

StorageTek Tape Analytics

User Interface Guide

Version 1.0.2



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Summary of Changes

v1.0.2, December 2012

Updates were made for the following new features and changes. Updates are marked with change bars in the margin.

- SL150 library support
- Miscellaneous corrections

v1.0.1, July 2012

Updates were made for the following new features and changes. Updates are marked with change bars in the margin.

- Lock out after five failed login attempts.
See “User Account Lockout” on page 15.
- New default screen refresh interval of 480 seconds.
See “Session Management” on page 16.
- Ability to change the automatic session timeout interval.
See “Screen Interval Options” on page 16.
- System preferences for displaying removed drives and media.
See “Removed Drives and Media Display Options” on page 17.
- New table page number field on Exchanges, Cleaning Activities, and Notifications screens.
See “List View Table Toolbar” on page 113 and “Display a Specific Table Page” on page 134.
- Ability to clear previously applied filter criteria by blanking them out.
See “Use the Filter Data Dialog Box to Change a Table Filter” on page 173.
- New chapter addressing common questions about tape storage operations and health.
See Chapter 8, “Using STA to Answer Tape Environment Questions” on page 211.

v1.0.0, April 2012

Initial release.

Preface

This document provides information about Oracle's StorageTek Tape Analytics (STA) user interface. It describes the layout of the screens and provides step-by-step instructions for modifying their display so you can tailor them to your needs.

STA Documentation

Document Title	Description
<i>StorageTek Tape Analytics Release Notes</i>	Read this document before installing and using STA. It contains important release information, including known issues.
<i>StorageTek Tape Analytics Planning and Installation Guide</i>	Use this book to plan for installation of STA, install the Linux platform, and install the STA software.
<i>StorageTek Tape Analytics Configuration Guide</i>	After installing the STA software, use this book to configure libraries, SNMP, email notification, services, identity management, and certificates.
<i>StorageTek Tape Analytics Administration Reference Guide</i>	Use this book to learn about STA administrative tasks, including server, services, and password administration.
<i>StorageTek Tape Analytics User Interface Guide</i>	Use this book to learn about the STA user interface. It describes the layout of screens and provides step-by-step instructions for modifying their display so you can tailor them to your needs.
<i>StorageTek Tape Analytics Data Reference Guide</i>	Use this book to learn about using and interpreting the data displayed by STA. It provides definitions for all library, drive, and media data fields displayed by STA. It also provides reference information for all STA toolbars and data input fields.
<i>StorageTek Tape Analytics Security Guide</i>	Read this document for important STA security information, including requirements, recommendations, and general security principles.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/support/contact.html> or visit <http://www.oracle.com/accessibility/support.html> if you are hearing impaired.

STA Introduction

Overview

Oracle's StorageTek Tape Analytics (STA) is an intelligent monitoring application available exclusively for Oracle's StorageTek Modular Tape Libraries. It simplifies tape storage management and allows you to make informed decisions about future tape storage investments based on the current health of your environment.

STA allows you to monitor globally dispersed libraries from a single, browser-based user interface. You can manage open systems and mainframe mixed-media, and mixed-drive environments across multiple library platforms.

STA's detailed performance trending analyses allow you to increase the utilization and performance of your tape investments. These analyses are based on a continually updated database of library operations. STA captures and retains data from your tape library environment and uses this data to calculate the health status of your library resources (drives and media). STA aggregates data according to a variety of criteria and displays it in tabular and graphical formats, allowing you to quickly assess environment activity, health, and capacity.

Supported Devices

STA supports the following devices. See “Pre-Installation Planning” in the *STA Planning and Installation Guide* for complete details about minimum firmware levels and other requirements.

In general, the newer the drive model and the more up-to-date the drive and library firmware, the richer the data that STA receives and the more in-depth the analysis it can perform. For best results, it is recommended that you update your drive and library firmware to the most current versions.

StorageTek Modular Tape Libraries

- SL8500 standalone libraries, FRS 7.70 or later
- SL8500 complexes, FRS 8.0 or later
- SL3000, FRS 3.60 or later
- SL500, FRS 1466 or later
- SL150, FRS 1.80 or later

Drive and Media Types

- StorageTek T10000A, T10000B, and T10000C
- StorageTek 9840C and 9840D
- HP LTO-3, LTO-4, LTO-5, and LTO-6, full Automation/Drive Interface (ADI) support
- IBM LTO-3 and LTO-4, full ADI support
- IBM LTO-5 and LTO-6, basic support—Library/Drive Interface (LDI) mode—only

Note – For LTO drives, the ADI protocol must be enabled on both the drives and the library for STA to receive rich data about these drives. LTO 2 and SDLT drives do not support ADI, and therefore STA receives only minimal data about them.

Getting Started

This section introduces you to basic login and screen display features of the STA user interface. The following topics are discussed:

- [“Requirements for the STA User Interface”](#) on page 14
- [“STA Login Sessions”](#) on page 15
- [“Session Management”](#) on page 16
 - [“Screen Interval Options”](#) on page 16
 - [“Removed Drives and Media Display Options”](#) on page 17
 - [“Accessibility Options”](#) on page 18
 - [“Confirmation Dialog Box Options”](#) on page 18
- [“Session Management Tasks”](#) on page 19
- [“Help”](#) on page 34
 - [“Help Window Layout”](#) on page 35
 - [“Help Toolbar”](#) on page 36
 - [“Help Contents Tab”](#) on page 37
 - [“Help Index Tab”](#) on page 39
 - [“Help Search Tab”](#) on page 40

Requirements for the STA User Interface

Following are requirements for running the STA user interface on your computer. You should verify that your computer meets these requirements before you log in to STA.

Supported Operating Systems	<ul style="list-style-type: none"> • Windows XP, Vista, Windows 7 • Linux 5u5, 5u6
Screen Resolution	<ul style="list-style-type: none"> • Minimum resolution is 1024 x 800. • Recommended resolution is 1280 x 1024 or better.
Supported Browsers	<p>Note – Other versions of Firefox and Internet Explorer are known to work with STA, but the following are the officially supported versions:</p> <ul style="list-style-type: none"> • Firefox 3.6 <p>Note – Firefox 4.0 is not supported.</p> <ul style="list-style-type: none"> • Internet Explorer 8.0 and 9.0
Browser Settings and Plugins	<ul style="list-style-type: none"> • JavaScript must be enabled. • Flash 10 is required. • Run all browsers in Native Mode. • In Internet Explorer 8.0, do not use Compatibility View, as follows: <ul style="list-style-type: none"> • Select Tools > Compatibility View Settings and deselect the “Compatibility View” check boxes. • Select Tools > Internet Options and select the Advanced tab. Under Browsing, deselect the “Automatically recover from page layout errors with Compatibility View” check box.
Browser Add-ons	<ul style="list-style-type: none"> • Disable or remove third-party browser add-ons because they may interfere with the browser execution. • The STA user interface requires a minimum amount of space in the browser window. For best results, you should reduce, remove, or completely hide any toolbars that may reduce available space.
RTL Language Support	<ul style="list-style-type: none"> • Support for RTL (right-to-left) languages, such as Arabic or Hebrew, is available only with Internet Explorer 8.0 or 9.0.
Screen Reader Assistive Technology	<ul style="list-style-type: none"> • JAWS 11 is recommended. • See “Accessibility Options” on page 18 for information about the accessibility features provided by STA.

STA Login Sessions

Your STA administrator will provide you with a username and password for logging into STA. Once you are logged in, you have access to all STA screens and features. See [“Log In to STA” on page 20](#) for instructions.

Password Requirements

User passwords have the following format requirements:

- Must be 8–32 characters in length
- Must have at least one special character
- Must not have any of the following special characters:

< > & ? () { } * `

User Account Lockout

After five unsuccessful login attempts within a five-minute period, you will be locked out of your user account for 30 minutes. For security reasons, your account cannot be reset during the lockout period, even by the STA administrator, so you must wait the full 30-minutes before attempting to log in again.

Logging Out

When you are ready to finish a login session, it is recommended that you log out of STA rather than simply closing the browser window. Logging out releases the session memory on the STA server for other processes. If you simply close the browser window, the session memory is not freed until the defined session timeout period is exceeded, possibly impacting STA performance, especially if your session timeout period is long. See [“Log Out of STA” on page 22](#) for instructions.

Screen Navigation

You should not use your browser’s Forward and Back (or Next and Previous) buttons for navigating through the STA screens. The use of these buttons could produce unpredictable results, as the data you see may be stale or out of sync with the data on the STA server. To navigate, you should always use the methods provided by STA: the Navigation Bar and text links.

See [Chapter 3, “User Interface Basics” on page 41](#) for complete details about STA screen navigation.

Session Management

STA provides various options for managing your login sessions and modifying the STA user interface display. Because these modifications are made on a username basis, different users can modify the settings to their own needs. The following options are provided:

- [“Screen Interval Options”](#), below
- [“Removed Drives and Media Display Options”](#) on page 17
- [“Accessibility Options”](#) on page 18
- [“Confirmation Dialog Box Options”](#) on page 18

Screen Interval Options

You can modify both the screen refresh and automatic timeout intervals for your username.

Screen Refresh Interval

The STA screen display is refreshed automatically to display new data that may be available. The default refresh rate is every 480 seconds (8 minutes). You can optionally change the refresh rate for your username. See [“Modify the Screen Refresh Interval”](#) on page 26 for details.

Automatic Timeout Interval

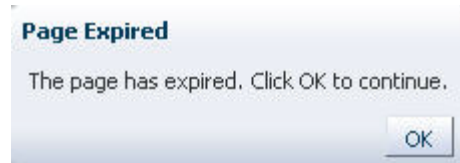
The default session timeout is 30 minutes. You can optionally change the timeout period for your username to any period from 10 minutes to 60 days. See [“Modify the Login Session Timeout Period”](#) on page 28 for details.

Note – Increasing the session timeout is likely to increase STA server memory utilization, with possible impact on STA performance. See [“Logging Out”](#) on page 15 for additional information.

If your login session is idle for the defined amount of time, your session will be ended automatically. Two minutes prior to the expiration time, the following dialog box appears. Click **OK** within the two-minute period to keep your session active.



If you do not click **OK** within the two-minute period, your session is ended, and the following dialog box appears.



When you click **OK**, you are re-directed to the **Login** screen so you can log in again.

Removed Drives and Media Display Options

By default, removed drives and media are not included on their respective Overview and Analysis screens. However, you can selectively turn on the display of either removed drives, removed media, or both. Your selections take effect immediately, so depending on your needs, you can selectively show or hide removed drives and media throughout your login session. See [“Modify Removed Drives and Media Display Settings” on page 24](#) for instructions on how to change the settings.

TABLE 2-1 summarizes the effects of selecting or deselecting each option. See *“Understanding STA Analytics”* in the *STA Data Reference Guide* for a more detailed discussion of the effects.

TABLE 2-1 Removed Drives and Media Display Settings

Option	Selected	Deselected
Show Removed Drives	<p>Removed drives are listed on the Drives – Overview screen.</p> <p>Aggregated data for removed drives are included on the Drives – Analysis screen.</p> <p>On all screens, drive serial numbers of removed drives are active links to the Drives – Overview, Detail View screen.</p>	<p>Removed drives are not listed on the Drives – Overview screen.</p> <p>Aggregated data for removed drives are not included on the Drives – Analysis screen.</p> <p>On all screens, drive serial numbers of removed drives are dimmed and are not active links.</p>
Show Removed Media	<p>Removed media are listed on the Media – Overview screen.</p> <p>Aggregated data for removed media are included on the Media – Analysis screen.</p> <p>On all other screens, volume serial numbers (VSNs or volsers) of removed media are active links to the Media – Overview, Detail View screen.</p>	<p>Removed media are not listed on the Media – Overview screen.</p> <p>Aggregated data for removed media are not included on the Media – Analysis screen.</p> <p>On all other screens, volsers of removed media are dimmed and are not active links.</p>

Accessibility Options

The STA user interface provides accessibility options for users with low vision, blindness, color blindness, or other visual impairments. See [“Modify Accessibility Preferences” on page 30](#) for instructions on enabling the options. The following options are available:

- Screen reader mode – Enables screen reader mode for users with low vision, blindness, color blindness, or other visual impairments. This mode causes the screen display to be optimized for use with screen readers such as JAWS. It also allows you to perform all screen actions with the keyboard instead of a mouse, and alternate text is provided for all screen icons, buttons, and graphic images
- High contrast mode – Causes STA screens to be compatible with high-contrast features provided by your browser. For best results, you may also want to enable large fonts mode, described below.

This mode is designed to be used in conjunction with your browser’s high-contrast capabilities (see your browser’s documentation for details). You should disable this mode if you are not using these capabilities in your browser.

- Large fonts mode – Causes STA screens to be compatible with larger font sizes and zoom capabilities provided by your browser. For best results, you may also want to enable high-contrast mode, described above.

This mode is designed to be used with larger fonts or zoom capabilities in your browser (see your browser’s documentation for details). You should disable this mode if you are not using these capabilities in your browser.

In addition, tooltips provide text detail for all graphs and text items. See [“Tooltips” on page 46](#) and [“Types of Graphs” on page 65](#) for details.

Confirmation Dialog Box Options

By default, confirmation dialog boxes are displayed for the following activities:

- Synchronizing the date range for all graphs on a screen; see [“Synchronize a Date Range Across All Graphs” on page 97](#).
- Overwriting a custom or pre-defined template; see [“Modify a Template” on page 203](#).
- Deleting a custom or pre-defined template; see [“Delete a Template” on page 206](#).

You can selectively turn off the display of any of these dialog boxes. Your selections take effect immediately. See [“Modify Confirmation Dialog Box Preferences” on page 32](#) for instructions.

Session Management Tasks

Task	Page
Log In to STA	20
Log Out of STA	22
Display STA Software Version Information	23
Modify Removed Drives and Media Display Settings	24
Modify the Screen Refresh Interval	26
Modify the Login Session Timeout Period	28
Modify Accessibility Preferences	30
Modify Confirmation Dialog Box Preferences	32

▼ Log In to STA

Use this procedure to start an STA session. Before using this procedure, you must verify that your computer and browser are configured correctly. See [“Requirements for the STA User Interface”](#) on page 14 for details.

In addition, you must get the following information from your STA administrator:

- URL of the STA server
- Your username and password

1. **Start a supported Web browser on your computer.**
2. **In the Location Bar or Address field, enter the URL of the STA server. The URL uses one of the following formats:**

`http://local_host_name:port_number/STA`

`https://local_host_name:port_number/STA`

where *local_host_name* and *port_number* are the name and port number of the STA server given to you by your STA administrator. Typically, STA runs on port 7021.

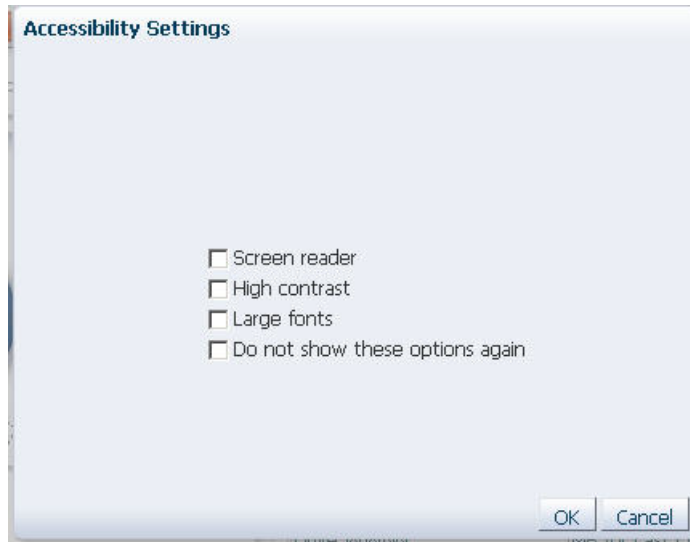
The **Login** screen appears.



The screenshot shows a web browser window titled "Login" with a help icon. It features two input fields: "Username" and "Password". Below these fields is a "Login" button. At the bottom of the window, there is a disclaimer: "Unauthorized use of this site is prohibited and may lead to disciplinary action, up to and including termination and/or criminal prosecution."

3. **Enter the username and password you have been assigned, and then click Login.**

Depending on the preference settings for your username, the **Accessibility Settings** dialog box may appear.



4. Complete the Accessibility Settings dialog box, if applicable, and then click OK. See [“Modify Accessibility Preferences”](#) on page 30 for details on completing this dialog box.

The Dashboard appears.



▼ Log Out of STA

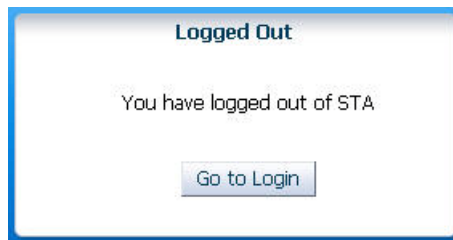
Use this procedure to terminate your STA session. You can terminate your session at any time.

Note – It is recommended that you log out of STA rather than simply closing the browser window. Logging out releases the session memory on the STA server for other processes. It is especially important to log out if your defined login session timeout period is long. See [“Automatic Timeout Interval” on page 16](#) for related information.

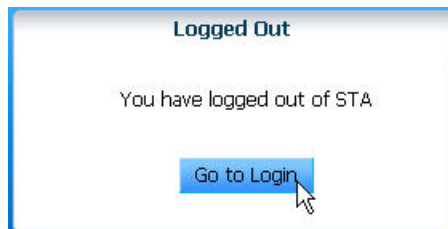
1. From any STA screen, click **Logout** in the Main Toolbar.



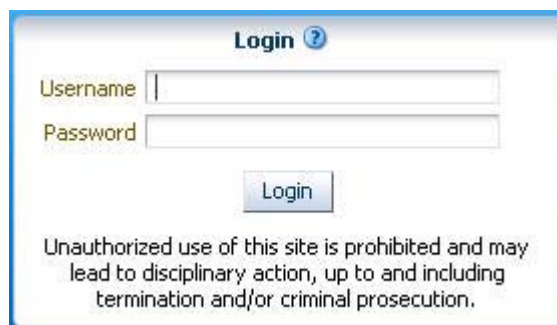
Your login session is terminated and the **Logged Out** dialog box appears.



2. Click **Go to Login**.



The **Login** screen appears. See [“Log In to STA” on page 20](#) for instructions on logging in.



▼ Display STA Software Version Information

Use this procedure to display version information about the STA application and supporting software. This information is useful whenever you contact your Oracle support representative.

1. Click **About** in the lower-right corner of the STA screen.



The version information dialog box is displayed.

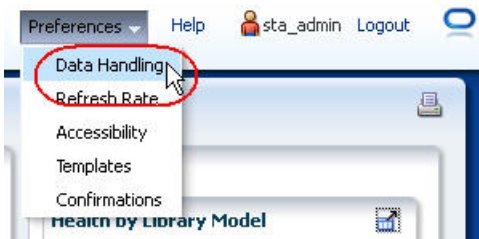


2. Click **OK** to dismiss the dialog box.

▼ Modify Removed Drives and Media Display Settings

Use this procedure to customize the removed drives and media display settings for your username in this and future login sessions. These settings control how removed drives and media are displayed by the STA user interface. See [“Removed Drives and Media Display Options”](#) on page 17 for details.

1. Select Preferences > Data Handling from the Main Toolbar.



The Data Handling dialog box appears.



2. Select the appropriate check boxes to enable the display of removed drives and/or media.

3. Verify your selections and then click OK.

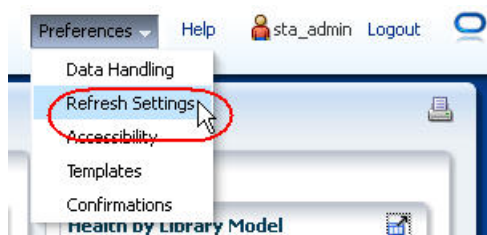


The settings take effect immediately. They remain in effect for this and future login sessions, until you change them again using this procedure.

▼ Modify the Screen Refresh Interval

Use this procedure to set the screen display refresh rate for your username in this and future login sessions. STA screens will be updated to display new data at the frequency you specify. The default is 480 seconds. See [“Screen Refresh Interval” on page 16](#) for details.

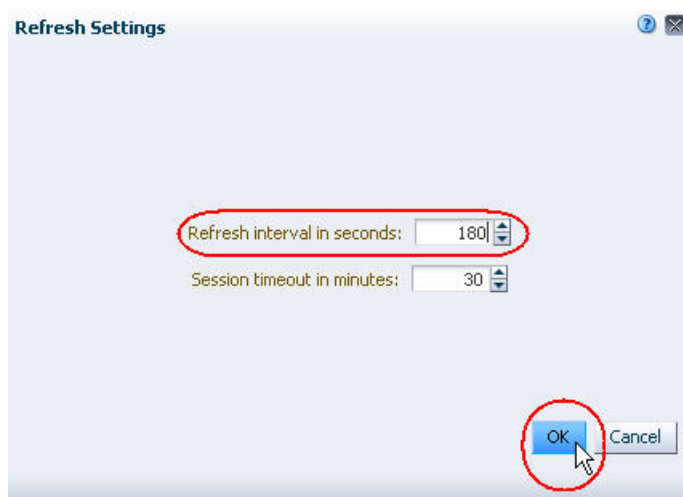
1. Select **Preferences > Refresh Settings** from the Main Toolbar.



The **Refresh Settings** dialog box appears.



2. In the “Refresh interval in seconds” field, enter the new refresh rate want to assign, and then click OK.



The settings take effect immediately. They remain in effect for this and future login sessions, until you change them again using this procedure.

▼ Modify the Login Session Timeout Period

Use this procedure to set the timeout period for your username in this and future login sessions. If your login session is idle for longer than this amount of time, your session will be ended. The default is 30 minutes. See [“Automatic Timeout Interval” on page 16](#) for details.

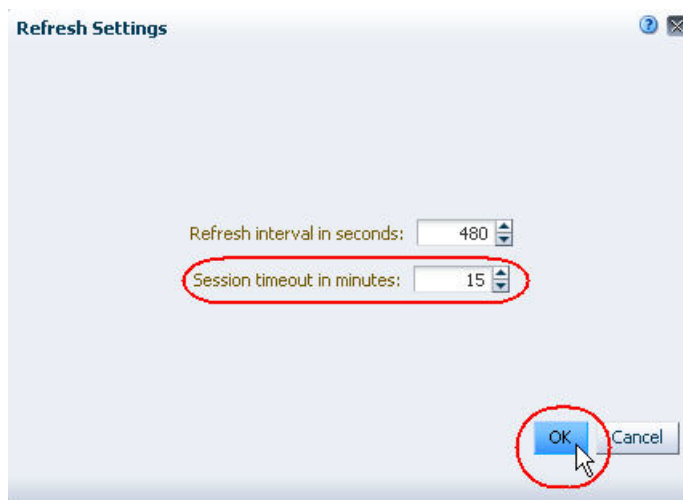
1. Select **Preferences > Refresh Settings** from the Main Toolbar.



The **Refresh Settings** dialog box appears.



2. In the “Session timeout in minutes” field, enter the timeout period you want to assign, and then click OK.



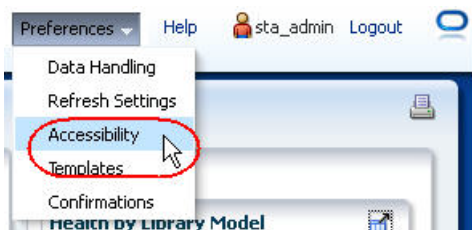
The settings take effect immediately. They remain in effect for future login sessions, until you change them again using this procedure.

▼ Modify Accessibility Preferences

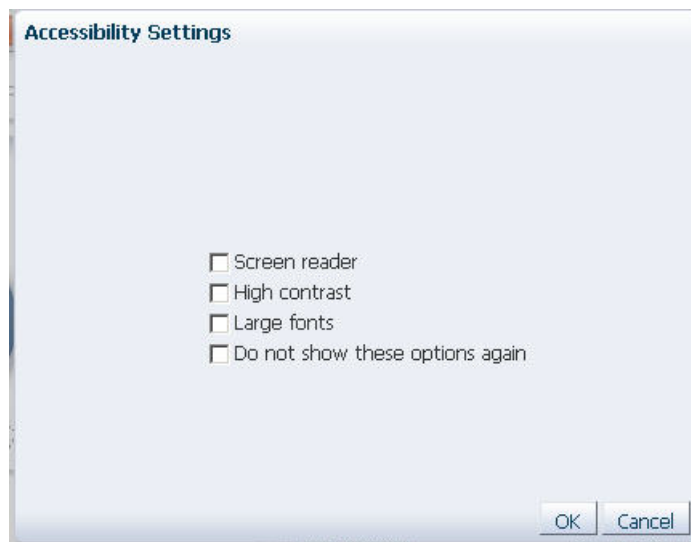
Use this procedure to customize the accessibility settings for your username in this and future login sessions. See [“Accessibility Options” on page 18](#) for details.

1. Select Preferences > Accessibility from the Main Toolbar.

Note – If the “Do not show these options again” check box is not selected, then this screen appears automatically whenever you log in to STA.



The **Accessibility Settings** dialog box appears.

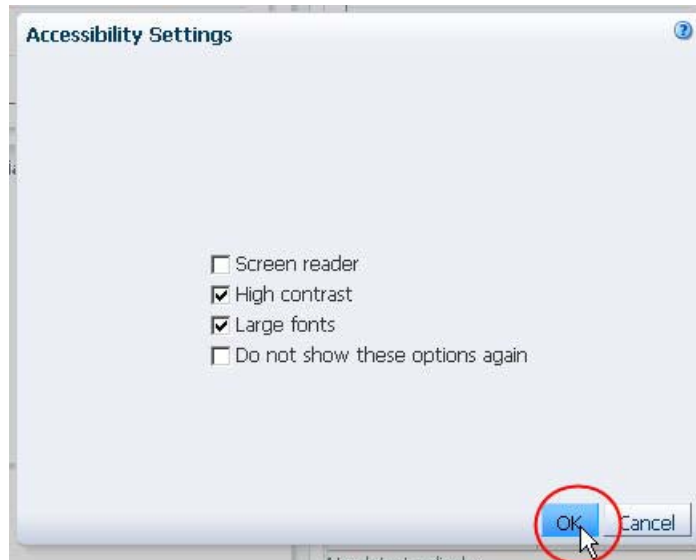


2. Select the appropriate check boxes to enable the accessibility modes you want to use. Options are:

- **Screen Reader** – Causes the screen display to be optimized for use with screen readers such as JAWS. It also allows you to perform all screen actions with the keyboard instead of a mouse.
- **High Contrast** – Causes STA screens to be compatible with high-contrast features provided by your browser. For best results, you may also want to enable large fonts mode, described below.
- **Large fonts** – Causes STA screens to be compatible with larger font sizes and zoom capabilities provided by your browser. For best results, you may also want to enable high-contrast mode, described above.

- **Do not show these options again** – Indicates that you do not want this dialog box to be displayed automatically when you log in. If you apply this option, this dialog box will be skipped for all future times that you log in to STA. You can use this procedure to reset this option at any time.

3. Verify your selections and then click OK.

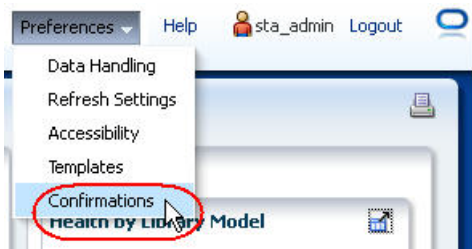


The STA screen display is immediately modified according to your selections. These settings remain in effect for future login sessions, until you change them again using this procedure.

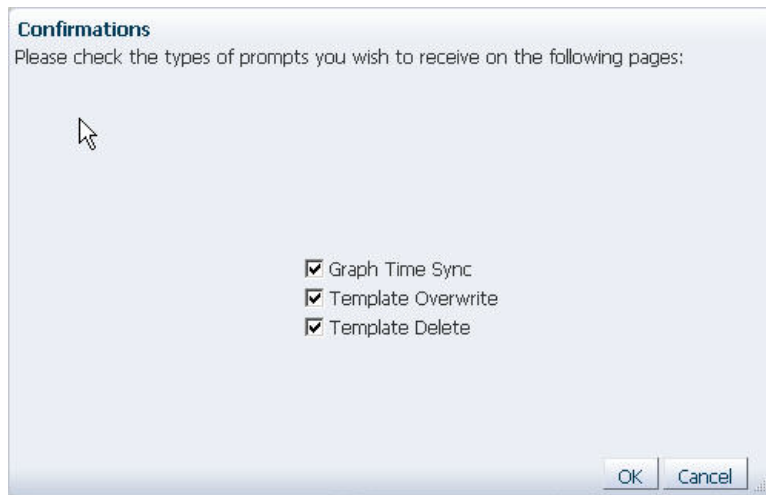
▼ Modify Confirmation Dialog Box Preferences

Use this procedure to customize the display of selected confirmation dialog boxes for your username in this and future login sessions. See [“Confirmation Dialog Box Options” on page 18](#) for details.

1. Select **Preferences > Confirmations** from the Main Toolbar.



The **Confirmations** dialog box appears.



2. For each option listed, select the check box to display the dialog box or deselect the check box to suppress the dialog box. Options are:

- **Graph Time Sync** – Selecting this check box indicates you want a confirmation dialog box to appear before you synchronize all graphs on a screen to the same date range.

Deselecting this check box indicates you want to suppress the confirmation dialog box. Graphs will be synchronized as soon as you click **Synchronize Date Range** in the **Graph Pane Toolbar**.

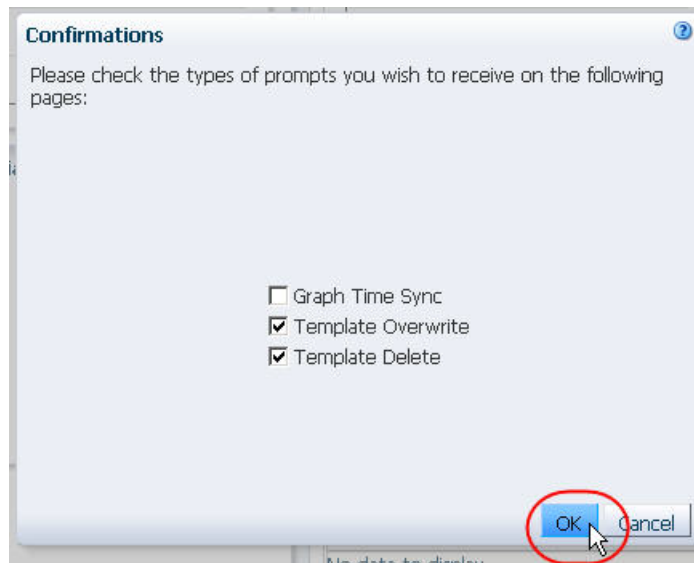
- **Template Overwrite** – Selecting this check box indicates you want a confirmation dialog box to appear before you save changes to an existing template.

Clearing this box indicates you want to suppress the confirmation dialog box. Existing templates will be overwritten as soon as you click **Save** in the **Save Template** dialog box.

- **Template Delete** – Selecting this check box indicates you want a confirmation dialog box to appear before you delete an existing template.

Clearing this box indicates you want to suppress the confirmation dialog box. Templates will be deleted as soon as you click **Delete** in the **Delete Template** dialog box.

3. Verify your selections and then click OK.



The settings take effect immediately. They remain in effect for future login sessions, until you change them again using this procedure.

Help

STA provides context-sensitive Help for all screens. Help buttons are located on the following toolbars:

- Main Toolbar



- Template Toolbar



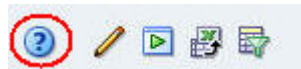
- Graphics Area Toolbar



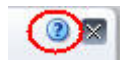
- List View Table Toolbar (Overview screens only)



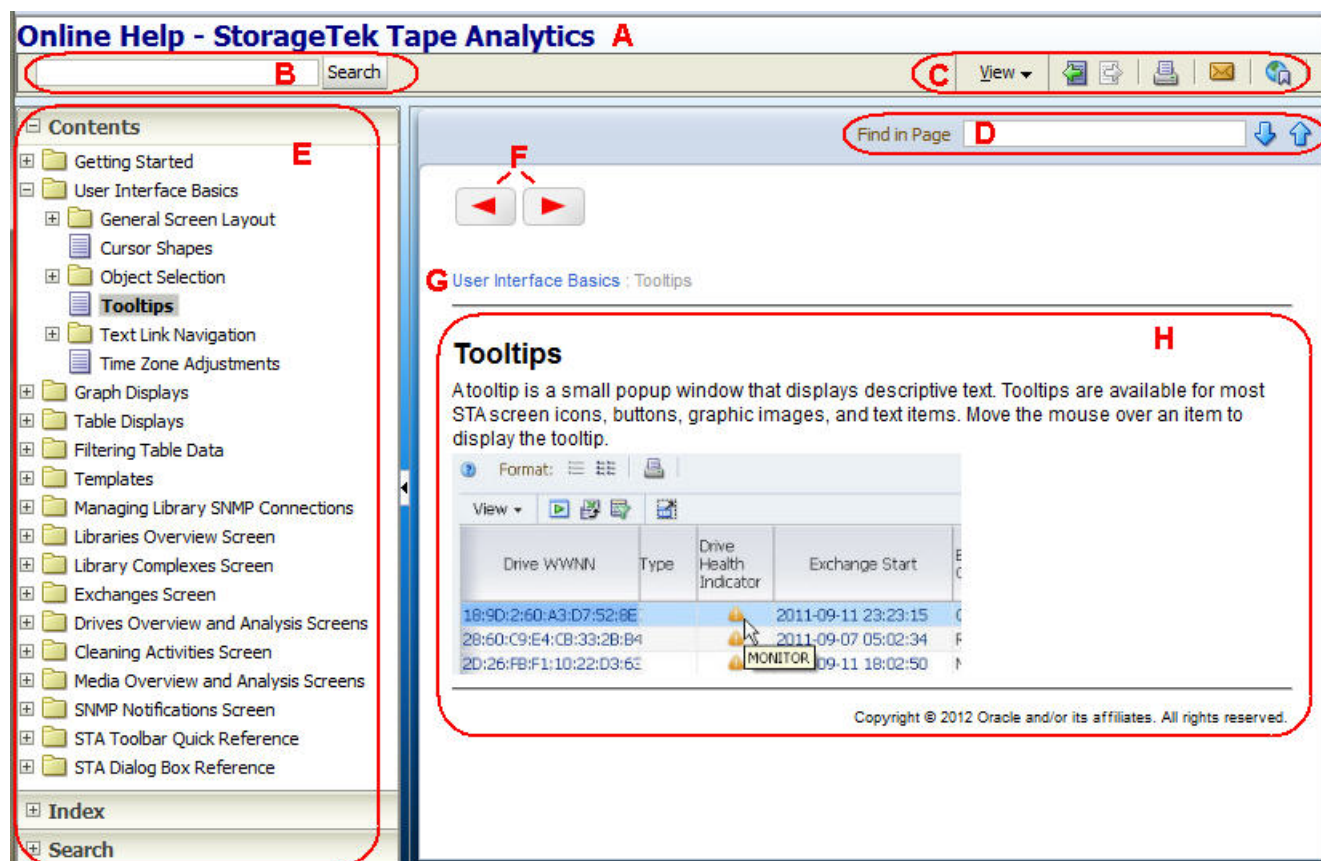
- Pivot Table Toolbar (Analysis screens only)



- Dialog boxes



Help Window Layout








Name	Description
A Title	Displays the title of the help system.
B Helpset Quick Search	Allows you to perform a quick search throughout the helpset.
C Help Toolbar	Provides direct access to commands for interacting with the helpset. See “Help Toolbar” on page 36 for details.
D Topic Quick Search	Allows you to perform a quick search within the currently displayed topic.
E Help Navigation Bar	Provides three navigation tabs: Contents, Index, and Search. See the following topics for details: <ul style="list-style-type: none"> • “Help Contents Tab” on page 37 • “Help Index Tab” on page 39 • “Help Search Tab” on page 40
F Browse Buttons	Allows you to browse sequentially through the help topics, forward and backward.
G Topic Breadcrumbs	Shows the current topic within the topic hierarchy. Click a parent heading to display that topic.
H Topic Area	Displays the contents of the help topic.

Help Toolbar

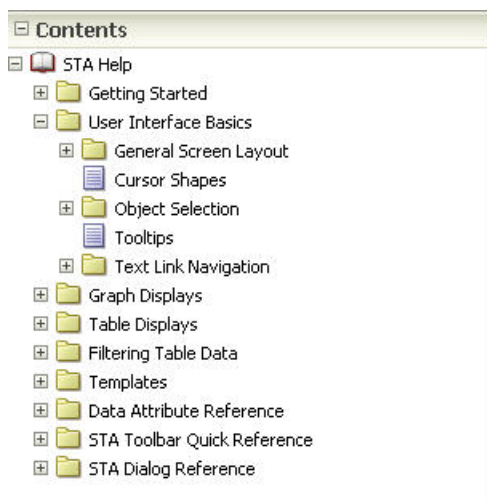
The Help Toolbar provides direct access to frequently used commands for displaying and using the help system.



Icon	Name	Description
	View menu	Provides the following selections: <ul style="list-style-type: none"> • Maximize Reading Pane – Toggles the expansion or collapse of the navigator pane. • Restore Default Window Layout – Rearranges the panes according to the default layout. • Contents – Expands the Contents tab in the Help Navigation Bar. • Index – Expands the Index tab in the Help Navigation Bar. • Search – Expands the Search tab in the Help Navigation Bar. • Show permanent link for this topic page – Allows you to save a link to the current topic in your browser bookmarks.
	Go back/forward one page	Allows you to retrace your steps backward and forward through previously displayed topics.
	Print this topic page	Opens your computer's print dialog box so you can print the current topic.
	Email this topic page	Opens your computer's default email application so you can email the link to the current topic.
	Link to this topic page	Allows you to save the link to the current topic in your browser bookmarks.

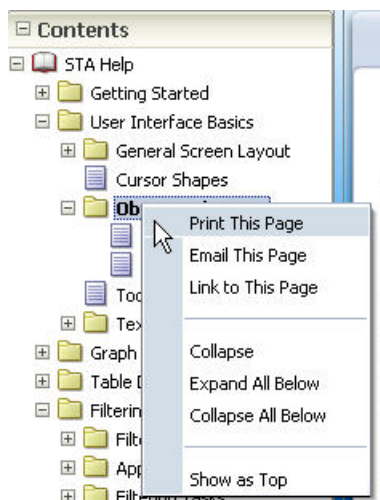
Help Contents Tab

The Contents tab displays the table of contents for the helpset. Topics are listed in a hierarchical tree, with higher-level headings shown as folders. You can expand or collapse folders to list or hide the headings within. Click a heading to display the topic in the Topic Area.



Context Menu

Right-click within the Contents Tab to bring up the Context Menu.

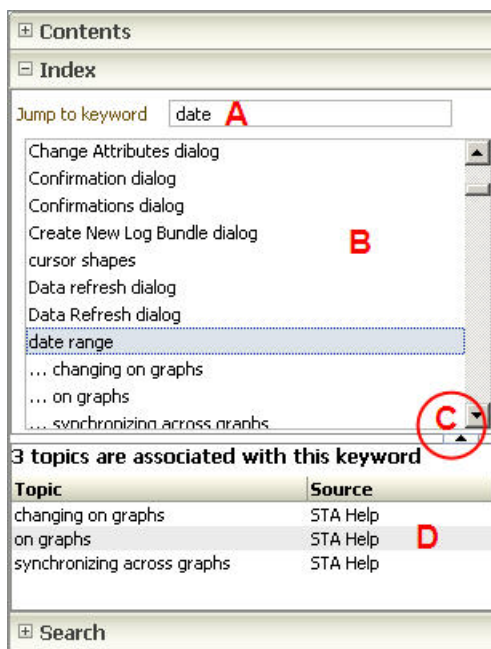


Menu Selection	Action
Print This Page	Opens your computer's print dialog box so you can print the current topic. Also available through the Help Toolbar.
Email This Page	Opens your computer's default email application so you can email the link to this topic. Also available through the Help Toolbar.
Link to This Page	Allows you save a link to the current topic in your browser bookmarks. Also available through the Help Toolbar.

Menu Selection	Action
Expand	Expands the selected heading.
Collapse	Collapses the table of contents to hide the headings within the selected heading.
Expand All Below	Expands the selected heading and all sub-headings within it.
Collapse All Below	Collapses the selected heading and all sub-headings within it.
Show As Top	Displays the current heading at the top of the Contents tab.

Help Index Tab

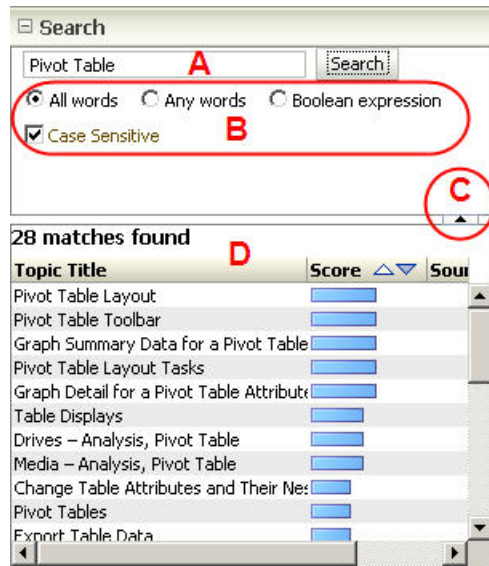
The Index tab displays a sorted index of keywords in a two-level hierarchy. A keyword can be associated with multiple topics.



	Name	Description
A	Jump to keyword	Enter one or more words in the text field. As you type, the first keyword in the list that matches the typed letters is selected. As more letters are typed, a more accurate selection is made.
B	Keyword list	Two-level list of keywords, sorted alphabetically. Select a keyword to display the associated topic in the Topic list.
C	Expand/Collapse Pane	Click to expand or collapse the Topic list.
D	Topic list	List of keywords. Click a keyword link to display the associated topic in the Topic Area. Click on a column heading (Topic or Source) to sort by that column.

Help Search Tab

The Search tab allows you to construct a full-text query that searches throughout the helpset.



	Name	Description
A	Search text	Enter one or more words in the text field. As you type, the first keyword in the list that matches the typed letters is selected. As more letters are typed, a more accurate selection is made.
B	Selection criteria	Allows you to specify selection criteria for the search.
C	Expand/Collapse Pane	Click to expand or collapse the Topic list.
D	Topic list	<p>List of search results. Includes the topic title, score, and source of each. Click a topic link to display it in the Topic Area.</p> <p>The Score column indicates the ranking of the topics according to how well they match the search criteria. By default, all topics are sorted by Score. Click on a column heading (Topic Title, Score, or Source) to sort by that column.</p>

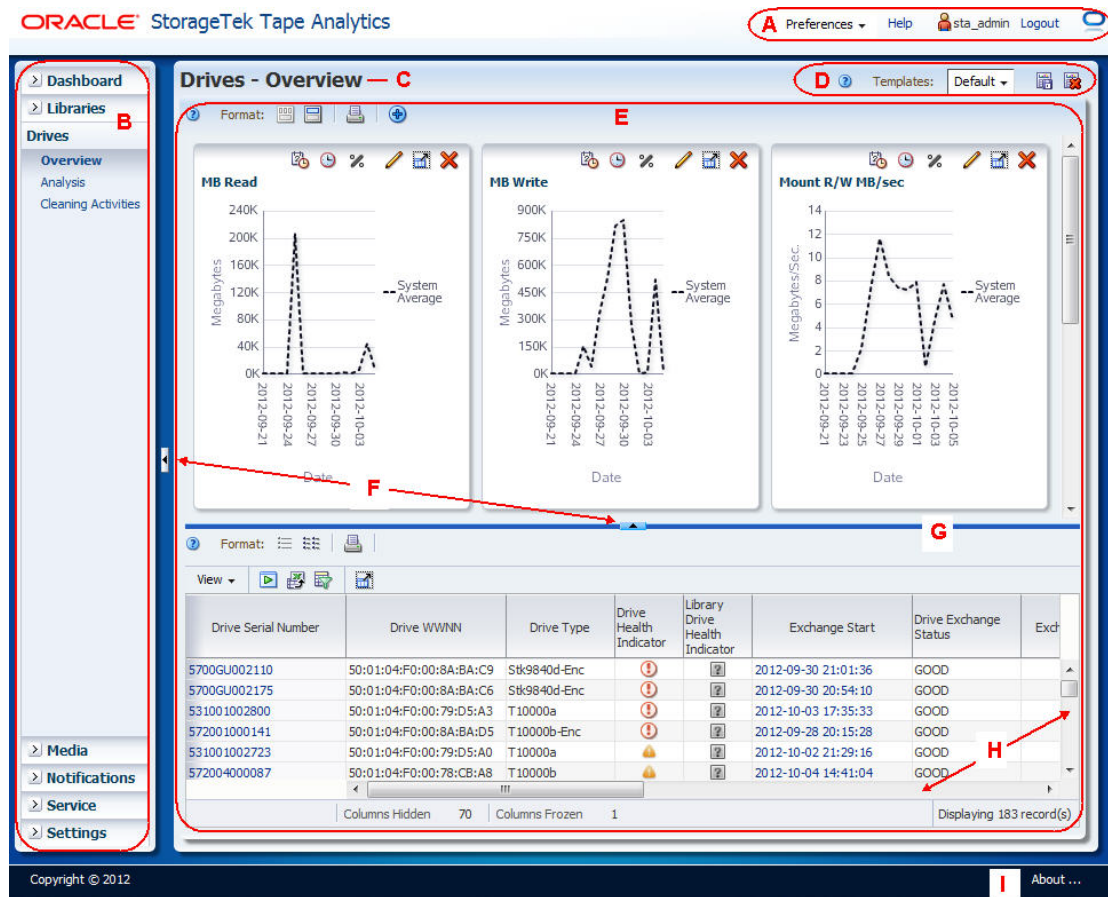
User Interface Basics

This section describes the layout and navigation of the STA screens. The following topics are discussed:

- [“General Screen Layout” on page 42](#)
 - [“Main Toolbar” on page 43](#)
 - [“Main Window” on page 44](#)
- [“Screen Display Features” on page 45](#)
 - [“Cursor Shapes” on page 45](#)
 - [“Tooltips” on page 46](#)
 - [“Object Selection” on page 46](#)
 - [“Time Zone Adjustments” on page 48](#)
- [“Navigation Methods” on page 49](#)
 - [“Navigation Bar” on page 49](#)
 - [“Text Link Navigation” on page 49](#)
- [“Screen Arrangement Tasks” on page 51](#)
- [“Navigation Tasks” on page 56](#)

General Screen Layout

All STA screens follow the same general structure and layout. The main parts are illustrated and described below.



Item	Description
A	Main Toolbar Provides direct access to frequently used screen-independent commands. See “Main Toolbar” on page 43 for details.
B	Navigation Bar Primary navigation tool for STA. Provides direct access to all STA screens. See “Navigation Bar” on page 49 for details.
C	Screen Title Name of the screen. Corresponds to the screen link in the Navigation Bar.
D	Templates Toolbar Provides access to the most frequently used commands for using templates. See Chapter 7, “Templates”, on page 189 for details.
E	Main Window Main focus of the screen, where the STA content is displayed. See “Main Window” on page 44 for details.
F	Collapse Pane icon Indicates that the pane can be collapsed or resized, either vertically or horizontally. See “Collapse and Restore the Graphics Area” on page 54 for details.

	Item	Description
G	Resize control bar	Indicates that the pane can be resized, either vertically or horizontally. Appears when you move the mouse over the space between two resizable screen areas. See “Resize the Graphics and Table Areas” on page 55 for details.
H	Scrollbars	Allow you to scroll vertically or horizontally to display more data. Appear dynamically whenever the screen area is not large enough to display all the data at once.
I	About	Displays detailed software version information. See “Display STA Software Version Information” on page 23 for details.

Main Toolbar

The Main Toolbar is located at the top of all STA screens. It provides direct access to frequently used screen-independent commands.



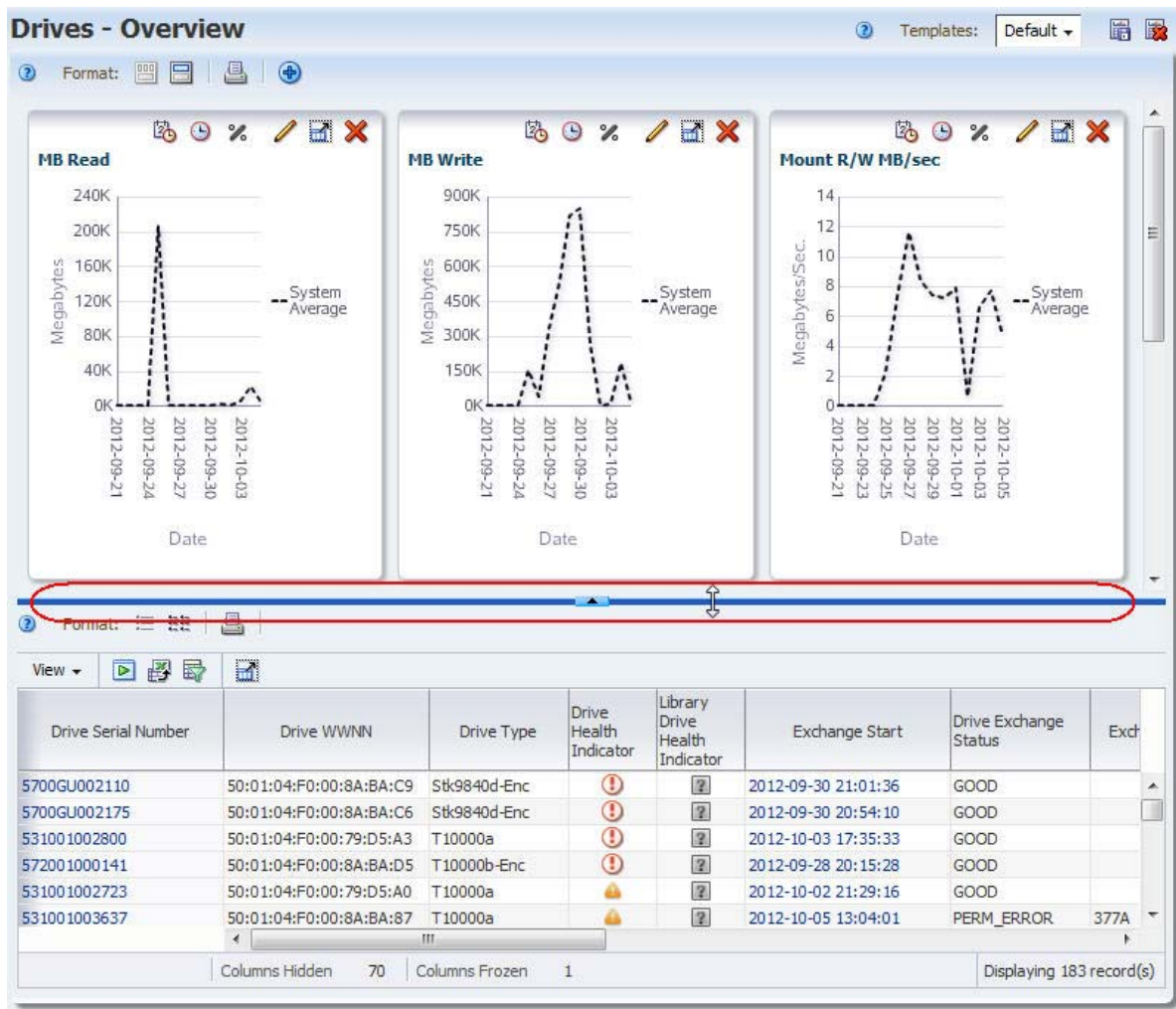
Icon	Name	Description
	Preferences	Menu provides options for you to modify display settings for STA screens and templates. Related Topic: “Session Management”
	Help	Link displays help for the current screen. Related Topic: “Help”
Username	Username	Displays the username currently logged in. Related Task: “Log In to STA”
	Logout	Link logs you out of STA. Related Task: “Log Out of STA”
Idle	Progress Indicator	Indicates whether the screen has finished or is in the process of loading.
Loading		

Main Window

STA provides the following types of screens:

- Dashboard
- Overview
- Analysis






In Overview and Analysis screens, the Main Window is divided into a **Graphics Area** at the top and a **Table Area** at the bottom. The border between the two areas is marked by the Collapse Pane icon and the Resize control bar, as shown in the following example.





Screen Display Features




Cursor Shapes

The cursor changes shape as you move the mouse over different areas of the STA screen. Understanding the meaning of the different cursors assists you in using the STA user interface.

Cursor	Name	Description
	Pointer	This is the default cursor. Click to select active buttons or data table rows.
I	Text pointer	Appears when you move the mouse over a text area that is not an active link, such as the Screen Title.
	Link select	Appears when you move the mouse over a text area that is an active link, such as a screen name in the Navigation Bar or an aggregate count in a pivot table. Click to select the link.
	Resize object	Double-headed arrow which can be vertical, horizontal, or diagonal, depending on the axis that will be resized. Displays when you move the mouse over the edge of a resizable screen area or graph. Click and drag to resize the object.
	Move object	Appears when you move the mouse over a table column heading or top border of a graph. Click and drag to move the object to a different location within the table or pane. In pivot tables, click and drag, to move the pivot table layer.
	Hourglass	Appears when the STA screen is loading or fetching data.

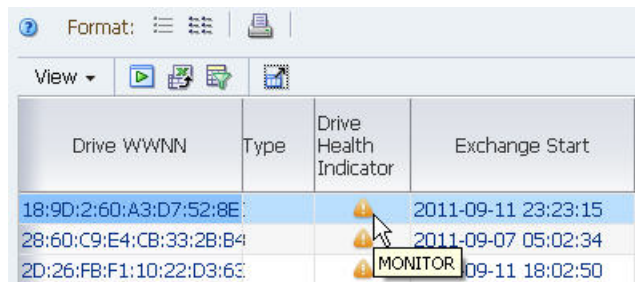
The following cursors appear in tables only.

	Select row	Appears when you move the mouse over a row heading. Click to select the row.
	Select column	Appears when you move the mouse over a column heading. Click to select the column.

Cursor	Name	Description
	Select fixed column	Appears when you move the mouse over the heading of a fixed column. Click to select the column.
	Resize row	Appears when you move the mouse over the border between rows. Click and drag to resize the row.
	Resize column	Appears when you move the mouse over the border between columns. Click and drag to resize the column.

Tooltips

A tooltip is a small popup window that displays descriptive text. Tooltips are available for most STA screen icons, buttons, graphic images, and text items. Move the mouse over an item to display the tooltip.

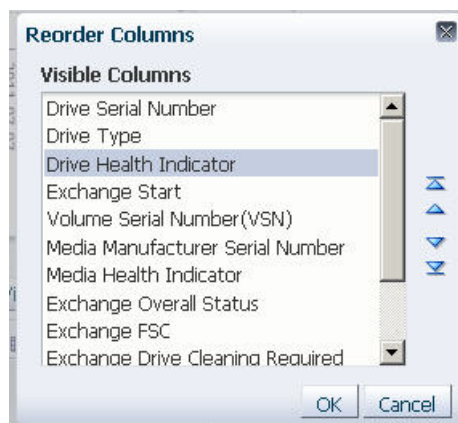


Object Selection

You can select most STA objects—items in dialog box lists, table columns, and table rows, for example. In addition, the STA interface supports multi-select for many object types. The STA documentation identifies when multi-select is supported and when it is not.

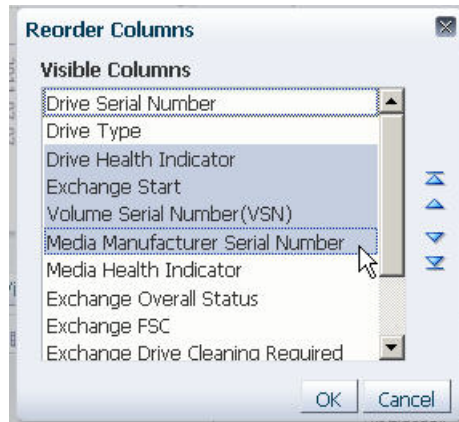
The following examples use the Reorder Columns dialog box, which appears when you select **View > Reorder Columns** from the **List Table Toolbar**.

- Click an object to select it.

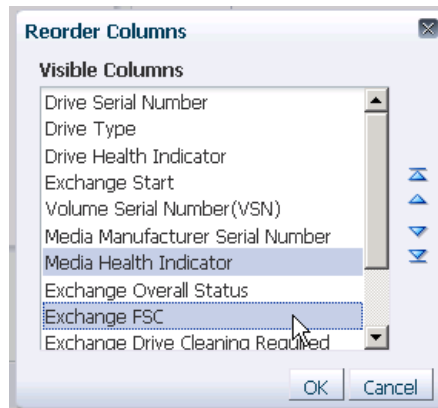


Multi-select

- Shift-click to select a range of objects.

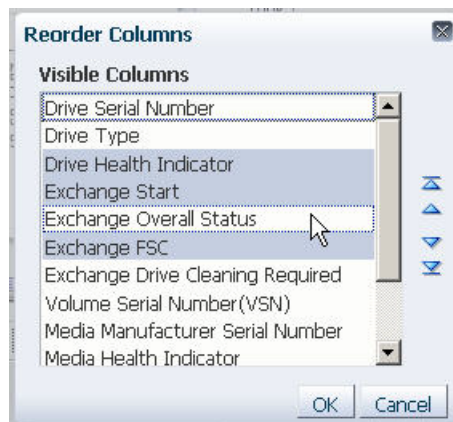


- Ctrl-click to select multiple non-contiguous objects.



Deselect

- Ctrl-click an already selected object to deselect it.



Time Zone Adjustments

Dates and times of events displayed by the STA user interface are automatically adjusted to the user's local time zone. For example, an exchange with a start time of 02:43 on a library in San Francisco will show a start time of 08:43 for an STA user in Brasilia, and 17:43 for a user in Jakarta.

Navigation Methods

Note – You should not use your browser’s **Forward** and **Back** (or **Next** and **Previous**) buttons for navigating through the STA screens. The use of these buttons could produce unpredictable results, as the data you see may be stale or out of sync with the data on the STA server. To navigate, you should always use the methods provided by STA: the Navigation Bar and text links, described below.

Navigation Bar

The Navigation Bar is located on the left side of the STA screen. It consists of a series of vertical tabs that expand and collapse according to your selections. The vertical tabs provide a visual map of the STA screen hierarchy. The number of screens listed under each tab varies. You can expand only one tab at a time.



The Navigation Bar serves as the primary means of navigation, and all STA screens are accessible through it. Additional navigation options are offered through text links. See [“Text Link Navigation”](#), below, for details.

Text Link Navigation

The Navigation Bar is the primary navigation tool for STA, allowing you direct access to all STA screens (see [“Navigation Bar”](#), above, for details). Text links provide an additional means of navigation, especially for drilling down to detailed information about resources.

The following types of text links are available:

- [“Resource ID Links”](#) on page 50
- [“Aggregate Count Links”](#) on page 50

When you click a text link, you are taken to a screen displaying additional detail for the item(s), and the Navigation Bar updates to reflect your current location within the screen hierarchy.

In addition, by clicking a link you apply filter criteria to the resulting screen, and these criteria remain active as you navigate to other screens. This is an important point in understanding the full power of STA. See [Chapter 6, “Filtering Table Data” on page 163](#) for full details.

Resource ID Links

Resource ID links appear in List View Tables and Detail View screens. For example, the following identifiers are always active links:

- Media IDs: Usually Volume Serial Number (VSN or volsr)
- Drive IDs: Usually Drive World Wide Node Name (WWNN) or Drive Serial Number
- Exchange IDs: Usually Exchange Start

Clicking a resource ID link takes you to the corresponding Detail View screen, which provides complete details for that resource. The Detail View screen may, in turn, provide links for related resources; you can click any of them to display detail about these resources.

Note – In most cases, resource IDs are unique, but in some cases they may not be, such as duplicate volsers in a library or library complex.

Aggregate Count Links

The cells within pivot tables contain aggregate counts of resources or events that meet specific criteria (see [“Pivot Tables” on page 115](#) for details).

Clicking an aggregate count takes you to the corresponding Overview screen, which provides additional detail for the resources included in the count. If the aggregate count is “1”, only one resource is displayed on the Overview screen. If the aggregate count is “0”, clicking the link displays the message: “There is no data to display.”

Note – Aggregate count links also apply filter criteria to the data displayed in the table. See [“Filtering Using Aggregate Count Links” on page 169](#) for details.

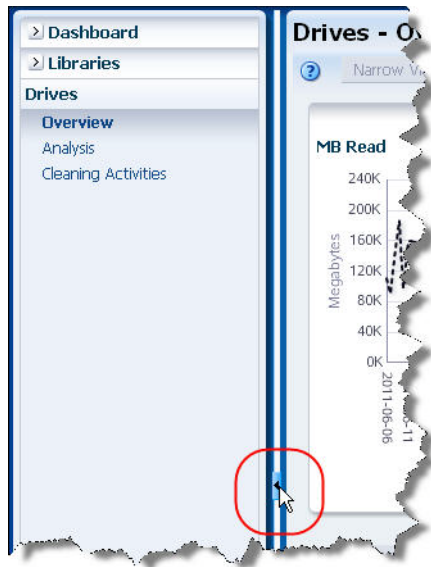
Screen Arrangement Tasks

Task	Page
Collapse and Restore the Navigation Bar	52
Resize the Navigation Bar	53
Collapse and Restore the Graphics Area	54
Resize the Graphics and Table Areas	55

▼ Collapse and Restore the Navigation Bar

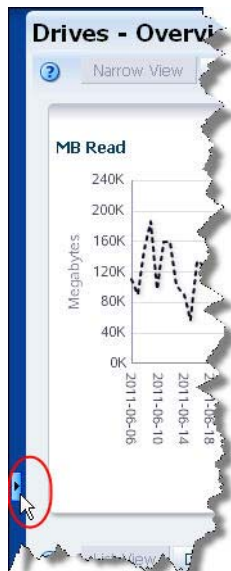
Use this procedure to hide the Navigation Bar and then restore it.

1. Click the Collapse Pane icon in the space between the Navigation Bar and the Main Window.



The Navigation Bar is collapsed, and the Main Window is expanded horizontally across the entire screen.

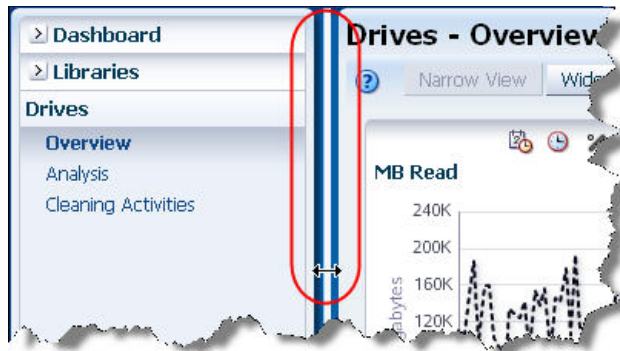
2. To restore the Navigation Bar to its original width, click the Restore Pane icon on the left side of the window.



▼ Resize the Navigation Bar

Use this procedure to resize the Navigation Bar and Main Window relative to one another.

1. Move the mouse over the space between the Navigation Bar and the Main Window, until the vertical Resize control bar and Resize object cursor appear.

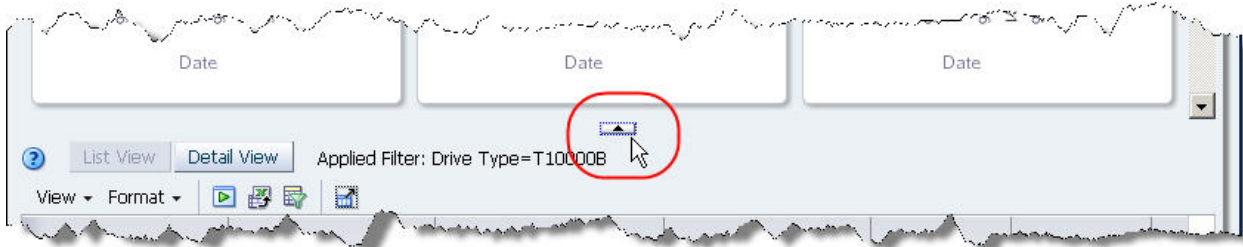


2. Click and drag the control bar until the Navigation Bar and Main Window are the sizes you want, and then release the control bar.

▼ Collapse and Restore the Graphics Area

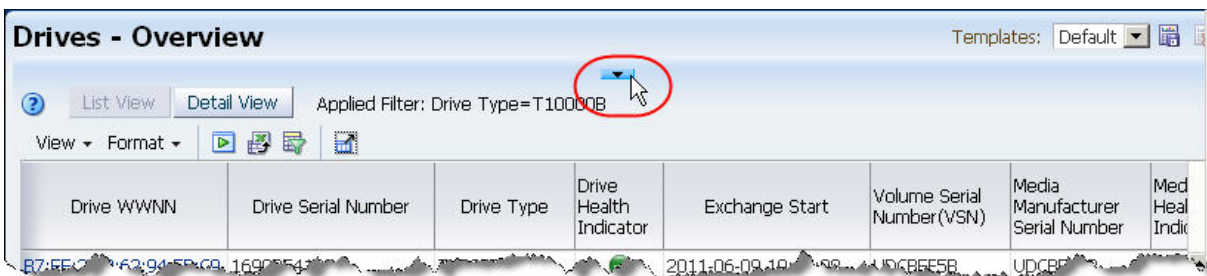
Use this procedure to hide the Graphics Area and then restore it. Collapsing the Graphics Area provides more space in the Main Window for you to view table data.

1. Click the Collapse Pane icon in the space between the Graphics and Table Areas.



The Graphics Area is hidden, and the Table Area expands vertically over the entire Main Window.

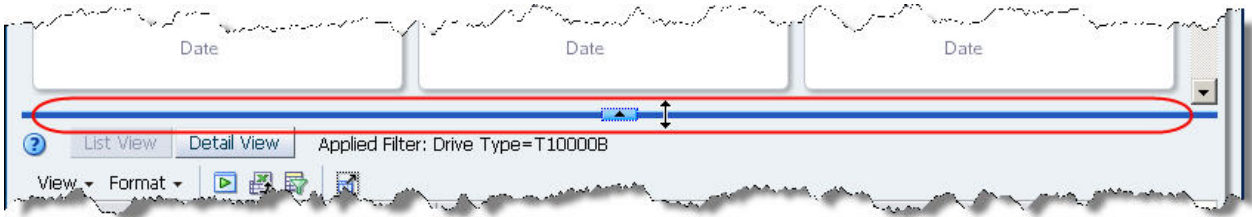
2. To restore the Graphics Area to its original size, click the Restore Pane icon at the top of the Main Window.



▼ Resize the Graphics and Table Areas

Use this procedure to resize the Graphics and Table Areas relative to one another.

1. Move the mouse over the space between the Graphics and Table Areas until the **Resize control bar and Resize object cursor** appear.



2. Click and drag the control bar until the two areas are the sizes you want, and then release the mouse.

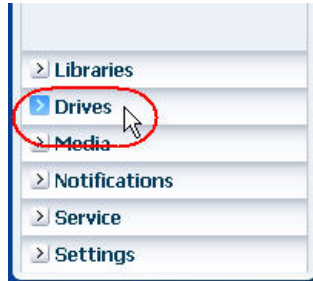
Navigation Tasks

Task	Page
Use the Navigation Bar to Access Screens	57
Use Resource ID Links to Navigate	58
Use Aggregate Count Links to Navigate	61

▼ Use the Navigation Bar to Access Screens

Use this procedure to display screens through the Navigation Bar.

1. Click a collapsed tab in the Navigation Bar.



The tab is expanded, displaying links to all the screens in the tab.



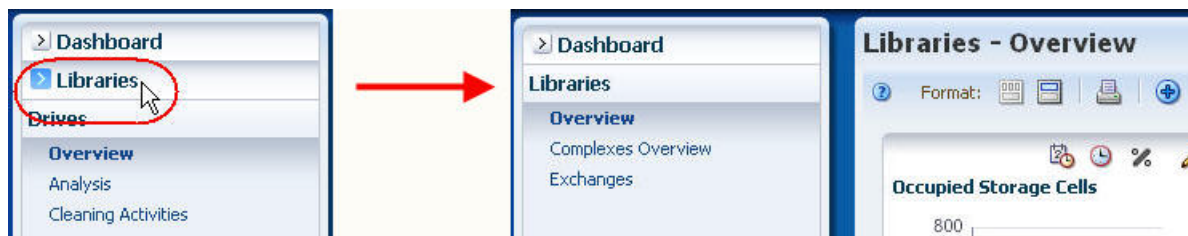
At the same time, the first screen listed under the tab is automatically displayed in the Main Window. The screen title, at the top left of the Main Window (**Drives – Overview** in this example) corresponds to your selection in the Navigation Bar.

2. You can navigate to other screens by doing either of the following:

- Click a screen link within the currently expanded tab to display that screen.



- Click any collapsed tab to expand it and display links to its screens.

