



Avid® NEXIS™

Administration Guide

Version 6.0

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Using This Guide

The Avid® NEXIS™ software-defined storage system provides a high-performance distributed file system that contains high-capacity shared media storage for workgroups of connected devices. This user's guide describes how to connect your client system to the storage system, mount Workspaces, and configure your system for best performance.

Unless noted otherwise, the material in this document applies to the Windows®, Mac OS® X, and Linux operating systems. The majority of screen shots in this document were captured on a Windows system, but the information applies to all operating systems. Where differences exist, information on the differences is provided.




The documentation describes the features and hardware of all models. Your system might not contain certain features and hardware that are covered in this guide.

Who Should Use This Guide

This guide is intended for users who need to manage the Avid NEXIS media network. You should have a basic understanding of how to use and manage the Windows operating system or the Mac OS X systems, and you should be familiar with basic workgroup and network concepts.

Symbols and Conventions

Avid documentation uses the following symbols and conventions:

Symbol or Convention	Meaning or Action
	A note provides important related information, reminders, recommendations, and strong suggestions.
	A caution means that a specific action you take could cause harm to your computer or cause you to lose data.
	A warning describes an action that could cause you physical harm. Follow the guidelines in this document or on the unit itself when handling electrical equipment.
>	This symbol indicates menu commands (and subcommands) in the order you select them. For example, File > Import means to open the File menu and then select the Import command.
▶	This symbol indicates a single-step procedure. Multiple arrows in a list indicate that you perform one of the actions listed.
(Windows), (Macintosh), or (Linux)	This text indicates that the information applies only to the specified operating system, either Windows, Macintosh OS X, or Linux.
Bold font	Bold font is primarily used in task instructions to identify user interface items and keyboard sequences.
<i>Italic font</i>	Italic font is used to emphasize certain words and to indicate variables.
Courier Bold font	Courier Bold font identifies text that you type.

Symbol or Convention	Meaning or Action
----------------------	-------------------

Ctrl+key or mouse action	Press and hold the first key while you press the last key or perform the mouse action. For example, Command+Option+C or Ctrl+drag.
--------------------------	--

If You Need Help

If you are having trouble using your Avid product:

1. Retry the action, carefully following the instructions given for that task in this guide. It is especially important to check each step of your workflow.
2. Check the latest information that might have become available after the documentation was published.

Always check online for the most up-to-date release notes or ReadMe because the online version is updated whenever new information becomes available. To view the online versions, visit the Knowledge Base at www.avid.com/support.

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1 Configuring the System

This chapter takes over from the final step in the *Avid NEXIS Setup and Maintenance Guide* and provides more detail for some of the steps in that guide.

To make the system fully usable to clients, do the following:

1. Create the Avid NEXIS file system
2. Bind Media Packs to the file system
3. Create one or more Storage Groups from the Media Packs
4. Create Workspaces within the Storage Group or Groups (see [“Managing Storage Groups and Workspaces”](#) on page 27)
5. Create user or device accounts to allow clients to connect to the Avid NEXIS. You can create user accounts on the Avid NEXIS itself, or configure an LDAP server to authenticate users.
6. Set up the notification service to send email to one or more accounts when a problem occurs.

Creating the Avid NEXIS File System

Creating a new file system is the first step to making the storage space usable after you install the Avid NEXIS software on a new Engine. It permanently deletes any existing file system. All users, groups, Workspaces, Storage Groups and other objects are permanently deleted; all Media Packs are unbound; and all other settings, such as External Authentication and Notification Service, are cleared and must be reconfigured after the new file system is created.

In addition, the Administrator password (if changed) reverts to the default (no password).

To create a new file system:

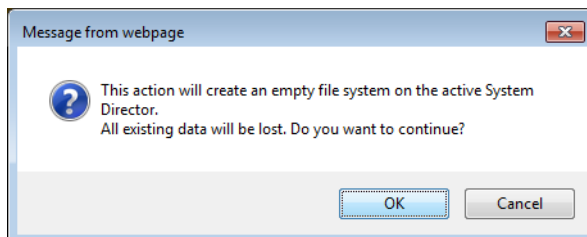
1. In the Management Console, click **System Settings**.

By default, the System Settings panel opens on the File System page.

2. Click **Create Active File System**.
3. Click **Apply**.

A confirmation screen appears, asking you to confirm the operation, which will destroy all existing data (if any) on the Avid NEXIS system, and create a new file system.

Confirmation Message to Create New File System



4. Click **OK** to continue.

The Results panel displays progress messages. When the file system is created, you can bind the Media Packs, create Storage Groups and Workspaces, create users, and configure external authentication and Event Notification as required.

Binding the Media Packs to the File System

After you have created an active file system, bind the Media Packs to it. Media Packs for all Engines in the shared storage system are shown on the Media Packs page.

To bind the Media Packs:

1. Click **Media Packs** in the Management Console.
2. Select one or more Media Packs in the list.
3. Click **Bind**.
4. Click **Yes** to confirm the request.
5. Click **Refresh**.

When the Media Packs are bound, the status icon turns green, and you can create Storage Groups. See [“Managing Storage Groups and Workspaces” on page 27](#).

Configuring External Authentication of Users

External authentication lets you add users to the Avid NEXIS system who are already configured as LDAP accounts in your environment. When a remote LDAP user logs into the Avid NEXIS system, Avid NEXIS checks with an external LDAP server instead of the local user database to authenticate the user. To enable LDAP users to access the Avid NEXIS system, configure the Avid NEXIS to use one to three external LDAP servers for authentication.

Configuring external authentication is optional, but recommended for large numbers of users. Otherwise you must create each user account individually; see [“Managing Clients” on page 48](#). You can use both external authentication and accounts you create on the Avid NEXIS. The system supports up to 5640 user accounts.

To use external authentication using LDAP, enable DNS. Specifically, the Avid NEXIS must be able to look up the LDAP server name and do a reverse lookup (resolving the IP address to a name, and vice versa). To enable DNS, see [“Configuring DNS Service” on page 105](#).

For more information on working with LDAP users and groups, see [“Managing LDAP Accounts” on page 54](#).

To configure external authentication:

1. From the Management Console home page, click **External Authentication**.
The External Authentication tool opens.
2. Click the **Enable** check box to select it.
The Domain Name text box becomes active.
3. In the Domain Name text box, enter the domain name of the network to which the LDAP server belongs, including subdomain, if applicable.



A domain name has two parts, separated by a period or dot: for example, *avid.com*. The company name “avid” is the assigned domain, and “com” is the top level domain, or TLD. A subdomain is a smaller unit within the company assigned domain, such as *americas.avid.com*.

Use the format *subdomain.domain.tld*; for example: *americas.example.com*

4. Click the check box to select **Server 0**.

The Address text box becomes active.

5. In the Address text box, enter the fully-qualified domain name of the LDAP server.



A fully qualified domain name (FQDN) consists of the hostname, subdomain name (if applicable), and the domain name.

Use the format *servername.subdomain.domain.tld*; for example:

server1.americas.example.com

6. (Option) Repeat steps 3 – 5 (using the “Server 1” and “Server 2” check boxes) to configure additional backup LDAP servers, if applicable.



All of the LDAP servers must be mirrors, and reside on the same subdomain/domain.

7. When finished, click **Submit**.

The domain and LDAP server information is added to the Avid NEXIS database, and a confirmation message is displayed in the Results area.

Receiving Notification of System Problems

The Notification Service tool lets you configure the Avid NEXIS system to notify you through email when problems occur. A service watches the system log and sends a concise summary of configured events to one or more email accounts. Configuring notification is optional but strongly recommended.

The Notification Service tool window is divided into the following sections:

- Configuration — Start and stop the Notification Service, and configure the Notification Service settings, described in the following table.

Option	Type	Description
SMTP Server	<i>text</i>	The IP address or host name of your SMTP server.
SMTP Port	<i>text (numeric)</i>	The port number of your SMTP server. The default value (25) is appropriate in most instances.
Poll Frequency (seconds)	<i>text (numeric)</i>	The frequency (in seconds) with which the notification service checks for reportable events.
Email Address	<i>text</i>	The email address of the Avid NEXIS administrator or other primary contact for the error notification service.

- Filters — Set and change the parameters that define when email notifications are sent to email recipients.
- Contacts — Add and change email recipients.

Configuring the Notification Service

To configure the Notification Service:

1. From the Management Console home page, click **Notification Service**, in the Advanced section.
The Notification Service tool opens.

The screenshot shows the Notification Service configuration page. At the top, it says 'Home | Notification Service' and 'Help Log out'. Below that, a dark bar indicates 'Notification Service is Running'. There are three tabs: 'Configuration', 'Filters', and 'Contacts'. Under 'Configuration', there are four input fields: 'SMTP Server' (empty), 'SMTP Port' (25), 'Poll Frequency' (60), and 'Email Address' (empty). Below these fields are three buttons: 'Save', 'Reset', and 'Test'. To the right of the buttons is a red error message: 'Must have at least one contact.' Below the configuration section is a 'Results' section with a white box containing the text '(empty)'.

2. Enter the IP address for your network's SMTP (email) server.
3. Enter at least one email address that will receive the notifications.
4. (Option) To test the configuration settings, click **Test**.
The results of the service test are displayed in the Results area.
5. Click **Save**.
 - A confirmation message is displayed in the Results area.
 - If you started or stopped the Notification Service, the Service State will change to reflect the new service state.
6. (Option) Click **Reset**.
The changes for the configuration will be reset to the previously saved values.

Filtering the Error Notification Parameters

The Filters area of the Notification Service tool allows you to specify the type of error message that triggers an email notification and to set parameters for each type of error message—Error, Warning, and Information messages.

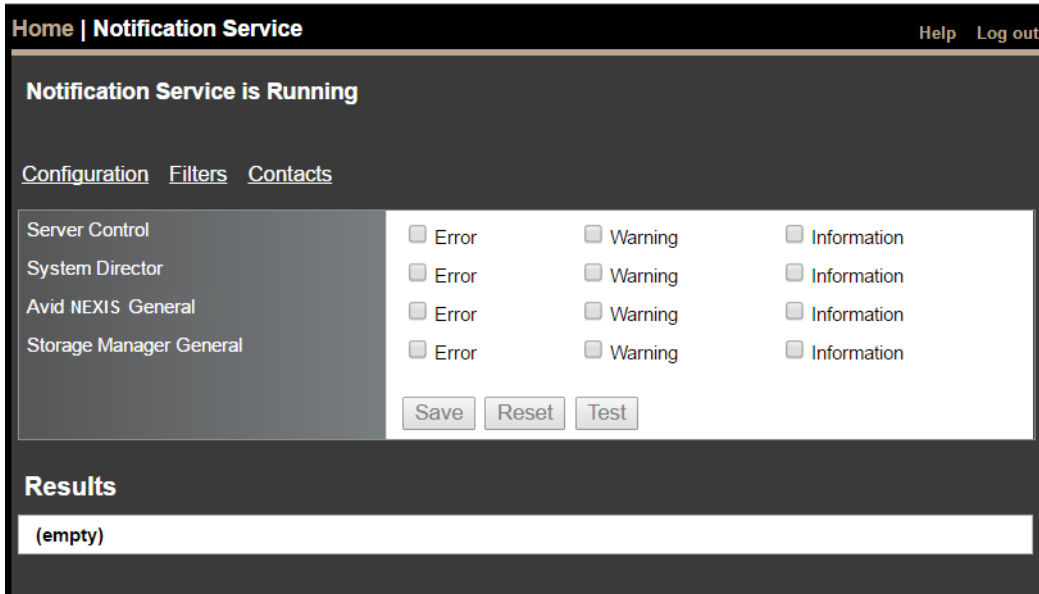
You can configure the Avid NEXIS to send notification emails for one or more of the following subsystem categories and the severity level that will trigger notification:

- Server Control — Reports messages about internal operations, including problems saving metadata to disk
- System Director — Reports messages about the Avid NEXIS file system, metadata, memory, system drives, and the System Director IP address and networking

- Avid NEXIS General — Reports messages about Workspaces (such as changing its size), password changes, Media Packs, and network communication errors detected by an Avid NEXIS component
- Storage Manager General — Reports messages about general Media Pack operations, such as initialization and status changes

To configure error notification parameters:

1. From the Management Console home page, click **Notification Service**, in the Advanced section.
The Notification Service tool opens.
2. Click **Filters**.



