volume Closed by TMS	Y (Yes) if the tape was closed by TMS. Otherwise, N (No).
TMC Record Updated by User	Y (Yes) if the TMC record was updated by the user. Otherwise, N (No).
Volume Closed by Abend	Y (Yes) if the tape is marked as closed by an abend. Otherwise, N (No).
To be Cleaned?	Y (Yes) if the tape is marked to be cleaned. Otherwise, N (No).

**Table 4.13: Volumes Zoom Columns (Continued)**

Column Name	Description
Deleted Status	Y (Yes) if any volumes were deleted from the library. Otherwise, N (No).
Default Expire Date Used	Y (Yes) for tapes where the default expire date was used. Otherwise, N (No).
Dataset is Cataloged	Y (Yes) if the dataset is cataloged. Otherwise, N (No).
Volume Opened for Output?	Y (Yes) for tapes that were last opened as output. Otherwise, N (No).
Dataset Recreated	Y (Yes) if the dataset residing in a volume has been re-created. Otherwise, N (No).
Temporary Dataset	Y (Yes) if the dataset residing in a volume is temporary. Otherwise, N (No).
Catalog Controlled	Y (Yes) if the dataset residing in a volume is cataloged controlled. Otherwise, N (No).
Cycle Controlled	Y (Yes) if the dataset residing in a volume is cycle controlled. Otherwise, N (No).
Frequency Controlled	Y (Yes) if the dataset residing in a volume is frequency controlled. Otherwise, N (No).
Expired by TMS	Y (Yes) if the tapes have expired by TMS. Otherwise, N (No).
Bad Tape?	Y (Yes) if the tape is marked Bad Tape, No Scratch Mount. Otherwise, N (No).
Released by External Vault Manager?	Y (Yes) if the tape has been released by the external vault manager. Otherwise, N (No).
External Managed Tape	Y (Yes) if the tapes are externally managed. Otherwise, N (No).
Dynam-T Owned Tape	Y (Yes) if the tapes are Dynam-T owned. Otherwise, N (No).
Dataset Erase Required	Y (Yes) if a dataset erase is required. Otherwise, N (No).
Default Expiration Date Used at Open	Y (Yes) if the default expiration date was used during the open procedure. Otherwise, N (No).
Additional Files Exist on Tape	Y (Yes) if there are additional files that exist on the tape. Otherwise, N (No).
File Created by CA-1 Copycat	Y (Yes) if there are any files on the tape that were created by CA-1 Copycat. Otherwise, N (No).
Expired by SMS	Y (Yes) if the tapes are expired by SMS. Otherwise, N (No).
Record Format	Record format of the dataset. Character length is 5 or less.
Logical Record Length	Record length of the dataset. Numeric value (no decimal points).
Block Size	Block size of the dataset. Numeric value (no decimal points).
Block Count	Block count of the dataset. Numeric value (no decimal points).
Out Code	Displays the out code number of the tape.
Vault Slot Number	Specifies the vault slot number.
Create Step Name	Creating step name. Character length is 8 or less. Example: PJB001 - Shows datasets that were created with a step name of PJB001.
Create DD Name	Creating DD name. Character length is 8 or less.
TMS Security Protected	Y (Yes) if the tape is TMS security protected. Otherwise, N (No).
TMS Read Protected	Y (Yes) if the tape is TMS read protected. Otherwise, N (No).
TMS Write Protected	Y (Yes) if the tape is TMS write protected. Otherwise, N (No).
Times Tape Cleaned	The number of times the tape has been cleaned.
Last Cleaning Use Count	The last cleaning use for the tape.

**Table 4.13: Volumes Zoom Columns (Continued)**

Column Name	Description
Number Times Tape Opened	Specifies the number of times a tape has been opened.
Tape Vendor Name	Allows you to filter tapes with certain vendor names.
Temporary Read Error	Allows you to filter tapes for a temporary read error since it was last cleaned.
Temporary Write Error	Allows you to filter tapes for a temporary write error since it was last cleaned.
Permanent Read Error	Allows you to filter tapes for a permanent read error since it was last cleaned.
Permanent Write Error	Allows you to filter tapes for a permanent write error since it was last cleaned.
Temporary Read Error	Allows you to filter tapes for a temporary read error since it was initialized.
Temporary Write Error	Allows you to filter tapes for a temporary write error since it was initialized.
Permanent Read Error	Allows you to filter tapes for a permanent read error since it was initialized.
Permanent Write Error	Allows you to filter tapes for a permanent write error since it was initialized.
Tape in Robot?	Y (Yes) if the tapes are in a tape robot device. Otherwise, N (No).
SMS Management Class	The SMS Management Class associated with the tape.
Tape BPI	Tape using a Bytes Per Inch (BPI) number. Some current valid BPI's include: 800, 1600, 6250, 38K, and CMPRS. Example: 6250 - Displays only information contained on tapes with a BPI of 6250.
Robotic Device Indicator	Y (Yes) if the tapes are in a tape robot device. Otherwise, N (No).
Externally Managed?	Y (Yes) if the tapes are externally managed. Otherwise, N (No).
Is File Cataloged?	Y (Yes) if the dataset residing in a volume has been cataloged. Otherwise, N (No).
HSM Tape Type	HSM type options for this field include the following: • B - Backup • D - Dump • M - Migrate • X - Invalid
Multiple Files?	Y (Yes) if there is more than 1 file on a Volser. Otherwise, N (No).
System ID	Tapes that were created on a specific system.
Location	Specific location code for tapes. Character length is 8 or less. Example: SHELF - Shows tapes that have an assigned location code of SHELF.
Description	User-defined description. Character length is 30 or less.
GDG	Y (Yes) appears if the dataset is marked as GDG. Otherwise, N (No).
Relative GDG Number	Shows the relative GDG number.
Volume Pool	Allows you to filter for the volume pool on the tape.
Logical Pool 0 through Logical Pool 9	Displays the logical pool name associated with the dataset.

## Volumes Summary

An information result set appears in the Tape CAOne Volumes Zoom tab after filters have been executed. Summary information is key to management reporting and should be used to guide business decisions. If you want to look at summary information about volumes, click the Summary tab located at the top. The Tape CAOne Volumes Summary tab then appears.

The Summary tab contains two sub-tabs that give you various information. The sub-tabs include:

- General
- Volume Pool

The columns for each of the sub-tabs includes the following:

**Table 4.14: General Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.
Percent Used	Displays the percent used for each media type.

**Table 4.15: Volume Pool Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.

## Datasets Filter Tab

The Datasets Filter tab allows you to view all CAOne datasets that are located on tape. After you have executed a filter from the CAOne Datasets Filter tab, an information result set appears in the CAOne Datasets Detail tab. A CAOne Datasets Summary tab allows you to view high-level information regarding CAOne datasets that reside on tape.

All CAOne datasets filters are grouped alphabetically on the Filters pane:

- Attributes filter group
- Dates filter group
- General filter group

## Datasets Detail

After the CAOne Datasets filter is executed, a result set of information appears in the Datasets Detail tab. Datasets Detail tab provides detailed information about all datasets in the environment. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.16: Detail Columns**

Column Name	Description
Dataset Name	Lists the dataset name (can be up to 44 characters in length).
Volume Serial	Name of the volume serial that is on tape.
File Sequence Number	Shows the file number.
Scratch Status	Volume is scratch. Values: Y (Yes) or N (No).
Is File Cataloged?	Y (Yes) if the dataset residing in a volume has been cataloged. Otherwise, N (No).
Tape Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this tape has used.
Record Format	Displays the record format for the associated dataset.
Logical Record Length	Displays the logical record length of the dataset.
Block Size	Contains the block size for the associated dataset.
GDG	Indicates whether GDG or non-GDG dataset.
Relative GDG Number	Shows the relative GDG number.
Start Volser	Shows the start Volser number.
Create Date	Date that the dataset was created; provides the ability to evaluate datasets based on creation date.
Create Job Name	Creating job name. Character length is 8 or less.
Create Program Name	Allows you to view tapes that were created with a specific program name. Example: PJB001 - Shows tapes that were created with a program name of PJB001.
Expiration Date	Displays the expiration date of the associated dataset.
Internal Expiration	Displays the internal expiration date in year and number of days (YYYYDDD) format.
Out Code	Displays the out code number of the tape.
Tape in Robot?	Y (Yes) if the tapes are in a tape robot device. Otherwise, N (No).
Record Date	Displays the record date of the tape.
Record Version Number	Displays the record version number associated with the tape.
TMC Record Updated by User	Y (Yes) if the TMC record was updated by the user. Otherwise, N (No).
Expired by TMS Interface	Y (Yes) if the tapes have expired by TMS. Otherwise, N (No).
Expired by Catalog Control	Y (Yes) if the dataset residing in a volume is cataloged controlled. Otherwise, N (No).
Volume Closed by Abend	Y (Yes) if the tape is marked as closed by an abend. Otherwise, N (No).
Default Expiration Date Used at Open	Y (Yes) if the default expiration date was used during the open procedure. Otherwise, N (No).

**Table 4.16: Detail Columns (Continued)**

Column Name	Description
Default Expire Date Used	Y (Yes) for tapes where the default expire date was used. Otherwise, N (No).
Current DSNB Number	Displays the DSNB number.
Address of Previous DSNB in Chain	Displays the address of the previous DSNB in a chain.
Address of Next DSNB in Chain	Displays the address of the next DSNB in a chain.
Create Step Name	Creating step name. Character length is 8 or less. Example: PJB001 - Shows datasets that were created with a step name of PJB001.
Block Count	Block count of the dataset. Numeric value (no decimal points).
SMS Management Class	The SMS Management Class associated with the dataset.
HSM Tape Type	HSM type options for this field include the following: <ul style="list-style-type: none"> <li>• B - Backup</li> <li>• D - Dump</li> <li>• M - Migrate</li> <li>• X - Invalid</li> </ul>
TF-Media Type	Specifies the media type. Some current valid media types include: REEL, 3480,3490, 3490E, 3590T128, 3590T256, 3590E128,3590E256, 9840, RDWD12, RDWD25, RDWD50, and OTHER. Examples: REEL - Shows information contained only on the media type REEL.
Multiple Files?	Y (Yes) if there is more than 1 file on a Volser. Otherwise, N (No).
System ID	Tapes that were created on a specific system.
Location	Specific location code for tapes. Character length is 8 or less. Example: SHELF - Shows tapes that have an assigned location code of SHELF.
Description	User-defined description. Character length is 30 or less.
Volume Pool	Allows you to filter for the volume pool on the tape.
Logical Pool 0 through Logical Pool 9	Displays the logical pool name associated with the dataset.

## Datasets Summary

An information result set appears in the Tape CAOne Datasets Detail tab after filters have been executed. Summary information is key to management reporting and should be used to guide business decisions. If you want to look at summary information about volumes, click the Summary tab located at the top. The Tape CAOne Datasets Summary tab then appears.

The Summary tab contains a General sub-tab that gives you various information.

The columns for the General sub-tab include the following:

**Table 4.17: General Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Datasets	Shows the number of volumes associated with the datasets.

**Table 4.17: General Summary (Continued)**

Column Name	Description
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.

## HSM OCDS Filter Tab

The HSM OCDS Filter tab allows you to view all CAOne HSM offline control datasets (OCDS) that are located on tape.

You can create a filter by using regular expressions or other values within the HSM OCDS filter group. The following is a list of fields that are available for the HSM OCDS filter group.

**Table 4.18: HSM OCDS Filters**

Field Name	Lets you filter for...
Dataset Name	A specific dataset name that coincides with the selection from the drop-down list.
Files Count	Number of files on a tape that coincides with the selection from the drop-down list.
First Volser	Tapes that have a first volume Volser number that coincides with the selection from the drop-down list. <i>Example:</i> 012345 - Show all tapes which have a first volume Volser of 012345.
HSM Tape Type	HSM tape type. The options for this field include the following: <ul style="list-style-type: none"> <li>• All = Includes all of the options. This is the default.</li> <li>• Backup Tape (B)</li> <li>• Dump Tape (D)</li> <li>• Migrate Tape (M)</li> <li>• Invalid Type (X)</li> </ul> To exclude an option, click the Not check box, then click Apply. The excluded option appears in the Filter Criteria box.
Next Volser	Tapes that have a next volume Volser that coincides with the selection from the drop-down list. <i>Example:</i> 012345 - Shows all tapes that have a next volume Volser of 012345.
Previous Volser	Tapes that have a previous volume Volser that coincides with the selection from the drop-down list. <i>Example:</i> 012345 - Shows all tapes that have a previous volume volser of 012345.
Volume Serial	A specific volume serial (Volser) that coincides with the selection from the drop-down list.

## HSM OCDS Zoom

After the Tape CAOne HSM OCDS filter is executed, a result set of information appears in the Tape CAOne HSM OCDS Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all

columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.19: HSM OCDS Zoom Columns**

Column Name	Description
Volume Serial	Name of the volume serial that is on tape.
HSM Tape Type	HSM type options for this field include the following: <ul style="list-style-type: none"> <li>• B - Backup</li> <li>• D - Dump</li> <li>• M - Migrate</li> <li>• X - Invalid</li> </ul>
Files Count	Displays the number of files on a tape.
Dataset Name	Displays the dataset name associated with the tape.
First Volser	First volume of the data set named in DSN. Character length is 6 or less.
Previous Volser	Previous volume of a multi-volume set. Character length is 6 or less.
Next Volser	Displays the next Volser.

## HSM OCDS Summary

An information result set appears in the Tape CAOne HSM OCDS Zoom tab after filters have been executed. Summary information is key to management reporting and should be used to guide business decisions. If you want to look at summary information about volumes, click the Summary tab located at the top. The Tape CAOne HSM OCDS Summary tab then appears.

The Summary tab contains a General sub-tab that gives you various information. The columns for the General sub-tab include the following:

**Table 4.20: OCDS General Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Number of Files	Lists the number of files by media class.

## Dataset Pools Filter Tab

You can obtain dataset logical pool information from Tape CAOne.

### To view dataset logical pools from Tape CAOne:

- 1 Expand the Tape Tree View pane and double-click CAOne.
- 2 Click Dataset Pools.
- 3 Select the pool type from the Pool Type drop-down list.

**Note:** Select the NOT check box to apply a logical Exclude to the selected option.
- 4 Click Apply and your filter information appears in the Filter Criteria area.

- Click Execute and the selected dataset pool type and its members display in the Logical Pools Zoom tab.

## Dataset Pools Zoom

The Logical Pools Zoom information is displayed after you select the dataset pool type and execute filters from the CaOne Dataset Pools filter tab. The Logical Pools information displayed here features a wealth of information about logical pools as well as cost. You can display this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.21: Logical Pools Zoom Columns**

Column Name	Description
Pool Name	Displays the name assigned to the volume pool.
Count	Lists the number of candidate volumes for this dataset.
Percent Used	Percentage that is currently allocated.
Percent Free	Displays the percentage of free space for an associated dataset.
Allocated (unit)	Lists the total allocation of space by unit (megabytes, gigabytes, tracks and so on).
Used (unit)	Displays the total allocation of space by unit that the dataset has used (megabytes, gigabytes, tracks and so on).
Free (unit)	Displays the amount of allocated but unused (free) storage in this category.
ML1 DASD Allocated	Number of megabytes, gigabytes, or tracks allocated to migration level 1.
ML1 Backup Allocated	Number of megabytes, gigabytes, or tracks allocated for backup to migration level 1.
ML1 DASD Used	Number of megabytes used in migration level 1.
ML1 DASD Free	Number of megabytes free in migration level 1.
ML2 DASD Allocated	Number of megabytes allocated to migration level 2.
CI Splits	Number of control interval splits for a pool. This column information only applies to VSAM databases.
ML2 DASD Free	Number of megabytes free in migration level 2.
CA Splits	Number of control access splits for a volume pool. This column information only applies to VSAM databases.
ML2 DASD Used	Number of megabytes used in migration level 2.
ML1 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 1.
ML2 Tape Used	Number of megabytes used by tapes in migration level 2.
ML2 Tape Allocated	Number of megabytes of tape capacity in migration level 2.
ML2 Tape Free	Number of megabytes free in tapes that reside in migration level 2.
Backup Tape Allocated	Number of megabytes allocated to backup tapes.
Backup Tape Free	Number of megabytes free in backup tapes.
Dump Tape Used	Number of megabytes used by dump tapes.
Backup Tape Used	Number of megabytes used by backup tapes.
Tape Allocated	Number of megabytes of tape capacity.
Dump Tape Allocated	Capacity of dump tapes in megabytes.
ML1 Percent Used	Percent of space used in migration level 1.
Backup DASD Percent Used	Percent of space used in backups.

**Table 4.21: Logical Pools Zoom Columns (Continued)**

Column Name	Description
Tape Free	Number of megabytes with space free in tape.
ML1 Percent Free	Percent of space free in migration level 1.
Dump Tape Free	Number of megabytes free in dump tapes.
Tape Used	Number of megabytes used by tape.
ML2 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 2.
Total Allocated	Total number of megabytes.
ML2 DASD Percent Used	Percent of space used in migration level 2.
ML2 DASD Percent Free	Percent of space free in migration level 2.
ML2 Tape Volume/ Dataset Count	Number of tapes used in migration level 2.
ML2 Tape Percent Used	Percent of used space by tapes in migration level 2.
ML2 Tape Percent Free	Percent of space free in tapes that reside in migration level 2.
Backup Tape Volume/ Dataset Count	Number of tape backups.
Backup Tape Percent Used	Percent of space used in backups.
Backup Tape Percent Free	Percent of space free in backups.
Dump Tape Volume/ Dataset Count	Number of dump tapes.
Dump Tape Percent Used	Percent of dump tapes that are used.
Dump Tape Percent Free	Percent of dump tapes that are free.
Tape Volume/Dataset Count	Number of tapes.
Tape Percent Used	Percent of tapes that are used.
Tape Percent Free	Percent of tapes that are free.
Total Cost of DASD	Cost of DASD. The cost is derived from the TSF Settings.
Total Cost of HSM	Cost of HSM.
Total Cost of Tape	Cost of tape.
Total Volume/Dataset Count	The total number of files or volumes, depending on the type of pool.
Total Cost	Total cost of DASD, tape, and HSM.
Pool Type	Displays the user-defined volume pool type.
Pool Type Description	Displays the user-defined volume pool associated with the dataset.

## Volume Pools Filters

You can view detail information about logical volume pools from Tape CAOne.

### To view logical volume pool information:

- 1 Expand the Tape Tree View pane, and double-click CAOne.
- 2 Click Volume Pools.
- 3 Select the pool type from the Pool Type drop-down list.

**Note:** Select the NOT check box to apply a logical Exclude to the selected option.

- 4 Click Apply and your filter information appears in the Filter Criteria area.
- 5 Click Execute and the selected dataset pool type and its members display in the Logical Pools Zoom tab.

## Volume Pools Zoom

The Logical Pools Zoom information is displayed after you select the dataset pool type and execute filters from the CaOne Volume Pools filter tab. The Logical Pools information displayed here features a wealth of information about logical pools as well as cost. You can display this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.22: Logical Pools Zoom Columns**

Column Name	Description
Pool Name	Displays the name assigned to the volume pool.
Count	Lists the number of candidate volumes for this dataset.
Percent Used	Percentage that is currently allocated.
Percent Free	Displays the percentage of free space for an associated dataset.
Allocated (unit)	Lists the total allocation of space by unit (megabytes, gigabytes, tracks and so on).
Used (unit)	Displays the total allocation of space by unit that the dataset has used (megabytes, gigabytes, tracks and so on).
Free (unit)	Displays the amount of allocated but unused (free) storage in this category.
ML1 DASD Allocated	Number of megabytes, gigabytes, or tracks allocated to migration level 1.
ML1 Backup Allocated	Number of megabytes, gigabytes, or tracks allocated for backup to migration level 1.
ML1 DASD Used	Number of megabytes used in migration level 1.
ML1 DASD Free	Number of megabytes free in migration level 1.
ML2 DASD Allocated	Number of megabytes allocated to migration level 2.
CI Splits	Number of control interval splits for a pool. This column information only applies to VSAM databases.
ML2 DASD Free	Number of megabytes free in migration level 2.
CA Splits	Number of control access splits for a volume pool. This column information only applies to VSAM databases.
ML2 DASD Used	Number of megabytes used in migration level 2.
ML1 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 1.
ML2 Tape Used	Number of megabytes used by tapes in migration level 2.
ML2 Tape Allocated	Number of megabytes of tape capacity in migration level 2.
ML2 Tape Free	Number of megabytes free in tapes that reside in migration level 2.
Backup Tape Allocated	Number of megabytes allocated to backup tapes.
Backup Tape Free	Number of megabytes free in backup tapes.
Dump Tape Used	Number of megabytes used by dump tapes.
Backup Tape Used	Number of megabytes used by backup tapes.
Tape Allocated	Number of megabytes of tape capacity.
Dump Tape Allocated	Capacity of dump tapes in megabytes.