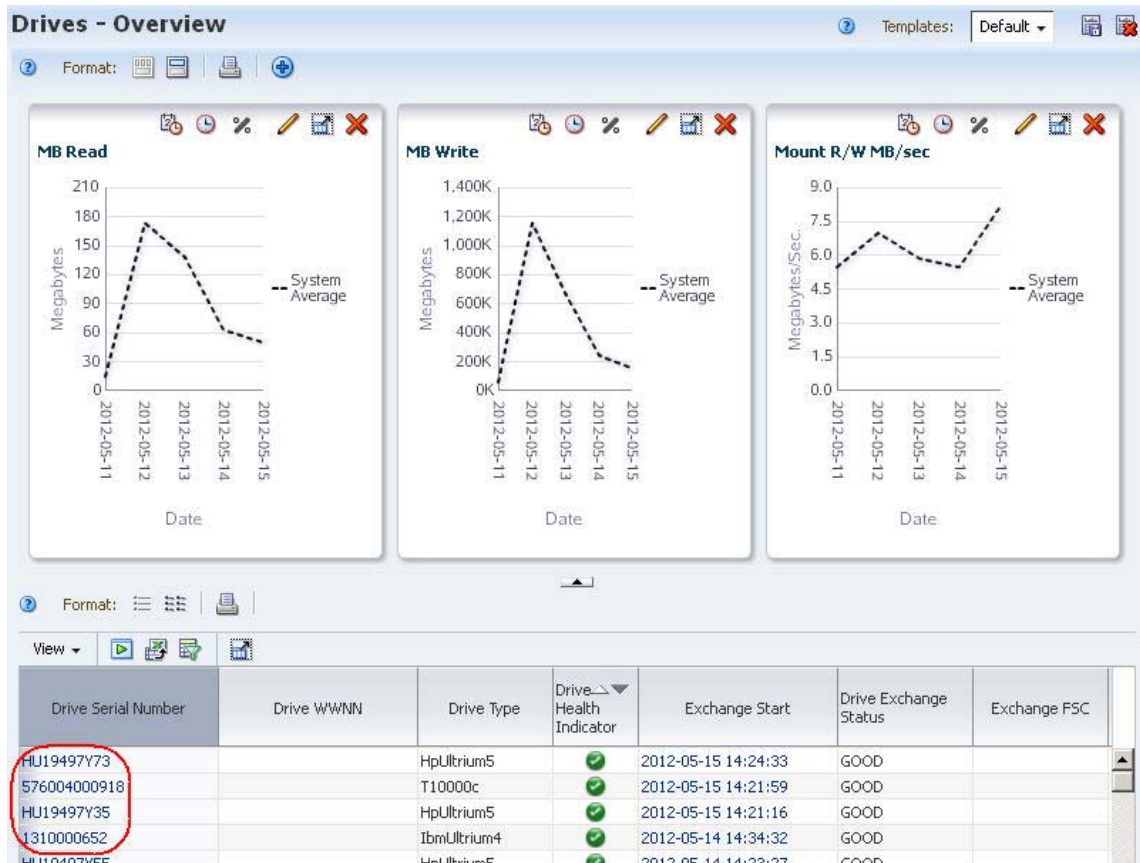


▼ Use Resource ID Links to Navigate

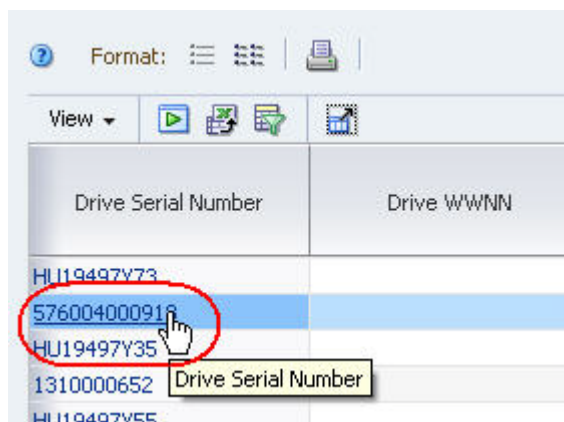
This procedure is an example of using resource ID links to display detail about an individual drive and other resources related to it.

1. In the Navigation Bar, click Drives to display the Drives – Overview screen.

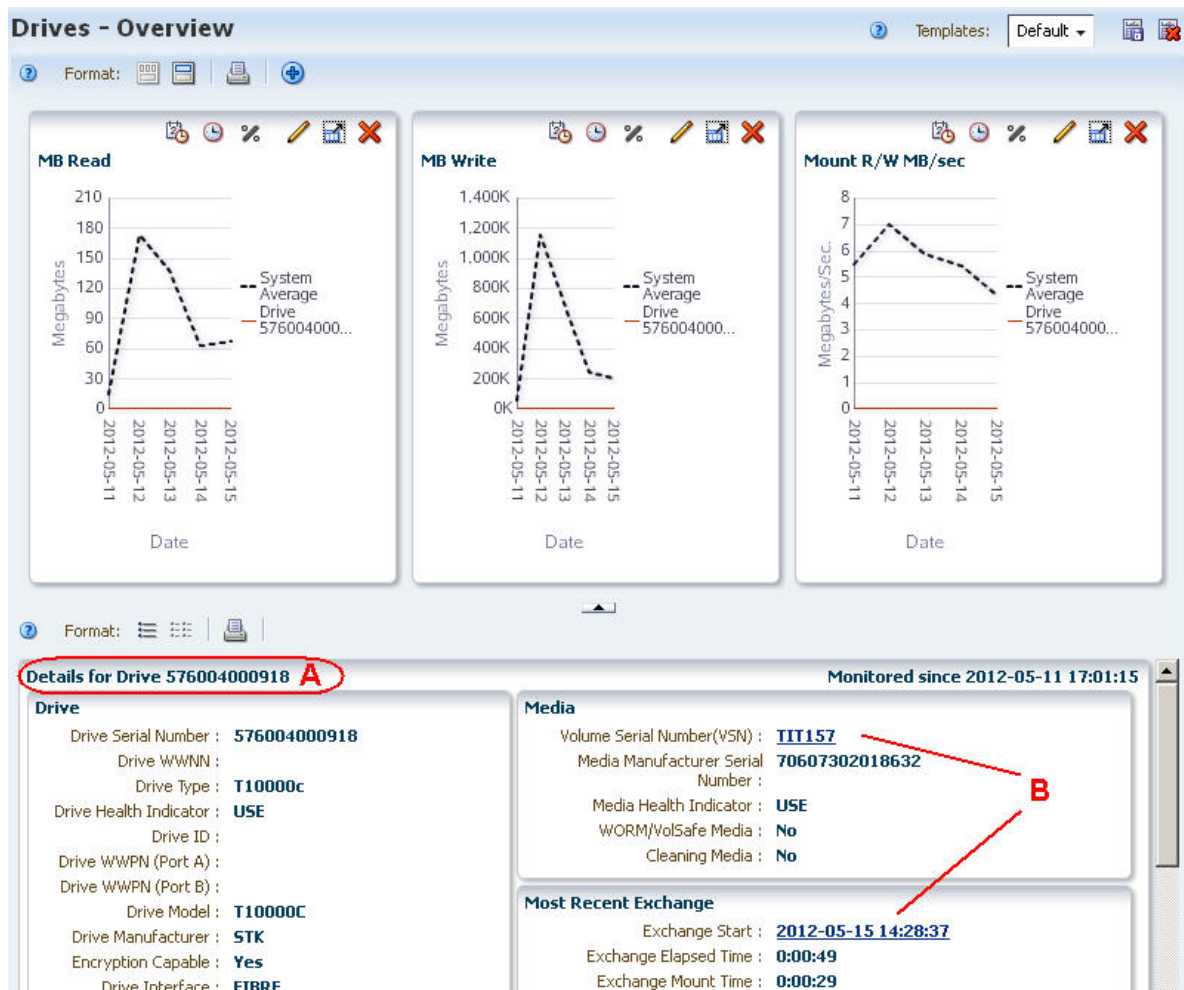
The Drive Serial Number column displays text links for all drives.



2. Click one of the drive links.



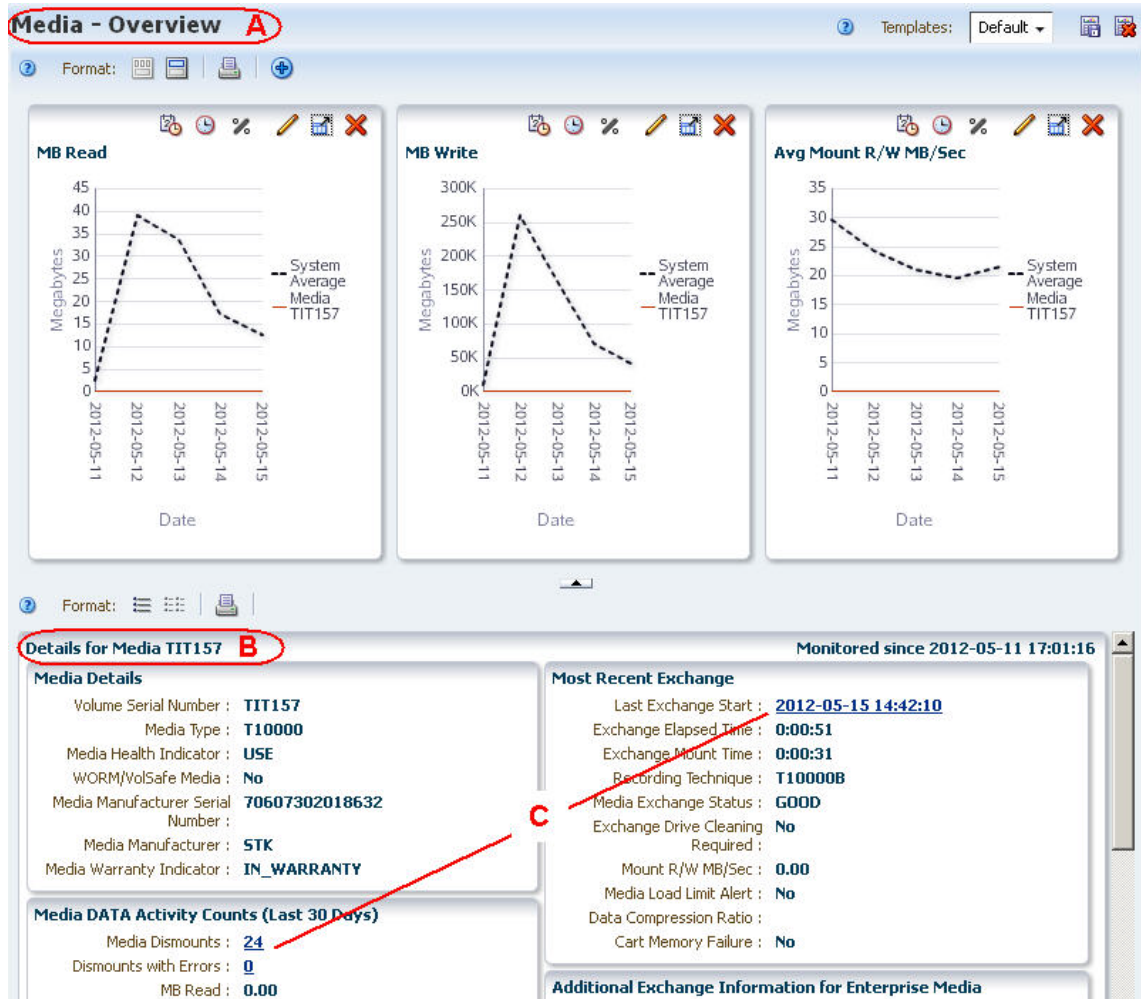
You are taken to the **Drives – Overview, Detail View** screen, which displays full detail for the selected drive.



- A – Detail View header identifies the drive displayed.
- B – Related resource ID links appear on the screen.

3. Click Volume Serial Number link.

You are taken to the **Media – Overview, Detail View** screen, which displays full detail for the selected media record.



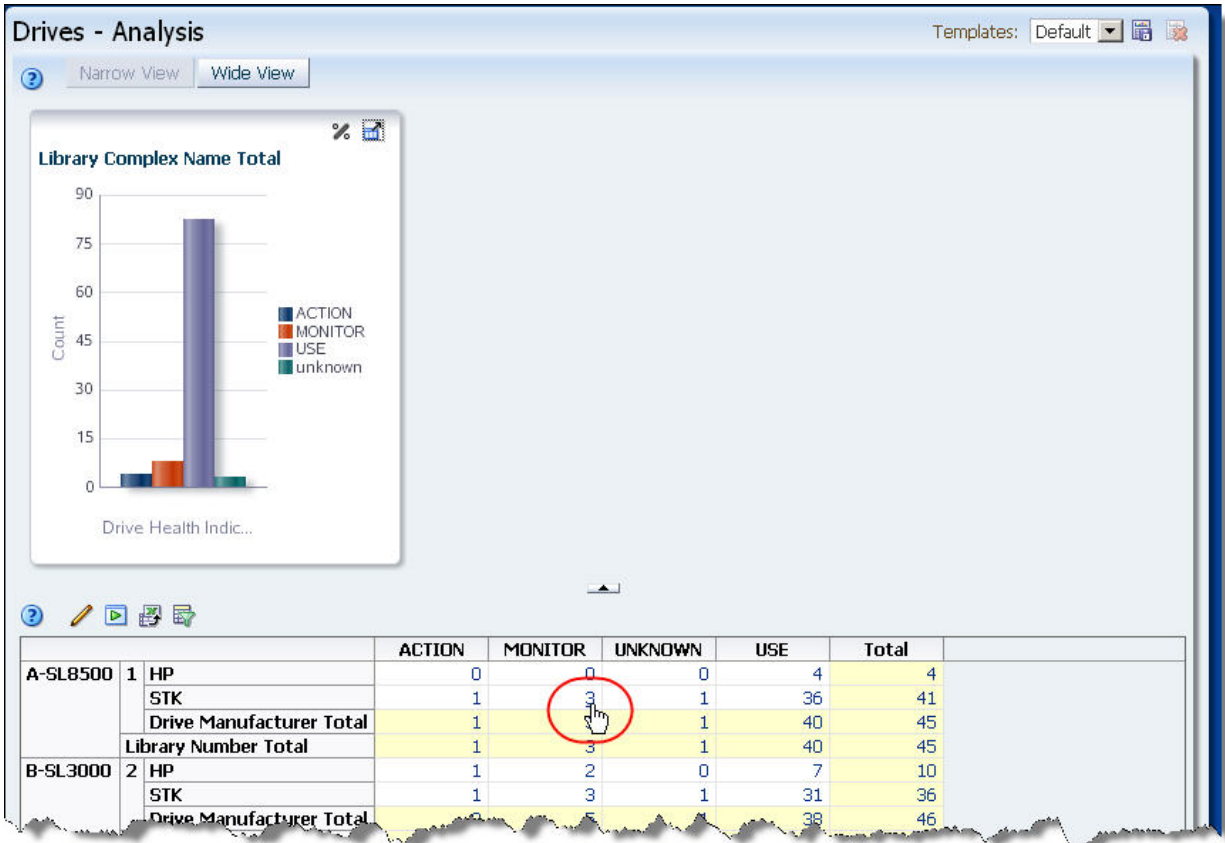
- A – Screen title identifies the current screen.
- B – Detail View header identifies the media record displayed.
- C– Additional resource ID links appear on the screen. You can click any of these links to continue navigation.

▼ Use Aggregate Count Links to Navigate

This procedure is an example of how to use aggregate count links to drill down to additional detail about a group of drives included in an aggregate count.

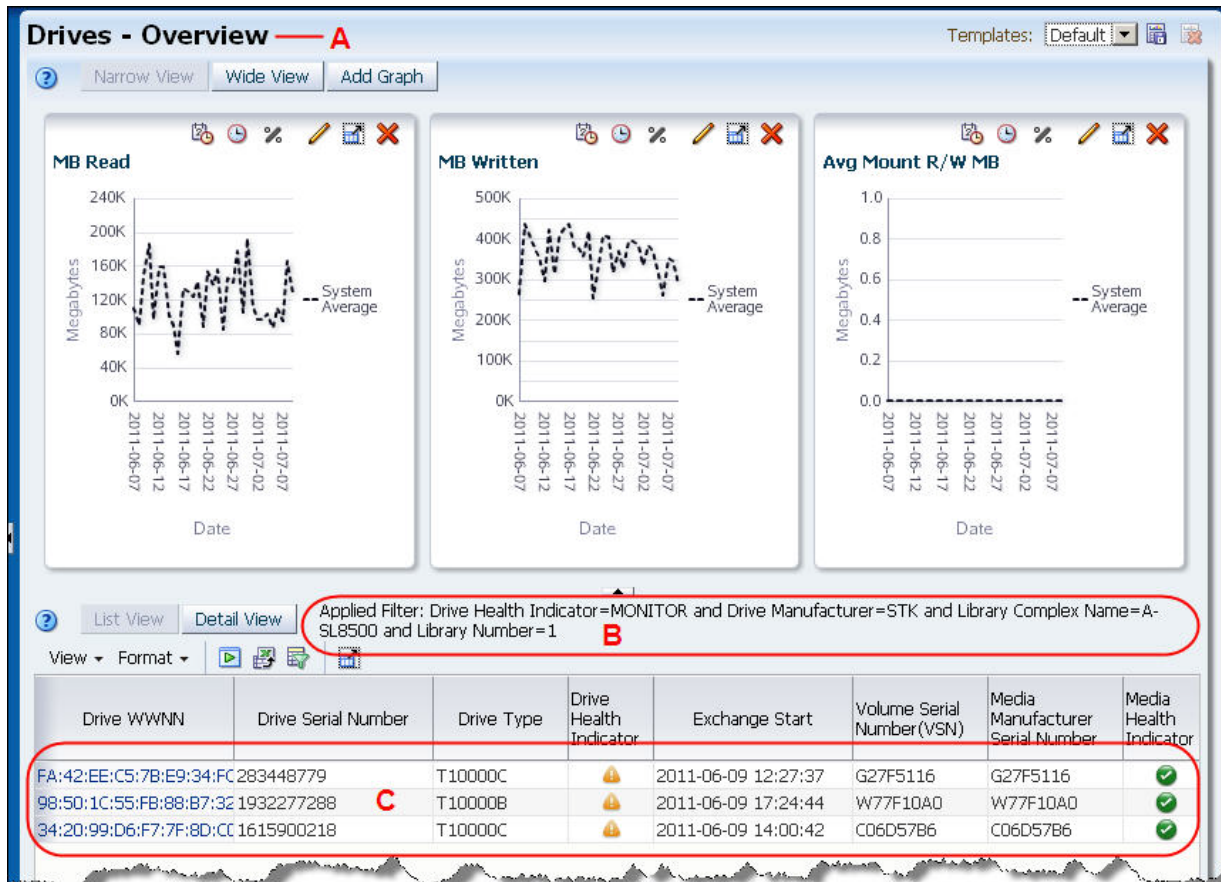
1. In the Navigation Bar, click the Drives tab and then the Analysis link to display the Drives – Analysis screen.

The screen includes a pivot table. In this example, the aggregate count “3” in the highlighted cell represents three StorageTek drives in library “1”, within complex “A-SL8500”, that all have a health indicator of “MONITOR”.



2. Click the highlighted link.

You are taken to the **Drives – Overview** screen, which displays additional detail for the three drives.



- A – Screen title identifies the current screen.
 - B – Table filter description is updated to reflect the filter criteria represented by the aggregate count on the **Drives – Analysis** screen. See [“Filtering Overview” on page 164](#) for details on the table filter description.
 - C – The three drives included in the aggregate count are shown in the data table.
3. Click any of the text links in the Drive WWNN column to display complete details for an individual drive. At this point, see [“Use Resource ID Links to Navigate”](#), starting with [Step 2 on page 58](#), for sample instructions.

Graph Displays

Graphs appear in the Main Window of the following types of screens:

- Dashboard
- Overview
- Analysis

This section describes the types of graphs available on Overview and Analysis screens and provides instructions for modifying their appearance and the data they display. The following topics are discussed:

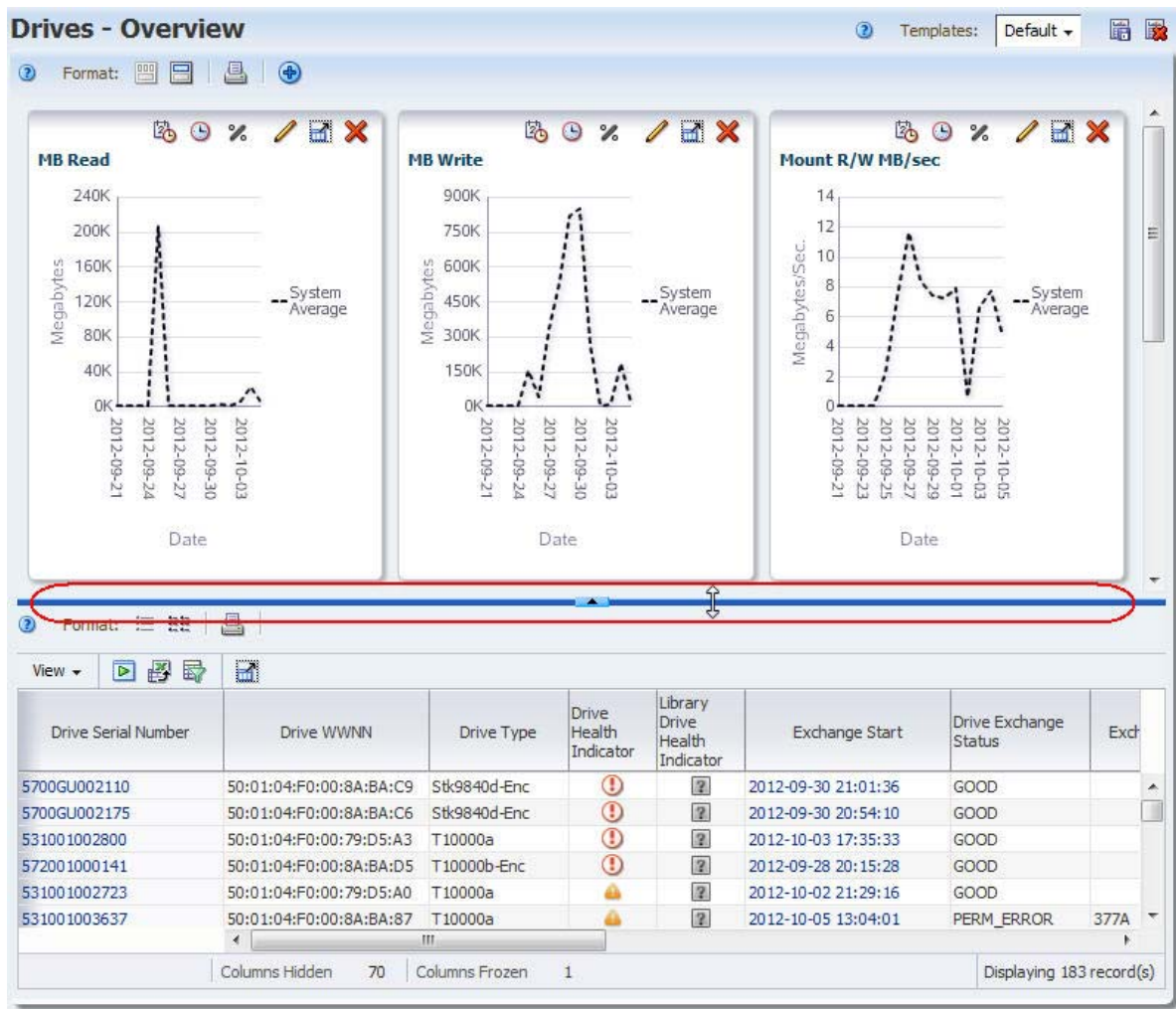
- [“Areas of the Main Window” on page 64](#)
- [“Types of Graphs” on page 65](#)
- [“Graphs on Overview Screens” on page 72](#)
 - [“Graphics Area Layout – Overview Screens” on page 75](#)
 - [“Graphics Area Toolbar for Overview Screens” on page 76](#)
 - [“Graph Pane Toolbar for Overview Screens” on page 76](#)
- [“Graphs on Analysis Screens” on page 78](#)
 - [“Graphics Area Layout – Analysis Screens” on page 79](#)
 - [“Graphics Area Toolbar for Analysis Screens” on page 80](#)
 - [“Graph Pane Toolbar for Analysis Screens” on page 80](#)
- [“Graph Display Tasks” on page 81](#)
- [“Data Graphing Tasks” on page 91](#)

Areas of the Main Window

All STA Overview and Analysis screens follow the same general structure and layout. The Main Window is divided into a Graphics Area at the top, and a Table Area at the bottom. The border between the two areas is marked by the [Collapse Pane icon](#), which is visible at all times, and the [Resize control bar](#), which appears when you move the mouse over the space between the two areas.

STA has two types of graphics screens: Overview and Analysis. This section describes graph characteristics and tasks that are shared by both screen types. See the following sections for characteristics unique to each type.

- [“Graphs on Overview Screens” on page 72](#)
- [“Graphs on Analysis Screens” on page 78](#)



Types of Graphs


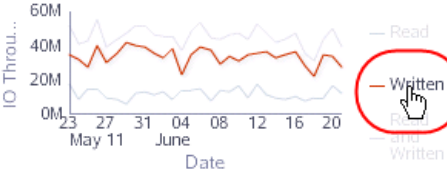
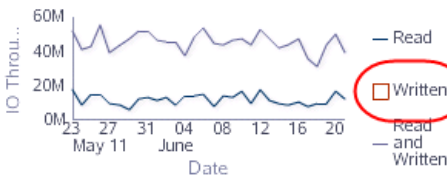
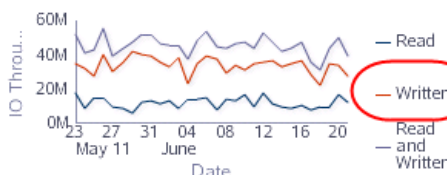
This section describes the types of graphs used in STA. It also describes actions you can perform to get the most information from the graphs.

- [“Line Graphs” on page 66](#)
- [“Area Charts” on page 67](#)
- [“Bar Charts” on page 68](#)
- [“Pie Charts” on page 70](#)

Line Graphs

Line graphs are used to compare actual values for one or more resources over a period of time. Each line represents a resource (drive or media) or other category of data. Time is always shown on the horizontal axis. Each point on the line represents an actual value at a point in time. There must be at least two data points available for a line graph; if there is only one data point, the graph will display as a bar chart.

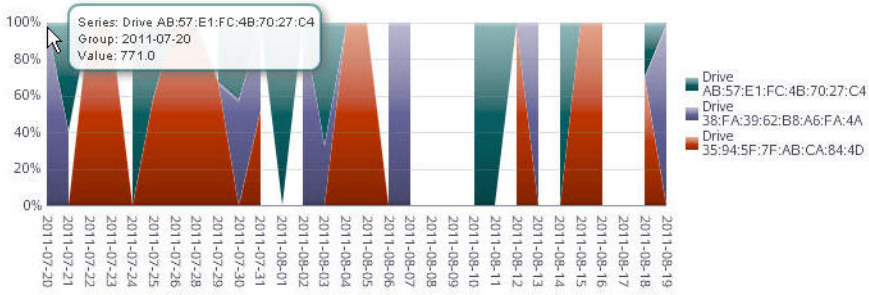
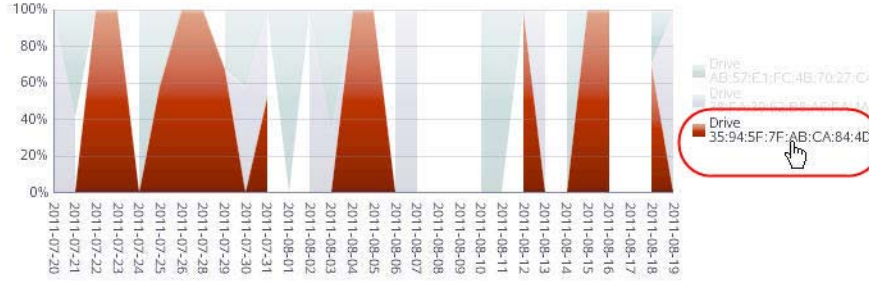
Note – The default date range for most STA line graphs (libraries, complexes, drives, and media) is the last 30 days. For exchanges, the default is one day—the current date.

User Action	Description
Display detailed values	Move the mouse over a point in time on a line to display the specific value in a tooltip. Other lines on the graph are dimmed.
	
Highlight values	Move the mouse over an area of the legend to highlight that line on the graph. All other lines remain on the graph but are dimmed.
	
Hide values	Clear a legend entry to remove the line from the graph. In this example, the “Written” box on the legend is empty to indicate that the line is hidden on the graph.
	
Restore hidden values	Select a hidden legend entry (“Written”, in this example) to restore the line to the graph.
	

Area Charts

Area charts are used to compare percentage values for two or more resources over a period of time. An area chart is similar to a line graph, but in addition, the area under the line is filled in with a color or pattern. Each line represents a resource (drive or media) or other category of data, and the size of the area under the line represents the resource's percentage of the total. Time is always displayed on the horizontal axis. Each point on the line represents an actual data value at a point in time.

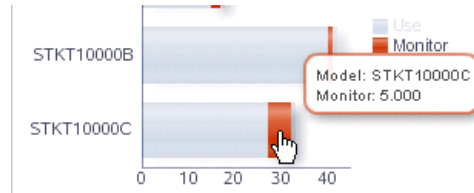
Note – The default date range for most STA area charts (libraries, complexes, drives, and media) is the last 30 days. For exchanges, the default is one day—the current date.

User Action	Description
Display detailed values	<p>Move the mouse over a point in time on a line to display the specific value in a tooltip. Other sections on the graph are dimmed.</p> 
Highlight values	<p>Move the mouse over an area of the legend to highlight that section on the graph. All other sections remain on the graph but are dimmed.</p> 

Bar Charts

Bar charts are used to display actual values for one or more resources at a point in time. Each bar represents a resource (drive or media) or other category of data, and the size of the bar represents the resource's actual value.

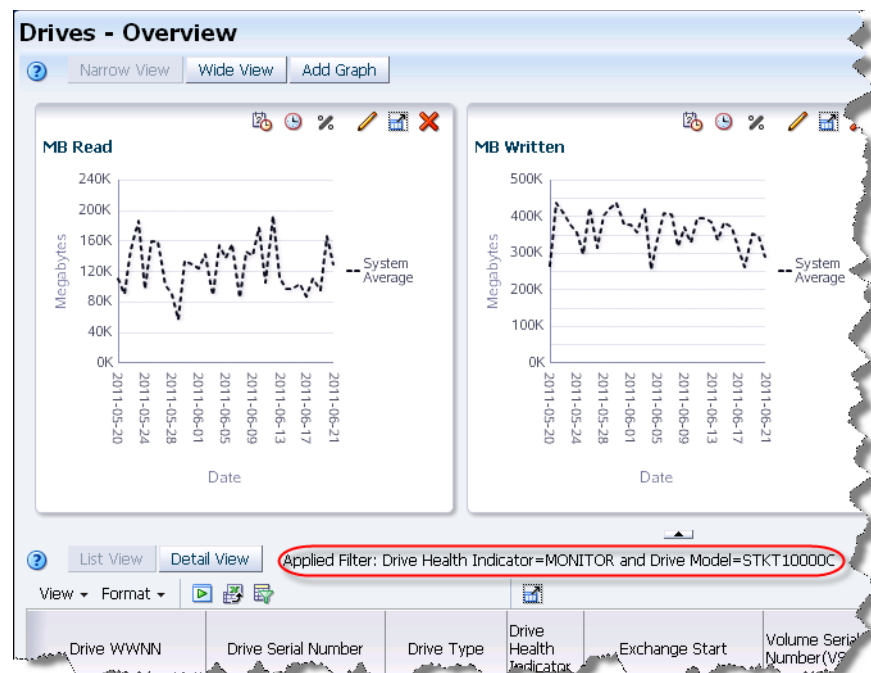
Action	Description
Display detailed values	Move the mouse over a bar to display the specific value in a tooltip. Other bars on the graph are dimmed.



Link to a detail screen

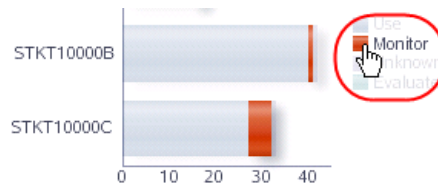
Note – This action is available from the Dashboard only.

Click an area of the bar to link to the detail screen for that resource type; in this example, the link is to the **Drives – Overview** screen. The List View table on the screen indicates that a filter has been applied:



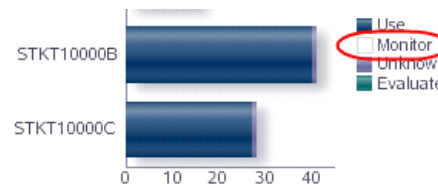
Highlight values

Move the mouse over an area of the legend to highlight that entry in the graph. All other entries remain on the graph but are dimmed.



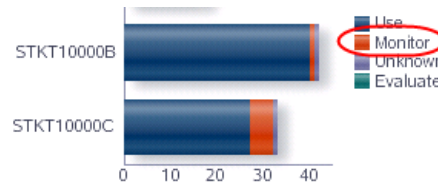
Hide values

Clear a legend key to remove that bar from the graph. In this example, the "Monitor" key on the legend is empty to indicate that the bar is hidden on the graph.



Restore hidden values

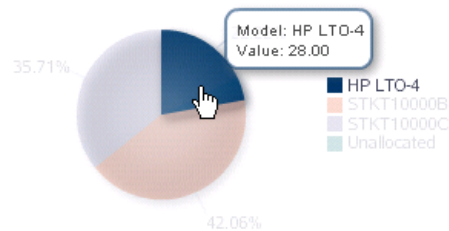
Select an empty legend key ("Monitor", in this example) to restore the bar to the graph.



Pie Charts

Pie charts are used to compare percentage values for two or more resources at a point in time. Each section of the pie represents a resource (drive or media) or other category of data, and the size of the section represents the resource's percentage of the total. To be meaningful, pie charts require graphing at least two resources, as only one resource will take up all of the pie.

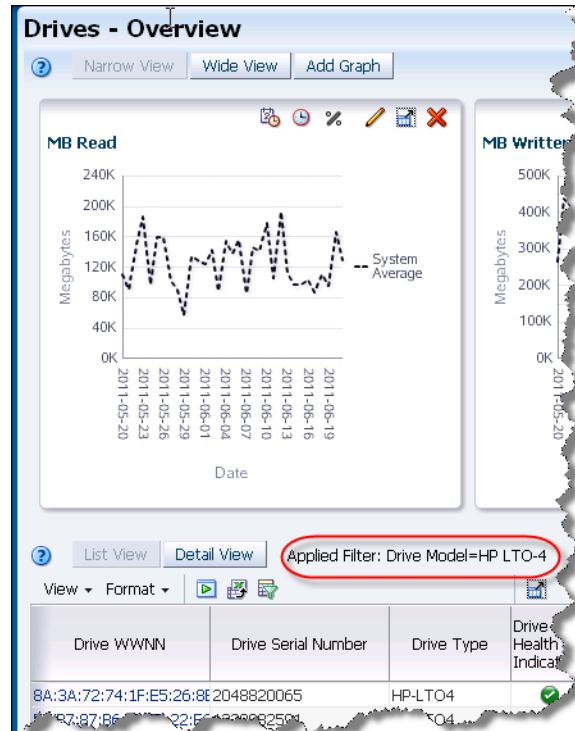
Action	Description
Display detailed values	Move the mouse over a section of the pie to display the percentage value in a tooltip. Other sections of the pie are dimmed.

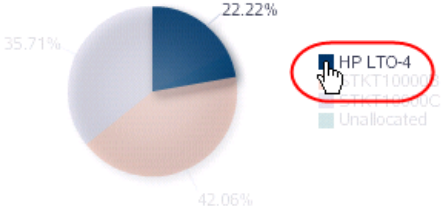
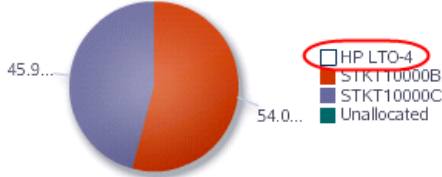
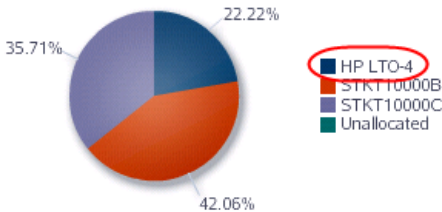


Link to an Overview screen

Note – This action is available on the Dashboard only.

Click a pie section to link to the Overview screen for that resource type; in this example, the link is to the **Drives – Overview** screen. The List View table on the screen indicates that a filter has been applied:



Action	Description
Highlight values	Move the mouse over an area of the legend to highlight that entry in the pie chart. All other entries remain on the chart but are dimmed.
	 <p>A pie chart with three visible slices: a dark blue slice (22.22%), a light blue slice (35.71%), and a light orange slice (42.06%). The legend to the right has four items: 'HP LTO-4' (dark blue), 'STKT10000B' (light blue), 'STKT10000C' (light orange), and 'Unallocated' (grey). The 'HP LTO-4' legend item is circled in red, and a mouse cursor is pointing at it. The other legend items and the corresponding pie slices are dimmed.</p>
Hide values	Clear a legend key to remove that section from the pie chart. In this example, the "HP LTO-4" key on the legend is empty to indicate that the section is hidden on the chart.
	 <p>A pie chart with two visible slices: a dark blue slice (54.0%) and a light orange slice (45.9%). The legend to the right has four items: 'HP LTO-4' (empty), 'STKT10000B' (light blue), 'STKT10000C' (light orange), and 'Unallocated' (grey). The 'HP LTO-4' legend item is circled in red and is empty, indicating it is hidden from the chart.</p>
Restore hidden values	Select an empty legend key ("HP LTO-4", in this example) to restore the section to the chart.
	 <p>A pie chart with three visible slices: a dark blue slice (22.22%), a light blue slice (35.71%), and a light orange slice (42.06%). The legend to the right has four items: 'HP LTO-4' (dark blue), 'STKT10000B' (light blue), 'STKT10000C' (light orange), and 'Unallocated' (grey). The 'HP LTO-4' legend item is circled in red and is now filled with dark blue, indicating it has been restored to the chart.</p>

Graphs on Overview Screens

The Graphics Area of Overview screens consists of the Graphics Area Toolbar and one or more graph panes. Each graph pane also has a Graph Pane Toolbar. When multiple graph panes are displayed, they are tiled, up to three per row. You can display up to 15 graph panes at a time.

You can modify the data displayed on individual graph panes through any of the following actions:

- Change the displayed attribute; see [“Graphed Attribute”](#) below for details.
- Change the displayed date range; see [“Date Range”](#) below for details.
- Switch between real and percentage values; see [“Real and Percentage Values”](#) below for details.
- Add individual resources to the graph for direct comparison; see [“Individual Resources” on page 73](#) for details.

Graphed Attribute

Each graph pane displays values for exactly one drive or media attribute. You can change the displayed attribute by clicking the Change Graphed Attribute icon on the Graph Pane Toolbar and then selecting any of the available attributes for that resource type.

See [“Change the Graphed Attribute” on page 92](#) for detailed instructions.

Date Range

By default, most graph panes display values for the previous 30 days. This is a rolling time period which is updated daily. The exception to this is the graph panes on the **Libraries – Exchanges** screen, which display values for the current date only.

You can change the date range by clicking the **Choose Date Range** icon on the Graph Pane Toolbar. You can then specify new start and ending dates for the range or a point in time (one day). Date ranges longer than one day are displayed as line graphs. Point-in-time graphs are displayed as bar charts. See [“Change the Date Range” on page 94](#) for detailed instructions.

Once you have specified a new date range for an individual graph, you can apply that range to all graphs on the screen by clicking the Synchronize Date Range icon. See [“Synchronize a Date Range Across All Graphs” on page 97](#) for detailed instructions.

Real and Percentage Values

By default, the graph panes display actual data values. You can optionally switch to a percentage display, which shows individual resource values as a percentage of the whole. Actual values are displayed as a line graph, and percentage values are displayed as an area graph.

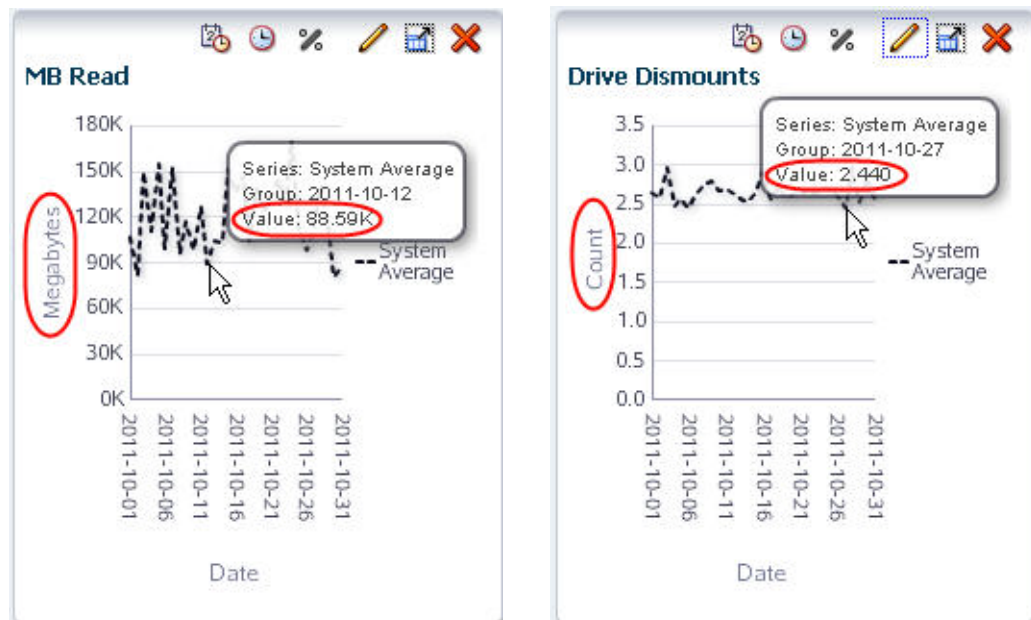
You can switch between actual and percentage value displays by selecting the Show Percentages icon on the Graph Pane Toolbar.

See [“Switch Between Actual and Percentage Values – Overview Screens”](#) on page 101 for detailed instructions.

Units of Measure

Units of measure are identified on the horizontal and vertical axes of each graph pane. On line and area graphs, which show values over time, time is always shown on the horizontal axis, and the attribute values are shown on the vertical axis. The scale of both axes automatically adjust to provide a useful amount of detail for the values included in the graph.

If the graphed attribute includes a unit of measure, such as MB Read, then the total value of a given data point is the product of the unit of measure included in the attribute multiplied by the unit of measure of the vertical axis. For example, the graph panes shown below use different units of measure on their vertical axes.



- In the MB Read graph, the highlighted data point indicates a value of 88.59K. Because the vertical axis is measured in megabytes, the value of the data point is actually 88.59K megabytes, or 88,590 MB.
- In the Drive Dismounts graph, the highlighted data point indicates a value of 2.440. Because there is no multiplier on the vertical axis, the value of the data point is actually 2.440.

Individual Resources

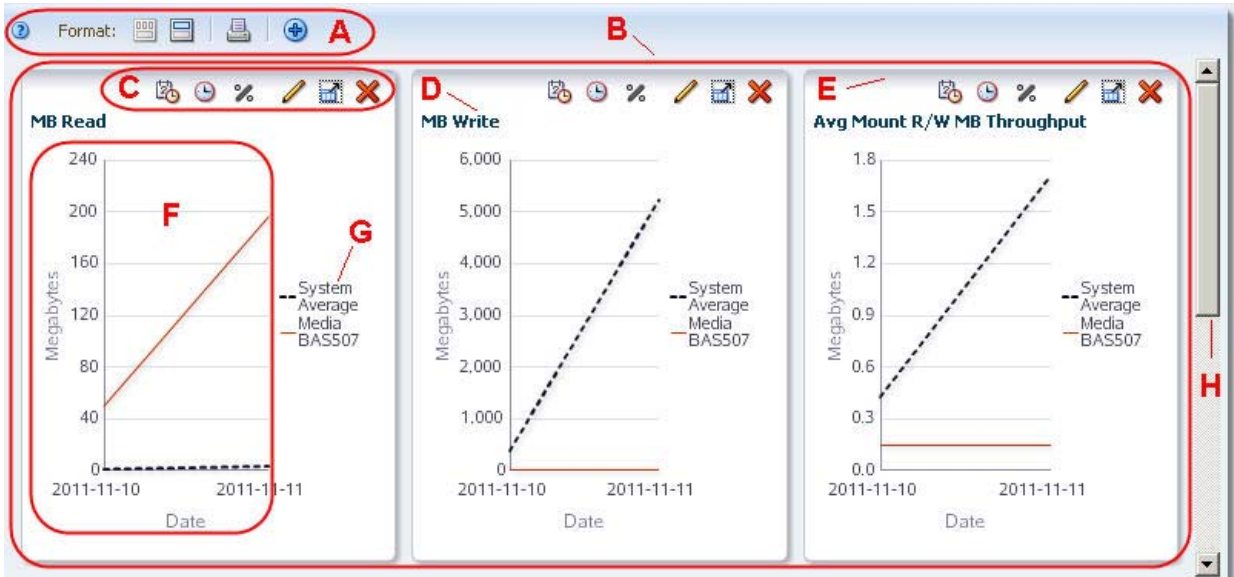
When you first bring up an Overview screen, the graph panes display only the system average for their selected attribute. You can compare individual resources to each other and the system average by adding the resources to the graphs. You add individual resources by selecting them on the List View table, and then applying the selection to the graphs. The individual values are then highlighted on the graph, and the system average is ghosted.

You can change the displayed resources simply by selecting different ones and re-applying the selection. If there is no data for a selected resource, no values will appear on the graph, but the resource will be added to the graph key to indicate that it has been selected. When you leave the Overview screen, the selections are cleared, so that when you return, the graph panes again display the system average only.

To clear all resources from the graphs without exiting the screen, you can deselect all resources on the List View table, and then re-apply the selection to the graphs.

See [“Add Library Resources to Graphs” on page 99](#) for detailed instructions.

Graphics Area Layout – Overview Screens








	Name	Description
A	Overview Graphics Area Toolbar	Provides direct access to commands for managing the Graphics Area. See “Graphics Area Toolbar for Overview Screens” on page 76 for descriptions of each icon.
B	Graphs	Graphs are tiled in rows of up to three. Up to five rows can be displayed.
C	Overview Graph Pane Toolbar	Provides direct access to commands for manipulating the display of this graph pane. See “Graph Pane Toolbar for Overview Screens” on page 76 for details.
D	Graph Pane title	Identifies the graphed attribute.
E	Graph Pane border	Shaded area at the top of the graph pane. Allows you to grab the pane and move it. See “Rearrange Graph Panes” on page 84 for details.
F	Graph	Area where the body of the graph is displayed. The horizontal axis is always Date, and the vertical axis is the unit of measure for the displayed values.
G	Legend	Key to the items included on the graph.
H	Vertical scrollbar	Appears only if there are too many graphs to display in one row.

Graphics Area Toolbar for Overview Screens

The Overview Graphics Area Toolbar appears at the top of the Graphics Area. It provides direct access to frequently used commands for controlling the overall display of the Graphics Area.









Icon	Name	Description
	Help	Displays help for the Graphics Area. Related Task: “Help”
	Narrow View	Tiles graph panes across the Graphics Area in rows of up to three graphs each. This is the default view. Related Task: “Switch Between Narrow and Wide Views”
	Wide View	Expands each graph horizontally across the entire Graphics Area with individual graphs stacked vertically. Related Task: “Switch Between Narrow and Wide Views”
	Printable Graphs	Provides a “quick print” function. Displays a printable form of the displayed graphs in a separate browser tab or window. Related Task: “Perform a Graph “Quick Print””
	Add Graph	Adds a new graph pane displaying the default attribute to the Graphics Area. Related Task: “Add a Graph Pane”

Graph Pane Toolbar for Overview Screens

The Overview Graph Pane Toolbar appears at the top of each graph pane on Overview screens. It provides direct access to frequently used commands for modifying the graph pane.



Icon	Name	Description
	Choose Date Range	Displays the date editor, which allows you to change the date range to a new range or a single day. Related Task: “Change the Date Range”
	Synchronize Date Range	Applies the date range for the current graphics pane to all graphics panes on the screen. Related Task: “Synchronize a Date Range Across All Graphs”

Icon	Name	Description
	Show Percentages	Switches between real value and percentage value displays. Related Task: “Switch Between Actual and Percentage Values – Overview Screens”
	Change Graphed Attribute	Allows you to change the attribute displayed on the graph. Related Task: “Change the Graphed Attribute”
	Detach Pane	Detaches the graph from the screen and displays it in a separate window in the browser foreground. Related Task: “Detach a Graph Pane”
	Remove Pane	Deletes the graph pane from the screen. Related Task: “Remove a Graph Pane”

Graphs on Analysis Screens

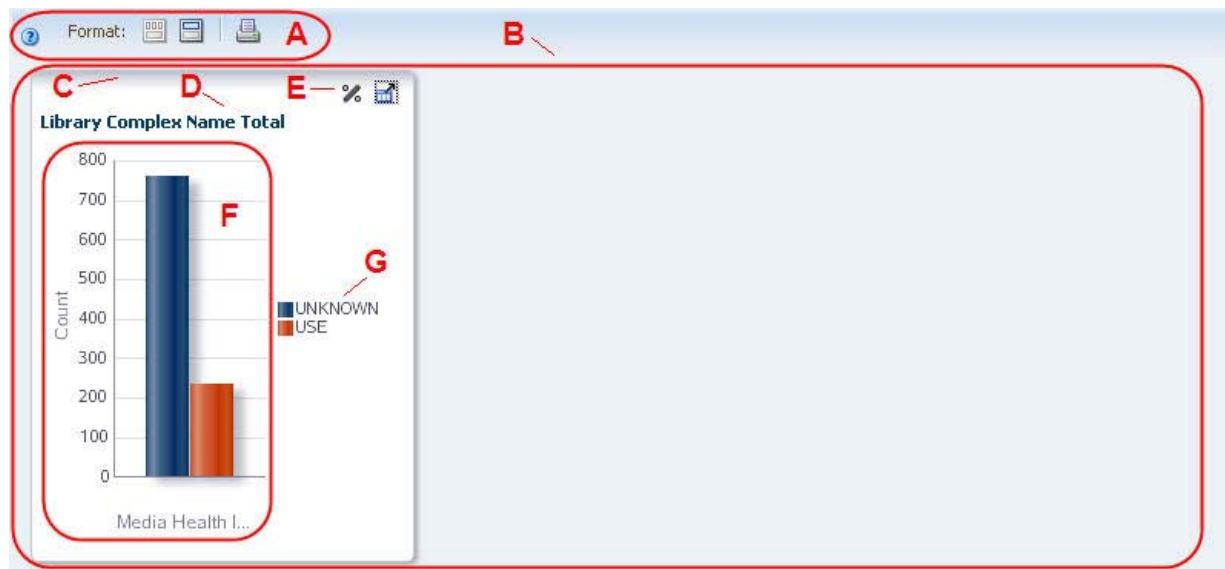
The Graphics Area of Analysis screens consists of the Graphics Area Toolbar and one or more graph panes. Each graph pane also has a Graph Pane Toolbar.

The default Graphics Area on Analysis screens has just one graph pane, showing summary information for the overall system. The graphed attribute on Analysis screens is always the corresponding—drive or media—Health Indicator.

You can change the number of graph panes and the data they display by selecting different row layers in the pivot table and applying the selection to the graphs. Whenever multiple panes are displayed, the left-most pane always shows summary information, and the remaining panes show detail.

See [“Data Graphing Tasks” on page 91](#) for detailed instructions.

Graphics Area Layout – Analysis Screens







Name	Description
A Analysis Graphics Area Toolbar	Provides direct access to commands for managing the Graphics Area. See “Graphics Area Toolbar for Overview Screens” on page 76 for descriptions of each icon.
B Graphs	Graphs are tiled in rows of up to three. Up to five rows can be displayed. The default view shows one graph only.
C Graph pane border	Shaded area at the top of the graph pane. Note – Analysis screen graph panes cannot be rearranged.
D Graph pane title	Identifies the graphed attribute.
E Analysis Graph Pane Toolbar	Provides direct access to commands for manipulating the display of this graph pane. See “Graph Pane Toolbar for Analysis Screens” on page 80 for details.
F Graph	Area where the body of the graph is displayed.
G Legend	Key to the items included on the graph.

Graphics Area Toolbar for Analysis Screens

The Analysis Graphics Area Toolbar appears at the top of the Graphics Area. It provides direct access to frequently used commands for controlling the overall display of the Graphics Area.





Icon	Name	Description
	Help	Displays help for the Graphics Area. Related Task: “Help”
	Narrow View	Tiles graph panes across the Graphics Area in rows of up to three graphs each. This is the default view. Related Task: “Switch Between Narrow and Wide Views”
	Wide View	Expands each graph horizontally across the entire Graphics Area with individual graphs stacked vertically. Related Task: “Switch Between Narrow and Wide Views”
	Printable Graphs	Provides a “quick print” function. Displays a printable form of the displayed graphs in a separate browser tab or window. Related Task: “Perform a Graph “Quick Print””

Graph Pane Toolbar for Analysis Screens

The Analysis Graph Pane Toolbar appears at the top of each graph pane on Analysis screens. It provides direct access to frequently used commands for modifying the graph pane.



Icon	Name	Description
	Show Percentages	Toggles between real value and percentage value displays. Related Task: “Switch Between Actual and Percentage Values – Analysis Screens”
	Detach Pane	Detaches the graph from the screen and displays it in a separate window in the browser foreground. Related Task: “Detach a Graph Pane”

Graph Display Tasks

These procedures allow you to modify the appearance and arrangement of graphs on the STA screen. Some tasks apply to both Overview and Analysis screens, while others apply to Overview screens only; this distinction is identified at the top of each procedure.

Task	Page
Detach a Graph Pane	82
Rearrange Graph Panes	84
Add a Graph Pane	86
Remove a Graph Pane	87
Switch Between Narrow and Wide Views	88
Perform a Graph "Quick Print"	90

▼ Detach a Graph Pane

Note – This procedure applies to both Overview and Analysis screens.

Use this procedure to separate a graph pane from the Graphics Area and display it in a separate window in the browser foreground. Once you have detached a graph pane, you can resize it and move it anywhere within the browser window. You can detach only one pane at a time.

1. Click the Detach icon in the Graph Pane Toolbar.



The graph pane is displayed in a separate window in the screen foreground.



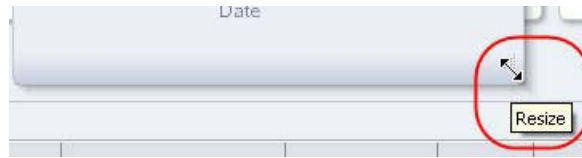
Note – If you navigate to another screen, the pane is automatically closed.

2. Optionally, you can move or resize the pane as follows:

- To move the pane, click and drag the top border.

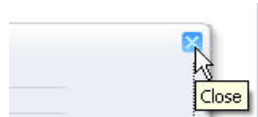


- To resize the pane, click and drag an edge or corner.



3. To restore the graph pane to its normal position, do either of the following:

- Click the Close button in the **Graph Pane Toolbar**.



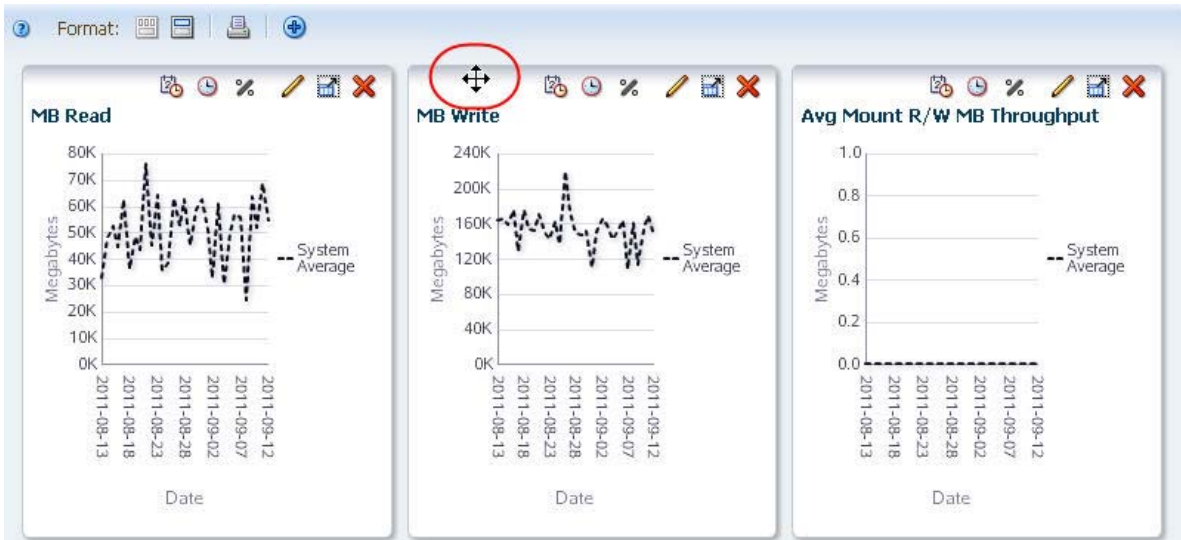
- Click the **Detach Pane** icon in a second graph pane. This restores the first graph pane to its normal position and displays the second graph pane in the foreground.

▼ Rearrange Graph Panes

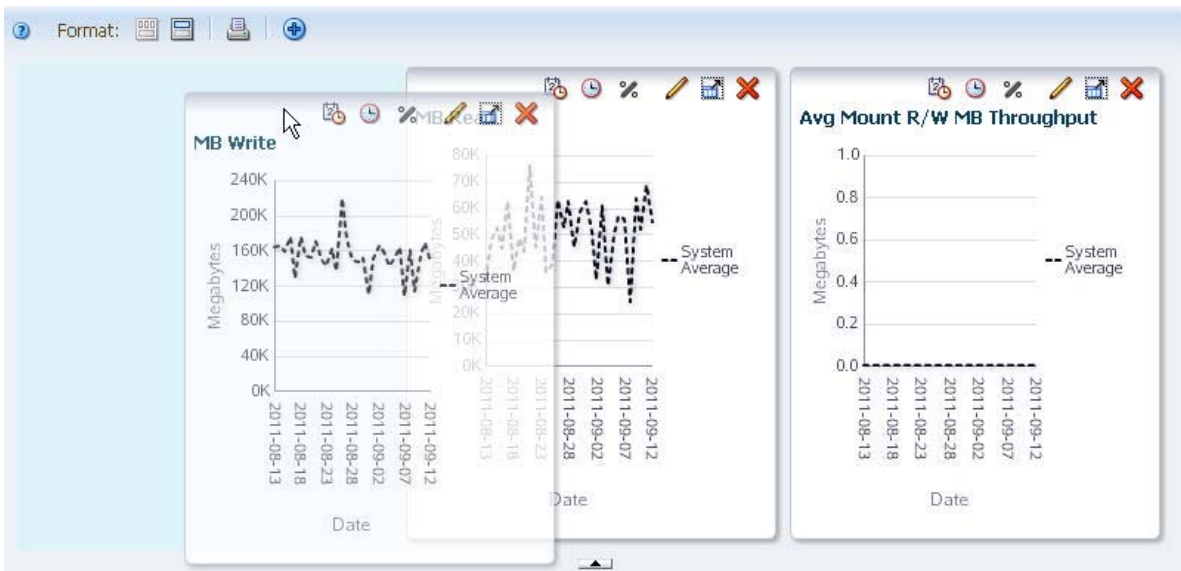
Note – This procedure applies to both Overview screens only.

Use this procedure to rearrange graph panes in the Graphics Area. This procedure can be used in narrow view or wide view.

1. Move the mouse over the Graph Pane border of the pane you want to move. The Move Object cursor appears.

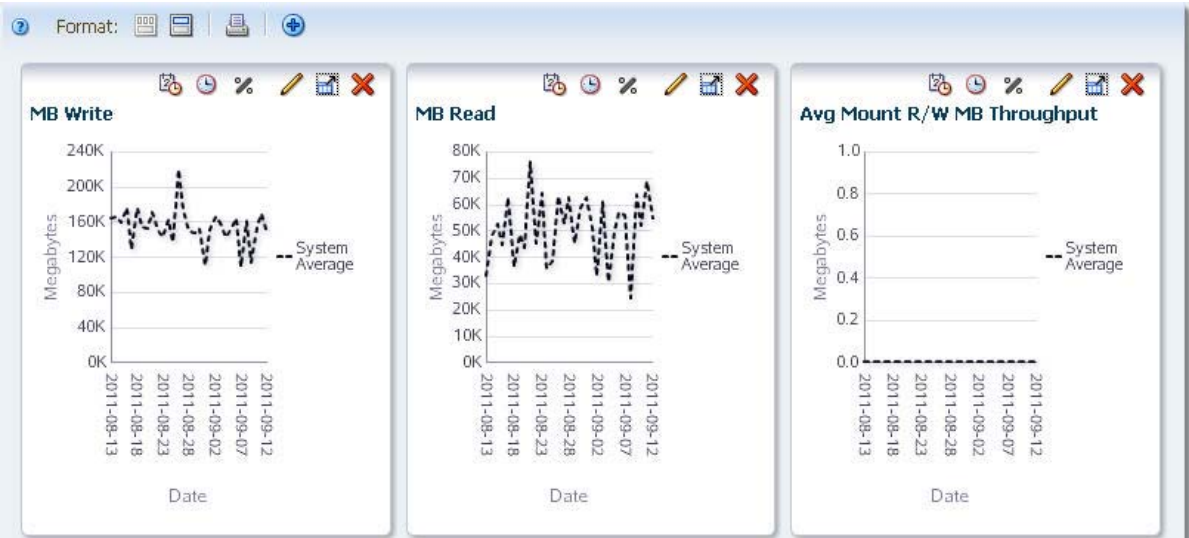


2. Click and drag the pane to its new location.



3. Once the pane is near the position you want, release the cursor.

The pane snaps into place. You do not need to position it exactly.



▼ Add a Graph Pane

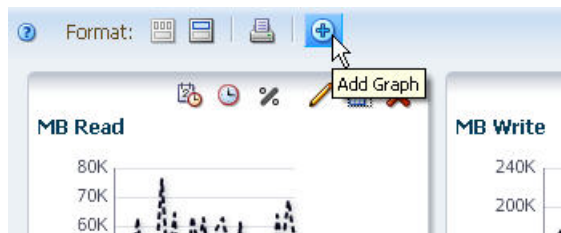
Note – This procedure applies to Overview screens only.

Use this procedure to add a graph pane to the screen. Data is displayed in the new graph according to the following criteria:

- The graph displays the default attribute for the resource type. For media, the default is Data Mounts; for drives, it is MB Read. You can change the attribute to any available attribute for the resource.
- If the existing graph panes have all been synchronized to the same date range, the new graph uses the same one; otherwise, the graph uses the system default date range of the previous 30 days.
- The new graph displays actual values, even if all the existing graphs display percentages.
- If individual resources have been applied to the existing graphs, the new graph displays the same ones.

1. Click the Add Graph icon on the Graphics Area Toolbar.

Note – You can display up to 15 graph panes at a time; once you reach 15, the **Add Graph** icon is disabled (dimmed).



The graph pane is added to the end of the Graphics Area display. You may need to use the vertical scrollbar to view the graph.

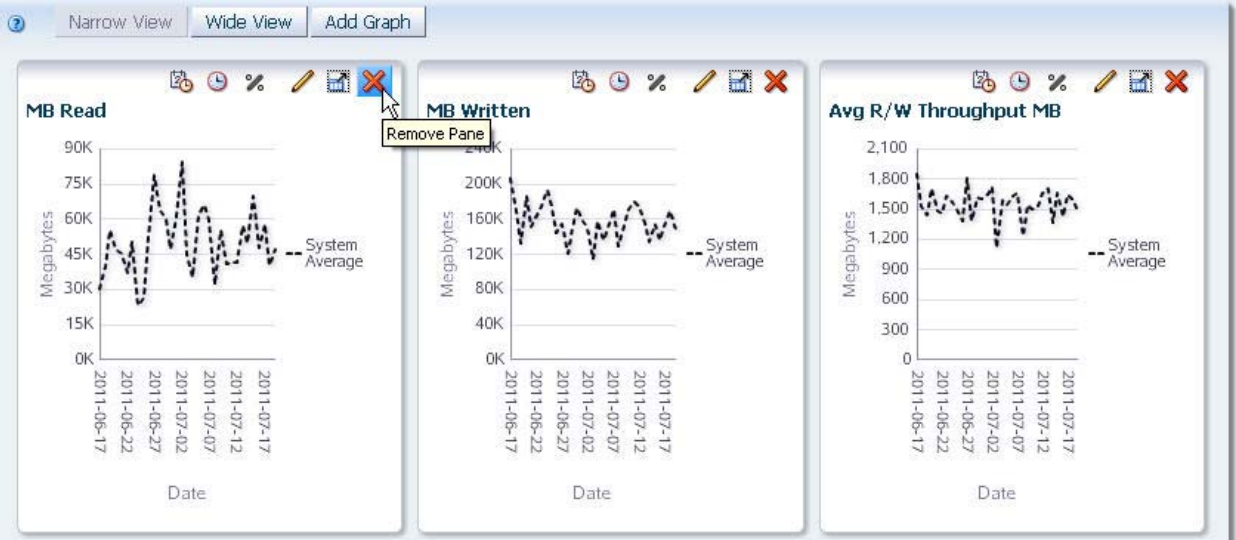
- To move the pane to a new position, see [“Rearrange Graph Panes” on page 84](#).
- To graph a different attribute, see [“Change the Graphed Attribute” on page 92](#).

▼ Remove a Graph Pane

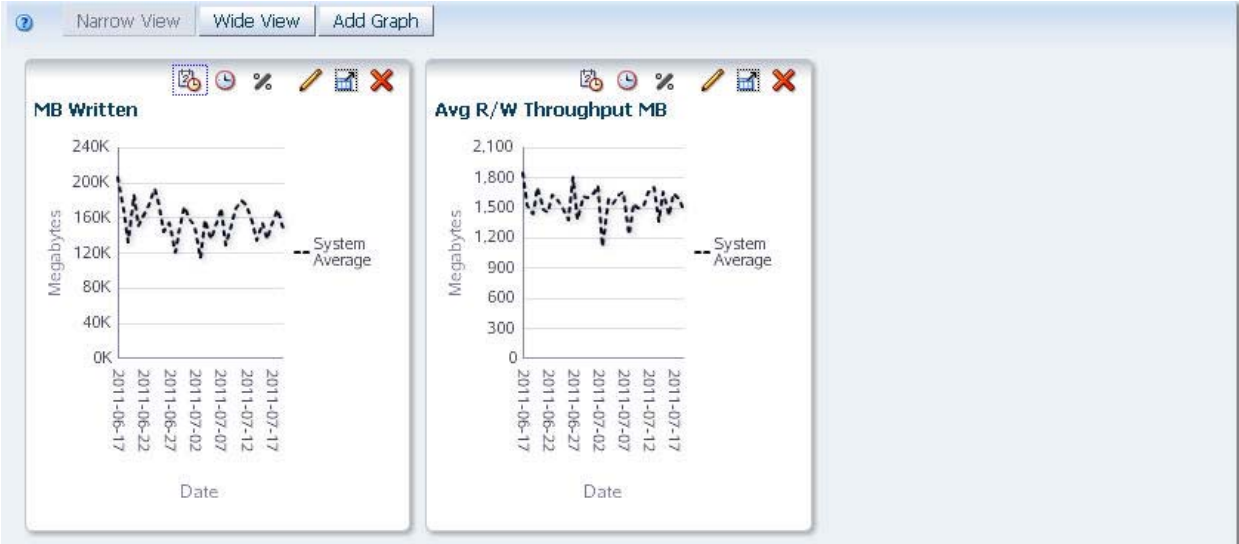
Note – This procedure applies to Overview screens only.

Use this procedure to delete a graph pane from the Graphics Area display.

1. Click the Remove Pane icon on the Graph Pane Toolbar.



The pane is removed from the display.



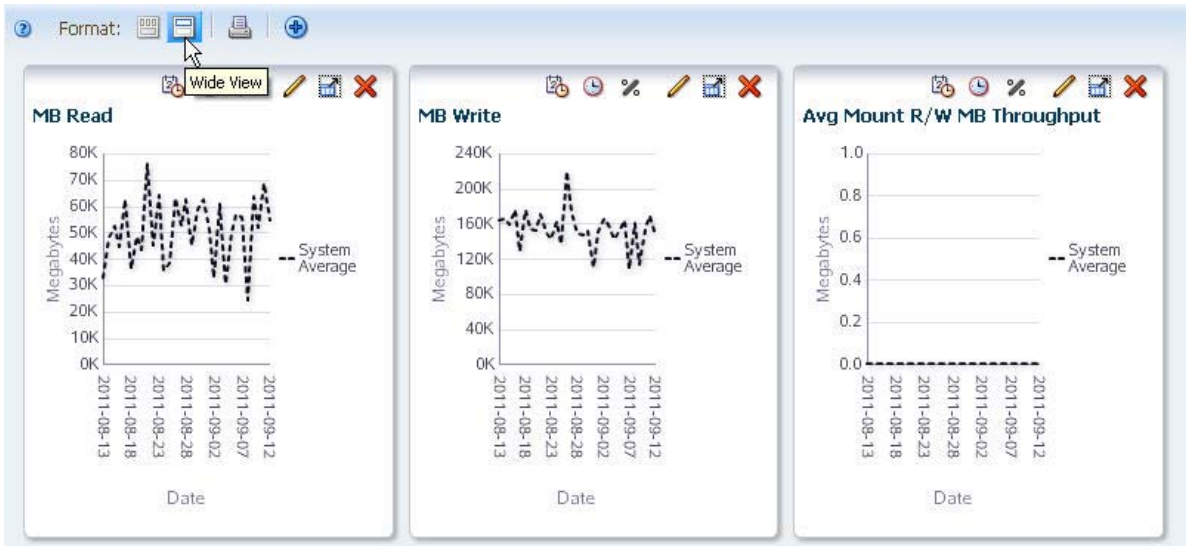
See [“Add a Graph Pane” on page 86](#) for instructions on restoring the graph pane to the display.