3. Click the check boxes corresponding to the error notifications you want to include or exclude. (A checked box includes that category, and a blank box excludes the category.)
4. Click **Save**.
The settings are saved, and a confirmation message is displayed in the Results area.

Adding Contact and Email Address Information

Enter contact information for all the people you want to receive notification emails. There is no enforced limit to the number of contacts you can add.

To add contacts:

1. From the Management Console home page, click **Notification Service**, in the Advanced section.
The Notification Service tool opens.
2. Click **Contacts**.
3. Click **New**.
The Contact/Email field is displayed.
4. Type a user name into the first text box.
This can be any name you want to assign to the user; it does not have to be the same as the email account name.

5. Type a valid email address into the second text box.
6. (Optional) Click **New** to add more email contacts.
7. Click **Save**.

To remove a contact:

1. Click **Delete** next to the email contact entry.
The contact is removed from the list.
2. Click **Save**.

Changing the Administrator Password

The Management Console Administrator password is blank by default. Avid highly recommends that you set an Administrator password when you configure the Management Console for the first time.

See [“Guidelines for Names and Passwords” on page 23](#) for valid password characters and the maximum length.

To change the Administrator password when you are already logged in:

1. From the Management Console home page, click **Administrator Password**, located in the Advanced section.
The Administrator Password tool opens.
2. Type the current Administrator password in the Current Password field (blank by default).
3. Type the new Administrator password in the New Password field.
4. Type the new Administrator password again in the Verify Password field.
5. Click **Change**.
 - The Administrator Password is changed to the new value.
 - A confirmation message appears in the Results area.

To change the Administrator password if you have forgotten it:

1. Open a browser and enter the IP address of the Avid NEXIS system.
The Management Console login page opens.
2. Log in using the user name Administrator and the Agent password (either **se-admin** by default or the password you changed it to).
3. Follow the steps in the previous procedure (changing the password when you are already logged in).

Securing an Avid NEXIS Infrastructure

The Avid NEXIS system has several passwords:

- The Administrator password, used when you log into the Management Console (by default, there is no password). You can change this at any time in the Management Console.
- The Agent password (by default, **se-admin**). This is also the password you use for initial system setup. You can change this at any time in the Agent.

For convenience, you can log in to either the Management Console or the Agent using the password for the other, in case you forget one.

- The password for the BMC (Baseboard Management Controller), which is a low-level process on the Storage Controller that manages the BIOS, MAC addresses, and other internal functions.

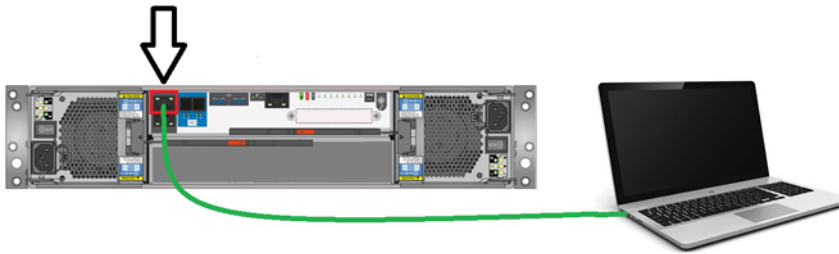
By default, the BMC password has been set at the factory to be the same as the default Agent password (**se-admin**), but this could be a security concern in some environments. If necessary, you can change the BMC password.

Changing the BMC Password

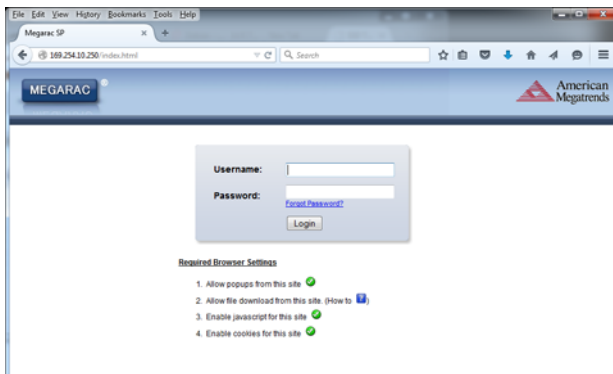
If your lab environment or company requires it, you can change the BMC password to prevent unauthorized access to the hardware.

To change the BMC password:

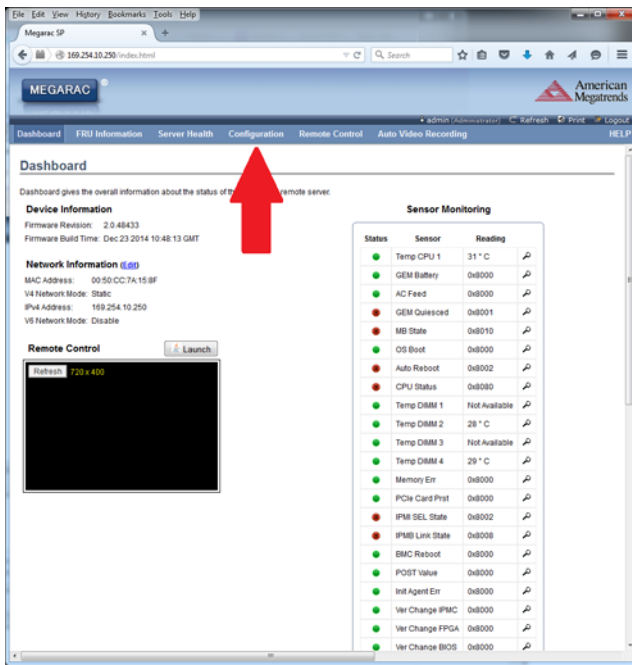
1. Connect a computer or laptop to the Management Port on the Storage Controller, as shown:



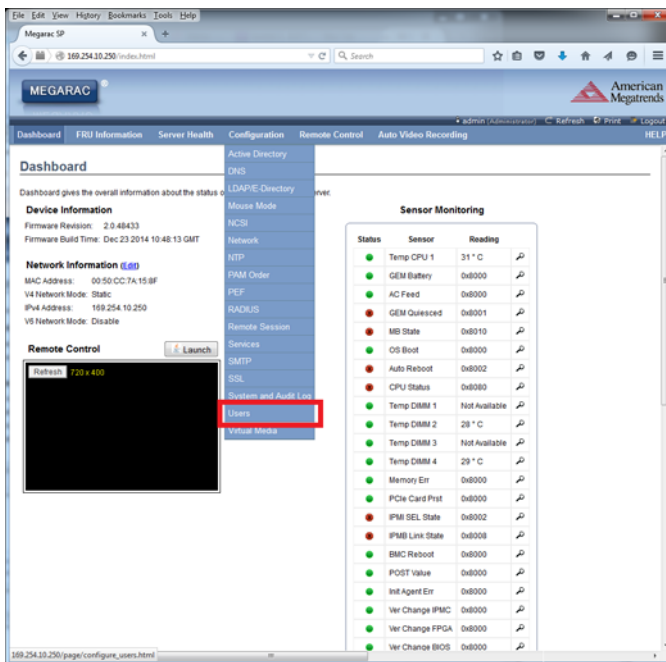
2. Open a browser window and go to the address: **169.254.10.250**, which is the default IP address of the BMC controller.
3. Log in using the user name **root** and the password **se-admin**.



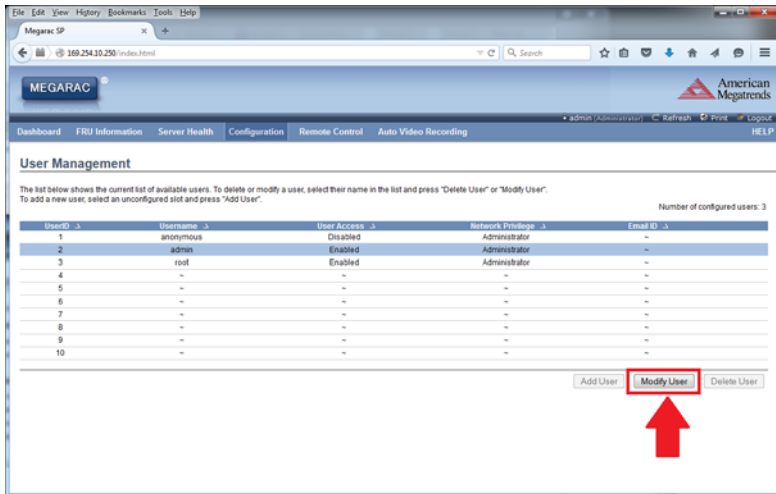
4. In the BMC interface, click the Configuration tab.



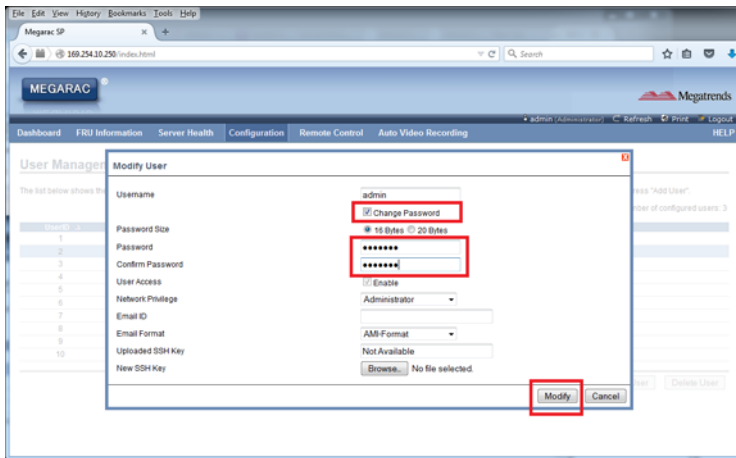
5. Select Users from the pull-down menu.