**Table 4.22: Logical Pools Zoom Columns (Continued)**

Column Name	Description
ML1 Percent Used	Percent of space used in migration level 1.
Backup DASD Percent Used	Percent of space used in backups.
Tape Free	Number of megabytes with space free in tape.
ML1 Percent Free	Percent of space free in migration level 1.
Dump Tape Free	Number of megabytes free in dump tapes.
Tape Used	Number of megabytes used by tape.
ML2 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 2.
Total Allocated	Total number of megabytes.
ML2 DASD Percent Used	Percent of space used in migration level 2.
ML2 DASD Percent Free	Percent of space free in migration level 2.
ML2 Tape Volume/ Dataset Count	Number of tapes used in migration level 2.
ML2 Tape Percent Used	Percent of used space by tapes in migration level 2.
ML2 Tape Percent Free	Percent of space free in tapes that reside in migration level 2.
Backup Tape Volume/ Dataset Count	Number of tape backups.
Backup Tape Percent Used	Percent of space used in backups.
Backup Tape Percent Free	Percent of space free in backups.
Dump Tape Volume/ Dataset Count	Number of dump tapes.
Dump Tape Percent Used	Percent of dump tapes that are used.
Dump Tape Percent Free	Percent of dump tapes that are free.
Tape Volume/Dataset Count	Number of tapes.
Tape Percent Used	Percent of tapes that are used.
Tape Percent Free	Percent of tapes that are free.
Total Cost of DASD	Cost of DASD. The cost is derived from the TSF Settings.
Total Cost of HSM	Cost of HSM.
Total Cost of Tape	Cost of tape.
Total Volume/Dataset Count	The total number of files or volumes, depending on the type of pool.
Total Cost	Total cost of DASD, tape, and HSM.
Pool Type	Displays the user-defined volume pool type.
Pool Type Description	Displays the user-defined volume pool associated with the dataset.

## TLMS Component

The TLMS component allows you to view TLMS tape management related information. This information includes the following:

- Volumes
- Datasets
- HSM OCDS
- Dataset Pools
- Volume Pools

The TLMS component is located below Tape in the Tree View pane.

### To view Tape TLMS information:

Double-click TLMS in the Tape Tree View pane to expand it. The TLMS component appears.

### Volumes Filter Tab

The TLMS Volumes Filter tab allows you to view TLMS volumes and datasets that are located on tape. All TLMS volumes filters are grouped alphabetically on the Filters pane. See Filter Groups for Tape Volumes, page 4-2.

Attributes filter group

Dates filter group

Volume Status filter group

Errors Since Cleaned filter group

Errors Since Initialized filter group

General filter group

### Volumes Zoom

After the Tape TLMS Volumes filter is executed, a result set of information appears in the Tape TLMS Volumes Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.23: Volumes Zoom Columns**

Column Name	Description
Volume Serial	Name of the volume serial that is on tape.
Scratch Status	Volume is scratch. Values: Y (Yes) or N (No).
TF-Media Type	Specifies the media type. Some current valid media types include: REEL, 3480,3490, 3490E, 3590T128, 3590T256, 3590E128,3590E256, 9840, RDWD12, RDWD25, RDWD50, and OTHER. Examples: REEL - Shows information contained only on the media type REEL.
Volume Sequence Number	Volume sequence number. Numeric value (no decimal points).

**Table 4.23: Volumes Zoom Columns (Continued)**

Column Name	Description
Files Count	Files on tape volume. Numeric value (no decimal points).
Label	Tape label type; for example, SL returns tapes with standard labels.
External Manager ID	Y (Yes) if a tape is externally managed. Otherwise, N (No).
Multiple Tapes?	Y (Yes) if there are multiple tapes. Otherwise, N (No).
Outcoded?	Y (Yes) if there are out coded tapes. Otherwise, N (No) = Non-outcoded tapes.
Tape Used Space on Tape Volume (MB)	Shows the usage of the volume.
Percent Used	Shows the total percentage of tape used by a specific Volser.
Create Date	Volume create date. Numeric value (no decimal points). Format is YYYYMMDD.
Create Time	Volume create time. Numeric value (no decimal points). Format is HHMMSS.
Last Used Date	Last use date (Gregorian). Character length is 10 or less.
Expiration Date	Date when the volume expires.
Internal Expiration	Displays the internal expiration date in year and number of days (YYYYDDD) format.
Out Code Date	Provides the ability to filter by the out code date.
Last Cleaning Date	The last date the tape was cleaned.
Birth Date	Provides the ability to filter by birth date.
Create Job Name	Creating job name. Character length is 8 or less.
Create Program Name	Allows you to view tapes that were created with a specific program name. Example: PJB001 - Shows tapes that were created with a program name of PJB001.
Create Unit	Creating unit. Character length is 4 or less.
Last Used Job	Job name that last used the volume. Character length is 8 or less.
Last Used Program Name	Tapes that were last used by a specific program name.
Last Used Unit	Displays tapes last used on a certain unit number.
Record Date	Displays the record date of the tape.
Record Version Number	Displays the record version number associated with the tape.
First Volser	First volume of the data set named in DSN. Character length is 6 or less.
Previous Volser	Previous volume of a multi-volume set. Character length is 6 or less.
Next Volser	Displays the next Volser.
Files	Displays the number of files on a tape.
Address of First DSNB	Displays the address of the first DSNB on the tape.
Address of Last DSNB	Displays the address of the last DSNB on the tape.
Internal Field Changed by User	Y (Yes) if the internal field was changed by the user. Otherwise, N (No).
Volume Closed by TMS	Y (Yes) if the tape was closed by TMS. Otherwise, N (No).
TMC Record Updated by User	Y (Yes) if the TMC record was updated by the user. Otherwise, N (No).
Volume Closed by Abend	Y (Yes) if the tape is marked as closed by an abend. Otherwise, N (No).
To be Cleaned?	Y (Yes) if the tape is marked to be cleaned. Otherwise, N (No).

**Table 4.23: Volumes Zoom Columns (Continued)**

Column Name	Description
Deleted Status	Y (Yes) if any volumes were deleted from the library. Otherwise, N (No).
Default Expire Date Used	Y (Yes) for tapes where the default expire date was used. Otherwise, N (No).
Dataset is Cataloged	Y (Yes) if the dataset is cataloged. Otherwise, N (No).
Volume Opened for Output?	Y (Yes) for tapes that were last opened as output. Otherwise, N (No).
Dataset Recreated	Y (Yes) if the dataset residing in a volume has been re-created. Otherwise, N (No).
Temporary Dataset	Y (Yes) if the dataset residing in a volume is temporary. Otherwise, N (No).
Catalog Controlled	Y (Yes) if the dataset residing in a volume is cataloged controlled. Otherwise, N (No).
Cycle Controlled	Y (Yes) if the dataset residing in a volume is cycle controlled. Otherwise, N (No).
Frequency Controlled	Y (Yes) if the dataset residing in a volume is frequency controlled. Otherwise, N (No).
Expired by TMS	Y (Yes) if the tapes have expired by TMS. Otherwise, N (No).
Bad Tape?	Y (Yes) if the tape is marked Bad Tape, No Scratch Mount. Otherwise, N (No).
Released by External Vault Manager?	Y (Yes) if the tape has been released by the external vault manager. Otherwise, N (No).
External Managed Tape	Y (Yes) if the tapes are externally managed. Otherwise, N (No).
Dynam-T Owned Tape	Y (Yes) if the tapes are Dynam-T owned. Otherwise, N (No).
Dataset Erase Required	Y (Yes) if a dataset erase is required. Otherwise, N (No).
Default Expiration Date Used at Open	Y (Yes) if the default expiration date was used during the open procedure. Otherwise, N (No).
Additional Files Exist on Tape	Y (Yes) if there are additional files that exist on the tape. Otherwise, N (No).
File Created by CA-1 Copycat	Y (Yes) if there are any files on the tape that were created by CA-1 Copycat. Otherwise, N (No).
Expired by SMS	Y (Yes) if the tapes are expired by SMS. Otherwise, N (No).
Record Format	Record format of the dataset. Character length is 5 or less.
Logical Record Length	Record length of the dataset. Numeric value (no decimal points).
Block Size	Block size of the dataset. Numeric value (no decimal points).
Block Count	Block count of the dataset. Numeric value (no decimal points).
Out Code	Displays the out code number of the tape.
Vault Slot Number	Specifies the vault slot number.
Create Step Name	Creating step name. Character length is 8 or less. Example: PJB001 - Shows datasets that were created with a step name of PJB001.
Create DD Name	Creating DD name. Character length is 8 or less.
TMS Security Protected	Y (Yes) if the tape is TMS security protected. Otherwise, N (No).
TMS Read Protected	Y (Yes) if the tape is TMS read protected. Otherwise, N (No).
TMS Write Protected	Y (Yes) if the tape is TMS write protected. Otherwise, N (No).
Times Tape Cleaned	The number of times the tape has been cleaned.
Last Cleaning Use Count	The last cleaning use for the tape.

**Table 4.23: Volumes Zoom Columns (Continued)**

Column Name	Description
Number Times Tape Opened	Specifies the number of times a tape has been opened.
Tape Vendor Name	Allows you to filter tapes with certain vendor names.
Temporary Read Error	Allows you to filter tapes for a temporary read error since it was last cleaned.
Temporary Write Error	Allows you to filter tapes for a temporary write error since it was last cleaned.
Permanent Read Error	Allows you to filter tapes for a permanent read error since it was last cleaned.
Permanent Write Error	Allows you to filter tapes for a permanent write error since it was last cleaned.
Temporary Read Error	Allows you to filter tapes for a temporary read error since it was initialized.
Temporary Write Error	Allows you to filter tapes for a temporary write error since it was initialized.
Permanent Read Error	Allows you to filter tapes for a permanent read error since it was initialized.
Permanent Write Error	Allows you to filter tapes for a permanent write error since it was initialized.
Tape in Robot?	Y (Yes) if the tapes are in a tape robot device. Otherwise, N (No).
SMS Management Class	The SMS Management Class associated with the tape.
Tape BPI	Tape using a Bytes Per Inch (BPI) number. Some current valid BPI's include: 800, 1600, 6250, 38K, and CMPRS. Example: 6250 - Displays only information contained on tapes with a BPI of 6250.
Robotic Device Indicator	Y (Yes) if the tapes are in a tape robot device. Otherwise, N (No).
Externally Managed?	Y (Yes) if the tapes are externally managed. Otherwise, N (No).
Is File Cataloged?	Y (Yes) if the dataset residing in a volume has been cataloged. Otherwise, N (No).
HSM Tape Type	HSM type options for this field include the following:• B - Backup• D - Dump• M - Migrate• X - Invalid
Multiple Files?	Y (Yes) if there is more than 1 file on a Volser. Otherwise, N (No).
System ID	Tapes that were created on a specific system.
Location	Specific location code for tapes. Character length is 8 or less. Example: SHELF - Shows tapes that have an assigned location code of SHELF.
Description	User-defined description. Character length is 30 or less.
GDG	Y (Yes) appears if the dataset is marked as GDG. Otherwise, N (No).
Relative GDG Number	Shows the relative GDG number.
Volume Pool	Allows you to filter for the volume pool on the tape.
Logical Pool 0 through Logical Pool 9	Allows you to filter for the logical pool on the tape.

## Volumes Summary

An information result set appears in the Tape TLMS Volumes Zoom tab after filters have been executed. Summary information is key to management reporting and should be used to guide business decisions. If you want to look at summary information about volumes, click the Summary tab located at the top. The Tape TLMS Volumes Summary tab then appears.

The Summary tab contains two sub-tabs that give you various information. The sub-tabs include:

- General
- Volume Pool

The columns for each of the sub-tabs includes the following:

### General

**Table 4.24: Volumes General Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.
Percent Used	Displays the percent used for each media type.

**Table 4.25: Volume Pool Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.

## Datasets Filter Tab

The Datasets Filter tab allows you to view all TLMS datasets that are located on tape. After you have executed a filter from the TLMS Datasets Filter tab, an information result set appears in the TLMS Datasets Detail tab. A TLMS Datasets Summary tab allows you to view high-level information regarding TLMS datasets that reside on tape.

All TLMS datasets filters are grouped alphabetically on the Filters pane. See Filter Groups for Tape Datasets, page 4-22.

Attributes filter group

Dates filter group

General filter group

## Datasets Detail

After the TLMS Datasets filter is executed, a result set of information appears in the Datasets Detail tab. Datasets Detail tab provides detailed information about all datasets in the environment. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.26: Datasets Detail Columns**

Column Name	Description
Dataset Name	Lists the dataset name (can be up to 44 characters in length).
Volume Serial	Name of the volume serial that is on tape.
File Sequence Number	Shows the file number.
Scratch Status	Volume is scratch. Values: Y (Yes) or N (No).
Is File Cataloged?	Y (Yes) if the dataset residing in a volume has been cataloged. Otherwise, N (No).
Tape Used (Unit)	Displays the number of tracks, megabytes, or gigabytes that this tape has used.
Record Format	Displays the record format for the associated dataset.
Logical Record Length	Displays the logical record length of the dataset.
Block Size	Contains the block size for the associated dataset.
GDG	Indicates whether GDG or non-GDG dataset.
Relative GDG Number	Shows the relative GDG number.
Start Volser	Shows the start Volser number.
Create Date	Date that the dataset was created; provides the ability to evaluate datasets based on creation date.
Create Job Name	Creating job name. Character length is 8 or less.
Create Program Name	Allows you to view tapes that were created with a specific program name. Example: PJB001 - Shows tapes that were created with a program name of PJB001.
Expiration Date	Displays the expiration date of the associated dataset.
Internal Expiration	Displays the internal expiration date in year and number of days (YYYYDDD) format.
Out Code	Displays the out code number of the tape.
Tape in Robot?	Y (Yes) if the tapes are in a tape robot device. Otherwise, N (No).
Record Date	Displays the record date of the tape.

**Table 4.26: Datasets Detail Columns (Continued)**

Column Name	Description
Record Version Number	Displays the record version number associated with the tape.
TMC Record Updated by User	Y (Yes) if the TMC record was updated by the user. Otherwise, N (No).
Expired by TMS Interface	Y (Yes) if the tapes have expired by TMS. Otherwise, N (No).
Expired by Catalog Control	Y (Yes) if the dataset residing in a volume is cataloged controlled. Otherwise, N (No).
Volume Closed by Abend	Y (Yes) if the tape is marked as closed by an abend. Otherwise, N (No).
Default Expiration Date Used at Open	Y (Yes) if the default expiration date was used during the open procedure. Otherwise, N (No).
Default Expire Date Used	Y (Yes) for tapes where the default expire date was used. Otherwise, N (No).
Current DSNB Number	Displays the DSNB number.
Address of Previous DSNB in Chain	Displays the address of the previous DSNB in a chain.
Address of Next DSNB in Chain	Displays the address of the next DSNB in a chain.
Create Step Name	Creating step name. Character length is 8 or less. Example: PJB001 - Shows datasets that were created with a step name of PJB001.
Block Count	Block count of the dataset. Numeric value (no decimal points).
SMS Management Class	The SMS Management Class associated with the dataset.
HSM Tape Type	HSM type options for this field include the following: • B - Backup • D - Dump • M - Migrate • X - Invalid
TF-Media Type	Specifies the media type. Some current valid media types include: REEL, 3480,3490, 3490E, 3590T128, 3590T256, 3590E128,3590E256, 9840, RDWD12, RDWD25, RDWD50, and OTHER. Examples: REEL - Shows information contained only on the media type REEL.
Multiple Files?	Y (Yes) if there is more than 1 file on a Volser. Otherwise, N (No).
System ID	Tapes that were created on a specific system.
Location	Specific location code for tapes. Character length is 8 or less. Example: SHELF - Shows tapes that have an assigned location code of SHELF.
Description	User-defined description. Character length is 30 or less.
Volume Pool	Allows you to filter for the volume pool on the tape.
Logical Pool 0 through Logical Pool 9	Displays the logical pool name associated with the dataset.

## Datasets Summary

An information result set appears in the Tape TLMS Datasets Detail tab after filters have been executed. Summary information is key to management reporting and should be used to guide business decisions. If you want to look at summary information about volumes, click the Summary tab located at the top. The Tape TLMS Datasets Summary tab then appears.

The Summary tab contains a General sub-tab that gives you various information. The columns for the General sub-tab include the following:

**Table 4.27: Datasets General Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Datasets	Shows the number of volumes associated with the datasets.
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.

## HSM OCDS Filter Tab

The HSM OCDS Filter tab allows you to view all TLMS HSM offline control datasets (OCDS) that are located on tape.

You can create a filter by using regular expressions or other values within the HSM OCDS filter group. The following is a list of fields that are available for the HSM OCDS filter group.

**Table 4.28: HSM OCDS Filters**

Field Name	Lets you filter for...
Dataset Name	A specific dataset name that coincides with the selection from the drop-down list.
Files Count	Number of files on a tape that coincides with the selection from the drop-down list.
First Volser	Tapes that have a first volume Volser number that coincides with the selection from the drop-down list. <i>Example:</i> 012345 - Show all tapes which have a first volume Volser of 012345.
HSM Tape Type	HSM tape type. The options for this field include the following: <ul style="list-style-type: none"> <li>• All = Includes all of the options. This is the default.</li> <li>• Backup Tape (B)</li> <li>• Dump Tape (D)</li> <li>• Migrate Tape (M)</li> <li>• Invalid Type (X)</li> </ul> To exclude an option, click the Not check box, then click Apply. The excluded option appears in the Filter Criteria box.

**Table 4.28: HSM OCDS Filters (Continued)**

Field Name	Lets you filter for...
Next Volser	Tapes that have a next volume Volser that coincides with the selection from the drop-down list. <i>Example:</i> 012345 - Shows all tapes that have a next volume Volser of 012345.
Previous Volser	Tapes that have a previous volume Volser that coincides with the selection from the drop-down list. <i>Example:</i> 012345 - Shows all tapes that have a previous volume volser of 012345.
Volume Serial	A specific volume serial (Volser) that coincides with the selection from the drop-down list.

## HSM OCDS Zoom

After the Tape TLMS HSM OCDS filter is executed, a result set of information appears in the Tape TLMS HSM OCDS Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.29: HSM OCDS Zoom Columns**

Column Name	Description
Volume Serial	Name of the volume serial that is on tape.
HSM Tape Type	HSM type options for this field include the following: <ul style="list-style-type: none"> <li>• B - Backup</li> <li>• D - Dump</li> <li>• M - Migrate</li> <li>• X - Invalid</li> </ul>
Files Count	Displays the number of files on a tape.
Dataset Name	Displays the dataset name associated with the tape.
First Volser	First volume of the data set named in DSN. Character length is 6 or less.
Previous Volser	Previous volume of a multi-volume set. Character length is 6 or less.
Next Volser	Displays the next Volser.

## HSM OCDS Summary

An information result set appears in the Tape CAOne HSM OCDS Zoom tab after filters have been executed. Summary information is key to management reporting and should be used to guide business decisions. If you want to look at summary information about volumes, click the Summary tab located at the top. The Tape CAOne HSM OCDS Summary tab then appears.

The Summary tab contains a General sub-tab that gives you various information. The columns for the General sub-tab include the following:

**Table 4.30: HSM OCDS General Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Number of Files	Lists the number of files by media class.

## Dataset Pools Filters

You can obtain dataset logical pool information from Tape TLMS.

### To view dataset logical pools from Tape TLMS:

- 1 Expand the Tape Tree View pane and double-click TLMS.
- 2 Click Dataset Pools.
- 3 Select the pool type from the Pool Type drop-down list.

Note: Select the NOT check box to apply a logical Exclude to the selected option.

- 4 Click Apply and your filter information appears in the Filter Criteria area.
- 5 Click Execute and the selected dataset pool type and its members display in the Logical Pools Zoom tab.