▼ Switch Between Narrow and Wide Views

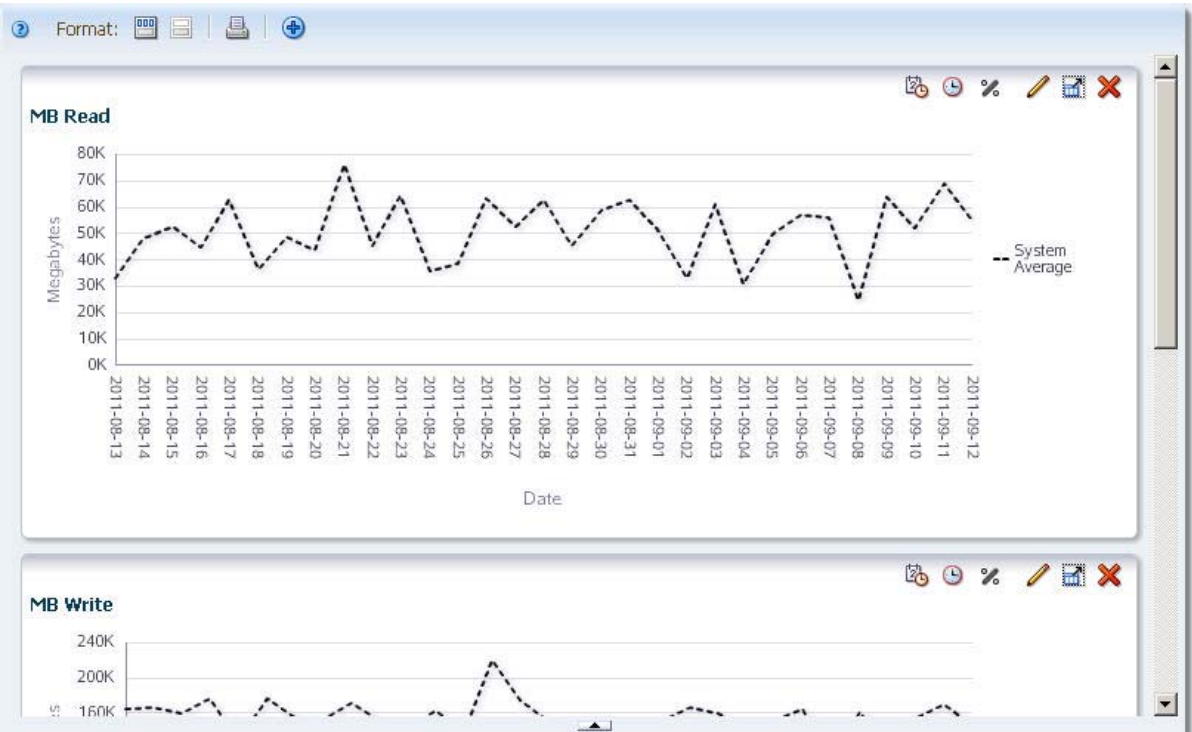
Note – This procedure applies to both Overview and Analysis screens.

Use this procedure to display graphs in narrow and wide formats. Narrow view is the default, and it allows you to do side-by-side comparisons of graphed attributes. Wide view allows you to see each graph in greater detail.

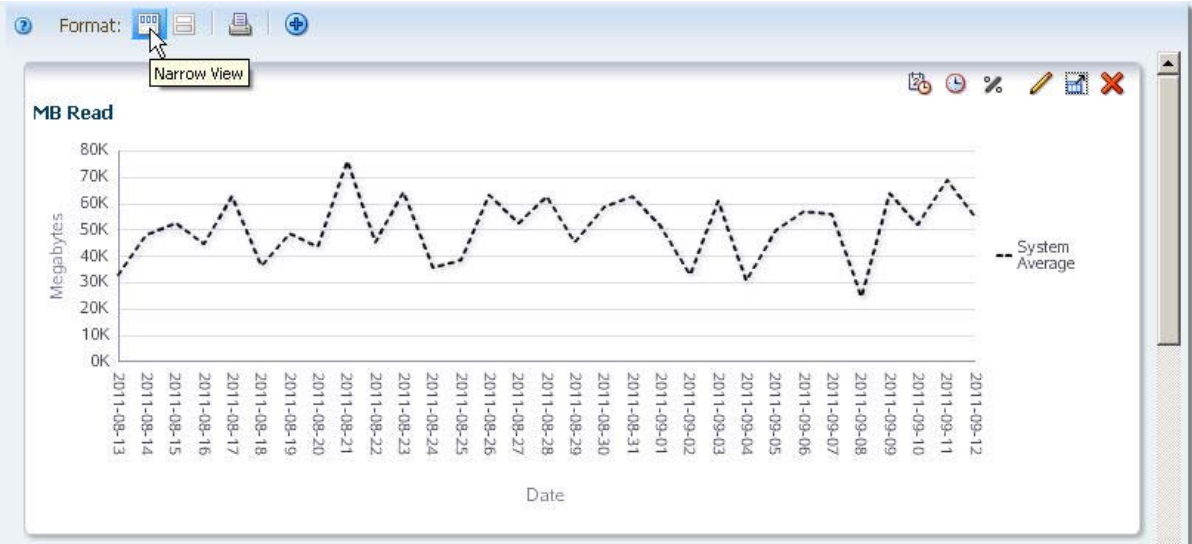
1. Click the Wide View icon on the Graphics Area Toolbar.



The display changes to wide view, in which each graph pane is expanded horizontally across the entire Graphics Area. A vertical scrollbar appears, allowing you to scroll down to the remaining panes.



2. To switch back to narrow view, click the Narrow View icon in the Graphics Area Toolbar.



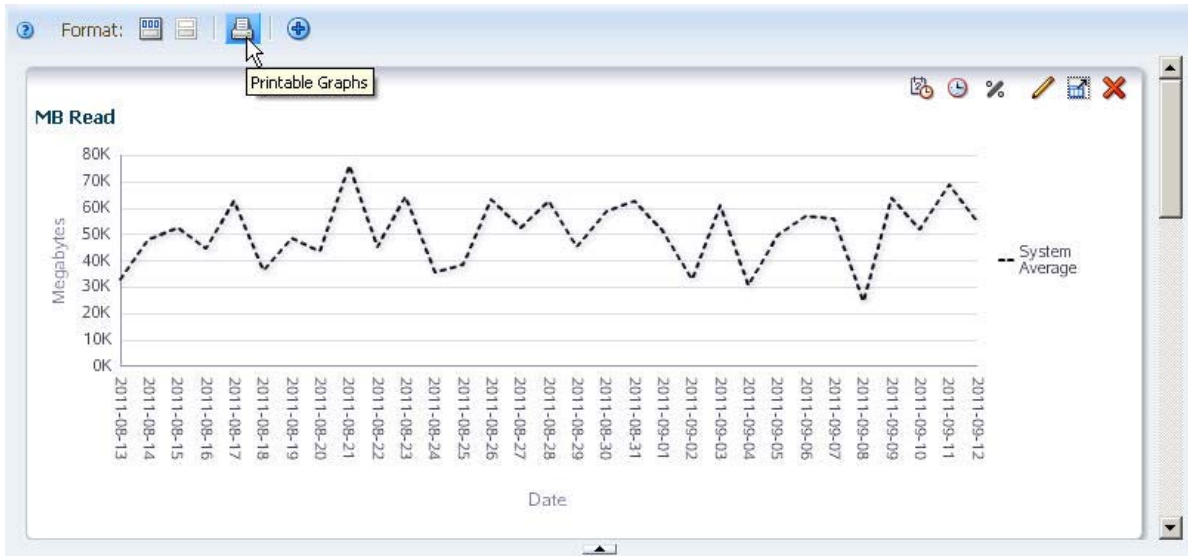
▼ Perform a Graph “Quick Print”

Note – This procedure applies to both Overview and Analysis screens.

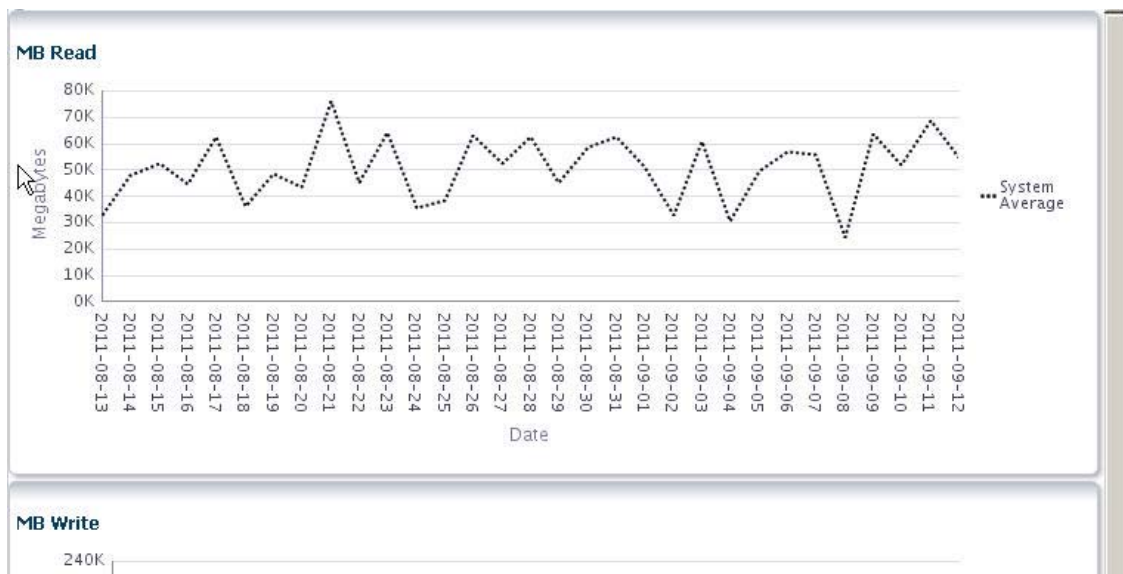
Use this procedure to perform a “quick print” of all graphs currently displayed.

Note – For best results, you might want to display the graphs in Wide View mode. This will allow you to see more detail in the printed graphs.

1. Click the Printable Graphs icon on the Graphics Area Toolbar.



A new tab is created in your browser window, showing all graphs in a printable format.



2. You can use your browser’s standard Print function to send this display to a printer.

Data Graphing Tasks

These procedures allow you to modify the data that is displayed on one or more graph panes. Some tasks apply to both Overview and Analysis screens, while others apply to only one screen type; this distinction is identified at the top of each procedure.

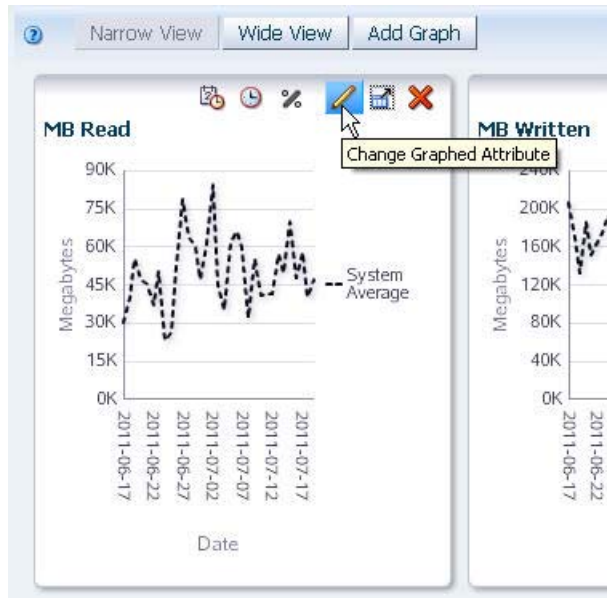
Task	Page
Change the Graphed Attribute	92
Change the Date Range	94
Synchronize a Date Range Across All Graphs	97
Add Library Resources to Graphs	99
Switch Between Actual and Percentage Values – Overview Screens	101
Switch Between Actual and Percentage Values – Analysis Screens	103
Graph Detail for a Pivot Table Attribute	105
Graph Aggregated Data From a Pivot Table	107

▼ Change the Graphed Attribute

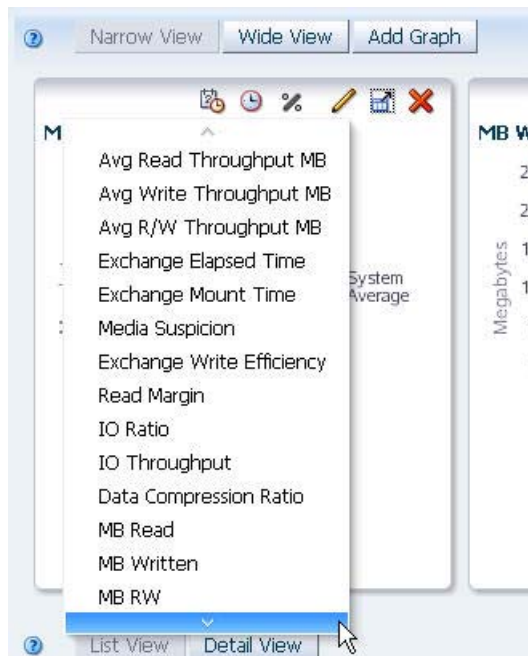
Note – This procedure applies to Overview screens only.

Use this procedure to change the resource attribute that is displayed in a graph pane.

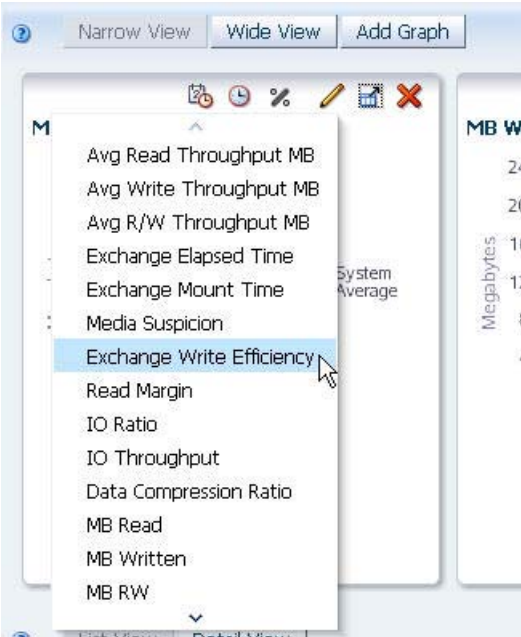
1. Click the **Change Graphed Attribute** icon in the **Graph Pane Toolbar**.



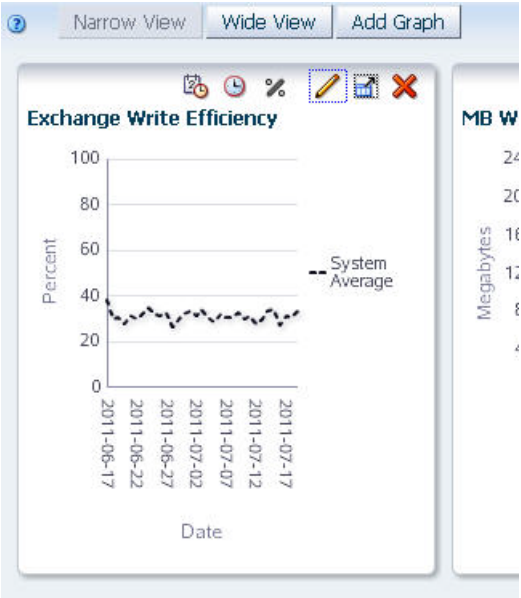
A menu appears, displaying all available attributes for this resource type. Only 14 attributes are visible at a time. A scroll button at the bottom of the menu allows you to scroll down through the entire list.



2. Select the attribute you want the graph to display.



The graph is updated according to your selection.

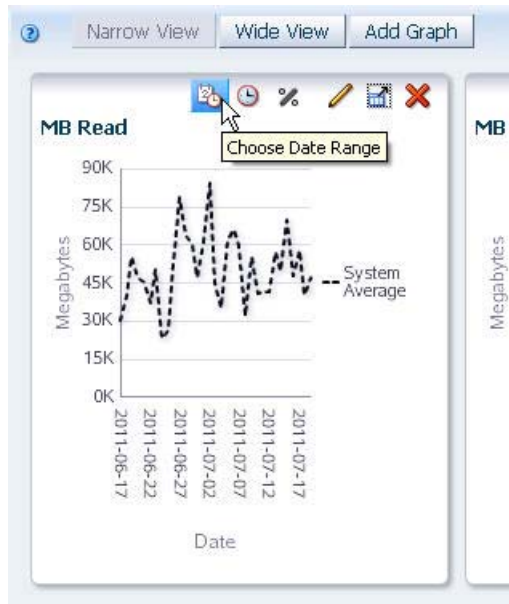


▼ Change the Date Range

Note – This procedure applies to Overview screens only.

Use this procedure to change the date range on a graph pane. You can specify a new range or a point in time (single day).

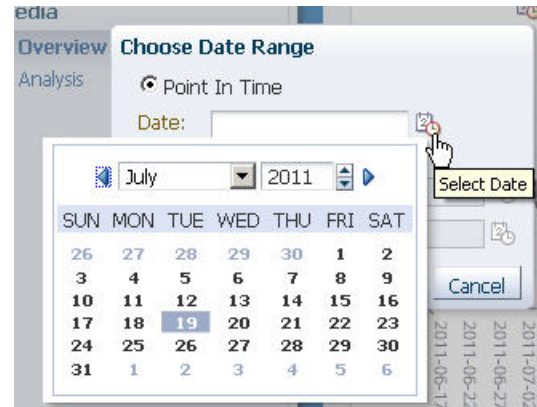
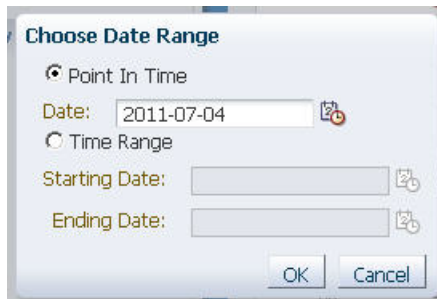
1. Click the **Choose Date Range** icon on the **Graph Pane Toolbar**.



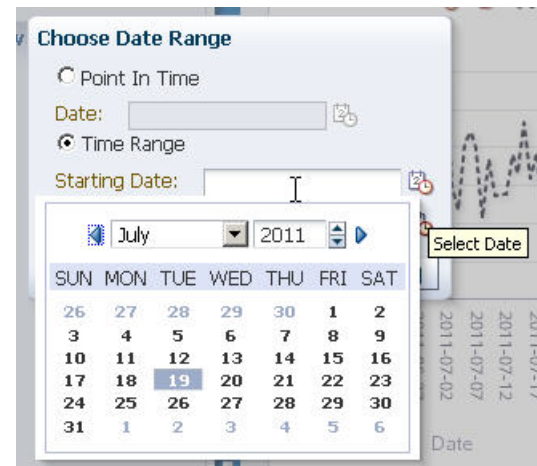
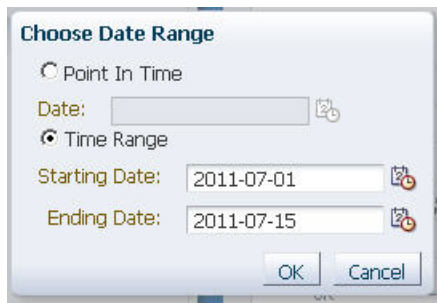
The **Choose Date Range** dialog box appears.

2. Complete the dialog box, specifying either a single day or a range of dates.
 - For a point in time, do the following:
 - a. Select the **Point In Time** option.

- ii. In the Date field, specify the date you want to display. You can specify the date manually or click the Select Date icon on the dialog box to bring up the Date editor and choose the date. The date format is yyyy-mm-dd.



- For a range of dates, do the following:
 - i. Select the Time Range option.
 - ii. In the Starting Date and Ending Date fields, enter the first and last dates of the range. You can specify the dates manually or click the Select Date icon on the dialog box to bring up the Date-time editor and choose the dates. The date format is yyyy-mm-dd.



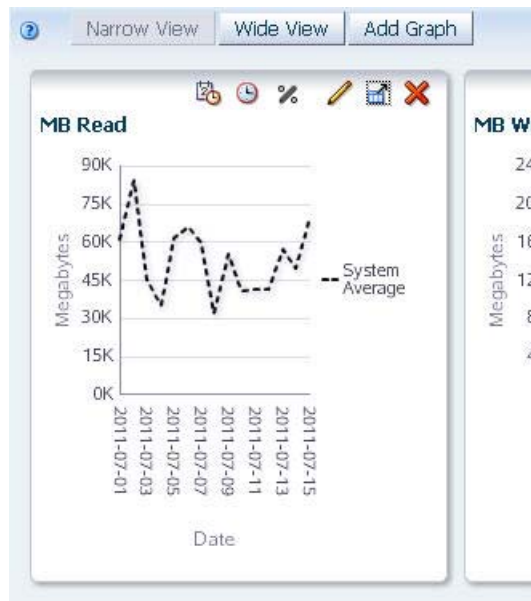
3. When the date selection is as you want, click OK.

The graph is updated according to your selection.

- New point in time (point-in-time graphs are displayed as bar charts):



- New date range (date range graphs are displayed as line graphs):

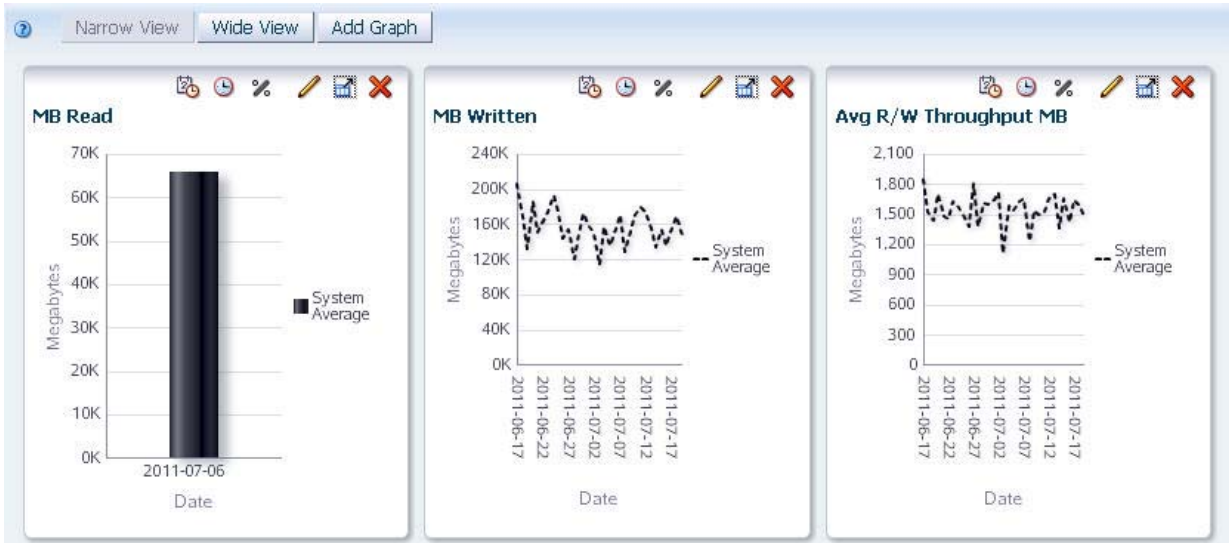


▼ Synchronize a Date Range Across All Graphs

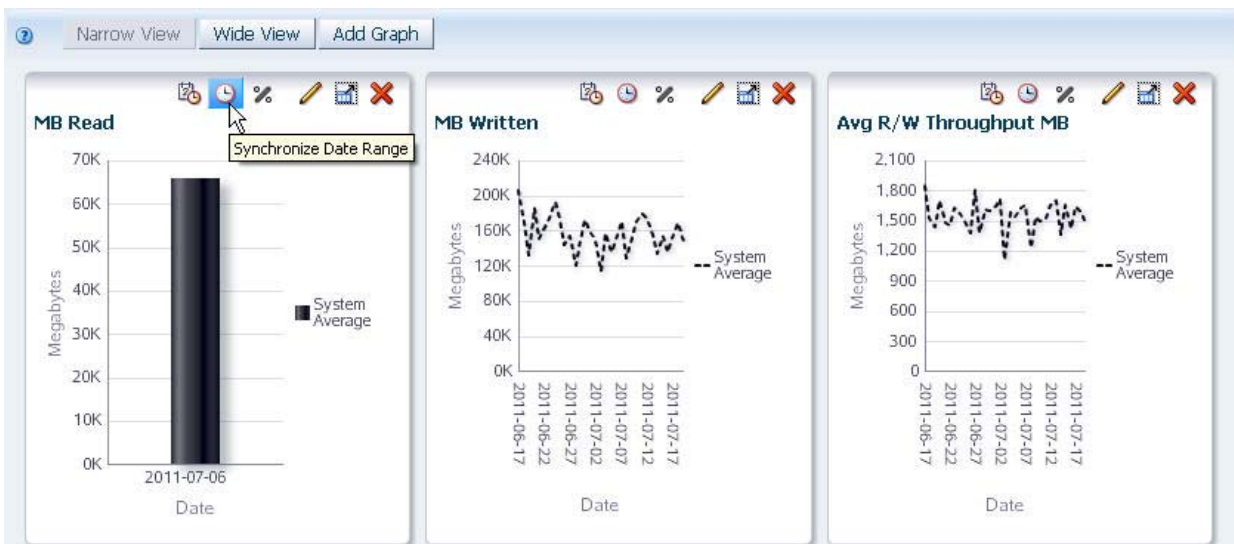
Note – This procedure applies to Overview screens only.

Use this procedure to synchronize all graph panes to the same date range.

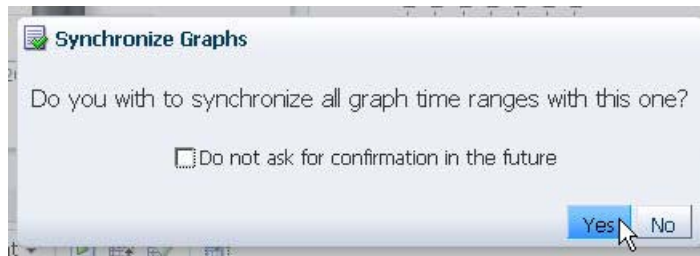
1. In one graph pane on the screen, set the date range you want to apply to all the panes. See [“Change the Date Range”](#) on page 94 for instructions.



2. Click the Synchronize Date Range button in the Graph Pane Toolbar of that graph pane.



The **Synchronize Graphs** confirmation dialog box appears.



3. Click Yes to synchronize.

All graph panes in the Graphics Area are synchronized to display the same date range. All other data display characteristics (graphed attribute, actual vs. percentage values, added resources) remain unchanged.



▼ Add Library Resources to Graphs

Note – This procedure applies to Overview screens only.

Use this procedure to add selected library resources—such as libraries, drives, media, etc.—to all graph panes on the screen. In the default view, graphs display only the system average for the graphed attribute.

1. In the List View table, select one or more resources.

Note – You can use multi-select to select more than one resource; see “Multi-select” on page 47 for details.

The screenshot shows three line graphs at the top, each with a 'System Average' line and a dashed line representing individual resource data. Below the graphs is a 'List View' table with the following data:

Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Start	Excl Ove
N600A277	T1	✓	568,032	52:62:EA:53:A2:42:45:8	T10000B	✓	2011-07-17 20:59:42	GOC
G23443D7	T1	✓	1,377	FA:A6:CB:D0:9A:47:81:E	T10000B	✓	2011-07-17 19:09:17	GOC
F4F89431	T1	✓	0	E3:6A:93:6D:A7:3D:ED:E	T10000B	✓	2011-07-16 19:28:01	MED
WF2E0484	T2	✓	632,544	C1:4C:5:44:72:68:61:8F	T10000C	✓	2011-07-12 18:55:05	GOC
MA5847E2	LTO-4	✓	451,258	41:8B:38:51:4E:1E:EF:B2	HP-LTO4	✓	2011-07-17 18:33:19	GOC
W2D8D9D6	LTO-4	✓	506,615	F2:C5:6F:8F:61:27:5E:84	HP-LTO4	✓	2011-07-19 14:07:12	UNL

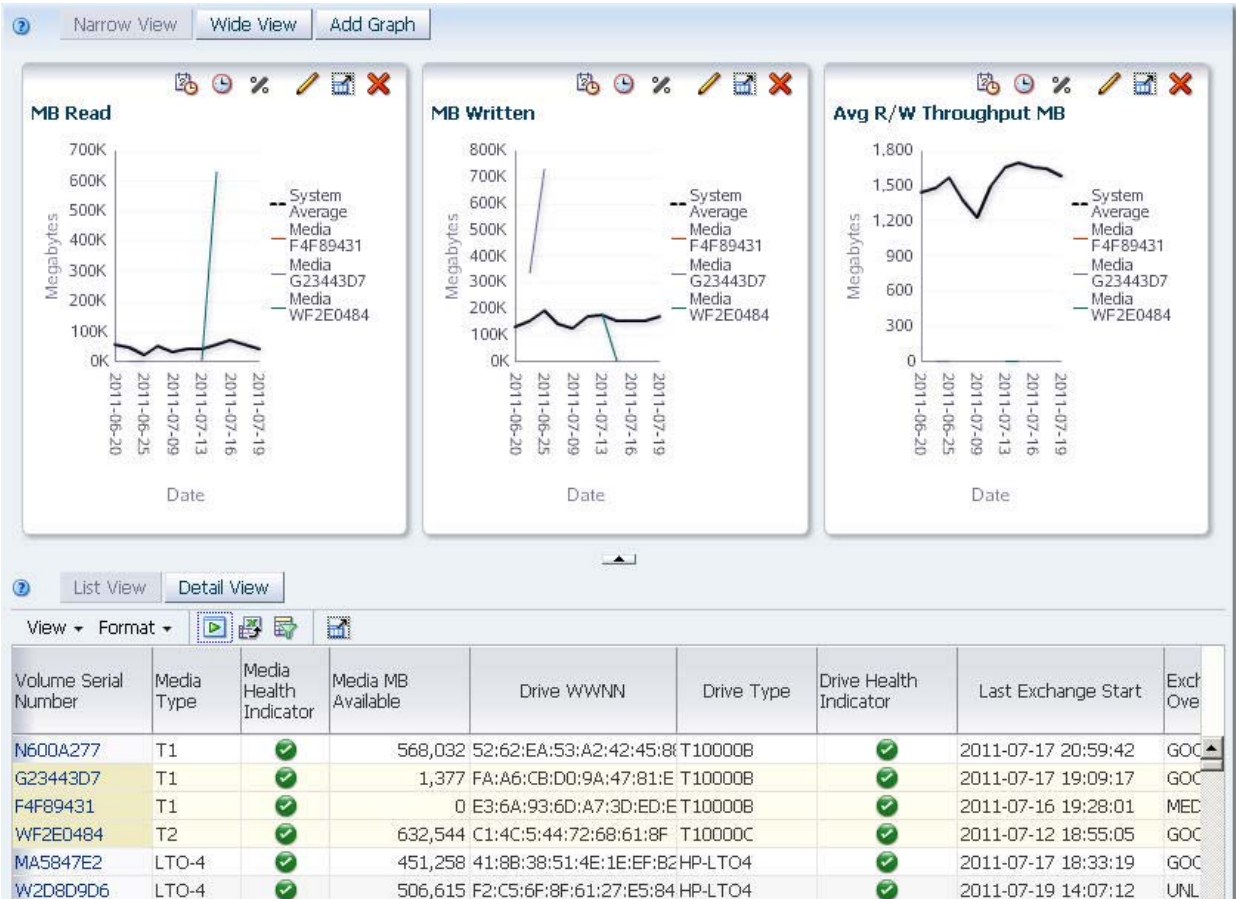
2. Click the Apply Selection icon on the List View Toolbar.

The screenshot shows the 'List View' toolbar with the 'Apply Selection' icon (a blue play button) highlighted. The table below shows the same data as the previous screenshot, but with the selected rows highlighted in yellow:

Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Start	Excl Ove
N600A277	T1	✓	568,032	52:62:EA:53:A2:42:45:8	T10000B	✓	2011-07-17 20:59:42	GOC
G23443D7	T1	✓	1,377	FA:A6:CB:D0:9A:47:81:E	T10000B	✓	2011-07-17 19:09:17	GOC
F4F89431	T1	✓	0	E3:6A:93:6D:A7:3D:ED:E	T10000B	✓	2011-07-16 19:28:01	MED
WF2E0484	T2	✓	632,544	C1:4C:5:44:72:68:61:8F	T10000C	✓	2011-07-12 18:55:05	GOC
MA5847E2	LTO-4	✓	451,258	41:8B:38:51:4E:1E:EF:B2	HP-LTO4	✓	2011-07-17 18:33:19	GOC

The selected resources are added to all graph panes on the screen.

Note – Depending on the data values for the selected resources, the scale of one or more graph panes may change. The scales of the horizontal and vertical axes automatically adjust to show a useful amount of detail for the selected resources.



3. You can change the selected resources, as follows:

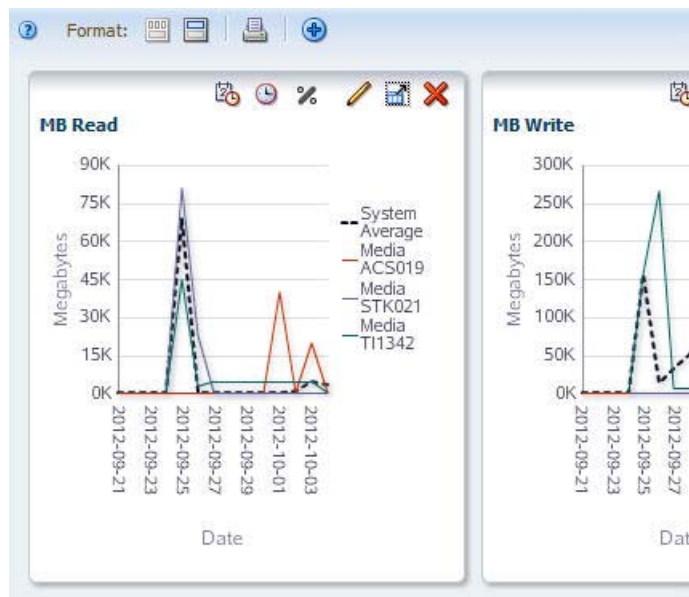
- To remove these resources and add different ones, repeat [Step 1](#) and [Step 2](#), this time selecting different resources.
- To remove all resources from the graphs and display just the System Average, deselect all the selected resources in the table and click the **Apply Selection** icon again.

▼ Switch Between Actual and Percentage Values – Overview Screens

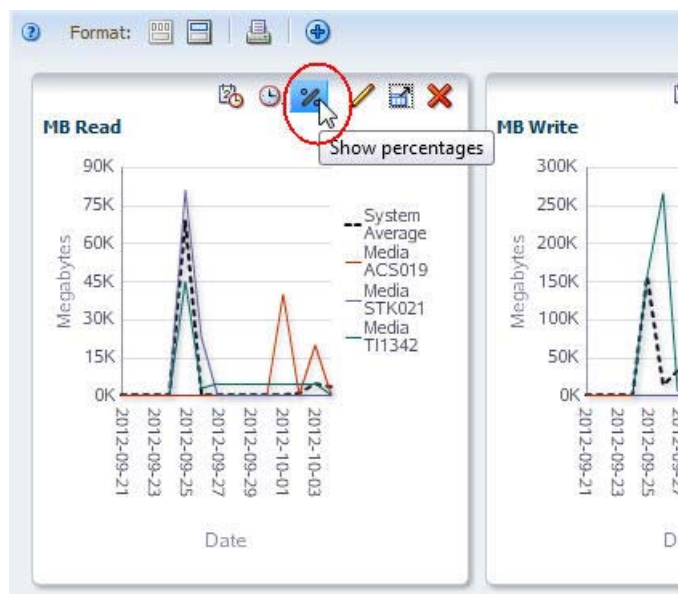
Note – This procedure applies to Overview screens only.

Use this procedure to switch between actual and percentage values on a graph pane. Actual values are displayed by default. Percentage values compare individual resources within a set of selected resources; therefore, displaying percentage values is most useful when at least two resources have been added to the graph.

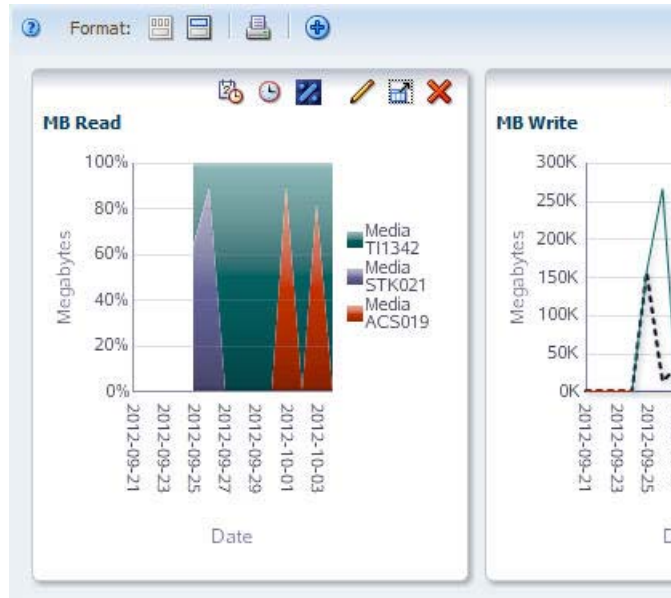
1. Add two or more resources to the graph. See [“Add Library Resources to Graphs”](#) on page 99 for detailed instructions.



2. Click the Show Percentages icon on the Graph Pane Toolbar.



The graphed values change from actual to percent, and the line graph changes to an area chart.



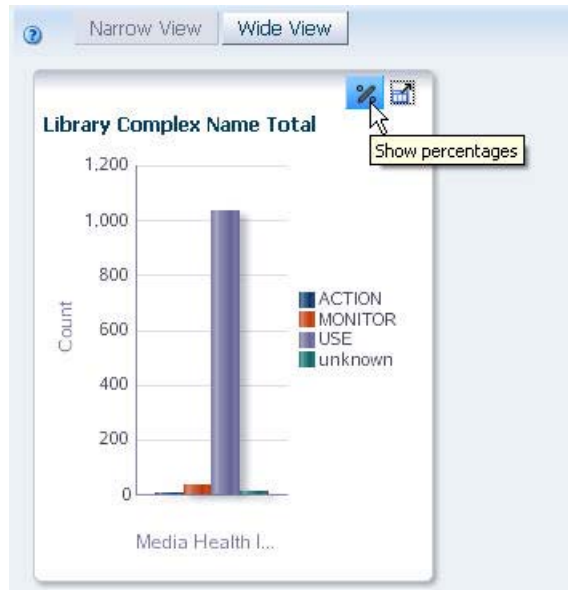
3. The Show Percentages icon acts as a toggle. You can click it again to switch back to actual values.

▼ Switch Between Actual and Percentage Values – Analysis Screens

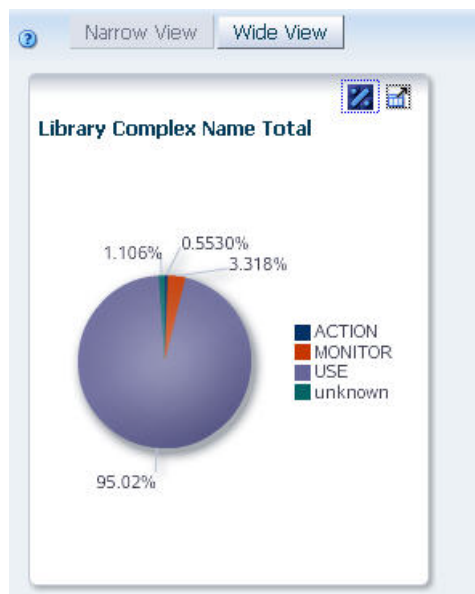
Note – This procedure applies to Analysis screens only.

Use this procedure to switch between actual and percentage values on a graph pane. Actual values are displayed by default. Percentage values compare individual resources within a set of selected resources; therefore, displaying percentage values is most useful when at least two resources have been added to the graph.

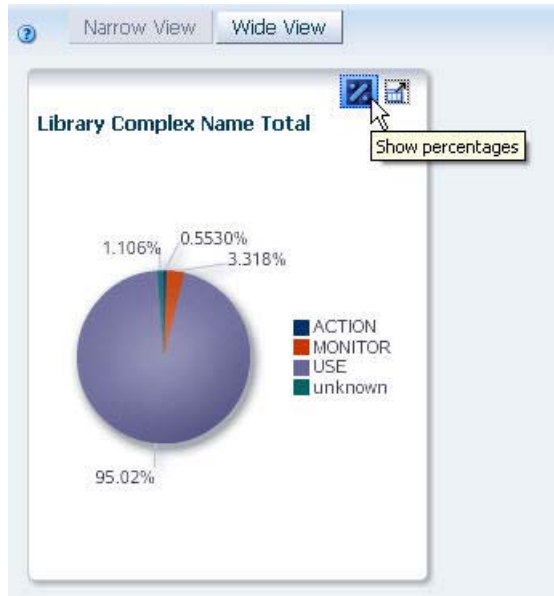
1. Click the Show Percentages icon on the Graph Pane Toolbar.



The graphed values change from actual to percent, and the bar chart changes to a pie chart.



2. The Show Percentages icon acts as a toggle. You can click it again to switch back to actual values.



▼ Graph Detail for a Pivot Table Attribute

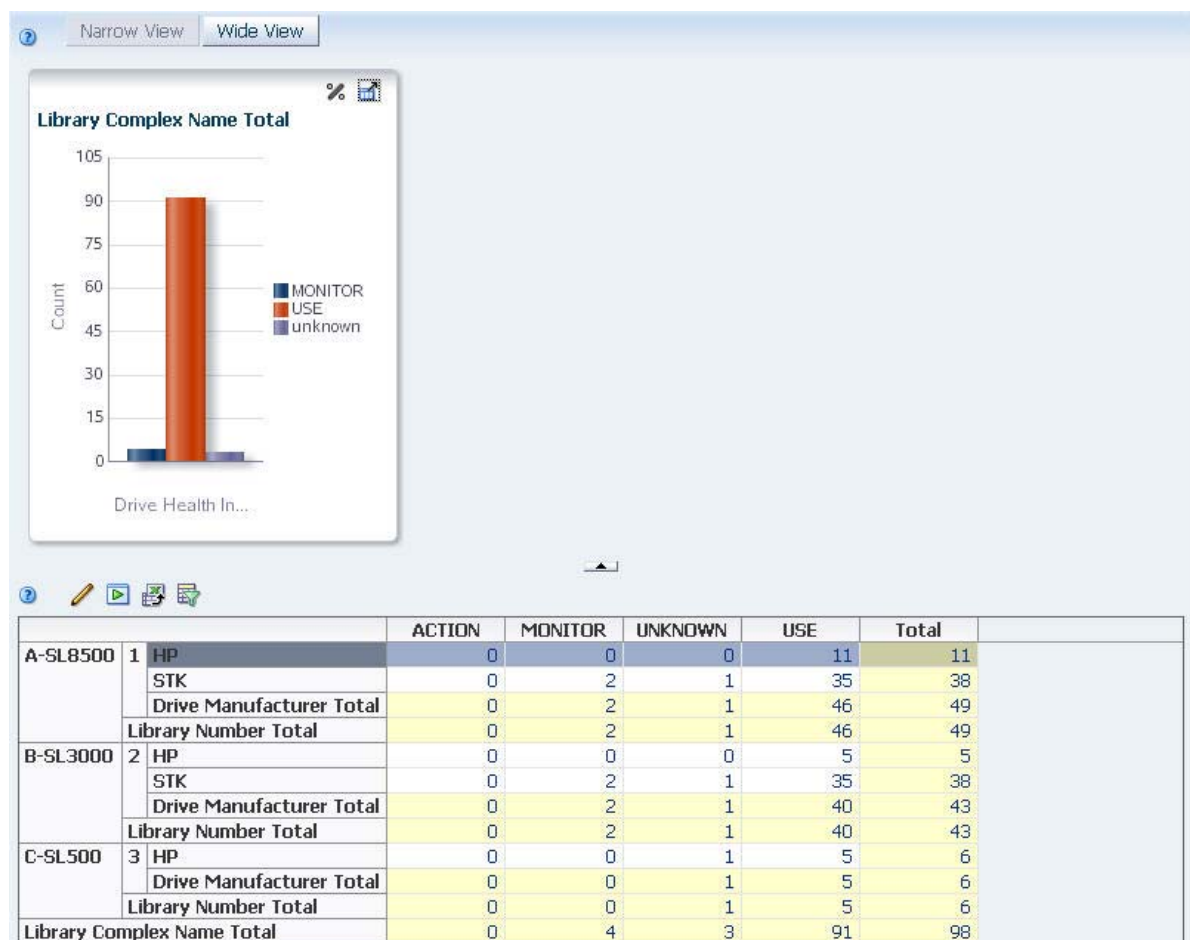
Note – This procedure applies to Analysis screens only.

Use this procedure to graph detail data for a pivot table attribute. This results in just one graph pane in the Graphics Area.

Note – You can graph attributes that appear on the row edge only, and only one row at a time. If you select a column edge attribute, or if you select multiple rows, you will see the error, “Please select one and only one row.”

1. In the pivot table, select a row that shows one value for an attribute.

Note – In this example, the “HP” value for the Drive Manufacturer attribute is selected.



2. Click the Apply Selection icon in the Pivot Table Toolbar.



The selected attribute value is displayed in a single graph pane.

▼ Graph Aggregated Data From a Pivot Table

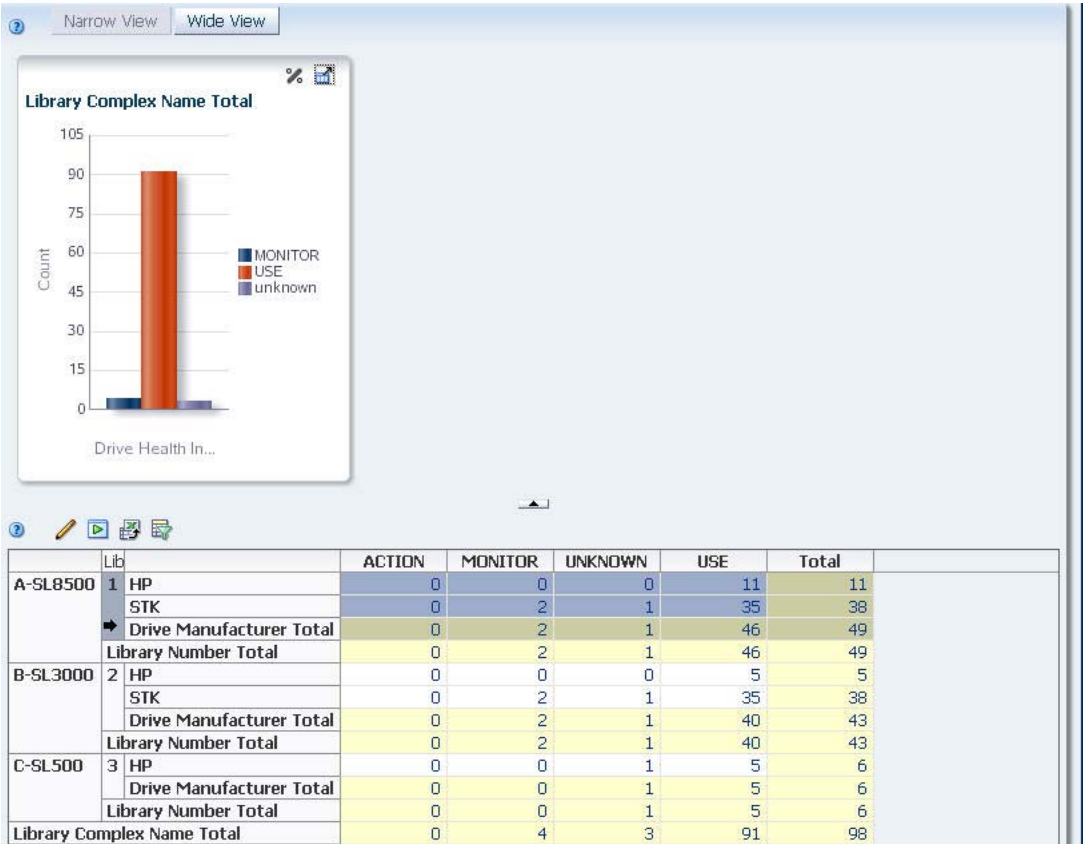
Note – This procedure applies to Analysis screens only.

Use this procedure to graph aggregated data from a pivot table. This results in multiple graph panes in the Graphics Area: one for the aggregated totals and one each for the attribute values included in the totals.

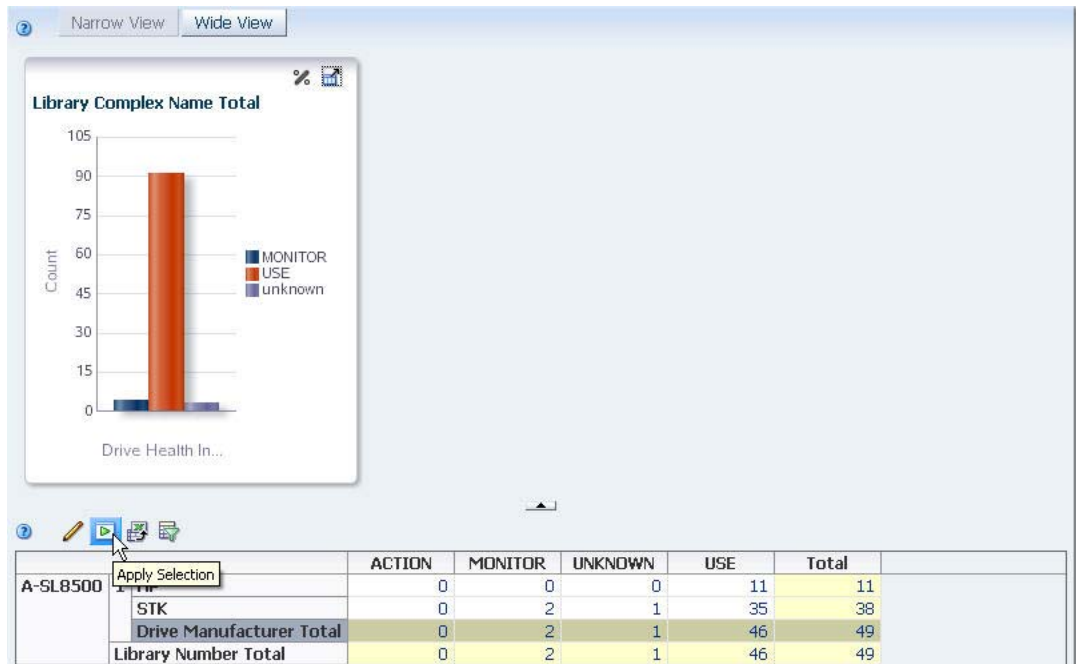
Note – You can graph attributes that appear on the row edge only, and only one row at a time. If you select a column edge attribute, or if you select multiple rows, you will see the error, “Please select one and only one row.”

- 1. In the pivot table, select a layer that aggregates multiple attribute values.

Note – In this example, the nesting layer is “Library Number”, which aggregates data for two drive manufacturers: “HP” and “STK”.



2. Click the Apply Selection icon in the Pivot Table Toolbar.



The Graphics Area is updated as follows:

- The left-most pane shows the summary data for the attribute.
- The panes to the right show detail for each attribute included in the aggregation, one pane per attribute. In this example, there are two detail panes: one for "HP" and one for "STK".



Table Displays

Tables appear in the Main Window of the following types of screens:

- Dashboard
- Overview
- Analysis

This section describes the types of tables available and provides instructions for modifying their display. The following topics are discussed:

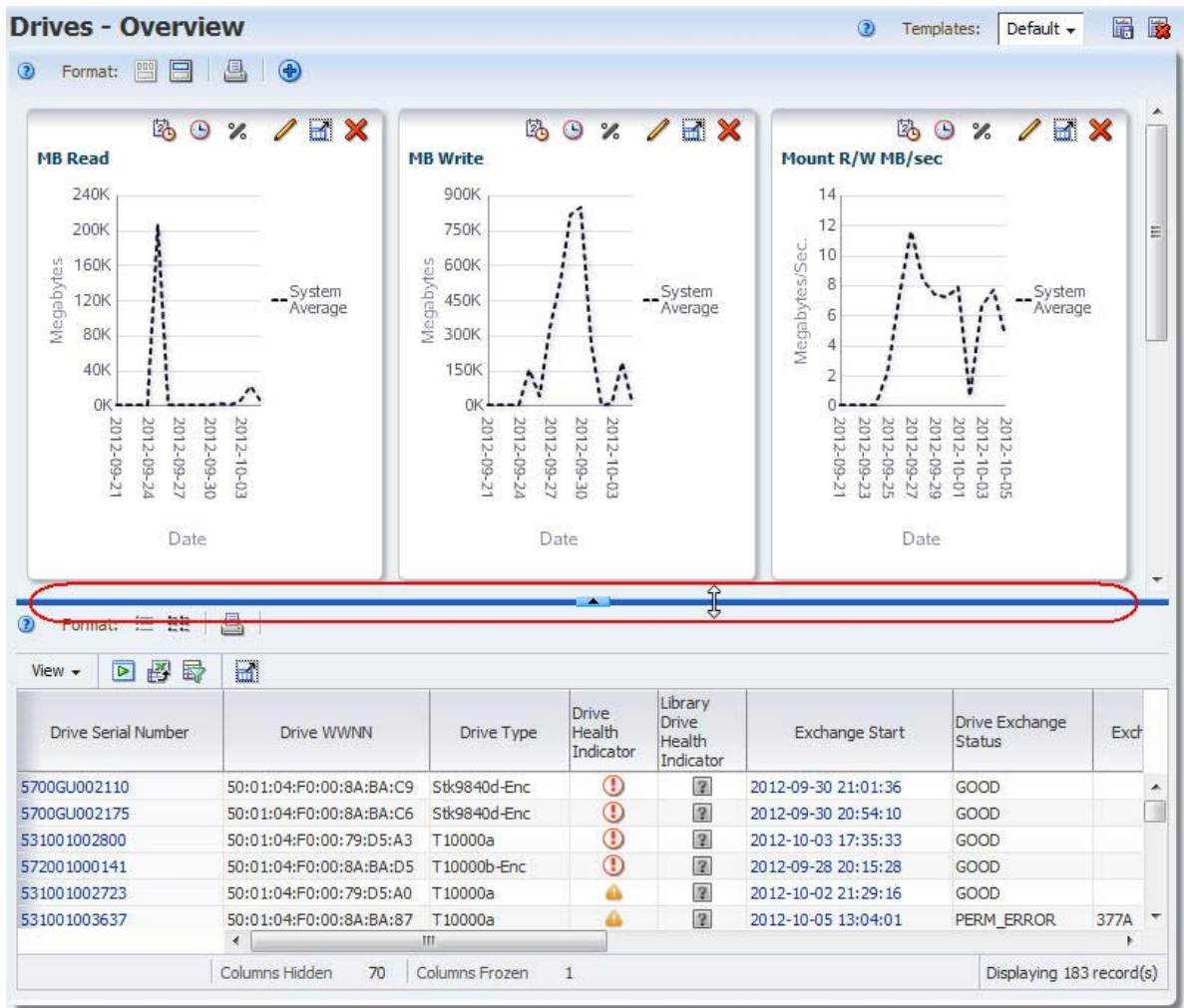
- [“Areas of the Main Window” on page 110](#)
- [“List View Tables” on page 111](#)
 - [“List View Table Layout” on page 112](#)
 - [“List View Table Toolbar” on page 113](#)
- [“Pivot Tables” on page 115](#)
 - [“Pivot Table Layout” on page 116](#)
 - [“Pivot Table Toolbar” on page 117](#)
- [“List View Table Display Tasks” on page 118](#)
- [“Pivot Table Layout Tasks” on page 140](#)
- [“Table Data Export Tasks” on page 156](#)

Areas of the Main Window

All STA Overview and Analysis screens follow the same general structure and layout. The Main Window is divided into a Graphics Area at the top, and a Table Area at the bottom. The border between the two areas is marked by the [Collapse Pane icon](#), which is visible at all times, and the [Resize control bar](#), which appears when you move the mouse over the space between the two areas.

The Table Area consists of either a List View table or a pivot table. See the following sections for details:

- [“List View Tables” on page 111](#)
- [“Pivot Tables” on page 115](#)



List View Tables

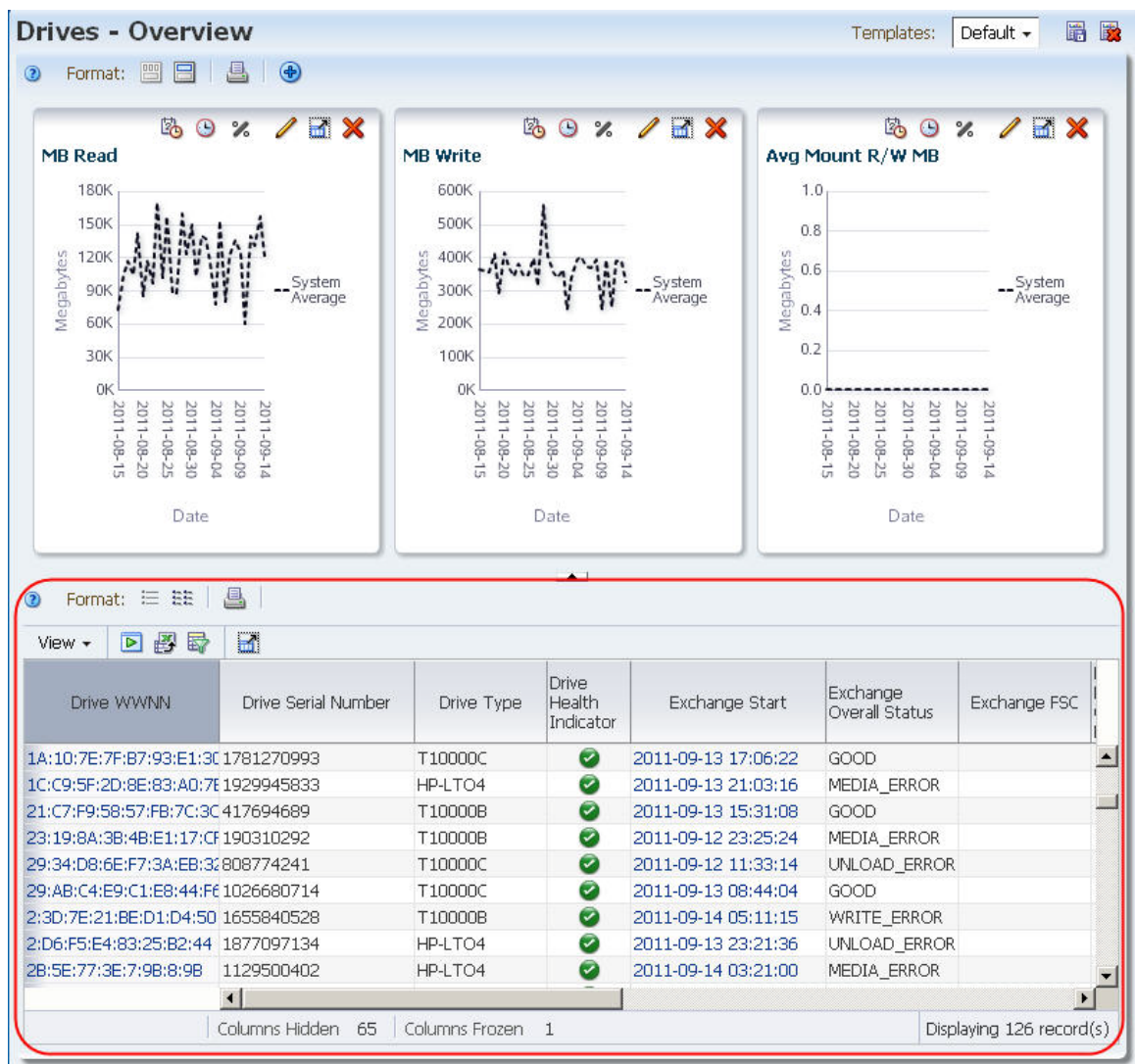
List View tables appear on Overview screens. They display data in rows and columns, with one row for each library resource or event (drive or exchange, for example) and one column for each attribute of that resource.

You can change the display of a List View table by rearranging, sorting, and resizing the columns.

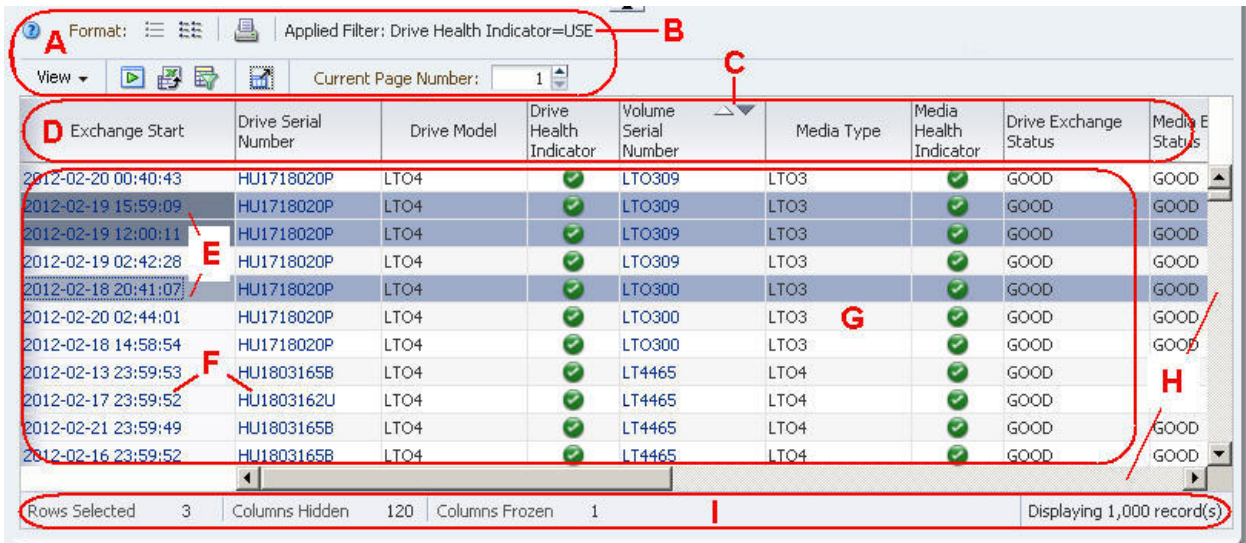
Some List View table cells contain text links. These links provide access to additional details about the selected item(s). See [“Resource ID Links” on page 50](#) for details.

Note – Data in STA tables is display only; no modification is allowed.

See [“List View Table Display Tasks” on page 118](#) for details on how you can modify the display of these tables.



List View Table Layout














	Name	Description
A	List View Table Toolbar	Provides direct access to the most frequently used table commands. See “List View Table Toolbar” on page 113 for descriptions of each icon.
B	Applied Filter	Appears only if the data in the table has been filtered. Description of the filter criteria that have been applied. An asterisk (*) next to a filter criterion indicates that it has been filtered exclusively. See “Filtering Overview” on page 164 for details. Note – Filter descriptions longer than 250 characters are truncated. You can hover the cursor over the text to display a tooltip containing the full description.
C	Sorted Column indicator	Appears if the table is sorted by this column. The dark arrowhead indicates the order of the sort (ascending or descending). See “Sort by a Column” on page 126 for details.
D	Column headings	Identifies the resource attribute displayed in the column.
E	Selected rows indicator	Highlighted in blue. Some List View Table Toolbar icons become active only when rows are selected.
F	Active links	Indicated by blue text. Click the link to display detail for that item. See “Display Detail for One or More Resources” on page 136 for details.
G	Data area	Area where the data cells are displayed.
H	Vertical and horizontal scrollbars	Appear only if the table is too large to display in the screen area. Allow you to scroll through the entire table display.
I	Table status line	Indicates the number of selected rows, hidden columns, frozen columns, and records displayed.

List View Table Toolbar

The **List View Table Toolbar** appears above all List View tables and provides direct access to the most frequently used activities.



Icon	Name	Description
	Help	Displays help for this area of the screen. Related Task: “Help”
	List View	Displays data in a list format, which is the default for List View tables. Related Task: “Display Detail for One or More Resources”
	Detail View	Displays detailed data for selected resources in a page format.
	Printable Table	Provides a “quick print” function. Displays a printable form of the currently displayed data in a separate browser tab or window. Related Task: “Perform a Table “Quick Print””
	Applied Filter	Displays filter criteria that have been applied to the table. If the table data is not filtered, this area is blank. Note – Filter descriptions longer than 250 characters are truncated. You can hover the cursor over the text to display a tooltip containing the full description. Related Topic: “Filtering Overview”
	View menu	Provides options for modifying the table display, such as sort order and hidden and revealed columns. Related Task: “List View Table Display Tasks”
	Apply Selection	Applies the currently selected table rows to the graphs in the Graphics Area. Related Task: “Add Library Resources to Graphs”
	Export	Exports the currently displayed table data to a file that can be viewed and edited with Microsoft Excel. Related Task: “Export Table Data to a Spreadsheet”
	Filter Data	Displays a dialog box that allows you to define, modify, or reset filter criteria and then apply them to the table. Related Task: “Use the Filter Data Dialog Box to Change a Table Filter”

Icon	Name	Description
	Detach	Detaches the table from the screen and displays it in a separate window in the browser foreground. Related Task: “Detach a Table”
	Current Page Number	Displays the current table page number and allows you to go directly to a specified page. Appears only for Exchanges, Cleaning Activities, and Notifications tables. Related Task: “Display a Specific Table Page”

Pivot Tables

STA provides real-time advanced data manipulation through pivot tables. Pivot tables appear on Analysis screens, and they show data that is aggregated into different categories, or “layers”. Layers can be nested within one another along the table column and row edges. By adding and removing layers and nesting layers in different ways, you can break down the table data into different aggregations without the need to open multiple windows or export data to a spreadsheet.

For example, you can use pivot tables to look at the health of drives, not just by library location, but also by drive type, firmware level, and many other attributes. The following table, from the **Drives – Analysis** screen, shows the number of occurrences of each drive health indicator (ACTION, MONITOR, etc.), aggregated by drive manufacturer, library, and library complex.

Note – A pivot table layer represents a resource attribute, such as drive health or media type. Pivot tables can display two to seven attributes, total. Two is the minimum because there must be one for each edge.

			ACTION	MONITOR	UNKNOWN	USE	Total
A-SL8500	1	HP	0	0	0	4	4
		STK	1	3	1	36	41
	Drive Manufacturer Total		1	3	1	40	45
	Library Number Total		1	3	1	40	45
B-SL3000	2	HP	1	2	0	7	10

- There is one column layer on the top edge of the table: Drive Health Indicator.
- There are three row layers on the left edge of the table: Library Complex, Library Number, and Drive Manufacturer. The layers are nested from left (outer) to right (inner). In this example, Library Complex is the outermost layer, and Drive Manufacturer is the innermost.
- Individual heading cells identify the different values for the layer attribute. The column layer, Drive Health Indicator, has the following values: ACTION, MONITOR, UNKNOWN, and USE; the outermost row layer, Library Complex Name, has the following values: A-SL8500, B-SL3000, and C-SL500.
- Counts are automatically subtotaled for each layer, which in this case are Drive Manufacturer Total, Library Number Total, and Library Complex Total.

The aggregate counts in each pivot table cell are active links. These links provide access to additional details about the items included in the count. See [“Aggregate Count Links” on page 50](#) for details.

By aggregating data, pivot tables allow you to see data patterns that might not be obvious in a regular List View table. The format of a pivot table is dynamic in that you can change the way the data is organized simply by dragging and dropping—“pivoting”—the layers from one area to another. Moving a layer within the same edge (shifting layers within the row edge, for example) changes the nesting order. Moving a layer to the opposite edge (moving a layer from row to column edge, for example) adds the layer there.

See [“Pivot Table Layout Tasks”](#) on page 140 for details on how you can modify their display.

Pivot Table Layout

			ACTION	EVALUATE	MONITOR	UNKNOWN	USE	Total
SL3000_571000200032	1	HP	0	0	0	8	4	12
		IBM	0	0	0	10	0	10
		STK	0	0	0	1	11	12
		Drive Manufacturer Total	0	0	0	19	15	34
		Drive Library Number Total	0	0	0	19	15	34
SL8500_1	1	HP	0	0	0	7	0	7
		IBM	0	0	0	11	0	11
		STK	0	0	0	12	7	19
		Drive Manufacturer Total	0	0	0	30	7	37
		Drive Library Number Total	0	0	0	30	7	37
Library Complex Name Total			0	0	0	49	22	71







A	Pivot Table Toolbar	Provides direct access to the most frequently used commands. See “Pivot Table Toolbar” on page 117 for descriptions of each icon.
B	Column layer headings	Arranged along the top edge of the table. Layers are nested from top to bottom within the heading area. Individual heading cells identify the different values for the layer attribute.
C	Row layer headings	Arranged along the left edge of the table. Layers are nested from left to right within the heading area. Individual heading cells identify the different values for the layer attribute.
D	Layer subtotal	Subtotals are automatically provided for each row and column layer. Subtotal cells are highlighted in light yellow.
E	Data area	Area where the data cells are displayed. The data values are aggregate counts and are all active links. Aggregate cells are white.
F	Horizontal scrollbar	Appears only if the table is too large to display in the screen area. Allows you to scroll through the entire table display.
G	Table status line	Indicates how many rows or cells are selected.
	Applied Filter (not shown)	Appears only if the data in the table has been filtered. Indicates the filter criteria that have been applied. See “Filtering Overview” on page 164 for details.

Note – Filter descriptions longer than 250 characters are truncated. You can hover the cursor over the text to display a tooltip containing the full description.

Pivot Table Toolbar

The **Pivot Table Toolbar** appears above all pivot tables and provides direct access to the most frequently used pivot table commands.



Icon	Name	Description
	Help	Displays help for this area of the screen. Related Task: “Help”
	Change Attributes	Displays a dialog box that allows you to show, hide, or reorder attributes in the table. Related Task: “Add Library Resources to Graphs”
	Apply Selection	Applies the currently selected table rows to the graphs in the Graphics Area. Related Task: “Add Library Resources to Graphs”
	Export	Exports the currently displayed table data to a file that can be viewed and edited with Microsoft Excel. Related Task: “Export Table Data to a Spreadsheet”
	Filter Data	Displays a dialog box that allows you to define, modify, or reset filter criteria and then apply them to the table. Related Task: “Use the Filter Data Dialog Box to Change a Table Filter”
	Applied Filter	Displays filter criteria that have been applied to the table. If the table data is not filtered, this area is blank. Note – Filter descriptions longer than 250 characters are truncated. You can hover the cursor over the text to display a tooltip containing the full description. Related Topic: “Filtering Overview”

List View Table Display Tasks

The following tasks provide instructions for modifying the display of List View tables. See [“List View Tables” on page 111](#) for a description of the features and benefits of List View tables.