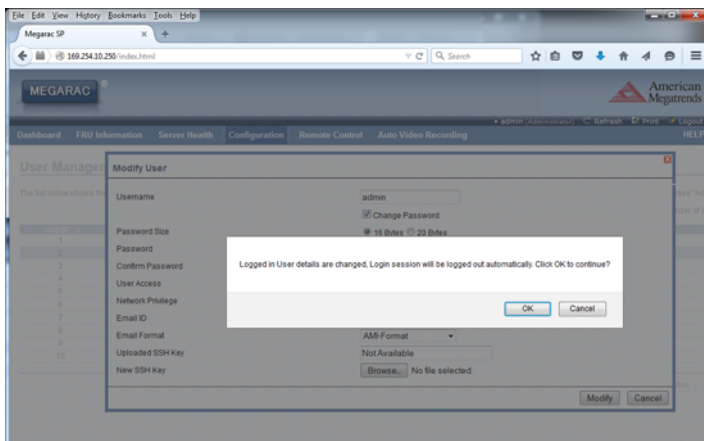
6. Click **Modify User**.



7. Click the **Change Password** checkbox, enter a new password in the **Password** and **Confirm Password** fields, then click **Modify**.



8. Click **OK**.



9. Log out of the BMC interface.

2 Working with the Management Console

The Management Console is the primary interface to the Avid NEXIS system and allows you to perform administration functions.

When you access the Management Console, the Login page opens. Enter a user name and password to log in. If you type the wrong password, an error message appears and the Login dialog box reappears.



Initially, the Administrator password is blank by default. To set an administrator password, see [“Changing the Administrator Password”](#) on page 8.

Standard Avid NEXIS client users can log in to the Management Console, but will have limited access to the Management Console interface. They can see certain information about the network through the Client Manager. For more information about the Client Manager, see the Avid NEXIS Client Help.

Opening the Management Console

The Management Console runs within one of the following qualified web browsers:

- Windows — Microsoft Internet Explorer, Mozilla Firefox®, Google® Chrome™
- OS X — Safari, Mozilla Firefox, Google Chrome
- RedHat Linux — Mozilla Firefox, Google Chrome



Performing administrative functions in more than one instance of the Management Console at the same time can cause unexpected results.

To open the Management Console as Administrator:

1. Open your web browser and in the address bar enter either the:
 - ▶ System Director Name (if DNS is configured; see [“Configuring DNS Service”](#) on page 105)
 - ▶ IP address of the System Director. (This is the IP address of the Storage Controller running the System Director; whether in a single- or multi-Engine configuration or in a System Director Appliance.)

The Login dialog box for the Management Console opens. The “Username” field is automatically populated with the Administrator user name.

2. Type your password.

For information on changing the administrator password, see [“Changing the Administrator Password”](#) on page 8.

3. Click **Login** (arrow icon), or press Enter.

The Management Console Home page opens.

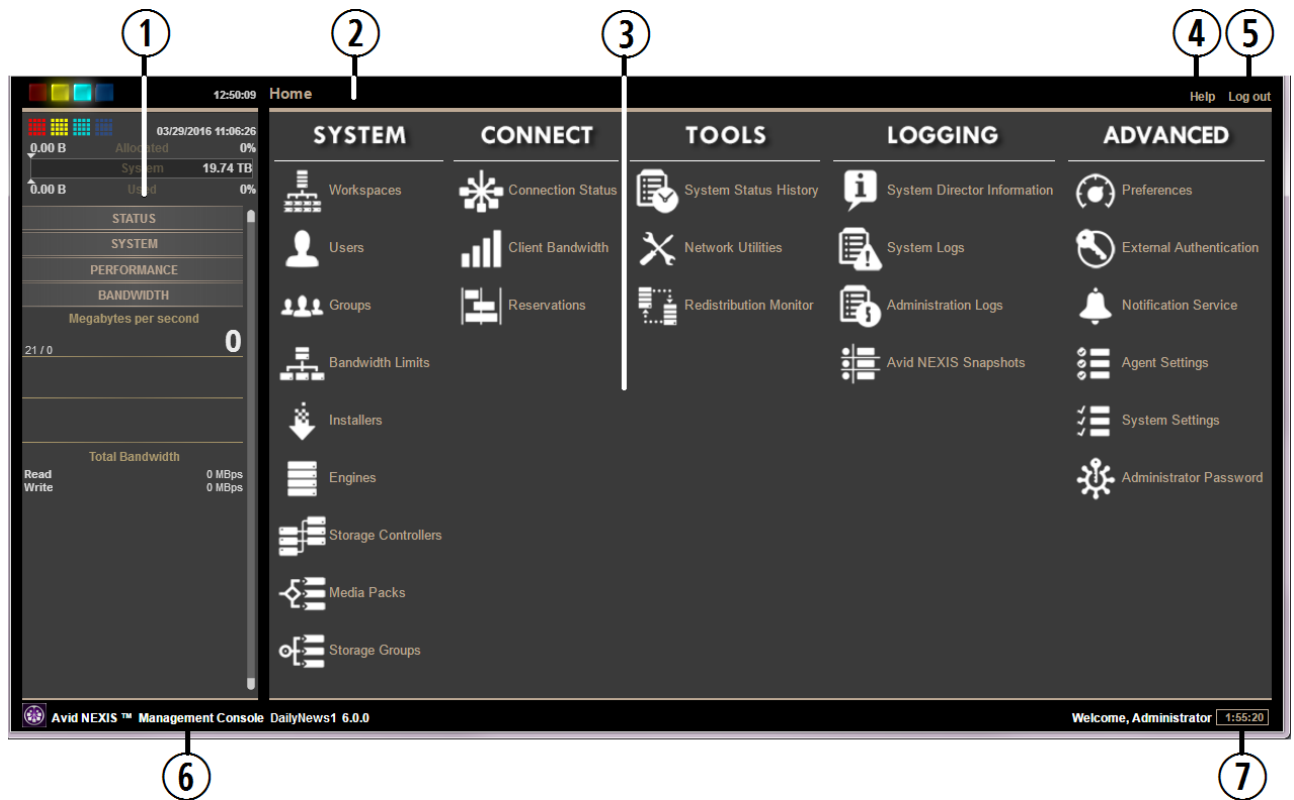
To log out of the Management Console:

- ▶ Click **Logout** in the upper right corner of the screen.

Understanding the Management Console Interface

The Management Console, which you can access on the Engine or on any Ethernet-attached client, has a user interface where controls are grouped by function and are displayed by clicking the appropriate icons or text.

The Management Console requires Adobe® Flash® Player. Use the version included with the Avid NEXIS software kit, or download and install a newer version if available.



Callout	Description
---------	-------------

- | | |
|---|--|
| 1 | System Status Console — Provides a snapshot view of several aspects of the Avid NEXIS system. See “ System Status Console ” on page 15. |
| 2 | Navigation toolbar — Access Management Console tools and navigation. See “ Navigation Toolbar ” on page 17. |
| 3 | Main tools panel — Click to go to the respective tool pages. See “ Main Tools Panel ” on page 17. |
| 4 | Help link — Provides pointers to the Avid NEXIS online documents. See “ Accessing Help ” on page 19. |
| 5 | Logout link — Ends the Management Console session and logs you out of the system. |
| 6 | System Identification — Displays the system model information, Storage System name, and version. |
| 7 | Session Counter — Displays how long the current session has been active. Counts down from 2 hours (2:00:00). See “ Session Counter ” on page 19. |

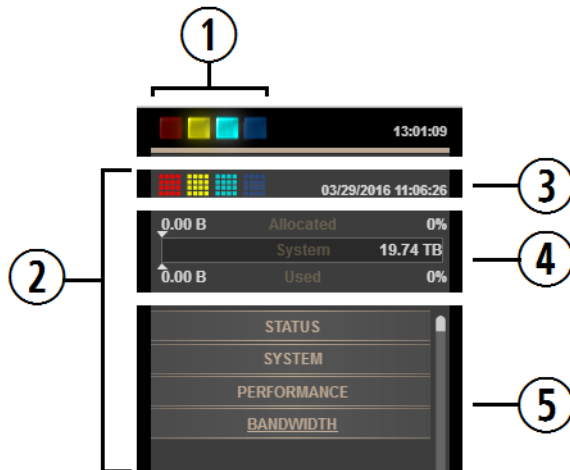
System Status Console

The System Status Console, located on the left side of the Management Console, contains several components that give you a snapshot view of the system. These allow you to access additional information about your system and to perform certain administrative tasks, such as monitoring and logging.



Administrators can configure whether or not the System Status Console is visible on the login screen of the Management Console, but you must log in to follow links from the tool bar screens (such as the log files).

The following figure shows the panels of the System Status Console separated slightly for clarity.



Callout	Description
---------	-------------

- | | |
|---|--|
| 1 | Current system status panel — LEDs for errors, warnings, info, and upgrade statuses will be lit to indicate the presence of system events. Click a color to open the Status panel. See “System Status Console Panels” on page 15 .

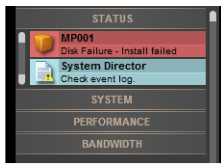
For explanations of the hardware statuses shown in the status panel, see “Managing Avid NEXIS Hardware” on page 67 . |
| 2 | Status retrieval panel — The Management Console periodically retrieves system status information. The panel displays the results and the time stamp of the retrieval operation. |
| 3 | System Status History panel — Displays the system events that have occurred since the System Director was started, along with the date and time of the first logged event. Clicking this panel opens the System Status History tool. For more information, see “Displaying System Status History” on page 86 . |
| 4 | Storage capacity panel — Displays the total capacity of all bound Media Packs, capacity allocated to Workspaces, and the amount of capacity used by data. |
| 5 | System Status Console panels — Click the panel headings to display the system information panel. For more information, see “System Status Console Panels” on page 15 . |
-

System Status Console Panels

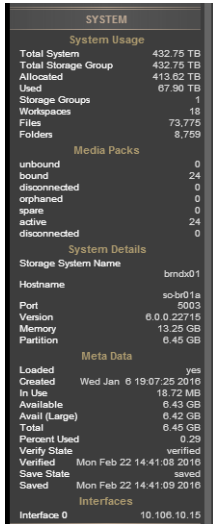
The System Status Console contains several panels that provide information about different areas of the system operation. Click a panel title to expand and collapse the panel.

Panel Name

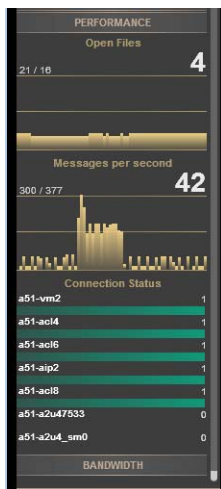
Description



Status Console Panel—Provides a quick summary of the System Director status. If an event in the system log triggers a status to appear, a link is provided to the System Logs tool. For more information, see [“Displaying or Clearing the System Logs Page”](#) on page 88 and [“Managing Avid NEXIS Hardware”](#) on page 67.



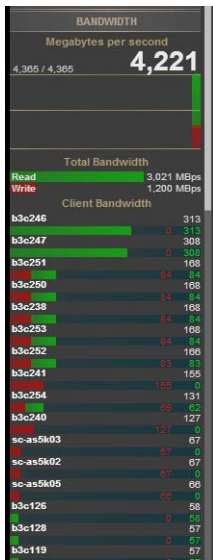
System Console Panel—Provides a summary of hardware, software, and networking information.



Performance Console Panel—Provides a summary of the number of messages per second, number of open files, and the names of clients connected to the system. For more information, see [“Monitoring System Connection Status”](#) on page 81.

Panel Name

Description



Bandwidth Console Panel—Displays “Megabytes per second,” information on total and per-client bandwidth. For more information, see [“Monitoring Client Bandwidth” on page 82](#).