## Dataset Pools Zoom

The Logical Pools Zoom information is displayed after you select the dataset pool type and execute filters from the TLMS Dataset Pools filter tab. The Logical Pools information displayed here features a wealth of information about logical pools as well as cost. You can display this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.31: Dataset Pools Zoom Columns**

Column Name	Description
Pool Name	Displays the name assigned to the volume pool.
Count	Lists the number of candidate volumes for this dataset.
Percent Used	Percentage that is currently allocated.
Percent Free	Displays the percentage of free space for an associated dataset.
Allocated (unit)	Lists the total allocation of space by unit (megabytes, gigabytes, tracks and so on).
Used (unit)	Displays the total allocation of space by unit that the dataset has used (megabytes, gigabytes, tracks and so on).
Free (unit)	Displays the amount of allocated but unused (free) storage in this category.
ML1 DASD Allocated	Number of megabytes, gigabytes, or tracks allocated to migration level 1.
ML1 Backup Allocated	Number of megabytes, gigabytes, or tracks allocated for backup to migration level 1.
ML1 DASD Used	Number of megabytes used in migration level 1.
ML1 DASD Free	Number of megabytes free in migration level 1.
ML2 DASD Allocated	Number of megabytes allocated to migration level 2.
CI Splits	Number of control interval splits for a pool. This column information only applies to VSAM databases.
ML2 DASD Free	Number of megabytes free in migration level 2.
CA Splits	Number of control access splits for a volume pool. This column information only applies to VSAM databases.
ML2 DASD Used	Number of megabytes used in migration level 2.

**Table 4.31: Dataset Pools Zoom Columns (Continued)**

Column Name	Description
ML1 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 1.
ML2 Tape Used	Number of megabytes used by tapes in migration level 2.
ML2 Tape Allocated	Number of megabytes of tape capacity in migration level 2.
ML2 Tape Free	Number of megabytes free in tapes that reside in migration level 2.
Backup Tape Allocated	Number of megabytes allocated to backup tapes.
Backup Tape Free	Number of megabytes free in backup tapes.
Dump Tape Used	Number of megabytes used by dump tapes.
Backup Tape Used	Number of megabytes used by backup tapes.
Tape Allocated	Number of megabytes of tape capacity.
Dump Tape Allocated	Capacity of dump tapes in megabytes.
ML1 Percent Used	Percent of space used in migration level 1.
Backup DASD Percent Used	Percent of space used in backups.
Tape Free	Number of megabytes with space free in tape.
ML1 Percent Free	Percent of space free in migration level 1.
Dump Tape Free	Number of megabytes free in dump tapes.
Tape Used	Number of megabytes used by tape.
ML2 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 2.
Total Allocated	Total number of megabytes.
ML2 DASD Percent Used	Percent of space used in migration level 2.
ML2 DASD Percent Free	Percent of space free in migration level 2.
ML2 Tape Volume/ Dataset Count	Number of tapes used in migration level 2.
ML2 Tape Percent Used	Percent of used space by tapes in migration level 2.
ML2 Tape Percent Free	Percent of space free in tapes that reside in migration level 2.
Backup Tape Volume/ Dataset Count	Number of tape backups.
Backup Tape Percent Used	Percent of space used in backups.
Backup Tape Percent Free	Percent of space free in backups.
Dump Tape Volume/ Dataset Count	Number of dump tapes.
Dump Tape Percent Used	Percent of dump tapes that are used.
Dump Tape Percent Free	Percent of dump tapes that are free.
Tape Volume/Dataset Count	Number of tapes.
Tape Percent Used	Percent of tapes that are used.
Tape Percent Free	Percent of tapes that are free.
Total Cost of DASD	Cost of DASD. The cost is derived from the TSF Settings.
Total Cost of HSM	Cost of HSM.
Total Cost of Tape	Cost of tape.

**Table 4.31: Dataset Pools Zoom Columns (Continued)**

Column Name	Description
Total Volume/Dataset Count	The total number of files or volumes, depending on the type of pool.
Total Cost	Total cost of DASD, tape, and HSM.
Pool Type	Displays the user-defined volume pool type.
Pool Type Description	Displays the user-defined volume pool associated with the dataset.

## Volume Pools Filters

You can view detail information about logical volume pools from Tape TLMS.

### To view logical volume pool information:

Expand the Tape Tree View pane, and double-click TLMS.

Click Volume Pools.

Select the pool type from the Pool Type drop-down list.

Note: Select the NOT check box to apply a logical Exclude to the selected option.

Click Apply and your filter information appears in the Filter Criteria area.

Click Execute and the selected dataset pool type and its members display in the Logical Pools Zoom tab.

## Volume Pools Zoom

The Logical Pools Zoom information is displayed after you select the dataset pool type and execute filters from the TLMS Volume Pools filter tab. The Logical Pools information displayed here features a wealth of information about logical pools as well as cost. You can display this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.32: Volume Pools Zoom Columns**

Column Name	Description
Pool Name	Displays the name assigned to the volume pool.
Count	Lists the number of candidate volumes for this dataset.
Percent Used	Percentage that is currently allocated.
Percent Free	Displays the percentage of free space for an associated dataset.
Allocated (unit)	Lists the total allocation of space by unit (megabytes, gigabytes, tracks and so on).
Used (unit)	Displays the total allocation of space by unit that the dataset has used (megabytes, gigabytes, tracks and so on).
Free (unit)	Displays the amount of allocated but unused (free) storage in this category.
ML1 DASD Allocated	Number of megabytes, gigabytes, or tracks allocated to migration level 1.
ML1 Backup Allocated	Number of megabytes, gigabytes, or tracks allocated for backup to migration level 1.

**Table 4.32: Volume Pools Zoom Columns (Continued)**

Column Name	Description
ML1 DASD Used	Number of megabytes used in migration level 1.
ML1 DASD Free	Number of megabytes free in migration level 1.
ML2 DASD Allocated	Number of megabytes allocated to migration level 2.
CI Splits	Number of control interval splits for a pool. This column information only applies to VSAM databases.
ML2 DASD Free	Number of megabytes free in migration level 2.
CA Splits	Number of control access splits for a volume pool. This column information only applies to VSAM databases.
ML2 DASD Used	Number of megabytes used in migration level 2.
ML1 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 1.
ML2 Tape Used	Number of megabytes used by tapes in migration level 2.
ML2 Tape Allocated	Number of megabytes of tape capacity in migration level 2.
ML2 Tape Free	Number of megabytes free in tapes that reside in migration level 2.
Backup Tape Allocated	Number of megabytes allocated to backup tapes.
Backup Tape Free	Number of megabytes free in backup tapes.
Dump Tape Used	Number of megabytes used by dump tapes.
Backup Tape Used	Number of megabytes used by backup tapes.
Tape Allocated	Number of megabytes of tape capacity.
Dump Tape Allocated	Capacity of dump tapes in megabytes.
ML1 Percent Used	Percent of space used in migration level 1.
Backup DASD Percent Used	Percent of space used in backups.
Tape Free	Number of megabytes with space free in tape.
ML1 Percent Free	Percent of space free in migration level 1.
Dump Tape Free	Number of megabytes free in dump tapes.
Tape Used	Number of megabytes used by tape.
ML2 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 2.
Total Allocated	Total number of megabytes.
ML2 DASD Percent Used	Percent of space used in migration level 2.
ML2 DASD Percent Free	Percent of space free in migration level 2.
ML2 Tape Volume/ Dataset Count	Number of tapes used in migration level 2.
ML2 Tape Percent Used	Percent of used space by tapes in migration level 2.
ML2 Tape Percent Free	Percent of space free in tapes that reside in migration level 2.
Backup Tape Volume/ Dataset Count	Number of tape backups.
Backup Tape Percent Used	Percent of space used in backups.
Backup Tape Percent Free	Percent of space free in backups.
Dump Tape Volume/ Dataset Count	Number of dump tapes.
Dump Tape Percent Used	Percent of dump tapes that are used.

**Table 4.32: Volume Pools Zoom Columns (Continued)**

Column Name	Description
Dump Tape Percent Free	Percent of dump tapes that are free.
Tape Volume/Dataset Count	Number of tapes.
Tape Percent Used	Percent of tapes that are used.
Tape Percent Free	Percent of tapes that are free.
Total Cost of DASD	Cost of DASD. The cost is derived from the TSF Settings.
Total Cost of HSM	Cost of HSM.
Total Cost of Tape	Cost of tape.
Total Volume/Dataset Count	The total number of files or volumes, depending on the type of pool.
Total Cost	Total cost of DASD, tape, and HSM.
Pool Type	Displays the user-defined volume pool type.
Pool Type Description	Displays the user-defined volume pool associated with the dataset.

## RMM Component

The RMM component allows you to view RMM tape management related information. This information includes the following:

- Volumes
- Datasets
- HSM OCDS
- Dataset Pools
- Volume Pools

The RMM component is located below Tape in the Tree View pane.

### To view Tape RMM information:

Double-click RMM in the Tape Tree View pane to expand it. The RMM component appears.

## Volumes Filter Tab

The RMM Volumes Filter tab allows you to view RMM volumes and datasets that are located on tape. All RMM volumes filters are grouped alphabetically on the Filters pane:

Attributes filter group

Dates filter group

RMM filter group

Volume Status filter group

Errors Since Cleaned filter group

Errors Since Initialized filter group

General filter group

## Volumes Zoom Tab

After the Tape RMM Volumes filter(s) is executed, a result set of information appears in the Tape RMM Volumes Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.33: Volumes Zoom Columns**

Column Name	Description
Volume Serial	Name of the volume serial that is on tape.
Scratch Status	Volume is scratch. Values: Y (Yes) or N (No).
RMM Media Type	Specifies the RMM tape media type, such as 3480 and so on.
Expiration Date	Date when the volume expires.
Label	Tape label type; for example, SL returns tapes with standard labels.

**Table 4.33: Volumes Zoom Columns (Continued)**

Column Name	Description
Create Date	Volume create date. Numeric value (no decimal points). Format is YYYYMMDD.
Create Time	Volume create time. Numeric value (no decimal points). Format is HHMMSS.
Creating Jobname	Creating job name. Character length is 8 or less.
Creating Unit	Creating unit. Character length is 4 or less.
Create Userid	Creating user ID. Character length is 8 or less.
Create Sysid	Create system ID. Character length is 8 or less.
Degaus - Security Erase	Indicates whether the volume should be degaussed (erased for security) when it is pending. Values: Y (Yes) or N (No).
Last Used Date	Last use date (Gregorian). Character length is 10 or less.
Expiration Date Original	Expiration date (original). Numeric value (no decimal points).
Retention Date	Retention date. Numeric value (no decimal points).
Volume is Master	Volume is master. Values: Y (Yes) or N (No).
Volume Pending Release	Indicates volume pending release. Values: Y (Yes) or N (No).
Volume Sequence Number	Volume sequence number. Numeric value (no decimal points).
Volume Capacity (Tracks)	Volume capacity in megabytes (for uncompressed data). Numeric value (no decimal points).
First Volser	First volume of the data set named in DSN. Character length is 6 or less.
Previous Volser	Previous volume of a multi-volume set. Character length is 6 or less.
Files Count	Files on tape volume. Numeric value (no decimal points).
Record Format	Record format of the dataset. Character length is 5 or less.
Logical Record Length	Record length of the dataset. Numeric value (no decimal points).
Block Size	Block size of the dataset. Numeric value (no decimal points).
Block Count	Block count of the dataset. Numeric value (no decimal points).
Used Tracks	Bytes used on the tape. Numeric value (no decimal points).
Creating Step Name	Creating step name. Character length is 8 or less. Example: PJB001 - Shows datasets that were created with a step name of PJB001.
Creating DD Name	Creating DD name. Character length is 8 or less.
Recording Density	Recording density: 1600 BPI6250 BPI34803480 compacted (IDRC)UNDEFINED
Location	Specific location code for tapes. Character length is 8 or less. Example: SHELF - Shows tapes that have an assigned location code of SHELF.
User Description	User-defined description. Character length is 30 or less.
Last Used Job	Job name that last used the volume. Character length is 8 or less.
Last Change Date	Last change date. Numeric value (no decimal points). Format is YYYYMMDD.
Last User Change Date	Last user change date. Numeric value (no decimal points). Format is YYYYMMDD.
Last Change Userid	Last change user ID. Character length is 8 or less.

**Table 4.33: Volumes Zoom Columns (Continued)**

Column Name	Description
Media Type	Tape media type, one of the following: <ul style="list-style-type: none"> <li>• Non cartridge</li> <li>• CST</li> <li>• ECCST</li> <li>• HPCT</li> <li>• EHPCT</li> </ul>
Store Location ID	Store location ID, character length 1, one of the following: D - Distant store L - Local store R - Remote store T - Tape library
Store Bin Number	Store bin number.
Old Bin Number	Old bin number.
Stored Date	Date stored. Numeric value (no decimal points). Format is YYYYMMDD.
Last Used Device	Last used device. Character length is 4 or less.
Volume Owner Userid	Volume owner user ID. Character length is 8 or less.
Volume Type	Specific volume type. Valid entries for this field include the following: <ul style="list-style-type: none"> <li>• All - Includes all of the types. This is the default.</li> <li>• Physical</li> <li>• Logical</li> <li>• Stacked</li> </ul>
Multiple Files?	Y (Yes) if there is more than 1 file on a Volser. Otherwise, N (No).
GDG	Y (Yes) appears if the dataset is marked as GDG. Otherwise, N (No).
Relative GDG Number	Shows the relative GDG number.
Volume Use Count	Shows the usage of the volume.
Expiration Date Ignore	Y (Yes) if the expiration for a tape is ignored. Otherwise, N (No).
Scratch Immediate	Y (Yes) if the tape is marked for immediate scratch. Otherwise, N (No).
Loan Location	Y (Yes) if the tape has a loan location. Otherwise, N (No).
Volume Last Read Date	Shows the date when the volume on tape was last read.
Volume Last Write Date	Shows the date when the volume on tape was last written.
Label NL	Y (Yes) if it is a non-loaded (NL) labeled tape. Otherwise, N (No).
Label AL	Y (Yes) if it is an automatic load (AL) labeled tape. Otherwise, N (No).
Label SL	Y (Yes) if it is a scratch label (SL) tape. Otherwise, N (No).
Assigned Date	Displays the date when the tape was assigned to a library or to storage.
Used on MVS	Y (Yes) to show if the tape is associated with MVS. Otherwise, N (No).
Used On VM	Y (Yes) if the tape is associated with VM. Otherwise, N (No).
Destination Bin Number	Displays the destination bin number of the tape.
Destination Bin Media Name	Displays the destination bin name of the tape.
User Tape	Y (Yes) if this is a user tape. Otherwise, N (No).
Retained by Set	Y (Yes) if the volume is retained as a set. Otherwise, N (No)
Volume Recording Format	This indicates the recording format of the tape. Recording formats include: Non-cartridge, 18 track, 36 track, 128 track, 256 track, and 384 track.
External Manager ID	Y (Yes) if a tape is externally managed. Otherwise, N (No).
Multi Tapes?	Y (Yes) if there are multiple tapes. Otherwise, N (No).

**Table 4.33: Volumes Zoom Columns (Continued)**

Column Name	Description
Outcoded?	Y (Yes) if there are out coded tapes. Otherwise, N (No) = Non-outcoded tapes.
Out Code	Displays the out code number of the tape.
Record Level Number	Shows the record level number.
Number of Files	Displays the total number of files on the tape.
Percent Used	Shows the total percentage of tape used by a specific Volser.
Security Classification Level	Shows the level of security classification for the tape.
Create CDS ID	Shows a tape by its create CDS ID.
Last Change Sysid	Shows the system ID where the tape was last changed.
Deleted Status	Y (Yes) if a record has been deleted from the tape. Otherwise, N (No).
Select Proc by Satellite	Y (Yes) if the select process is done by satellite. Otherwise, N (No).
Dummy Record Allow TSO Add	Y (Yes) if a dummy record is allowed for a TSO add. Otherwise, N (No).
Stored Status	Storage status level includes the following:• Tape Library to Remote Store• Remote Store to Tape Library• Tape Library to Local Store• Local Store to Tape Library• Local Store to Distant Store• Tape Library to Distant Store• Distant Store to Tape Library• Store Location Valid
Label Number of 1st File	Shows the label number of the first file on the tape.
Tape Compaction	Tape compaction status includes the following:• Unknown • Not Compacted• Compacted
Special Attributes	Special Attribute options include the following:• No Special Attributes• 18 Track Read Only
New Store Location	Identifies the newest location of the tape.
Desired Location Name	Identifies the desired location where the tape should be stored.
Last File End Media Position	Displays the last file number that ends the media.
Tape is On Loan	Y (Yes) if a if a tape is on loan. Otherwise, N (No).
Tape Opened not Closed	Y (Yes) if a tape's status is currently open and not closed. Otherwise, N (No).
Volume Recorded by OCEOV	Y (Yes) if a tape's volume has recorded an open and close, end of volume (OCEOV) procedure. Otherwise, N (No).
Scratch Volume Claimed via GetVol	Y (Yes) if a scratch volume came from a volume. Otherwise, N (No).
Scratch Volume Has Never Been Initialized	Y (Yes) if a scratch volume has never been initialized. Otherwise, N (No).
Scratch Volume Init Pending	Y (Yes) if a scratch volume is pending initialization. Otherwise, N (No).
Scratch Volume Waiting to Enter ATL	Y (Yes) if a scratch volume is waiting to enter an automatic tape load (ATL). Otherwise, N (No).
Abend When Dataset Closed	Y (Yes) if there is an abend procedure when a dataset closes. Otherwise, N (No).
Abend in OCEOV	Y (Yes) if there is an abend in an open and close, end of volume (OCEOV) procedure. Otherwise, N (No).
Init Request for ATL Volume	Y (Yes) if there is an initial request to automatically taped load (ATL) a volume. Otherwise, N (No).
Force Supplied	Y (Yes) if there is a force that has been supplied. Otherwise, N (No).

**Table 4.33: Volumes Zoom Columns (Continued)**

Column Name	Description
Default Retention Period Used	Y (Yes) if there was a default retention period used. Otherwise, N (No).
Program Product Tape	Y (Yes) if a program produced the tape. Otherwise, N (No).
Last Write - BLP	Y (Yes) if the last write on the tape is a BLP. Otherwise, N (No).
User Label	Y (Yes) if this is a user supplied label. Otherwise, N (No).
Return to Scratch Pool	Y (Yes) if the tape has returned to the scratch pool. Otherwise, N (No).
Replace on Release	Y (Yes) if the tape should be replaced upon its release. Otherwise, N (No).
Re-Init	Y (Yes) if the tape should be re-initialized. Otherwise, N (No).
Return to Owner	Y (Yes) if the tape should return to its owner. Otherwise, N (No).
Notify Owner	Y (Yes) if the owner should be notified. Otherwise, N (No).
Owner Read Volume	Displays a Y (Yes) to show if the owner can read the volume on the tape.
Owner Update Volume	Displays a Y (Yes) to show if the owner can update the volume on the tape.
Owner Alter Volume	Displays a Y (Yes) to show if the owner can alter the volume on the tape.
Read Only	Display a Y (Yes) if the tape is for read only.
Update Protect	Displays a Y (Yes) to show if the protection has been updated.
First DS Record	Displays a Y (Yes) to show if the first dataset has been recorded.
Pend - Return to Scratch Pool	Y (Yes) if a <i>Return to Scratch</i> request is pending for the tape. Otherwise, N (No).
Pend - Replace on Release	Y (Yes) if a <i>Replace on Release</i> request is pending for the tape. Otherwise, N (No).
Pend - Re-Init	Y (Yes) if a <i>Re-Initialize</i> request is pending for the tape. Otherwise, N (No).
Pend - Degaus/Security Erase	Y (Yes) if a <i>Degaus for a Secure Erase</i> request is pending for the tape. Otherwise, N (No).
Pend - Return to Owner	Y (Yes) if a <i>Return to Owner</i> request is pending for the tape. Otherwise, N (No).
Pend - Notify Owner	Y (Yes) if a <i>Notify Owner</i> request is pending for the tape. Otherwise, N (No).
Current Label Version	Label version of the tape that is currently in binary.
Required Label Version	Label version of the tape that is required in binary.
Rack Number	Displays the rack number where the tape is located.
Next Volser	Displays the next Volser.
Old Previous Volser	Displays the old previous Volser.
Error - Temporary Read	Displays the specific number of Temporary Read Errors.
Error - Temporary Write	Displays the specific number of Temporary Write Errors.
Error - Permanent Read	Displays the specific number of Permanent Read Errors.
Error - Permanent Write	Displays the specific number of Permanent Write Errors.
DSN Used 3480 IDRC	Y (Yes) if the data set name (DSN) used 3480 IDRC density. Otherwise, N (No).
No Compaction	Y (Yes) if there is no compression. Otherwise, N (No).
Program Product Number	Displays the program product number.