Task	Page
Detach a Table	119
Move a Column	120
Change the Width of a Column	123
Sort by a Column	126
Sort by Multiple Columns	128
Hide and Reveal Columns	131
Display a Specific Table Page	134
Display Detail for One or More Resources	136
Perform a Table “Quick Print”	138

▼ Detach a Table

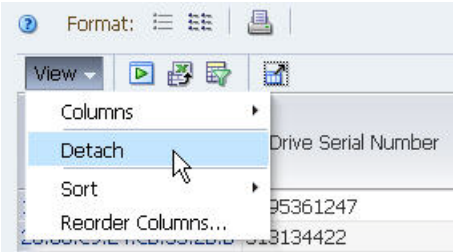
Detaching a table separates it from the STA screen and displays it in a separate window in the browser foreground. Once you have detached a table, you can resize it and move it anywhere within the browser window.

1. Use either of the following methods to detach the table:

- **By Mouse:** Click the **Detach** icon in the Table Toolbar.



- **By Menu:** In the Table Toolbar, select **View > Detach**.



The table is displayed in a separate window in the screen foreground. The rest of the screen is dimmed in the background. The table title displays “Detached Table”.

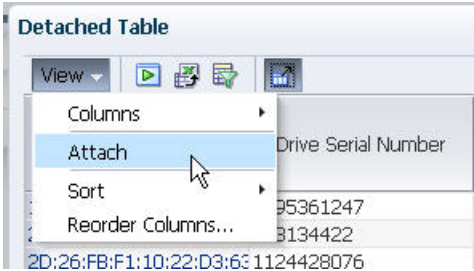


2. To restore the table to its normal position, use either of the following methods:

- **By Mouse:** Click the **Close** button in the Table Toolbar.



- **By Menu:** In the Table Toolbar, select **View > Attach**.



▼ Move a Column

Use this procedure to reorder columns in a table.

Note – The column on the far-left is fixed and therefore cannot be moved. When you move the mouse over the header of this column, the cursor changes to the [Select fixed column](#) cursor.

By mouse

1. Click in the heading of the column you want to move.

The entire column is highlighted, indicating it has been selected.

Drive Serial Number	Drive Type	Drive Health Indicator
2114917433	T10000B	USE
2053683447	T10000C	USE

2. Click and drag the column heading; the cursor changes to the [Move object](#) cursor.

Drive WWNN	Drive Type	Drive Serial Number
D4:62:CD:54:F4:D8:12:10	T10000B	2114917433
61:8D:F5:F3:4F:2D:26:61	T10000C	2053683447
58:86:51:33:8D:F7:6F:FF	T10000C	1503767435

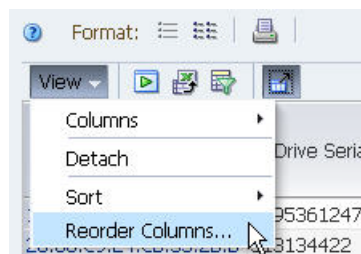
3. Once the column is close to the position you want, release the cursor.

The column snaps into place. You do not need to position it exactly.

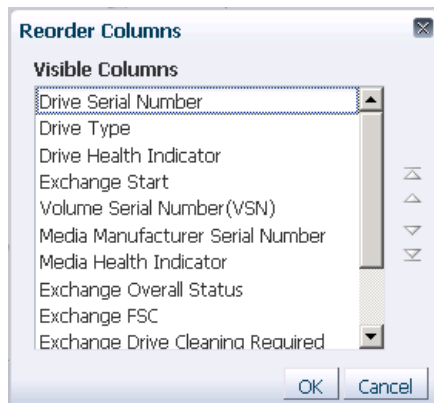
Drive WWNN	Drive Type	Drive Serial Number
D4:62:CD:54:F4:D8:12:10	T10000B	2114917433
61:8D:F5:F3:4F:2D:26:61	T10000C	2053683447

By menu

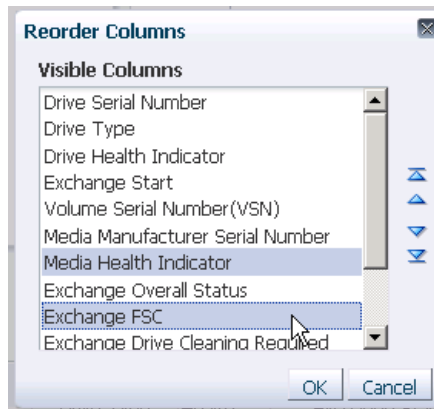
1. In the Table Toolbar, select **View > Reorder Columns**.





The **Reorder Columns** dialog box appears. All revealed, moveable columns are listed in their current order on the screen. Fixed and hidden columns are not listed.





2. In the list, select the columns you want to move. This dialog box supports **Multi-select**.



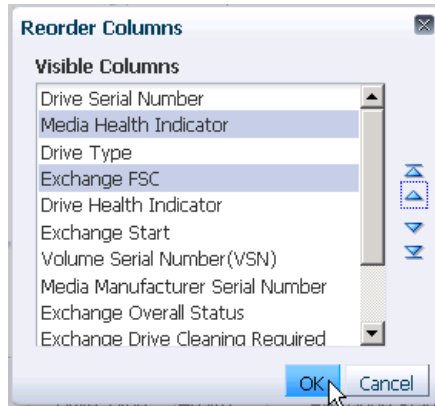
3. Click one of the arrows on the right side of the screen to move the items.

 or  Move the selected item(s) up or down, one place at a time.

 or  Move the selected item(s) to the top or bottom of the list.

Moving items up the list causes the columns to be moved to the left in the table display; moving them down the list causes the columns to be moved to the right.

- Repeat this process until the Visible Columns list is arranged the way you want, and then click OK.



The columns are reordered according to your selections.

Drive WWNN	Drive Serial Number	Media Health Indicator	Drive Type	Exchange FSC	Drive Health Indicator
1A:10:7E:7F:B7:93:E1:3C	1781270993	✔	T10000C		✔
1C:C9:5F:2D:8E:83:A0:7E	1929945833	⚠	HP-LTO4		✔

▼ Change the Width of a Column

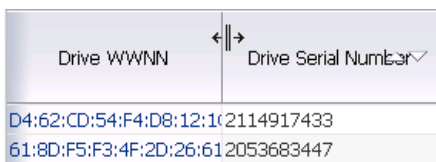
Use this procedure to adjust the width of a table column.

By mouse

1. Move the mouse over the right-hand border of the column heading until the **Resize column** cursor appears.

Note – Columns are resized from the right side only.

Note – You cannot resize a column from the data rows area.



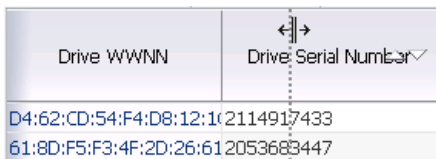
Drive WWNN	Drive Serial Number
D4:62:CD:54:F4:D8:12:1C	2114917433
61:8D:F5:F3:4F:2D:26:61	2053683447

Note – In this example, the Drive WWNN column will be resized, and the width of the Drive Serial Number column will not change.

2. Click and drag the border, as follows:

- To make the column narrower, drag to the left.
- To make the column wider, drag to the right.

A dotted vertical line appears to indicate the pending width. You can move the border back and forth as much as you want until you get the right width.



Drive WWNN	Drive Serial Number
D4:62:CD:54:F4:D8:12:1C	2114917433
61:8D:F5:F3:4F:2D:26:61	2053683447

3. When the column is the width you want, release the cursor.

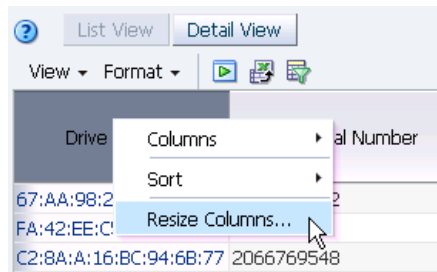
The column is resized. All other columns retain their original widths.



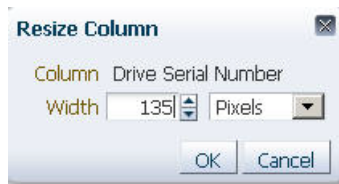
Drive WWNN	Drive Serial Number
D4:62:CD:54:F4:D8:12:1C	2114917433
61:8D:F5:F3:4F:2D:26:61	2053683447

By menu

1. Right-click the heading of the column you want to resize, and select **Resize Columns**.

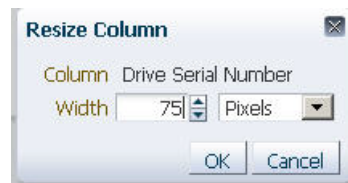


The **Resize Column** dialog box appears, displaying the current width of the column.



2. Complete the dialog box in either absolute or relative units.
 - For absolute units, do the following:
 - i. In the menu, select **Pixels**.
 - ii. In the **Width** field, enter the number of pixels for the new width.

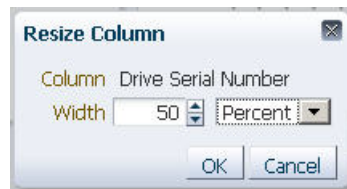
Note – You can also use the spinbox up-arrow and down-arrow to increase or decrease the value in the Width field.



- For relative units, do the following:
 - i. In the menu, select **Percent**.
 - ii. In the **Width** field, enter the percent change you want to make to the current column width.

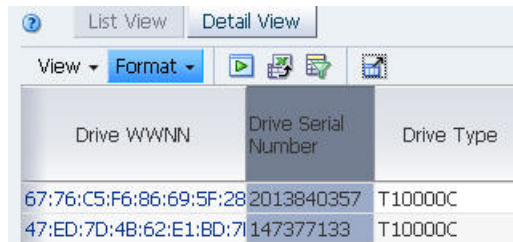
Note – You can also use the spinbox up- and down-arrows to increase or decrease the value in the Width field.

This percentage will be multiplied by the current width to calculate the new width. For example: an entry of 200 doubles the current width; an entry of 25 reduces the current width to one-quarter of what it is now.



3. Verify the settings are the way you want, and then click OK.

The column is resized. All other columns retain their original widths.



Drive WWNN	Drive Serial Number	Drive Type
67:76:C5:F6:86:69:5F:28	2013840357	T10000C
47:ED:7D:4B:62:E1:BD:71	147377133	T10000C

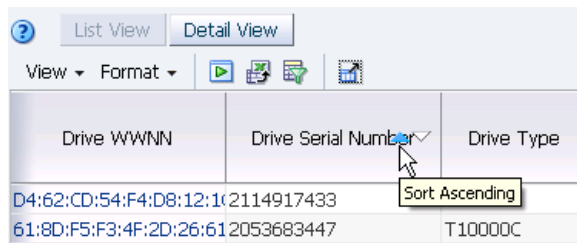
▼ Sort by a Column

Use this procedure to sort the table by a single column. To do a nested sort using multiple columns, see [“Sort by Multiple Columns” on page 128](#).

Note – For screens that include a “Current Page Number” field (**Libraries – Exchanges**, **Drives – Cleaning Activities**, and **Notifications – Overview**), the sort applies only to the records displayed on the current page.

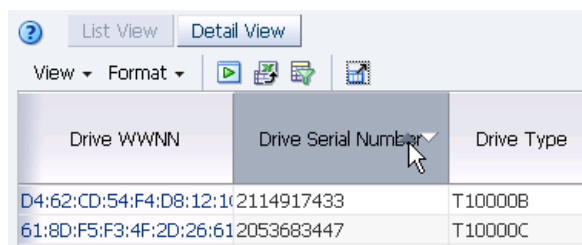
By mouse

1. Move the mouse over the heading of the column you want to sort until the sort arrowheads appear.



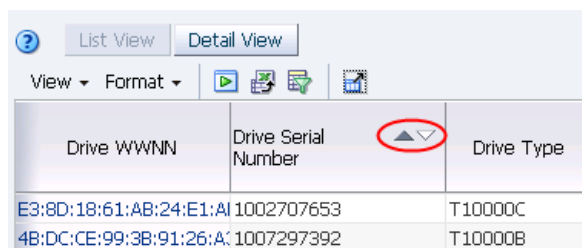
Drive WWNN	Drive Serial Number	Drive Type
D4:62:CD:54:F4:D8:12:1	2114917433	
61:8D:F5:F3:4F:2D:26:61	2053683447	T10000C

2. Click either the Ascending or Descending arrowhead, depending on the order you want the data to be sorted. In this example, the Ascending arrow is selected.



Drive WWNN	Drive Serial Number	Drive Type
D4:62:CD:54:F4:D8:12:1	2114917433	T10000B
61:8D:F5:F3:4F:2D:26:61	2053683447	T10000C

The table data is resorted according to your selection, and the [Sorted Column indicator](#) highlights the sort order (ascending, in this example).

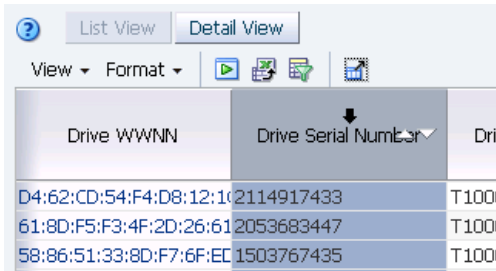


Drive WWNN	Drive Serial Number	Drive Type
E3:8D:18:61:AB:24:E1:A1	1002707653	T10000C
4B:DC:CE:99:3B:91:26:A1	1007297392	T10000B

By menu

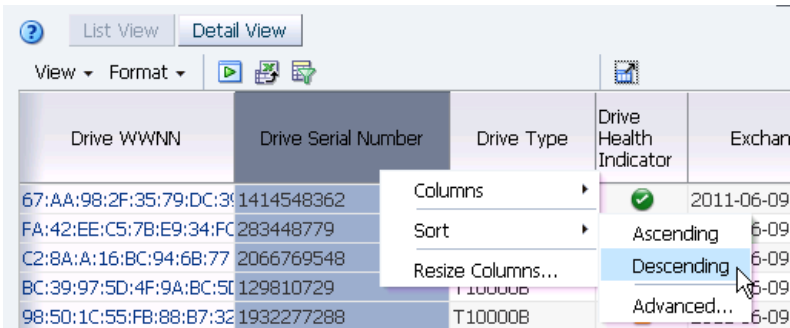
1. Click in the heading of the column you want to sort.

The entire column is highlighted, indicating it has been selected.

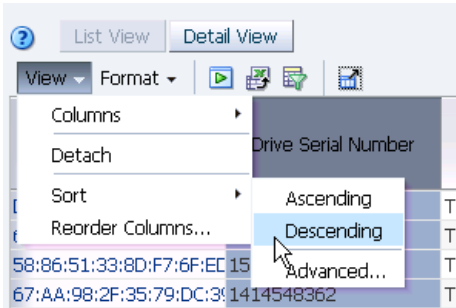


2. Make the menu selection using either of the following methods:

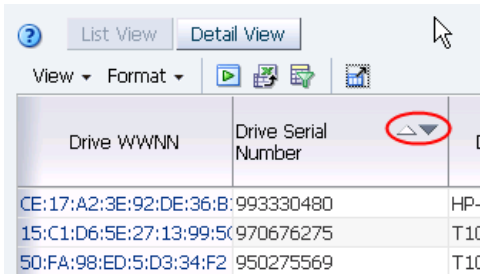
- Right-click the column heading and select **Sort > Ascending** or **Sort > Descending**.



- In the **Table Toolbar**, select **View > Sort > Ascending** or **View > Sort > Descending**.



3. The table data is resorted according to your selection, and the **Sorted Column indicator** highlights the sort order (descending, in this example).



▼ Sort by Multiple Columns

Use this procedure to do a nested sort, using up to three columns.

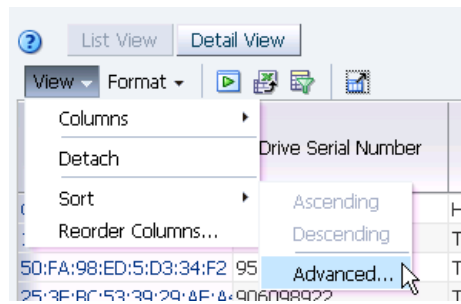
Note – For screens that include a “Current Page Number” field (**Libraries – Exchanges**, **Drives – Cleaning Activities**, and **Notifications – Overview**), the sort applies only to the records displayed on the current page.

Note – For screens that include a “Current Page Number” field (**Libraries – Exchanges**, **Drives – Cleaning Activities**, and **Notifications – Overview**), the sort applies only to the records displayed on the current page.

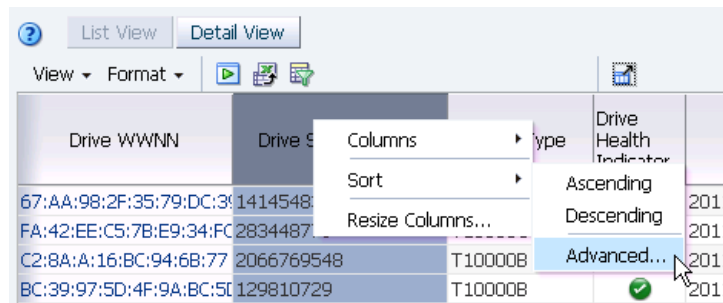
Note – This activity can only be done by menu, not by mouse.

1. Make the menu selection using either of the following methods:

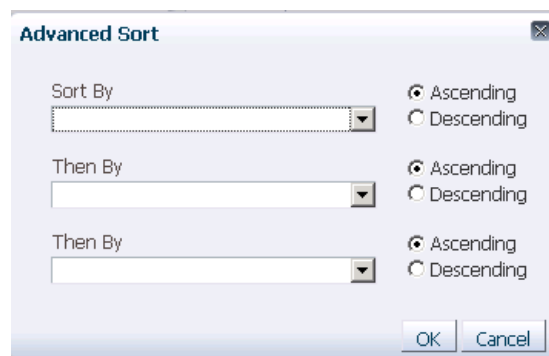
- In the **Table Toolbar**, select **View > Sort > Advanced**.



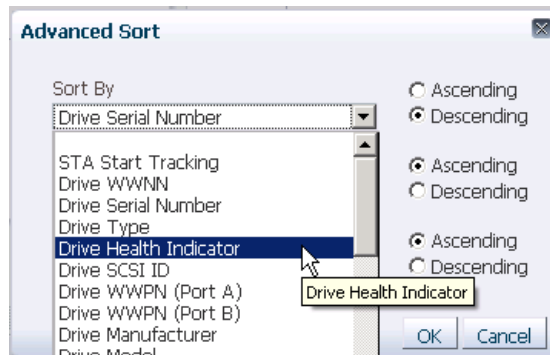
- Right-click in any column heading and select **Sort > Advanced**.



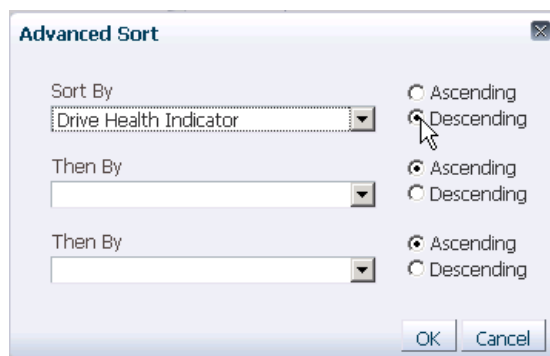
The **Advanced Sort** dialog box appears.



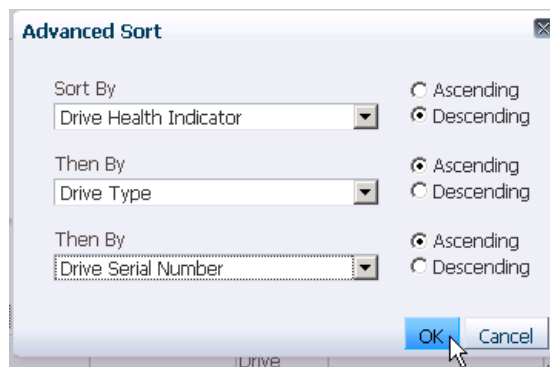
- In the Sort By menu, select the column for the primary sort. If a default value has been supplied, you can override it.



- Select either the Ascending or Descending options to indicate the sort order you want to use.

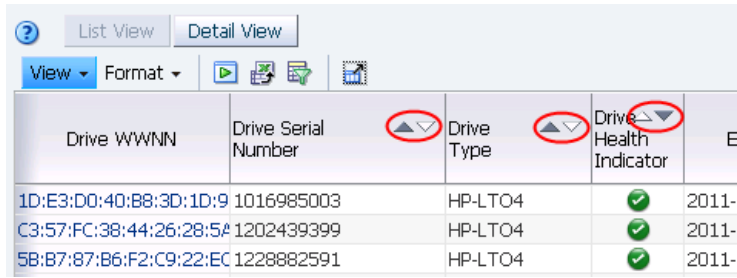


- Repeat this process for the remaining fields on the screen to indicate the criteria for up to two additional nested sorts. Click OK.



List View Table Display Tasks

The table data is sorted according to your selections, and the column headers indicate the sort criteria.



Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	E
1D:E3:D0:40:B8:3D:1D:9	1016985003	HP-LTO4	✓	2011-
C3:57:FC:38:44:26:28:5A	1202439399	HP-LTO4	✓	2011-
5B:87:87:B6:F2:C9:22:EC	1228882591	HP-LTO4	✓	2011-

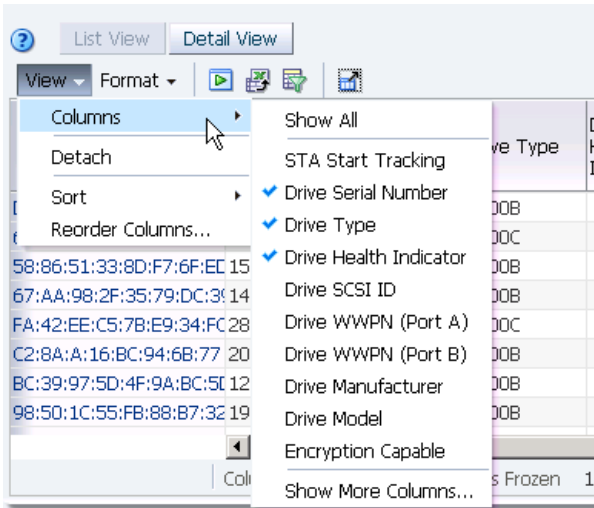
▼ Hide and Reveal Columns

Use this procedure to change which columns are revealed in a table and which are hidden.

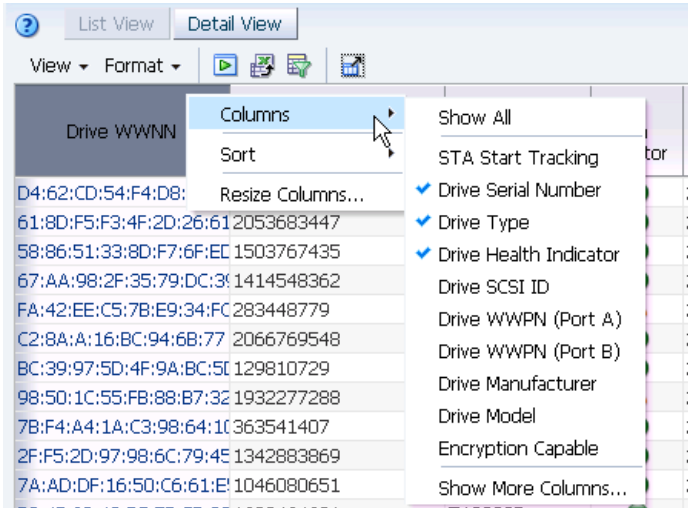
Note – This task can done only by menu, not by mouse.

1. Display the table column list using either of the following methods:

- In the **Table Toolbar**, select **View > Columns**.



- Right-click any column heading and select **Columns**.



The menu displays a list of available columns in alphabetical order; up to 10 items are shown in this list. The columns currently included in the table are indicated by check marks.

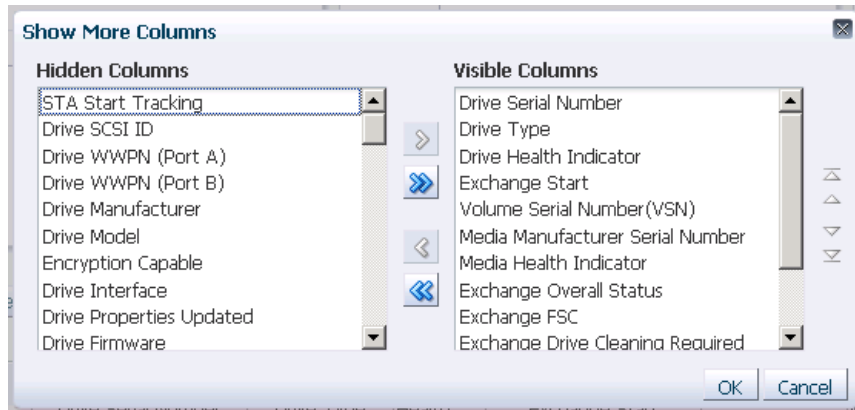
2. To change the table display, do one of the following:

- Select **Show All** to add all columns to the table. See [Step 7](#).

Note – This will result in a very wide table.

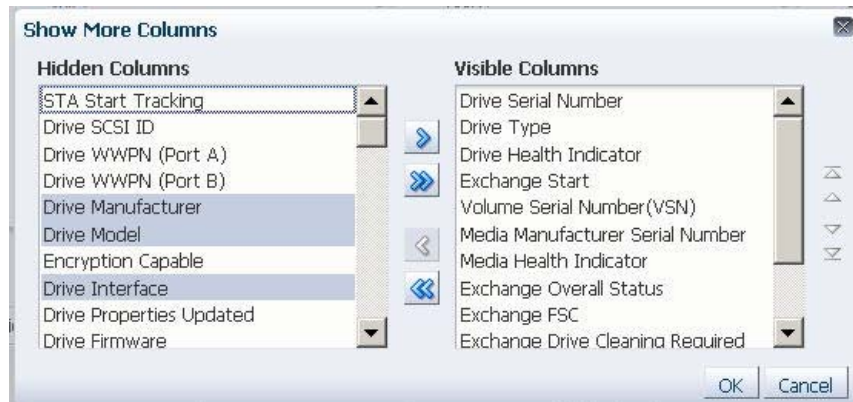
- Select a column on the list to add it to the table, or deselect a column to remove it. See [Step 7](#).
- Select **Show More Columns** to display the complete list of all columns available for the table. See [Step 3](#).

3. The **Show More Columns** dialog box appears.





The Visible Columns list identifies the columns currently included in the table and their order. The Hidden Columns list identifies columns that are currently hidden; they are listed in the order defined in the current template.

4. Arrange the columns so that the ones you want to display are included in the Visible Columns list and the ones you want to remove are in the Hidden Columns list.
- a. Select the columns you want to move from one list to the other. This dialog box supports [Multi-select](#).



b. Click an arrow to move the items, as follows:

 or  Move the selected item(s) to the indicated list.

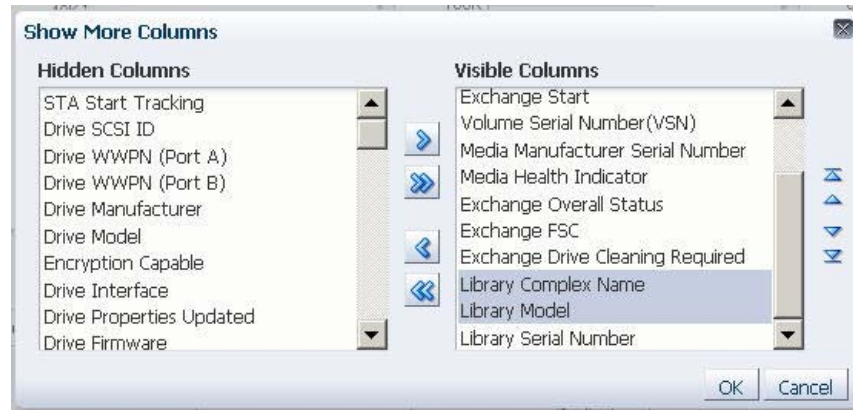
 or  Move all items from one list to the other.

c. Repeat this process until both lists include the items you want.



5. Optionally, you can reorder the items in the Visible Columns list by using the reorder arrows on the right side of the dialog box.



Moving items up the list causes the columns to be moved to the left in the table display; moving them down the list causes the columns to be moved to the right.

- a. Select the items you want to move. This dialog box supports **Multi-select**.



- b. Click an arrow to move the items, as follows:

 or  Move the selected item(s) up or down, one place at a time.

 or  Move the selected item(s) to the top or bottom of the list.

- c. Repeat this process until the Visible Columns list is arranged the way you want.

6. Verify that the dialog box is arranged the way you want, and then click OK.
7. The table display is updated according to your selections.

▼ Display a Specific Table Page

Use this procedure to go directly to a specific page on **Libraries – Exchanges**, **Drives – Cleaning Activities**, or **Notifications – Overview** screens.

Because a large number of exchanges and notifications can be generated in a short time, these screens can display many records. The records are therefore grouped into “pages”; each page consists of 1,000 records sorted as follows:

- **Libraries – Exchanges** and **Drives – Cleaning Activities** screens — Reverse order of “Exchange Start” time (most recent exchanges first)
- **Notifications – Overview** screen — Reverse order of “Date SNMP Trap Received” time (most recent traps first)

Note – This activity can be done only by mouse, not by menu.

1. **Move the cursor over the record count area on the right side of the Table Status line.**

The cursor changes from the default pointer to a text pointer.

The screenshot shows a table with the following columns: Exchange Start, Drive Serial Number, Drive Model, Drive Health Indicator, Volume Serial Number, Media Type, Media Health Indicator, Drive Exchange Status, and Media Exch Status. The table contains several rows of data. At the bottom right of the table, the status bar displays "Displaying 1,000 record(s)", where the "1,000" is circled in red.

Exchange Start	Drive Serial Number	Drive Model	Drive Health Indicator	Volume Serial Number	Media Type	Media Health Indicator	Drive Exchange Status	Media Exch Status
2012-06-04 17:33:15	1310145315	LTO4	✓	AAB606	LTO4	✓	GOOD	GOOD
2012-06-04 17:29:02	576004000812	T10000C	✓	TTC173	T10000C	✓	GOOD	GOOD
2012-06-04 17:29:53	1310145315	LTO4	✓	AAB606	LTO4	✓	GOOD	GOOD
2012-06-04 17:27:52	1310145315	LTO4	✓	AAB606	LTO4	✓	GOOD	GOOD

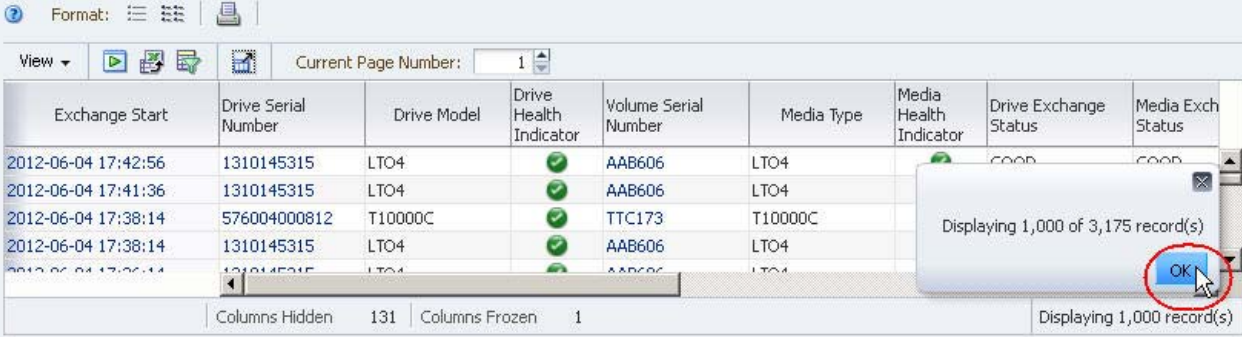
2. **Click anywhere within the record count area.**

A message appears indicating the total number of records in the table.

The screenshot shows the same table as above. A message box is overlaid on the table, displaying "Displaying 1,000 of 3,175 record(s)" with an "OK" button. The message box is circled in red.

Exchange Start	Drive Serial Number	Drive Model	Drive Health Indicator	Volume Serial Number	Media Type	Media Health Indicator	Drive Exchange Status	Media Exch Status
2012-06-04 17:42:56	1310145315	LTO4	✓	AAB606	LTO4	✓	GOOD	GOOD
2012-06-04 17:41:36	1310145315	LTO4	✓	AAB606	LTO4	✓	GOOD	GOOD
2012-06-04 17:38:14	576004000812	T10000C	✓	TTC173	T10000C	✓	GOOD	GOOD
2012-06-04 17:38:14	1310145315	LTO4	✓	AAB606	LTO4	✓	GOOD	GOOD

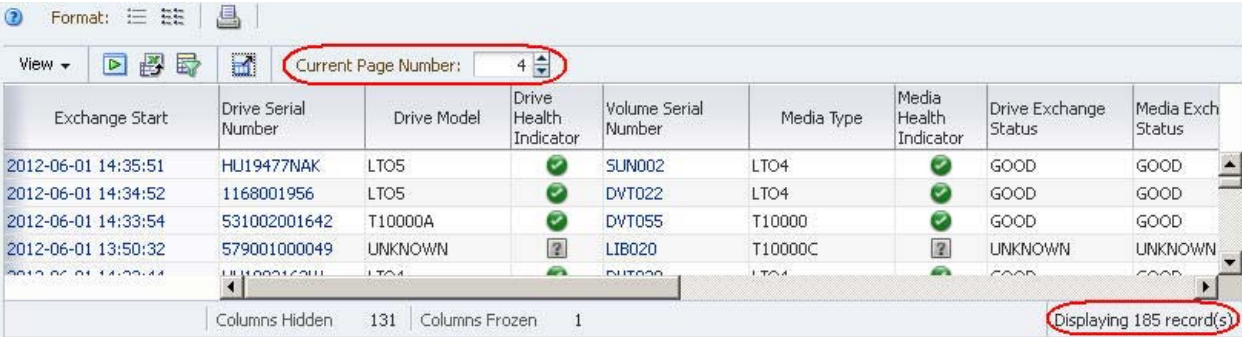
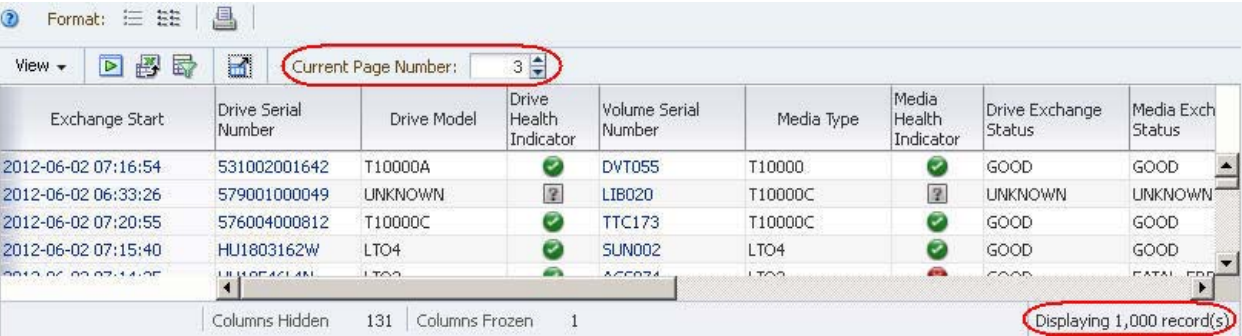
3. **Click OK to dismiss the message.**



4. In the Current Page Number field in the Table Toolbar, enter the page number you want to display and then press Enter.

The specified table page is displayed.

Note – Each page but the last contains 1,000 records. Therefore, each page but the last indicates “Displaying 1,000 records” in the record count area of the Table Status Line. The examples below show pages 3 and 4 of a table containing 3,185 total records.

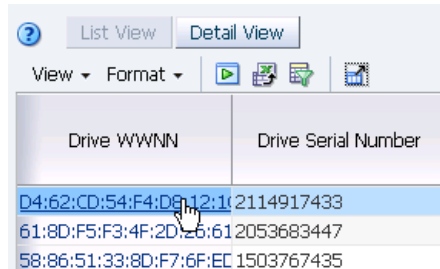


▼ Display Detail for One or More Resources

Use this procedure to display detailed information for one or more resources.

1. Select the resource(s) you want to display, as follows:

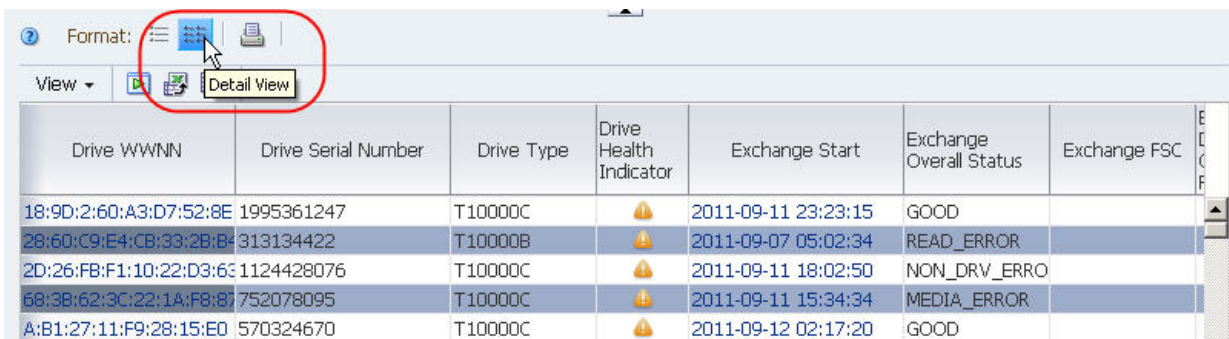
- If you want to display detail for just one resource, click the active link. Active links are indicated by blue text.



Drive WWNN	Drive Serial Number
D4:62:CD:54:F4:D6:12:1	2114917433
61:8D:F5:F3:4F:2D:26:61	2053683447
58:86:51:33:8D:F7:6F:EC	1503767435

- If you want to display detail for multiple resources, use Multi-select to select the rows the resources are in, and then click **Detail View**. (See “Multi-select” on page 47 for details.)


Note – To select a row, click in any column except one that contains an active link; if you click in a column with an active link, you will activate the link.



Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Exchange Overall Status	Exchange FSC
18:9D:2:60:A3:D7:52:8E	1995361247	T10000C	⚠	2011-09-11 23:23:15	GOOD	
28:60:C9:E4:CB:33:2B:B4	313134422	T10000B	⚠	2011-09-07 05:02:34	READ_ERROR	
2D:26:FB:F1:10:22:D3:63	1124428076	T10000C	⚠	2011-09-11 18:02:50	NON_DRV_ERRO	
68:3B:62:3C:22:1A:F8:87	752078095	T10000C	⚠	2011-09-11 15:34:34	MEDIA_ERROR	
A:B1:27:11:F9:28:15:E0	570324670	T10000C	⚠	2011-09-12 02:17:20	GOOD	

2. The Detail View screen appears.

If you have selected multiple resources, they are displayed, in order of ID. The ID is displayed in the header of each record. Use the scrollbar to see all the resources.



Details for Drive 28:60:C9:E4:CB:33:2B:B4		Monitored since 2011-07-17	
Drive			
Drive WWNN :	28:60:C9:E4:CB:33:2B:B4	Volume Serial Number (VSN) :	
Drive Serial Number :	313134422	Media Manufacturer Serial Number :	
Drive Type :	T10000B	Media Health Indicator :	UNKNOWN
Drive Health Indicator :	MONITOR	WORM VolSafe Media :	Unknown
Drive ID :	33	Cleaning Media :	Unknown
Drive WWPN (Port A) :	A3:E4:4D:9A:4D:52:B:19	Most Recent Exchange	
Drive WWPN (Port B) :		Exchange Start :	2011-09-07 05:02:34
Drive Model :	STKT10000B	Exchange Flashed Time :	20:36:18
Drive Manufacturer :	STK		
Encryption Capable :	Yes		

3. You can follow any active links on this screen to get to additional information.

On this screen, active links are indicated by underlined blue text. In this example, the Volume Serial Number and Exchange Start fields are active links.

See “Use Resource ID Links to Navigate” on page 58 for additional information.



4. To return to the List View table, click List View.



▼ Perform a Table “Quick Print”

Use this procedure to perform a “quick print” of currently displayed table data.

Note – For the List View, this function provides just a snapshot of the current display in the table area; as such, only a subset of table records and columns may be included. To print a true rendering of all table data, it is recommended that you export the table data to a file and print from there. See [“Export Table Data to a Spreadsheet” on page 157](#).

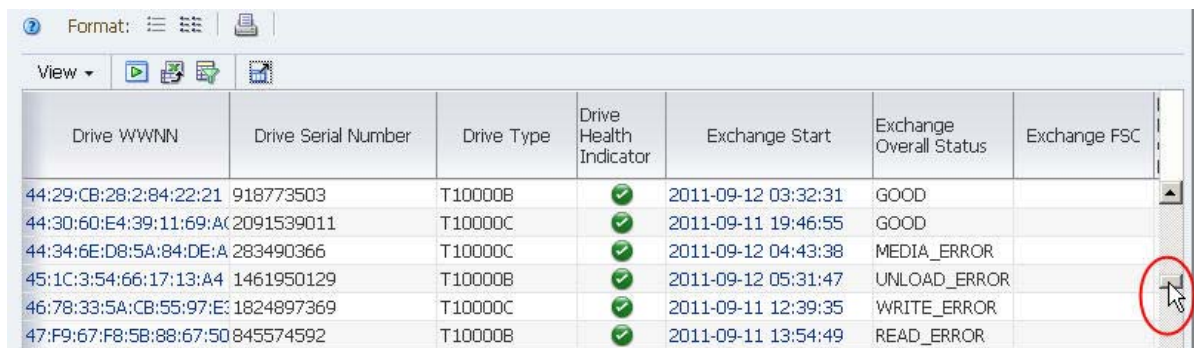
Note – For the Detail View, this function includes all data in the table area.

Note – Depending on the width of the display, you may need to specify landscape layout when you print.

1. Display the data that you want to print, as follows:

- To print data in the List View format, scroll to the area of the table that you want to print.

Note – This step is necessary because the quick print function displays only a subset of table records, starting with the first row displayed on the screen.



Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Exchange Overall Status	Exchange FSC
44:29:CB:28:2:84:22:21	918773503	T10000B	✓	2011-09-12 03:32:31	GOOD	
44:30:60:E4:39:11:69:AC	2091539011	T10000C	✓	2011-09-11 19:46:55	GOOD	
44:34:6E:D8:5A:84:DE:A	283490366	T10000C	✓	2011-09-12 04:43:38	MEDIA_ERROR	
45:1C:3:54:66:17:13:A4	1461950129	T10000B	✓	2011-09-12 05:31:47	UNLOAD_ERROR	
46:78:33:5A:CB:55:97:E	1824897369	T10000C	✓	2011-09-11 12:39:35	WRITE_ERROR	
47:F9:67:F8:5B:88:67:50	845574592	T10000B	✓	2011-09-11 13:54:49	READ_ERROR	

- To print data in the Detail View format, select the library resources you want to print and click the **Detail View** icon. See [“Display Detail for One or More Resources” on page 136](#) for details.



Details for Drive 44:30:60:E4:39:11:69:AC Monitored since 2011-07-17

Drive

- Drive WWNN : **44:30:60:E4:39:11:69:AC**
- Drive Serial Number : **2091539011**
- Drive Type : **T10000C**
- Drive Health Indicator : **USE**
- Drive ID : **15**
- Drive WWPN (Port A) : **54:8C:50:8C:8B:FA:BE:90**
- Drive WWPN (Port B) : **49:7F:53:ED:8C:8E:FC:B1**
- Drive Model : **STKT10000C**
- Drive Manufacturer : **STK**
- Encryption Capable : **No**

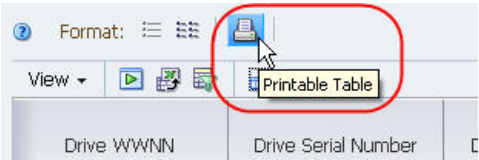
Media

- Volume Serial Number (VSN) : **N76E2D81**
- Media Manufacturer Serial Number : **N76E2D81**
- Media Health Indicator : **USE**
- WORM VolSafe Media : **No**
- Cleaning Media : **No**

Most Recent Exchange

- Exchange Start : **2011-09-11 19:46:55**
- Exchange Planned Time : **32:54:21**

2. Click the Printable Table icon on the List View Table Toolbar.



A new tab is created in your browser window, showing the table data in a printable format.

Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Exchange Overall Status	Exchange FSC	Exchange Drive Cleaning Required
44:29:CB:28:2:84:22:21	918773503	T10000B	✓	2011-09-12 03:32:31	GOOD		
44:30:60:E4:39:11:69:A	(2091539011	T10000C	✓	2011-09-11 19:46:55	GOOD		
44:34:6E:D8:5A:84:DE:A	283490366	T10000C	✓	2011-09-12 04:43:38	MEDIA_ERROR		
45:1C:3:54:66:17:13:A4	1461950129	T10000B	✓	2011-09-12 05:31:47	UNLOAD_ERROR		
46:78:33:5A:CB:55:97:E	1824897369	T10000C	✓	2011-09-11 12:39:35	WRITE_ERROR		
47:F9:67:F8:5B:88:67:50	845574592	T10000B	✓	2011-09-11 13:54:49	READ_ERROR		
48:74:75:4E:6F:C:E3:1F	1243172221	T10000B	✓	2011-09-10 08:09:26	NON_DRV_ERRO		
4A:24:8A:65:14:79:B0:6f	1466036288	T10000C	✓	2011-09-12 03:10:53	NON_DRV_ERRO		
4C:7A:9C:C5:DE:36:FD:Ef	6043845	T10000B	✓	2011-09-11 11:27:51	UNLOAD_ERROR		

3. You can use your browser's standard Print function to send this display to a printer.

Pivot Table Layout Tasks

The following tasks provide instructions for modifying the layout of pivot tables to aggregate data in different ways. See [“Pivot Tables” on page 115](#) for a description of the features and benefits of pivot tables.

Task	Page
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Select a Row Layer	147
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▼ Display the Name of a Layer

Use this procedure to display the name of the attribute that is displayed in a pivot table layer.

1. Move the mouse over a row or column heading cell until the **Select row** or **Select column** cursor appears.

The name is displayed in the layer border, as follows:

- Column layer borders are directly to the left of the layer:

		Drive Health Indicator	ACTION	MONITOR	UNKNOWN
A-SL8500	1	HP	0	0	
		STK	1	3	
	Drive Manufacturer Total		1	3	
	Library Number Total		1	3	
B-SL3000	2	HP	1	2	
		STK	1	3	
	Drive Manufacturer Total		2	5	

- Row layer borders are directly above the layer:

		Drive Manufacturer	ACTION	MONITOR	UNKNOWN
A-SL8500	1	HP	0	0	
		STK	1	3	
	Drive Manufacturer Total		1	3	
	Library Number Total		1	3	
B-SL3000	2	HP	1	2	
		STK	1	3	
	Drive Manufacturer Total		2	5	

Note – The name is truncated if the heading cell is not wide enough to display the entire name. To display the entire name, you can hover over the layer border until the tooltip appears.

▼ Change the Width of a Column or a Row Header

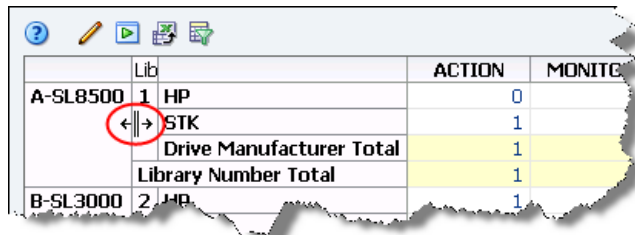
Use this procedure to change the width of a column or a row layer header.

By mouse

1. Move the mouse over the right-hand border of the column or row header until the **Resize column** cursor appears.

Note – Columns are resized from the right side only.

Note – You cannot resize a column from the data rows area.



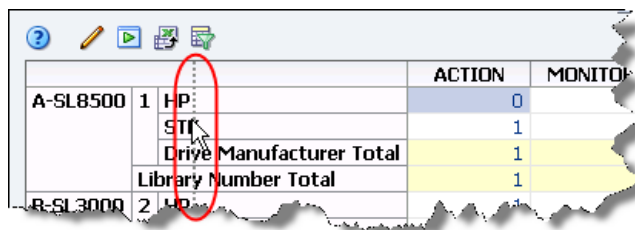
Lib		ACTION	MONITOR
A-SL8500	1	HP	0
		STK	1
	Drive Manufacturer Total		1
	Library Number Total		1
B-SL3000	2	HP	1

Note – In this example, the Library Complex Name column will be resized, and the width of the Library Number column will not change.

2. Click and drag the border, as follows:

- To make the column narrower, drag to the left.
- To make the column wider, drag to the right.

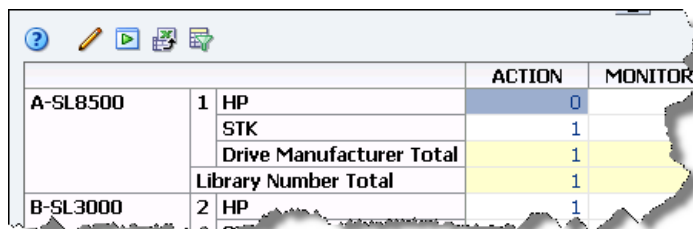
A dotted vertical line appears to indicate the pending width. You can move the border back and forth as much as you want until you get the right width.



Lib		ACTION	MONITOR
A-SL8500	1	HP	0
		STK	1
	Drive Manufacturer Total		1
	Library Number Total		1
B-SL3000	2	HP	1

3. When the column is the width you want, release the cursor.

The column is resized. All other columns retain their original widths.



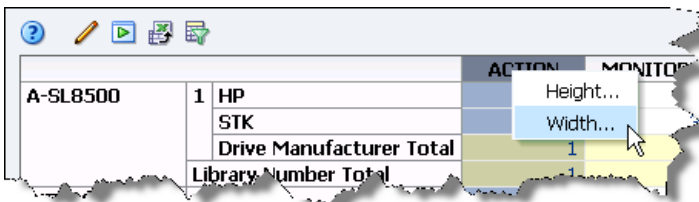
Lib		ACTION	MONITOR
A-SL8500	1	HP	0
		STK	1
	Drive Manufacturer Total		1
	Library Number Total		1
B-SL3000	2	HP	1

By menu

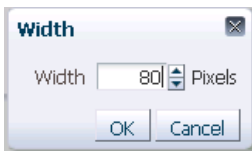
1. Position the cursor within the header of the column you want to resize, until the **Select column** or **Select row** cursor appears.

Drive Health Indicator			ACTION	MONITOR
A-SL8500	1	HP	0	0
		STK	1	3
		Drive Manufacturer Total	1	3
		Library Number Total	1	3
B-SL3000	2	HP	1	2

2. Right-click and select Width.

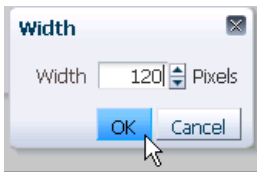


The **Width** dialog box appears, displaying the current width of the column.



3. In the **Width** field, enter the number of pixels for the new width.

Note – You can also use the spinbox up- and down-arrows to increase or decrease the value in the **Width** field.



4. Verify the settings are the way you want, and then click **OK**.

The column is resized. All other columns retain their original widths.

			ACTION	MONITOR
A-SL8500	1	HP	0	
		STK	1	
		Drive Manufacturer Total	1	
		Library Number Total	1	
B-SL3000	2	HP	1	

▼ Change the Height of a Row

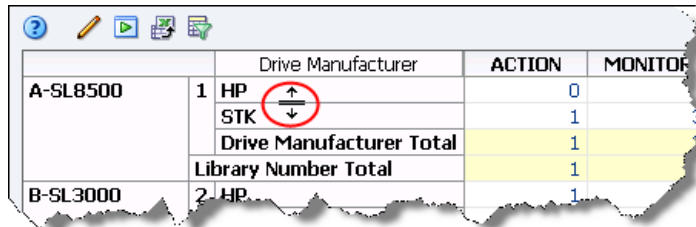
Use this procedure to change the height of a row or a column layer header.

By mouse

1. Move the mouse over the lower border of the row or column header until the **Resize row** cursor appears.

Note – You cannot resize a row from within the data area.

Note – Rows are resized from the bottom only; therefore, in this example, the HP row will be resized, not the STK row.

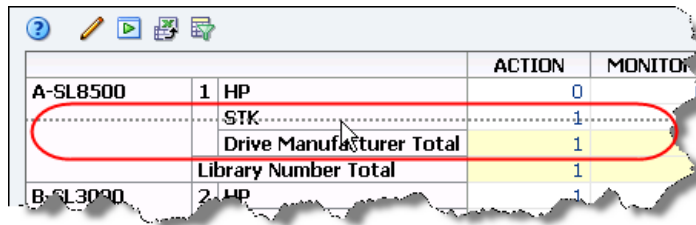


		Drive Manufacturer	ACTION	MONITOR
A-SL8500	1	HP	0	
		STK	1	
		Drive Manufacturer Total	1	
		Library Number Total	1	
B-SL3000	2	HP	1	

2. Click and drag the border, as follows:

- To make the row taller, drag down.
- To make the row shorter, drag up.

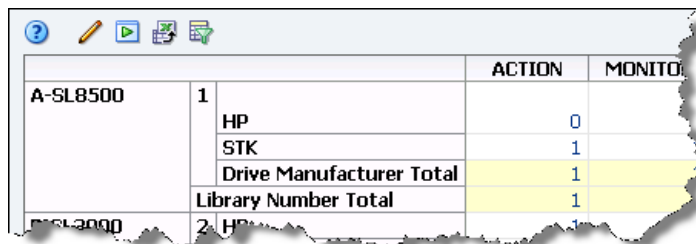
A dotted vertical line appears to indicate the pending height. You can move the border up and down as much as you want until you get the right height.



		Drive Manufacturer	ACTION	MONITOR
A-SL8500	1	HP	0	
		STK	1	
		Drive Manufacturer Total	1	
		Library Number Total	1	
B-SL3000	2	HP	1	

3. When the row is the height you want, release the cursor.

The row is resized. All other rows retain their original heights.



		Drive Manufacturer	ACTION	MONITOR
A-SL8500	1	HP	0	
		STK	1	
		Drive Manufacturer Total	1	
		Library Number Total	1	
B-SL3000	2	HP	1	

By menu

1. Position the cursor within the header of the row you want to resize, until the **Select row** or **Select column** cursor appears.

Drive Health Indicator			ACTION	MONITOR
A-SL8500	1	HP	0	0
		STK	1	3
		Drive Manufacturer Total	1	3
	Library Number Total	1	3	
B-SL3000	2	HP	1	2

2. Right-click and select Height.

Drive Health Indicator			ACTION	MONITOR
A-SL8500	1	HP	0	0
		STK	1	3
		Drive Manufacturer Total	1	3
	Library Number Total	1	3	
B-SL3000	2	HP	1	2

The **Height** dialog box appears, displaying the current height of the row.

Height [X]

Height: 16 Pixels

OK Cancel

3. In the **Height** field, enter the number of pixels for the new height.

Note – You can also use the spinbox up- and down-arrows to increase or decrease the value in the Height field.

Height [X]

Height: 30 Pixels

OK Cancel

4. Verify the settings are the way you want, and then click **OK**.

The row is resized, and all other rows retain their original heights.

Drive Health Indicator			ACTION	MONITOR
A-SL8500	1	HP	0	0
		STK	1	3
		Drive Manufacturer Total	1	3
	Library Number Total	1	3	
B-SL3000	2	HP	1	2

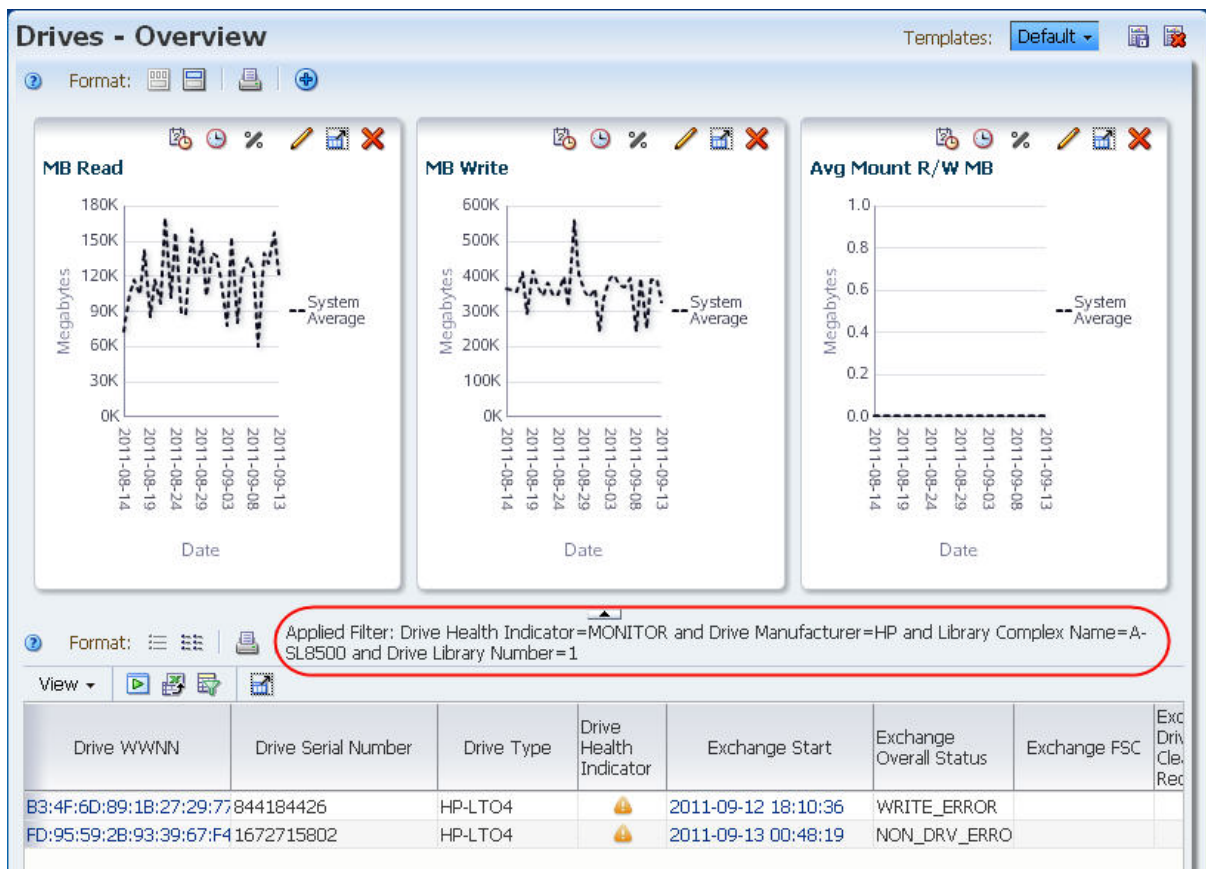
▼ Display Detail for an Aggregate Count

Use this procedure to display detail for the resources included in an aggregate count.

1. Click the active link of the aggregate count you want to display. Active links are indicated by blue text.

			ACTION	MONITOR	UNK
A-SL8500	1	HP	0	0	0
		STK	0	0	0
		Drive Manufacturer Total	0	0	2
		Library Number Total	0	0	2
B-SL 3000	2	HP	0	0	0

You are taken to the associated Overview screen, and the filter intrinsic to the aggregate count is applied to the data in the List View table. See [“Filtering Using Aggregate Count Links”](#) on page 169 for details.



2. You can follow any active links on this screen to get to additional information.

▼ Select a Row Layer

You can select one or more row layers at a time. The data cells belonging to the selected layer(s) are highlighted; this can serve as a visual aid to help you see data patterns.

1. Move the mouse over a row layer heading until the cursor changes to the **Select row** cursor.

Library Comp			ACTION	MONITOR
A-SL8500	1	HP	0	
		STK	1	
		Drive Manufacturer Total	1	
		Library Number Total	1	
B-SL3000	2	HP	1	
		STK	1	
		Drive Manufacturer Total	2	

2. Click the header to select the entire layer. You can select multiple layers with **Multi-select**.

The cells in the selected layer(s) are highlighted as follows:

- Aggregate count cells are highlighted in blue.
- Summary cells are highlighted in gray.

Library Comp			ACTION	MONITOR	UNKNOWN	USE	Total
A-SL8500	1	HP	0	0	0	4	4
		STK	1	3	1	36	41
		Drive Manufacturer Total	1	3	1	40	45
		Library Number Total	1	3	1	40	45
B-SL3000	2	HP	1	2	0	7	10
		STK	1	3	1	31	36
		Drive Manufacturer Total	2	5	1	38	46
	Library Number Total	2	5	1	38	46	
C-SL500	3	HP	1	0	1	4	6
		Drive Manufacturer Total	1	0	1	4	6
		Library Number Total	1	0	1	4	6
Library Complex Name Total			4	8	3	82	97

▼ Shift Layers on the Same Edge

Use this procedure to shift the nesting level of layers on the same edge.

By mouse

1. Move the mouse over the border of the heading you want to move, until the **Move object** cursor appears.

Library Comp			ACTION	MONITOR
A-SL8500	1	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	2
		Library Number Total	0	2
B-SL3000	2	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	2
		Library Number Total	0	2

2. Click and drag the layer over a layer separator until the separator is highlighted.

Library Comp			ACTION	MONITOR
A-SL8500	1	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	2
		Library Number Total	0	2
B-SL3000	2	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	2
		Library Number Total	0	2
C-SL500	3	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	0
		Library Number Total	0	0
Library Complex Name Total			0	4
C-SL500				
Library Complex Name Total				

When you release the cursor, the table is reorganized and the aggregate counts in the data cells are re-calculated. In this example, the Library Complex layer has been inserted between the Library Number and Drive Manufacturer layers.

1	A-SL8500	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	2
		Library Complex Name Total	0	2
2	B-SL3000	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	2
		Library Complex Name Total	0	2

By menu

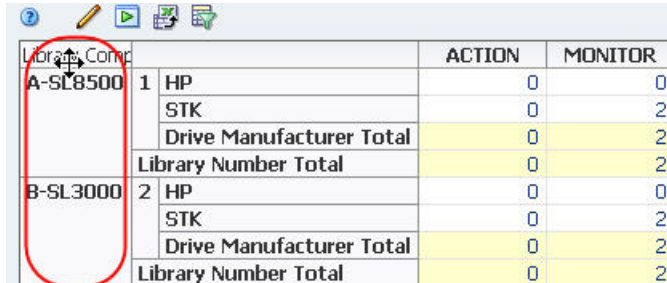
See [“Change Table Attributes and Their Nesting Order”](#) on page 154 for instructions.

▼ Swap Layers on the Same Edge

Use this procedure to swap two layers on the same edge.

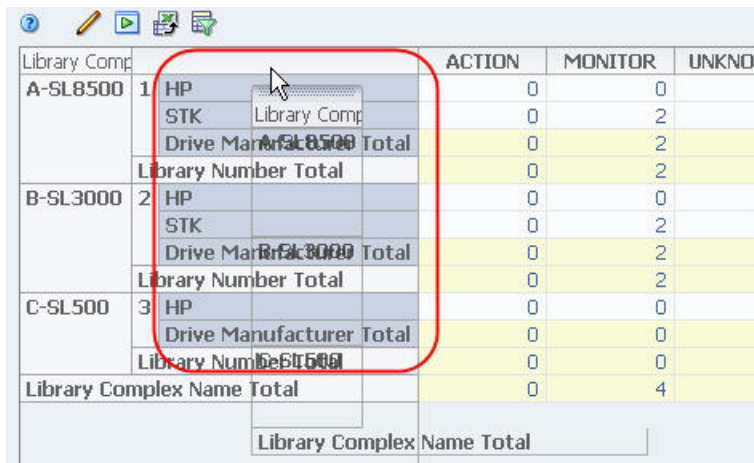
By mouse

1. Move the mouse over the border of the heading you want to move, until the **Move object** cursor appears.



Library Comp			ACTION	MONITOR
A-SL8500	1	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	2
		Library Number Total	0	2
B-SL3000	2	HP	0	0
		STK	0	2
		Drive Manufacturer Total	0	2
		Library Number Total	0	2

2. Click and drag the first layer over the second layer until that layer's headings are highlighted.



Library Comp			ACTION	MONITOR	UNKNO
A-SL8500	1	HP	0	0	
		STK	0	2	
		Drive Manufacturer Total	0	2	
		Library Number Total	0	2	
B-SL3000	2	HP	0	0	
		STK	0	2	
		Drive Manufacturer Total	0	2	
		Library Number Total	0	2	
C-SL500	3	HP	0	0	
		Drive Manufacturer Total	0	0	
		Library Number Total	0	0	
Library Complex Name Total			0	4	
Library Complex Name Total					

When you release the cursor, the table is reorganized and the aggregate counts in the data cells are re-calculated. In this example, the Library Complex layer has been swapped with the Drive Manufacturer layer.

		ACTION	MONITOR	
HP	1	A-SL8500	0	0
		Library Complex Name Total	0	0
	2	B-SL3000	0	0
		Library Complex Name Total	0	0
	3	C-SL500	0	0
		Library Complex Name Total	0	0
		Library Number Total	0	0
STK	1	A-SL8500	0	2
		Library Complex Name Total	0	2
	2	B-SL3000	0	2
		Library Complex Name Total	0	2
		Library Number Total	0	4
		Drive Manufacturer Total	0	4

By menu

See [“Change Table Attributes and Their Nesting Order”](#) on page 154 for instructions.

▼ Move a Layer to the Opposite Edge

Use this procedure to move a layer from one edge to the other.

By mouse

1. Move the mouse over the border of the heading you want to move, until the **Move object** cursor appears.

Library Comp		ACTION	MONITOR
A-SL8500	1 HP	0	0
	STK	0	2
	Drive Manufacturer Total	0	2
	Library Number Total	0	2
B-SL3000	2 HP	0	0
	STK	0	2
	Drive Manufacturer Total	0	2
	Library Number Total	0	2

2. Click and drag the layer over a layer separator on the opposite edge until the separator is highlighted.

Library Comp		ACTION	MONITOR	UNKNOWN	USE	Total
A-SL8500	HP 1	0	0	0	11	11
	Library Number Total	0	0	0	11	11
	STK 1	2	1	0	35	38
	Library Number Total	2	1	0	35	38
Drive Manufacturer Total		0	2	1	46	49
B-SL3000	HP 2	0	0	0	5	5
	Library Number Total	0	0	0	5	5

When you release the cursor, the table is reorganized and the aggregate counts in the data cells are re-calculated. In this example, the Library Complex layer has been inserted below the Drive Health Indicator layer on the column edge.

		ACTION				MONITOR		
		A-SL8500	B-SL3000	C-SL500	Library Comp	A-SL8500	B-SL3000	C-SL500
HP	1	0			0	0		
	2		0		0		0	
	3			0	0			0
	Library Number Total	0	0	0	0	0	0	0
STK	1	0			0	2		
	2		0		0		2	
	Library Number Total	0	0		0	2	2	
Drive Manufacturer Total		0	0	0	0	2	2	0

By menu

See [“Change Table Attributes and Their Nesting Order”](#) on page 154 for instructions.

▼ Swap Layers on Opposite Edges

Use this procedure to swap layers on opposite edges.

By mouse

1. Move the mouse over the border of the heading you want to move, until the **Move object** cursor appears.

Library Complex			ACTION	MONITOR
A-SL8500	HP	1	0	0
		STK	0	2
	Drive Manufacturer Total		0	2
	Library Number Total		0	2
B-SL3000	HP	2	0	0
		STK	0	2
	Drive Manufacturer Total		0	2
	Library Number Total		0	2

2. Click and drag the layer over a layer on the opposite edge, until the second layer's headings are highlighted.

Library Complex			ACTION	MONITOR	UNKNOWN	USE	Total
A-SL8500	HP	1	0	0	11	11	
		Library Number Total	0	0	11	11	
	STK	1	0	2	1	35	38
		Library Number Total	0	2	1	35	38
Drive Manufacturer Total		0	2	1	46	49	
B-SL3000	HP	2	0	0	0	5	5
		Library Number Total	0	0	0	5	5
	STK	2	0	2	1	35	38
		Library Number Total	0	2	1	35	38

When you release the cursor, the table is reorganized and the aggregate counts in the data cells are re-calculated. In this example, the Library Complex layer has been swapped with the Drive Health Indicator layer.

Library Complex			A-SL8500	B-SL3000	C-SL500	Library Complex
ACTION	HP	1	0	0	0	0
		2	0	0	0	0
	3	0	0	0	0	
	Library Number Total	0	0	0	0	
STK	1	1	0	0	0	0
		2	0	0	0	0
	Library Number Total	0	0	0	0	
	Drive Manufacturer Total		0	0	0	0
MONITOR	HP	1	0	0	0	0
		2	0	0	0	0
	3	0	0	0	0	
	Library Number Total	0	0	0	0	

By menu

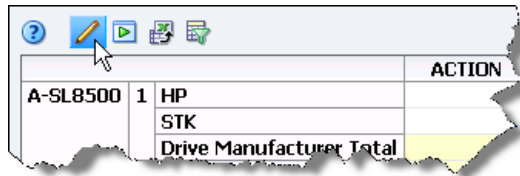
See [“Change Table Attributes and Their Nesting Order”](#) on page 154 for instructions.