Navigation Toolbar

The navigation toolbar provides several items to help you navigate through the Management Console interface.



Callout	Description
---------	-------------

- | | |
|---|--|
| 1 | Home link—You can click this link from any page to return to the Management Console Home screen |
| 2 | Current tool heading—Indicates the tool you are currently using |
| 3 | Related links section—Displays links to other Management Console tools relevant to the one you are currently using |

Main Tools Panel

The Management Console main panel is divided into the following sections:

- The System section, which contains the following tools:

Name	Description
Workspaces	Create, delete, duplicate, or change capacity of any Workspace and see all Workspace details; see “Managing Workspaces” on page 33 .

Name	Description(Continued)
Users	Create, delete, duplicate, or change Workspace access for any User and see all User details; see “Managing Users” on page 48 .
Groups	Create, duplicate, or change Workspace access for any User Group; modify User Group members; and display all User Group details; see “Managing Groups” on page 60 .
Bandwidth Limits	Display and modify bandwidth for clients that are allowed to connect to the Avid NEXIS system; see “Managing Bandwidth Limits” on page 64 for more information.
Installers	Download installers for Avid NEXIS Clients, Avid NEXIS software for the Engine, Avid NEXIS Tools, and Adobe Flash Player. For information on installing the Avid NEXIS Client software, see the <i>Avid NEXIS Client Manager Installation and User’s Guide</i> . For information on the Avid NEXIS Tools, see “Avid NEXIS Toolbox” on page 91 .
Engines	Display details for Engines, reported serial number, status, uptime and more information; see “Managing Engines” on page 67 .
Storage Controllers	Display details, upgrade, and clear status for Storage Controllers in the Engine; see “Managing Storage Controllers” on page 70 .
Media Packs	Bind, unbind and see details for Media Packs; see “Managing Media Packs” on page 72 .
Storage Groups	Create, delete, or modify Media Pack Media Packs of any Storage Group, and display Storage Group details; see “Managing Storage Groups” on page 27 .

- The Connect section, which contains the following tools:

Name	Description
Connection Status	Display any connected client; see “Monitoring System Connection Status” on page 81 .
Client Bandwidth	Display read and write bandwidth of any connected client; see “Monitoring Client Bandwidth” on page 82 .
Reservations	Display any current bandwidth reservation; see “Displaying Client Bandwidth Reservations” on page 87 .

- The Tools section, which contains the following tools:

Name	Description
System Status History	Display historical system status information; see “Displaying System Status History” on page 86 .
Network Utilities	Allows you to retrieve a detailed look at the connected network, or run a ping or traceroute; see “Testing the Network” on page 87 .
Redistribution Monitor	Allows you to see details about redistribution; see “Workspace Redistribution” on page 42 .

- The Logging section, which contains the following tools:

Name	Description
System Director Information	Displays System Director information: System Director status and Avid NEXIS version, metadata, running processes, and Agent information, all on one screen; see “Displaying System Director Information” on page 87.
System Logs	Display all system messages, info, warnings, and errors at the application, system, and security levels; see “Displaying or Clearing the System Logs Page” on page 88.
Administration Logs	Display current and archived Management Console logs; see “Displaying Administration Logs” on page 88.
Avid NEXIS Snapshots	Create a snapshot of the Avid NEXIS system for displaying or downloading; see “Capturing System Information (Avid NEXIS Snapshots)” on page 89.

- The Advanced section, which contains the following tools:

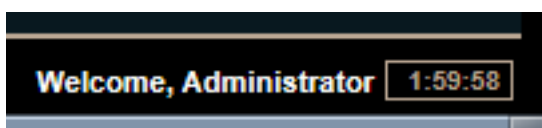
Name	Description
Preferences	Change and save bandwidth, LCT threshold, device creation, disk error threshold, and other preferences; see “Configuring Management Console Preferences” on page 25.
External Authentication	Configure external authentication servers; see “Configuring External Authentication of Users” on page 4.
Notification Service	Configure email notification on specific system events; see “Filtering the Error Notification Parameters” on page 6.
Agent Settings	Modify agent configuration options and trace settings; see “Configuring the Agent Settings” on page 25.
System Settings	Manage the Avid NEXIS file system; see “Creating the Avid NEXIS File System” on page 3.
Administrator Password	Change the Management Console Administrator password; see “Changing the Administrator Password” on page 8.

Accessing Help

The Help menu, located in the upper right-hand corner of the Management Console window, provides a link to the Avid NEXIS ReadMe, which contains a link to the Knowledge Base page for your release. The Knowledge Base page contains PDFs for all the relevant documentation.

Session Counter

The user session will time out automatically after two hours of inactivity, after which you must log in again to continue working. The session counter, located in the lower right corner of the Management Console, displays the time remaining in the user session.



The counter is automatically reset to two hours when you click a link or perform an action such as adding or deleting a Workspace. You can also reset the counter manually by clicking it.

If you enable Auto refresh on a tool screen you will not automatically be logged out after two hours, as long as you stay on the page where Auto refresh is enabled, or navigate between tools as described in “[Updating the Display](#)” on page 22. Clicking **Home** disables Auto refresh, and the session counter functionality (automatic logout) resumes.

To manually reset the session counter:

- ▶ Click the session counter display.
The session timer is reset to two hours.

Customizing the Management Console Display

You can customize the Main display panel for any option by moving and hiding columns, and by sorting and filtering information.

Moving Columns

To move a column in the Main display panel:

- ▶ Click and drag any column to the position you want, and release the mouse button.
The column appears in the new position, and columns to the right are moved to make room.

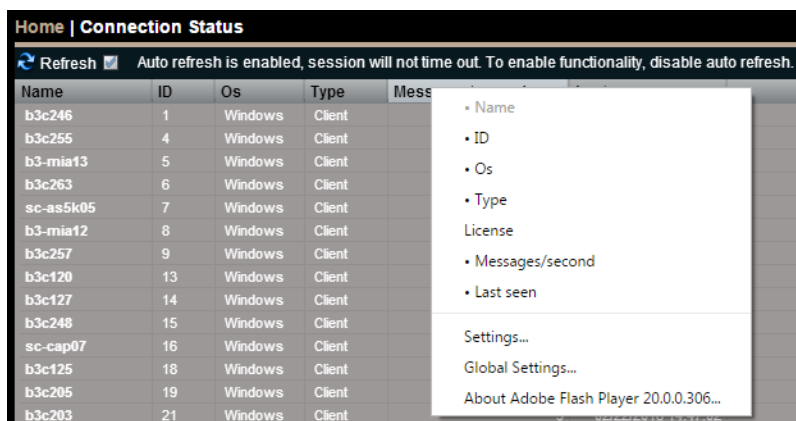
Showing and Hiding Columns

When you open a Management Console tool (for example, the Storage Controllers tool), the Main display panel lists items in default columns. Depending on the option selected, there might be other headings available to see. You can select individual or multiple column headings to be displayed or hidden.

To show or hide columns:

- ▶ Select one of the options, right-click in the column heading row and select a heading you want to show or hide.

Displayed column headings are marked by a bullet symbol (•). You cannot hide the first column on the left of the Main display panel (usually the Name column).



Sorting Information

The Avid NEXIS Management Console interface allows you to sort information listed in the Main display panel, or in the Details panel. Sorting the information in columns arranges items in either numerical or alphabetical order. You can also perform a multilevel sort of the displayed information. Date fields are sorted numerically; most dates in the Management Console are displayed in MM/DD/YYYY format. Some date columns also include time values, in HH:MM:SS format.



On the System Status History and System Logs pages, dates are displayed in the format MM/DD/YY.

To sort information:

- ▶ Click the column heading for the column you want to sort.

The information is sorted in ascending order. To reverse the sort order, click the column heading again.

To perform a multilevel sort:

1. Click the column heading for the first column you want to sort.

The items in the column are sorted in ascending order.

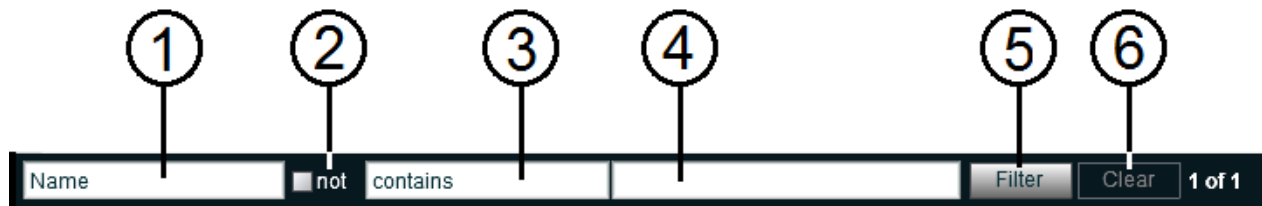
2. Click an additional column.

The items in the second column are sorted in ascending order. The items in the first column maintain their sort order, but with a lower priority than the second sort.

3. (Option) Click multiple columns to add levels to the sort. To cancel a multilevel sort, click a column heading that has already been sorted.

Filtering the Display

You can limit the items listed in the Main display panel by setting Filter parameters at the bottom of the Management Console window. Filtering the display allows you to focus on only those items that you want to monitor. You can restore all items to the display by clearing the Filter parameters.



Callout	Description
1	Category menu—Select the category to filter
2	“not” operator—Select to exclude items matching the filter rules from the search results
3	Condition menu—Select the filter condition
4	Search term field—Type the text or value to filter
5	Filter button—Perform the filter operation
6	Clear button—Clear the filter settings
7	Filter results counter—Displays the number of filtered results on the page, and in total

You cannot filter the display for Bandwidth, Connection Status, and Reservations (under the Connect heading).

To filter the display:

1. Select a category from the Category menu.

The Category menu lists all of the column headings available for the selected Command menu option.

2. (Option) Select “not” to exclude the items matching the filter rules from the search results.
3. Click the Condition menu and select the filter condition you want to use.
4. In the Filter text box, type the text or value you want to use to filter the display.
5. Click **Filter**.

The Main display panel updates to display the filtered results. The Filter panel displays the number of filtered items displayed and the total number of items available for display.

To restore all items to the display:

- ▶ Click **Clear**.

The Main display panel updates to display all items.

Updating the Display

You can update onscreen information to reflect recent system changes by clicking **Refresh**. You can also use Auto refresh to automatically refresh information at timed intervals, and prevent your session from timing out.



*This setting persists between tools when you navigate between them using the Related Links. The Auto-refresh setting reverts to the default (disabled) between browser sessions (if you close then reopen the management Console) and if you click **Home** and then back into the tools.*

To enable Auto refresh:

- ▶ Select the check box next to the Refresh.

Auto refresh mode is enabled, and the following message is displayed:

Auto refresh is enabled; session will not time out. To enable functionality, disable auto refresh.



While Auto refresh mode is enabled, other functions such as add, delete, and details are not available.

To disable Auto refresh:

- ▶ Deselect the check box next to the Refresh.
Auto refresh mode is disabled, and the confirmation message closes.

Selecting Items

You can select multiple items in most Management Console tool windows, as follows:

To Select This	Do This
One item	Click the item.
Multiple, non-contiguous items	Ctrl+click each item you want to select.
Multiple, contiguous items	Click the first item, then Shift+click on the last item.

The methods for selecting more than one item in a list are similar to those used in Windows Explorer or the Mac Finder.