**Table 4.33: Volumes Zoom Columns (Continued)**

Column Name	Description
Version/Release/Mod Number	Displays the version release model number.
Feature Code	Displays the feature code.
Required Location Priority	Displays the required location priority number.
Home Location Code	Displays the name of the home location code.
Storage Group Name	Displays the storage group name for the tape.
Location Name	Displays the name of the location where the tape currently resides.
Destination Name	Displays the destination name where the tape will reside.
Previous Location Name	Displays the previous location name for the tape.
Shelf Managed Store Bin Number	Displays the shelf managed bin number associated with the tape.
Bin Media Name	Displays the bin media name associated with the tape.
Shelf Managed Store Old Bin Number	Displays the old shelf managed bin number associated with the tape.
Old Bin Media Name	Displays the old bin media name associated with the tape.
Container	Displays the container number associated with the tape.
Old Container	Displays the old container number associated with the tape.
First Dataset Name	Displays the name of the first dataset located on the tape.
Accounting Information	Displays the accounting information that is associated with the tape.
Record Date	Displays the record date of the tape.
Record Version Number	Displays the record version number associated with the tape.
Previous Volser	Displays the previous Volser.
Next Volser	Displays the next Volser.
Files	Displays the number of files on a tape.
Address of First DSNB	Displays the address of the first DSNB on the tape.
Address of Last DSNB	Displays the address of the last DSNB on the tape.
Internal Field Changed by User	Y (Yes) if the internal field was changed by the user. Otherwise, N (No).
Volume Closed by TMS	Y (Yes) if the tape was closed by TMS. Otherwise, N (No).
TMC Record Updated by User	Y (Yes) if the TMC record was updated by the user. Otherwise, N (No).
Volume Closed by Abend	Y (Yes) if the tape is marked as closed by an abend. Otherwise, N (No).
To be Cleaned?	Y (Yes) if the tape is marked to be cleaned. Otherwise, N (No).
Deleted Status	Y (Yes) if any volumes were deleted from the library. Otherwise, N (No).
Default Expire Date Used	Y (Yes) for tapes where the default expire date was used. Otherwise, N (No).
Dataset is Cataloged	Y (Yes) if the dataset is cataloged. Otherwise, N (No).
Volume Opened for Output?	Y (Yes) for tapes that were last opened as output. Otherwise, N (No).
Dataset Recreated	Y (Yes) if the dataset residing in a volume has been re-created. Otherwise, N (No).
Temporary Dataset	Y (Yes) if the dataset residing in a volume is temporary. Otherwise, N (No).

**Table 4.33: Volumes Zoom Columns (Continued)**

Column Name	Description
Catalog Controlled	Y (Yes) if the dataset residing in a volume is cataloged controlled. Otherwise, N (No).
Cycle Controlled	Y (Yes) if the dataset residing in a volume is cycle controlled. Otherwise, N (No).
Frequency Controlled	Y (Yes) if the dataset residing in a volume is frequency controlled. Otherwise, N (No).
Expired by TMS	Y (Yes) if the tapes have expired by TMS. Otherwise, N (No).
Bad Tape?	Y (Yes) if the tape is marked Bad Tape, No Scratch Mount. Otherwise, N (No).
Released by External Vault Manager?	Y (Yes) if the tape has been released by the external vault manager. Otherwise, N (No).
External Managed Tape	Y (Yes) if the tapes are externally managed. Otherwise, N (No).
Dynam-T Owned Tape	Y (Yes) if the tapes are Dynam-T owned. Otherwise, N (No).
Dataset Erase Required	Y (Yes) if a dataset erase is required. Otherwise, N (No).
Default Expiration Date Used at Open	Y (Yes) if the default expiration date was used during the open procedure. Otherwise, N (No).
Additional Files Exist on Tape	Y (Yes) if there are additional files that exist on the tape. Otherwise, N (No).
File Created by CA-1 Copycat	Y (Yes) if there are any files on the tape that were created by CA-1 Copycat. Otherwise, N (No).
Expired by SMS	Y (Yes) if the tapes are expired by SMS. Otherwise, N (No).
Out Code Date	Provides the ability to filter by the out code date.
Vault Slot Number	Specifies the vault slot number.
Create Program Name	Allows you to view tapes that were created with a specific program name. Example: PJB001 - Shows tapes that were created with a program name of PJB001.
Last Used Unit	Displays tapes last used on a certain unit number.
TMS Security Protected	Y (Yes) if the tape is TMS security protected. Otherwise, N (No).
TMS Read Protected	Y (Yes) if the tape is TMS read protected. Otherwise, N (No).
TMS Write Protected	Y (Yes) if the tape is TMS write protected. Otherwise, N (No).
Times Tape Cleaned	The number of times the tape has been cleaned.
Last Cleaning Use Count	The last cleaning use for the tape.
Last Cleaning Date	The last date the tape was cleaned.
Birth Date	Provides the ability to filter by birth date.
Number Times Tape Opened	Specifies the number of times a tape has been opened.
Tape Vendor Name	Allows you to filter tapes with certain vendor names.
Temporary Read Error	Allows you to filter tapes for a temporary read error since it was last cleaned.
Temporary Write Error	Allows you to filter tapes for a temporary write error since it was last cleaned.
Permanent Read Error	Allows you to filter tapes for a permanent read error since it was last cleaned.
Permanent Write Error	Allows you to filter tapes for a permanent write error since it was last cleaned.
Temporary Read Error	Allows you to filter tapes for a temporary read error since it was initialized.

**Table 4.33: Volumes Zoom Columns (Continued)**

Column Name	Description
Temporary Write Error	Allows you to filter tapes for a temporary write error since it was initialized.
Permanent Read Error	Allows you to filter tapes for a permanent read error since it was initialized.
Permanent Write Error	Allows you to filter tapes for a permanent write error since it was initialized.
SMS Management Class	The SMS Management Class associated with the tape.
TF Media Type	Specifies the media type. Some current valid media types include: REEL, 3480,3490, 3490E, 3590T128, 3590T256, 3590E128,3590E256, 9840, RDWD12, RDWD25, RDWD50, and OTHER. Examples: REEL - Shows information contained only on the media type REEL.
Tape BPI	Tape using a Bytes Per Inch (BPI) number. Some current valid BPI's include: 800, 1600,6250, 38K, and CMPRS. Example:6250 - Displays only information contained on tapes with a BPI of 6250.
Last Used Program Name	Tapes that were last used by a specific program name.
Robotic Device Indicator	Y (Yes) if the tapes are in a tape robot device. Otherwise, N (No).
Externally Managed?	Y (Yes) if the tapes are externally managed. Otherwise, N (No).
Is File Cataloged?	Y (Yes) if the dataset residing in a volume has been cataloged. Otherwise, N (No).
HSM Tape Type	HSM type options for this field include the following:• B - Backup• D - Dump• M - Migrate• X - Invalid
System ID	Tapes that were created on a specific system.
Tape Media Type Information	Specific media type of tape. Media type options include the following:• Non-Cartridge• CST• ECCST• HPCT• EHPCT
Copy of JFCBDEN	Number of JFCBDEN copies on a tape.
VRS Release Options	Number of VRS release options.
Copy of JFCBLTYP	Number of JFCBLTYP copies on a tape.
Copy of UCBTYP Field from UCB	Number of UCBTYP field from copies on a tape.
Error Counts	Allows you to filter for the error counts.
Program Product Data	Allows you to filter for the program product data found on a tape.
IDRC Support	Number of IDRC support.
Volume Last Change Token	Volume last change token located on a tape.
Vital Record	Y (Yes) if the volume contains a vital record and is not pending release. Otherwise, N (No).
STV Recorded by Export	Y (Yes) if an STV was recorded by an export process. Otherwise, N (No).
Release Actions	Y (Yes) if any release actions were taken for the tape. Otherwise, N (No).
Volume in Transit	Y (Yes) if a volume on the tape is designated for transit. Otherwise, N (No).
Move Mode	The specific move mode associated with the tape. The options for this field include the following:• Auto Move• Manual Move
Extended Bin Applied	Y (Yes) if an extended bin has been applied. Otherwise, N (No).

**Table 4.33: Volumes Zoom Columns (Continued)**

Column Name	Description
L Location Type	Specific L location type that is associated with the tape. The options for this field include the following:• Shelf Location• Storage Location• Manual Library• Automatic Library• Store with Bins• Store without Bins
N Location Type	Specific N location type that is associated with the tape. The options for this field include the following:• Shelf Location• Storage Location• Manual Library• Automatic Library• Store with Bins• Store without Bins
D Location Type	Specific D location type that is associated with the tape. The options for this field include the following:• Shelf Location• Storage Location• Manual Library• Automatic Library• Store with Bins• Store without Bins
H Location Type	Specific H location type that is associated with the tape. The options for this field include the following:• Shelf Location• Storage Location• Manual Library• Automatic Library• Store with Bins• Store without Bins
Old Location Type	Old location type that is associated with the tape. The options for this field include the following:• Shelf Location• Storage Location• Manual Library• Automatic Library• Store with Bins• Store without Bins
1st Dataset Create SysID	Displays the first dataset that created the system ID.
Export Token	Displays the date of the export token.
Volume 1 Label Volser	Displays the first volume's label Volser.
Length of First Dataset Name on Tape	Displays the length of the first dataset located on the tape.
Length of Last Dataset Name on Tape	Displays the length of the last dataset located on the tape.
Length of A/C Field	Displays the length of the accounting information field that is associated with the tape.
Length of User Data	Displays the length of the user data field that is associated with the tape.
Number of Access List Entries	Allows you to filter for the number of access list entries on the tape.
Last Dataset Name	Allows you to filter for the length of the last dataset name that resides on a volume.
Volume Pool	Allows you to filter for the volume pool on the tape.
Logical Pool 0 through Logical Pool 9	Allows you to filter for the logical pool on the tape.
From Authorized User	Allows you to display the authorized user IDs of the tape.

## Volumes Summary

An information result set appears in the Tape RMM Volumes Zoom tab after filters have been executed. Summary information is key to management reporting and should be used to guide business decisions. If you want to look at summary information about volumes, click the Summary tab located at the top. The Tape RMM Volumes Summary tab then appears.

The Summary tab contains three sub-tabs that give you various information. The sub-tabs include:

General

Volume Pool

RMM Media

The columns for each of the sub-tabs includes the following:

**Table 4.34: Volumes General Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.
Percent Used	Displays the percent used for each media type.

**Table 4.35: Volume Pool Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.

**Table 4.36: RMM Media Summary**

Column Name	Description
Name	Lists the specific media type.
Tape Volumes	Shows the number of volumes associated with the datasets.
Scratch Tapes	Lists the total number of available scratch tapes by media class.
Number of Files	Lists the number of files by media class.
Outcoded Tapes	Displays the total number of tapes that have a specific out code.
Robot Device Tapes	Displays the total number of tapes controlled by robots.
Cataloged Tapes	Displays the total number of tapes that are cataloged.
Used Space (Units)	Displays the total number of tracks, megabytes, or gigabytes by device class.

## Datasets Filter Tab

The Datasets Filter tab allows you to view RMM volumes and datasets that are located on tape.

### To apply filter criteria for RMM Datasets:

- 1 Expand the Tape Tree View pane and double-click RMM.
- 2 Click Datasets.
- 3 Select a filter from the Filters pane.
- 4 From the drop-down list, select a value such as greater than, less than, equal to, and so on, or select regular expression, begins with, ends with, and so on. The drop-down list changes by filter.
- 5 Type a number representing the filter that coincides with your selection from the drop-down list.
- 6 Click Apply and the filter information appears in the Filter Criteria area.
- 7 Click the logical operator (AND, OR).
- 8 Click Apply.

All RMM datasets filters are grouped alphabetically on the Filters pane:

Attributes filter group

Dates filter group

RMM filter group

General filter group

## HSM OCDS Filter Tab

The HSM OCDS Filter tab allows you to view all RMM HSM offline control datasets (OCDS) that are located on tape. You can filter RMM HSM OCDS by using regular expressions or other values.

- 1 Select a field for filtering from the Filters pane.
- 2 From the drop-down list, select Regular Expression or Begins With, Ends With, Contains, or Between; or, select Greater Than, Greater Than Or Equal To, Less Than, Less Than Or Equal To, Equal, Between.
- 3 Type a value for filtering.
- 4 Click Apply and the filter information appears in the Filter Criteria area.
- 5 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter, or click Save to save the filter.

To exclude a filter option

- 1 Select a field that has All or Y options for filtering from the Filters pane, for example, HSM Tape Type.
- 2 Click the Not check box.
- 3 Click the logical operator (AND, OR).
- 4 Click Apply. The excluded option appears in the Filter Criteria box.

The following is a list of fields that are available for the HSM OCDS filter group.

**Table 4.37: HSM OCDS Filters**

Field Name	Lets you filter for...
Dataset Name	Specific dataset name.
Files Count	Number of files on a tape.
First Volser	Tapes that have a first volume Volser, for example, 012345 shows all tapes that have a first volume Volser of 012345.
HSM Tape Type	HSM tape type. Select one of the following options or exclude the option: <ul style="list-style-type: none"> <li>• All of the options. This is the default.</li> <li>• Not HSM (blank)</li> <li>• Backup Tape (B)</li> <li>• Dump Type (D)</li> <li>• Migrated Type (M)</li> <li>• Invalid Type (X)</li> </ul>
Next Volser	Tapes that have a next volume Volser, for example, 012345 shows all tapes that have a next volume Volser of 012345.
Previous Volser	Tapes that have a previous volume Volser, for example, 012345 shows all tapes that have a previous volume volser of 012345.
Volume Serial	Volume serial number (Volser) associated with the dataset.

## Dataset Pools Filter Tab

You can obtain dataset logical pool information not only from Datasets and DFSMSHsm Management, but also from Tape RMM.

### To view dataset logical pools from Tape RMM

- 1 Expand the Tape Tree View pane and double-click RMM.
- 2 Click Dataset Pools.
- 3 Select the Pool Type field for filtering from the Filters pane.
- 4 Select the pool type from the drop-down list or exclude the selected option.
- 5 Click Apply and your filter information appears in the Filter Criteria area
- 6 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter and see the selected dataset pool type and its members in the Logical Pools Detail tab, or click Save to save the filter.

### To exclude a filter option

- 1 Select the Pool Type field for filtering from the Filters pane.
- 2 Click the Not check box to apply a logical Exclude to the selected option.
- 3 Click the logical operator (AND, OR).
- 4 Click Apply. The excluded option appears in the Filter Criteria box.

## Volume Pools Filter Tab

You can view detail information about logical volume pools from Tape RMM.

### To view logical volume pool information from Tape RMM

- 1 Expand the Tape Tree View pane and double-click RMM.
- 2 Click Volume Pools.
- 3 Select the Pool Type field for filtering from the Filters pane.
- 4 Select the pool type from the drop-down list or exclude the selected option.
- 5 Click Apply and your filter information appears in the Filter Criteria area
- 6 Click the logical operator (AND, OR) to continue with filtering criteria and click Apply, or click Execute to run the filter and see the selected dataset pool type and its members in the Logical Pools Detail tab, or click Save to save the filter.

### To exclude a filter option

- 1 Select the Pool Type field for filtering from the Filters pane.
- 2 Click the Not check box to apply a logical Exclude to the selected option.
- 3 Click the logical operator (AND, OR).
- 4 Click Apply. The excluded option appears in the Filter Criteria box.

## RMM Volume Pools Zoom

The Logical Pools Zoom information is displayed after you select the dataset pool type and execute filters from the RMM Volume Pools filter tab. The Logical Pools information displayed here features a wealth of information about logical pools as well as cost. You can display this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 4.38: RMM Volume Pools Zoom Columns**

Column Name	Description
Pool Name	Displays the name assigned to the volume pool.
Count	Lists the number of candidate volumes for this dataset.
Percent Used	Percentage that is currently allocated.
Percent Free	Displays the percentage of free space for an associated dataset.
Allocated (unit)	Lists the total allocation of space by unit (megabytes, gigabytes, tracks and so on).
Used (unit)	Displays the total allocation of space by unit that the dataset has used (megabytes, gigabytes, tracks and so on).
Free (unit)	Displays the amount of allocated but unused (free) storage in this category.
ML1 DASD Allocated	Number of megabytes, gigabytes, or tracks allocated to migration level 1.
ML1 Backup Allocated	Number of megabytes, gigabytes, or tracks allocated for backup to migration level 1.
ML1 DASD Used	Number of megabytes used in migration level 1.
ML1 DASD Free	Number of megabytes free in migration level 1.

**Table 4.38: RMM Volume Pools Zoom Columns (Continued)**

Column Name	Description
ML2 DASD Allocated	Number of megabytes allocated to migration level 2.
CI Splits	Number of control interval splits for a pool. This column information only applies to VSAM databases.
ML2 DASD Free	Number of megabytes free in migration level 2.
CA Splits	Number of control access splits for a volume pool. This column information only applies to VSAM databases.
ML2 DASD Used	Number of megabytes used in migration level 2.
ML1 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 1.
ML2 Tape Used	Number of megabytes used by tapes in migration level 2.
ML2 Tape Allocated	Number of megabytes of tape capacity in migration level 2.
ML2 Tape Free	Number of megabytes free in tapes that reside in migration level 2.
Backup Tape Allocated	Number of megabytes allocated to backup tapes.
Backup Tape Free	Number of megabytes free in backup tapes.
Dump Tape Used	Number of megabytes used by dump tapes.
Backup Tape Used	Number of megabytes used by backup tapes.
Tape Allocated	Number of megabytes of tape capacity.
Dump Tape Allocated	Capacity of dump tapes in megabytes.
ML1 Percent Used	Percent of space used in migration level 1.
Backup DASD Percent Used	Percent of space used in backups.
Tape Free	Number of megabytes with space free in tape.
ML1 Percent Free	Percent of space free in migration level 1.
Dump Tape Free	Number of megabytes free in dump tapes.
Tape Used	Number of megabytes used by tape.
ML2 DASD Volume/ Dataset Count	Number of datasets in a pool that have been migrated to level 2.
Total Allocated	Total number of megabytes.
ML2 DASD Percent Used	Percent of space used in migration level 2.
ML2 DASD Percent Free	Percent of space free in migration level 2.
ML2 Tape Volume/ Dataset Count	Number of tapes used in migration level 2.
ML2 Tape Percent Used	Percent of used space by tapes in migration level 2.
ML2 Tape Percent Free	Percent of space free in tapes that reside in migration level 2.
Backup Tape Volume/ Dataset Count	Number of tape backups.
Backup Tape Percent Used	Percent of space used in backups.
Backup Tape Percent Free	Percent of space free in backups.
Dump Tape Volume/ Dataset Count	Number of dump tapes.
Dump Tape Percent Used	Percent of dump tapes that are used.
Dump Tape Percent Free	Percent of dump tapes that are free.

**Table 4.38: RMM Volume Pools Zoom Columns (Continued)**

Column Name	Description
Tape Volume/Dataset Count	Number of tapes.
Tape Percent Used	Percent of tapes that are used.
Tape Percent Free	Percent of tapes that are free.
Total Cost of DASD	Cost of DASD. The cost is derived from the TSF Settings.
Total Cost of HSM	Cost of HSM.
Total Cost of Tape	Cost of tape.
Total Volume/Dataset Count	The total number of files or volumes, depending on the type of pool.
Total Cost	Total cost of DASD, tape, and HSM.
Pool Type	Displays the user-defined volume pool type.
Pool Type Description	Displays the user-defined volume pool associated with the dataset.





## DISTRIBUTED PLATFORM

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On the Distributed platform, TeraCloud Storage Framework (TSF) v2.1.1 provides comprehensive storage management for Solaris, Linux, Windows and AIX in a simple to use, intuitive Java interface. Detail management, quick summarization, and the ability to launch corrective actions directly from the management console enable your organization to identify problems, monitor storage and make adjustments quickly.