▼ Change Table Attributes and Their Nesting Order

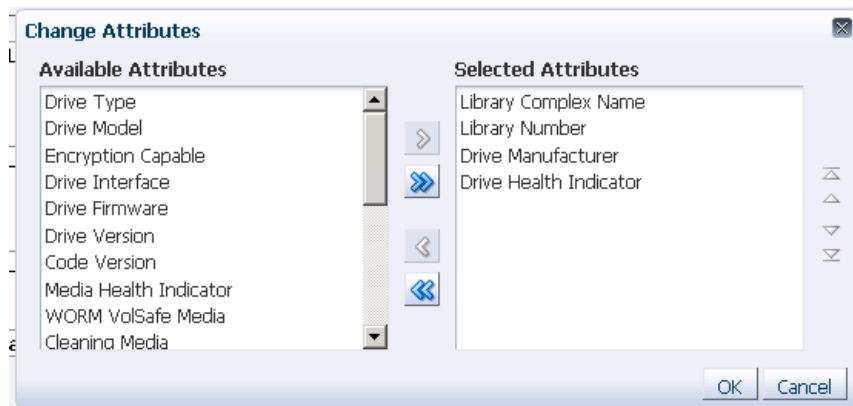
Use this procedure to change the attributes displayed in a pivot table. You can add and remove attributes in the table and change the order in which they are nested.

Note – Pivot tables can include between two and seven attributes.

1. In the Table Toolbar, click the Change Attributes icon.



The **Change Attributes** dialog box appears. The Selected Attributes list identifies the attributes currently included in the pivot table and their order. The Available Attributes list identifies attributes that are currently hidden.





2. Arrange the attributes so that the ones you want to display are included in the Selected Attributes list and the ones you want to remove are in the Available Attributes list.

Note – The Selected Attributes list must include a minimum of two and a maximum of seven attributes.

- a. Select the attributes you want to move from one list to the other. This dialog box supports **Multi-select**.
- b. Click an arrow to move the items, as follows:

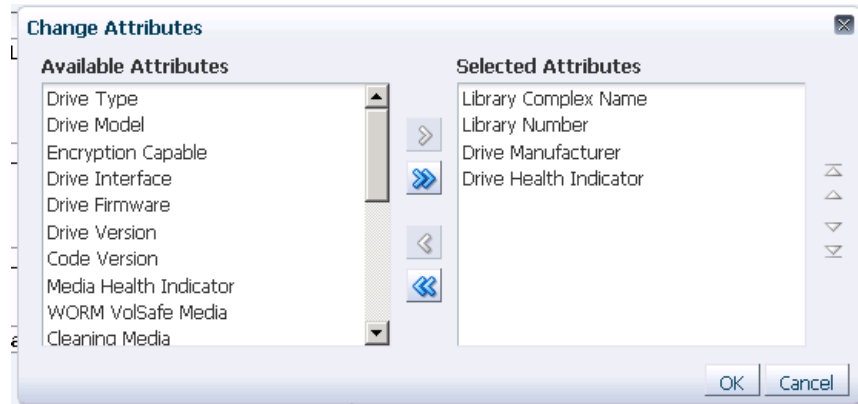
 or  Move the selected item(s) to the indicated list.

 or  Move all items from one list to the other.



- c. Repeat this process until both lists include the items you want.
3. Optionally, you can reorder the items in the Selected Attributes list by using the reorder arrows on the right side of the dialog box.



By default, the last attribute in the Selected Attributes list appears on the column edge of the table. The other attribute(s) appear on the row edge, nested in the order they appear in the list; the top attribute is the outer layer.

- a. Select the items you want to move. This dialog box supports **Multi-select**.



- b. Click an arrow to move the items, as follows:

 or  Move the selected item(s) up or down, one place at a time.

 or  Move the selected item(s) to the top or bottom of the list.

- c. Repeat this process until the Selected Attributes list is arranged the way you want.

4. Verify that the dialog box is arranged the way you want, and then click OK.

The pivot table is updated according to your selections.

Table Data Export Tasks

The following tasks provide instructions for exporting data from List View or pivot tables.

Task	Page
Export Table Data to a Spreadsheet	157
Display an Exported Spreadsheet	159

▼ Export Table Data to a Spreadsheet

Note – This procedure applies to both pivot and List View tables.

Use this procedure to export an STA table to a file that can be viewed and edited with Microsoft Excel or a compatible spreadsheet application. Prior to performing this procedure you need to set up the table so it includes all the data you want to export. The exported data includes all resources and attributes included in the table, as follows:

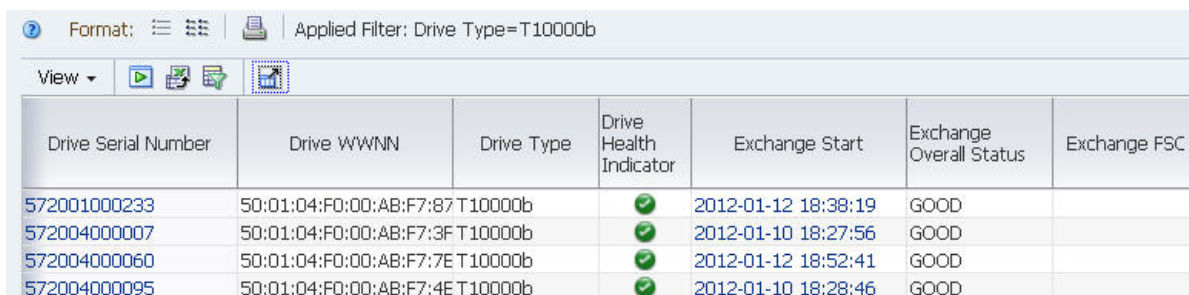
- If you have applied a filter to the table, the spreadsheet includes only the records that match the criteria you have specified.
- Data records and attributes currently scrolled off the visible portion of the screen are included.
- Hidden attributes are not included.

The file is saved to your local computer. The data is saved in HTML format, but the file is given a .xls extension so you can easily open it in Microsoft Excel. See [“Display an Exported Spreadsheet” on page 159](#) for options on viewing and editing the file.

1. Set up the table so it displays all the data you want to export.

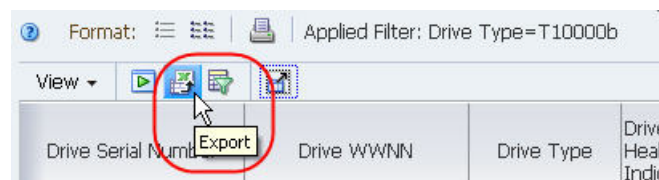
Note – This procedure uses a List View table, but you could also use a pivot table.

A filter is applied in this example.

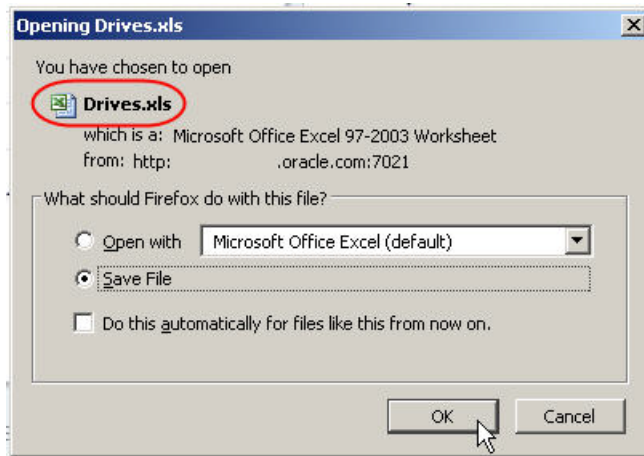


Drive Serial Number	Drive WWNN	Drive Type	Drive Health Indicator	Exchange Start	Exchange Overall Status	Exchange FSC
572001000233	50:01:04:F0:00:AB:F7:87	T10000b	✓	2012-01-12 18:38:19	GOOD	
572004000007	50:01:04:F0:00:AB:F7:3F	T10000b	✓	2012-01-10 18:27:56	GOOD	
572004000060	50:01:04:F0:00:AB:F7:7E	T10000b	✓	2012-01-12 18:52:41	GOOD	
572004000095	50:01:04:F0:00:AB:F7:4E	T10000b	✓	2012-01-10 18:28:46	GOOD	

2. Click the Export icon in the Table Toolbar.



The file is downloaded to your computer according to your browser settings. See your browser documentation for details. Following is an example of a dialog box you might see on a computer running Windows. Note that the file will be saved with a .xls extension.



3. Proceed to [“Display an Exported Spreadsheet”](#) on page 159 for instructions on viewing and editing the file.

▼ Display an Exported Spreadsheet

Use this procedure to view and optionally edit a file that you have created with “Export Table Data to a Spreadsheet” on page 157. The file is automatically assigned a .xls extension, but the data is actually in HTML format. As a result, you can display the file using either of the following options:

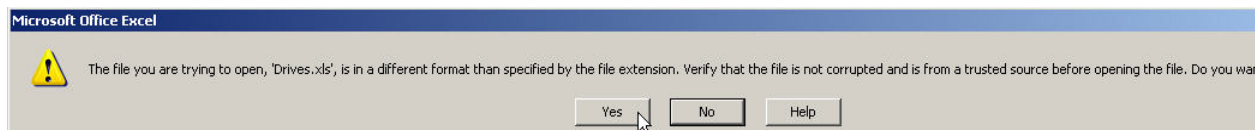
- “Display the Spreadsheet With Excel”
- “Display the Spreadsheet in a Browser” on page 161

▼ Display the Spreadsheet With Excel

Because the file is saved with a .xls extension, you can easily open it in Microsoft Excel and perform spreadsheet functions on the data.

1. **Keep the .xls extension on the file, and open it in Excel or a compatible spreadsheet application.**

An informational message is displayed. This message is normal, and it appears because the file is actually in HTML format.



2. **Click Yes to open the file.**

The file is displayed as an Excel spreadsheet. Depending on a variety of details, including the length of the numbers and the position of the data in the table, Excel may or may not convert some cells to scientific notation. This is an Excel formatting issue only and does not affect the integrity of the underlying data.

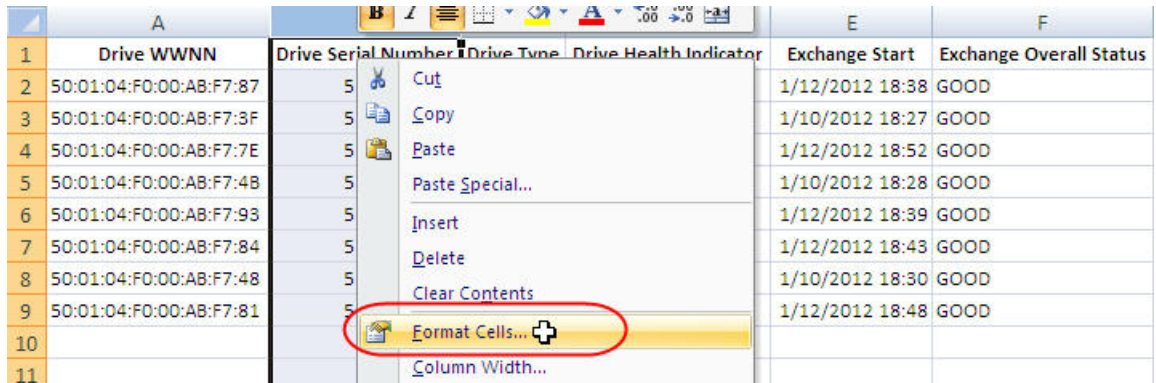
In the following example, the cells in the “Drive Serial Number” column are displayed in scientific notation.

	A	B	C	D	E	F
1	Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Exchange Overall Status
2	50:01:04:F0:00:AB:F7:87	5.72001E+23	T10000b	USE	1/12/2012 18:38	GOOD
3	50:01:04:F0:00:AB:F7:3F	5.72004E+23	T10000b	USE	1/10/2012 18:27	GOOD
4	50:01:04:F0:00:AB:F7:7E	5.72004E+23	T10000b	USE	1/12/2012 18:52	GOOD
5	50:01:04:F0:00:AB:F7:4B	5.72004E+23	T10000b	USE	1/10/2012 18:28	GOOD
6	50:01:04:F0:00:AB:F7:93	5.72004E+23	T10000b	USE	1/12/2012 18:39	GOOD

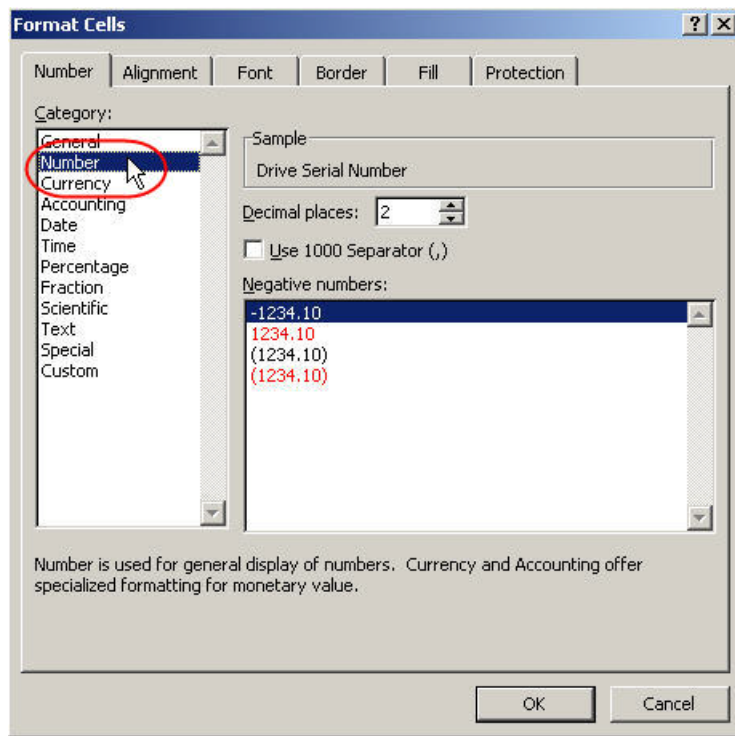
3. **To correct formatting issues with numeric data, perform the following steps:**
 - a. **Select the column header to highlight the entire column.**

	A	B	C	D	E	F
1	Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Exchange Overall Status
2	50:01:04:F0:00:AB:F7:87	5.72001E+23	T10000b	USE	1/12/2012 18:38	GOOD
3	50:01:04:F0:00:AB:F7:3F	5.72004E+23	T10000b	USE	1/10/2012 18:27	GOOD
4	50:01:04:F0:00:AB:F7:7E	5.72004E+23	T10000b	USE	1/12/2012 18:52	GOOD
5	50:01:04:F0:00:AB:F7:4B	5.72004E+23	T10000b	USE	1/10/2012 18:28	GOOD
6	50:01:04:F0:00:AB:F7:93	5.72004E+23	T10000b	USE	1/12/2012 18:39	GOOD

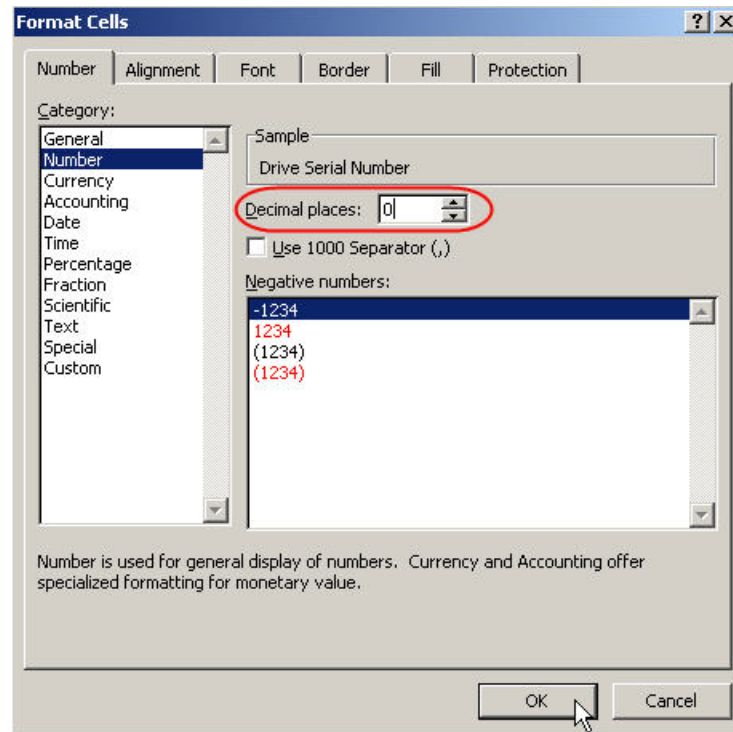
b. Right-click the column and select Format Cells.



c. In the Format Cells dialog box, select Number in the Category column.



d. In the Decimal places field, type "0".



e. Leave all other fields as is, and click OK to save the changes.

The cells are reformatted in standard notation.

	A	B	C	D	E	F
1	Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Exchange Overall Status
2	50:01:04:F0:00:AB:F7:87	572001000233	T10000b	USE	1/12/2012 18:38	GOOD
3	50:01:04:F0:00:AB:F7:3F	572004000007	T10000b	USE	1/10/2012 18:27	GOOD
4	50:01:04:F0:00:AB:F7:7E	572004000060	T10000b	USE	1/12/2012 18:52	GOOD
5	50:01:04:F0:00:AB:F7:4B	572004000095	T10000b	USE	1/10/2012 18:28	GOOD
6	50:01:04:F0:00:AB:F7:93	572004000097	T10000b	USE	1/12/2012 18:39	GOOD

4. See the Microsoft Excel documentation for information about the various functions you can perform on the data in the spreadsheet.

▼ Display the Spreadsheet in a Browser

Because the file is in HTML format, you can display it in a browser window. Using this procedure, you can view and print the data, but you cannot modify it.

1. Change the .xls file extension to .htm or .html.
2. Open the file in your browser.

Table Data Export Tasks

Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Exchange Overall Status	Exchange I
50:01:04:F0:00:AB:F7:87	572001000233	T10000b	USE	2012-01-12 18:38:19	GOOD	
50:01:04:F0:00:AB:F7:3F	572004000007	T10000b	USE	2012-01-10 18:27:56	GOOD	
50:01:04:F0:00:AB:F7:7E	572004000060	T10000b	USE	2012-01-12 18:52:41	GOOD	
50:01:04:F0:00:AB:F7:4B	572004000095	T10000b	USE	2012-01-10 18:28:46	GOOD	
50:01:04:F0:00:AB:F7:93	572004000097	T10000b	USE	2012-01-12 18:30:15	GOOD	

Filtering Table Data

STA enables you to filter the records displayed in pivot and list view tables. Table filters allow you to focus on a subset of information by displaying just the records that meet specific criteria.

This section describes the effects of filters and the ways you can apply them. The following topics are discussed:

- [“Filtering Overview” on page 164](#)
 - [“Filter Application” on page 164](#)
 - [“Filter Duration” on page 164](#)
- [“Applying a Filter” on page 165](#)
 - [“Filter Data Dialog Box” on page 166](#)
 - [“Filtering Using Aggregate Count Links” on page 169](#)
 - [“Filtering by Applying a Template” on page 170](#)
 - [“Filtering Using Dashboard Graphics” on page 171](#)
- [“Filtering Tasks” on page 172](#)

Filtering Overview

You can filter data by any table attribute, whether or not that attribute is currently displayed on the table. You can specify filter criteria for any number of attributes, and you can choose whether any or all of the criteria must be met. See [“Applying a Filter” on page 165](#) for complete details.

Once you apply a filter, the criteria are displayed in the Applied Filter area of the table. This allows you to verify which filter criteria have been applied to the current table view. If no criteria have been applied, this area is blank.

Note – Filter descriptions longer than 250 characters are truncated. You can hover the cursor over the text to display a tooltip containing the full description.

Note – Text string filters are case-sensitive. For example, the text string “CLN” is not the same as “cln” or “Cln”.

Filter Application

Some screens on the **Drives** and **Media** tabs are paired with one another. For these pairings, any filter applied on one screen is automatically applied to its partner. The screen pairings are as follows:

- **Drives – Overview** and **Drives – Analysis**
- **Media – Overview** and **Media – Analysis**

With the exception of these pairings, a filter applies only to the screen on which you apply it. Following are examples:

- If you apply a filter to the **Drives – Overview** screen, the same filter is automatically applied to the **Drives – Analysis** screen, but not to **Drives – Cleaning Activities** nor any other STA screen.
- If you apply a filter to the **Libraries – Overview** screen (a screen with no “partner”), the filter applies to that screen only.

Filter Duration

Once you have applied a filter to a screen, it remains in effect for the duration of your login session. If you navigate away from the screen and then return to it later in the session, the filter will still be in effect. To change or remove a filter, you must take one of the following actions:


- Apply a new filter. See [“Applying a Filter” on page 165](#) for details.
- Remove the filter. See [“Clear the Current Filter” on page 179](#) for details.
- Apply a template; the filter criteria in a template overrides any existing criteria. See [“Apply a Template” on page 199](#) for details.
- Log out of STA. See [“Log Out of STA” on page 22](#) for details.

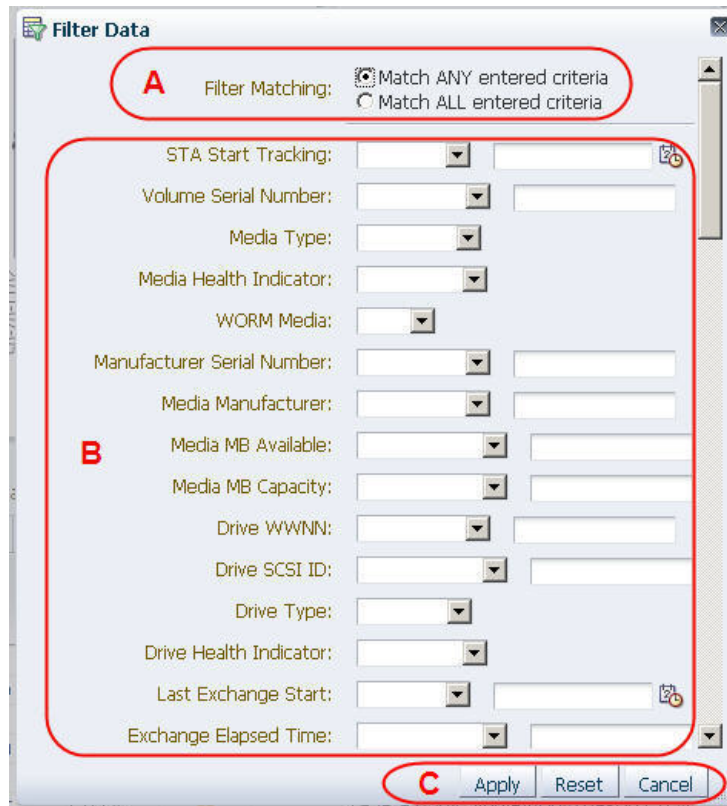
Applying a Filter

You can apply a filter in any of the following ways:

- By completing the **Filter Data** dialog box for a pivot or list view table. See [“Filter Data Dialog Box”](#) for details.
- By clicking an aggregate count link in a pivot table. See [“Filtering Using Aggregate Count Links”](#) on page 169 for details.
- By applying a template. See [“Filtering by Applying a Template”](#) on page 170 for details.
- By clicking a section of a bar chart or pie chart on the Dashboard. See [“Filtering Using Dashboard Graphics”](#) on page 171 for details.

Filter Data Dialog Box

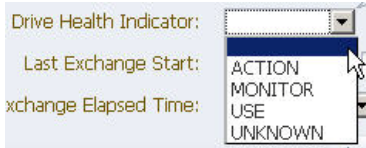

The **Filter Data** dialog box appears when you click the **Filter Data**  icon in either the [List View Table Toolbar](#) or the [Pivot Table Toolbar](#).


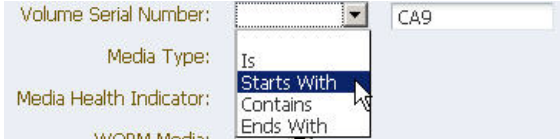


Name	Description
A Filter Matching field	<p>Allows you to specify the type of match you want to perform. Select one of the following options:</p> <ul style="list-style-type: none"> • Match ANY entered criteria – Selects table records that meet any of the criteria you specify. • Match ALL entered criteria – Selects only records that meet all of the criteria you specify
B Table attributes	<p>Lists all attributes that are available for the current table. You can specify filter criteria for as many attributes as you want. Each table attribute has a menu that includes one of the following:</p> <ul style="list-style-type: none"> • A list of pre-defined values for the attribute. • A list of comparison operators. The available operators vary, depending on the type of data. For these fields there is also an associated text entry field in which you enter the specified value for the comparison. <p>See “Table Attribute Types” on page 167 for details.</p>

Name	Description
C Buttons	<p>Click one of the following buttons:</p> <ul style="list-style-type: none"> • Apply – Applies the specified filter criteria to the table. See “Use the Filter Data Dialog Box to Change a Table Filter” on page 173 for details. • Reset – Removes all filter criteria so the table displays all records. See “Clear the Current Filter” on page 179 for details. • Cancel – Exits from the dialog box without applying any changes.

Table Attribute Types

Attribute Type	Pull-down Menu Entries
<p>Pre-defined values</p> <p>For example, Drive Health Indicator and Drive Type.</p>	 <ul style="list-style-type: none"> • blank – Excludes the attribute from the selection criteria. This is always the first menu entry. • List of all possible values for the attribute. <ul style="list-style-type: none"> Note – The values listed do not necessarily reflect currently applied filters or the current removed drives and media display settings for your username. For example, the “Drive Type” pull-down menu may include drive types that are not currently included in any monitored libraries.
<p>Date</p> <p>For example, STA Start Tracking and Last Exchange Start.</p>	 <ul style="list-style-type: none"> • blank – Excludes the attribute from the selection criteria. This is always the first menu entry. • Is Before – Selects entries with attribute dates on or before the one you specify. • Is – Selects entries with attribute dates equal to the one you specify. • Is After – Selects entries with attribute dates on or after the one you specify <p>Enter the date in the associated text entry field. Use yyyy-mm-dd format.</p>

Attribute Type	Pull-down Menu Entries
<p>Numeric</p> <p>For example, Media MB Available and Exchange Elapsed Time.</p>	 <ul style="list-style-type: none"> • blank – Excludes the attribute from the selection criteria. This is always the first menu entry. • Less Than – Selects records with attribute values less than or equal to (\leq) the specified value. • Is – Selects records with attribute values equal to ($=$) the specified value. • Greater Than – Selects records with attribute values greater than or equal to (\geq) the specified value. <p>Enter the value in the associated text entry field. Do not include units of measure, such as MB, in your entry.</p>
<p>Text string</p> <p>For example, Volume Serial Number and Drive WWNN.</p>	 <ul style="list-style-type: none"> • blank – Excludes the attribute from the selection criteria. This is always the first menu entry. • Begins With – Selects records with attribute values that start with the specified string. • Contains – Selects records that contain the specified string anywhere within the attribute value. • Ends With – Selects records with attribute values that end with the specified string. <p>Enter the string in the associated text entry field.</p> <p>Note – Your entry is case-sensitive. For example, the entry “CLN” is not the same as “cln” or “Cln”.</p>

Filtering Using Aggregate Count Links

The cells within pivot tables contain aggregate counts of resources or events that meet specific criteria (see [“Pivot Tables” on page 115](#) for details). A filter is therefore intrinsic to each aggregate count.

For example, in the following **Drives – Analysis** pivot table, the “5” in the MONITOR column indicates that there are a total of five drives with a health status of “Monitor”.

			ACTION	MONITOR	UNKNOWN	USE	Total
A-SL8500	1	HP	0	0	0	5	5
		STK	0	4	0	35	39
		Drive Manufacturer Total	0	4	0	40	44
		Library Number Total	0	4	0	40	44
B-SL3000	2	HP	0	0	0	8	8
		STK	0	1	0	35	36
		Drive Manufacturer Total	0	1	0	43	44
		Library Number Total	0	1	0	43	44
C-SL500	3	HP	0	0	0	5	5
		Drive Manufacturer Total	0	0	0	5	5
		Library Number Total	0	0	0	5	5
		Library Complex Name Total	0	5	0	88	93

Clicking on this link takes you to the **Drives – Overview** screen and applies the filter intrinsic to the aggregate count. The filter criteria are indicated in the [Applied Filter](#) area of the table.

Note – Filter descriptions longer than 250 characters are truncated. You can hover the cursor over the text to display a tooltip containing the full description.

Applied Filter: Drive Health Indicator=MONITOR							
Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Volume Serial Number (VSN)	Media Manufacturer Serial Number	Media Health Indicator
29:90:A3:DF:13:14:DF:8C	1920103806	T10000B	⚠	2011-08-09 02:16:37	B9F62642	B9F62642	
35:94:5F:7F:AB:CA:84:4C	206054111	T10000C	⚠	2011-08-08 14:34:06	BFC06B3B	BFC06B3B	
38:FA:39:62:B8:A6:FA:4A	143286306	T10000B	⚠	2011-08-08 11:16:53	N0CAF1F5	N0CAF1F5	
AB:57:E1:FC:4B:70:27:C4	92701162	T10000C	⚠	2011-08-09 04:40:53	P7F57070	P7F57070	
C9:E5:A6:B3:7F:7A:F9:2E	1998779359	T10000B	⚠	2011-08-08 12:13:11	WF01E3CA	WF01E3CA	

See [“Use an Aggregate Count Link to Apply a Filter” on page 182](#) for detailed instructions.

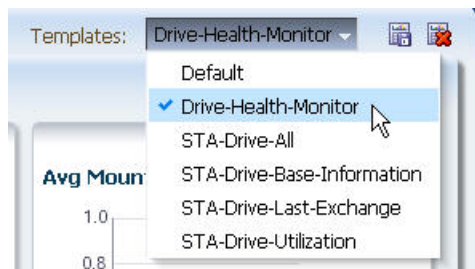
Filtering by Applying a Template

Applying a template automatically applies any filter criteria that are included in the template definition. These criteria override any filter that may already be in effect.

For example, the following **Drives – Analysis** pivot table has an applied filter, “Drive Health Indicator=USE”.

Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Volume Serial Number(VSN)	Media Manufacturer Serial Number	M H I
0:9A:CD:F2:34:8E:61:B6	2118184903	T10000C	✓	2011-08-07 20:40:21	L47ED806	L47ED806	
12:F9:4A:4A:EA:FC:5:38	867332006	T10000B	✓	2011-08-09 03:43:19	F4956CA9	F4956CA9	
1F:23:4F:C5:FA:6F:A1:B2	1401403333	T10000B	✓	2011-08-08 17:07:11	P7F6D442	P7F6D442	
1F:FD:6C:2B:F3:98:7B:EC	1885765667	HP-LTO4	✓	2011-08-09 03:05:58	B6D032F3	B6D032F3	

Applying a template that includes a different filter, in this case “Drive Health Indicator=MONITOR”, changes the table display and causes the original filter to be overridden.



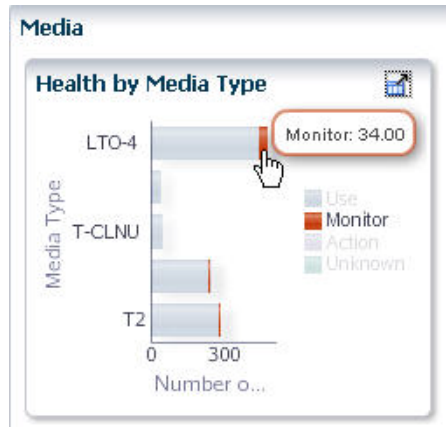
The new filter criteria are indicated in the **Applied Filter** area of the table.

Drive WWNN	Drive Serial Number	Drive Type	Drive Health Indicator	Exchange Start	Volume Serial Number(VSN)	Media Manufacturer Serial Number	Mec Hea Indi
29:90:A3:DF:13:14:DF:80	1920103806	T10000B	⚠	2011-08-09 02:16:37	B9F62642	B9F62642	
35:94:5F:7F:AB:CA:84:4C	206054111	T10000C	⚠	2011-08-08 14:34:06	BFC06B3B	BFC06B3B	
38:FA:39:62:B8:A6:FA:40	143286306	T10000B	⚠	2011-08-08 11:16:53	N0CAF1F5	N0CAF1F5	
AB:57:E1:FC:4B:70:27:C4	92701162	T10000C	⚠	2011-08-09 04:40:53	P7F57070	P7F57070	
C9:E5:A6:B3:7F:7A:F9:26	1998779359	T10000B	⚠	2011-08-08 12:13:11	WF01E3CA	WF01E3CA	

Filtering Using Dashboard Graphics

Bar charts and pie charts on the Dashboard display aggregate data for resources or events that meet specific criteria. A filter is therefore intrinsic to each section of a Dashboard bar chart or pie chart.

For example, in the following “Health by Media Type” graph, the selected section of the LTO-4 bar represents 34 drives with a health status of “Monitor”.



Clicking this section of the bar takes you to the **Media – Overview** screen and applies the intrinsic filter. The filter criteria are indicated in the **Applied Filter** area of the table.

Applied Filter: Media Type=LTO-4 and Media Health Indicator=MONITOR

Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Start
ABBE24DF	LTO-4	⚠	961	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✅	2011-08-08 05:52:10
C379E7BF	LTO-4	⚠	3,232	FC:AF:84:58:1D:67:58:3C	HP-LTO4	✅	2011-08-08 02:11:11
D2383917	LTO-4	⚠	261,061	7C:A0:A7:19:BC:22:79:AI	HP-LTO4	✅	2011-08-06 16:50:17
D5E829DC	LTO-4	⚠	2,745	51:29:C2:88:54:D0:B1:6E	HP-LTO4	✅	2011-08-06 10:23:43

Filtering Tasks

Task	Page
Use the Filter Data Dialog Box to Change a Table Filter	173
Clear the Current Filter	179
Use an Aggregate Count Link to Apply a Filter	182
Apply a Filter From the Dashboard	185

▼ Use the Filter Data Dialog Box to Change a Table Filter

Note – This procedure applies to both pivot and list view tables.

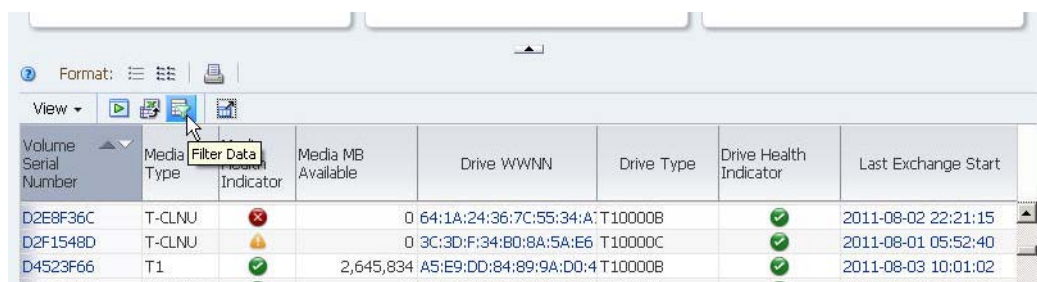
Use this procedure to apply new filter criteria to the current table. You can filter by one or more record attributes, and you can remove filter criteria from selected attributes.

For screens that are paired with a “partner”, the filter applied to one screen is automatically applied to its partner. See [“Filter Application” on page 164](#) for details.

Note – For screens that include a “Current Page Number” field (**Libraries – Exchanges**, **Drives – Cleaning Activities**, and **Notifications – Overview**), the filter applies across all records, not just the ones displayed on the current page.

1. Click the Filter Data icon in the Table Toolbar.

Note – This procedure uses a List View table, but you could also use a pivot table.



Volume Serial Number	Media Type	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Start
D2E8F36C	T-CLNU		0 64:1A:24:36:7C:55:34:A	T10000B	❌	2011-08-02 22:21:15
D2F1548D	T-CLNU		0 3C:3D:F:34:80:8A:5A:E6	T10000C	⚠️	2011-08-01 05:52:40
D4523F66	T1	2,645,834	A5:E9:DD:84:89:9A:DD:4	T10000B	✅	2011-08-03 10:01:02

The **Filter Data** dialog box appears. If no filter has been applied, the dialog box displays the default settings. If a filter is already in effect, the criteria are displayed in the dialog box, as in the example below.

2. Specify the filter criteria in the dialog box, as follows:

- a. In the Filter Matching field, select one of the options to indicate whether you want to match any or all of the criteria you specify. See [“Filter Matching field” on page 166](#) for details.
- b. Indicate the filter criteria in the remaining fields on the screen. See [“Table Attribute Types” on page 167](#) for details on filling out this section of the screen.
 - You can specify criteria for as many table attributes as you want.

Note – Text string entries are case-sensitive. For example, the entry “CLN” is not the same as “cln” or “Cln”.
 - You can remove previously specified filter criteria in selected fields by blanking them out.

In the example below, a Media Type is selected, and the previously specified Drive Health Indicator selection is removed.

The image shows a 'Filter Data' dialog box with the following fields and settings:

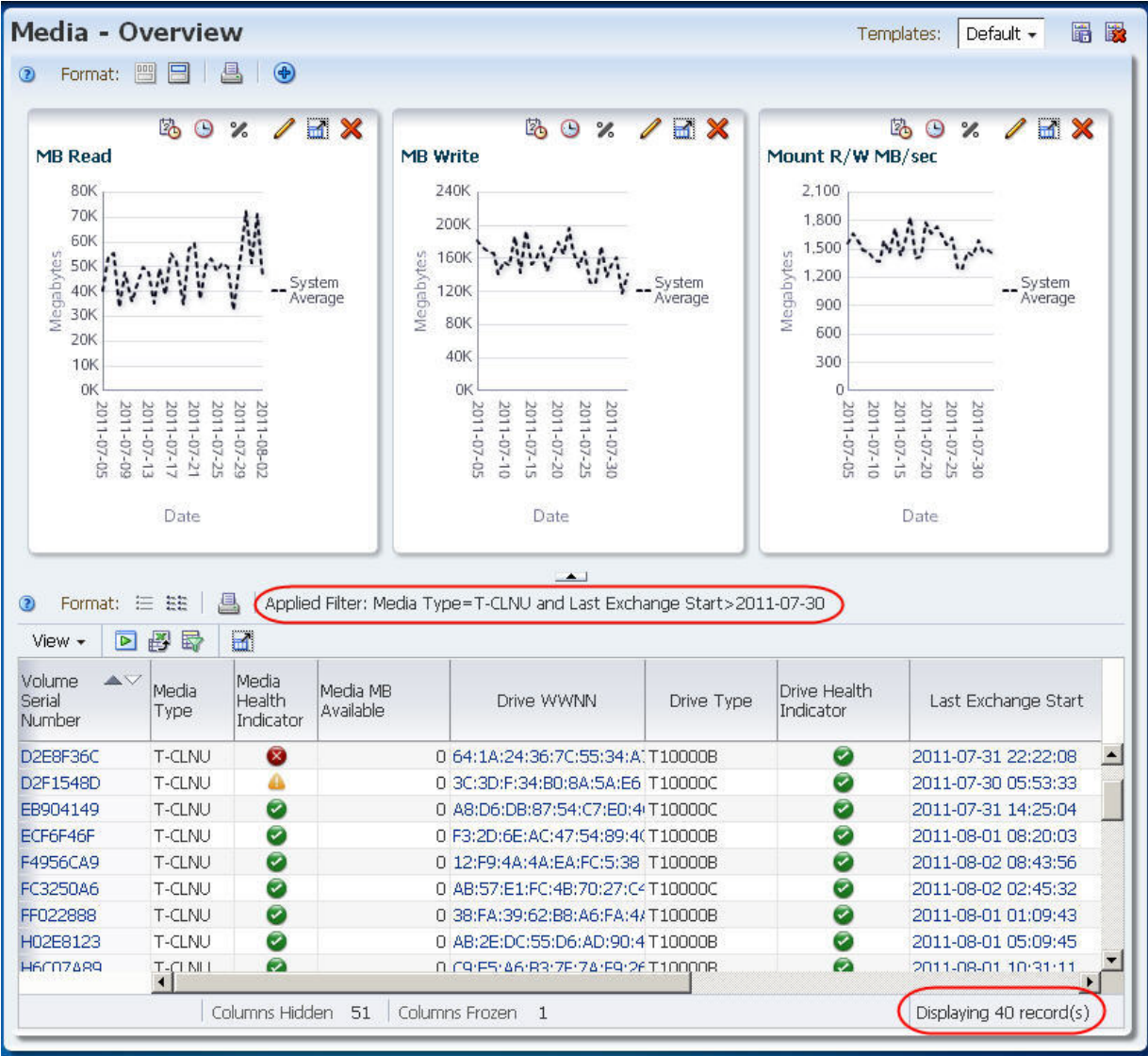
- Filter Matching:** Match ANY entered criteria, Match ALL entered criteria
- STA Start Tracking: [Dropdown] [Text]
- STA Stop Tracking: [Dropdown] [Text]
- Volume Serial Number: [Dropdown] [Text]
- Media Type:** T-CLNU (highlighted with a red oval)
- Media Health Indicator: [Dropdown]
- WORM/VolSafe Media: [Dropdown]
- Media Manufacturer Serial Number: [Dropdown] [Text]
- Media Manufacturer: [Dropdown] [Text]
- Media Long Type: [Dropdown]
- Media Life Indicator: [Dropdown]
- Media Warranty Indicator: [Dropdown]
- Drive Serial Number: [Dropdown] [Text]
- Drive WWNN: [Dropdown] [Text]
- Drive ID: [Dropdown] [Text]
- Drive Type: [Dropdown]
- Drive Health Indicator: [Dropdown]
- Last Exchange Start:** Is After [Dropdown] 2011-07-30 (highlighted with a red oval)

Buttons at the bottom: Apply, Reset, Cancel

3. Verify that your specifications are correct, and then click Apply.

The following updates are made to the table:

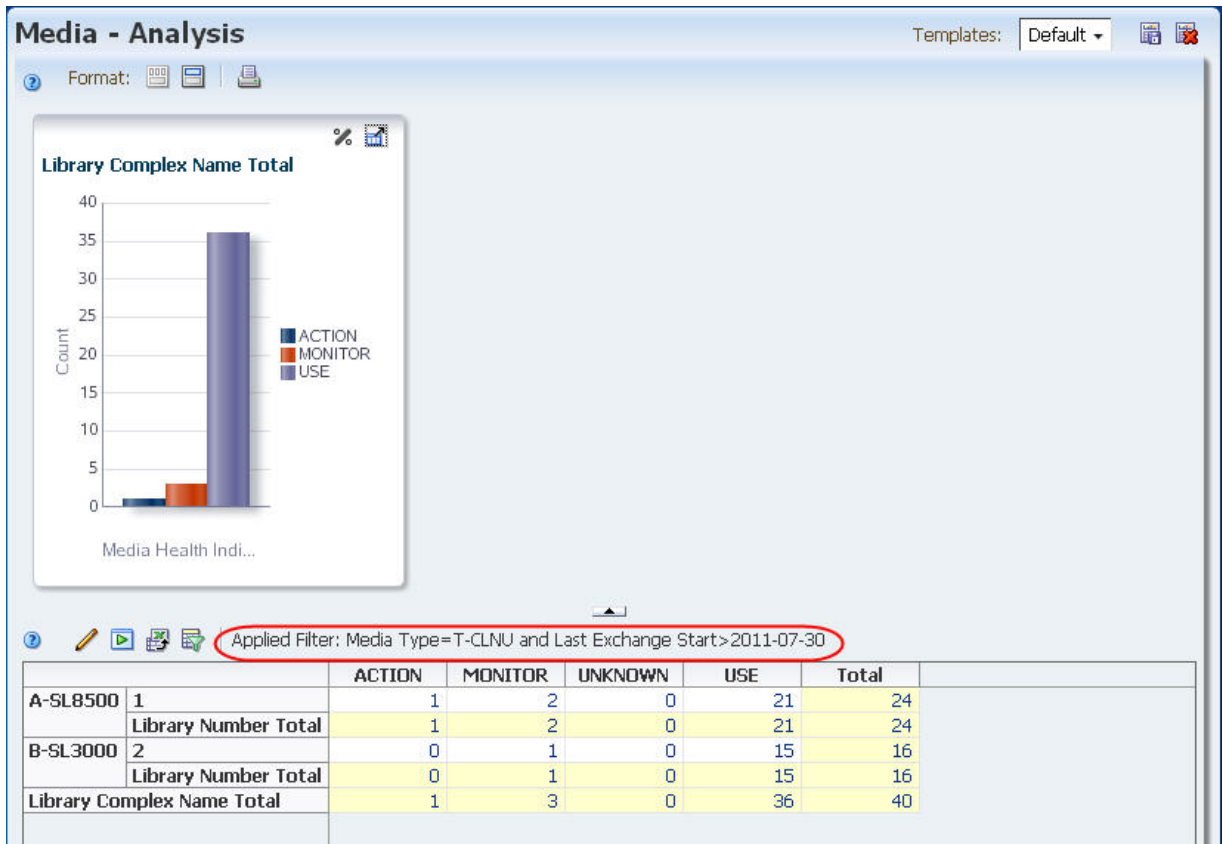
- The table displays only the records that match the criteria you have specified.
- The [Applied Filter](#) area indicates the specified criteria.
- For list view tables, the [Table status line](#) indicates the number of records.



4. If the screen is one of a Drives or Media screen pairing, the filter criteria are also applied to its partner. You can navigate to the partner screen to verify this.



The **Applied Filter** area of the tables on both screens indicate the same filter.



▼ Clear the Current Filter

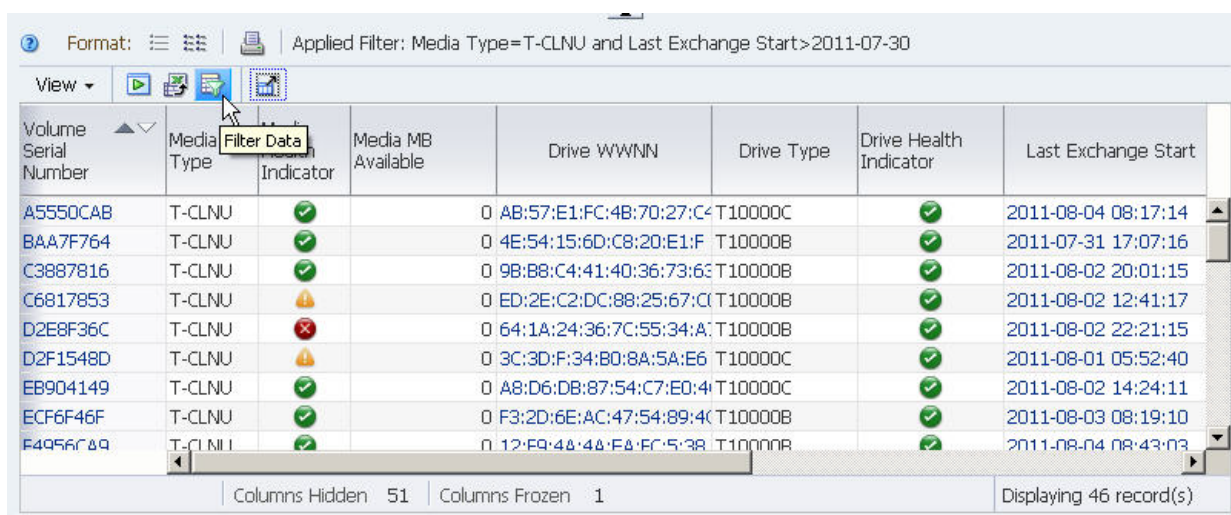
Note – This procedure applies to both pivot and list view tables.

Use this procedure to remove all filter criteria from a table.

Note – To remove selected filter criteria from a table, see [“Use the Filter Data Dialog Box to Change a Table Filter”](#) on page 173.

1. Click the Filter Data icon in the Table Toolbar.

Note – This procedure uses a list view table, but you could also use a pivot table.



Applied Filter: Media Type=T-CLNU and Last Exchange Start>2011-07-30

Volume Serial Number	Media Type	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Start
A5550CAB	T-CLNU		0 AB:57:E1:FC:4B:70:27:C4	T10000C	✓	2011-08-04 08:17:14
BAA7F764	T-CLNU		0 4E:54:15:6D:C8:20:E1:F	T10000B	✓	2011-07-31 17:07:16
C3887816	T-CLNU		0 9B:B8:C4:41:40:36:73:63	T10000B	✓	2011-08-02 20:01:15
C6817853	T-CLNU		0 ED:2E:C2:DC:88:25:67:C1	T10000B	⚠	2011-08-02 12:41:17
D2E8F36C	T-CLNU		0 64:1A:24:36:7C:55:34:A	T10000B	✗	2011-08-02 22:21:15
D2F1548D	T-CLNU		0 3C:3D:F:34:80:8A:5A:E6	T10000C	⚠	2011-08-01 05:52:40
EB904149	T-CLNU		0 A8:D6:DB:87:54:C7:E0:4	T10000C	✓	2011-08-02 14:24:11
ECF6F46F	T-CLNU		0 F3:2D:6E:AC:47:54:89:4	T10000B	✓	2011-08-03 08:19:10
F4956A9	T-CLNU		0 12:E9:48:48:F8:FC:5:38	T10000B	✓	2011-08-04 08:43:03

Columns Hidden 51 | Columns Frozen 1 | Displaying 46 record(s)

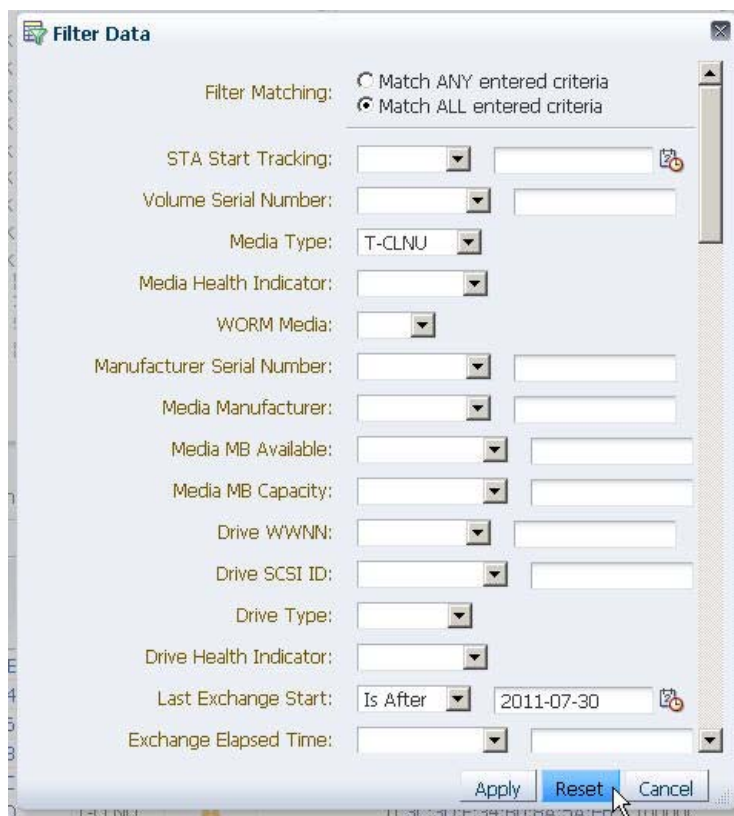
The **Filter Data** dialog box appears, and all selection criteria currently in effect are indicated.

The screenshot shows the 'Filter Data' dialog box with the following fields and settings:

- Filter Matching:** Match ANY entered criteria, Match ALL entered criteria
- STA Start Tracking:** [Dropdown] [Text Box]
- STA Stop Tracking:** [Dropdown] [Text Box]
- Volume Serial Number:** [Dropdown] [Text Box]
- Media Type:** T-CLNU (highlighted with a red oval)
- Media Health Indicator:** [Dropdown]
- WORM/VolSafe Media:** [Dropdown]
- Media Manufacturer Serial Number:** [Dropdown] [Text Box]
- Media Manufacturer:** [Dropdown] [Text Box]
- Media Long Type:** [Dropdown]
- Media Life Indicator:** [Dropdown]
- Media Warranty Indicator:** [Dropdown]
- Drive Serial Number:** [Dropdown] [Text Box]
- Drive WWNN:** [Dropdown] [Text Box]
- Drive ID:** [Dropdown] [Text Box]
- Drive Type:** [Dropdown]
- Drive Health Indicator:** [Dropdown]
- Last Exchange Start:** Is After [Dropdown] 2011-07-30 (highlighted with a red oval)

Buttons: Apply, Reset, Cancel

2. Click Reset.



The following updates are made to the table:

- All filter criteria are removed from the table so it displays all available records.
- The **Applied Filter** area is blank, indicating no filter criteria are currently applied.
- For list view tables, the **Table status line** indicates the number of records displayed.

Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Start
A84CD760	LTO-CLNU	✓		0 7C:A0:A7:19:BC:22:79:A1HP-LTO4		✓	2011-08-04 03:59:41
A949B726	T2	✓	1,976	5D:61:F7:34:EE:A3:3E:C	T10000C	✓	2011-07-28 10:50:45
A9F16127	T2	✓	1,796	EB:DD:CD:F9:49:F0:6A:5	T10000C	✓	2011-07-31 10:50:39
AB20E00B	T2	✓	761,394	21:64:7D:33:11:A4:E8:7	T10000C	✓	2011-08-02 16:35:38
AB2EE9DE	LTO-4	✓	789,661	9B:A8:DA:54:FC:B9:61:F	HP-LTO4	✓	2011-07-25 04:39:54
ABBE24DF	LTO-4	⚠	961	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✓	2011-08-04 10:51:55
ABCB4AAC	T2	✓	628,356	2A:24:A5:36:38:7E:7A:5	T10000C	✓	2011-08-04 10:03:18
AC6FEF24	LTO-CLNU	✓		0 29:43:F6:76:DA:C7:F7:A	HP-LTO4	✓	2011-07-15 21:15:37
A7C9F727	T1	✗	185,535	A5:6E:D6:E5:F9:D9:12:4F	T10000B	✓	2011-08-03 14:47:23

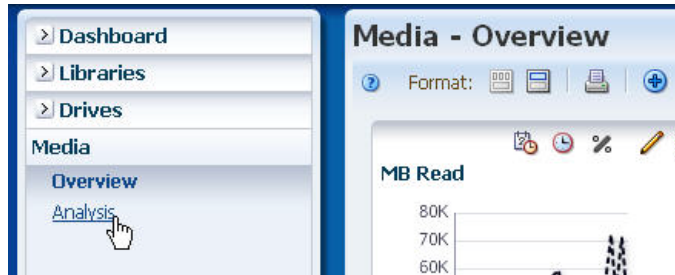
Columns Hidden 51 Columns Frozen 1

Displaying 1,085 record(s)

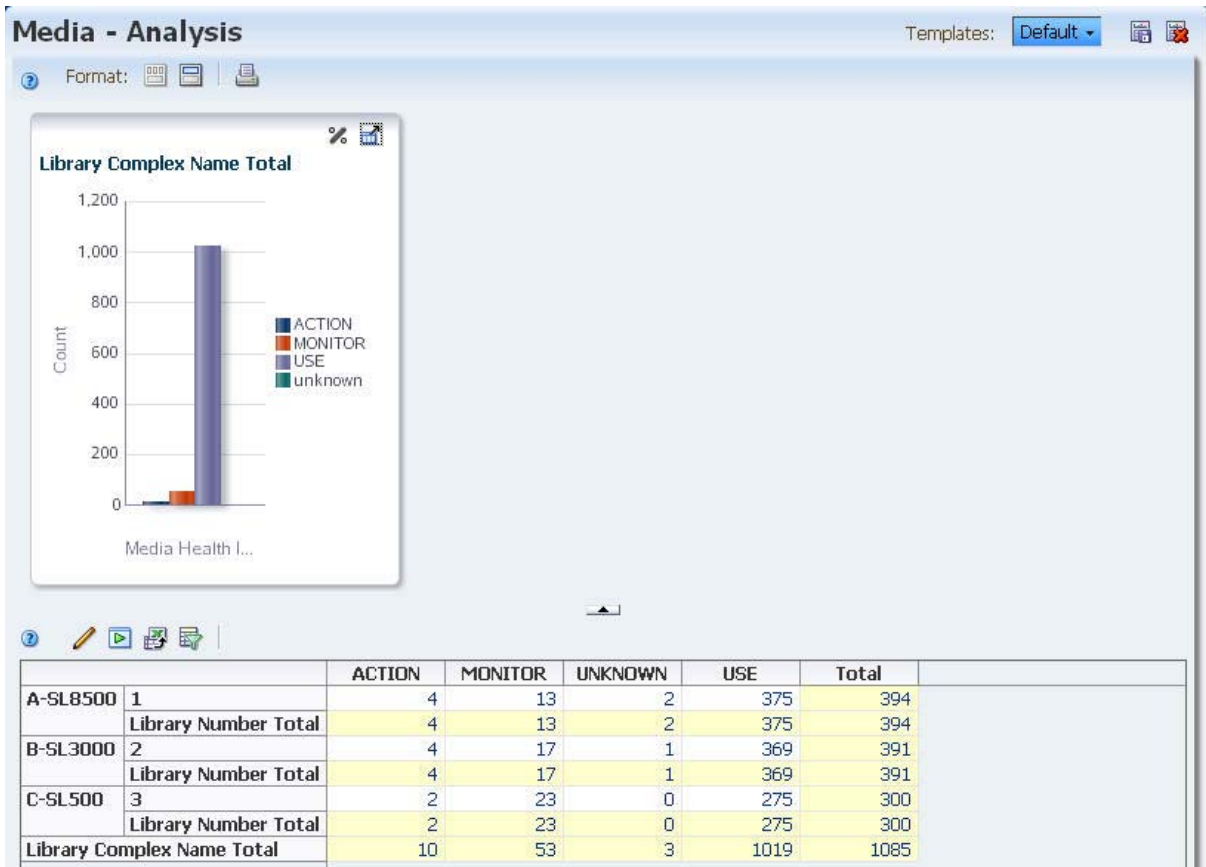
▼ Use an Aggregate Count Link to Apply a Filter

Use this procedure to apply a filter by clicking an aggregate count link in an Analysis screen pivot table. The filter is applied to both the Analysis screen and to its “partner” Overview screen.

1. Use the Navigation Bar to bring up an Analysis screen.



The **Media – Analysis** screen is used in this example.



2. In the pivot table, click an aggregate count link.

		ACTION	MONITOR	UNKNOWN	USE	Total
A-SL8500	1	4	13	2	375	394
	Library Number Total	4	13	2	375	394
B-SL3000	2	4	17	1	369	391
	Library Number Total	4	17	1	369	391
C-SL500	3	2	23	0	275	300
	Library Number Total	2	23	0	275	300
Library Complex Name Total		10	53	3	1019	1085

You are taken to the “partner” Overview screen (**Media – Overview** in this example), and the following updates are made to the list view table:

- The table displays only the records included in the pivot table aggregate count.
- The **Applied Filter** area indicates the filter criteria from the aggregate count.
- The **Table status line** indicates the number of records displayed; this number is the same as the aggregate count in the pivot table.

Media - Overview

Templates: Default

Format: [Icons]

MB Read

Megabytes

80K
70K
60K
50K
40K
30K
20K
10K
0K

System Average

Date

MB Write

Megabytes

240K
200K
160K
120K
80K
40K
0K

System Average

Date

Mount R/W MB/sec

Megabytes

2,100
1,800
1,500
1,200
900
600
300
0

System Average

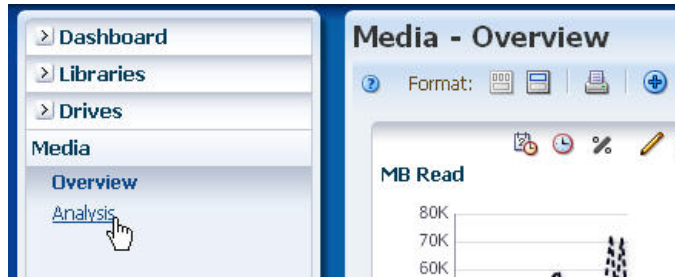
Date

Applied Filter: Media Health Indicator=ACTION and Library Complex Name=A-SL8500 and Library Number=1

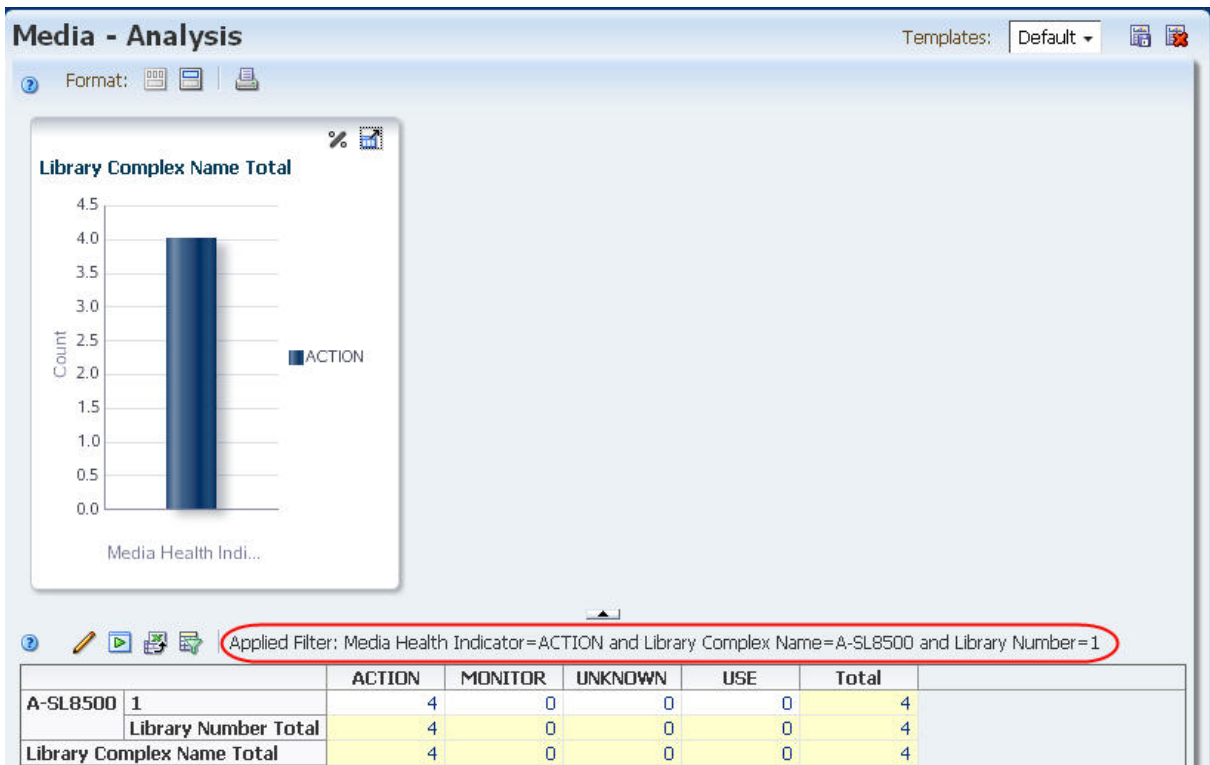
Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Start
CA9BD4C0	T1	✘	818,788	A2:42:8F:4B:D5:B3:97:9F	T10000B	✔	2011-07-30 06:54:05
D2E8F36C	T-CLNU	✘	0	64:1A:24:36:7C:55:34:A	T10000B	✔	2011-08-03 17:21:30
F980C6A7	T2	✘	713,239	BE:88:EB:93:F4:2B:95:9E	T10000C	✔	2011-08-02 02:04:32
XA7F6057	LTO-4	✘	781	81:AE:9D:F9:B6:78:D4:5E	HP-LTO4	✔	2011-07-31 05:23:01

Columns Hidden 51 | Columns Frozen 1 | Displaying 4 record(s)

3. Use the Navigation Bar to return to the Analysis screen.



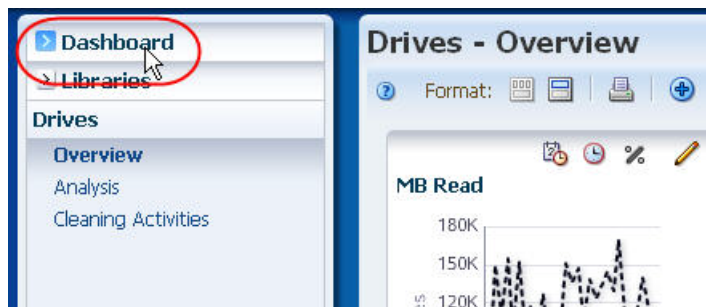
The filter remains active; therefore, the Analysis screen displays only the records that meet the selection criteria intrinsic to the original aggregate count link.



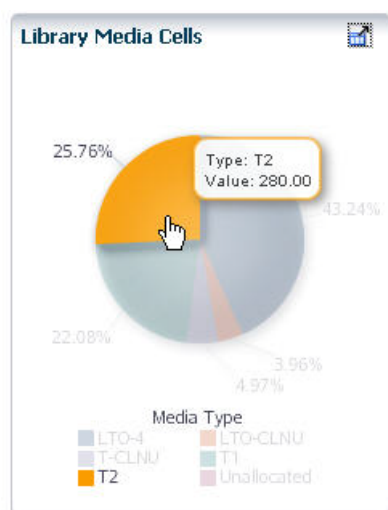
▼ Apply a Filter From the Dashboard

Use this procedure to apply a filter by clicking a section of a bar or pie chart on the Dashboard. You are taken to the corresponding Overview screen, and the filter intrinsic to the bar or pie chart section is applied. This procedure allows you to display detail about data displayed on the Dashboard.

1. Use the Navigation Bar to bring up the Dashboard.



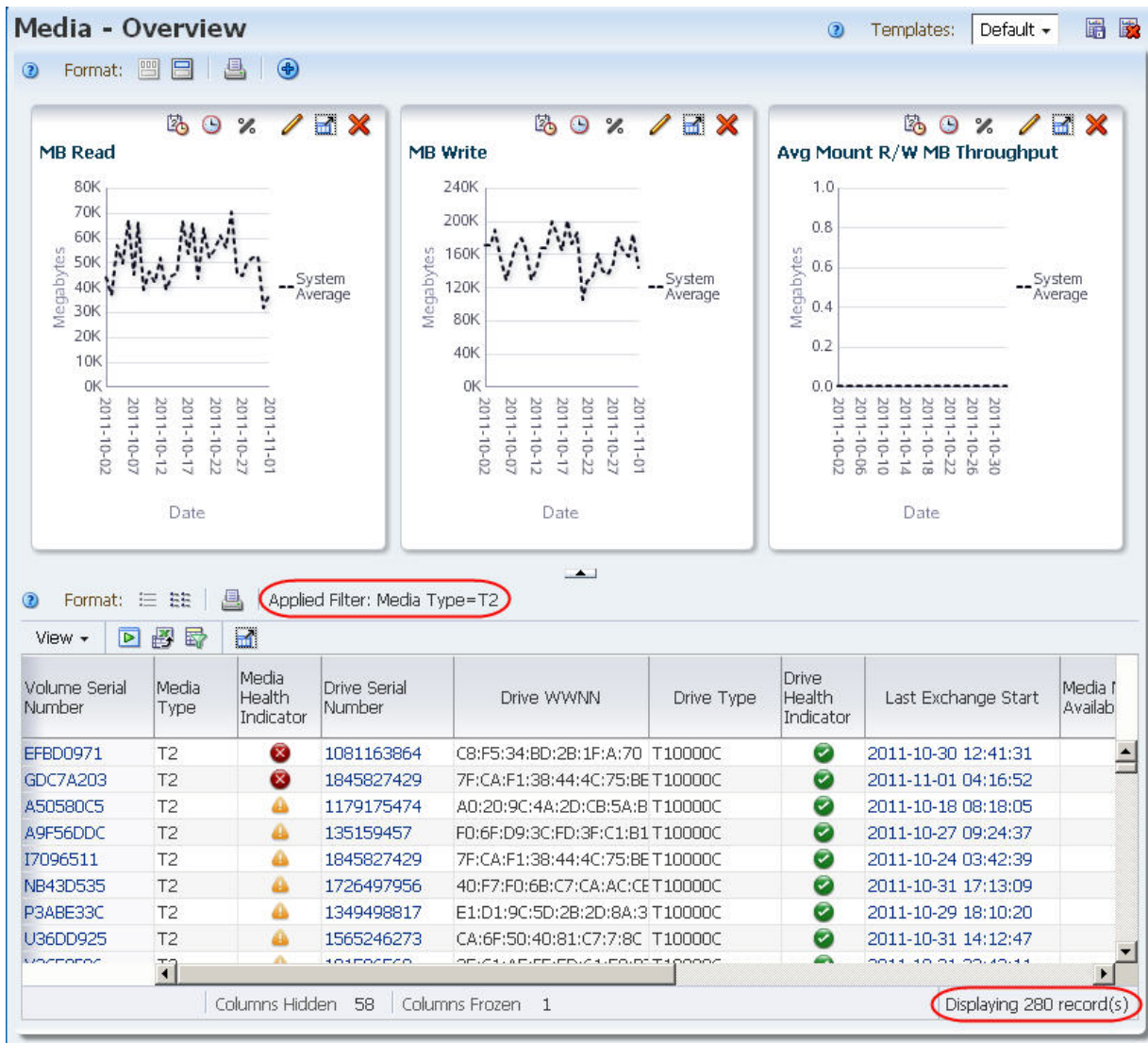
2. Click a section in a Dashboard bar or pie chart.



You are taken to the corresponding Overview screen (**Media – Overview** in this example), and the following updates are made to the list view table:

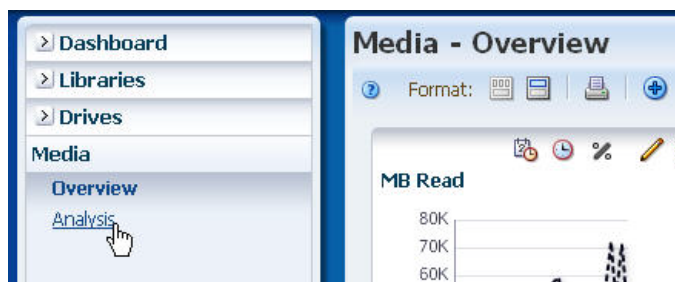
- The table displays only the records included in the selected Dashboard section.
- The Applied Filter area indicates the filter criteria from the selected section.

- The Table status line indicates the number of records displayed; this number is the same as the Value for the selected Dashboard section.