Using Context Menus to Perform Actions

Most Management Console tool windows offer context menus you can use to perform commands on selected items.

To access context menus within the Management Console:

- ▶ Right-click (Windows and Linux) or Ctrl+click (Mac) selected items.

Guidelines for Names and Passwords

Follow these guidelines when creating object names or passwords in the Management Console:

- Names (Storage Groups, Users, Groups) can be a maximum of 31 ASCII characters in length.
- Workspace names can be up to 31 characters long, must use Unicode characters and cannot include a space.
- The Administrator and User passwords (for accessing the Management Console) can be a maximum of 15 ASCII characters long.
- The Agent password can be a maximum of 8 ASCII characters long.
- Do not include a space in any name fields.
- Do not use a period (.) as either the first or last character in the names you create.
- Do not use the following characters in any name fields:

Character	Name	Character	Name
^	Circumflex accent		Vertical line
\	Backslash	[Left square bracket
/	Forward slash]	Right square bracket

Character	Name	Character	Name(Continued)
:	Colon	+	Plus sign
*	Asterisk	=	Equals sign
?	Question mark	%	Percent sign
"	Double quotation mark	;	Semicolon
<	Less-than sign	,	Comma
>	Greater-than sign	@	Commercial At symbol



The Management Console does not support displaying regional language characters.


For information on the System Director hostname and the Storage System Name, see [“Avid NEXIS Agent” on page 101](#).

Management Console Preferences

The Preferences tool allows you to set parameters that customize the basic functionality of the Avid NEXIS system:

- General Preferences—These control general system behaviors and are described in the following table.
- Logging Preferences—These control what types of logs are collected and the severity and verbosity of the event being logged. These are not described here; do not change these unless instructed to do so by Avid Customer Care.

General Preferences

Option	Type	Default	Description
Total System Bandwidth (MB/sec)	<i>text (numeric)</i>	1000 MB/sec	Total reservation bandwidth allowed by the system, in MB/sec. When this value has been reached, Avid NEXIS will no longer accept bandwidth reservations from clients.  <i>This value does not represent the actual bandwidth capabilities of the Avid NEXIS system. For more information about Avid NEXIS bandwidth capabilities, see Avid Storage v6.0 Documentation.</i>
Default Bandwidth for Auto Created Devices (MB/sec)	<i>text (numeric)</i>	0	Reservation bandwidth allowed for devices that are automatically created at connection time. The default value (0) grants unlimited bandwidth.
Force Manual Device Creation	<i>check box</i>	Disabled	If enabled, clients without an entry in the Bandwidth Limits list are not allowed to connect. Manually create an entry for every client computer that is expected to connect to the Avid NEXIS system.
Default LCT Threshold (ms)*	<i>text (numeric)</i>	0	Defines the upper limit of the Long Command Time (LCT) value, above which the Media Pack will report a Disk Degraded condition to the System Director. The default value (0) sets the LCT threshold to the internal system default of 750ms.

Option	Type	Default	Description(Continued)
Default Hard Disk Error Threshold*	<i>text (numeric)</i>	0	Defines the upper limit for number of hard disk errors before the Media Pack reports a Disk Failure condition to the System Director. The default (0) uses the internal system value of 25 errors.
History Data Collection	<i>check box</i>	Enabled	When enabled (default), collects system history data every hour, which is displayed in the System Status History panel (see “Displaying System Status History” on page 86 . If disabled (for support use only), the system stops collecting new data, but existing data is retained.
Auto-Rectify	<i>check box</i>	Disabled	Automatically reconciles the actual amount of used space and the reported amount of used space on a system. Default value is disabled. Takes effect immediately with no restart required.
Show status prior to login	<i>check box</i>	Disabled	When enabled, prevents anyone from seeing the Status Console panel on the left side before they log in. Only administrators can change this setting. By default users can see the Status Console before logging in.

Configuring Management Console Preferences

To configure Management Console Preferences:

1. From the Management Console home page, click **Preferences**, located in the Advanced section.
The Preferences tool opens.
2. Select your preferences.
3. (Option) To revert all options to the previously saved values, click **Refresh**.
4. Click **Save Preferences** to save your changes.

Configuring the Agent Settings

The Avid NEXIS Management Console includes several tools for displaying the System Agent statistics and configuration information, and for configuring advanced options.

- Use the Options page to modify Agent configuration options such as timeouts and session settings.
- Use the Trace Setup page to configure trace settings for connections, HTTP requests, SSL callbacks, and threads.



These tools should not be used except under the advice and supervision of Avid Customer Care.

To configure the Agent settings:

- ▶ In the Management Console, click Agent Settings under the Advanced heading.

3 Managing Storage Groups and Workspaces

Storage Groups are collections of Media Packs that store media files accessible within a shared storage environment. Storage Groups give you flexibility in allocating storage capacity among groups with different functional areas, workflow requirements, or as a means of mitigating the risk of various disk failure scenarios.

Workspaces are virtual volumes that exist on Storage Groups and can be resized dynamically. Workspaces allow you to subdivide the space in the Storage Groups to accommodate projects and users.

Managing Storage Groups

Storage Groups are collections of Media Packs, enabling you to create a large pool of storage. Within Storage Groups, you create Workspaces. Clients mount Workspaces to capture and edit media files.

Using a System Director that runs on an Engine (called an embedded System Director), you can have up to four Media Packs in a single Avid NEXIS shared storage system, in from one to four Storage Groups. Using a System Director Appliance, you can have up to 24 Media Packs in a single Avid NEXIS shared storage system, in from one to 24 Storage Groups.

To maximize the usefulness of the Media Pack storage, Avid recommends putting all the Media Packs into the same Storage Group. If you have Media Packs of different capacities, you can create separate Storage Groups to segregate them. If any Media Pack in a Storage Group is smaller than the others, then every Media Pack in the Storage Group is treated as the smallest size.

For example, if you create a Storage Group using a 20TB Media Pack and a 60TB Media Pack, the total Storage Group capacity is 40TB (2 x 20TB). You cannot take advantage of the extra capacity on the larger Media Pack. The following calculations describe the net space available when combining Media Packs of equal and different capacities.

- Two 20TB Media Packs = 40TB usable space
- One 20TB Media Pack plus one 40TB Media Pack = 40TB usable space (only 20TB of space from the 40TB Media Pack is usable)
- Two 40TB Media Packs = 80TB usable space

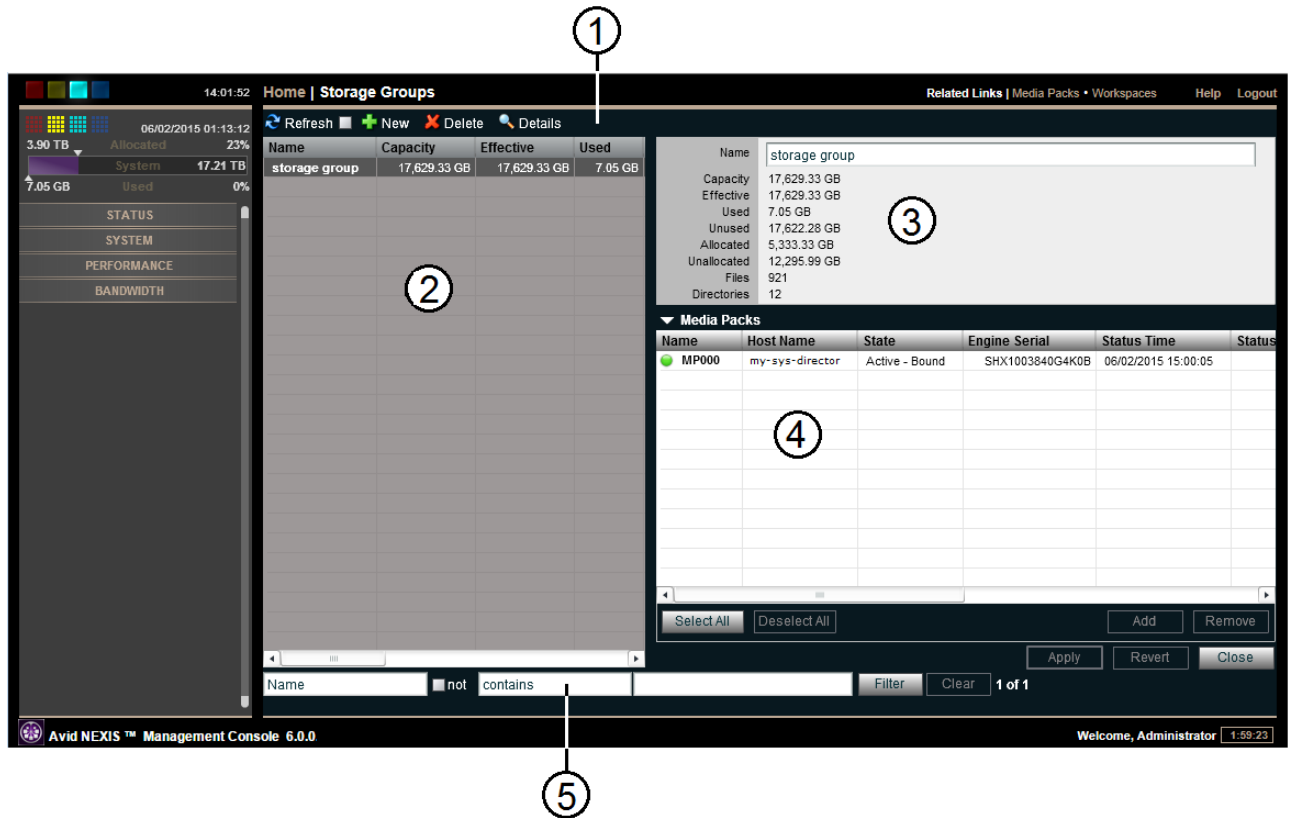
Similarly, make sure to use drives of the same size. All drives in a Media Pack are treated as if they are the size of the smallest drive.

For example, if you have a Media Pack composed of nine 6TB drives and one 2TB drive, the total capacity of that Media Pack is 10 x 2TB, or 20TB. The other 4TB on each of the other nine drives is not usable due to the data striping algorithm Avid NEXIS uses.

If necessary, you can use a larger capacity drive to replace a failed drive of a smaller capacity in a Media Pack, but the extra capacity of the larger drive is not used. You cannot use a smaller drive to replace a failed larger drive in a Media Pack. The Media Pack will not accept the drive.

To get the best capacity and performance from your Avid NEXIS system, Avid strongly recommends always using the same capacity drives in a Media Pack, and creating Storage Groups with same capacity Media Packs. You can increase the amount of space in a Storage Group later, within some restrictions. For more information, see [“Adding Unassigned Media Packs to Storage Groups”](#) on page 30.

The Storage Groups page of the Management Console allows you to create, delete, rename, and manage Storage Groups.



Callout	Description
1	Action button toolbar—Perform actions on selected Storage Groups
2	Storage Groups list—Lists all configured Storage Groups and related information; see “Storage Groups List” on page 28
3	Details panel—Detailed information on the selected Storage Groups; see “Displaying Storage Group and Media Pack Details” on page 32
4	Media Packs list—Displays Media Packs belonging to the selected Storage Group
5	Filter panel—Filter the Storage Groups list display based on conditions you configure; see “Filtering the Display” on page 21

Storage Groups List

The following table summarizes the information available in the Storage Groups list. This information is also displayed in the Details panel for a selected Storage Group.