To learn more about these features, see the following chapters in this book:

- Chapter 5, Enterprise
- Chapter 6, File and Directory Search
- Chapter 7, Administration
- Chapter 8, Groups
- Chapter 9, Policies
- Chapter 10, Action Records
- Chapter 11, SRM Log
- Chapter 12, ProActivity



## CHAPTER

# 5

## ENTERPRISE

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At-a-glance enterprise detail is displayed in the Enterprise component and includes information such as:

- Systems
- Drives
- Drive Extents
- Extent Pools
- Volume Pools
- Volumes
- Directories and Files

# Systems

A system is an application server in the enterprise that is under management by the TSF system. System details can be monitored as needed. The tabs in the Systems component display information for the systems, platforms, domains, volumes, drives, directories, and files for the selected platform.

## Filter Groups For Enterprise Systems

You can create a filter for any node in the Enterprise component by selecting values within the groups on the Filters pane. All filters for Enterprise Systems are grouped on the Filters pane as follows:

- Attributes filter group
- Space filter group
- Drive filter group
- Volume filter group
- File filter group

**Table 5.1: Attributes Filters**

Filter Name	Description
Directories	Total number of directories on the system
Domain	Name of the group of clients and servers under the control of one security database. Select the <b>Not</b> checkbox to apply a logical exclude to the selected option.
Last System Scan	Date and time of last system scan. Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. <i>mm/dd/yy hh:mm:ss AM/PM</i> Example: 3/10/06 6:47:18 AM
Operating System	Name of the operating system that is being monitored. <ul style="list-style-type: none"> <li>• Red Hat Enterprise Linux ES release 2.1 (Panama) 2.4.9-e.57</li> <li>• Sun Microsystems Solaris Generic_117350-26 5.8</li> <li>• Microsoft Windows 2000 Advanced Server</li> </ul>
Platform	Name of the hardware or software architecture (may refer to an operating system). Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. <ul style="list-style-type: none"> <li>• Windows</li> <li>• AIX</li> <li>• Solaris</li> </ul>
Serial Number	Serial number for the computer (if available)
System Manufacturer	System manufacturer name, for example, Sun Microsystems or Dell Computer Corporation
System Model	Systems by model type. Example: OptiPlex GX240 returns all systems running on this type of machine
System Name	Name of the application server in the enterprise that is under management by the TSF system
Time Zone	Current time zone for the system, for example, Pacific Time (US and Canada) Tijuana

**Table 5.2: Space Filters**

Filter Name	Description
Drive Free Space	Number of bytes, KB, MB, GB, or TB currently available for use on a drive
Drive Percent Free	Percent of drive that is free space
Drive Percent Used	Percent of bytes, KB, MB, GB, or TB currently used on a drive
Drive Total Space	Total size of a drive in bytes, KB, MB, GB, or TB
Drive Used Space	Number of bytes currently used on a drive
Volume Free Space	Number of bytes, KB, MB, GB, or TB currently available for use on a volume
Volume Percent Free	Percent of volume that is free space
Volume Percent Used	Percent of bytes, KB, MB, GB, or TB currently used on a volume
Volume Total Space	Total size of a volume, in bytes, KB, MB, GB, or TB
Volume Used Space	Number of bytes, KB, MB, GB, or TB currently used on a volume

**Table 5.3: Drive Filters**

Filter Name	Description
DAS Drives	Number of Direct Attached Storage (DAS) drives that are directly connected to a server by connectivity media such as parallel SCSI cables. DAS might include the internally attached local disk drives or externally attached RAID (redundant array of independent disks) or JBOD (just a bunch of disks).
Drive	Number of storage and retrieval devices that read data from and write data to spinning magnetic or optical disks
SAN Drives	Number of Storage Area Network (SAN) drives. Might include specific devices, such as host bus adapters (HBAs) in the host servers, switches that help route storage traffic, and disk storage subsystems.
Unknown Drives	Number of unknown drives

**Table 5.4: Volume Filters**

Filter Name	Description
Managed Volumes	Number of managed volumes
Managed Volumes Space	Total size of a managed volume, in bytes, KB, MB, GB, or TB
Managed Volumes Space Percent	Percent of managed volume that is free space
Volumes	Number of volumes, or storage areas on a hard disk, that are formatted by using a file system, such as file allocation table (FAT) or NTFS, and typically have a drive letter assigned. <b>Note:</b> A single hard disk can have multiple volumes, and volumes can also span multiple disks.

**Table 5.5: File Filters**

Filter Name	Description
Files	Number of files
Files Accessed	Number of files accessed
Files Archived	Number of files archived. Applies only to files under control of the Microsoft Windows Backup utility.

**Table 5.5: File Filters (Continued)**

Filter Name	Description
Files Modified	Number of files modified. Applies only to files under control of the Microsoft Windows Backup utility.
Files Not Archived	Number of files not archived

## Systems Zoom Tab

After you have executed a filter from the Systems Filter tab, a result set appears in the Systems Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 5.6: Systems Zoom Columns**

Column Name	Description
System Name	Name of the application server in the enterprise that is under management by the TSF system
Platform	Name of the hardware or software architecture (may refer to an operating system)
Domain	Name of the subnetwork (on a LAN) or the group of clients and servers under the control of one security database
Operating System	Name of the operating system that is being monitored, for example: <ul style="list-style-type: none"> <li>Red Hat Enterprise Linux ES release 2.1 (Panama) 2.4.9-e.57</li> <li>Sun Microsystems Solaris Generic_117350-26 5.8</li> <li>Microsoft Windows 2000 Advanced Server</li> </ul>
System Model	System model number, for example, OptiPlex GX240 (for a Dell computer) or SUNW,Ultra-5_10 (for a Sun Microsystems machine)
Serial Number	Serial number for the computer (if available)
System Manufacturer	Manufacturer, for example, Sun Microsystems or Dell Computer Corporation
Time Zone	Current time zone for the system, for example, Pacific Time (US and Canada) Tijuana
Volumes	Number of logical disks on an application server in the data center. For example, the C: drive refers to the logical drive or volume of a particular Windows application server.
Managed Volumes	Total number of managed volumes that reside in the system
Managed Volumes (Unit)	Total size of managed volumes in MB or GB (depends on unit selected)
Managed Volumes Space Percent	Percentage of space that is currently allocated within the system for managed volumes
Volume Total (Unit)	Total number of megabytes, gigabytes, or tracks that are allocated for this volume
Volume Used (Unit)	Number of megabytes, gigabytes, or tracks that this volume has used
Volume Free (Unit)	Total number of megabytes, gigabytes, or tracks that are currently free on this volume
Volume Percent Used	Percentage of volume space that is currently allocated within the system
Volume Percent Free	Percentage of free space for an associated volume within the system (drive free space divided by drive total space)
Drives	Current number of drives on the system

**Table 5.6: Systems Zoom Columns (Continued)**

Column Name	Description
DAS Drives	Number of drives that are directly connected to a server by connectivity media such as parallel SCSI cables. May include the internally attached local disk drives or externally attached RAID (redundant array of independent disks) or JBOD (just a bunch of disks).
SAN Drives	Number of drives on the Storage Area Network (SAN)
Unknown Drives	Number of unknown drive types
Drive Total (Unit)	Total number of megabytes, gigabytes, or tracks that are allocated for this drive
Drive Used (Unit)	Number of megabytes, gigabytes, or tracks that this drive has used
Drive Free (Unit)	Total number of megabytes, gigabytes, or tracks that are currently free on this drive
Drive Percent Used	Percentage of drive space that is currently allocated within the system
Drive Percent Free	Percentage of free space for an associated drive within the system (drive free space divided by drive total space)
Directories	Total number of directories on the system
Files	Total number of files on the system
Files Accessed	Number of files that have been accessed
Files Modified	Number of files that have been modified
Files Archived	Number of files that are archived. Applies only to files under control of the Microsoft Windows Backup utility.
Files Not Archived	Number of files that are not archived. Applies only to files under control of the Microsoft Windows Backup utility. <sup>4</sup>
Last System Scan	Date and time of last system scan in this format: <i>mm/dd/yy hh:mm:ss AM/PM</i>

## Systems Summary Tab

After you have executed a filter from the Systems Filter tab, and viewed the result set of information in the Systems Zoom tab, you can click the Summary tab. The Summary tab contains six sub-tabs that give you various information. The sub-tabs include:

- Platform Space (Default tab)
- Platform Drives and Volumes
- Platform Host Directories and Files
- Domain Space
- Domain Drives and Volumes
- Domain Host Directories and Files

The sub-tabs for Domain Space, Domain Drives and Volumes, and Domain Host Directories and Files have the same columns as the Platform sub-tabs except that Domain is listed in the first column. The columns for each of the sub-tabs includes the following:

**Table 5.7: Platform Space Summary**

Column Name	Description
Platform	Name of the hardware or software architecture
Systems	Number of systems in use for the platform

**Table 5.7: Platform Space Summary (Continued)**

Column Name	Description
Volume Total (Unit)	Total number of volumes for the platform in tracks, megabytes, or gigabytes
Volume Used (Unit)	Total number of volumes used for the platform in tracks, megabytes, or gigabytes
Volume Free (Unit)	Total number of volumes that are free for the platform in tracks, megabytes, or gigabytes
Drive Used (Unit)	Total number of drives used by the platform in tracks, megabytes, or gigabytes
Drive Total (Unit)	Total number of drives allocated for the platform in tracks, megabytes, or gigabytes
Drive Free (Unit)	Total number of drives that are free for the platform in tracks, megabytes, or gigabytes
Volume Percent Used	Percentage of volume space that is currently allocated within the system
Volume Percent Free	Percentage of free space for an associated volume within the system (drive free space divided by drive total space)
Drive Percent Used	Percentage of drive space that is currently allocated within the system
Drive Percent Free	Percentage of free space for an associated drive within the system (drive free space divided by drive total space)

**Table 5.8: Platform Drives and Volumes Summary**

Column Name	Description
Platform	Name of the hardware or software architecture
Drives	Number of drives in use for the platform
DAS Drives	Number of Direct Attached Storage (DAS) drives that are directly connected to a server in use for the platform
SAN Drives	Number of drives on the Storage Area Network (SAN) for the platform
Unknown Drives	Total number of unknown drives that are used for the platform
Volumes	Number of logical disks on an application server.
Managed Volumes	Total number of managed volumes that reside on the platform.
Managed Volumes (Unit)	Total size of managed volumes in MB or GB (depends on unit selected).
Volume Total (Unit)	Total number of megabytes, gigabytes, or tracks that are allocated for this volume
Managed Volumes Space Percent	Percentage of space that is currently allocated within the system for managed volumes

**Table 5.9: Platform Host Directories and Files Summary**

Column Name	Description
Platform	Name of the hardware or software architecture
Files	Number of files in use for the platform
Files Accessed	Number of files that have been accessed
Files Modified	Number of files that have been modified

**Table 5.9: Platform Host Directories and Files Summary**

Column Name	Description
Files Archived	Number of files that are archived. Applies only to files under control of the Microsoft Windows Backup utility.
Files Not Archived	Number of files that are not archived. Applies only to files under control of the Microsoft Windows Backup utility.

## Drives

A drive is a physical disk in the storage environment. This may include DASD, NAS, and SAN storage devices. Drive details can be monitored as needed. The tabs in the Drives component display information for the volumes and trend data for the selected platform.

### Filter Groups for Enterprise Drives

You can create a filter for enterprise drives by using values within the filter tab. The Enterprise Drives Filter tab allows you to view detailed information about all drives in the environment. Enterprise Drives filters are grouped on the Filters pane as follows:

- Attributes filter group
- Space filter group

**Table 5.10: Attributes Filters**

Filter Name	Description
Controller Type	Refers to the connection standard of the controller. Example: <ul style="list-style-type: none"> <li>• SCSI</li> <li>• IDE</li> </ul>
Device Type	Device type, for example DAS or SAN
Domain	Name of the subnetwork (on a LAN) or the group of clients and servers under the control of one security database. Select the <b>Not</b> checkbox to apply a logical exclude to the selected option.
Drive Composition	Drive composition, for example, Simple
Drive Manufacturer	Drive manufacturer name, for example, Quantum
Drive Model	Drives by model type
Drive Name	Name of the storage and retrieval device that reads data from and writes data to spinning magnetic or optical disks
Last System Scan	Date and time of last system scan. Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. <i>mm/dd/yy hh:mm:ss AM/PM</i> Example: 3/10/06 6:47:18 AM
LVM	Name of the logical volume manager, for example, Logical Volume Manager (AIX), Veritas (Solaris), Logical Device Manager (Windows), or none
Platform	Name of the hardware or software architecture (may refer to an operating system). Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. Examples: <ul style="list-style-type: none"> <li>• Windows</li> <li>• AIX</li> <li>• Solaris</li> </ul>
Provider Address	SAN or DAS provider address
Serial Number	Serial number for the drive (if available)
System Name	Name of the application server in the enterprise that is under management by the TSF system

**Table 5.11: Space Filters**

Filter Name	Description
Free Space	Number of bytes, KB, MB, GB, or TB currently available for use on drives
Percent Free	Percent of drives that is free space
Percent Used	Percent of bytes, KB, MB, GB, or TB currently used on drives
Total Space	Total size of drives in bytes, KB, MB, GB, or TB
Used Space	Number of bytes currently used on drives

## Drives Zoom Tab

After you have executed a filter from the Drives Filter tab, a result set appears in the Drives Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 5.12: Drives Zoom Columns**

Column Name	Description
System Name	Name of the application server in the enterprise that is under management by the TSF system
Drive Name	Name of the storage and retrieval device that reads data from and writes data to spinning magnetic or optical disks
Platform	Name of the hardware or software architecture (may refer to an operating system)
Domain	Name of the subnetwork (on a LAN) or the group of clients and servers under the control of one security database
Device Type	Device type, for example DAS or SAN
Drive Model	Model number
Drive Manufacturer	Drive manufacturer name, for example, Quantum
Serial Number	Serial number for the drive (if available)
Controller Type	Refers to the connection standard of the controller. Example: <ul style="list-style-type: none"> <li>• SCSI</li> <li>• IDE</li> </ul>
Total (Unit)	Displays the total number of megabytes, gigabytes, or tracks that are allocated for this drive
Used (Unit)	Displays the number of megabytes, gigabytes, or tracks that this drive has used
Free (Unit)	Displays the total number of megabytes, gigabytes, or tracks that are currently free on this drive
Percent Used	Displays the percentage of drive space that is currently allocated within the system
Drive Percent Free	Displays the percentage of free space for an associated drive within the system (drive free space divided by drive total space)
LVM	Name of the logical volume manager, for example, Logical Volume Manager (AIX), Veritas (Solaris), Logical Device Manager (Windows), or none
Drive Composition	Invalid; we do not determine drive composition

**Table 5.12: Drives Zoom Columns (Continued)**

Column Name	Description
Provider Address	SAN or DAS provider address
Last System Scan	Date and time of last system scan in this format: <i>mm/dd/yy hh:mm:ss AM/PM</i>

## Drives Summary Tab

After you have executed a filter from the Drives Filter tab, and viewed the result set of information in the Drives Zoom tab, you can click the Summary tab. A result set appears in the Drives Summary tab. The Summary tab contains two sub-tabs that give you various information. The sub-tabs include the following:

- Drive Type Space (Default tab)
- Manufacturer Space

**Table 5.13: Drive Type Space Summary**

Column Name	Description
Device Type	Device type, for example DAS or SAN
Total	Number of drives in use for the platform
Total (Unit)	Total number of drives allocated for the platform in tracks, megabytes, or gigabytes
Used (Unit)	Total number of drives used by the platform in tracks, megabytes, or gigabytes
Free (Unit)	Total number of drives that are free for the platform in tracks, megabytes, or gigabytes
Percent Used	Percentage of drive space that is currently allocated within the system
Drive Percent Free	Percentage of free space for an associated drive within the system (drive free space divided by drive total space)

**Table 5.14: Manufacturer Space Summary**

Column Name	Description
Drive Manufacturer	Drive manufacturer name, for example, Quantum
Total	Number of drives in use for the platform
Total (Unit)	Number of drives that are directly connected to a server in use for the platform
Used (Unit)	Total number of drives used by the platform in tracks, megabytes, or gigabytes
Free (Unit)	Total number of drives that are free for the platform in tracks, megabytes, or gigabytes
Percent Used	Percentage of drive space that is currently allocated within the system
Drive Percent Free	Percentage of free space for an associated drive within the system (drive free space divided by drive total space)

## Drive Extents

A drive extent is a set of consecutively addressed disk blocks that is part of a single virtual disk-to-member disk array mapping. A single disk may be organized into multiple extents of different sizes, and may have multiple (possibly) non-adjacent extents that are part of the same virtual disk-to-member disk array mapping. This type of extent is sometimes called a logical disk.

Drive extent details can be monitored as needed. The tabs in the Drives Extent component display information for the drives such as concatenation, mirroring, offset size, and striping.

### Filter Groups for Enterprise Drive Extents

You can create a filter for enterprise drive extents by using values within the filter tab. The Enterprise Drive Extents Filter tab allows you to view detailed information about all drives in the environment. Enterprise Drive Extent filters are grouped on the Filters pane as follows:

- Attributes filter group
- General filter group

**Table 5.15: Attributes Filters**

Filter Name	Description
Composition	Drive composition, for example, Simple
Concatenation Ordinal	Position in an ordered sequence: first, second, third, fourth, and so on. Select the <b>Not</b> checkbox to apply a logical exclude to the selected option.
Drive Extent Name	User-defined drive extent name, for example, Disk #0, Partition #0
Is Part of Concatenation Set	Indicates whether the volume manager concatenated disk address spaces to present a single larger address space. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if concatenation was specified</li> <li>• N (No) if concatenation was not specified</li> </ul>
Is Part of Mirror Set	Indicates whether the drive is mirrored. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if drive is mirrored</li> <li>• N (No) if drive is not mirrored</li> </ul>
Is Part of Stripe Set	Indicates whether the drive is striped, with fixed-size consecutive ranges of virtual disk data addresses that are mapped to sequences of member disk addresses in a regular rotating pattern. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if drive is striped</li> <li>• N (No) if drive is not striped</li> </ul>
Mirror Of	Drive mirror name
Offset Size	Drive offset size in KB, MB, GB, or TB (depends on unit selected)
Total Size	Drive total size in KB, MB, GB, or TB (depends on unit selected)

**Table 5.16: General Filters**

Filter Name	Description
Domain	Name of the subnetwork (on a LAN) or the group of clients and servers under the control of one security database
Platform	Name of the hardware or software architecture (may refer to an operating system). Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. Examples: <ul style="list-style-type: none"> <li>• Windows</li> <li>• AIX</li> <li>• Solaris</li> </ul>
System Name	Name of the application server in the enterprise that is under management by the TSF system

## Drive Extents Detail Tab

After you have executed a filter from the Drives Filter tab, a result set appears in the Drives Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 5.17: Drive Extents Detail Columns**

Column Name	Description
Domain	Name of the subnetwork (on a LAN) or the group of clients and servers under the control of one security database
System Name	Name of the application server in the enterprise that is under management by the TSF system
Platform	Name of the hardware or software architecture (may refer to an operating system)
Drive Extent Name	User-defined drive extent name, for example, Disk #0, Partition #0
Composition	Drive composition, for example, Simple
Is Part of Stripe Set	Indicates whether the drive is striped. Valid values: Y (Yes) if drive is striped, or N (No) if drive is not striped
Is Part of Mirror Set	Indicates whether the drive is mirrored. Valid values: Y (Yes) if drive is mirrored, or N (No) if drive is not mirrored
Mirror Of	Refers to the drive mirror name
Is Part of Concatenation Set	Indicates whether the volume manager concatenated disk address spaces. Valid values: Y (Yes) if concatenation was specified, or N (No) if concatenation was not specified
Concatenation Ordinal	Indicates the concatenation position in an ordered sequence: first, second, third, fourth, and so on.
Offset (Units)	Displays the drive offset size in KB, MB, GB, or TB (depends on unit selected)
Total (Units)	Displays the drive total size in KB, MB, GB, or TB (depends on unit selected)

## Extent Pools

An extent pool is a logical construct that is used to manage a set of extents of the same type that are associated with a given rank group.