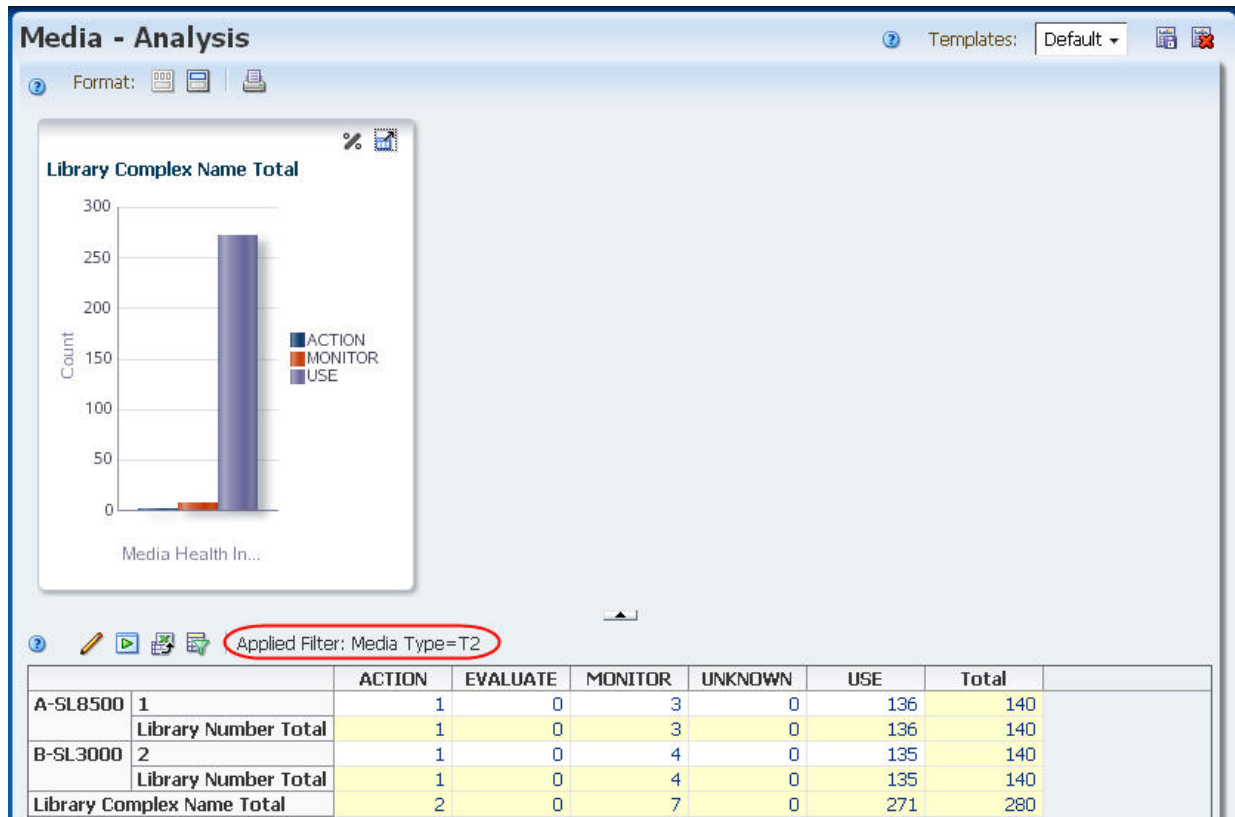


3. Use the Navigation Bar to select the “partner” Analysis screen, if applicable.

Note – This step applies to Drive and Media Overview screens only.



The filter remains active; therefore, the Analysis screen displays only the records that meet the selection criteria intrinsic to the selected bar or pie chart section.



Templates

Templates provide modified STA screen views that can be saved, re-used, and shared with other users.

This section describes templates and provides instructions for their creation and use. The following topics are discussed:

- [“Templates Overview” on page 190](#)
 - [“Template Definition” on page 190](#)
 - [“Templates Toolbar” on page 191](#)
 - [“Template Types” on page 192](#)
- [“Pre-defined Template Summaries” on page 193](#)
- [“Template Tasks” on page 198](#)

Templates Overview

Templates include a variety of screen display characteristics, including graph and table layouts and filter criteria. Applying a template to a screen updates the screen display so it matches the characteristics defined in the template. See [“Template Definition”](#) for specifics.

Templates are available for Overview and Analysis screens only. They are also screen-specific; a template for the **Drives – Overview** screen can be applied to that screen only and cannot be applied to the **Drives – Analysis** screen, for example.

Template Definition

Following are specific characteristics included and not included in the template definition.

Screen Characteristics Included in the Template Definition

- Graph display details, such as:
- Wide vs. narrow view
 - Graphed attributes
 - Percent vs. actual value display
 - Date range
- Table display details, such as:
- Hidden and visible columns
 - Column order

Filter criteria


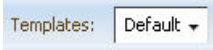


Screen Characteristics Not Included in the Template Definition

- Table resource selections applied to graphs
 - Table sort criteria
 - Specific data content
-

Templates Toolbar

The Templates Toolbar appears at the top of the main window area. It provides direct access to frequently used commands for applying and managing templates.



Icon	Name	Description
	Help	Displays help for template functions. Related Task: “Help”
	Templates menu	Menu lists all available templates for this screen. The first entry is always “Default”. The list includes pre-packaged templates and custom templates that are available to all users. Select a template to apply it to the current screen. Related Task: “Apply a Template”
	Save Template	Allows you to save the current screen configuration, either as a new template or as a modification of an existing template. Related Task: “Create a New Template” and “Modify a Template”
	Delete Template	Allows you to delete a template. Related Task: “Delete a Template”

Template Types

STA provides a default template for each screen, as well as a set of pre-defined templates. You can also create your own custom templates, tailored to your needs.

Default Template

Each Overview and Analysis screen has a Default template, which is automatically applied whenever you navigate to the screen. To apply a different template, you simply select the template you want to use from the list in the Templates menu. If after applying a new template, you leave the screen and then return later, the Default template is applied again.

Pre-defined Templates

STA is delivered with a set of pre-defined templates that provide you with frequently used information about library resources (libraries, drives, media) and events (exchanges, cleaning activities, and notifications).

Pre-defined templates are available to all users. You can use them as is, or modify them and save the changes as custom templates. If you modify or delete a pre-defined template, you can later restore the original.

Custom Templates

Custom templates can be created by any STA user, and any number of custom templates can be created for each screen.

You create a custom template by applying modifications to the current screen—such as changing graphed attributes, re-ordering columns in a list view table, and/or applying filter criteria—and then saving the new display as a template. When you save a template you assign it a unique name and designate whether it is private or public, as follows:

- Public – Available to all STA users.
- Private – Available only to the username under which it is saved.

Once you have saved a custom template, it is immediately available for the current and future login sessions. Each user has access to all public templates as well as the private templates saved under their username.

Pre-defined Template Summaries

Following are short descriptions of the pre-defined templates for each Overview and Analysis screen.

Libraries – Overview



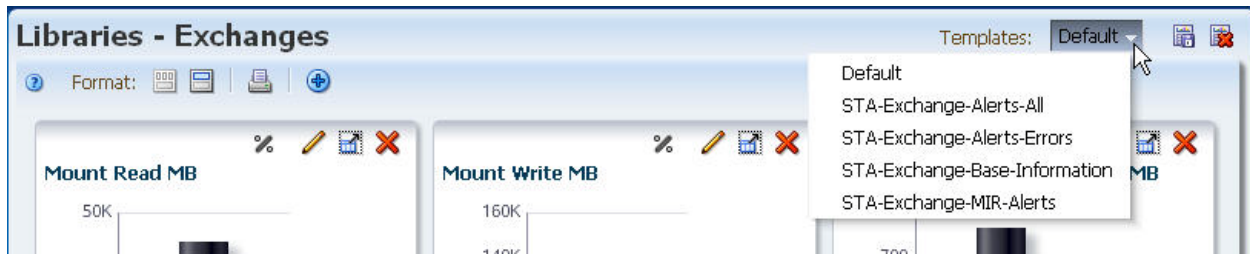
Default	Displays library properties and configuration information.
STA-Lib-All	Displays all library table attributes.
STA-Lib-Base-Information	Displays the base library configuration and relatively static data; useful for library description and inventory listings.
STA-Lib-Configuration	Displays library configuration and connection information; useful for troubleshooting connection issues.
STA-Lib-Health	Displays information about library health, firmware, and SNMP connection with STA.
STA-Lib-Utilization	Displays summary information about the amount and rates of library activity and drive utilization.

Libraries – Complexes Overview



Default	Displays library complex configuration.
STA-Complex-All	Displays all library complex graphs and table attributes.
STA-Complex-Configuration	Displays library complex configuration information.
STA-Complex-Utilization	Displays information about the amount and rates of library complex activity and drive utilization.

Libraries – Exchanges



Default	Displays identification and status information for the drive, media, and library involved in each exchange.
STA-Exchange-Alerts-All	Displays information about alerts that occurred during exchanges; exchanges that have not generated an alert are not included.
STA-Exchange-Alerts-Errors	Displays all exchanges that resulted in error-type alerts; alerts that are not errors, such as cleaning alerts, are not included. Your Oracle support representative may ask you to use this template prior to submitting error log information.
STA-Exchange-Base Information	Displays base information for all exchanges, such as drive and volume serial number, drive and media health, drive and media exchange status, MB read and written, and times.
STA-Exchange-MIR-Alerts	Displays all exchanges that resulted in alerts related to the media information record (MIR). Your Oracle support representative may ask you to use this template prior to submitting error log information.

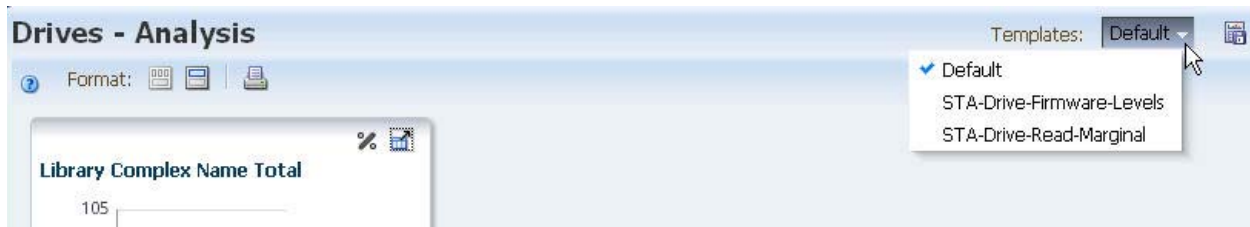
Drives – Overview



Default	Displays drive configuration information and the status of the most recent exchange that occurred on the drive.
STA-Drive-All	Displays all drive graphs and table attributes.
STA-Drive-Base-Information	Displays the base drive configuration and relatively static data; useful for drive description and inventory listings.

STA-Drive-Enterprise-Performance	Displays summary performance data for enterprise drives only.
STA-Drive-Health	Displays current and summary health and activity information for all drives.
STA-Drive-LTO-Performance	Displays performance data for LTO drives only.
STA-Drive-LTO-Utilization	Displays utilization statistics for LTO drives only.
STA-Drive-Last-Exchange	Displays information for the last exchange that occurred on each drive.
STA-Drive-Performance-30-Days	Displays summary performance data for all drives over the last 30 days.
STA-Drive-Utilization	Displays utilization statistics for all drives.

Drives – Analysis



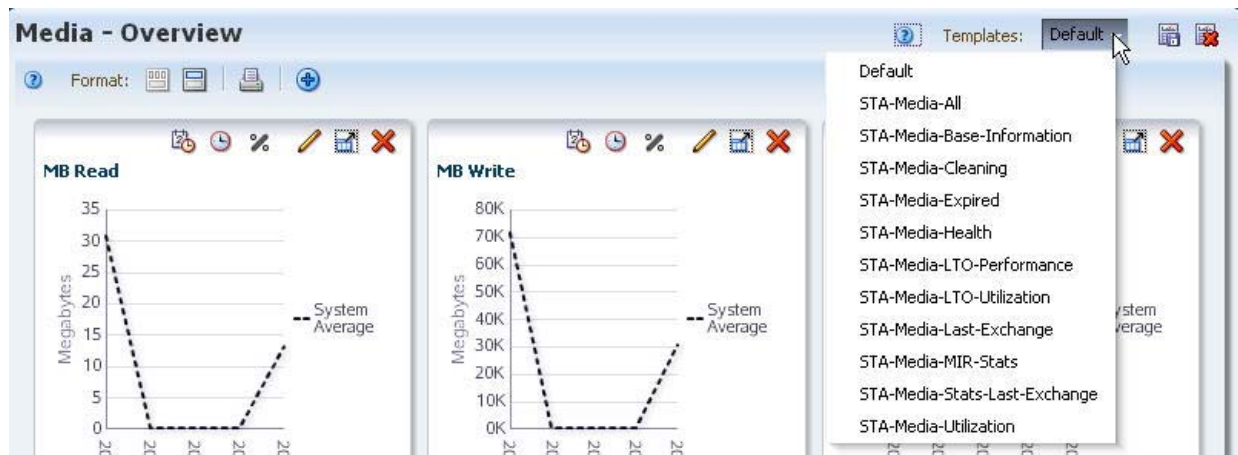
Default	Summarizes current drive health by library complex.
STA-Drive-Firmware-Levels	Summarizes current drive firmware levels by drive type.
STA-Drive-Read-Marginal	Summarizes the “Exchange Read Marginal” status for applicable drives, by library complex name. Applicable to StorageTek T10000A and above drives only.

Drives – Cleaning Activities



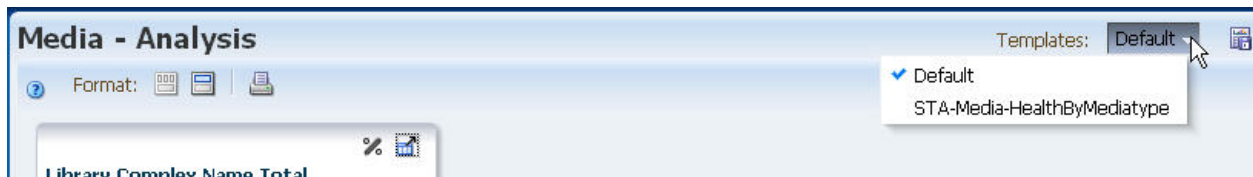
Default	Displays identification and status information for the drive, media, and library involved in each cleaning exchange.
STA-Cleaning-All	Displays all cleaning exchange attributes.
STA-Cleaning-Base-Information	Displays base information for all cleaning exchanges, such as drive and volume serial number, drive lifetime cleans, and current and maximum cleaning uses.

Media – Overview



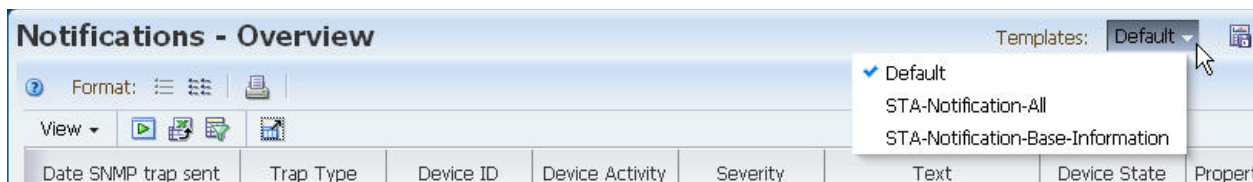
Default	Displays base information about the media, its most recent exchange, and the drive involved.
STA-Media-All	Displays all media graphs and table attributes.
STA- Media-Base-Information	Displays the base media information and relatively static data; useful for media description and inventory listing.
STA-Media-Cleaning	Displays base information about cleaning cartridges only. Also displays the status of the cleaning media’s most recent exchange and the drive involved.
STA-Media-Expired	Displays information about expired media. Your Oracle support representative may ask you to use this template prior to submitting error log information.
STA-Media-Health	Displays current and summary health and activity information for all media.
STA-Media-LTO-Performance	Displays summary performance information for LTO media only.
STA-Media-LTO-Utilization	Displays summary utilization information for LTO media only.
STA-Media-Last-Exchange	Displays information about the last exchange for each piece of media.
STA-Media-MIR-Stats	Displays data from the media information record (MIR).
STA-Media-Stats-Last-Exchange	Displays throughput and efficiency information for the last exchange for each piece of media. Your Oracle support representative may ask you to use this template prior to submitting error log information.
STA-Media-Utilization	Displays summary utilization information for all media.

Media – Analysis



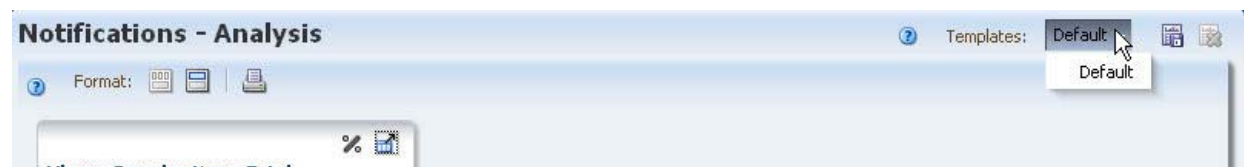
- | **Default** Summarizes current media health by library complex.
- STA-Media-HealthByMediaType** Summarizes current media health by media type.

Notifications – Overview



- Default** Displays SNMP traps, including detail about the library and device involved.
- STA-Notification-All** Displays all attributes available for SNMP traps (no graphs are available for this screen).
- STA- Notification-Base-Information** Displays base data for SNMP traps; useful for an overview, description, and listing of notifications.

Notifications – Analysis



- | **Default** Summarizes notification severity levels by library complex.

Template Tasks

Task	Page
Apply a Template	199
Create a New Template	201
Modify a Template	203
Delete a Template	206
Recover Pre-defined Templates	209

▼ Apply a Template

Use this procedure to apply a template to the current screen. When you initially bring up a screen, the Default template is always applied automatically.

1. In the current screen, select the Templates menu.

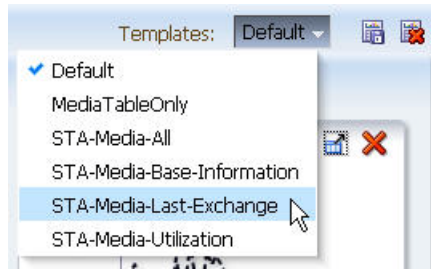
The menu displays all templates for the current screen that are available to the current user.

The screenshot shows the 'Media - Overview' interface. At the top right, a 'Templates:' dropdown menu is open, listing several options: Default (selected), MediaTableOnly, STA-Media-All, STA-Media-Base-Information, STA-Media-Last-Exchange, and STA-Media-Utilization. Below the graphs is a table with columns: Volume Serial Number, Media Type, Media Health Indicator, Media MB Available, Drive WWNN, Drive Type, Drive Health Indicator, and Last Exchange S...

Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange S...
ACC9F727	T1	✘	185,535	A5:6E:D6:F5:F9:D9:12:4E	T10000B	✔	2011-08-11 09:47:...
CA9BD4C0	T1	✘	818,788	A2:42:8F:4B:D5:B3:97:9F	T10000B	✔	2011-08-06 06:54:...
CB9EC483	T1	✘	400,232	D9:B9:18:2F:57:A5:B:83	T10000B	✔	2011-08-01 07:42:...
D2E8F36C	T-CLNU	✘	0	64:1A:24:36:7C:55:34:A	T10000B	✔	2011-08-10 17:21:...
F980C6A7	T2	✘	713,239	BE:88:EB:93:F4:2B:95:9E	T10000C	✔	2011-08-09 02:04:...
JDD088B2	T2	✘	1,236	83:2F:F8:8F:D4:9E:2D:4E	T10000C	✔	2011-08-07 13:57:...
P41EFB22	T1	✘	492,219	64:1F:C5:B7:8A:6A:BF:4E	T10000B	✔	2011-08-09 20:24:...
QB5CDDC1	LTO-4	✘	241,341	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-11 12:47:...
TS6ANR6A	LTO-4	✘	1,527,431	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-10 06:03:...

Columns Hidden: 51 | Columns Frozen: 1 | Displaying 1,085 record(s)

2. In the Templates menu, select the template you want to apply.



The new template is applied.

Note – You can always verify the currently applied template by viewing the name displayed in the **Templates** field.

The screenshot displays the 'Media - Overview' dashboard. At the top right, the 'Templates:' dropdown is set to 'STA-Media-Last-Exchange'. Below this are three charts: 'Exchange Elapsed Time', 'Exchange Mount Time', and 'Exchange Write Efficiency'. Each chart shows a 'Count' or 'Percent' over time, with a dashed line representing the 'System Average'. The x-axis for all charts shows dates from 2011-07-12 to 2011-08-11. Below the charts is a table with columns: Volume Serial Number, Manufacturer Serial Number, Media Manufacturer, Media Type, Physical Address, Media Health Indicator, Recording Technique, Drive WWNN, Drive SCSI ID, Drive Type, and Drive Health Indicator. The table lists several drives, with the 'Media Health Indicator' column showing red 'X' icons for most entries. At the bottom, it indicates 'Columns Hidden: 35', 'Columns Frozen: 1', and 'Displaying 1,085 record(s)'.

Volume Serial Number	Manufacturer Serial Number	Media Manufacturer	Media Type	Physical Address	Media Health Indicator	Recording Technique	Drive WWNN	Drive SCSI ID	Drive Type	Drive Health Indicator
ACC9F727	ACC9F727	T1	T1	2,1,1,1,598	✖		A5:6E:D6:F5:F9:D9:12:4E 26	T10000B	T10000B	✔
CA9BD4C0	CA9BD4C0	T1	T1	1,3,1,1,268	✖		A2:42:8F:4B:D5:B3:97:9F 32	T10000B	T10000B	✔
CB9EC483	CB9EC483	T1	T1	2,1,1,1,635	✖		D9:B9:18:2F:57:A5:B:83 42	T10000B	T10000B	✔
D2E8F36C	D2E8F36C	T-CLNU	T-CLNU	1,3,1,1,324	✖		64:1A:24:36:7C:55:34:A: 43	T10000B	T10000B	✔
F980C6A7	F980C6A7	T2	T2	1,1,1,1,61	✖		BE:88:EB:93:F4:2B:95:9E 52	T10000C	T10000C	✔
JDD088B2	JDD088B2	T2	T2	2,1,1,1,710	✖		83:2F:F8:8F:D4:9E:2D:45 21	T10000C	T10000C	✔
P41EFB22	P41EFB22	T1	T1	2,1,1,1,625	✖		64:1F:C5:B7:8A:6A:BF:45 43	T10000B	T10000B	✔
QB5CDDC1	QB5CDDC1	LTO-4	LTO-4	3,1,1,1,1135	✖		C5:D0:98:EB:F4:24:DE:BF 53	HP-LTO4	HP-LTO4	✔
T5680B6A	T5680B6A	LTO-4	LTO-4	3,1,1,1,968	✖		C5:D0:98:EB:F4:24:DE:BF 53	HP-LTO4	HP-LTO4	✔

▼ Create a New Template

Use this procedure to create and save a new template for the current screen. You can specify whether the template should be available for all users or just the current username.

1. Apply the desired changes to the current screen.

Note – See “[Template Definition](#)” on page 190 for the types of screen changes that can be included in a template.

In the following example, the **Media – Overview** screen has been modified by collapsing the graphics pane so that only the tables area is visible.

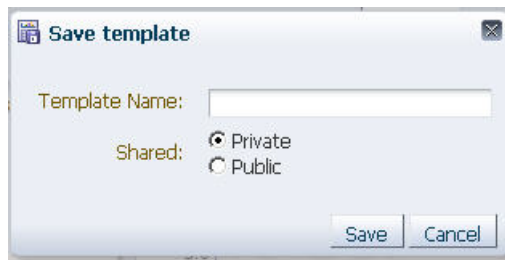
Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange S
ACC9F727	T1	✖	185,535	A5:6E:D6:F5:F9:D9:12:4E	T10000B	✔	2011-08-11 09:47:
CA9BD4C0	T1	✖	818,788	A2:42:8F:4B:D5:B3:97:9F	T10000B	✔	2011-08-06 06:54:
CB9EC483	T1	✖	400,232	D9:B9:18:2F:57:A5:8:B3	T10000B	✔	2011-08-01 07:42:
D2E8F36C	T-CLNU	✖	0	64:1A:24:36:7C:55:34:A	T10000B	✔	2011-08-10 17:21:
F980C6A7	T2	✖	713,239	BE:88:EB:93:F4:2B:95:9E	T10000C	✔	2011-08-09 02:04:
JDD088B2	T2	✖	1,236	83:2F:F8:8F:D4:9E:2D:4E	T10000C	✔	2011-08-07 13:57:
P41EF822	T1	✖	492,219	64:1F:C5:B7:8A:6A:BF:4E	T10000B	✔	2011-08-09 20:24:
QB5CDDC1	LTO-4	✖	241,341	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-11 12:47:
T5680B6A	LTO-4	✖	1,527,431	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-10 06:03:
XA7F6057	LTO-4	✖	781	81:AE:9D:F9:86:78:D4:5	HP-LTO4	✔	2011-08-07 05:23:
ABBE24DF	LTO-4	⚠	961	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-12 05:52:
B199F3FE	T2	⚠	4,164	C7:10:42:54:1D:43:90:6	T10000C	✔	2011-08-08 08:20:
B96DCC90	T2	⚠	1,676	DE:EE:87:5C:39:43:B7:B	T10000C	✔	2011-08-11 17:33:
BF5E6765	T1	⚠	871,445	51:8B:2:15:A8:47:BF:B7	T10000B	✔	2011-08-10 09:10:
C379E7BF	LTO-4	⚠	3,232	FC:AF:84:58:1D:67:58:3	HP-LTO4	✔	2011-08-12 02:11:
C6817853	T-CLNU	⚠	0	ED:2E:C2:DC:88:25:67:C	T10000B	✔	2011-08-10 07:41:
C7D65249	T1	⚠	3,223	E7:9B:F3:DC:5E:11:36:97	T10000B	✔	2011-08-07 20:01:
C9C02E39	T2	⚠	889	90:F5:8:2A:80:7D:51:DF	T10000C	✔	2011-08-12 01:35:
D2383917	LTO-4	⚠	261,061	7C:A0:A7:19:BC:22:79:AI	HP-LTO4	✔	2011-08-10 16:50:
D2F1548D	T-CLNU	⚠	0	3C:3D:F:34:80:8A:5A:E6	T10000C	✔	2011-08-09 00:52:
D527FBE0	T1	⚠	25,126	97:71:6E:84:10:F:79:7B	T10000B	✔	2011-08-10 22:07:
D5E829DC	LTO-4	⚠	2,745	51:29:C2:88:54:D0:B1:6E	HP-LTO4	✔	2011-08-10 10:23:
D67D9A60	LTO-4	⚠	1,863	51:29:C2:88:54:D0:B1:6E	HP-LTO4	✔	2011-07-30 08:16:
E1F241BA	LTO-4	⚠	258	93:E7:B3:CA:D9:98:31:1	HP-LTO4	✔	2011-07-19 04:50:
EF16B628	T1	⚠	4,144	A5:E9:DD:84:89:9A:D0:4	T10000B	✔	2011-08-10 21:52:
EF60F85B	LTO-4	⚠	1,598	1F:FD:6C:2B:F3:98:7B:EC	HP-LTO4	✔	2011-08-08 23:56:
F2C42477	LTO-4	⚠	1,081	D1:33:9B:B1:CD:32:EF:4	HP-LTO4	✔	2011-08-04 01:11:
F3BA59D1	LTO-4	⚠	32,287	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-08 17:37:

Columns Hidden 51 | Columns Frozen 1 | Displaying 1,085 record(s)

2. When you have made all the modifications you want, click the **Save Template** icon.



The **Save Template** dialog box appears.



3. Complete the **Save Template** dialog box, as follows:

- a. In the **Template Name** field, type a new, unique name.

Note – If this entry is not unique, when you click **Save**, you will be asked to confirm whether you want to overwrite the existing template.

- a. In the **Shared** field, select an option:

- Private – The template will be available to the current user only.
- Public – The template will be available to all STA users.

4. Click **Save**.



The template is saved and the name is displayed in the **Templates** menu.



▼ Modify a Template

Use this procedure to modify an existing template for the current screen.

Note – If you modify a pre-defined template, you can later recover the original. See [“Recover Pre-defined Templates”](#) on page 209 for details.

1. In the Templates menu, select the template you want to modify.

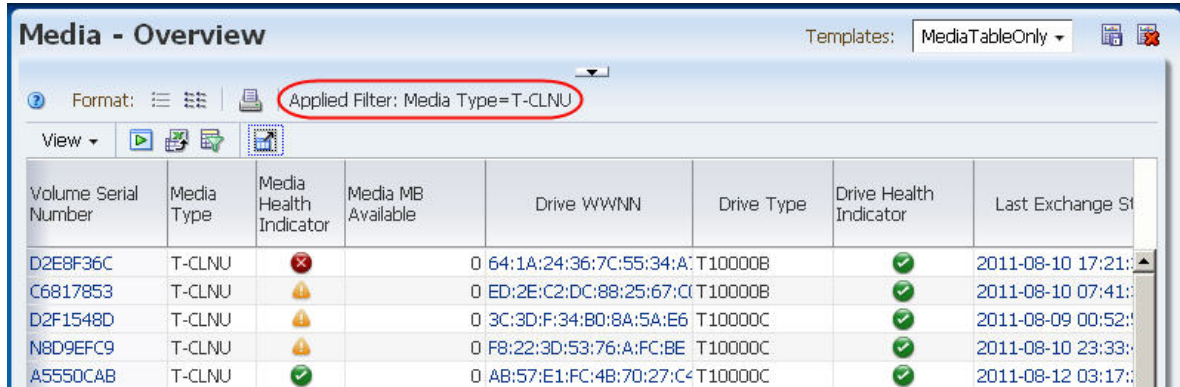
The template is applied to the screen.

Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Status
ACC9F727	T1	✖	185,535	A5:6E:D6:F5:F9:D9:12:4E	T10000B	✔	2011-08-11 09:47:...
CA9BD4C0	T1	✖	818,788	A2:42:8F:4B:D5:B3:97:9F	T10000B	✔	2011-08-06 06:54:...
CB9EC483	T1	✖	400,232	D9:B9:18:2F:57:A5:B:83	T10000B	✔	2011-08-01 07:42:...
D2E8F36C	T-CLNU	✖	0	64:1A:24:36:7C:55:34:A	T10000B	✔	2011-08-10 17:21:...
F980C6A7	T2	✖	713,239	BE:88:EB:93:F4:2B:95:9E	T10000C	✔	2011-08-09 02:04:...
JDD088B2	T2	✖	1,236	83:2F:F8:8F:D4:9E:2D:4E	T10000C	✔	2011-08-07 13:57:...
P41EFB22	T1	✖	492,219	64:1F:C5:B7:8A:6A:BF:4E	T10000B	✔	2011-08-09 20:24:...
QB5CDDC1	LTO-4	✖	241,341	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-11 12:47:...
T5680B6A	LTO-4	✖	1,527,431	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-10 06:03:...
XA7F6057	LTO-4	✖	781	81:AE:9D:F9:B6:78:D4:5	HP-LTO4	✔	2011-08-07 05:23:...
ABBE24DF	LTO-4	⚠	961	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-12 05:52:...
B199F3FE	T2	⚠	4,164	C7:10:42:54:1D:43:90:6	T10000C	✔	2011-08-08 08:20:...
B96DCC90	T2	⚠	1,676	DE:EE:B7:5C:39:43:B7:B	T10000C	✔	2011-08-11 17:33:...
BF5E6765	T1	⚠	871,445	51:8B:2:15:A8:47:BF:B7	T10000B	✔	2011-08-10 09:10:...
C379E7BF	LTO-4	⚠	3,232	FC:AF:84:58:1D:67:58:3	HP-LTO4	✔	2011-08-12 02:11:...
C6817853	T-CLNU	⚠	0	ED:2E:C2:DC:88:25:67:C	T10000B	✔	2011-08-10 07:41:...
C7D65249	T1	⚠	3,223	E7:9B:F3:DC:5E:11:36:97	T10000B	✔	2011-08-07 20:01:...
C9C02E39	T2	⚠	889	90:F5:8:2A:80:7D:51:DF	T10000C	✔	2011-08-12 01:35:...
D2383917	LTO-4	⚠	261,061	7C:AD:A7:19:BC:22:79:A	HP-LTO4	✔	2011-08-10 16:50:...
D2F1548D	T-CLNU	⚠	0	3C:3D:F:34:80:8A:5A:E6	T10000C	✔	2011-08-09 00:52:...
D527FBED	T1	⚠	25,126	97:71:6E:84:10:F:79:7B	T10000B	✔	2011-08-10 22:07:...
D5E829DC	LTO-4	⚠	2,745	51:29:C2:88:54:D0:B1:6	HP-LTO4	✔	2011-08-10 10:23:...
D67D9A60	LTO-4	⚠	1,863	51:29:C2:88:54:D0:B1:6	HP-LTO4	✔	2011-07-30 08:16:...
E1F241BA	LTO-4	⚠	258	93:E7:B3:CA:D9:98:31:1	HP-LTO4	✔	2011-07-19 04:50:...
EF16B628	T1	⚠	4,144	A5:E9:DD:84:89:9A:DO:4	T10000B	✔	2011-08-10 21:52:...
EF60F85B	LTO-4	⚠	1,598	1F:FD:6C:2B:F3:98:7B:EC	HP-LTO4	✔	2011-08-08 23:56:...
F2C42477	LTO-4	⚠	1,081	D1:33:9B:B1:CD:32:EF:4	HP-LTO4	✔	2011-08-04 01:11:...
F3BA59D1	LTO-4	⚠	32,287	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✔	2011-08-08 17:37:...

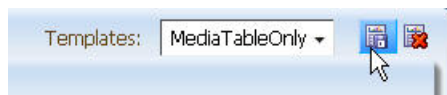
2. Make the additional screen changes you want to include in the template.

Note – See [“Template Definition”](#) on page 190 for the types of screen changes that can be included in a template.

In this example, the screen is modified by applying the filter, “Media Type=TCLNU”.



3. Verify your changes, and then click **Save Template** in the **Templates Toolbar**.



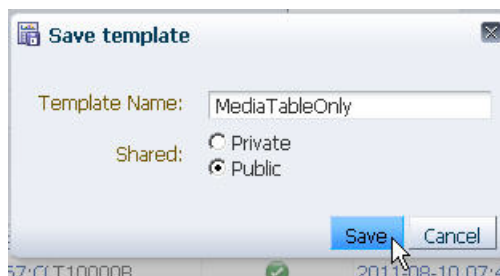
The **Save Template** dialog box appears, and the current template name is supplied in the **Template Name** field.



4. Complete the **Save Template** dialog box, as follows:

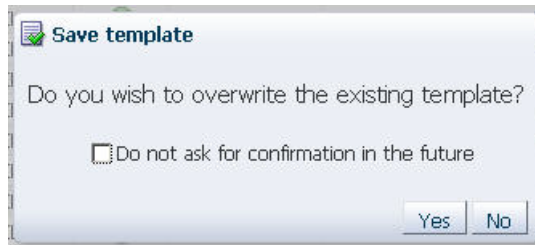
- a. Leave the **Template Name** field as is.
- a. Depending on whether you want to modify the availability of the template, either select an option in the **Shared** field or leave the field as is:
 - Private – The template will be available to the current user only.
 - Public – The template will be available to all STA users.

5. Click **Save**.

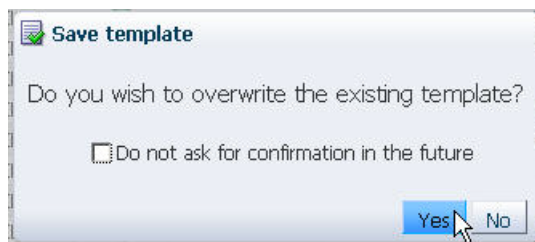


The **Template Overwrite Confirmation** dialog box appears.

Note – This dialog box does not appear if it has been turned off. See [“Modify Confirmation Dialog Box Preferences”](#) on page 32 for details.



6. Click Yes to confirm the modification.



The template is updated with the changes you have specified.

▼ Delete a Template

Use this procedure to delete a template.

Note – If you delete a pre-defined template, you can later recover it. See [“Recover Pre-defined Templates” on page 209](#) for details.

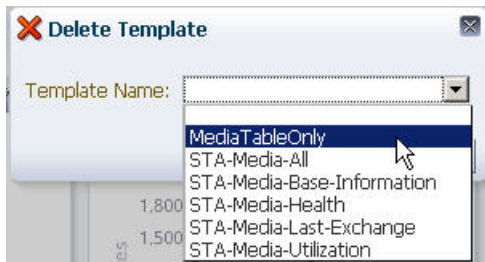
1. Click **Delete Template** in the **Templates** Toolbar.



The **Delete Template** dialog box appears.



2. In the **Template Name** menu, select the template you want to delete.



3. Verify your selection, and then click **Delete**.



The **Delete Template** confirmation dialog box appears.

Note – This dialog box does not appear if it has been turned off. See [“Modify Confirmation Dialog Box Preferences”](#) on page 32 for details.



4. Click Yes to confirm the deletion.



The template is deleted and is no longer displayed in the **Templates** menu.

Note – If the current screen was using the template you just deleted, then the screen is re-displayed using the Default template.

The screenshot shows the 'Media - Overview' dashboard. At the top, there are three line graphs: 'MB Read', 'MB Write', and a third graph showing 'Megabytes' over time. Each graph has a 'System Average' line. Below the graphs is a table with columns: Volume Serial Number, Media Type, Media Health Indicator, Media MB Available, Drive WWNN, Drive Type, Drive Health Indicator, and Last Exchange St. A red box highlights the 'Templates' dropdown menu in the top right corner, which is currently set to 'Default' and lists other templates: STA-Media-All, STA-Media-Base-Information, STA-Media-Health, STA-Media-Last-Exchange, and STA-Media-Utilization.

Volume Serial Number	Media Type	Media Health Indicator	Media MB Available	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange St
ACC9F727	T1	✗	185,535	A5:6E:D6:F5:F9:D9:12:4E	T10000B	✓	2011-08-11 09:47:
CA9BD4C0	T1	✗	818,788	A2:42:8F:4B:D5:B3:97:9F	T10000B	✓	2011-08-06 06:54:
CB9EC483	T1	✗	400,232	D9:B9:18:2F:57:A5:B:83	T10000B	✓	2011-08-01 07:42:
D2E8F36C	T-CLNU	✗	0	64:1A:24:36:7C:55:34:A	T10000B	✓	2011-08-10 17:21:
F980C6A7	T2	✗	713,239	BE:88:EB:93:F4:2B:95:9E	T10000C	✓	2011-08-09 02:04:
JDD088B2	T2	✗	1,236	83:2F:F8:8F:D4:9E:2D:4E	T10000C	✓	2011-08-07 13:57:
P41EFB22	T1	✗	492,219	64:1F:C5:B7:8A:6A:BF:4E	T10000B	✓	2011-08-09 20:24:
QB5CDDC1	LTO-4	✗	241,341	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✓	2011-08-11 12:47:
T5680R6A	LTO-4	✗	1,527,431	C5:D0:98:EB:F4:24:DE:BF	HP-LTO4	✓	2011-08-10 06:03:

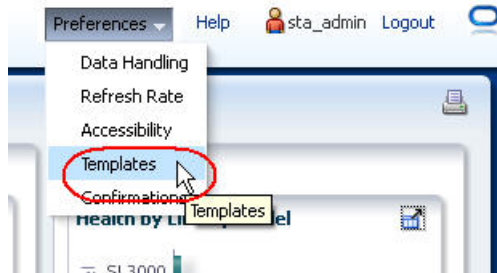
▼ Recover Pre-defined Templates

Use this procedure to recover pre-defined templates after modifying or deleting them.

Note – This procedure does not affect custom templates you have created.

Note – You will be required to log out of STA as part of this procedure.

1. On any screen, select **Preferences > Templates** in the Main Toolbar.



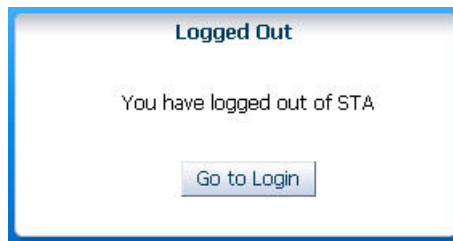
The template **Reset** dialog box appears.



2. Click Logout.



You are logged out of STA and the **Logged Out** dialog box appears.



3. Click Go to Login.

The **Login** screen appears.



4. Log in to STA.

See [“Log In to STA” on page 20](#) for details.

When you log back in, all pre-defined templates are restored with their default settings. Any custom templates you have created are also available, as before.

Using STA to Answer Tape Environment Questions

This chapter combines elements and procedures described in the previous chapters to address common questions about tape storage operations and health. The methods described are not exhaustive, but are meant as examples of some of the ways you can use STA to answer these and similar questions, and in the process build your expertise in using the STA product.

Each procedure includes a “Related Information” section, which refers to the elements and procedures from previous chapters.

The questions are organized into the following categories:

- [“Drive and Media Health Questions” on page 212](#)
- [“Capacity and Resource Management Questions” on page 243](#)

Drive and Media Health Questions

Question	Task
Which drive and media cartridge have had the most errors in the last 30 days? Is there any correlation between the two?	“Report the Media and Drive With the Most Errors” on page 213
Which drives have had the most errors this week? Have their error rates gone up?	“Report Trends in Drive Error Rates” on page 220
Which drives have had significantly declining efficiency over time?	“Report Drive Efficiency Trends” on page 227
Is the drive that failed twice today the same one that caused problems two months ago?	“Report Trends in Drive Failures” on page 231
At 9:00 am today, one of our tape jobs experienced an error. Which drive and media were involved? Have they also experienced other errors?	“Report Information to Help Troubleshoot Tape Job Errors” on page 233
What critical errors were reported to STA last month? Is the total number trending up, down, or staying stable?	“Report Trends in Critical Errors” on page 237

▼ Report the Media and Drive With the Most Errors

These procedures address the questions, “Which media cartridge and drive have had the most errors in the last 30 days? Is there any correlation between the two?”

The following methods are described:

- “Report Drives With the Most Errors”, below
- “Report Media With the Most Errors” on page 215
- “Display Correlations Between the Two” on page 217

Referenced Tasks

- “Apply a Template” on page 199
- “Sort by a Column” on page 126
- “Add Library Resources to Graphs” on page 99
- “Use the Filter Data Dialog Box to Change a Table Filter” on page 173

▼ Report Drives With the Most Errors

1. In the Navigation Bar, select Drives > Overview.



2. In the Templates menu, apply the “STA-Drive-Health” template.



3. In the “Drive Errors (30 Days)” column, click the Sort Descending arrow.

Drive Errors (30 Days)	% Drive Utilization
0	19.72
0	0.00
0	0.00
0	0.00
0	0.00

The drives with the most errors are brought to the top of the list.

Drive Serial Number	Drive WWNN	Drive Model	Drive Physical Address	Drive Library Name	Drive Library Serial Number	Drive Health Indicator	Exchange Drive Suspicion	Exchange Write Efficiency	Drive Load Limit Alert	Diagnostic Required Alert
HU1047DLTA	50:01:04:F0:00:7A:82:10	LTO5	4,3,1,9	sl500-goldie	52200000074	⊗	100.00			0
572001000315	50:01:04:F0:00:AC:A7:D7	T10000B	1,1,-1,1,3	sl3000	57100020003	⊗	100.00			
HU18031659	50:01:04:F0:00:AC:A7:D1	LTO4	1,1,-3,1,2	sl3000	57100020003	⊕	80.00			0
HU19477NBJ	50:01:04:F0:00:AC:A7:E0	LTO5	1,1,-4,1,3	sl3000	57100020003	⊕	80.00			0
HU19477NCA	50:01:04:F0:00:8A:BA:33	LTO5	1,4,-1,1,3	bas-sl8500	51600010045	⊕	80.00			0

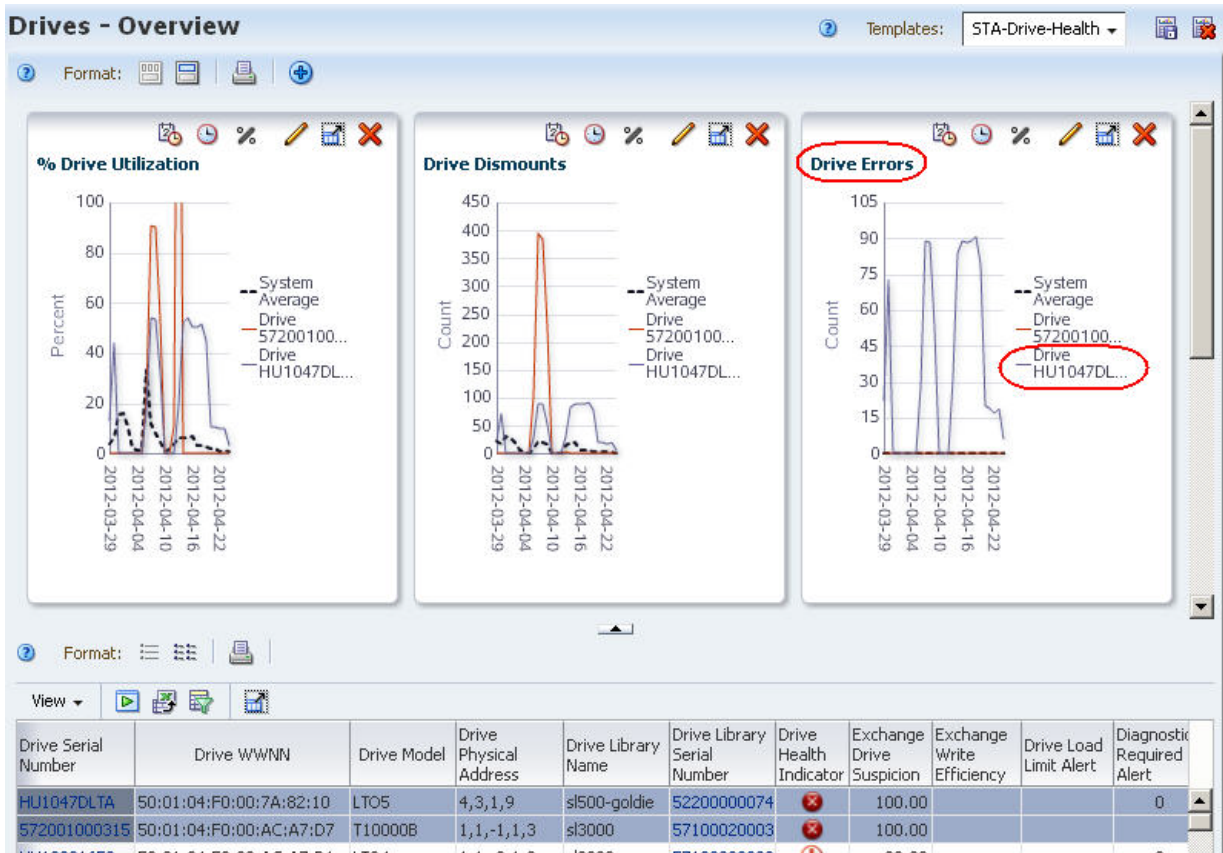
4. Use the following steps to add selected drives to the graphs.

Adding the drives to the graphs allows you to compare their attribute values against the system average. By default, graphs always include the system average.

- a. In the List View table, select the drives you want to add to the graphs.
- b. Click the Apply Selection icon on the Table Toolbar.

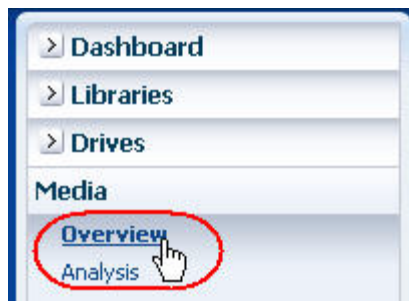
Drive Serial Number	Drive WWNN	Drive Model	Drive Physical Address	Drive Library Name	Drive Library Serial Number	Drive Health Indicator	Exchange Drive Suspicion	Exchange Write Efficiency	Drive Load Limit Alert	Diagnostic Required Alert
HU1047DLTA	50:01:04:F0:00:7A:82:10	LTO5	4,3,1,9	sl500-goldie	52200000074	⊗	100.00			0
572001000315	50:01:04:F0:00:AC:A7:D7	T10000B	1,1,-1,1,3	sl3000	57100020003	⊗	100.00			
HU18031659	50:01:04:F0:00:AC:A7:D1	LTO4	1,1,-3,1,2	sl3000	57100020003	⊕	80.00			0
HU19477NBJ	50:01:04:F0:00:AC:A7:E0	LTO5	1,1,-4,1,3	sl3000	57100020003	⊕	80.00			0
HU19477NCA	50:01:04:F0:00:8A:BA:33	LTO5	1,4,-1,1,3	bas-sl8500	51600010045	⊕	80.00			0

The graphs are updated with the drive data. In the example below, one of the drives shows a high level of errors when compared with the system average.

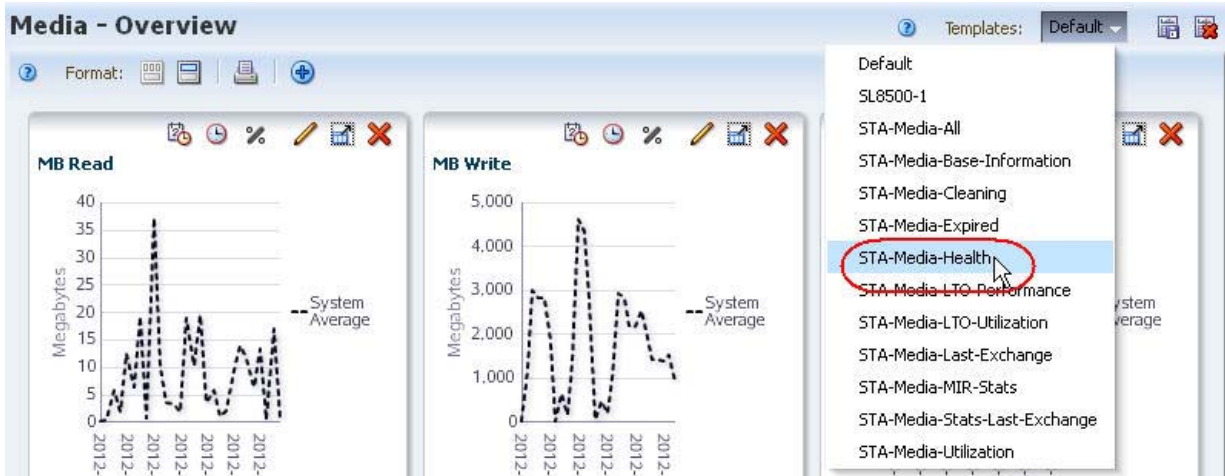


▼ Report Media With the Most Errors

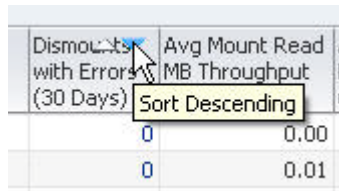
1. In the Navigation Bar, select Media > Overview.



2. In the Templates menu, apply the "STA-Media-Health" template.



3. In the "Dismounts With Errors (30 Days)" column, click the Sort Descending arrow.



The media with the most errors are brought to the top of the list.

Volume Serial Number	Media Life Indicator	Media Warranty Indicator	Media Load Limit Alert	Exchange Write Inefficient	Exchange Read Marginal	Dismounts with Errors (30 Days)	Avg Mount Read MB Throughput (30 Days)	Avg Mount Write MB Throughput (30 Days)	Avg Mount R/W MB Throughput (30 Days)
T50218	✓	✓				100	0.01	25.37	25.37
T50219	✓	✓				100	0.01	25.72	25.72
T50230	✓	✓				99	0.01	26.85	26.85
T50217	✓	✓				99	0.01	26.81	26.81

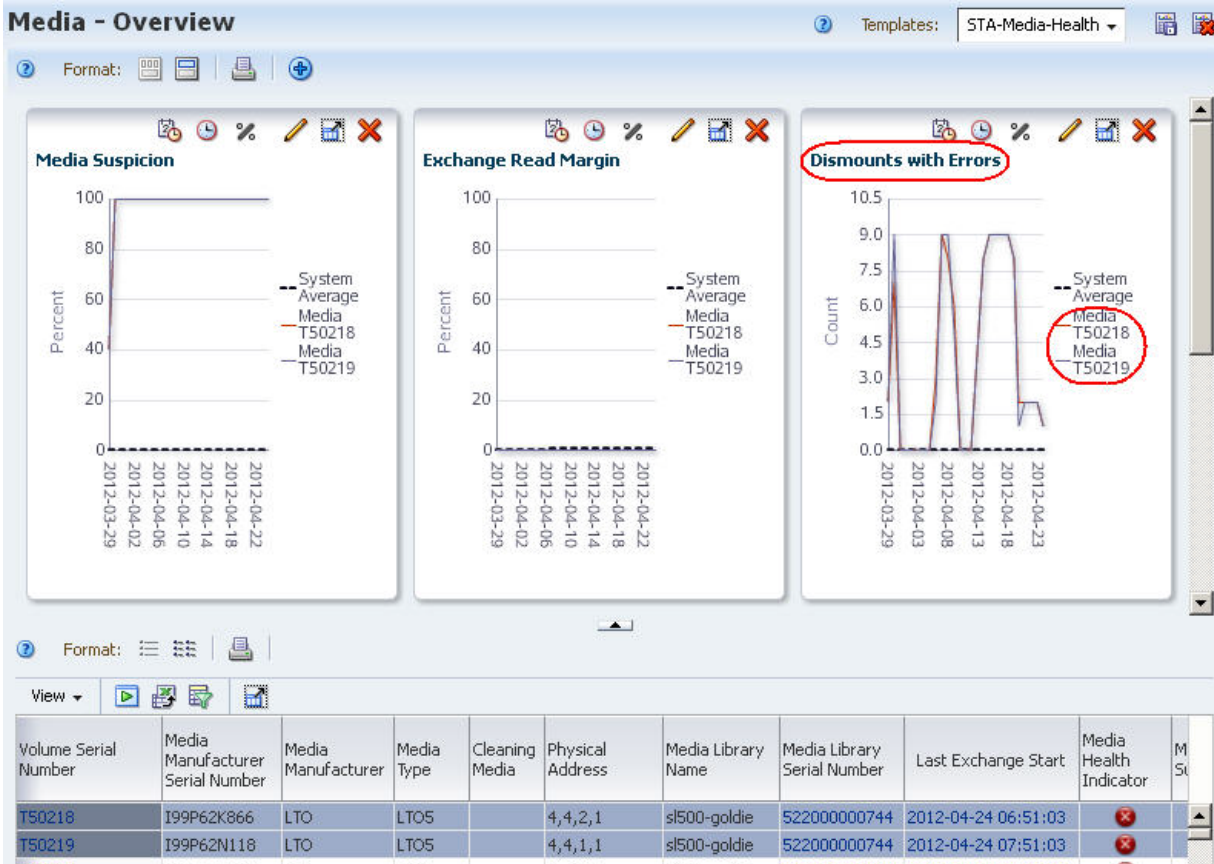
4. Use the following steps to add selected media to the graphs.

Adding the media to the graphs allows you to easily compare their attribute values against the system average. By default, graphs always include the system average.

- a. In the List View table, select the media you want to add to the graphs.
- b. Click the Apply Selection icon on the Table Toolbar.

Volume Serial Number	Serial Number	Media Manufacturer	Media Type	Cleaning Media	Physical Address	Media Library Name	Media Library Serial Number	Last Exchange Start	Media Health Indicator
T50218	I99P62K866	LTO	LTO5		4,4,2,1	sl500-goldie	522000000744	2012-04-24 06:51:03	✘
T50219	I99P62N118	LTO	LTO5		4,4,1,1	sl500-goldie	522000000744	2012-04-24 07:51:03	✘
T50230	I9826D5035	LTO	LTO5		4,4,7,3	sl500-goldie	522000000744	2012-04-24 08:05:05	✘
T50217	I99P62L370	LTO	LTO5		4,4,7,6	sl500-goldie	522000000744	2012-04-24 06:42:47	✘

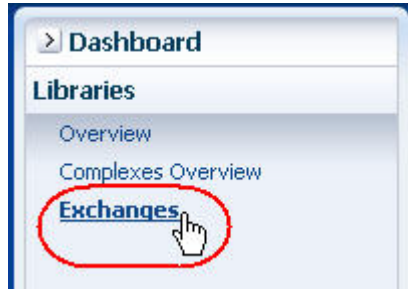
The graphs are updated with the media data. In the example below, both media show high numbers of errors when compared with the system average.



▼ **Display Correlations Between the Two**

This procedure helps you to determine whether there are correlations between the drives and media with most errors. The **Libraries – Exchanges** screen is the most useful for this activity because each exchange involves exactly one drive and one piece of media.

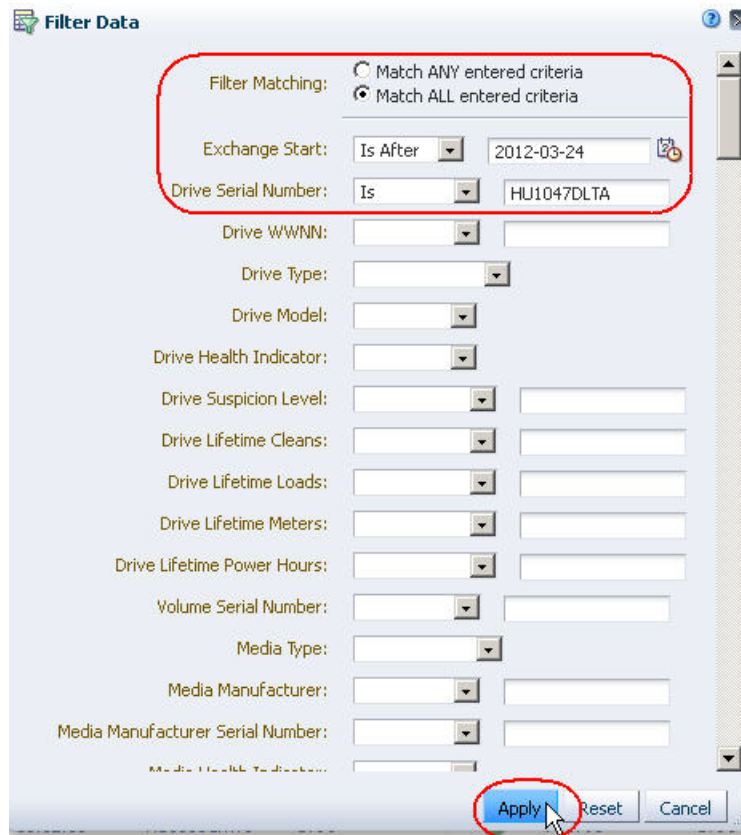
1. In the Navigation Bar, select **Libraries > Exchanges**.



2. Use the following steps to display only those exchanges that took place within the last 30 days and that involve the drive with the most errors.

The drive with the most errors was identified in “[Report Drives With the Most Errors](#)” on page 213.

- a. Click Filter Data.
- b. Complete the Filter Data dialog box as follows:
 - In the “Filter Matching” field, select “Match ALL entered criteria”.
 - In the “Exchange Start” field, select “Is After” and enter a date 30 days ago.
 - In the “Drive Serial Number” field, select “Is” and enter the serial number of the drive with the most errors.
- c. Click Apply.



The table is updated according to your selection criteria.

Exchange Start	Drive Serial Number	Drive Model	Drive Health Indicator	Volume Serial Number	Media Type	Media Health Indicator	Drive Exchange Status	Media Status
2012-04-24 10:14:46	HU1047DLTA	LT05	✖	T50236	LT05	✖	DRIVE_ERROR	DRIVE_ERROR
2012-04-24 09:14:12	HU1047DLTA	LT05	✖	T50235	LT05	✖	DRIVE_ERROR	DRIVE_ERROR

3. To focus on the media involved in the errors, sort the table by a related column.

Suggested columns are “Media Exchange Status”, “Exchange FSC”, or “Media Health Indicator”.



- 4. Visually scan the Volume Serial Number field to see if there are any correlations between drive errors and specific media.**
- 5. If you do find a potential correlation, use the following steps to filter the data further to display just the exchanges that involve both the faulty drive and the suspect media.**

a. Click Filter Data.

The selection criteria already in effect are displayed in the **Filter Data** dialog box.

b. Complete the Filter Data dialog box as follows:

- Leave the current selection criteria as is.
- In the “Volume Serial Number” field, select “Is” and enter the volser of the suspect media identified in [Step 4](#).

c. Click Apply.

The table is updated according to your selection criteria.

▼ Report Trends in Drive Error Rates

This procedure addresses the questions, “Which drives have had the most errors this week? Have their error rates gone up?”

Although STA screens show 30 days worth of data by default, you can use filter and selection criteria to narrow down to just the current week. The following methods are described:

- “Using the Drives – Overview Screen”, below
- “Using the Libraries – Exchanges Screen” on page 223
- “Using the Notifications – Overview Screen” on page 225

Referenced Tasks

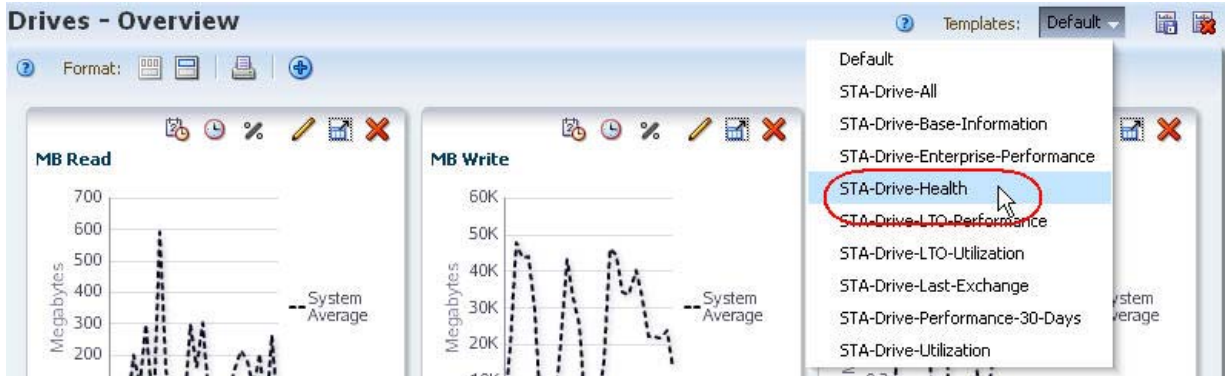
- “Apply a Template” on page 199
- “Sort by a Column” on page 126
- “Add Library Resources to Graphs” on page 99
- “Change the Date Range” on page 94
- “Move a Column” on page 120
- “Hide and Reveal Columns” on page 131
- “Use the Filter Data Dialog Box to Change a Table Filter” on page 173

▼ Using the Drives – Overview Screen

1. In the Navigation Bar, select **Drives > Overview**.



2. In the Templates menu, apply the “STA-Drive-Health” template.



A running 30-day sum of drive errors is shown in the table and one of the graph panes.

3. In the "Drive Errors (30 Days)" column, click the Sort Descending arrow.

Drive	Drive Errors (30 Days)	% Drive Utilization (30 Days)
010i	1,020	20.73
010i	0	0.13
010i	0	266.62

A red circle highlights the 'Drive Errors (30 Days)' column header, and a 'Sort Descending' arrow icon is shown over it.

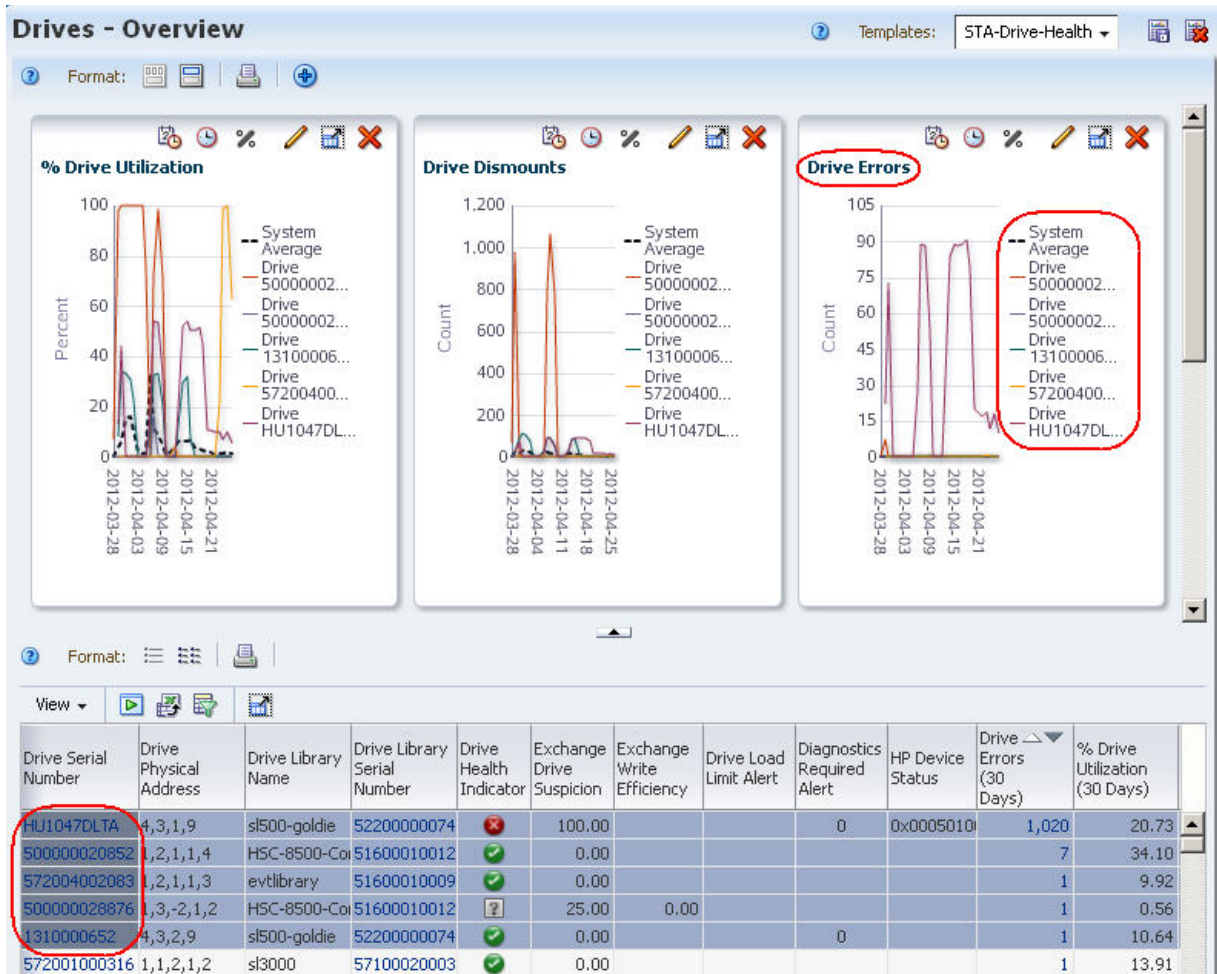
The drives with the most errors are brought to the top of the list.

4. Use the following steps to add the top five drives to the screen graphs.
 - a. In the List View table, select the top five drives.
 - b. Click the Apply Selection icon on the List View Toolbar.

The screenshot shows a table of drive information. The top five rows are highlighted with a red box. In the toolbar above the table, the 'Apply Selection' icon (a blue play button) is also highlighted with a red circle and a mouse cursor.

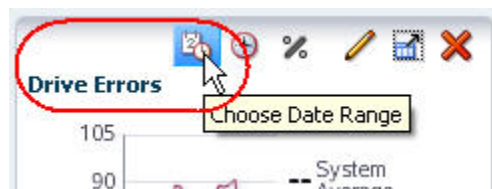
Drive Serial Number	Drive Library Address	Drive Library Name	Drive Library Serial Number	Drive Health Indicator	Exchange Drive Suspicion	Exchange Write Efficiency	Drive Load Limit Alert	Diagnostics Required Alert	HP Device Status	Drive Errors (30 Days)	% Drive Utilization (30 Days)
HU1047DLTA	4,3,1,9	sl500-goldie	5220000074	✖	100.00			0	0x0005010i	1,020	20.73
500000020852	1,2,1,1,4	HSC-8500-Co	51600010012	✔	0.00					7	34.10
572001000316	1,1,2,1,2	sl3000	57100020003	✔	0.00					1	13.91
500000028876	1,3,-2,1,2	HSC-8500-Co	51600010012	?	25.00	0.00				1	0.56
572004002083	1,2,1,1,3	evtlibrary	51600010009	✔	0.00					1	9.92
531001002710	1,2,1,1,3	HSC-8500-Co	51600010012	⚠	90.00					1	0.89

All graphs, including "Drive Errors", are updated to show these drives over a 30-day period.



5. Use the following steps to narrow down the date range on the “Drive Errors” graph pane.

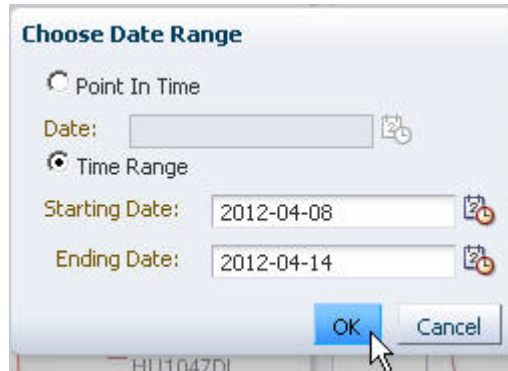
a. Click the Choose Date Range icon on the “Drive Errors” Graph Pane Toolbar.



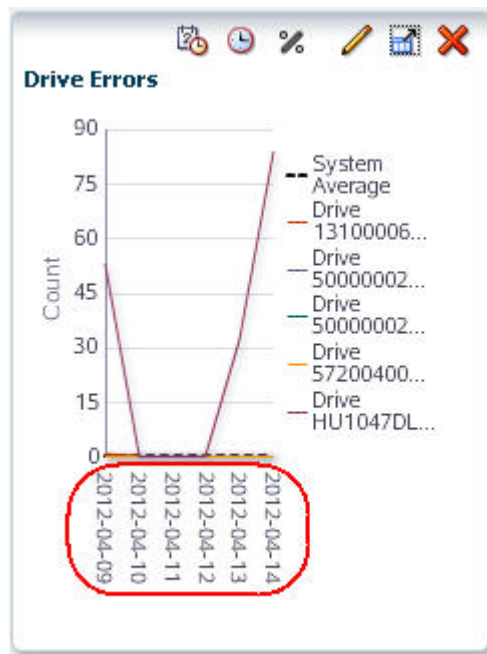
b. Complete the Choose Date Range dialog box as follows:

- Select “Time Range”.
- In the “Starting Date” and “Ending Date” fields, enter the start and end dates of the current week.

c. Click OK.