Heading	Description
Name	Displays the name of the currently selected Storage Group
Capacity	Displays the total storage capacity of the selected Storage Group
Effective	Displays the effective (available) storage capacity of the selected Storage Group based on the Media Pack protection types assigned to the current Workspaces in the group
Used	Displays the amount of storage space that currently contains user data
Unused	Displays the amount of storage space that currently contains no data in the Media Packs assigned to the selected Storage Group
Allocated	Displays the amount of storage space assigned to Workspaces in the selected Storage Group
Unallocated	Displays the amount of storage space available to create more Workspaces in the selected Storage Group
Files	Displays the number of files in all Workspaces in the selected Storage Group
Directories	Displays the number of directories in all Workspaces in the selected Storage Group

You can sort the information in the Storage Groups page by clicking any column heading. For more information on sorting items in columns, see [“Sorting Information” on page 21](#).

Creating a Storage Group

Storage Groups comprise one or more Media Packs from one or more Engines. To create a Storage Group, at least one Media Pack must be bound to the Avid NEXIS file system. See [“Binding the Media Packs to the File System” on page 4](#).

The total capacity of the Storage Group is equal to the lowest common denominator of the size of the Media Packs you add to it; for example, a Storage Group with two 20TB Media Packs yields 40TB of space. But a Storage Group with one 20TB Media Pack and one 60TB Media Pack also yields 40TB of space. Ideally, add Media Packs of the same size to the Storage Group.

You can add larger Media Packs to an existing Storage Group later, and remove the smaller ones, to increase the overall capacity of a Storage Group. For more information, see [“Adding Unassigned Media Packs to Storage Groups” on page 30](#).

To create a Storage Group:

1. From the Management Console home page, click **Storage Groups** in the System section.

The Storage Groups page opens. If you have no Storage Groups yet, but at least one Media Pack is bound to the file system, the Create Storage Groups panel opens automatically.

2. Click **New**.

The Create Storage Group panel opens.

3. In the Name text box, type a name for the Storage Group.



For information on valid and invalid characters, see [“Guidelines for Names and Passwords” on page 23](#).

4. In the Media Packs panel, select the Media Packs you want to assign to the new Storage Group (up to four, if running an embedded System Director, or up to 24, if running a System Director Appliance).

5. (Option) Click **Revert** to undo any modifications made to the Storage Group information.
6. Click **Apply** to create a new Storage Group.

If another Storage Group has the same name an error is displayed.

The new Storage Group appears in the Storage Groups list, and the Create Storage Group dialog box refreshes to show the Media Packs still available for additional Storage Groups.

7. Click **Close**.

Adding Unassigned Media Packs to Storage Groups

When you add Media Packs to an Engine that is not fully populated, or add a new Engine to your Avid NEXIS system, you can either add the Media Packs to an existing Storage Group, or create a new one.

You can also serially replace smaller-capacity Media Packs in an existing Storage Group with larger-capacity Media Packs, until all the smaller Media Packs are removed, to increase the overall space available in the Storage Group. Until all the smaller Media Packs have been removed, the total Storage Group capacity remains a multiple of the lowest common denominator.

For example, consider a Storage Group containing four 20TB Media Packs. The total capacity is 80TB. If you add four 60TB Media Packs, the Storage Group capacity increases by the lowest common denominator, or 4 x 20TB, to a new total of 160TB. After you remove the four 20TB Media Packs and redistribution completes, the Storage Group can use the full capacity of the larger Media Packs: 4 x 60, or 240TB.

This allows you to increase the capacity of a Storage Group using the same number of Media Packs.

Adding and removing Media Packs redistributes files in the Storage Group across all the remaining Media Packs. For more information, see [“Workspace Redistribution” on page 42](#).

To add Media Packs to a Storage Group:

1. From the Management Console home page, click Storage Groups in the System section.
2. In the Storage Groups list, select the Storage Group where you want to add Media Packs, and then do one of the following:
 - ▶ Click Details.
 - ▶ Double-click the Storage Group name.

The Details panel displays all the information on the selected Storage Group.

3. In the Media Packs panel, select the unassigned Media Packs you want to add to the Storage Group. A single Storage Group can contain up to four Media Packs, from any Engines.
4. Click Add to add the selected unassigned Media Packs to the Storage Group.

The Storage Media Packs panel refreshes to display the selected Media Packs added to the Storage Group.

5. (Option) Click Revert to undo any modifications made to the Storage Group information.
6. Click Apply.

The Media Packs are added to the Storage Group.

- The shared storage network performs a redistribution of any data on the Media Packs. The amount of time required for the redistribution depends on the amount of data in the Storage Group.
- The configuration change counter for all affected Workspaces is incremented by one.



After 20 configuration changes, the system prompts you to perform a full redistribution. You can suspend and resume the redistribution as needed. See [“Suspending and Resuming Redistribution” on page 44](#).

Removing Media Packs from Storage Groups

You can remove a Media Pack from a Storage Group for several reasons:

- To add it to another Storage Group
- To remove it from the Engine
- To replace it with a larger-capacity Media Pack (see [“Adding Unassigned Media Packs to Storage Groups” on page 30](#))

If the Storage Group contains Workspaces, the Storage Group must have at least as much free space as the capacity of the Media Pack you want to remove, so the Workspaces can be redistributed (see [“Workspace Redistribution” on page 42](#)).

You cannot remove Media Packs if the Storage Group will have less than either the used space or the allocated space. To make enough free space, you can delete files from the current Workspaces, or reduce or delete Workspaces themselves. See [“Resizing a Workspace” on page 38](#) and [“Deleting a Workspace” on page 40](#).

You cannot remove the last Media Pack from a Storage Group, but if no Workspaces exist, you can delete the Storage Group itself, which returns the Media Pack to the spare state.

Media Packs removed from the Storage Group are returned to the system’s pool of unassigned (spare) Media Packs.



If you remove a Media Pack during high client usage, it might reduce performance on your clients, possibly resulting in dropped frames, underruns, and failed captures. To avoid this, remove Media Packs during periods of light client activity. You can suspend and resume a redistribution as needed.

To remove Media Packs from a Storage Group:

1. From the Management Console home page, click **Storage Groups** in the System section.
The Storage Groups page opens.
2. In the Storage Groups list, select the Storage Group that contains the Media Packs you want to remove, and then do one of the following:
 - ▶ Click **Details**.
 - ▶ Double-click the Storage Group name.

The Details panel displays all the information on the selected Storage Group.

3. In the Media Packs panel, select all the Media Packs you want to remove from the Storage Group.
4. Click **Remove**.

The Media Packs panel refreshes and displays the selected Media Packs as Spare.

5. (Option) Click **Revert** to undo any modifications made to the Storage Group information.
6. Click **Apply**.

The Media Packs are removed from the Storage Group. You can then unbind them from the Avid NEXIS file system (see [“Unbinding Media Packs from the Avid NEXIS File System” on page 78](#)) or add them to a different Storage Group (see [“Adding Unassigned Media Packs to Storage Groups” on page 30](#)).

Moving Media Packs Between Storage Groups

To move a Media Pack from one Storage Group to another:

1. Remove the Media Pack from its current Storage Group. See [Removing Media Packs from Storage Groups](#).
The Storage Groups page opens.
2. Add the Media Pack to the new Storage Group. See [Adding Unassigned Media Packs to Storage Groups](#).

Displaying Storage Group and Media Pack Details

The Details and Media Packs panels display information about the currently selected Storage Group and the Media Packs it contains, as seen by the System Director. Some of the information is embedded in the Media Pack, and other information is assigned to the Media Pack by the Avid NEXIS software.



To sort the information in the Media Packs panel, click any column heading. For more information on sorting items in columns, see “[Sorting Information](#)” on page 21.

To see information about a Storage Group:

- ▶ In the Storage Groups list, select a Storage Group.

The Storage Groups page displays all the information for the selected Storage Group. If the Details panel is not visible, click **Details**.

The Media Packs panel lists the Media Packs allocated to the currently selected Storage Group, as well as Media Packs available for allocation to the Storage Group.

For information about the Media Packs panel, see “[Media Packs List](#)” on page 73. Some columns are hidden by default (see “[Showing and Hiding Columns](#)” on page 20).

To close the Details panel:

- ▶ Click **Details** in the toolbar, or click **Close** at the bottom of the Details panel.

Deleting Storage Groups

You can delete a Storage Group only if it is empty (does not contain Workspaces). If the Storage Group you want to delete contains Workspaces, see “[Deleting a Workspace](#)” on page 40.

To delete a Storage Group:

1. From the Management Console home page, click **Storage Groups** in the System section.
The Storage Groups page opens.
2. In the Storage Groups list, select the Storage Group you want to delete.
3. Click **Delete**.

A dialog box opens asking you to confirm the action.

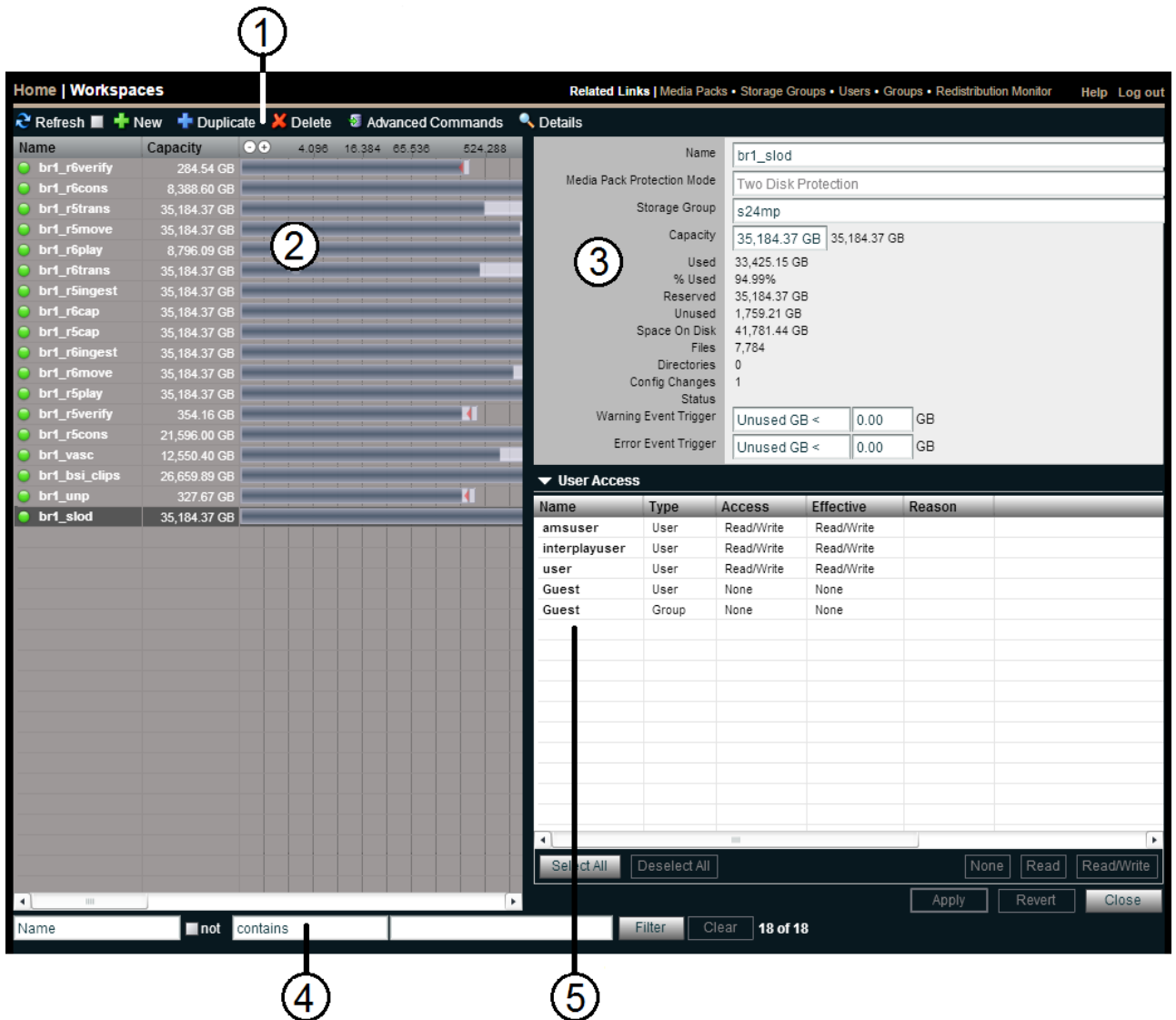
4. Click **Yes**.