### Filter Groups for Enterprise Extent Pools

You can create a filter for enterprise extent pools by using values within the filter tab. The Enterprise Extent Pools Filter tab allows you to view detailed information about all extent pools in the environment. Enterprise Extent Pools filters are grouped on the Filters pane as follows:

- Attributes filter group
- General filter group

**Table 5.18: Attributes Filters**

Filter Name	Description
Composition	Drive composition, for example, Simple
Concatenation Ordinal	Position in an ordered sequence: first, second, third, fourth, and so on. Select the <b>Not</b> checkbox to apply a logical exclude to the selected option.
Extent Pool Name	User-defined extent pool name
Is Part of Concatenation Set	Indicates whether the volume manager concatenated disk address spaces to present a single larger address space. Select one of the following options <ul style="list-style-type: none"> <li>• Y (Yes) if concatenation was specified</li> <li>• N (No) if concatenation was not specified</li> </ul>
Is Part of Mirror Set	Indicates whether the drive is mirrored. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if drive is mirrored</li> <li>• N (No) if drive is not mirrored</li> </ul>
Is Part of Stripe Set	Indicates whether the drive is striped, with fixed-size consecutive ranges of virtual disk data addresses that are mapped to sequences of member disk addresses in a regular rotating pattern. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if drive is striped</li> <li>• N (No) if drive is not striped</li> </ul>
Mirror Of	Drive mirror name
Offset Size	Drive offset size in KB, MB, GB, or TB (depends on unit selected)
Total Size	Drive total size in KB, MB, GB, or TB (depends on unit selected)

**Table 5.19: General Filters**

Filter Name	Description
Domain	Name of the group of clients and servers under the control of one security database
Platform	Name of the hardware or software architecture (may refer to an operating system). Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. Examples: <ul style="list-style-type: none"> <li>• Windows</li> <li>• AIX</li> <li>• Solaris</li> </ul>
System Name	Name of the application server in the enterprise that is under management by the TSF system

## Extent Pools Detail Tab

After you have executed a filter from the Extent Pools Filter tab, a result set appears in the Extent Pools Detail tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 5.20: Extent Pools Detail Columns**

Column Name	Description
Domain	Name of the group of clients and servers under the control of one security database
System Name	Name of the application server in the enterprise that is under management by the TSF system
Platform	Name of the hardware or software architecture (may refer to an operating system)
Extent Pool Name	User-defined extent pool name
Composition	Drive composition, for example, Simple
Is Part of Stripe Set	Indicates whether the drive is striped. Valid values: Y (Yes) if drive is striped, or N (No) if drive is not striped
Is Part of Mirror Set	Indicates whether the drive is mirrored. Valid values: Y (Yes) if drive is mirrored, or N (No) if drive is not mirrored
Mirror Of	Refers to the drive mirror name
Is Part of Concatenation Set	Indicates whether the volume manager concatenated disk address spaces. Valid values: Y (Yes) if concatenation was specified, or N (No) if concatenation was not specified
Concatenation Ordinal	Indicates the concatenation position in an ordered sequence: first, second, third, fourth, and so on
Offset (Units)	Displays the drive offset size in KB, MB, GB, or TB (depends on unit selected)
Total (Units)	Displays the drive total size in KB, MB, GB, or TB (depends on unit selected)

## Volume Pools

A volume pool is a logical collection of removable media designated for a given purpose such as for holding the copies of a single backup job, or for backing up data from a given client or set of clients. A volume pool is an administrative entry compared to a volume group, which is a physical entry.

### Filter Groups for Enterprise Volume Pools

You can create a filter for enterprise volume pools by using values within the filter tab. The Enterprise Volume Pools Filter tab allows you to view detailed information about all drives in the environment. Enterprise Volume Pools filters are grouped on the Filters pane as follows:

- Attributes filter group
- General filter group

**Table 5.21: Attributes Filters**

Filter Name	Description
Concatenation Ordinal	Position in an ordered sequence: first, second, third, fourth, and so on. Select the <b>Not</b> checkbox to apply a logical exclude to the selected option.
Is Part of Concatenation Set	Indicates whether the volume manager concatenated disk address spaces to present a single larger address space. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if concatenation was specified</li> <li>• N (No) if concatenation was not specified</li> </ul>
Is Part of Mirror Set	Indicates whether the drive is mirrored. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if drive is mirrored</li> <li>• N (No) if drive is not mirrored</li> </ul>
Is Part of Stripe Set	Indicates whether the drive is striped, with fixed-size consecutive ranges of virtual disk data addresses that are mapped to sequences of member disk addresses in a regular rotating pattern. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if drive is striped</li> <li>• N (No) if drive is not striped</li> </ul>
Mirror Of	Drive mirror name
Offset Size	Drive offset size in KB, MB, GB, or TB (depends on unit selected)
Parity	Indicates whether the volume uses parity checking (parity bits to check that data has been transmitted accurately). The parity bit is added to every data unit (typically seven or eight bits) that are transmitted. The parity bit for each unit is set so that all bytes have either an odd number or an even number of set bits. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if volume uses parity checking</li> <li>• N (No) if volume does not use parity checking</li> </ul>
Total Size	Drive total size in KB, MB, GB, or TB (depends on unit selected)
Volume Pool Name	User-defined volume pool name

**Table 5.22: General Filters**

Filter Name	Description
Domain	Name of the group of clients and servers under the control of one security database
Platform	Name of the hardware or software architecture (may refer to an operating system). Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. Examples: <ul style="list-style-type: none"> <li>• Windows</li> <li>• AIX</li> <li>• Solaris</li> </ul>
System Name	Name of the application server in the enterprise that is under management by the TSF system

## Volume Pools Detail Tab

After you have executed a filter from the Volume Pools Filter tab, a result set appears in the Volume Pools Detail tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 5.23: Volume Pools Detail Columns**

Column Name	Description
Domain	Name of the group of clients and servers under the control of one security database
System Name	Name of the application server in the enterprise that is under management by the TSF system
Platform	Name of the hardware or software architecture (may refer to an operating system)
Volume Pool Name	User-defined volume pool name
Parity	Indicates whether or not the volume uses parity checking. Valid values: Y (Yes) if volume uses parity checking, or N (No) if volume does not use parity checking.
Is Part of Stripe Set	Indicates whether the drive is striped. Valid values: Y (Yes) if drive is striped, or N (No) if drive is not striped.
Is Part of Mirror Set	Indicates whether the drive is mirrored. Valid values: Y (Yes) if drive is mirrored, or N (No) if drive is not mirrored
Mirror Of	Refers to the drive mirror name
Is Part of Concatenation Set	Indicates whether the volume manager concatenated disk address spaces. Valid values: Y (Yes) if concatenation was specified, or N (No) if concatenation was not specified
Concatenation Ordinal	Indicates the concatenation position in an ordered sequence: first, second, third, fourth, and so on
Offset (Units)	Displays the drive offset size in KB, MB, GB, or TB (depends on unit selected)
Total (Units)	Displays the drive total size in KB, MB, GB, or TB (depends on unit selected)

# Volumes

TSF provides comprehensive views of the enterprise storage environment, including system utilization rates across all of the platforms. Volumes can be viewed and monitored by executing a filter from the Volumes component. The volume group can be trended, based on historical data, for forecasting future storage needs.

## Filter Groups for Enterprise Volumes

You can create a filter for enterprise volumes by using values within the filter tab. The Enterprise Volumes Filter tab allows you to view detailed information about all volumes in the environment. Enterprise Volumes filters are grouped on the Filters pane as follows:

- Attributes filter group
- Space filter group

**Table 5.24: Attributes Filters**

Filter Name	Description
Domain	Name of the group of clients and servers under the control of one security database
File System	Disk file system for data storage device (disk drive), for example, FAT, NTFS, HFS, EXT3, and UDF. May also be a journaling file system or versioning file system.
Last System Scan	Date of last system scan in this format: <i>yyyy/mm/dd</i> Select <b>Date</b> or <b>Days Ago</b> attributes from the drop-down list.
Mount Point	Location for files in the file system
Network	Network path
Platform	Name of the hardware or software architecture (may refer to an operating system). Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. Examples: <ul style="list-style-type: none"> <li>• Windows</li> <li>• AIX</li> <li>• Solaris</li> </ul>
System Name	Name of the application server in the enterprise that is under management by the TSF system
Total iNodes	Total inodes on the file system
Used iNodes	Total number of inodes used
Volume Composition	Volume composition, for example, Simple or Unknown
LVM	Name of the logical volume manager, for example, Logical Volume Manager (AIX), Veritas (Solaris), Logical Device Manager (Windows), or none
Volume Name	User-defined volume name

**Table 5.25: Space Filters**

Filter Name	Description
Free Space	Total number of megabytes, gigabytes, or tracks that are currently free on this volume
Percent Free	Percentage of free space for an associated volume within the system (free space divided by total space)
Percent Used	Percentage of volume space that is currently allocated within the system
Total Space	Total number of megabytes, gigabytes, or tracks that are allocated for this volume
Used Space	Number of megabytes, gigabytes, or tracks that this volume has used

## Volumes Zoom Tab

After you have executed a filter from the Volumes Filter tab, a result set appears in the Volumes Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 5.26: Volumes Zoom Columns**

Column Name	Description
System Name	Name of the application server in the enterprise that is under management by the TSF system
Volume Name	User-defined volume name
Platform	Name of the hardware or software architecture (may refer to an operating system)
Domain	Name of the group of clients and servers under the control of one security database
File System	Name of the file system
Total (Unit)	Total number of megabytes, gigabytes, or tracks that are allocated for this volume
Used (Unit)	Number of megabytes, gigabytes, or tracks that this volume has used
Free (Unit)	Total number of megabytes, gigabytes, or tracks that are currently free on this volume
Percent Used	Percentage of volume space that is currently allocated within the system
Percent Free	Percentage of free space for an associated volume within the system
Volume Composition	Volume composition, for example, Unknown
Network	Network path
Mount Point	Location for files in the file system
Total iNodes	Total inodes on the file system
Used iNodes	Total number of inodes used
LVM	Name of the logical volume manager, for example, Logical Volume Manager (AIX), Veritas (Solaris), Logical Device Manager (Windows), or none
Last System Scan	Date and time of last system scan in this format: <i>mm/dd/yy hh:mm:ss AM/PM</i>

## Volumes Summary Tab

After you have executed a filter from the Volumes Filter tab, and viewed the result set of information in the Volumes Zoom tab, you can click the Summary tab. A result set appears in the Volumes Summary tab. The Summary tab contains two sub-tabs that give you various information. The sub-tabs include:

- System Volume (Default tab)
- File System Space

**Table 5.27: System Volume Summary**

Column Name	Description
System Name	Name of the application server in the enterprise that is under management by the TSF system
Total Volume	Number of volumes in use for the platform
Total (Unit)	Total number of volumes allocated for the platform in tracks, megabytes, or gigabytes
Used (Unit)	Total number of volumes used by the platform in tracks, megabytes, or gigabytes
Free (Unit)	Total number of volumes that are free for the platform in tracks, megabytes, or gigabytes
Percent Used	Percentage of volume space that is currently allocated within the system
Percent Free	Percentage of free space for an associated volume within the system

**Table 5.28: File System Space Summary**

Column Name	Description
File System	Name of the file system
Total Volume	Number of volumes in use for the platform
Total (Unit)	Number of volumes that are directly connected to a server in use for the platform
Used (Unit)	Total number of volumes used by the platform in tracks, megabytes, or gigabytes
Free (Unit)	Total number of volumes that are free for the platform in tracks, megabytes, or gigabytes
Percent Used	Percentage of volume space that is currently allocated within the system
Drive Percent Free	Percentage of free space for an associated volume within the system

## File System

The File System component lets you monitor the attributes and space for one or more physical or virtual disks so that applications may deal more conveniently with files of variable size.

### Filter Groups for Enterprise File System

You can create a filter for enterprise file systems by using values within the filter tab. The Enterprise File System Filter tab allows you to view detailed information about all file systems in the environment. Enterprise File System filters are grouped on the Filters pane as follows:

- Attributes filter group
- Space filter group

**Table 5.29: Attributes Filters**

Filter Name	Description
Directories	Name of the subnetwork (on a LAN) or the group of clients and servers under the control of one security database
Domain	Name of the group of clients and servers under the control of one security database
Files	Number of files
Files Accessed	Number of files opened since the last file scan for read access
Files Archived	Number of files archived since the last file scan of the last audit
Files Modified	Number of files changed since the last file scan of the last agent audit
Files Not Archived	Number of files not archived since the last file scan of the last audit
File System	Disk file system for data storage device (disk drive), for example, FAT, NTFS, HFS, EXT3, and UDF. May also be a journaling file system or versioning file system.
Platform	Name of the hardware or software architecture (may refer to an operating system). Select the <b>Not</b> checkbox to apply a logical exclude to the selected option. Examples: <ul style="list-style-type: none"> <li>• Windows</li> <li>• AIX</li> <li>• Solaris</li> </ul>
System Name	Name of the application server in the enterprise that is under management by the TSF system
Volume Name	User-defined volume name

**Table 5.30: Space Filters**

Filter Name	Description
Free Space	Total number of megabytes, gigabytes, or tracks that are currently free on this volume
Percent Free	Percentage of free space for an associated volume within the system (free space divided by total space)
Percent Used	Percentage of volume space that is currently allocated within the system

**Table 5.30: Space Filters (Continued)**

Filter Name	Description
Total Space	Total number of megabytes, gigabytes, or tracks that are allocated for this volume
Used Space	Number of megabytes, gigabytes, or tracks that this volume has used

## File System Zoom Tab

After you have executed a filter from the File System Filter tab, a result set appears in the File System Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 5.31: File System Zoom Columns**

Column Name	Description
System Name	Name of the application server in the enterprise that is under management by the TSF system
Volume Name	User-defined volume name
Platform	Name of the hardware or software architecture (may refer to an operating system)
Domain	Name of the group of clients and servers under the control of one security database
File System	Name of the file system
Directories	Total number of directories for this file system
Files	Total number of files that are residing on this file system
Files Accessed	Total number of files accessed for this file system
Files Modified	Total number of modified files for this file system
Files Archived	Total number of archived files that are located on this file system
Files Not Archived	Total number of non-archived files that are located on this file system
Total (Unit)	Total number of megabytes, gigabytes, or tracks that are allocated for this file system
Used (Unit)	Number of megabytes, gigabytes, or tracks that this file system has used
Free (Unit)	Total number of megabytes, gigabytes, or tracks that are currently free on this file system
Percent Used	Percentage of space that is currently allocated within the system
Percent Free	Percentage of free space for an associated file system

## File System Summary Tab

Summary information is the key to management reporting and should be used to guide business decisions. After you have executed a filter from the File System Filter tab, and viewed the result set of information in the File System Zoom tab, you can click the Summary tab. A result set appears in the File System Summary tab.

**Table 5.32: File System Space Summary**

Column Name	Description
File System	Name of the file system
Total Volume	Number of volumes in use for the platform

**Table 5.32: File System Space Summary (Continued)**

Column Name	Description
Total (Unit)	Number of volumes in use for the platform
Used (Unit)	Total number of volumes used by the platform in tracks, megabytes, or gigabytes
Free (Unit)	Total number of volumes that are free for the platform in tracks, megabytes, or gigabytes
Percent Used	Percentage of volume space that is currently allocated within the system
Percent Free	Percentage of free space for an associated volume within the system

## FILE AND DIRECTORY SEARCH

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File Searches are those conducted for Files or Directories on one platform or across multiple platforms. Architecturally, a traditional storage management search queries the TSF server database, whereas File and Directory Search queries the server-side Agents in real-time. Because the possible number of files and directories that reside on an application server can easily accumulate to hundreds of thousands, TSF does not store all file and directory data in its central database.

TSF still provides the ability to select and manage file and directory data that are important for a particular management task, however. For this purpose, TSF has created Realtime File Browsing technology, which uses custom controls to communicate directly with Agents in real-time through the server, enabling real-time file browsing and real-time searches of directories and files.

Using TSF's proprietary real-time storage-management technology, users who have administrative privileges can select network files or directories to be monitored or managed using the File and Directory Search—and only those that are important for a particular management task.

## File and Directory Search Tab

Using the **Search** tab, you can find and monitor specified files and directories across platforms. Follow these steps to conduct a File and Directory search:

- 1** Click the **File and Directory Search** node in the Systems pane.
- 2** Click **Create New Search**.
- 3** In the **Create New Search** dialog box, type a name for the search in the **Search Name** box.
- 4** Select the filters that you want to use from the **Filters** pane and define the filter by selecting from the drop-down list or by typing the appropriate value.
- 5** Click **Save** or **Save and Execute** (or **Cancel** if you change your mind).
- 6** On successful completion of a File Search, results must be loaded. While the Search is loading, the Search Status column shows Searching and the Percent Complete column shows a Red indicator bar, which turns green after the search results are loaded. Search Status changes to Completed.
- 7** When the search is loaded do one of the following:
  - Right-click on the current search to see the pop-up menu and choose one of the actions
  - Click the Search Name to view a Summary report

## Real Time File Browser

Users who have Realtime File Browsing privileges can select directories or files on a specific volume using the Real-Time File Browser—and only those that are important for a particular management task. Using the Real-Time File Browser, you can find directories and files on a selected volume or launch a ProActivity action.

Real-Time File Browser results are returned in real-time. Follow these steps to review Real-Time File Browser results:

- 1** Navigate to the desired volume.
- 2** In the File Browser window that displays, click the ‘plus’ symbol to expand the Volume to display the directories and subdirectories on that volume. Files and directories are ‘found’ as you navigate down the tree.
- 3** Click the directory folder name to display files and subdirectories in the right pane to make them available for administrative purposes.



## CHAPTER

# 7

## ADMINISTRATION

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At-a-glance administrative detail is displayed in the Administration component and includes information such as:

- Accounts
- Agents

# Accounts

The TSF Accounts component provides a view of all user accounts, summarizes account information, and provides a means for creating and deleting accounts. TSF uses accounts to control access to storage-resource usage. There are two user types in TSF: Super User and User.

The Storage Administrator can set up as many user accounts as necessary to correspond to the level of access needed. Once an account has been established, an individual can monitor specified storage-resource usage. User accounts must be given explicit privileges to object types to view them—for example, systems.

A Super User account has access to everything; a User account can be given privileges to use group-, policy-, and agent-management tools. The tabs in the **Accounts** component display information for the accounts including account name and email, privileges, and notifications.

## Create New Account

TSF provides a **Create New Account** dialog box to help you create a username and password, define the user type, assign user privileges, and create the user account. Follow these steps to add new accounts:

- 1 In the tree view pane located beneath the systems pane, click  to expand the **Administration** tree.
- 2 Click the **Accounts** node to view the filters pane and then execute a filter for an Account.
- 3 In the **User Accounts** window, click the **Create a New Account** button.
- 4 In the **Account** dialog, type the user's name in the **User ID** text box. The user ID and password are case-sensitive.
- 5 In the **Password** text box, type the password once, and then type the password again in the **Retype password** box to confirm it.
- 6 In the **Email Address** text box, type an e-mail address for the user.
- 7 In the **Create Account** area, do one of the following to indicate the type of user that you want to create:
  - Select the **From Existing** check box and then select from the drop-down list
  - Select the **Super User** check box
- 8 In the **Assign Privileges** area, select the check box for the objects to which you want to provide access. A user cannot be given privileges to policies only because when Policies is selected, privileges to Groups is automatically given.
- 9 In the **Email Notification** area, select the check box or check boxes to indicate the email notifications for this account.
- 10 Do one of the following:
  - Click **OK** to save the account if you are satisfied with the account. The new account is created and displays in the detail list of User Accounts
  - Click **Cancel**

**Important:** Privileges are not the same as systems access. The new account must have access to a system, which you can provide by searching for systems to add to the current account.

## Search for Systems

Without explicit access to a system or systems, a non-Super User will not be able to see objects in the Enterprise. Conversely, a non-Super User's view of Enterprise objects is limited to only those system objects to which access has been added. Follow these steps to search for systems for adding to current accounts:

- 1 In the **User Accounts** window, do one of the following:
  - Click the hyperlink for an existing account name
  - Right-click an existing account name and then select **Manage Account System Access**
- 2 In the **Manage Account System Access** window, click the **Search for Systems for adding to current account** button.
- 3 In the **System Search** dialog, select a saved filter from the drop-down list for this user account, or create a new filter to search for a system for the user account.
- 4 Click **Save** to save the search criteria, or click **Cancel**.
- 5 Type a unique name for the system search in the **Save Filter As** text box. The search will display as a saved filter for this user account (top of screen).
- 6 Click **Execute** to start the search.
- 7 The results display in the detail list of Systems User Accounts.

## Filter Groups for Administration Accounts

You can create a filter for administration accounts by using values within the filter tab. The Accounts Filter tab allows you to view detailed information about all users and superusers in the environment. Administration Accounts filters are grouped on the Filters pane.