The graph is updated according to your selection criteria. The variations in the graph lines show increases and decreases in error rates during the week.



▼ Using the Libraries – Exchanges Screen

1. In the Navigation Bar, select Libraries > Exchanges.



2. In the Templates menu, apply the “STA-Exchange-Alerts-Errors” template.
This template applies a filter to show only exchanges with errors.



3. In the “Drive Serial Number” column, click the Sort Ascending or Sort Descending arrow.

Errors are grouped by drive, allowing you to bring focus to faulty drives.



4. To focus on specific errors, use the following tasks to move columns around and remove empty columns, as applicable.
 - “Move a Column” on page 120
 - “Hide and Reveal Columns” on page 131
5. Use the following steps to display just this week’s data.
 - a. Click Filter Data.
 - b. Complete the Filter Data dialog box as follows:
 - In the “Filter Matching” field, select “Match ALL entered criteria”.
 - In the “Exchange Start” field, select “Is After” and enter a date one week ago.
 - c. Click Apply.

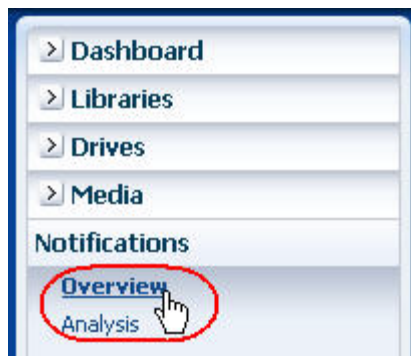


The table is updated according to your selection criteria.

▼ Using the Notifications – Overview Screen

Since most notifications do not contain a specific drive reference, the information from this method is not as comprehensive as from the others. However, this method does provide a quick snapshot of drives whose health state has changed.

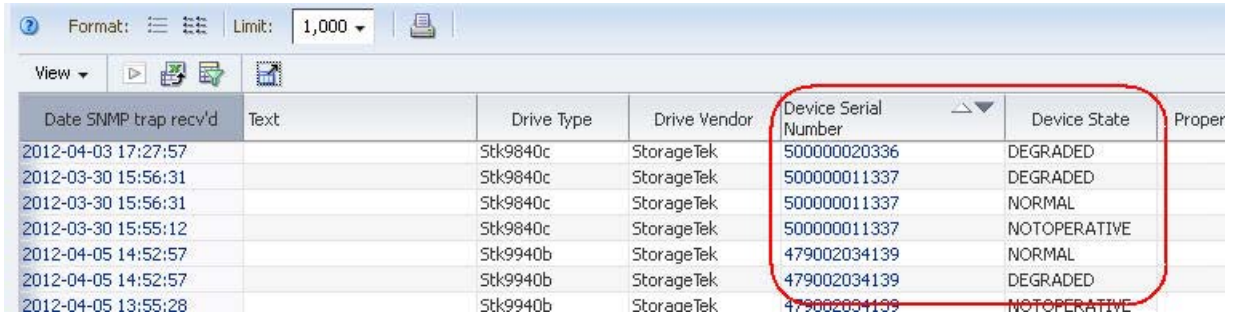
1. In the Navigation Bar, select Notifications > Overview.



2. In the "Device Serial Number" column, click the Sort Ascending or Sort Descending arrow.

Errors and statuses are grouped by drive.

Drive and Media Health Questions



The screenshot shows a software interface with a table of drive health data. The table has columns for Date, Text, Drive Type, Drive Vendor, Device Serial Number, Device State, and Proper. A red circle highlights the 'Device Serial Number' and 'Device State' columns for several rows.

Date SNMP trap recv'd	Text	Drive Type	Drive Vendor	Device Serial Number	Device State	Proper
2012-04-03 17:27:57		Stk9840c	StorageTek	500000020336	DEGRADED	
2012-03-30 15:56:31		Stk9840c	StorageTek	500000011337	DEGRADED	
2012-03-30 15:56:31		Stk9840c	StorageTek	500000011337	NORMAL	
2012-03-30 15:55:12		Stk9840c	StorageTek	500000011337	NOTOPERATIVE	
2012-04-05 14:52:57		Stk9940b	StorageTek	479002034139	NORMAL	
2012-04-05 14:52:57		Stk9940b	StorageTek	479002034139	DEGRADED	
2012-04-05 13:55:28		Stk9940b	StorageTek	479002034139	NOTOPERATIVE	

3. Visually scan the list for changes in the device state of individual drives.

▼ Report Drive Efficiency Trends

This procedure addresses the question, “Which drives have had significantly declining efficiency over time?”

STA records and displays many measures of data transfer rate efficiency, including read, write, and R/W combined rates. STA collects the rates per exchange and then summarizes them into daily and 30-day time periods. In addition, some drive types also provide their own efficiency calculations. Following are some of the efficiency attributes reported by STA.

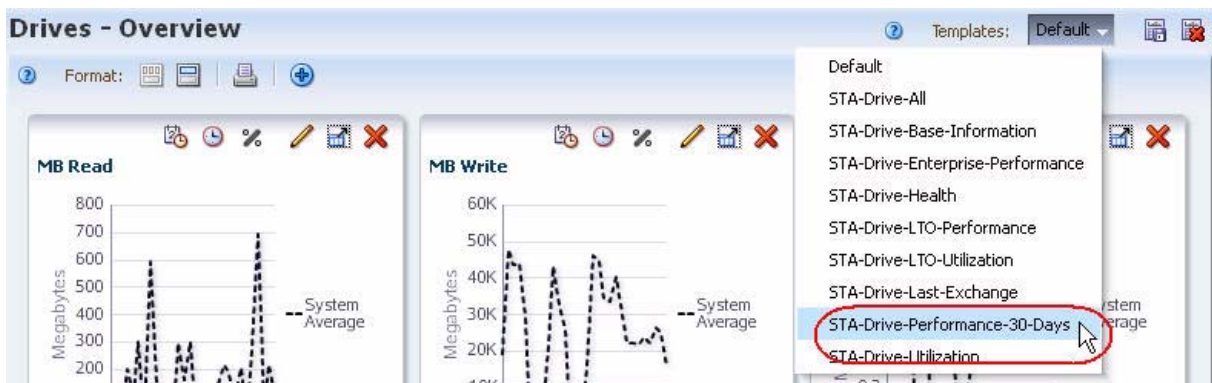
IBM Drive Efficiency	Mount Read MB/sec (30 Days)	Mount Write MB/sec (30 Days)	Mount R/W MB/sec (30 Days)	Mount R/W MB/sec	Exchange Write Efficiency	Read Rate MB/sec	Write Rate MB/sec	R/W Rate MB/sec
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Referenced Tasks

- “Apply a Template” on page 199
 - “Add a Graph Pane” on page 86
 - “Change the Graphed Attribute” on page 92
 - “Add Library Resources to Graphs” on page 99
1. In the Navigation Bar, select **Drives > Overview**.



2. In the Templates menu, apply the “STA-Drive-Performance-30-Days” template.



This template includes attributes related to drive performance. It does not include any graph panes.

Note – Some of the measures are null or zero if STA has not been monitoring a drive long enough to gather data and calculate accurate numerical values.

Drive Serial Number	MB Read (30 Days)	MB Write (30 Days)	MB R/W (30 Days)	MB Sent (30 Days)	MB Received (30 Days)	Mount Read MB/sec (30 Days)	Mount Write MB/sec (30 Days)	Mount R/W MB/sec (30 Days)	Avg Mc MB (30 Days)
HU1047DLTA	0.17	12,548,408.00	12,548,408.00	2.02	12,551,714.00	0.01	26.51	26.51	
572001000315	7,913.00	2,415,142.00	2,423,055.00	8,058.42	2,411,659.50	0.03	9.44	9.47	
HU18031659	1.84	8,264.54	8,266.38	1.85	8,255.02	0.01	2.88	2.88	

3. Use the following steps to add graphs of interest to the Graph Area.

By graphing selected attributes, you can see increases or decreases in efficiency over time, and compare individual drive efficiency numbers to the system average.

- a. Click the Restore Pane icon at the top of the screen to display the Graphics Area.

The Graphics Area is blank.

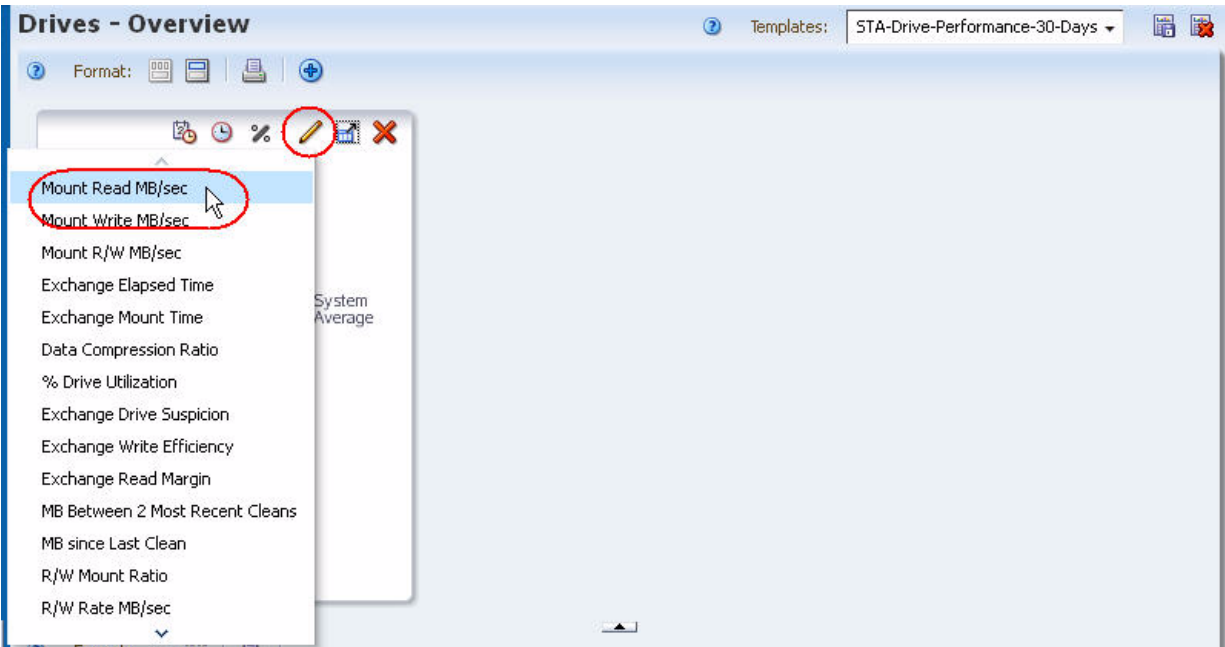


- b. Click the Add Graph icon in the Graphics Area Toolbar.



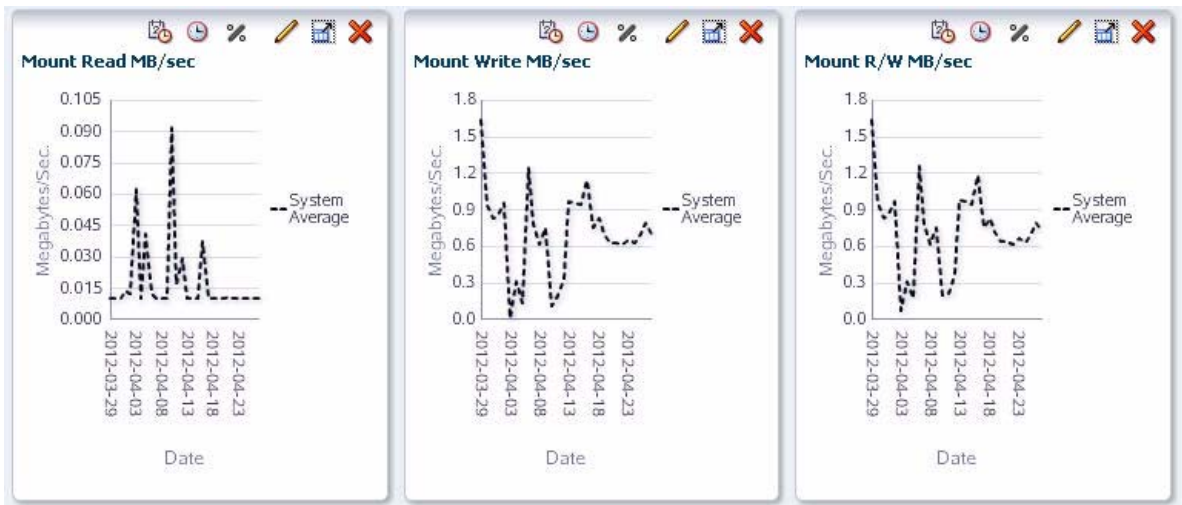
A new graph pane, with the attribute “MB Read”, is added to the Graphics Area display.

- c. Click the Change Graphed Attribute icon in the Graph Pane Toolbar, and select an attribute of interest.



d. Repeat **Step b** and **Step c** for any additional attributes you want to graph.

The graphs are updated to display the system average for the attributes you have selected. The examples below show “Mount Read MB/sec”, “Mount Write MB/sec”, and “Mount R/W MB/sec”.



4. Use the following steps to add the top five drives to the graphs.

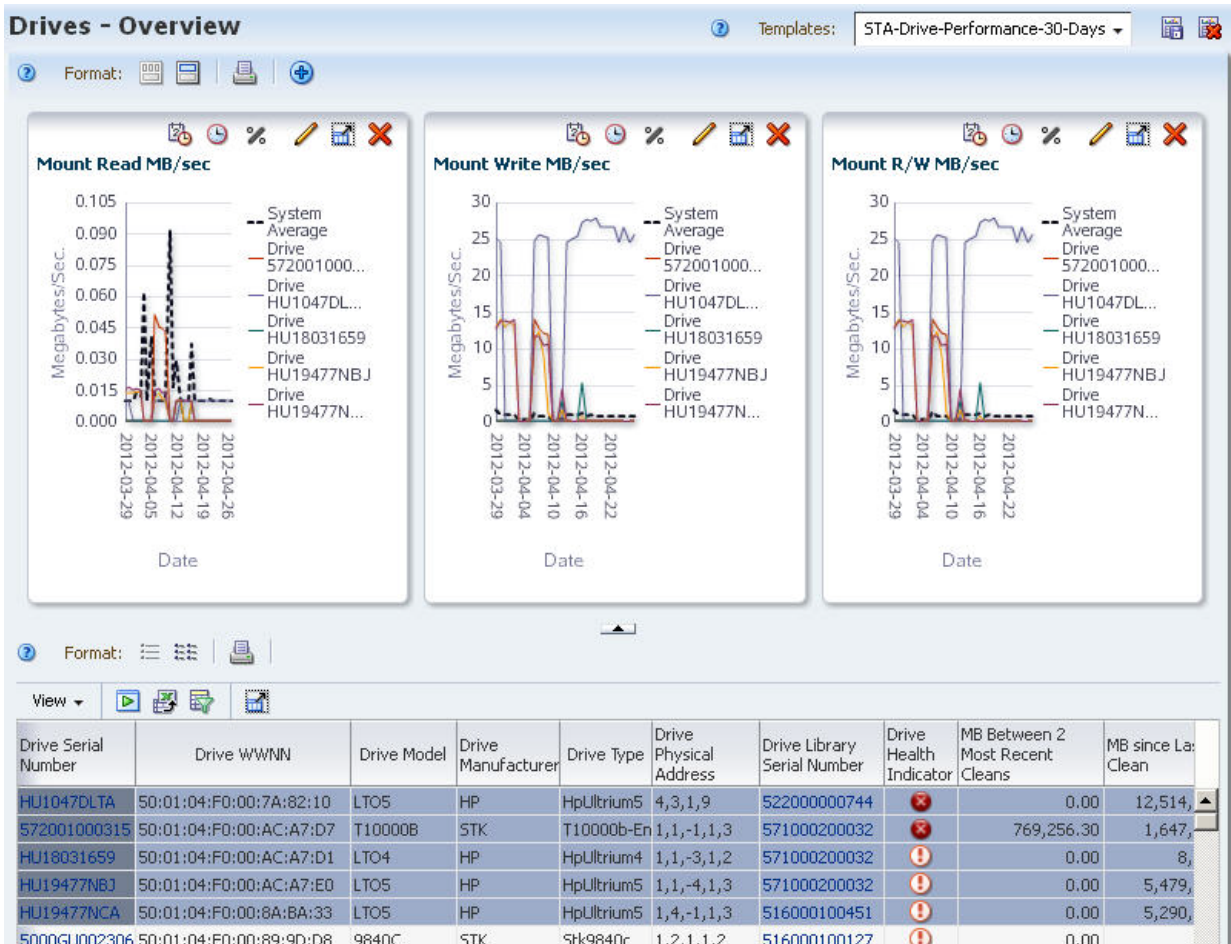
Adding the drives to the graphs allows you to compare their attribute values against the system average. By default, graphs always include the system average.

- a. In the List View table, select the top five drives.
- b. Click the Apply Selection icon on the Table Toolbar.

Drive and Media Health Questions

Drive Serial Number	Drive WWN	Drive Model	Drive Manufacturer	Drive Type	Drive Physical Address	Drive Library Serial Number	Drive Health Indicator	MB Between 2 Most Recent Cleans	MB since Last Clean
HU1047DLTA	50:01:04:F0:00:7A:82:10	LTO5	HP	HpUltrium5	4,3,1,9	52200000744	✖	0.00	12,514
572001000315	50:01:04:F0:00:AC:A7:D7	T10000B	STK	T10000b-En	1,1,-1,1,3	571000200032	✖	769,256.30	1,647
HU18031659	50:01:04:F0:00:AC:A7:D1	LTO4	HP	HpUltrium4	1,1,-3,1,2	571000200032	⚠	0.00	8
HU19477NBJ	50:01:04:F0:00:8A:BA:E0	LTO5	HP	HpUltrium5	1,1,-4,1,3	571000200032	⚠	0.00	5,479
HU19477NCA	50:01:04:F0:00:8A:BA:33	LTO5	HP	HpUltrium5	1,4,-1,1,3	516000100451	⚠	0.00	5,290

The drives are added to all the screen graphs.



▼ Report Trends in Drive Failures

This procedure addresses the question, “Is the drive that failed twice today the same one that caused problems two months ago?”

If the drive errors appear in the Notifications or Exchanges tables, you can filter the tables by drive ID and then look at current and historical data. The Exchanges table, in particular, allows you to select data for a specific time period.

Referenced Tasks

- “Collapse and Restore the Graphics Area” on page 54
- “Use the Filter Data Dialog Box to Change a Table Filter” on page 173

1. In the Navigation Bar, select Libraries > Exchanges.

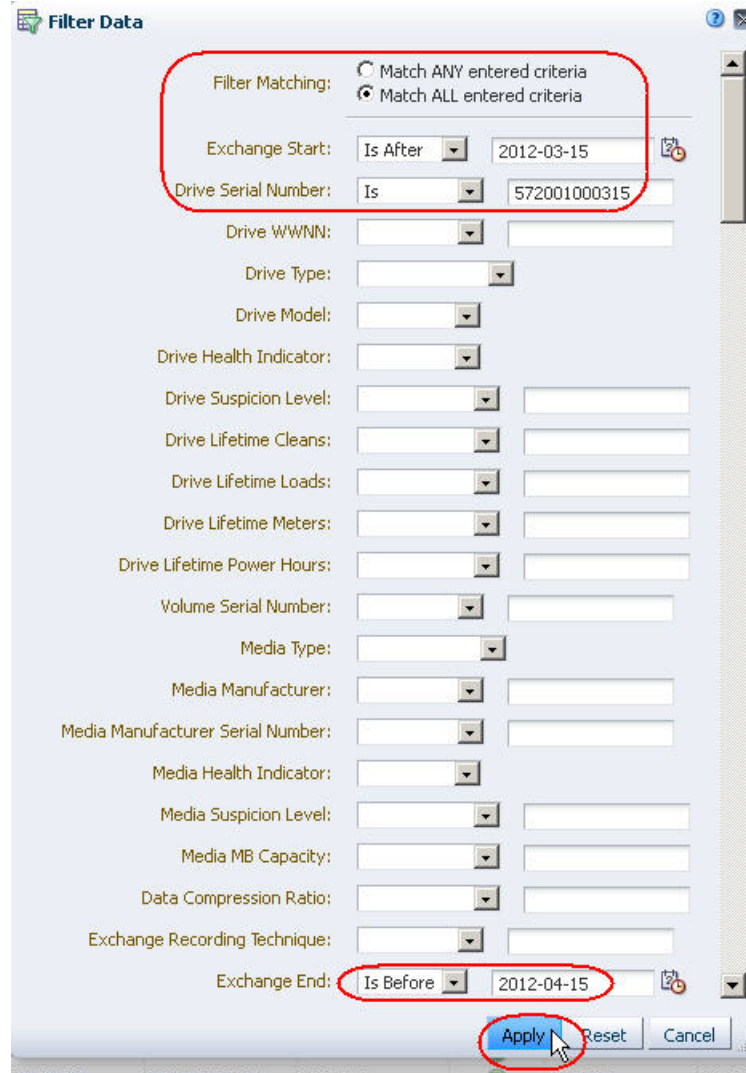


2. To view more of the table data at once, click the Collapse Pane icon in the middle of the screen to expand the table vertically.



3. Use the following steps to narrow down the data to exchanges that occurred between four and five months ago involving the suspect drive.
 - a. Click Filter Data.
 - b. Complete the Filter Data dialog box as follows:
 - In the “Filter Matching” field, select “Match ALL entered criteria”.
 - In the “Exchange Start” field, select “Is After” and enter a date three months ago.
 - In the “Drive Serial Number” field, select “Is” and enter the serial number of the drive with errors.
 - In the “Exchange End” date, select “Is Before” and enter a date two months ago.

Note – If your site has exchanges that last more than a day, you may need to adjust your date settings to encompass complete exchanges involving the drive in question.
 - c. Click Apply.



The table is updated according to your selection criteria.

Libraries - Exchanges

Format: [Icons] Limit: 1,000 Applied Filter: Exchange Start>2012-03-15 and Drive Serial Number Is '572001000315' and Exchange End<2012-04-15

Exchange Start	Drive Serial Number	Drive Model	Drive Health Indicator	Volume Serial Number	Media Type	Media Health Indicator	Drive Exchange Status	Media Status
2012-04-13 09:57:42	572001000315	T10000B	!	TST019	T10000	✓	GOOD	GOOD
2012-04-12 18:27:53	572001000315	T10000B	✗	TST019	T10000	✗	INCOMPLETE_UNLNC	INCOF
2012-04-12 18:25:01	572001000315	T10000B	!	TST007	T10000	✓	GOOD	GOOD
2012-04-12 18:22:38	572001000315	T10000B	!	TST006	T10000	✓	GOOD	GOOD
2012-04-12 15:19:29	572001000315	T10000B	✗	TST006	T10000	✗	INCOMPLETE_UNLNC	INCOF
2012-04-09 08:14:55	572001000315	T10000B	✓	TST014	T10000	✓	GOOD	GOOD
2012-04-09 08:11:32	572001000315	T10000B	✓	TST007	T10000	✓	GOOD	GOOD
2012-04-09 08:08:04	572001000315	T10000B	✓	TST019	T10000	✓	GOOD	GOOD

4. Visually scan the data to determine whether the drive experienced exchanges with errors during this period.

▼ Report Information to Help Troubleshoot Tape Job Errors

This procedure addresses the questions, “At 9:00 am today, one of our tape jobs experienced an error. Which drive and media were involved? Have they also experienced other errors?”

The following methods are described:

- “Using the Libraries – Exchanges Screen”, below
- “Using the Notifications – Overview Screen”

Referenced Tasks

- “Collapse and Restore the Graphics Area” on page 54
- “Use the Filter Data Dialog Box to Change a Table Filter” on page 173
- “Use Resource ID Links to Navigate” on page 58

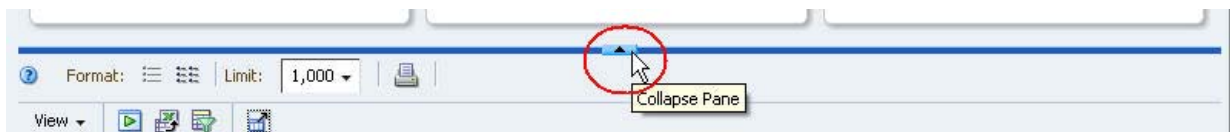
▼ Using the Libraries – Exchanges Screen

In cases where each “job” is an independent exchange (that is, mount, read/write data, dismount), you can use this method to access information about tape job failures.

1. In the Navigation Bar, select Libraries > Exchanges.



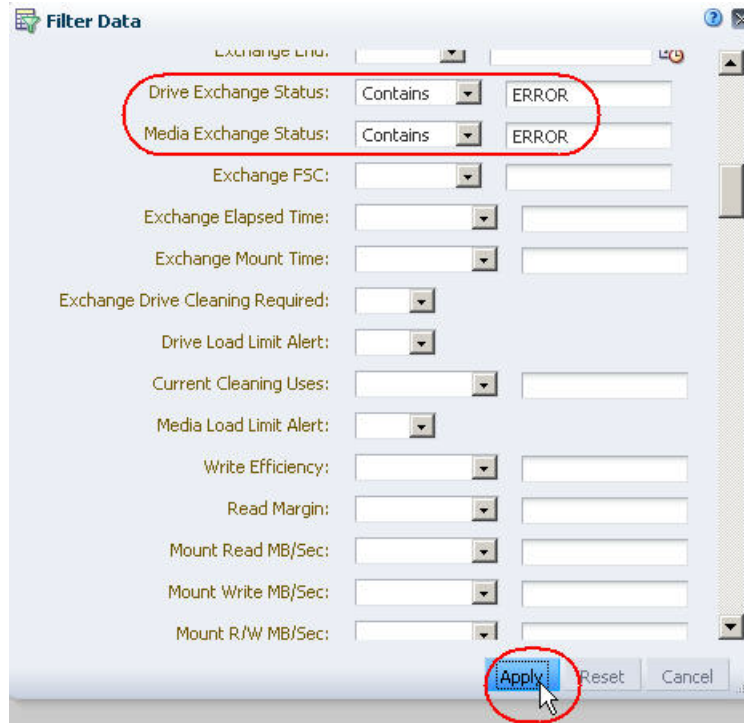
2. So you can view more of the table data at once, click the Collapse Pane icon in the middle of the screen to expand the table vertically.



3. Use the following steps to narrow down the data to just exchanges that experienced errors.
 - a. Click Filter Data.
 - b. Complete the Filter Data dialog box as follows:
 - In the “Filter Matching” field, select “Match ANY entered criteria”.
 - In the “Drive Exchange Status” field, select “Contains” and enter “ERROR”.
 - In the “Media Exchange Status” field, select “Contains” and enter “ERROR”.

Note – Entries are case-sensitive, so you must enter all upper-case characters.

c. Click Apply.



The table is updated according to your selection criteria.

Note – The “Drive Health Indicator” and “Media Health Indicator” columns may indicate “Use” even after an error. This is because the values of these attributes are aggregated over time. The specific values depend on the frequency and severity of errors, and whether there have been subsequent exchanges with no problems. Recent exchanges with no problems move the aggregated value toward a “Use” status.

Format: [Icons] Limit: 1,000 Applied Filter: Drive Exchange Status Contains 'ERROR' or Media Exchange Status Contains 'ERROR'

Exchange Start	Drive Serial Number	Drive Model	Drive Health Indicator	Volume Serial Number	Media Type	Media Health Indicator	Drive Exchange Status	Media Status
2012-04-30 15:33:53	531002002155	T10000A	🚩	EVT525	T10000	🚩	PERM_ERROR	PERM
2012-04-30 15:32:59	572004002083	T10000B	🚩	EVT526	T10000	🚩	PERM_ERROR	PERM
2012-04-30 13:17:10	HU1047DLTA	LTO5	🚩	T50205	LTO5	🚩	DRIVE_ERROR	DRIVE
2012-04-30 12:16:29	HU1047DLTA	LTO5	🚩	T50200	LTO5	🚩	DRIVE_ERROR	DRIVE

4. Scroll to exchanges that occurred around 9:00 am today, and review the information in the “Drive Exchange Status”, “Media Exchange Status”, and “Exchange FSC” columns for details about the errors.

By default, the rows of the table are sorted by “Exchange Start” time.

Exchange Start	Drive Health Indicator	Volume Serial Number	Media Type	Media Health Indicator	Drive Exchange Status	Media Exchange Status	Exchange FSC	Exchange Time
2012-04-25 09:18:26	✖	T50217	LTO5	✖	DRIVE_ERROR	DRIVE_ERROR		0:09:1
2012-04-25 09:07:54	✖	T50205	LTO5	✖	DRIVE_ERROR	DRIVE_ERROR		0:07:5
2012-04-25 08:07:52	✖	T50200	LTO5	✖	DRIVE_ERROR	DRIVE_ERROR		0:07:5

- Optionally, to display detail about a drive or media cartridge involved in an error, select the text link in either the “Drive Serial Number” or “Volume Serial Number” column.

Exchange Start	Drive Health Indicator	Volume Serial Number	Media Type	Media Health Indicator	Drive Exchange Status	Media Exchange Status	Exchange FSC	Exchange Time
2012-04-25 09:07:54	✖	T50205	LTO5	✖	DRIVE_ERROR	DRIVE_ERROR		0:07:5
2012-04-25 08:07:52	✖	T50200	LTO5	✖	DRIVE_ERROR	DRIVE_ERROR		0:07:5
2012-04-25 07:08:06	✖	T50237	LTO5	✖	DRIVE_ERROR	DRIVE_ERROR		0:08:1

▼ Using the Notifications – Overview Screen

In cases where you know the time of a job failure, you can use this method to check for related error notifications.

- In the Navigation Bar, select Notifications > Overview.



- In the Navigation Bar, select Notifications > Overview.
- Use the following steps to narrow down the data to just traps that involved errors.
 - Click Filter Data.
 - In the “Severity” field, select “error”.
 - Click Apply.

Filter Data

Filter Matching: Match ANY entered criteria
 Match ALL entered criteria

Date SNMP trap recv'd: [] [] []

Trap Type: []

Library Complex Name: []

Library Complex Number: []

Library Name: []

Library Model: []

Library Serial Number: []

Library Top Level Condition: []

Device ID: []

Device Time: [] [] []

Username: [] []

Interface Name: [] []

Device Activity: []

Request ID: [] []

Severity: error []

Apply Reset Cancel

00:05:07 HBC2 74000353 move error Destination Full -

The table is updated according to your selection criteria.

Format: [] [] [] Limit: 1,000 [] Applied Filter: Severity=error

Date SNMP trap recv'd	Device ID	Device Activity	Severity	Text	Drive Type
2012-05-02 13:04:39	HBC 66000703	queryDrive	error	"Error from device Code: 604 - Drive is not functional", Unknown	
2012-05-02 05:29:38	HBC 74000397	move	error	"Drive not unloaded for fetch - on rewindUnload", hits: Unknown	
2012-05-02 05:29:38	HBC 74000397	move	error	"Error from device Code: 601 - Drive is loaded", Data= Unknown	
2012-05-02 05:00:23	HBC 74000397	internal	error	"Drive communication time-out 1,2,-2,1,1"	Unknown

3. Scroll to traps that were received around 9:00 am today, and review the entries.

By default, the rows of the table are sorted by "Date SNMP trap recv'd" time.

▼ Report Trends in Critical Errors

This procedure addresses the questions, “What critical errors were reported to STA last month? Is the total number trending up, down, or staying stable?”

STA reports instances of a wide variety of error types. This procedure provides instructions for exporting the error data to a spreadsheet application, which can then be used to summarize error trends over time.

The following methods are described:

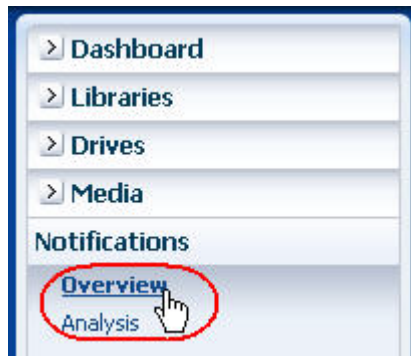
- “Using the Notifications – Overview Screen”, below
- “Using the Libraries – Exchanges Screen” on page 239

Referenced Tasks

- “Use the Filter Data Dialog Box to Change a Table Filter” on page 173
- “Move a Column” on page 120
- “Tooltips” on page 46
- “Change the Width of a Column” on page 123
- “Export Table Data to a Spreadsheet” on page 157
- “Apply a Template” on page 199
- “Collapse and Restore the Graphics Area” on page 54
- “Add a Graph Pane” on page 86
- “Change the Graphed Attribute” on page 92

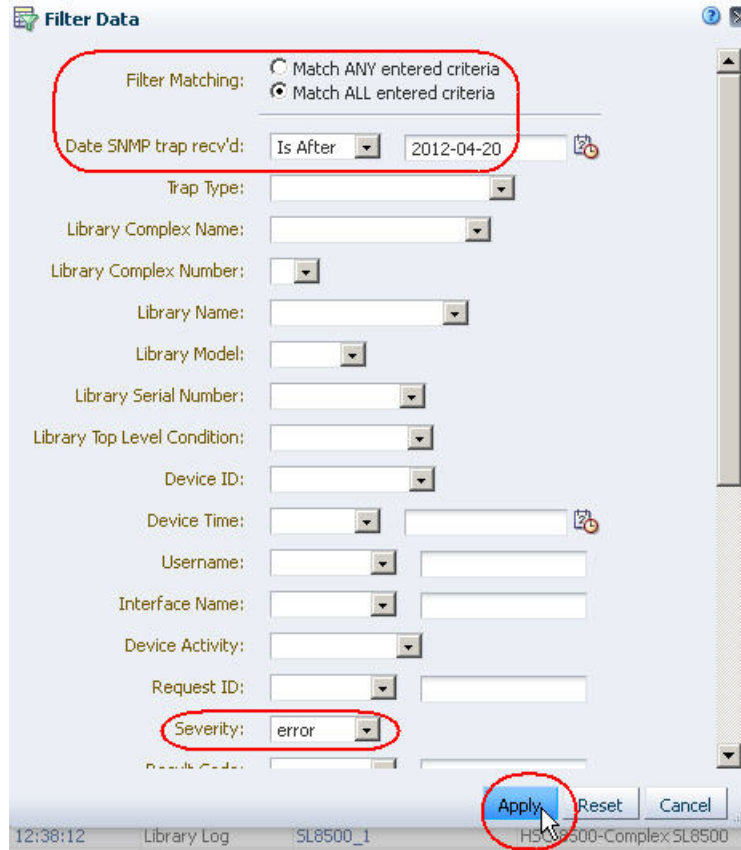
▼ Using the Notifications – Overview Screen

1. In the Navigation Bar, select Notifications > Overview.



2. Use the following steps to narrow down the data to traps sent within the last month.
 - a. Click Filter Data.
 - b. Complete the Filter Data dialog box as follows:
 - In the “Filter Matching” field, select “Match ALL entered criteria”.

- In the “Date SNMP trap archived” field select “Is After” and enter a date one month ago.
 - In the “Severity” field, select “error”.
- c. Click Apply.



The table is updated according to your selection criteria. The “Severity” and “Text” columns are adjacent, allowing you to review them together. You may need to scroll to the right to see the columns.

Format: [Icons] Limit: 1,000 Applied Filter: Date SNMP trap recv'd>2012-04-20 and Severity=error

Date SNMP trap recv'd	Library Serial Number	Device ID	Device Activity	Severity	Text
2012-05-03 12:12:05	516000100090	HBC 66000335	syslogd	error	<9>last message repeated 10 times
2012-05-03 11:10:01	516000100090	HBC 66000335	move	error	"Error from device Code: 601 - Drive is loaded", D
2012-05-03 09:10:31	516000100090	HBC 66000335	move	error	"Error from device Code: 601 - Drive is loaded", D
2012-05-03 08:38:29	516000100090	HBC 66000335	RobotInitial	error	"Error from device Code: 514 - Robot needs to be
2012-05-03 08:27:24	516000100090	HBC 66000335	RobotInitial	error	"Failure from robot Code: 512 - Robot can not be

3. You can use any of the following methods to see the full error message text.
- Move the mouse over the bottom border of the cell; the full text is displayed in a tooltip.

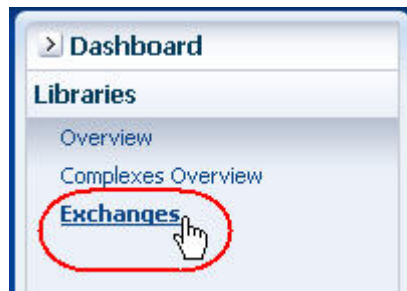
Severity	Text	Drive Type	Drive Vendor
error	"Error from device Code: 510 - Robot says location full, Unknown	Unknown	Unknown
error	"Destination full - cartridge returned to source", volume: Unknown	Unknown	Unknown
error	"Error from device Code: 510 - Robot says location full, Unknown	Unknown	Unknown
error	"Destination full - cartridge returned to source", volumeLabel=SL1185~R, hllsm=7	Unknown	Unknown
error	"Error from device Code: 510 - Robot says location full, Unknown	Unknown	Unknown

- Widen the “Text” column.
- Export the table to a file. Then use a compatible spreadsheet application to open the file and format the error message text so it wraps within the table column.

▼ Using the Libraries – Exchanges Screen

Drive and media errors are reported as a result of exchanges. Therefore, it is more efficient to look for errors on the **Libraries – Exchanges** screen, where drive and media data is consolidated, rather than on the Drives or Media screens.

1. In the Navigation Bar, select Libraries > Exchanges.



2. In the Templates menu, apply the “STA-Exchanges-Errors-All” template (alternatively, apply the “STA-Exchanges-Alerts-Errors” template for a smaller subset).



This template includes several columns that indicate different types of errors. The exchanges are sorted in reverse chronological order, — most recent exchanges first — allowing you to see at a glance which error types have predominated at your site over the last month.

Applied Filter: Drive Load Limit Alert=true or Media Load Limit Alert=true or Read Warning Alert=true or Hard Error Alert=true or Media Error Alert=true or Media Life Alert=true or Clean Periodic Alert=true or

Exchange Start	Drive Physical Address	Drive Health Indicator	MIR Invalid Alert	Media RFID Alert	Media Directory Corrupt	Media Permanent Error Alert	Media Snapped Alert	Media Start of Data NOT Found	Cleaning Media Expired	Media at End of Warranty Alert	Cleaning Media Alert	Media Load Limit Alert	Drive Load Limit Alert
2012-03-30 16:58:22	1,2,-2,1,4	?				✓							
2012-03-30 16:45:25	1,2,-2,1,4	?				✓							
2012-03-29 16:59:24	1,2,1,1,4	!		✓						✓			✓
2012-03-29 16:59:24	1,2,1,1,4	✖				✓				✓			✓
2012-03-29 10:51:11	1,2,1,1,4	!		✓						✓			✓

- If there are enough errors to indicate possible trends, use the following steps to add graphs of interest to the Graph Area.

Attributes that may correlate to errors include “Write Efficiency”, “Read Margin”, and “R/W Rate MB/sec”.

- Click the Restore Pane icon at the top of the screen to display the Graphics Area.



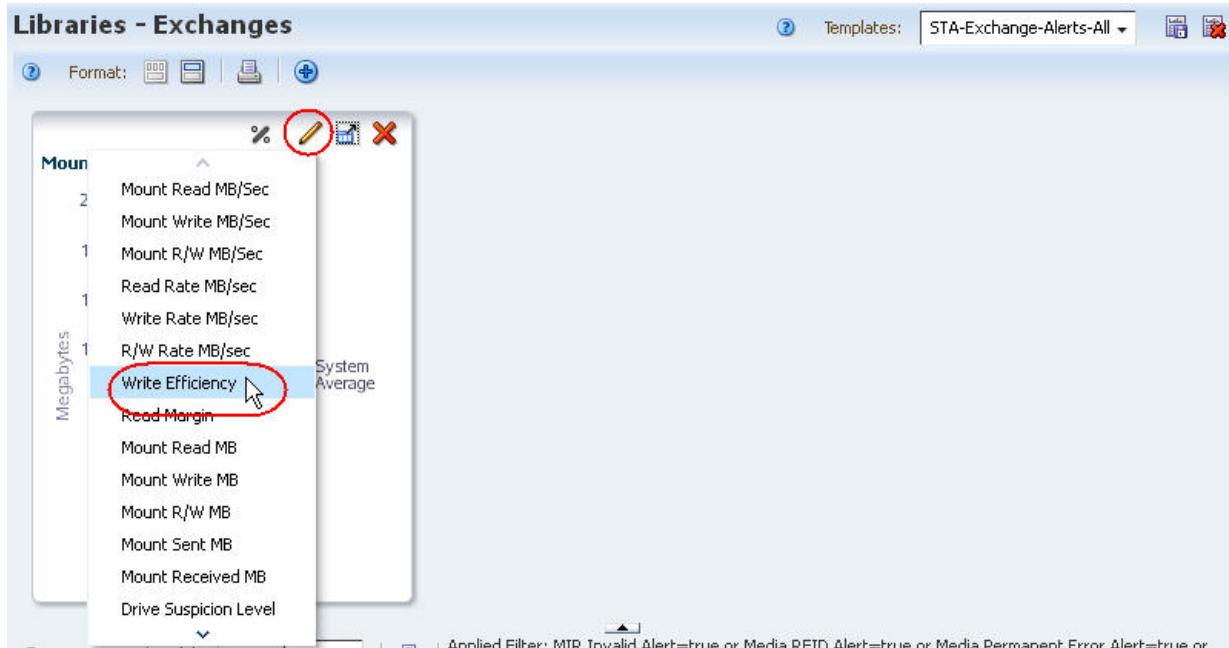
The Graphics Area is blank.

- Click the Add Graph icon in the Graphics Area Toolbar.



A new graph pane, with the attribute “Mount Read MB”, is added to the Graphics Area display.

- Click the Change Graphed Attribute icon in the Graph Pane Toolbar, and select an attribute you want to graph.



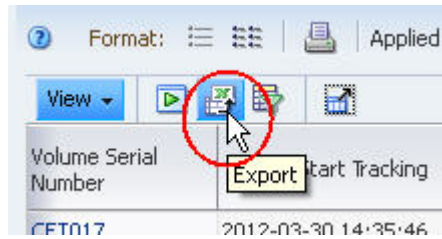
d. Repeat **Step b** and **Step c** for any additional attributes you want to graph.

The graphs are updated to display the system average for the attributes you have selected. The examples below show “Write Efficiency”, “Read Margin”, and “R/W Rate MB/sec”.



4. To calculate total errors by error type, you must use an external spreadsheet application. Use the following steps to export the data displayed in the table to an HTML-based Excel-compatible file.

a. Click the Export icon in the Table Toolbar.



- b. Save the file to a location on your local computer.
- c. Use a compatible spreadsheet application to open the file and summarize the data.

Capacity and Resource Management Questions

Question	Task
How many libraries, drives, or media cartridges are in my tape system environment?	“Report Total Libraries, Drives, or Media” on page 244
How many drives or media cartridges of a particular type are in my tape system environment?	“Report Drive and Media Types” on page 247
Which are the top three drives in terms of utilization?	“Report Drives With the Highest Utilization” on page 250
Which types of media are in short supply? Do I have an oversupply of any type?	“Report Shortages or Surpluses of Media” on page 253
Am I likely to need more media, drives, or storage cells next year? If so, how many?	“Project Future Media, Drive, or Storage Cell Requirements” on page 258
Which types of drives or media are used the most in my tape system?	“Report Resources With the Highest Utilization” on page 264
Which library in my tape environment is the busiest? Which is the least busy?	“Report Library Relative Activity Levels” on page 270
Which media cartridges are over 90 percent full? How do I generate a list that can be used to create a script to eject them from the library?	“Report Media Cartridges Approaching Capacity” on page 274
Have all my drives been upgraded to the latest firmware?	“Report Drive Firmware Levels” on page 276

▼ Report Total Libraries, Drives, or Media

These procedures address the question, “How many libraries, drives, or media cartridges are in my tape system environment?”

The following methods are described:

- “Using the Dashboard”, below
- “Using Overview Screens” on page 245
- “Using Analysis Screens” on page 246

Related Topics

- “Tooltips” on page 46
- “Clear the Current Filter” on page 179

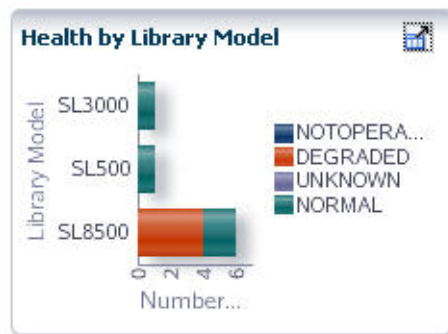
▼ Using the Dashboard

1. In the Navigation Bar, select Dashboard.



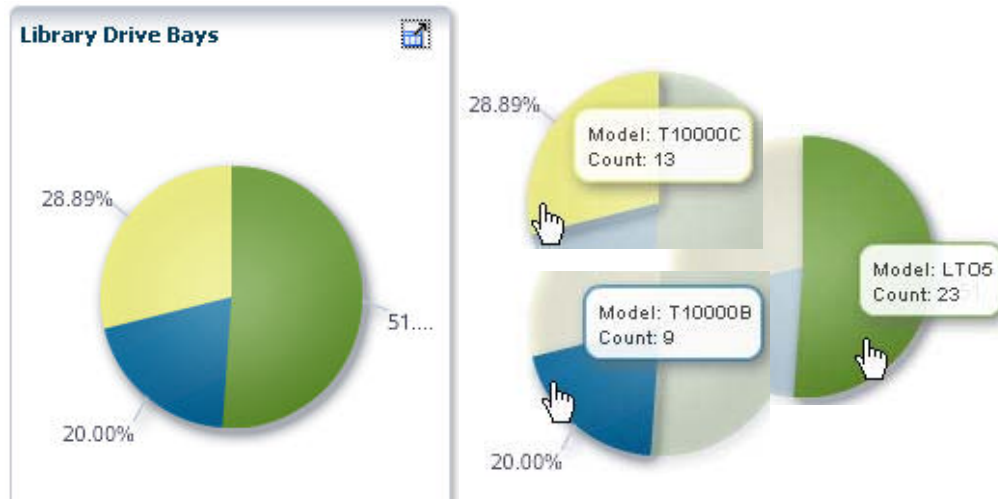
2. If the number of resources (libraries, drives, or media cartridges) is small, you can do a quick visual count just by reading the graph.

In the example below, you can estimate from the graph that there are eight libraries total: (1 + 1 + 6).



3. If the number of resources is high, you can move the mouse over each slice in the pie chart to display tooltips of descriptive information, including totals.

In the example below, the pie chart tooltips yield the count: 13 + 9 + 23 = 45 total.



▼ Using Overview Screens

In Overview screens, the total number of records displayed is listed at the lower-right corner of the List View table. As long as there are no filters applied, this number is the total of that type of resource (libraries, drives, or media) monitored by STA.

1. In the Navigation Bar, select an Overview screen.



2. Check the Applied Filter area of the table, and verify that there is no filter in effect. If one has been applied, see [“Clear the Current Filter” on page 179](#) for instructions on clearing it.

In the example below, no filter has been applied, and the **Drives – Overview** screen indicates there are 232 total drives monitored by STA.

Drive Serial Number	Drive WWNN	Drive Type	Drive Health Indicator	Exchange Start	Drive Exchange Status	Exchange FSC
50000018771	UNKNOWN	Stk9840c	✓	2012-04-21 12:48:06	GOOD	
HU19497Y73	50:01:04:F0:00:7A:82:04	HpUltrium5	✓	2012-04-23 09:31:49	GOOD	
HU1803165B	50:01:04:F0:00:AC:A7:FB	HpUltrium4	✓	2012-04-22 23:36:46	GOOD	
531002002155	50:01:04:F0:00:79:CB:4D	T10000a	✓	2012-04-10 16:40:24	GOOD	
500000028884	50:01:04:F0:00:89:9D:8A	Stk9840c	✓	2012-03-30 16:43:45	GOOD	
576001000305	50:01:04:F0:00:79:26:8C	T10000c	✓	2012-04-06 03:18:05	GOOD	
HU1803163B	50:01:04:F0:00:79:CA:FC	HpUltrium4	✓	2012-04-17 19:08:27	GOOD	

Columns Hidden: 67 Columns Frozen: 1 Displaying 232 record(s)

▼ Using Analysis Screens

Analysis screens aggregate data according to a variety of criteria.

1. In the Navigation Bar, select an Analysis screen.



2. Check the Applied Filter area of the table, and verify that there is no filter in effect. If one has been applied, see [“Clear the Current Filter” on page 179](#) for instructions on clearing it.

In the example of the **Drives – Analysis** screen below, no filter has been applied, and the pivot table breaks down the 232 total drives by library complex and state.

	ACTION	EVALUATE	MONITOR	USE	UNKNOWN	Total
SL3000_571000200032	1	6	2	5	20	34
SL500_522000000744	1	0	0	6	1	8
SL8500_1	0	2	0	11	71	84
SL8500_5	0	2	2	3	30	37
SL8500_6	0	0	0	14	14	28
SL8500_7	0	0	0	4	32	36
SL8500_8	0	0	0	0	5	5
Library Complex Name Total	2	10	4	43	173	232

▼ Report Drive and Media Types

These procedures address the question, “How many drives or media cartridges of a particular type are in my tape system environment?”

The following methods are described:

- “Using the Dashboard”, below
- “Using Analysis Screens” on page 248

Referenced Tasks

- “Tooltips” on page 46
- “Use Resource ID Links to Navigate” on page 58

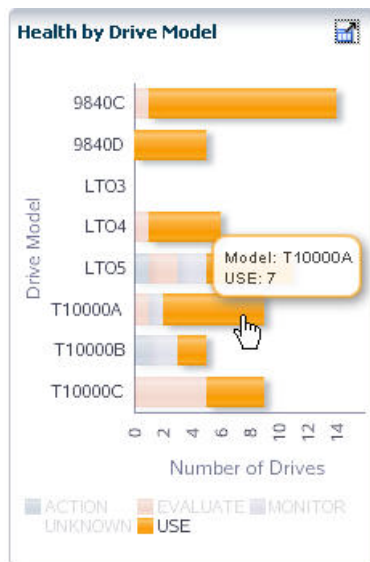
▼ Using the Dashboard

1. In the Navigation Bar, select Dashboard.



2. Move the mouse over the relevant section of a pie or bar chart to display a tooltip with descriptive information and totals.

In the following example, moving the mouse over the T10000A bar chart reveals that there are a total of seven T10000A drives with a “Use” health.



3. If you select a section of a bar or pie chart, you are taken to the associated Overview screen, filtered for that type of drive or media.

In the example below, the **Drives – Overview** screen is displayed, filtered to display only T10000A drives with a “Use” health.

Applied Filter: Drive Health Indicator=USE and Drive Model=T10000A

Drive Serial Number	Drive WWNN	Drive Type	Drive Health Indicator	Exchange Start	Drive Exchange Status	Exchange FSC	Ex Dr Cl Re
531001001131	50:01:04:F0:00:79:26:AD	T10000a-3590	✓	2012-04-11 08:07:41	GOOD		
531001001168	50:01:04:F0:00:79:27:28	T10000a-3590	✓	2012-04-10 20:25:42	GOOD		
531001002800	50:01:04:F0:00:79:D5:A3	T10000a	✓	2012-04-01 20:26:49	GOOD		
531002000152	50:01:04:F0:00:79:26:B9	T10000a	✓	2012-04-21 15:21:54	GOOD		
531002001255	50:01:04:F0:00:79:26:D4	T10000a	✓	2012-04-21 11:05:14	GOOD		
531002002155	50:01:04:F0:00:79:CB:4D	T10000a	✓	2012-04-10 16:40:24	GOOD		
531004003621	50:01:04:F0:00:AC:A7:7A	T10000a	✓	2012-04-15 14:03:01	GOOD		

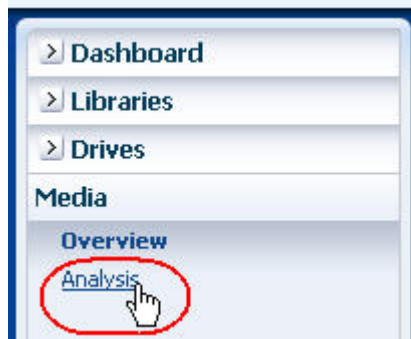
Columns Hidden 67 Columns Frozen 1

Displaying 7 record(s)

▼ Using Analysis Screens

This method is especially useful if you want data aggregated by a series of criteria, such as by library and media state. The pivot table on Analysis screens presents this information in a concise format.

1. In the Navigation Bar, select an Analysis screen (**Drives – Analysis** or **Media – Analysis**).



In the example of the **Media – Analysis** screen below, subtotals and totals are provided at the bottom of each column and to the right of each row.

		ACTION	EVALUATE	MONITOR	USE	UNKNOWN	Total
SL3000_571000200032	1	7	0	0	125	459	591
	Library Number Total	7	0	0	125	459	591
SL500_522000000744	1	0	0	0	16	5	21
	2	0	0	0	8	3	11
	3	0	0	0	6	12	18
	4	10	0	0	8	1	19
	Library Number Total	10	0	0	38	21	69
SL8500_1	1	0	0	1	6	941	948
	2	0	0	0	19	534	553
	Library Number Total	0	0	1	25	1475	1501
SL8500_5	1	1	0	0	44	413	458
	Library Number Total	1	0	0	44	413	458
SL8500_6	1	0	0	0	86	204	290
	Library Number Total	0	0	0	86	204	290
SL8500_7	1	0	0	1	5	314	320
	Library Number Total	0	0	1	5	314	320
SL8500_8	1	0	0	0	0	434	434
	Library Number Total	0	0	0	0	434	434
Library Complex Name Total		18	0	2	323	3320	3663

▼ Report Drives With the Highest Utilization

These procedures address the question, “Which are the top three drives in terms of utilization?”

Utilization can be defined in a number of ways, including lifetime hours in use, amount of data passed, and total number of mounts. The following methods are described:

- “Using Total Time in Motion”, below
- “Using Time in Use Over the Last 30 Days” on page 251

Referenced Tasks

- “Apply a Template” on page 199
- “Sort by a Column” on page 126

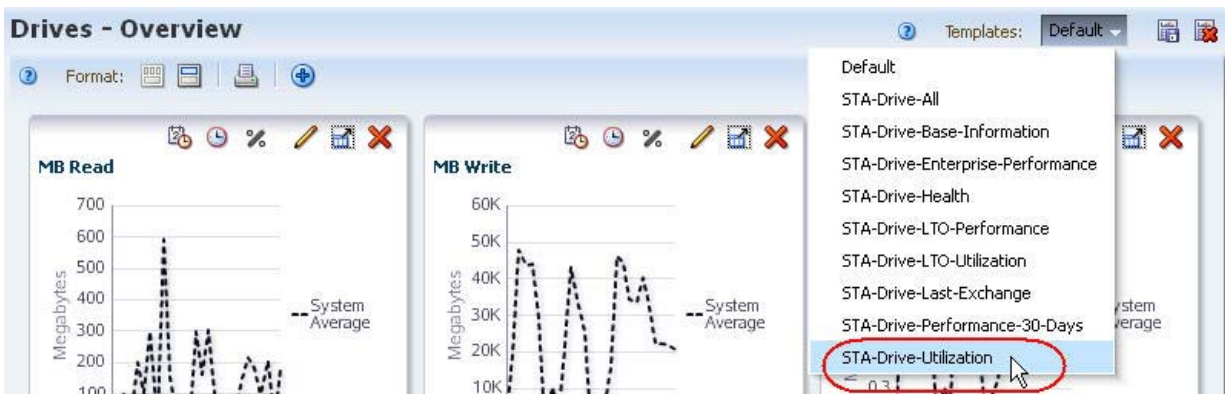
▼ Using Total Time in Motion

Note – This information is provided only by StorageTek enterprise drives.

1. In the Navigation Bar, select Drives > Overview.



2. In the Templates menu, apply the “STA-Drive-Utilization” template.



3. In the “Drive Lifetime Hours in Motion” column, click the Sort Descending arrow.

Drive Serial Number	Drive WWN	Drive Model	Drive Physical Address	Drive Library Serial Number	Drive Health Indicator	% Drive Utilization (30 Days)	Drive Lifetime Cleans	Drive Lifetime Loads	Drive Lifetime Meters	Drive Lifetime Power Hours	Drive Lifetime Hours in Motion
18393BG2	50:01:04:F0:00:7A:82:(LTO4	LTO4	1,1,2,9	522000000744	🟢	54.03	0	28,888	31,545,80	13,126	1,904
19477NCB	50:01:04:F0:00:8A:BA:(LTO5	LTO5	1,4,-1,1,2	516000100451	🟡	110.79	0	71,897	21,245,68	20,008	1,859
19477NCA	50:01:04:F0:00:8A:BA:(LTO5	LTO5	1,4,-1,1,3	516000100451	🔴	80.36	1	65,505	19,279,99	20,031	1,709
1038CKW1	50:01:04:F0:00:7A:82:(LTO5	LTO5	3,2,3,9	522000000744	🟢	51.51	0	31,636	22,272,09	10,916	1,594

The top three drives in terms of time in motion are displayed at the top of the list.

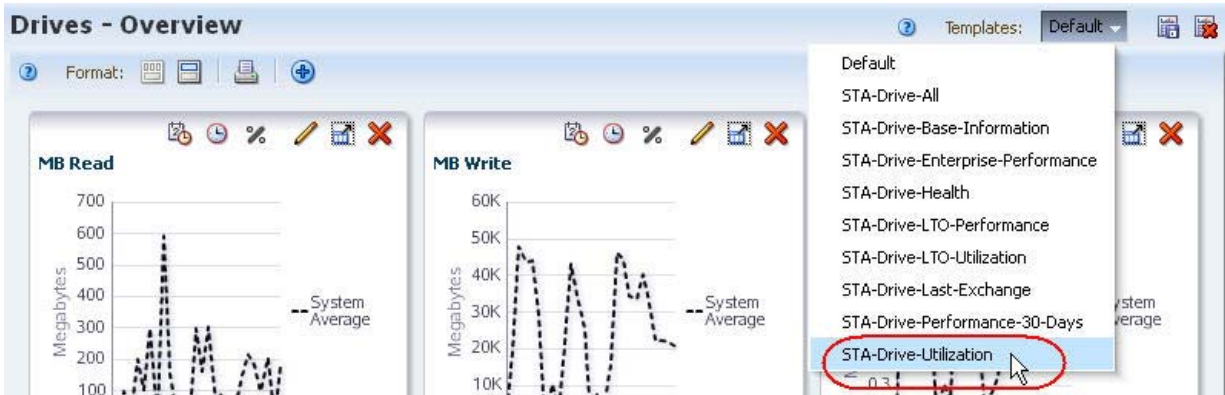
Drive Serial Number	Drive WWN	Drive Model	Drive Physical Address	Drive Library Serial Number	Drive Health Indicator	% Drive Utilization (30 Days)	Drive Lifetime Cleans	Drive Lifetime Loads	Drive Lifetime Meters	Drive Lifetime Power Hours	Drive Lifetime Hours in Motion
HU18393BG2	50:01:04:F0:00:7A:82:(LTO4	LTO4	1,1,2,9	522000000744	🟢	54.03	0	28,888	31,545,80	13,126	1,904
HU19477NCB	50:01:04:F0:00:8A:BA:(LTO5	LTO5	1,4,-1,1,2	516000100451	🟡	110.79	0	71,897	21,245,68	20,008	1,859
HU19477NCA	50:01:04:F0:00:8A:BA:(LTO5	LTO5	1,4,-1,1,3	516000100451	🔴	80.36	1	65,505	19,279,99	20,031	1,709
HU1038CKW1	50:01:04:F0:00:7A:82:(LTO5	LTO5	3,2,3,9	522000000744	🟢	51.51	0	31,636	22,272,09	10,916	1,594

▼ Using Time in Use Over the Last 30 Days

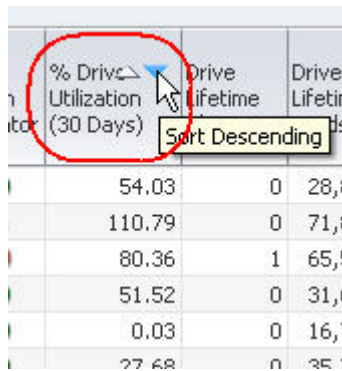
1. In the Navigation Bar, select Drives > Overview.



2. In the Templates menu, apply the “STA-Drive-Utilization” template.



3. In the “% Drive Utilization (30 Days)” column, click the Sort Descending arrow.



The top three drives in terms of percentage time in use are displayed at the top of the list.

The screenshot shows a table with the following columns: Drive Serial Number, Drive WWNN, Drive Model, Drive Physical Address, Drive Library Serial Number, Drive Health Indicator, % Drive Utilization (30 Days), Drive Lifetime Cleans, Drive Lifetime Loads, Drive Lifetime Meters, and Drive Lifetime Power. The top three rows are circled in red, corresponding to the top three drives in terms of percentage time in use.

Drive Serial Number	Drive WWNN	Drive Model	Drive Physical Address	Drive Library Serial Number	Drive Health Indicator	% Drive Utilization (30 Days)	Drive Lifetime Cleans	Drive Lifetime Loads	Drive Lifetime Meters	Drive Lifetime Power
HU19477NBJ	50:01:04:F0:00:AC:A7:E0	LTO5	1,1,-4,1,3	571000200032	!	297.38	2	48,436	12,371,792	19
HU19477N8A	50:01:04:F0:00:AC:A7:DD	LTO5	1,1,-3,1,3	571000200032	!	269.21	0	45,417	12,009,237	19
HU19477NCB	50:01:04:F0:00:8A:BA:3F	LTO5	1,4,-1,1,2	516000100451	!	110.79	0	71,897	21,245,687	20
HU19477NCA	50:01:04:F0:00:8A:BA:33	LTO5	1,4,-1,1,3	516000100451	!	80.36	1	65,505	19,279,994	20

▼ Report Shortages or Surpluses of Media

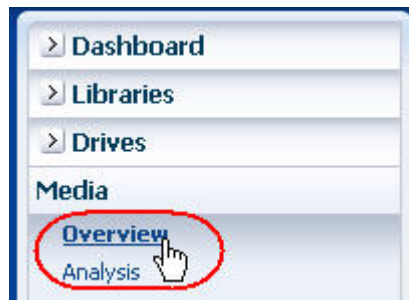
This procedure addresses the questions, “Which type of media am I the shortest on? Do I have an oversupply of any type?”

The definition of media “available for writing” varies by site. For example, a site that does not re-use cartridges may simply compare total versus available capacity for each type of media; another site that does re-use cartridges may look at some “media life” measure instead. Both of these measures, and others, are available within STA. This procedure uses total versus available capacity.

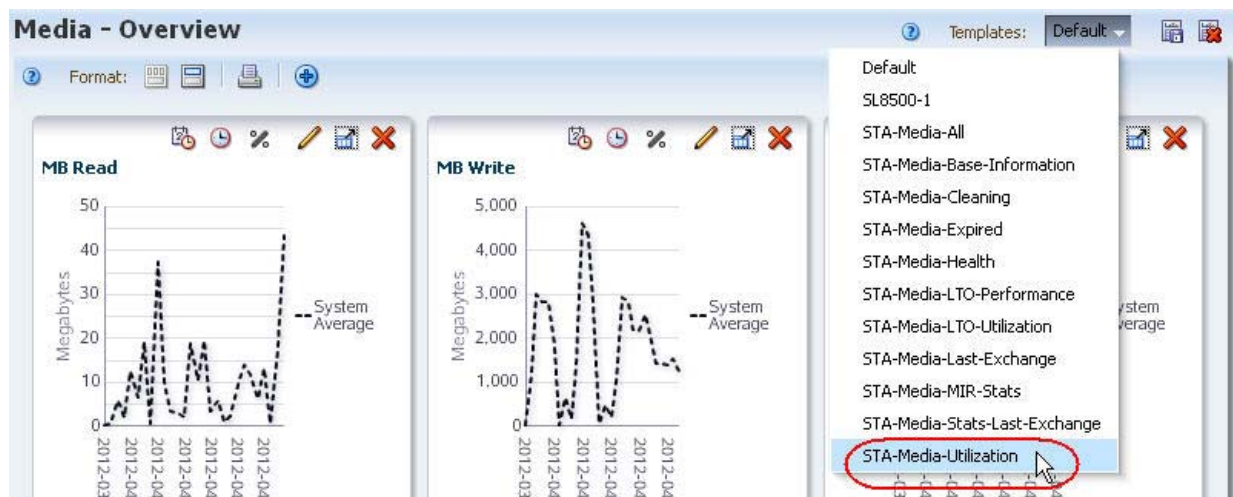
Referenced Tasks

- “Apply a Template” on page 199
- “Use the Filter Data Dialog Box to Change a Table Filter” on page 173
- “Sort by Multiple Columns” on page 128
- “Move a Column” on page 120
- “Export Table Data to a Spreadsheet” on page 157

1. In the Navigation Bar, select Media > Overview.



2. In the Templates menu, select the “STA-Media-Utilization” template.



This template includes all the attributes related to utilization, such as “Media Dismounts (30 Days)”, “MB Read (30 Days)”, and “Media Life Indicator”.

Volume Serial Number	STA Start Tracking	Media Manufacturer Serial Number	Media Manufacturer	Media Type	Physical Address	Media Library Name	Media Library Serial Number	Media Health Indicator	Drive Serial Number
F50495	2012-03-28 18:01:31		LTO	LTO5	1,1,-11,1,2	sl3000	571000200032	⊗	HU194771
F50566	2012-03-30 14:35:50		LTO	LTO5	1,4,-12,1,1	bas-sl8500	516000100451	⊗	HU194771

3. Use the following steps to eliminate any media for which capacity or availability information is not available.

The longer STA monitors the libraries, the more exchange data it receives, and the lower the overall uncertainty level.

- a. Click Filter Data.
- b. In the “Media MB Capacity” field, select “Greater Than” and enter “0”.
- c. Click Apply.

The screenshot shows the 'Filter Data' dialog box with various filter criteria. The 'Media MB Capacity' field is highlighted with a red circle, showing a dropdown menu set to 'Greater Than' and the value '0'. The 'Apply' button at the bottom right is also highlighted with a red circle.

4. Note the number of records eliminated, since it reflects the level of uncertainty.

In the example below, the number of records goes from 623 to 349, indicating a high uncertainty level. This library has been monitored for only a few days.

Volume Serial Number	STA Start Tracking	Media Manufacturer Serial Number	Media Manufacturer	Media Type	Physical Address	Media Library Name	Media Library Serial Number	Media Health Indicator	Drive Serial Number
T50200	2012-03-28 18:01:56	I99P62D879	LTO	LTO5	4,4,4,1	sl500-goldie	522000000744		HU1047D
T50205	2012-03-28 18:01:56	I99P62M709	LTO	LTO5	4,4,3,1	sl500-goldie	522000000744		HU1047D
T50217	2012-03-28 18:01:56	I99P62L370	LTO	LTO5	4,4,7,6	sl500-goldie	522000000744		HU1047D
T50218	2012-03-28 18:01:56	I99P62K866	LTO	LTO5	4,4,2,1	sl500-goldie	522000000744		HU1047D

Columns Hidden: 46 | Columns Frozen: 1 | Displaying 349 record(s)

5. For the media in the resulting list, use the following steps to display the capacity and space available for each piece of media displayed.

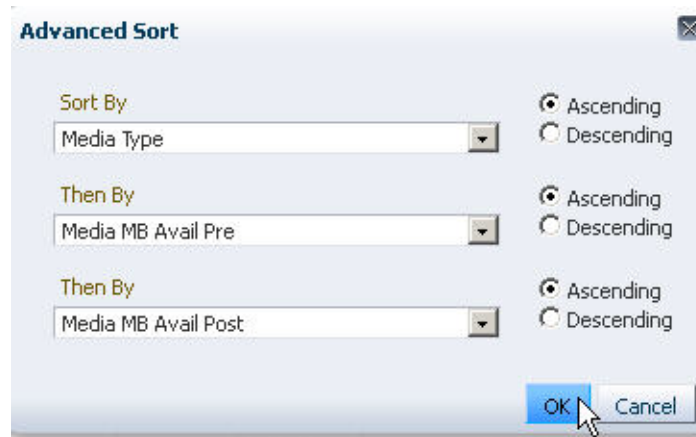
a. Select View > Sort > Advanced.

b. Complete the Advanced Sort dialog box as follows:

- In the “Sort By” menu, select “Media Type”.
- In the first “Then By” menu, select “Media MB Avail Pre”.
- In the second “Then By” menu, select “Media MB Avail Post”.

Note – LTO drives report “Media MB Avail Pre” and StorageTek enterprise drives report “Media MB Avail Post”. Sorting on both attributes allows you to capture all drive types.

c. Click OK.



The table is sorted according to your criteria.

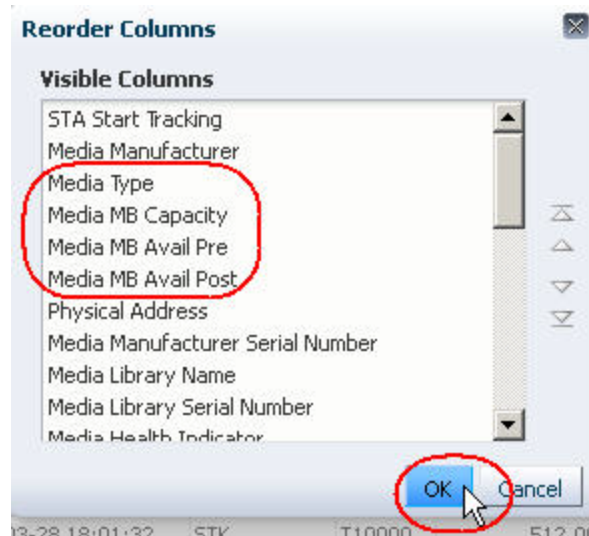
6. To better view the capacity data together on the screen, use the following steps to reorder the table columns.

a. Select View > Reorder Columns.

b. In the Reorder Columns dialog box, arrange the following attributes so they are listed together.