The Storage Group is deleted.

After the Storage Group is deleted, all of the Media Packs previously in the Storage Group appear in the Media Packs panel as Spare.

Managing Workspaces

In addition to creating and deleting Workspaces, you can change the name, size, user access and permissions, and event triggers.



Callout	Description
---------	-------------

- | | |
|---|---|
| 1 | Action button toolbar—Perform actions on selected Workspaces |
| 2 | Workspaces list—Lists all configured Workspaces and related information; see “Workspaces List” on page 34 |
| 3 | Details panel—Detailed information on the selected Workspaces; see “Displaying Workspace Details” on page 34 |
| 4 | Filter panel—Filter the Workspaces list display based on conditions you configure; see “Filtering the Display” on page 21 |

Callout	Description
5	User access panel—Displays users who have access to the selected Workspace and details about their access privileges; see “Managing User Access Privileges for Workspaces” on page 41

Workspaces List

The Workspaces list displays all Workspaces, the Storage Groups they are in, and Workspace details.

Heading	Description
Name	Lists the names of all Workspaces in the selected Storage Groups
Capacity	Lists the total storage capacity of each Workspace
Resize slider	Displays a graphical representation of the used and available space for each Workspace (for more information, see “Using the Workspace Size Graph” on page 39)
Maximum	Lists the maximum amount of storage space available for the Workspace on the network
Media Pack Protection Mode	Displays the protection mode applied to the Workspaces
Used	Displays the amount of storage space currently in use in the Workspace
% Used	Displays the percentage (%) of Workspace capacity currently in use
Reserved	Displays the amount of storage space that has been reserved for use by the Workspace
Unused	Lists the amount of storage space that currently has no data written on it in each Workspace
Space on Disk	Lists the amount of disk space actually used by the data in the Workspace, accounting for the Workspace protection mode and some overhead.
Status	Displays the Workspace status, such as: <ul style="list-style-type: none"> • Workspace is about to be deleted (“Delete pending”) • Workspace is running out of space • Workspace is full • Rebuild pending • Rebuild in process (shows percent done)
Config Changes	Displays the number of changes to a Storage Group that involve moving data — for example, the number of times a Media Pack has been added or removed
Storage Group	Displays the Storage Group that contains the Workspace
Files	Lists the total number of files stored in the Workspace



To sort the information in the Media Packs panel, click any column heading. For more information on sorting items in columns, see [“Sorting Information”](#) on page 21.

Displaying Workspace Details

To see detailed information about a Workspace:

- ▶ In the Workspaces list, either select a Workspace and click **Details**, or double-click a Workspace name.

To close the Details panel:

- ▶ Click **Details** in the toolbar, or click **Close** at the bottom of the Details panel.

The Details panel contains the same information as the Workspaces column list (except the Resize slider and the Maximum storage space), and includes the following additional information:

Heading	Description
Directories	Displays the number of directories used by the selected Workspace
Warning Event Trigger	Displays the value in used percentage (%) or unused gigabytes (GB) of storage at which a warning event is written to the Event Log
Error Event Trigger	Displays the value in used percentage (%) or unused gigabytes (GB) of storage at which an error event is written to the Event Log

The User Access panel lists all users and user groups and their access privileges. (For information on access privileges, see [“Managing User Access Privileges for Workspaces” on page 41.](#))

Heading	Description
Name	Lists the names of the users and user groups on the network
Type	Displays the client category (user or user group) for each client in the Name list
Access	Lists the access privileges for each client in the Name list
Effective	Lists the effective access privileges for each client in the Name list
Reason	Lists the reason for any difference between the access privileges assigned to a user and the effective access assigned to a user as a member of a user group



To sort the information in the User Access panel, click any column heading. For more information on sorting items in columns, see [“Sorting Information” on page 21.](#)

Workspace Considerations

Before you create Workspaces:

- Consider how you want to allocate them. For example, you can allocate them to projects, groups, individual clients, streaming bit rates, media types, media distributors, or a combination of these.
- Consider whether you want to apply access restrictions, and what type.
- Determine how much storage each Workspace requires and allocate space accordingly. This might be a function of project size, number of clients, media duration, or media resolution.
- Determine the type of data protection you want to apply to the Workspace. See [“Workspace Protection” on page 36.](#)

In a multiple Workspace configuration, consider reserving some space rather than assigning all of it immediately. Once space is allocated, it tends to be filled quickly and you might need space later to accommodate a new project or client or to extend or protect an existing Workspace. In these situations, it is easier to use space held in reserve than to take it away from an existing Workspace.

Workspace Protection

Workspaces serve different purposes, and might need different levels of protection against data loss when a drive in a Media Pack fails. Avid recommends protecting all your Workspaces whenever possible.

Choose from one of the following Media Pack protection modes when you create a Workspace:

- Two Disk Protection — Workspace data can tolerate the failure of two drives in the same Media Pack at the same time. Offers the best protection but requires the most space in the Storage Group.
- One Disk Protection — Workspace data can tolerate the failure of one drive in the Media Pack. Offers some protection, but requires timely replacement of failed drives.
- Unprotected — Workspace data is lost if a single drive in the Media Pack backing the Workspace fails. Uses the least space in the Storage Group.

If you want to ensure protection of your files at all times, always choose a protection mode when creating new Workspaces (before any files are stored on the Workspace). You cannot change the protection mode later.

If a Storage Group contains Workspaces with different protection modes, when Media Pack drives fail, the Workspaces with one-disk protection are rebuilt at a higher priority than those with two-disk protection. After all one-disk protected Workspaces are rebuilt, the two-disk protected Workspace rebuilds begin. The Workspaces list displays the rebuild operations pending and in process (including percent done) for all Workspaces.

Creating a Workspace

You can create up to 1024 Workspaces on the Avid NEXIS system. Each Workspace can have unique access privileges, permissions, protection modes, and event triggers. At least one Storage Group must exist before you can create a Workspace; see [“Creating a Storage Group” on page 29](#).



If no Workspaces exist, the Create Workspace dialog box opens by default when you select the Workspaces list.

To add a new Workspace:

1. From the Management Console home page, click **Workspaces** in the System section.
The Workspaces page opens.
2. Click **New**.
The Details panel opens.
3. In the Name text box, type a name for the Workspace.



For information on valid and invalid characters, see [“Guidelines for Names and Passwords” on page 23](#).

4. Choose a protection mode for the Workspace. Each Workspace in a Storage Group can use a different mode.
5. [Option] If you have multiple Storage Groups, click the Storage Group drop-down list and select the Storage Group in which you want to create the Workspace.
The Storage Group name appears in the Storage Group text box.
6. Type a size for the Workspace in the Capacity text box. The Capacity text box contains the default size (214.74 GB), and the maximum size is shown next to it.



The minimum Workspace size is 1.073 GB.

If all storage in the Storage Group is allocated to existing Workspaces, you can recapture some space by making an existing Workspace smaller. For more information, see [“Resizing a Workspace” on page 38](#).

7. (Option) To set a Warning event trigger, select the type of trigger from the drop-down list (either Used % > or Unused GB <), then type in a value.
8. (Option) To set an Error event trigger, select the type of trigger from the drop-down list (either Used % > or Unused GB <), then type in a value.



For more information, see [“Setting Event Triggers for a Workspace” on page 39](#).

9. In the User Access panel, set the User and User Group access privileges (for more information, see [“Setting or Changing Workspace Access Privileges” on page 41](#)).
10. Click **Apply**.
The new Workspace appears in the Workspaces list, and the Create Workspace dialog box refreshes to allow you to create a new Workspace.
If a Workspace with the same name exists already, an error occurs.
11. If you are done creating Workspaces, click **Close**.

Duplicating a Workspace

When you duplicate a Workspace, the new Workspace inherits all the attributes of the original. You can change any of the attributes on the new Workspace except the protection mode. The new Workspace does not contain the data from the original.



The Storage Group must contain at least as much available space as the size of the Workspace you are duplicating.

By default, the new Workspace inherits the name of the Workspace being duplicated, with a numeric suffix. For example, if the original Workspace is named Ingest, the duplicated Workspace is named Ingest1. You can change the name of the duplicated Workspace.

To duplicate a Workspace:

1. From the Management Console home page, click **Workspaces** in the System section.
The Workspaces page opens.
2. Select the Workspace you want to duplicate.
3. Click **Duplicate**.
The Duplicate Workspace dialog box opens.
4. (Option) You can change the name, size, event triggers, or user access, but not the Workspace protection mode.
5. Click **Apply**.
The new Workspace appears in the Workspace list, and the Details panel is refreshed.
If there is no room for a Workspace of the specified size, the Capacity field displays a red line and the Apply button becomes inactive.
6. Click **Close**.

Renaming a Workspace

You can rename a Workspace at any time, even when it is being used by client workstations and mapped to a local drive or by letterless mapping (to a Universal Naming Convention path) on the client system. The only effect on users is that the Workspace name will be different the next time they need to access it.

As a best practice, Avid recommends that users unmount the Workspace you want to rename before you proceed.

To rename a Workspace:

1. From the Management Console home page, click **Workspaces** in the System section.
The Workspaces page opens.
2. In the Workspaces list, click the Workspace name you want to change.
3. If the Details panel is not visible, do one of the following:
 - ▶ Click **Details**.
 - ▶ Double-click the Workspace name.The Workspaces Details panel displays all the information on the selected Workspace.
4. Type a new name in the Name text box.



For information on valid and invalid characters, see “Guidelines for Names and Passwords” on page 23.

5. (Option) Click **Revert** to undo any modifications made to the Workspace information.
6. Click **Apply**.

Resizing a Workspace

You can change the size of a Workspace at any time, except you cannot make it smaller than the amount of in-use space, or less than the minimum size (1.073GB). If you have set event triggers on a Workspace, and you receive notification that a Workspace is running out of free space, you can increase its size.

Alternatively, you might need to make a Workspace smaller to create space in the Storage Group for other Workspaces or to reserve storage for future use. (You cannot reduce a Workspace to less than the amount of its in-use space.)