**Table 7.1: Accounts Filters**

Filter Name	Description
Account Name	User's name
Account Email	User's email address
Super User	User account has access to everything. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account is Super User</li> <li>• N (No) if account is not Super User</li> </ul>
Realtime File Browsing Privilege	User account has privileges to use the Real-Time File Browser when grouping directories or files that are on one volume. Directories and files are added by searching for files or directories and adding them to a group. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to the Real-Time File Browser</li> <li>• N (No) if account does not have access to the Real-Time File Browser</li> </ul>
Groups Privilege	User account has privileges to manage groups. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to groups</li> <li>• N (No) if account does not have access to groups</li> </ul>

**Table 7.1: Accounts Filters (Continued)**

Filter Name	Description
Policies Privilege	User account has access to policies that they create. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to policies</li> <li>• N (No) if account does not have access to policies</li> </ul>
Agents Privilege	User account has access to agents. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to agents</li> <li>• N (No) if account does not have access to agents</li> </ul>
ProActivity Privilege	User account has access to ProActivity. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to Proactivity</li> <li>• N (No) if account does not have access to Proactivity</li> </ul>
Agent Notification	User account is configured for e-mail alerts that are triggered by predefined events. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account has agent notification</li> <li>• N (No) if account does not have agent notification</li> </ul>
Drive Notification	User account is configured for e-mail alerts that are triggered by predefined events. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account has drive notification</li> <li>• N (No) if account does not have drive notification</li> </ul>
Volume Notification	User account is configured for e-mail alerts that are triggered by predefined events. Select one of the following options: <ul style="list-style-type: none"> <li>• Y (Yes) if account has volume notification</li> <li>• N (No) if account does not have volume notification</li> </ul>

## Accounts Zoom Tab

After you have executed a filter from the Accounts Filter tab, a result set appears in the Accounts Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 7.2: Accounts Zoom Columns**

Column Name	Description
Account Name	User's name
Account Email	User's email address
Super User	Indicates whether the user account has access to everything. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account is Super User</li> <li>• N (No) if account is not Super User</li> </ul>
Realtime File Browsing Privilege	Indicates whether the user account has privileges to use the Real-Time File Browser. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to the Real-Time File Browser</li> <li>• N (No) if account does not have access to the Real-Time File Browser</li> </ul>
Groups Privilege	Indicates whether the user account has privileges to manage groups. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to groups</li> <li>• N (No) if account does not have access to groups</li> </ul>
Policies Privilege	Indicates whether the user account has access to policies that they create. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to policies</li> <li>• N (No) if account does not have access to policies.</li> </ul>
Agents Privilege	Indicates whether the user account has access to agents. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to agents</li> <li>• N (No) if account does not have access to agents.</li> </ul>
ProActivity Privilege	Indicates whether the user account has access to ProActivity. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account has access to Proactivity</li> <li>• N (No) if account does not have access to Proactivity.</li> </ul>
Agent Notification	Indicates whether the user account is configured for e-mail alerts that are triggered by predefined events. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account has agent notification</li> <li>• N (No) if account does not have agent notification</li> </ul>
Drive Notification	Indicates whether the user account is configured for e-mail alerts that are triggered by predefined events. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account has drive notification</li> <li>• N (No) if account does not have drive notification.</li> </ul>
Volume Notification	Indicates whether the user account is configured for e-mail alerts that are triggered by predefined events. Valid values: <ul style="list-style-type: none"> <li>• Y (Yes) if account has volume notification</li> <li>• N (No) if account does not have volume notification.</li> </ul>

## Accounts Summary Tab

After you have executed a filter from the Accounts Filter tab, and viewed the result set of information in the Accounts Zoom tab, you can click the Summary tab. A result set appears in the Accounts Summary tab.

**Table 7.3: Accounts Summary**

Column Name	Description
Super/User	This column toggles between a user account that has access to everything (Super User) or a user with limited access (User).
Number of Users	Lists the number of users for each user type that is displayed in the first column (Super Users or Users or Total).

# Agents

Agents monitor, trap, and manage data for predefined hotspots within the enterprise. TSF Agent is a remote component of the TSF Server that resides on an application server in the enterprise. The TSF Agent is the TSF Server's interface for data collection and management on the enterprise application server.

## Create New Agent

An agent must be installed and running (see TSF Installation Guide) on a server before it can be added in the TSF client. TSF provides a dialog to help you define the host and port for each agent and accept or edit default system and file audit schedules. Follow these steps to add new agents:

- 1 In the tree view pane located beneath the systems pane, click  to expand the **Administration** tree.
- 2 Click the **Agents** node to view the filters pane and then execute a filter for an Agent.
- 3 In the **Agents** window, click the **Create a New Agent** button.
- 4 In the **Agent** dialog, type the host name in the **Host** text box and the port number in the **Port** text box.
- 5 In the **Agent Audit Scheduler** area, select the appropriate check boxes to change the default audit schedule intervals for System and File audits, if necessary and then click **OK**.

## Filter Groups for Agents

You can create a filter for administration agents by using values within the filter tab. The Agents Filter tab allows you to view detailed information about all agents in the environment. Agents filters are grouped alphabetically on the Filters pane.

**Table 7.4: Agents Filters**

Filter Name	Description
Host	Any computer system to which disks, disk subsystems, or file servers are attached and accessible for data storage and I/O. Mainframes, servers, workstations and personal computers, as well as multiprocessors and clustered computer complexes, are all referred to as host.
Port	Entrance to or exit from a storage network, or a connection point for a peripheral device or an application program. It can be logical, physical or both. Examples include Fibre Channel Port, Internet Protocol Suite Port and SCSI Port.
Platform	Name of the hardware or software architecture (may refer to an operating system). Select the <b>Not</b> checkbox to apply a logical Exclude to the selected option. Examples: <ul style="list-style-type: none"> <li>• Windows</li> <li>• AIX</li> <li>• Solaris</li> </ul>
Status	Current status of the agent (for example, Online or Offline).
Build	Current build of the agent.

**Table 7.4: Agents Filters (Continued)**

Filter Name	Description
Version	Current version of the agent.
Last System Scan	Date and time of last system scan. Select the <b>Not</b> checkbox to apply a logical Exclude to the selected option. <i>mm/dd/yy hh:mm:ss AM/PM</i> Example: <ul style="list-style-type: none"> <li>3/10/06 6:47:18 AM</li> </ul>
Last File Scan	Date and time of last file scan. Select the <b>Not</b> checkbox to apply a logical Exclude to the selected option. <i>mm/dd/yy hh:mm:ss AM/PM</i> Example: <ul style="list-style-type: none"> <li>3/10/06 6:47:18 AM</li> </ul>

## Agents Zoom Tab

After you have executed a filter from the Agents Filter tab, a result set appears in the Agents Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 7.5: Agents Zoom Columns**

Column Name	Description
Host	Host name or IP address
Port	Port number
Status	Current status, Online or Offline
Platform	Name of the hardware or software architecture
Build	Build number
Version	Version number
Last System Scan	Date and time of last system scan in this format: <i>mm/dd/yy hh:mm:ss AM/PM</i>
Last File Scan	Date and time of last file scan in this format: <i>mm/dd/yy hh:mm:ss AM/PM</i>
System Audit Schedule Type	Indicates whether the system audit schedule is periodic or daily
File Audit Schedule Type	Indicates whether the file audit schedule is periodic or daily
System Audit Hour	System audit hour
System Audit Minutes	System audit minute
File Audit Hour	File audit hour
File Audit Minute	File audit minute

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## Agents Summary Tab

After you have executed a filter from the Agents Filter tab, and viewed the result set of information in the Agents Zoom tab, you can click the Summary tab. A result set appears in the Agents Summary tab.

**Table 7.6: Agents Summary Columns**

Column Name	Description
Platform	Displays the name of the hardware or software architecture
Agents Installed	Lists the number of agents that are installed on the platform



## CHAPTER

# 8

## GROUPS

---

With the exception of Platforms and Domains, Enterprise storage networks can be broken into logical groups at any level—from server to physical disk to logical volume to managed directories— allowing the monitoring of data and historical detail for that logical group to occur on a moment-to-moment basis. Groups of these types can be monitored:

- Systems
- Hard Drives
- Volumes/File Systems
- Directories
- Files

## Create New Group

TSF provides a dialog to help you name the group, define the object type for the new group (systems, drives, volumes, directories, files), and create the group. Follow these steps to add new groups:

- 1 In the tree view pane located beneath the systems pane, click  to expand the **Groups** tree and then execute a filter for a group.
- 2 In the **Groups** window, click the **Create a New Group** button.
- 3 In the **Group Editor** dialog, type a unique name for this group in the **New Group Name** text box and select the **Object Type** from the drop-down list.
- 4 Create a filter for the object type that you selected.
- 5 Do one of the following:
  - Click **OK** to save changes to the group. The new group is created and displays in the detail list of Group Names. After a group is created, it is empty until policies are added or applied to the group.
  - Click **Cancel**.

## Groups Filter Tab

The Groups filter tab provides specific information about attributes such as name and type. You can create a filter for this information by using values within the filter tab. Attributes are grouped alphabetically on the Filters pane.

**Table 8.1: Groups Filters**

Filter Name	Description
Group Name	Unique name for this group
Type	Groups of these types can be created: <ul style="list-style-type: none"> <li>• Systems</li> <li>• Drives</li> <li>• Volumes</li> <li>• Directories</li> <li>• Files</li> </ul>

## Groups Zoom Tab

After you have executed a filter from the Groups Filter tab, a result set appears in the Groups Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 8.2: Groups Zoom Columns**

Column Name	Description
Group Name	User-defined group name
Group Type	Group type including directories, volumes, drives, systems or files
Account Name	Account name for a group
Total (units)	Total available tracks, KB, MB, GB, or TB for the group, depending on Units selection

**Table 8.2: Groups Zoom Columns (Continued)**

Column Name	Description
Used (units)	Indicates how much space has a group has recently consumed in tracks, KB, MB, GB, or TB, depending on Units selection
Free (units)	Total number of tracks, KB, MB, GB, or TB that are free, depending on Units selection
Percent Used	Percentage of space that is currently allocated within the system
Percent Free	Percentage of free space for an associated group within the category (free space divided by total space)
Total Group Number	Total number of groups for each group type that is displayed
Policies Applied	Number of polices applied in this group
Number of Total Violators	Total number of policy violators in this group
Policies Violated	Detailed count of when policies have been violated. A policy violation occurs for each object that violates a policy, not for each platform or system violation.

## Groups Summary Tab

After you have executed a filter from the Groups Filter tab, and viewed the result set of information in the Groups Detail tab, you can click the Summary tab. A result set appears in the Groups Summary tab.

**Table 8.3: Groups Summary**

Column Name	Description
Group Type	Group type including directories, volumes, drives, systems or files
Number of Groups	Number of groups for each group type that is displayed
Policies Applied	Number of polices applied in this group
Policies Violated	Detailed count of when policies have been violated. A policy violation occurs for each object that violates a policy, not for each platform or system violation.



## CHAPTER

# 9

## **POLICIES**

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Policies enable you to automate the management of storage-related activities with a rules-based architecture that generates alerts. Alerts are e-mail notifications that occur when user-defined parameters are exceeded. They are triggered by predefined events and configured to notify via e-mail the administrator who is responsible for monitoring specific mission-critical data. Alerts are defined during creation of the policy, using the dialog.

The TSF Policies component provides a view of all policies, summarizes Policy System Behavior, and provides a means for creating and deleting policies. Policies that are to be monitored from the console are added from the Policies component.

## Create New Policy

TSF provides a dialog to help you name the policy and define the object type, select a parameter from a drop-down list and set a warning threshold, set up the e-mail notification, and review and save the policy. Follow these steps to add new policies.

**IMPORTANT:** Policy names must be unique across the enterprise. Because only those who have Super User privileges will be able to see all existing policies, it is possible that a User may attempt to create a policy whose name is a duplicate of an existing policy.

- 1 In the tree view pane located beneath the systems pane, click  to expand the **Policies** tree and then execute a filter for a policy.
- 2 In the **Policies** window, click the **Create a New Policy** button  to display the Policy dialog.
- 3 In the **Policy** dialog, type the name of this policy in the **Policy Name** box, and then use the drop-down lists to define the policy.
- 4 In the **To** box, type the e-mail address of the person to be notified of violations. Separate multiple e-mail addresses with a semi-colon.
- 5 In the **Subject** text box, type a subject that describes the violation.
- 6 Type a message for the e-mail alert in the **Message** box.
- 7 Do one of the following:
  - Click **OK** to save the policy. The new policy is created and displays in the detail list of Policy Names.
  - Click **Cancel**.

### Policies Filter Tab

The Policies filter tab provides specific information about attributes such as name and type.

You can create a filter for this information by using values within the filter tab. Attributes are grouped alphabetically on the Filters pane as follows:

**Table 9.1: Policies Filters**

Filter Name	Description
Policy Name	Unique name for this policy
Type	Policies of these types can be created: <ul style="list-style-type: none"> <li>• Systems</li> <li>• Drives</li> <li>• Volumes</li> <li>• Directories</li> <li>• Files</li> </ul>

## Policies Zoom Tab

After you have executed a filter from the Policies Filter tab, a result set appears in the Policies Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 9.2: Policies Zoom Columns**

Column Name	Description
Group Name	User-defined group name
Group Type	Group type including directories, volumes, drives, systems or files
Account Name	Account name for a group
Total (units)	Total available tracks, KB, MB, GB, or TB for the group, depending on Units selection
Used (units)	Space that a group has recently consumed in tracks, KB, MB, GB, or TB, depending on Units selection
Free (units)	Total number of tracks, KB, MB, GB, or TB that are free, depending on Units selection
Percent Used	Percentage of space that is currently allocated within the system
Percent Free	Percentage of free space for an associated group within the category (free space divided by total space)
Total Group Number	Total number of groups for each group type that is displayed
Policies Applied	Number of policies applied in this group
Number of Total Violators	Total number of policy violators in this group
Policies Violated	Detailed count of when policies have been violated. A policy violation occurs for each object that violates a policy, not for each platform or system violation.

## Policies Summary Tab

After you have executed a filter from the Policies Filter tab, and viewed the result set of information in the Policies Zoom tab, you can click the Summary tab. A result set appears in the Policies Summary tab.

**Table 9.3: Policies Summary**

Column Name	Description
Policy Type	Policy type including directories, volumes, drives, systems or files
Number of Policies	Number of policies for each policy type that is displayed
Number of Total Violators	Total number of violators for this policy



# CHAPTER 10

## **ACTION RECORDS**

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Sometimes after a set of files or directories is defined, you want the ability to perform an operation on that set (for example, move, delete, copy, or archive). TSF provides user-defined automation for this purpose.

Action set records are created from the TSF application interface on the host where the selected files or directories reside. This means that although you can search and group across platforms, action-set operations are native to each host on which the directories or files reside. Scripted actions performed against the saved sets must be executed against the action set on each platform where an action set was created.

The Action Records are another form of logs kept on the TSF Server to keep track of actions that were submitted and the status of the operation on each object in the Action Set. Each action that is submitted through the TSF server will have an Action Record generated.

TSF provides scripts that can be used to operate on the saved action sets or you can develop your own scripts for those purposes. An operation applied to a directory applies to that directory and all files and directories under it.

## Action Records Filter Tab

You can create a filter for action records by using values within the filter tab. The Action Records Filter tab allows you to view detailed information about all action sets in the environment. All Action Records filters are grouped alphabetically on the Filters pane.

**Table 10.1: Action Records Filters**

Filter Name	Description
Action Name	User-defined name for the action
Action Status	Status for action including pending, success, failure, or unknown
Action Type	Type of action, including ProActivity, Delete, Move, Copy, Rename, Archive, Archive-Delete
Comment	Comment that was created when the user submitted the action
Reason	Reason the action failed, if known
System Name	Name of the application server in the enterprise that is under management by the TSF system
Time Completed	Time action completed in format yyyy/mm/dd hh/mm/ss
Time Submitted	Time action submitted in format yyyy/mm/dd hh/mm/ss
User Name	User who submitted the action

## Action Records Zoom Tab

After you have executed a filter from the Action Records Filter tab, a result set appears in the Action Records Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 10.2: Action Records Zoom Columns**

Column Name	Description
Action ID	Sequential integer, unique to this TSF server
Action Name	User-defined action name
Time Submitted	Time the action was submitted in format yyyy/mm/dd hh/mm/ss
Time Completed	Time the action completed in format yyyy/mm/dd hh/mm/ss
Action Type	Action type, usually ProActivity
Action Status	If any of the items are pending, the overall status is pending. This rule trumps all rules below except for failure. <ul style="list-style-type: none"> <li>• If any items are failure, the status is failure even if some items are pending or unknown</li> <li>• If any of the items are unknown, the overall status is unknown</li> <li>• If all are success, then the status is success</li> </ul>
Reason	Reason the action failed, if known
User Name	User name for the person who submitted the action
Comment	Comment that was created when the user submitted the action
System Name	Name of the application server in the enterprise that is under management by the TSF system

## CHAPTER

# 11

## **SRM LOG**

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The storage log is kept on the TSF Server to record changes in the storage environment. This includes events other than just action events, such as new volumes coming online or volumes that had existed going away. The storage log is intended to be a place for TSF to record significant events and changes in the storage environment that is being managed. It is separate and distinct from the application log.

## SRM Log Filter Tab

You can create a filter for SRM Logs by using values within the filter tab. The SRM Log Filter tab allows you to view detailed information about all storage logs in the environment.

All SRM Log filters are grouped alphabetically on the Filters pane. The following is a list of fields that are available for the SRM Log filter group.

**Table 11.1: SRM Log Filters**

Field Name	Lets you filter for...
Event ID	Sequential unique integer (to this TSF server).
Date/Time	Timestamp for the storage log.
Severity	Severity for storage log including emergency, alert, critical, error, warning, notice, info, or debug.
Type	Enumeration of event types.
System Name	Name of the system the event occurred on.
Source	Free-form text field that identifies the source for the log entry.
Description	Readable description of the logged event, for example, "A volume that used to exist on this system has been removed."

## SRM Log Zoom Tab

After you have executed a filter from the SRM Log Filter tab, a result set appears in the SRM Log Zoom tab. You can then zoom down more levels to view various information. You can display all this information in full (all columns) or you can select the columns that you want to display by using the Column Selection tab.

**Table 11.2: SRM Log Zoom Columns**

Column Name	Description
Event ID	Lists the sequential integer, unique to this TSF server.
Date/Time	Lists the timestamp for the storage log.
Severity	Displays the severity level for the storage log including emergency, alert, critical, error, warning, notice, info, or debug
Type	Displays the event type, usually ProActivity.
System Name	Displays the name of the application server in the enterprise that is under management by the TSF system.
Source	Displays the source for the log entry.
Description	Displays a readable description of the logged event, for example, "A volume that used to exist on this system has been removed."

# CHAPTER 12

## PROACTIVITY

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TSF 2.1.1 supports ProActivity for *file and directory objects* on distributed platforms. ProActivity is a customizable and extensible framework for developing storage and system management functionality. TSF provides a set of predefined templates for ProActivity on distributed platforms, but you can also write scripts for customized templates. Predefined templates can be used as defaults, or you can use them as examples when you are creating new templates. See About Scripts for a scripter's guide to customizing and creating new templates.

Template design provides similar behavior across all platforms when possible. Scripts have a simple design goal for easy reading before you submit an interpolated script for execution. Additional error checking and handling was possible for the predefined templates, but this adds complexity.

**Note:** The ProActivity scripts supplied with the TSF application are designed to perform basic functions and to demonstrate ProActivity capabilities. These scripts are dependent on the host environment/configuration and may not succeed without modification to either the script or the host environment. Care should be taken to evaluate and test these scripts prior to use in a production environment.