- Media Type
- Media MB Capacity

- Media MB Avail Pre
 - Media MB Avail Post
- c. Click OK.



The table columns are reordered according to your criteria.

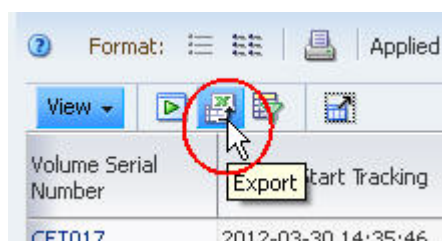
Format: [Icons] Applied Filter: Media MB Capacity > '0'

View [Icons]

Volume Serial Number	STA Start Tracking	Media Manufacturer	Media Type	Media MB Capacity	Media MB Avail Pre	Media MB Avail Post	Physical Address	Media Manufacturer Serial Number
CET017	2012-03-30 14:35:46	STK	T10000	1,048,576		216,668.67	,1,17,2,3	706116
CET015	2012-03-30 14:35:46	STK	T10000	1,048,576		216,671.45	,1,17,2,6	706116
CET014	2012-03-30 14:35:46	STK	T10000	1,048,576		216,689.11	,1,17,2,14	706116
CET016	2012-03-30 14:35:46	STK	T10000	1,048,576		216,694.22	,1,17,2,2	706116
CET007	2012-03-30 14:35:46	STK	T10000	1,048,576		216,710.28	,1,17,2,5	706116
CET019	2012-03-30 14:35:46	STK	T10000	1,048,576		225,626.62	,1,17,2,4	706116
CET009	2012-03-30 14:35:46	STK	T10000	1,048,576		225,626.62	,1,17,2,8	706116

7. To calculate the total capacity and space available for each media type, you must use an external spreadsheet application. Use the following steps to export the data displayed in the table to an HTML-based Excel-compatible file.

- a. Click the Export icon in the Table Toolbar.



- b. Save the file to a location on your local computer.

8. Use a compatible spreadsheet application to open the file and summarize the data. For example, you may want to calculate totals, percentages used, or averages by media type.

▼ Project Future Media, Drive, or Storage Cell Requirements

These procedures address the questions, “Am I likely to need more media, drives, or storage cells next year? If so, how many?”

The criteria for determining whether drives or media need replacement varies by site.

For drives, STA tracks many applicable criteria — in particular, several “drive lifetime” measures, such as Drive Lifetime Loads, Drive Lifetime Meters, and Drive Lifetime Power Hours. See “[Report Percent Drive Utilization](#)”, below, for one example.

For media, STA provides data that is useful in a variety of scenarios, including the following:

- Your site is migrating off one type of media and you need to replace it with another; see “[Report Data Related to Media Migration](#)” on page 261 for details.
- Existing media are ageing or showing errors beyond your site-defined reasonable threshold; see “[Report Data Related to Media Ageing](#)” on page 263 for details.
- Existing media are filling up; see “[Report Shortages or Surpluses of Media](#)” on page 253 for details.

Referenced Tasks

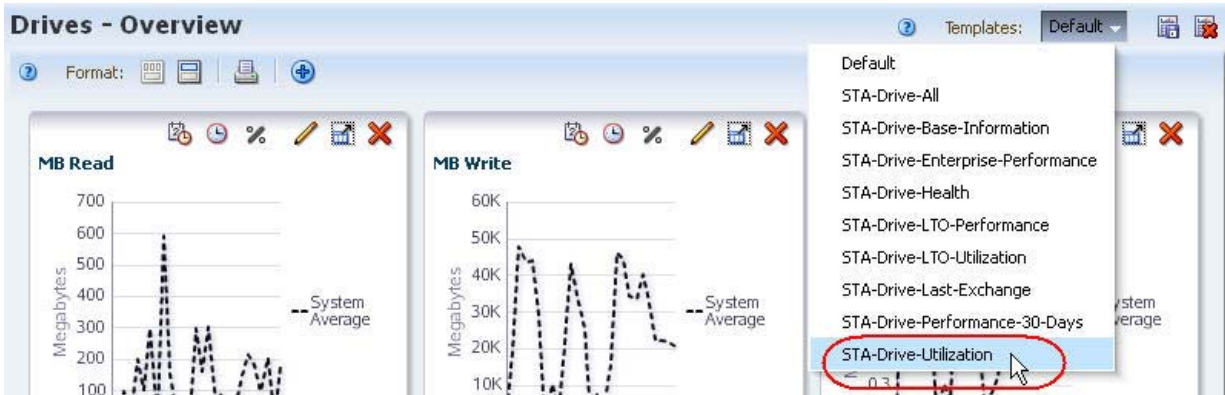
- “[Apply a Template](#)” on page 199
- “[Sort by a Column](#)” on page 126
- “[Use the Filter Data Dialog Box to Change a Table Filter](#)” on page 173
- “[Tooltips](#)” on page 46
- “[Create a New Template](#)” on page 201

▼ Report Percent Drive Utilization

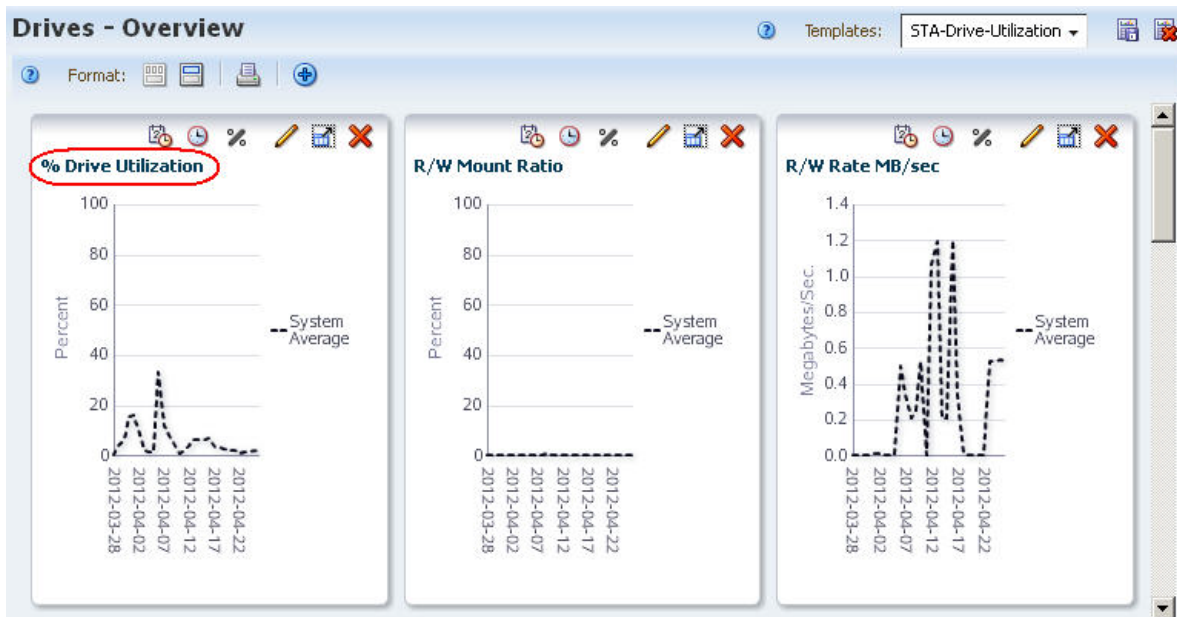
1. In the Navigation Bar, select **Drives > Overview**.



2. In the Templates menu, select the “**STA-Drive-Utilization**” template.



The first graph on the screen is “% Drive Utilization,” which displays the system average of percent drive utilization over time. This provides a high-level measure of activity for all drives in your environment.



3. To differentiate and compare the activity levels of individual drives, and to identify potential “hot spots,” you can sort or filter the drives in the table by various criteria, such as drive type or library.

In the example below, the table is sorted in descending order of “% Drive Utilization (30 Days)” — highest percentage utilization first.

Applied Filter: % Drive Utilization (30 Days) > 0'

Drive Serial Number	Drive WWNN	Drive Model	Drive Physical Address	Drive Library Serial Number	Drive Health Indicator	% Drive Utilization (30 Days)	Drive Lifetime Cleans	Drive Lifetime Loads	Drive Lifetime Meters	Drive Lifetime Power
500000020023	UNKNOWN	9840C	2,1,2,1,2	516000100102	✓	67.53				
500000009635	50:01:04:F0:00:79:27:13	9840C	1,2,-2,1,1	516000000454	⚠	61.76				
HU18393BG2	50:01:04:F0:00:7A:82:01	LTO4	1,1,2,9	522000000744	✓	49.47	0	30,307	33,594,466	
HU1038CKW1	50:01:04:F0:00:7A:82:0A	LTO5	3,2,3,9	522000000744	✓	47.65	0	32,968	23,871,478	

4. Use the following steps to add the top five drives to the screen graphs.

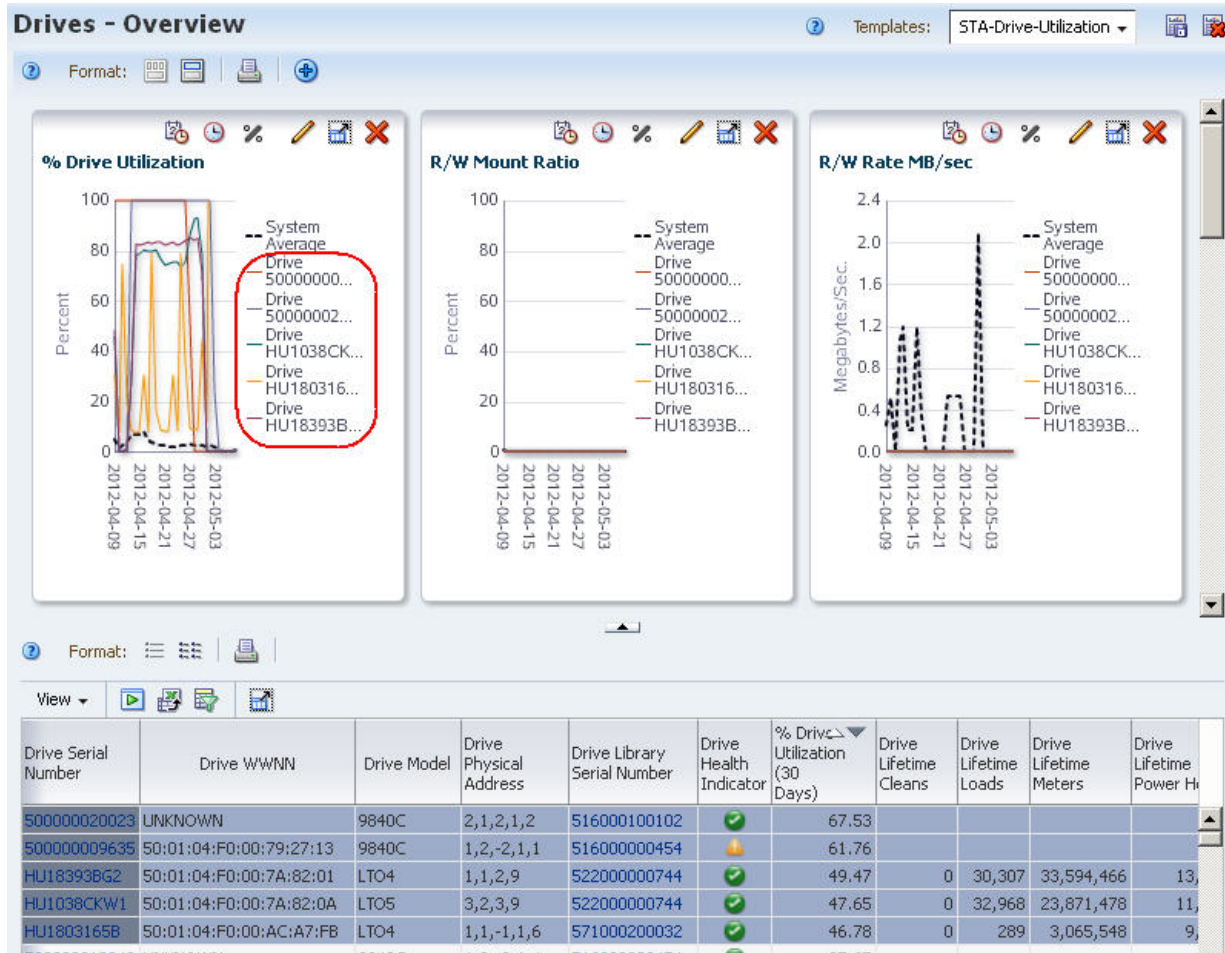
Adding the drives to the graphs allows you to compare their attribute values against the system average.

- a. In the List View table, select the top five drives.
- b. Click the Apply Selection icon on the List View Toolbar.

Apply Selection

Drive Serial Number	Drive WWNN	Drive Model	Drive Physical Address	Drive Library Serial Number	Drive Health Indicator	% Drive Utilization (30 Days)	Drive Lifetime Cleans	Drive Lifetime Loads	Drive Lifetime Meters	Drive Lifetime Power H
500000020023	UNKNOWN	9840C	2,1,2,1,2	516000100102	✓	67.53				
500000009635	50:01:04:F0:00:79:27:13	9840C	1,2,-2,1,1	516000000454	⚠	61.76				
HU18393BG2	50:01:04:F0:00:7A:82:01	LTO4	1,1,2,9	522000000744	✓	49.47	0	30,307	33,594,466	13
HU1038CKW1	50:01:04:F0:00:7A:82:0A	LTO5	3,2,3,9	522000000744	✓	47.65	0	32,968	23,871,478	11
HU18031658	50:01:04:F0:00:AC:A7:FB	LTO4	1,1,-1,1,6	571000200032	✓	46.78	0	289	3,065,548	8

The drives are added to the graphs.



▼ Report Data Related to Media Migration

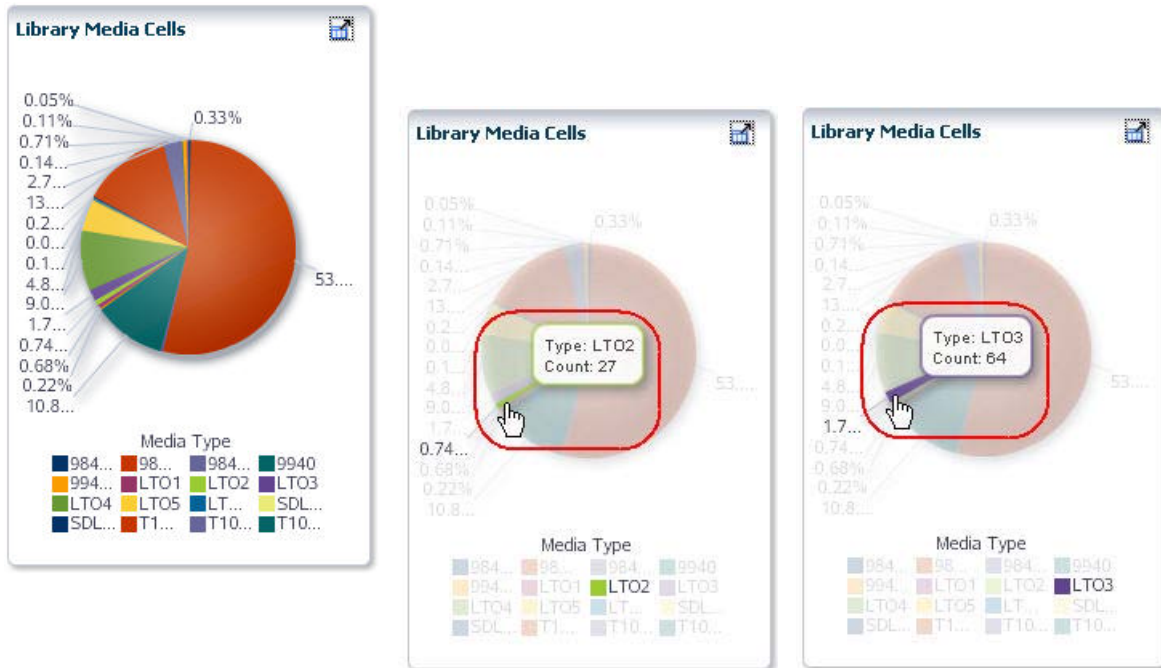
1. In the Navigation Bar, select Dashboard.



The screen provides a high-level view of the number of media cartridges, aggregated by type.

2. Move the mouse over the “Library Media Cells” graph to display detail for each type of media stored in the library system.

The example below illustrates a site planning to migrate off older generation LTO2 and LTO3 tapes. Moving the mouse over these two sections of the pie chart reveals there are a total of 27 LTO2 and 64 LTO3 tapes that must be replaced.



3. Select a section of the pie chart to go to the Media – Overview screen filtered for that type of media.

The example below shows the screen filtered for LTO2 media. On this screen, you can organize the media records by remaining capacity, physical location, or other attributes pertinent to the migration process.

Format: [Icons] Applied Filter: Media Type=LTO2

Volume Serial Number	Media Type	Media Health Indicator	Drive Serial Number	Drive WWNN	Drive Type	Drive Health Indicator	Last Exchange Start	Med
A75159	LTO2	[?]				[?]		
ACS147	LTO2	[?]	1110237123	50:01:04:F0:00:79:CB:5C	IbmUltrium2	[?]	2012-05-08 12:32:09	
ACS151	LTO2	[?]				[?]		
ACS198	LTO2	[?]				[?]		
ACS211	LTO2	[?]				[?]		

Columns Hidden 61 Columns Frozen 1 Displaying 27 record(s)

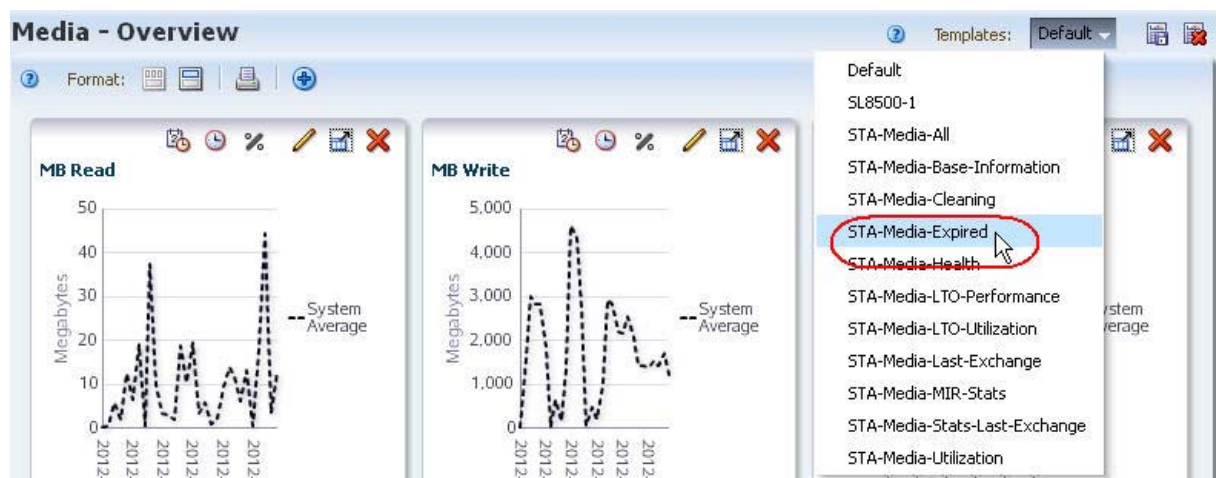
4. Alternative approaches for gathering this information are to use either of the following screens, which can summarize, filter, or aggregate media totals by type.
 - Media – Overview
 - Media – Analysis

▼ Report Data Related to Media Ageing

1. In the Navigation bar, select Media > Overview.



2. In the Templates menu, select "STA-Media-Expired".



This template includes a filter and attributes related to media that have expired and should be retired from service.

The screenshot shows the 'Media - Overview' dashboard with the 'STA-Media-Expired' template selected. A filter is applied: 'Applied Filter: Media Life Indicator=true or Media Warranty Indicator=OUT_OF_WARRANTY'. The table below shows the resulting data:

Volume Serial Number	Media Library Name	Media Library Serial Number	Cleaning Media	Cleaning Media Expired	Media Suspicion	Media Health Indicator	Media Life Indicator	Media Warranty Indicator	Drive Serial Number	Media Load Limit Alert
C00003	HSC-8500-Complex	516000100127			0.00	✓	✗	✗	500000020852	✓
C00006	HSC-8500-Complex	516000100127			0.00	✓	✗	✗	500000028884	✓
SL1105	HSC-8500-Complex	516000100127			0.00	✓	✗	✗	500000020684	✓
W00594	HSC-8500-Complex	516000100127			0.00	✓	✗	✗	500000028875	✓

▼ Report Resources With the Highest Utilization

This procedure addresses the question, “Which types of drives or media are used the most in my tape system?”

The drives and media that make up the majority of the system are not necessarily subject to the most use. Utilization is affected by your client configuration and the types of drives and media requested by these clients. This procedure addresses some of the most common ways of defining “most used”.

The following methods are described:

- “Report Drive Utilization”, below
- “Report Media Utilization” on page 267

Referenced Tasks

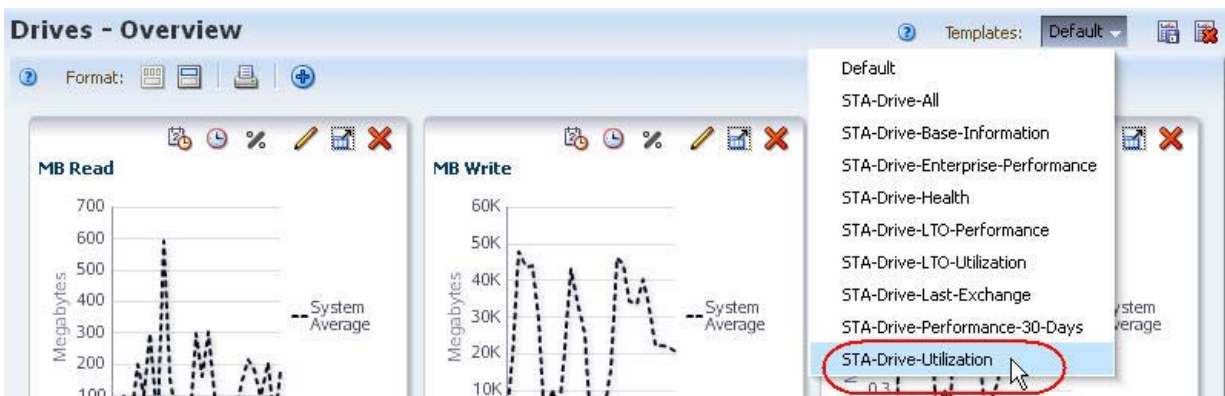
- “Apply a Template” on page 199
- “Use the Filter Data Dialog Box to Change a Table Filter” on page 173
- “Sort by Multiple Columns” on page 128
- “Export Table Data to a Spreadsheet” on page 157

▼ Report Drive Utilization

1. In the Navigation Bar, select Drives > Overview.



2. In the Templates menu, apply the “STA-Drive-Utilization” template.



This template displays utilization statistics for all drive types.

3. Use the following steps to remove drives for which STA has no utilization data.

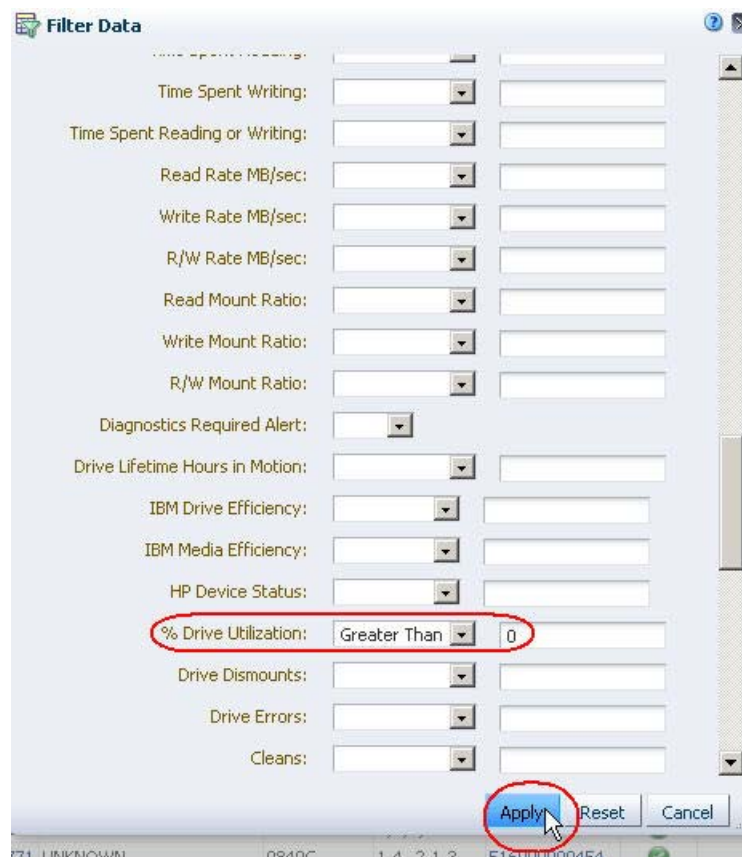
a. Click Filter Data.

b. In the dialog box, locate the attribute that represents the utilization measure of interest to you. In the field menu, select “Greater than” and enter “0”.

Following are some suggested attributes for measuring drive utilization.

- To identify drives with the highest utilization rates, use “% Utilization (30 Days)”.
- To identify drives that have recorded the most new data, use “MB Write (30 Days)”, or “MB Received (30 Days)”.
- To identify drives that have passed the most data at the drive head, use “MB R/W (30 Days)”.
- For drives that have been in the library for their entire periods of use, the drive “lifetime” attributes are also useful measures of activity — for example, “Drive Lifetime Loads” or “Drive Lifetime Hours in Motion”.

c. Click Apply.

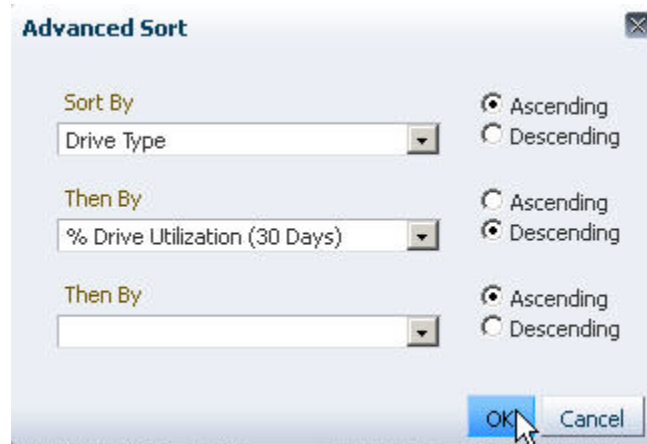


4. Perform a multiple-column sort to group the records by drive type and then utilization.

a. Select View > Sort > Advanced.

b. Complete the Advanced Sort dialog box as follows:

- In the “Sort By” field, select “Drive Type”.
 - In the “Then By” field, select the attribute that you used in [Step b](#) above, and “Descending”.
- c. Click OK.

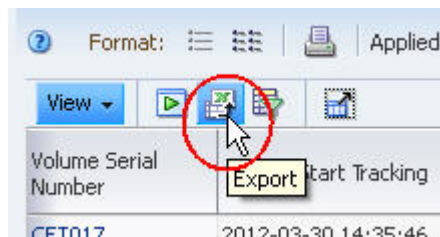


The table is sorted according to your criteria.

Drive Serial Number	Drive WWNN	Drive Model	Drive Physical Address	Drive Library Serial Number	Drive Health Indicator	% Drive Utilization (30 Days)	Drive Lifetime Cleans	Drive Lifetime Loads	Drive Lifetime Meters	Drive Lifetime Power
500000020023	UNKNOWN	9840C	2,1,2,1,2	516000100102	✓	67.53				
500000009635	50:01:04:F0:00:79:27:13	9840C	1,2,-2,1,1	516000000454	⚠	61.76				
HU18393BG2	50:01:04:F0:00:7A:82:01	LTO4	1,1,2,9	522000000744	✓	49.47	0	30,307	33,594,466	
HU1038CKW1	50:01:04:F0:00:7A:82:0A	LTO5	3,2,3,9	522000000744	✓	47.65	0	32,968	23,871,478	

5. To summarize the data by drive type, you must use an external spreadsheet application. Use the following steps to export the data displayed in the table to an HTML-based Excel-compatible file.

- a. Click the Export icon in the Table Toolbar.



- b. Save the file to a location on your local computer.

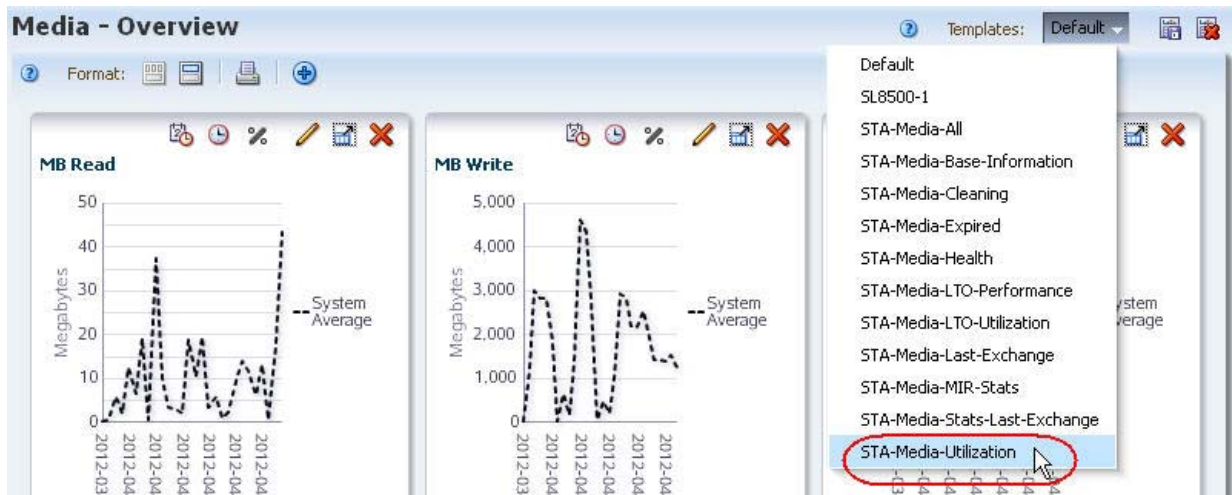
6. Use a compatible spreadsheet application to open the file and summarize the data.

▼ Report Media Utilization

1. In the Navigation Bar, select Media > Overview.



2. In the Templates menu, apply the "STA-Media-Utilization" template.



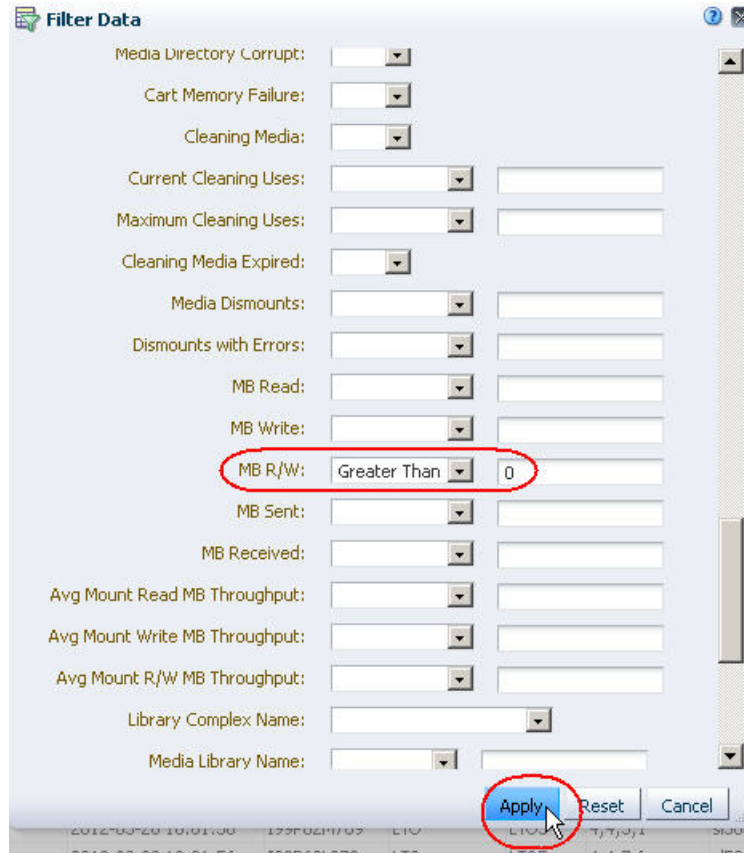
This template displays utilization statistics for all media types.

3. Use the following steps to remove media for which STA has no utilization data.
 - a. Click Filter Data.
 - b. In the dialog box, locate the attribute that represents the utilization measure of interest to you. In the field menu, select "Greater than" and enter "0".

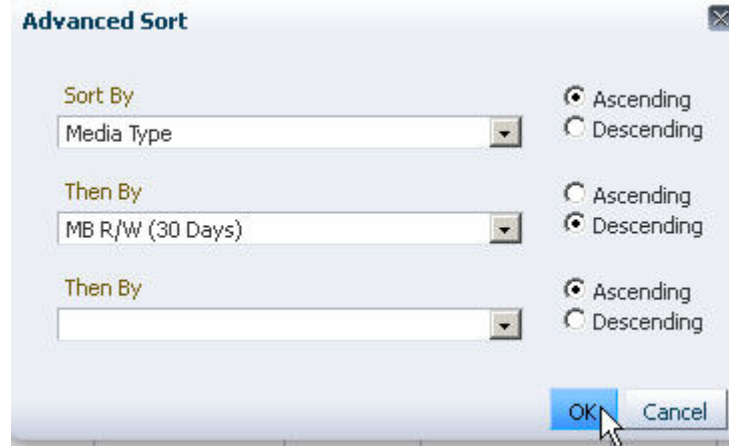
Following are some suggested attributes for measuring media utilization:

- To identify media with the greatest amount of movement, use "Time spent reading or writing".
- To identify media below a specific threshold of available space, use "Media MB Avail Pre/Post"
- To identify media with the greatest number of mounts and dismounts, use "Media Dismounts (30 days)".
- To identify media with the greatest amount of data read or written, use "MB R/W (30 days)".

- c. Click Apply.



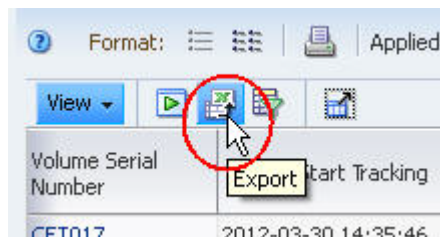
4. Perform a multiple-column sort to group the records by media type and then utilization.
 - a. Select View > Sort > Advanced.
 - b. Complete the Advanced Sort dialog box as follows:
 - In the “Sort By” field, select “Media Type”.
 - In the “Then By” field, select the attribute that you used in [Step b](#) above, and “Descending”.
 - c. Click OK.



The table is sorted according to your criteria.

Volume Serial Number	Media MB Capacity	Media MB Avail Pre	Data Compression Ratio	Media MB Avail Post	MB Read (30 Days)	MB Write (30 Days)	MB R/W (30 Days)	Media Life Indicator	Media Warranty Indicator
AAC331	799,204	787,140.00	1 : 1		1,073.69	6,114,101	6,115,174	✓	✓
AAC345	799,204	787,104.00	1 : 1		1,073.69	6,114,101	6,115,174	✓	✓
AAC334	799,204	787,140.00	1 : 1		1,073.69	6,114,100	6,115,174	✓	✓
AAC330	799,204	787,122.00	1 : 1		1,073.62	6,113,709	6,114,783	✓	✓

5. To summarize the data by media type, you must use an external spreadsheet application. Use the following steps to export the data displayed in the table to an HTML-based Excel-compatible file.
 - a. Click the Export icon in the Table Toolbar.



- b. Save the file to a location on your local computer.
6. Use a compatible spreadsheet application to open the file and summarize the data.

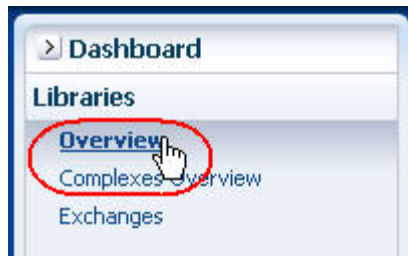
▼ Report Library Relative Activity Levels

This procedure addresses the questions, “Which library in my tape environment is the busiest? Which is the least busy?”

The definition of “busy” varies by site; common definitions include the number of exchanges, mounts, or dismounts. This procedure uses the number of mounts. In addition, it provides instructions for graphing the data so you can compare the libraries to one another and to the system average.

Referenced Tasks

- “Apply a Template” on page 199
 - “Sort by a Column” on page 126
 - “Add a Graph Pane” on page 86
 - “Change the Graphed Attribute” on page 92
 - “Add Library Resources to Graphs” on page 99
 - “Detach a Graph Pane” on page 82
1. In the Navigation Bar, select Libraries > Overview.



2. In the Templates menu, apply the “STA-Lib-Utilization” template.



3. In the “Mounts (30 Days)” column, click the Sort Ascending or Sort Descending arrow.

Note – Other columns you might want to sort by are “Enters (30 Days)”, “Ejects (30 Days)”, “Occupied Storage Cells”, or “MB R/W (30 Days)”.

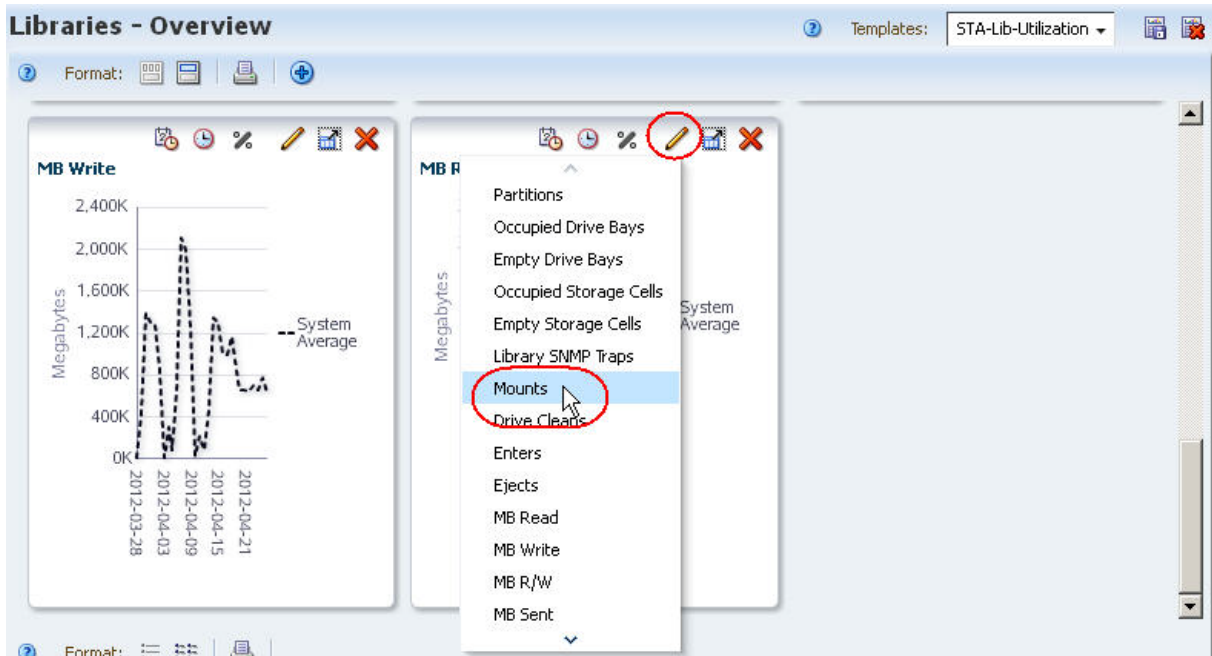
Library Serial Number	Occupied Storage Cells	Empty Storage Cells	Occupied Drive Bays	Empty Drive Bays	Enters (30 Days)	Ejects (30 Days)	MOUNTS (30 Days)	% Drive Utilization (30 Days)	MB R/W (30 Days)	MB Read (30 Days)	MB Write (30 Days)
516000100127	948	9,140	50	14	0	0	27,296	3.01	0	0	0
522000000744	69	311	8	0	4	5	16,599	28.46	132,599,968	29,949	132,570,016
571000200032	591	1,214	34	14	0	0	13,696	20.29	38,170,824	29,116	38,141,708
516000100451	458	2,718	37	27	0	0	10,696	7.14	16,037,375	17,363	16,020,013
516000100102	553	895	34	30	0	1	7,057	0.97	210,250	69,862	140,388
516000000454	290	1,158	28	36	0	0	5,367	4.15	3,607,462	577,915	3,029,547
516000100090	320	1,128	36	28	18	19	54	0.29	812,857	360,703	452,154
516000100561	434	9,654	5	59	0	0	0	0.00	0	0	0

4. Use the following steps to add a graph pane showing mounts.
 - a. Click the Add Graph icon in the Graphics Area Toolbar.

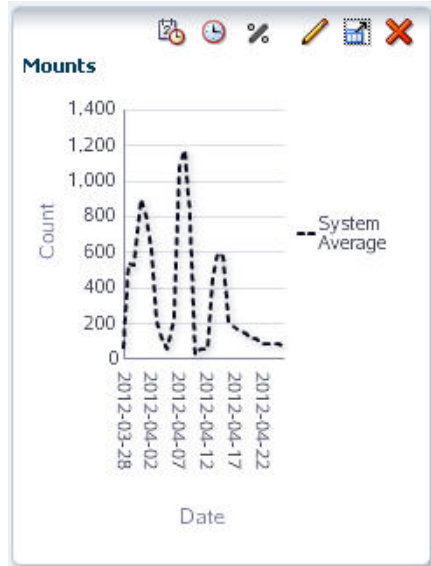


A new graph pane, with the attribute "MB Read", is added to the end of the Graphics Area display. You may need to scroll down to see the graph.

- b. Click the Change Graphed Attribute icon in the Graph Pane Toolbar, and select the "Mounts" attribute from the menu.



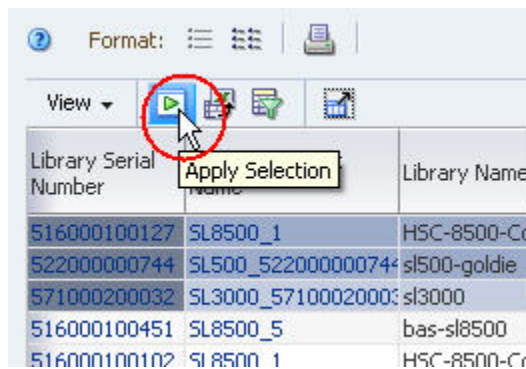
The graph is updated to display the system average for mount data.



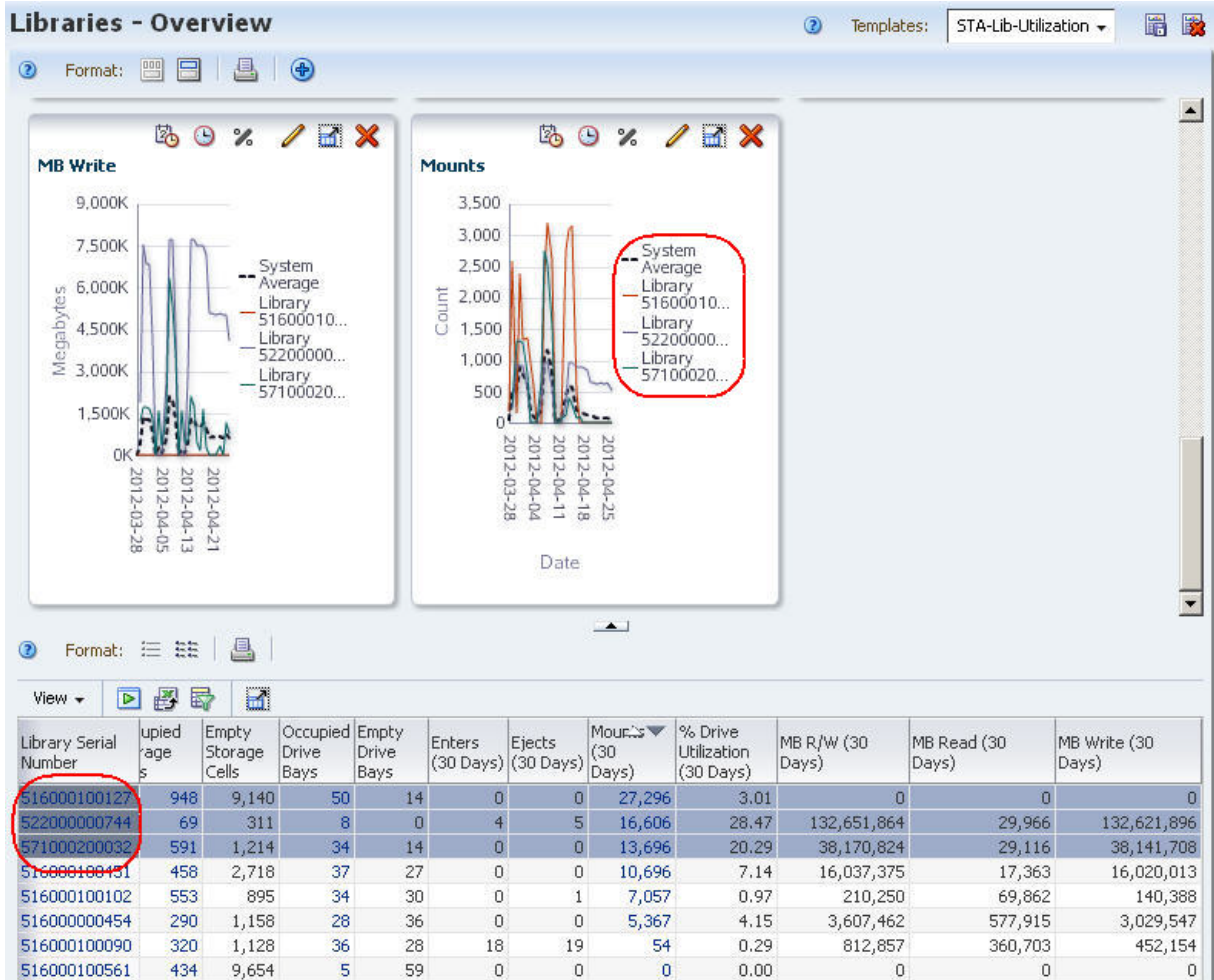
5. Use the following steps to add selected libraries to the screen graphs.

Adding the libraries to the graphs allows you to compare their attribute values against the system average.

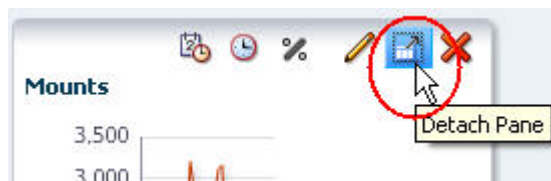
- a. In the List View table, select the libraries you want to add to the graphs.
- b. Click the Apply Selection icon on the List View Toolbar.



In the example below, the three libraries with most mounts are added to all the graphs.



- In the "Mounts" graph pane, click the Detach icon to detach the graph to enlarge it and display more detail.



▼ Report Media Cartridges Approaching Capacity

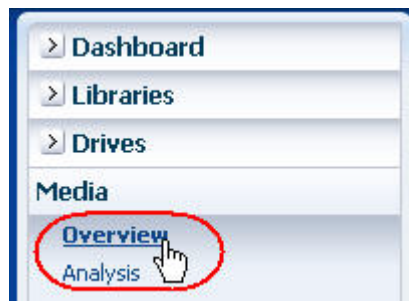
This procedure addresses the questions, “Which media cartridges are over 90 percent full? How do I generate a list that can be used to create a script to eject them from the library?”

STA reports cartridge capacity and available space as numerical values only, not as percentages. This procedure provides instructions for exporting the numerical values to a spreadsheet application, which can then be used to calculate percentages. The resulting list can be used by a cartridge eject script.

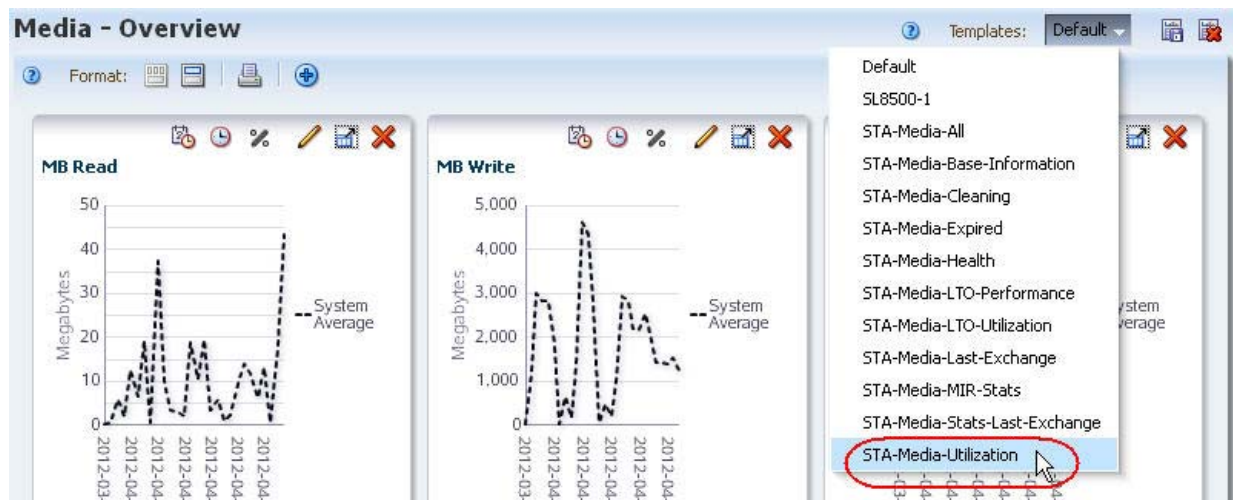
Referenced Tasks

- “Apply a Template” on page 199
- “Sort by a Column” on page 126
- “Export Table Data to a Spreadsheet” on page 157

1. In the Navigation Bar, select Media > Overview.



2. In the Templates menu, apply the “STA-Media-Utilization” template.



This template includes the “Media MB Available” and “Media MB Capacity” attributes.

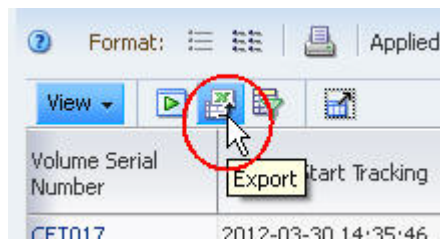
3. In the “Media MB Capacity” column, click the Sort Descending arrow.

Media MB Capacity	Media MB Avail Pre
1,048,576	
512,000	

The cartridges with the highest capacity are brought to the top of the list. This sort also has the advantage of grouping cartridges by media type, since capacity tends to vary by media type.

Volume Serial Number	Media Library Serial Number	Media Health Indicator	Drive Serial Number	Media Dismounts (30 Days)	Time Spent Reading	Time Spent Writing	Time Spent Reading or Writing	Media MB Capacity	Media MB Avail
BA5517	571000200032	✓	576001000451	10	0:01:03	0:00:00	0:01:03	5,242,880	
BA5506	571000200032	✓	576001000224	8	0:00:00	0:00:52	0:00:52	5,242,880	
BA5507	571000200032	✓	576001000451	9	0:00:05	0:00:00	0:00:05	5,242,880	
BA5504	571000200032	✓	576001000224	10	0:00:00	0:00:00	0:00:00	5,242,880	
BA5500	571000200032	✓	576001000451	8	0:00:00	0:00:52	0:00:52	5,242,880	

4. To create a list that can be used by a cartridge eject script, you must use an external spreadsheet application. Use the following steps to export the data displayed in the table to an HTML-based Excel-compatible file.
 - a. Click the Export icon in the Table Toolbar.



- b. Save the file to a location on your local computer.
5. Using a compatible spreadsheet program, add a "Percentage Full" column, containing calculated values derived from the attributes in the exported table. Sort the table by the column values and identify a list of cartridges over 90 percent full.

▼ Report Drive Firmware Levels

This procedure addresses the question, “Have all my drives been upgraded to the latest firmware?” Firmware levels are usually evaluated by drive type or model.

The following methods are described:

- “Using the Drives – Overview Screen”, below
- “Using the Drives – Analysis Screen” on page 279

Referenced Tasks

- “Apply a Template” on page 199
- “Move a Column” on page 120
- “Sort by Multiple Columns” on page 128
- “Use the Filter Data Dialog Box to Change a Table Filter” on page 173
- “Change Table Attributes and Their Nesting Order” on page 154
- “Use Aggregate Count Links to Navigate” on page 61

▼ Using the Drives – Overview Screen

1. In the Navigation Bar, select Drives > Overview.



2. In the Templates menu, apply the “STA-Drives-Base-Information” template.

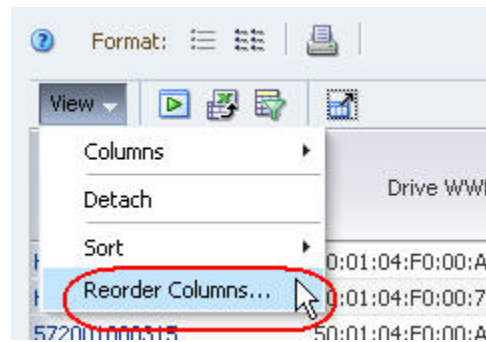


This template includes the drive firmware version and other related attributes.

Drive Serial Number	Drive Type	Drive Manufacturer	Drive Model	Drive Properties Updated	Drive Health Indicator	Drive WWNN	Drive Physical Address	Drive Library Name	Drive Li Serial N
HU1803162U	HpUltrium4	HP	LTO4	2012-03-28 18:01:31	⊗	50:01:04:F0:00:AC:A7:FE	1,1,-2,1,6	sl3000	571000
HU1047DLTA	HpUltrium5	HP	LTO5	2012-03-28 18:01:55	⊗	50:01:04:F0:00:7A:82:10	4,3,1,9	sl500-goldie	522000
572001000315	T10000h-FC-STV	T10000R	T10000R	2012-04-06 18:01:39	⊗	50:01:04:F0:00:AC:A7:07	1,1,1,1,3	sl3000	571000

3. Use the following steps to reorder the table columns so the drive firmware level is displayed next to the drive model.

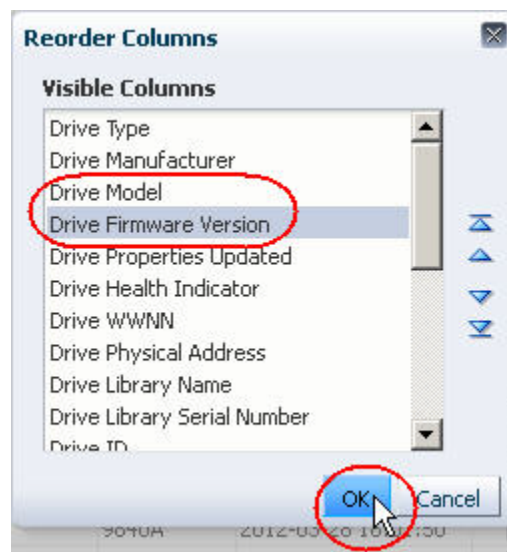
a. Select View > Reorder Columns.



b. In the Reorder Columns dialog box, arrange the following attributes so they are listed together.

- Drive Model
- Drive Firmware Version

c. Click OK.



The table columns are reordered according to your criteria.

Drive Serial Number	Drive Type	Drive Manufacturer	Drive Model	Drive Firmware Version	Drive Properties Updated	Drive Health Indicator	Drive WWNN	Drive Physical Address	Drive Li Name
HU1803162U	HpUltrium4	HP	LTO4	H645-015.021	2012-03-28 18:01:31	❌	50:01:04:F0:00:AC:A7:FE	1,1,-2,1,6	sl3000
HU1047DLTA	HpUltrium5	HP	LTO5	I585-015.762	2012-03-28 18:01:55	❌	50:01:04:F0:00:7A:82:10	4,3,1,9	sl500-g
572001000315	T10000b-FC	STK	T10000B	1.44.108-5.10	2012-04-06 18:01:39	⚠️	50:01:04:F0:00:AC:A7:D7	1,1,-1,1,3	sl3000

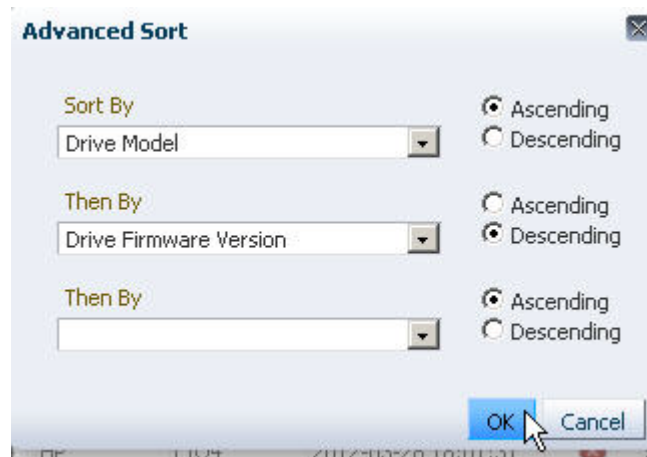
4. To display firmware levels by drive type, use the following steps to set up a multiple-column sort.

a. Select View > Sort > Advanced in the Table Toolbar.

b. Complete the Advanced Sort dialog box as follows:

- In the “Sort By” field, select “Drive Model”.
- In the “Then By” field, select “Drive Firmware Version” and select “Descending”.

c. Click OK.



The table is sorted according to your criteria.

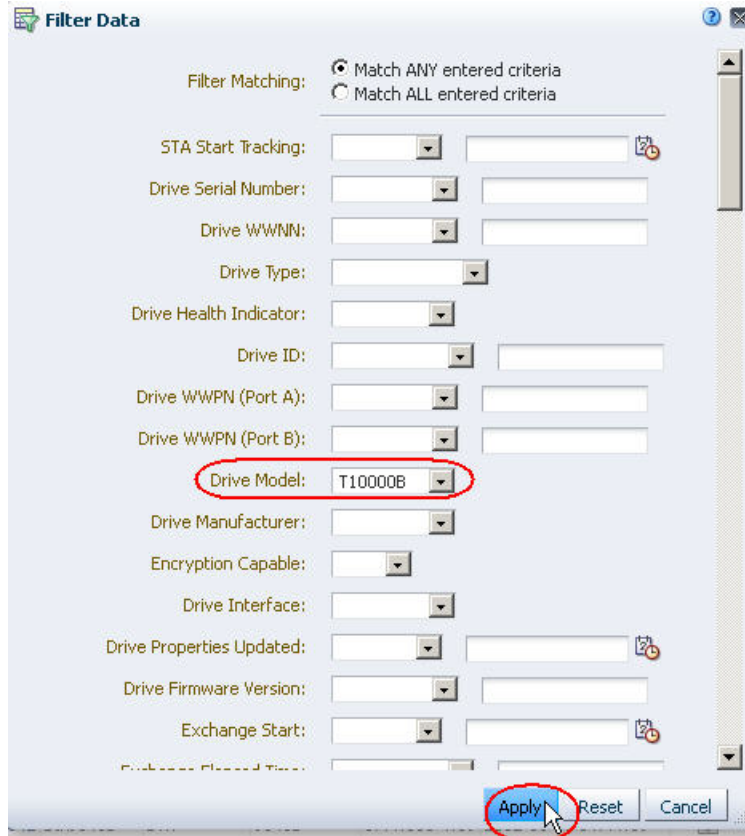
Drive Serial Number	Drive Type	Drive Manufacturer	Drive Model	Drive Firmware Version	Drive Properties Updated	Drive Health Indicator	Drive WWNN	Drive Physical Address	Drive Li Name
331000013515	Stk9840a	STK	9840A	1.44.108-5.10	2012-03-28 18:01:39	⚠️	UNKNOWN	2,2,-2,1,3	HSC-85
331000024195	Stk9840a	STK	9840A	1.44.108-5.10	2012-03-28 18:01:39	⚠️	UNKNOWN	2,2,-1,1,2	HSC-85

5. Use the following steps to display firmware levels for a specific drive model.

a. Click Filter Data.

b. In the “Drive Model” field, select the drive model of interest.

c. Click Apply.



The table is updated according to your selection criteria.

Applied Filter: Drive Model=T10000B

Drive Serial Number	Drive Type	Drive Manufacturer	Drive Model	Drive Firmware Version	Drive Properties Updated	Drive Health Indicator	Drive WWNN	Drive Physical Address	Drive Libra Name
572004002083	T10000b	STK	T10000B	RR.48205-5.30	2012-04-30 13:11:21	✔	50:01:04:F0:00:79:CB:50	1,2,1,1,3	evtlibrary
572001000214	T10000b	STK	T10000B	1.48.205-5.30	2012-03-30 14:35:43	?	50:01:04:F0:00:8A:BA:84	1,2,1,1,4	bas-sl8500
572004000099	T10000b-Enc	STK	T10000B	1.48.205-5.30	2012-03-28 18:01:31	?	50:01:04:F0:00:AC:A7:BC	1,1,1,1,6	sl3000
572001000315	T10000b-Enc	STK	T10000B	1.48.105-5.30	2012-04-06 18:01:39	✘	50:01:04:F0:00:AC:A7:D7	1,1,-1,1,3	sl3000
572004000129	T10000b	STK	T10000B	1.48.105-5.30	2012-04-04 18:02:37	?	50:01:04:F0:00:8A:BA:BA	1,1,-2,1,4	bas-sl8500
572001000316	T10000b	STK	T10000B	1.48.105-5.30	2012-04-04 18:01:36	✔	50:01:04:F0:00:AC:A7:89	1,1,2,1,2	sl3000
572001000201	T10000b	STK	T10000B	1.48.105-5.30	2012-04-06 18:04:52	⚠	50:01:04:F0:00:8A:BA:AB	1,2,-1,1,1	bas-sl8500

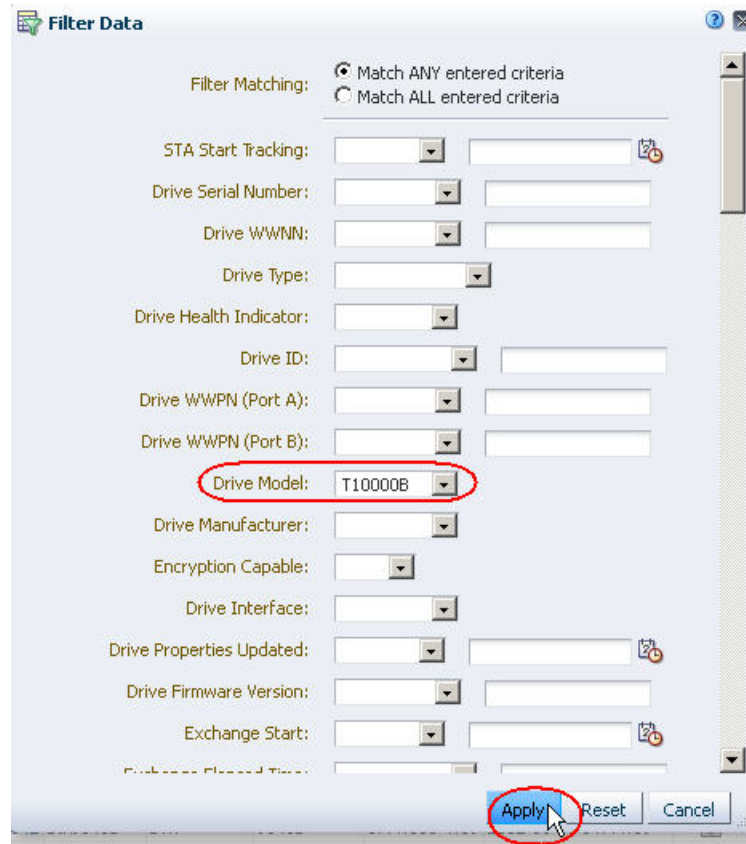
▼ Using the Drives – Analysis Screen

This method provides totals by drive and firmware level, and aggregates the totals by library complex.

- 1. In the Navigation Bar, select Drives > Analysis.



2. Use the following steps to display firmware levels for a specific drive model.
 - a. Click Filter Data.
 - b. In the “Drive Model” field, select the drive model of interest.
 - c. Click Apply.



The table is updated according to your selection criteria.

Applied Filter: Drive Model=T10000B

		ACTION	EVALUATE	MONITOR	USE	UNKNOWN	Total
SL3000_571000200032	1 STK	1	0	0	1	1	3
	Drive Manufacturer Total	1	0	0	1	1	3
	Drive Library Number Total	1	0	0	1	1	3
SL8500_5	1 STK	0	0	1	1	2	4
	Drive Manufacturer Total	0	0	1	1	2	4
	Drive Library Number Total	0	0	1	1	2	4
SL8500_7	1 STK	0	0	1	0	0	1
	Drive Manufacturer Total	0	0	1	0	0	1
	Drive Library Number Total	0	0	1	0	0	1
SL8500_8	1 STK	0	0	0	0	1	1
	Drive Manufacturer Total	0	0	0	0	1	1
	Drive Library Number Total	0	0	0	0	1	1
Library Complex Name Total		1	0	2	2	4	9

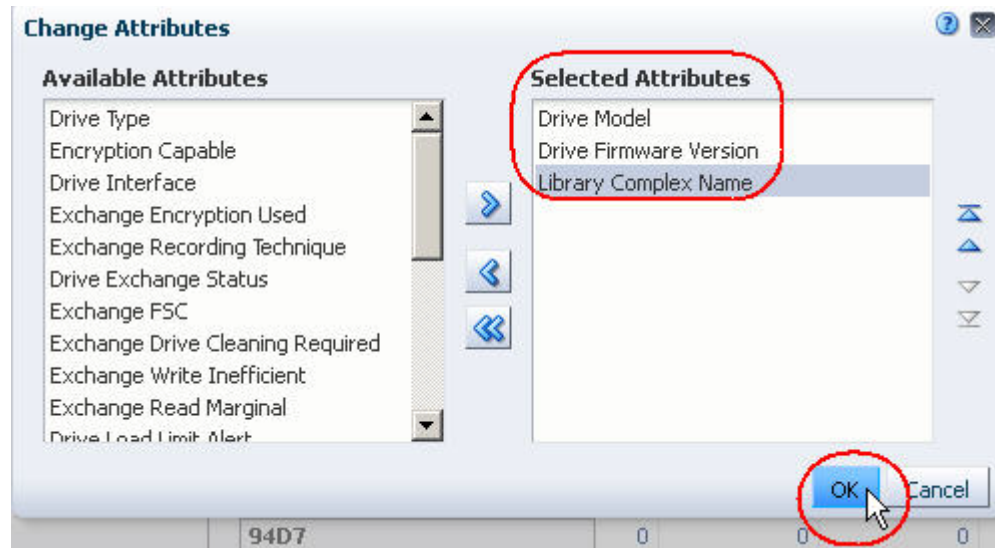
3. Use the following steps to reorganize the pivot table to aggregate firmware levels by drive model.

- Click the Change Attribute icon on the Pivot Table Toolbar.
- In the Change Attributes dialog box, rearrange the attributes so the “Selected Attributes” list is as follows:

- Drive Model
- Drive Firmware Version
- Library Complex Name

Note – The last attribute in the list — in this case, “Library Complex Name” — always designates the column headers. The remaining attributes designate the row layers, nested in the order listed — in this case, “Drive Firmware Version” within “Drive Model”.

- Click OK.



The pivot table is updated according to your criteria.

Applied Filter: Drive Model=T10000B

		SL3000_5710	SL500_52200	SL8500_1	SL8500_5	SL8500_6	SL8500_7	SL8500_8
T10000B	1.46.209-5.20	0	0	0	0	0	0	0
	1.48.105-5.30	2	0	0	3	0	0	0
	1.48.205-5.30	1	0	0	1	0	0	0
	RP.48205-5.30	0	0	0	0	0	0	1
	Drive Firmware Version Total	3	0	0	4	0	0	1
Drive Model Total	3	0	0	4	0	0	1	

4. To display a detailed listing of any of the subtotals, click the text link in a cell.

Applied Filter: Drive Model=T10000B

		SL3000_5710	SL500_52200	SL8500_1	SL8500_5	SL8500_6	SL8500_7	SL8500_8
T10000B	1.46.209-5.20	0	0	0	0	0	0	0
	1.48.105-5.30	2	0	0	3	0	0	0
	1.48.205-5.30	1	0	0	0	0	0	0
	RP.48205-5.30	0	0	0	0	0	0	1
	Drive Firmware Version Total	3	0	0	4	0	0	1
Drive Model Total	3	0	0	4	0	0	1	

You are taken to the **Drives - Overview** screen, which displays additional detail for the drives included in the selected subtotal.

Drives - Overview

Templates: Default

Format: [Icons]

MB Read

MB Write

Mount R/W MB/sec

Applied Filter: Drive Model=T10000B and Drive Firmware Version Is '1.48.105-5.30' and Library Complex Name=SL8500_5

View: [Icons]

Drive Serial Number	Drive WWNN	Drive Type	Drive Health Indicator	Exchange Start	Drive Exchange Status	Exchange FSC	Exc Driv Cle Res
572001000201	50:01:04:F0:00:8A:BA:AB	T10000b	🚨	2012-04-16 13:54:03	GOOD		
572004000129	50:01:04:F0:00:8A:BA:BA	T10000b	?				
572001000141	50:01:04:F0:00:8A:BA:D5	T10000b-Enc	✅	2012-04-15 14:10:27	GOOD		

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