## Launching a ProActivity Action

Follow these steps to launch a ProActivity action:

- 1 From a **File and Directory Search** window, click the hyperlink for an existing search in the **Search Name** column or click the **Create New Search** button.
- 2 In the search results window at bottom of screen, click the hyperlink for an existing volume in the **Volume Name** column to zoom to the next level of detail.
- 3 Select the objects in a table that you want to launch actions on.
- 4 Right-click and choose **Launch Action** from the popup menu.
- 5 Select a script header template and an object template from the alphabetized list. You must select both parts of the template. The set of actions shown is read from the TSF server or agent that is currently selected. Locally saved templates are not available until they are uploaded. If you have added new template files correctly they should show up in the list. Press **Explain** for help.
- 6 Click **Select** to select the desired ProActivity script template and to launch the ProActivity script editor dialog box. Or, press **Cancel** to cancel the operation (the items selected in the table will remain selected).
- 7 Edit the existing script template in the script editor or create a new script template.
- 8 *Optional.* Save the script template. **Save** applies to the current script, whereas **Save All** applies to all opened script editors. You must specify a file name in the dialog box. The Action ID will be appended to the name that you specify for uniqueness. If an error occurs you will have the option to change the file name.
- 9 *Optional.* Provide a human-readable name for the action. Since this may be used as part of a filename, it cannot contain white space characters.
- 10 *Optional.* Use the Comment menu to add a comment to this action before you submit it.
- 11 In the ProActivity script dialog editor for the templates that you selected, use the **Submit** menu to submit the action on one system. You can submit the current ProActivity script instance or all instances associated with this action.
- 12 Confirm the submit operation in the dialog box. Once you confirm that the scripts are submitted there is no turning back.

For each system a script is submitted to, the client will check the systems database for credentials that can be used to submit the action. If credentials are not found there, you will be asked to supply credentials (username and password) for that system. If authorization fails, it will be logged against that action ID in the action record log.

# ProActivity Security Overview

Security is of utmost concern in ProActivity's design. Each action submitted to the agent will be sent via Secure Sockets Layer (SSL) to prevent snooping and playback attacks. User credentials for each agent host are stored encrypted on the client, but the user can control whether they are stored at all. Those credentials are sent with each action request and authenticated on the host where the action is to be performed. Each action is spawned in a separate process running as the user who has authenticated, so the user's permissions on that host do not exceed his permissions had he logged directly on to that host.

## Windows Security

On Windows systems, the SRMAgent runs as a Service under the local SYSTEM account. This account has the necessary "Log on as a service" permission by default. ProActivity uses the agent host's native Windows authentication facilities to authenticate users who submit ProActivity scripts. Local accounts can authenticate with a bare username. Domain accounts should authenticate with username in the format: USER@DOMAIN.

Running a ProActivity job constitutes a non-interactive or batch login, so the account that the job is submitted as must be given the "Log on as a batch job" user right.

### Windows 2000

On Windows 2000, this can be done locally through Control Panel --> Security Settings --> Local Policies --> User Rights Assignment.

### Windows XP and Windows Server 2003

- 1 Click Start --> Run.
- 2 Type `gpedit.msc` in the dialog box to run the Group Policy editor.
- 3 Click OK.
- 4 Drill down through Computer Configuration --> Windows Settings --> Security Settings --> Local Policies --> User Rights Assignment.
- 5 Right-click the "Log on as a batch job" policy.
- 6 Right-click and select Properties to enable the Policy and define the effected users and/or groups.

### Windows Domain

If the host is part of a Windows domain, effective user rights may be governed by domain or organizational unit (OU) level group policy objects (GPOs). These are set through the Active Directory Users And Computers snap-in on a domain controller.

- 1 Right click on the domain or OU.
- 2 Select Properties.
- 3 Proceed to the Group Policy tab and follow the hierarchy as above to enable the user rights.

The rules for how these policies will propagate and become effective on a given host can be complex and configuration-dependent. Consult your Windows domain administrator for assistance.

The host must be rebooted for these policy changes to consistently take effect. Failure to properly authorize the accounts when ProActivity jobs are submitted will result in Error #1314 – A required privilege is not held by the client.

## UNIX Security

On Unix systems, the SRMAgent runs as root and ProActivity uses the agent system's native Pluggable Authentication Modules (PAM) stack to authenticate users wishing to submit ProActivity scripts, so PAM must be configured to allow these users to successfully authenticate.

Security best practices would suggest that you never submit ProActivity scripts as root and should instead set up a different user with privileges just sufficient to do the job. However, if you wish to submit ProActivity as root, you may need to configure PAM and/or the Operating System to allow non-console root logins.

### RedHat Enterprise Linux

On RedHat Enterprise Linux, this is controlled by the **pam\_securetty** module. The SRMAgent contains a PAM hook for this module that sets the PAM\_TTY item to `srm_agent`. To make use of this hook to allow the SRMAgent to accept root logins for ProActivity, modify your `/etc/securetty` file to accept a tty called `srm_agent`.

### Solaris

On Solaris, modify your `/etc/security/login` file to comment out `#CONSOLE`. Consult your Operating System documentation about PAM modules for further guidance.

# Templates

TSF 2.1 has support for ProActivity operations on file and directory objects on distributed platforms. Any one of these object templates may be combined with a header template to provide a desired action. The following is a list of default templates. For more information read the template script.

## Header Templates

Headers are largely object-neutral. You can perform nearly any operation you wish to have executed before the object templates are executed for each selected object. See scripting examples. The header template is executed once at the beginning of the action before any of the object scripts execute.

- `null_header` – Provides a header-like comment with no executable commands. It can be used when only object scripts need to be executed.

## Object Templates

Directory templates operate on directories.

- `archive_delete_dir` – Archive the directory and then delete it from its place in the file system
- `archive_dir` – Create an archive file of a directory. This is similar to `compress_dir`, except the archive is not necessarily compressed and the archive may reside in a location that is different from the directory.
- `compress_dir` – Compress a directory in place, deleting the existing directory and leaving a similarly named compressed version of the directory. This is the inverse operation of `uncompress_dir_file`.
- `copy_dir` – Copy a directory to another location
- `delete_dir` – Delete a directory
- `move_dir` – Move a directory to another location, for example copy and then delete

File templates operate on file objects.

- `archive_file` – Adds a file into an existing archive (see `archive_header`). If the file already exists in the archive, only add the file if it is newer than the file in the archive.
- `archive_delete_file` – Archive the file and then delete it from its place in the file system.
- `compress_file` – Compress a file in place, deleting the existing file and leaving a similarly named compressed version of the file. This is the inverse operation of `uncompress_file`.
- `copy_file` – Copy a file to another location
- `delete_file` – Delete a file
- `move_file` – Move a file to another location (for example, copy a file and then delete it).
- `null_op_file` – A file object template that does nothing.
- `uncompress_dir_file` – Uncompress a compressed version of a directory in place, deleting the compressed version and leaving the original uncompressed directory. This is the inverse operation of `compress_dir`.
- `uncompress_file` – Uncompress a file in place, deleting the compressed version and leaving the original uncompressed file. This is the inverse operation of `compress_file`.

## Template Chooser

You can create, edit, save, and delete templates with the ProActivity Template Editor when it is launched from the TSF Tools menu. This is not the same editor as the ProActivity Script/Job Card editor which lets you create and modify scripts. Rather, the template editor lets you create and edit new templates and lets you save them on the client or locally.

The template editor also provides a template chooser dialog. When you select Open, Save, or Delete On Template Server you must specify which template to operate on through this dialog. The dialog works like a File Chooser, but it is specialized to templates.

For z/OS templates, you only need to indicate whether you want a Job Control Card or an Object control card (this is analogous to a header on the distributed side). Once you have done this, you should see a list of choices, from which you can either choose one of the existing templates or provide a new name for a template.

For Distributed templates, you must specify the object type (file or directory or header), and the platform (Windows, Linux, and so on). Once you have done this, you should see a list of choices, from which you can either choose one of the existing templates or specify a name for a new one.

The Template Chooser dialog has a tree structure so you can tell the platform and type by looking at the location in the tree. The new button on the dialog is only displayed when you are in Save mode. When you press the new button a new file will be placed in the tree with a default name (for example, NewScript.bat). You can click on the file on the tree and rename it to whatever you want (as long as it is not the same as something in the directory already) and select it. You can place new files only in the lowest directories (headers, files, directory, and so on) since it would not make sense with this tree. You cannot create or delete folders with the Template Chooser dialog for the same reason.

### Create Template

You can start with an empty template editor and start writing a template. Along the way, you can Save Local or Save on Template Server. You can also start with a locally saved template through Open Local and save it locally through Save Local.

### Edit Template

Editing starts when you open an existing template from the server using the Open on Template Server menu option, edit it, and then use Save on Template Server. Opening a template would contact the server to obtain a list of the current templates.

### Save Template

When you are finished editing a template, you can save it back to the Mainframe Agent or the TSF server template library. This is done through the Save on Template Server menu item. When you choose Save, a dialog box shows you a list of existing templates and asks you to choose a template name or enter a new one. If you choose an existing template name, you will be asked to confirm that you wish to replace an existing template.

A username and password will be sent as part of the request to save templates. The ability to save templates will be an account permission on the TSF server and will require a mainframe account on the MF Agent.

The editor will also let you save any text that is being edited locally on the client. This is done from a Save Local menu item.

When you choose to save locally, a standard file chooser appears, letting you decide where you want to save the file. This file chooser opens to the last place in the file system where you last saved something.

### Delete Template

To delete an existing template, open it and then select File->Delete from Template server or Delete Local.

## Job Control Templates

ProActivity JCL members reside in distribution library *HLQ.TSF.PROACT*. All of the JCL members begin with the letter Z. The maximum length for any JCL member is seven alphanumeric characters.

**ZDFDSS JCL Member.** ZDFDSS is the sample JCL for DFDSS storage management techniques

**ZDFMOVE JCL Member.** ZDFMOVE is the sample JCL to move datasets from one volser to another. You can use it with the DFMOVE sample control card.

**ZFDRCPK1 JCL Member.** ZFDRCPK1 is the sample JCL to release free space from all inactive PS, PO and VSAM datasets, as long as they have secondary allocation specified for future growth.

**ZFDRCPK2 JCL Member.** ZFDRCPK2 is the sample JCL to combine multi-extent datasets into single extents and move datasets to provide the minimum number of maximum-sized free space extents.

**ZFDRCPK3 JCL Member.** ZFDRCPK3 is the sample JCL to combine multi-extent datasets into single extents and move datasets to provide the minimum number of maximum-sized free space extents. This member moves more tracks than the previous example (ZFDRCPK2) and provides a better result at the expense of elapsed time.

**ZFDRCPK4 JCL Member.** ZFDRCPK4 is the sample JCL to release free space from all inactive PS, PO and VSAM datasets, as long as they have secondary allocation specified for future growth. Compaktor\* will then combine multi-extent datasets into single extents and move datasets to provide the minimum number of maximum-sized free space extents.

**ZFDRDUMP JCL Member.** ZFDRDUMP is the sample JCL to dump a disk volume to a GDG on 3490E tape cartridges.

**ZFDRSTOR JCL Member.** ZFDRSTOR is the sample JCL to restore a 3390 disk volume from a GDG on 3490E tape cartridges.

\* Compaktor, sometimes called FDRCPK, is a useful tool for managing z/OS mainframe disks (or DASD volumes as they are called in the mainframe world).

**ZTSO JCL Member** . ZTSO is the sample JCL for the TSO command processor. It is used to execute any TSO command in batch format. The program that is executed in this example is IKJEFT01 (EXEC PGM= IKJEFT01).

## Skeleton Control Cards

ProActivity control card members reside in distribution library *HLQ.TSF.PROACT*. All of the control cards begin with an alpha character. The maximum length for any control card is eight characters. These sample control cards and JCL can be used in conjunction with the Pro batch jobs shipped with the product or online in any of the components of TSF.

- BKVERS Control Card
- DELETE Control Card
- DFMOVE Control Card
- HMIG1 Control Card
- HMIG2 Control Card

## About Scripts

The script may be submitted from the Submit Menu. There is an option to submit the current ProActivity script instance or all instances associated with this Action. This submit operation will put up a (one) confirmation dialog. If the user confirms the scripts are submitted and there is no turning back.

For each system a script is submitted to, the client will check the systems database for credentials that can be used to submit the action. If credentials are not found there, the user will be asked to supply credentials (username and password) for that system. This will be similar to the mechanism that currently exists for obtaining credentials when the user does not save them on the client. If authorization fails, it will be logged against that action ID in the action record log, and possibly the storage log.

## Scripting Guide to ProActivity Templates

Templates are developed in the most common scripting language of each platform. On the Mainframe, this is JCL. On UNIX, this is Bourne shell or its derivatives, and Windows cmd.exe shell on Windows. Of course, it is also possible to execute scripts and programs written in other languages from these.

Templates come in two independent parts that are combined on the client at runtime: a header script (or job card on mainframe) and an object script (control card on mainframe). When interpolated for execution, the header appears once at the beginning of the script. The object script will be repeated once for each object in the selected set of table rows.

Once interpolated with data from the table of origin, ProActivity scripts for distributed systems are broken apart and executed by script interpreter individually as scriptlets. This allows TSF to individually track the success or failure of each scriptlet as well as the success or failure of the overall action as the aggregate of the header and object scriptlets. Breakage of the script into scriptlets occurs on the agent when the script is submitted. The Agent uses the following tags from the templates to split the text of the script into scriptlets:

- BEGIN\_JOB\_SCRIPT\_HEADER
- END\_JOB\_SCRIPT\_HEADER
- BEGIN\_OBJECT\_SCRIPT
- END\_OBJECT\_SCRIPT

Your templates must include or leave these tags intact as the first and last lines of the template. The header scriptlet is executed first, and if it fails, none of the remaining object scriptlets will be executed. If the header succeeds, each object scriptlet is executed independently.

Another important requirement for header and object templates is that they provide a return code to the interpreter that executes them. This return code is then passed back to TSF which tracks the return code as success or failure of each scriptlet in the action record logs. Like the default templates, your templates should return a 0 to indicate success or nonzero to indicate failure. The default templates use the special shell variables `%ERRORLEVEL%` on Windows, and  `$?`  on UNIX, which take on the return value of the last command executed.

When you are creating a new template, the first thing to consider is which object the template will operate on. Headers are largely object-neutral. You can perform nearly

any operation you wish to have executed before the object templates are executed for each selected object.

Header templates can contain object-neutral keywords such as <&TODAY>.

Object templates are object-specific. The set of keywords your object templates can contain depends on the kind of objects they are going to operate on. These keywords will be substituted directly from data in the columns of the table the ProActivity action is launched from.

## Script Editor

Once a ProActivity script template has been selected, the ProActivity Script/Job Card editor will appear showing the script template with the selected objects macro-substituted for the context-sensitive keywords used in the template. The script editor is a basic graphical editor similar to Notepad. It has File Menu options including Save Current, Save All, Submit Current, and Submit All. Save Current applies to the current script, whereas Save All applies to all opened script editors.

### **If the action set contains objects on multiple systems:**

A script dialog will be generated for each system from the script template for that system's operating system. ProActivity supports BAT on Windows, Shell on UNIX and JCL on mainframe systems. A separate script editor dialog will appear for each system that has items in the action set.

### **If the action set contains the same object multiple times as seen from multiple systems:**

A script item will be generated for each system the object is seen through and you must execute the script item only once on that object.

## Create New Script

When you are creating a new script, the first thing to consider is which object the script template will operate on. Headers are largely object-neutral. You can perform nearly any operation you wish to have executed before the object templates are executed for each selected object. See scripting examples.

Header templates can contain object-neutral keywords such as <&TODAY>.

Object templates are object-specific. The set of keywords your object templates can contain depends on the kind of objects they are going to operate on. These keywords will be substituted directly from data in the columns of the table the ProActivity action is launched from.

Because distributed ProActivity was designed so that the same template name would apply across all platforms, it is highly recommended that when you create a new template, you create templates of the same name and equivalent functionality for each of the distributed platforms.

## Scripting Examples

Templates can be customized for your environment by editing existing templates and changing their characteristics.

### Specifying a Different Compression Utility

You may prefer to use PKZIP, a different version of ZIP, for file compression on the Microsoft Windows operating system instead of the compression utility provided by Cygwin, and you might wish to use different command-line options. To make this change in your templates, simply modify the `%COMPRESS%` variable in archive templates to point to the PKZIP utility, for example:

#### *Before:*

```
rem # Edit this to suit your installation.
set COMPRESS=C:\cygwin\bin\zip -u -v
```

#### *After:*

```
rem # Edit this to suit your installation.
set COMPRESS=C:\programs\pkzip -v
```

The full path names of executables are generally used for security reasons and to take the guesswork out of what will happen when the scripts operate in different user environments. They may be removed for portability reasons if necessary.

### Specifying a Different Archive Utility

To create archives, you might want to use a different backup utility instead of the GNU tar. This could be accomplished by editing the default archive file template and changing the path name.

## Creating a New Header Template

Header templates are object-neutral, so you can perform nearly any operation that you wish to have executed before the object templates are executed for each selected object. For example, what if you want to log each action taken to a file on the host where the script is executed? You can create a new header template with the following information:

```
# BEGIN_JOB_SCRIPT_HEADER
#! /bin/sh
#
PROACTIVITY_LOG='/var/log/tsf_proactivity'
#
echo "TSF ProActivity action executed <&NOW>" >> $PROACTIVITY_LOG
exit 0
#
# END_JOB_SCRIPT_HEADER
```

## Creating a New Object Template

Object templates are object-specific. What if you want to create an object template that will email a complaint to the owner of each file you pass to it if the file is an MP3 file and is larger than 500 MB? You could write a template as shown below.

Note: This example includes several ProActivity keywords to show how easy it is to create highly customized data management applications through template scripting.

```
#
# BEGIN_OBJECT_SCRIPT
#
# Edit this to suit your installation and preferences.
#
MAIL_CLIENT='/bin/mail'
#
# Setup.
#
HOST_NAME=`/bin/hostname`
#
# Do not edit below this line.
if [ <&SIZE_MB> -gt 500 -a "mp3" = "<&FILE_EXTENSION>" ]; then
    BODY="<&FILE_NAME> is taking up <&SIZE_MB> MB on "$HOST_NAME
    echo $BODY | $MAIL_CLIENT <&OWNER> -s "Please delete large MP3 file"
fi
exit $?
#
# END_OBJECT_SCRIPT
#
```

## Keywords

Keyword substitution in TSF works for ProActivity on z/OS systems and distributed systems.

For z/OS systems, the ProActivity template names consist of two parts: the job control card part (such as ZTSO) and the skeleton control card. As in the ISPF interface, the job control card is a JCL header on which substitution is not performed and which is intended to execute once through. The skeleton control card supports keyword substitution and is repeated in the substituted script for each item in the action set.

For Distributed systems, the ProActivity template scripts similarly break the template into two parts: a header that is executed once (but does support keyword substitution for a limited set of keywords, see below) and a skeleton object control script that supports object-level substitution and is repeated for each item in the action set. The skeleton object control script can be one line or multiple lines.

**Table 12.1: Keywords for Header Templates**

Keyword Name	Description
<&NOW>	The current date and time of the file in format YYYY-MM-DD-HH-MM-SS
<&TODAY>	Today's date expressed as YYYY-MM-DD

Obviously, for directories, those fields that do not apply (such as FILE\_EXTENSION) do not apply to the directory template.

**Table 12.2: Keywords for Object Templates (Files & Directories)**

Keyword Name	Description
<&FILE_NAME>	Fully qualified file name
<&DATASET_NAME>	Same as FILE_NAME (for compatibility with z/OS)
<&FILE_BASENAME>	Name of the file with the path removed
<&FILE_DIRNAME>	The parent directory of the file
<&FILE_EXTENSION>	The file extension (including the dot).
<&SIZE_BYTES>	The file size in bytes
<&SIZE_KB>	The file size in kilobytes
<&SIZE_MB>	The file size in megabytes
<&MB_USED>	Same as SIZE_MB (for compatibility with z/OS)
<&OWNER>	The user name of the file owner
<&LAST_MOD_DATE>	The last modified date of the file as YYYY-MM-DD
<&LAST_MOD>	The last modified date/time of the file as MM_DD_YYYY_HH_MM_SS
<&LAST_ACCESS_DATE>	The last accessed date of the file as YYYY-MM-DD
<&LAST_REFERENCE_DATE>	Same as LAST_ACCESS_DATE (for compatibility with z/OS)
<&LAST_ACCESS>	The last accessed date/time of the file as YYYY-MM-DD-HH-MM-SS
<&NOW>	The current date/time of the file as YYYY-MM-DD-HH-MM-SS.
<&TODAY>	Today's date of the as YYYY-MM-DD.

**Table 12.2: Keywords for Object Templates (Files & Directories)**

Keyword Name	Description
<&AUTO_INCREMENT>	A counter that begins with 1 and increments by one for each object in the object list
<&DDI>	Same as AUTO_INCREMENT (for compatibility with z/OS)
<&VOLUME>	The name of the volume this file's file system is on
<&SYSTEM>	The name of the system the file is being accessed through