You cannot make a Workspace larger than the maximum available space in the Storage Group, or smaller than the amount of used space in the Workspace.

The Storage Group must contain at least as much available space as the amount by which you want to increase the Workspace. If not, add more Media Packs to the Storage Group first; see “[Adding Unassigned Media Packs to Storage Groups](#)” on page 30.

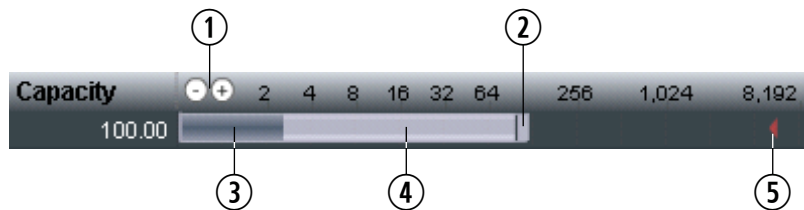
To change the size of a Workspace:

1. From the Management Console home page, click **Workspaces** in the System section.
The Workspaces page opens.
2. In the Workspaces list, select a Workspace.
3. Do one of the following:
 - ▶ Click the handle of the Workspaces size graph, and drag it to resize the graphical display. The Workspace size listed in the Capacity text box changes as you drag the handle. See “[Using the Workspace Size Graph](#)” on page 39.
 - ▶ Click **Details** and type a new value for the Workspace size in the Capacity text box in the Workspace Details panel.
4. Click **Apply**.

Using the Workspace Size Graph

The Workspace Size graph provides a quick way to see and change how much storage capacity is currently allocated to each Workspace and how much of that storage space currently has data written on it. The graph represents the following:

- Workspace size—total disk space in the Storage Group allocated to each Workspace
- Used space—used disk space in the Workspace
- Unused space—unused disk space in the Workspace
- Maximum Workspace size—total of Workspace size plus remaining disk space in the Storage Group available for allocation to each Workspace



Callout	Description
1	Decrease/Increase buttons—Increases or decreases the scale of the graph (zooms in or out)
2	Resize slider—Click and drag to increase or decrease the Workspace size; see “Resizing a Workspace” on page 38
3	Used Space
4	Unused space
5	Maximum Workspace size—total of Workspace size plus space in the Storage Group still available for allocation to each Workspace

Setting Event Triggers for a Workspace

You can set event triggers that will write events to the Event log when Workspace capacity (in gigabytes) is less than a specified value, or when used Workspace capacity exceeds a specified percentage. You can create triggers for both Warning and Error events:

- Warning events indicate that the amount of used or unused space in the Workspace is nearing a threshold that you set, and you have time to take action (increase the size of the Workspace or change the event trigger) before it can cause problems.
- Error events indicate that the amount of used or unused space in the Workspace has already met the critical threshold that you set. Take immediate action to correct the problem.

If you have email notifications enabled, you can receive email notifications when Workspace capacity events occur. For more information, see [“Receiving Notification of System Problems” on page 5](#).

To set an event trigger:

1. In the Workspaces list, select the Workspace for which you want to set a trigger.
2. If the Details panel is not visible, do one of the following:
 - ▶ Click **Details**.

- ▶ Double-click the Workspace name.
3. (Option) Select one of the following from the Warning Event Trigger drop-down list:
 - ▶ Unused GB < (Trigger a warning when unused capacity falls below the specified value, in gigabytes)
 - ▶ Used % > (Trigger a warning when used capacity exceeds the specified percentage value)
4. Type a value in the text field for the capacity at which you want the event to be triggered.
5. (Option) Select one of the following from the Error Event Trigger “used” list:
 - ▶ Unused GB < (Trigger a warning when unused capacity falls below the specified value, in gigabytes)
 - ▶ Used % > (Trigger warning when used capacity exceeds the specified percentage value)
6. Type a value in the text field for the capacity at which you want the event to be triggered.
7. Click **Apply**.
8. Click **Close**.

Deleting a Workspace

You can delete Workspaces (singly or in multiples) that are not currently being accessed by any clients, whether or not the Workspaces have media files stored on them.

Before deleting a Workspace, make sure that its media is moved, backed up, or no longer needed.

Deleting a Workspace returns its capacity to the amount of available space in the Storage Group.

If you delete a Workspace that has been mapped to a local drive by a client, the client can no longer access that Workspace. Clients should unmap the deleted Workspace using the Avid Client Manager. For more information, see the *Avid NEXIS Client Manager Installation and User’s Guide* or the Client Manager Help.



Redistribution starts automatically when you delete a Workspace. During periods of high client usage, this might reduce client performance, resulting in dropped frames, underruns, and failed captures. If possible, delete Workspaces during periods of light client activity.

You can suspend and resume a redistribution as needed.

To delete a Workspace:

1. From the Management Console home page, click **Workspaces** in the System section.

The Workspaces page opens.
2. In the Workspaces list, select the Workspace you want to delete.
3. Click **Delete**.

A dialog box opens, prompting you to confirm the operation.
4. Click **Yes**.

The Workspace is deleted.

Managing User Access Privileges for Workspaces

You can set privileges for user and user group access to Workspaces:

- Read/Write—User (client) can read and write to the Workspace
- Read—User (client) can read only read from the Workspace
- None—User (client) cannot read, write, or mount the Workspace

By default, new accounts do not have access privileges to Workspaces until an administrator assigns them (see [“Creating Users” on page 51](#)). You can customize access for each client to every Workspace, if necessary.

You can control access either from the Workspace level (specifying the access to that Workspace for every user and group on the system)—or from the user or group level (granting access to a user or group for all or specific Workspaces, or preventing a user or a whole group of users from accessing one or more Workspaces).

To modify an individual client’s or group’s access privileges, see [“Changing User Details” on page 52](#). To control access to a Workspace for all users and groups, see [“Setting or Changing Workspace Access Privileges” on page 41](#).

You also can give users different access privileges from those given to the group to which they belong. The group’s privileges set the baseline for all group members, and you can tailor the privileges for specific members of that group.

For example, you can grant a group read/write access, then restrict some members to read-only or no access. Alternatively, you can give the group read-only (or no) access, but specify read or read-write access for some members of the group. This can be useful for projects that include users who need a variety of permissions.

Changes to Workspace privileges have the following effects:

Current Privilege	New Privilege	Effect
None	Read or Read/Write	Available immediately
Read	Read/Write	Available immediately
Read/Write	Read	Apply immediately. If a file is open for writing, client retains write privilege until file is closed.
Read or Read/Write	None	If a client is already at the Workspace selection stage when the access privileges are removed, the Workspaces remain in the display. Future attempts to access the Workspaces will be unsuccessful.

Setting or Changing Workspace Access Privileges

You can set access privileges for users and user groups when the client accounts are created (see [“Creating Users” on page 51](#) and [“Adding User Groups” on page 62](#)), or later (see [“Changing User Details” on page 52](#)). Alternatively you can set, modify, and monitor access privileges to Workspaces without having to modify individual client accounts.



Make sure all users have unmounted the Workspace before you change its access privileges.

To set or change user or user group access to a Workspace:

1. From the Management Console home page, click **Workspaces** in the System section.
The Workspaces page opens.
2. In the Workspaces list, select a Workspace.
3. If the Details panel is not visible, do one of the following:
 - ▶ Click **Details**.
 - ▶ Double-click the Workspace name.The Workspaces Details panel displays all the information on the selected Workspace.
4. In the User Access panel, select a user or a user group. Ctrl+click (Windows and Linux) or Cmd+click (Mac) to select multiple users and user groups. Click Select All to select all users and user groups.
5. Change the Workspace privilege.
6. (Option) Click **Revert** to undo any modifications made to the user access information.
7. Click **Apply**.

Workspace Redistribution

Redistribution is an operation that ensures all files in a Workspace are balanced evenly across the Media Packs in the Storage Group to provide optimal file system performance. Data chunks are distributed across multiple Media Packs to ensure redundancy and protect against data loss. Redistribution applies to all Workspaces in a Storage Group.

Operations that initiate redistribution of data include:

- Adding or removing Media Packs from a Storage Group
- Deleting Workspaces

About Configuration Changes

The configuration of a Storage Group is based on the Media Packs that make up that group. When you add or remove Media Packs from the Storage Group:

- A configuration change is made
- An incremental redistribution is performed to balance the files in the Storage Group across the Media Packs

Deleting Workspaces results in a redistribution but does not cause a configuration change. You can see the number of configuration changes that have been applied to a Workspace; see [“Displaying Workspace Details” on page 34](#).

After 20 configuration changes, the Workspaces page displays a warning to perform a full redistribution. You can manually initiate a Full Redistribution at any time using the Workspaces page in the Management Console. If you do not do so, the system continues to function, but the affected Workspaces and the System Status Panel general status remain at Warning until a full redistribution is performed (see [“Performing a Full Redistribution” on page 43](#)).



After 30 configuration changes without a full redistribution, the system will perform a full redistribution automatically. This could significantly reduce system performance until the redistribution operation has completed.

Redistribution Guidelines and Reference Information

- The Avid NEXIS supports add, remove, and full redistributions under *load*.
 - A load condition exists when the Workspace has active clients (reading and writing to the Workspace).
 - A no load condition exists when a Workspace is not mounted or has inactive clients (the Workspace might be mounted but clients are not performing reads or writes).
- When redistributing under load, allow the redistribution to complete before initiating a second redistribution.
- System performance can degrade significantly during redistribution in a Storage Group with the maximum client count. Reducing the number of clients allows the active clients using the Storage Group to function normally, with successful playback and captures. Perform redistributions during periods of light client activity, or reduce the overall load if client performance degrades (for example, the client experiences dropped frames, underruns, and failed captures). Limitations on expected client performance during redistribution include the following:
 - Reducing audio tracks from 8 to 4 during playback might be required during redistribution. (Normal operation supports 2 streams of video 8 tracks of audio.)
 - Reducing the number of video streams from 2 to 1 might be required during redistribution. (Normal operation supports 2 streams of video.)

You can suspend and resume a redistribution as needed.

- The amount of time a redistribution takes depends on whether the Workspace is in a load or a no load condition, whether you are adding or removing a Media Pack, and how much data in the Storage Group must be redistributed.
- Redistributions are performed on 20 Workspaces at a time. If your Storage Group exceeds 20 Workspaces, the Workspace status shows “Redistribution In Progress” for the first 20 Workspaces and “Redistribution Pending” for the rest of the Workspaces in that Storage Group. As Workspaces finish with the redistribution, the Workspaces with “Redistribution Pending” status start to redistribute until all the Workspaces in that Storage Group have finished the redistribution.
- Do not physically remove a Media Pack until it has been removed from the Storage Group, the redistribution is complete, and it has been unbound.



If you physically remove a Media Pack from the shared storage network before redistribution is complete, or if you physically remove more than one Media Pack from a Storage Group before performing a redistribution, data loss can occur.



If you turn off any of the Engines before redistribution is complete, data loss can occur.

Performing a Full Redistribution

In addition to automatic redistribution operations (see “[Workspace Redistribution](#)” on page 42), you can also initiate redistribution manually; for example, to perform a full redistribution when the Config Changes count exceeds 20. (For information about Config Changes, see “[Displaying Workspace Details](#)” on page 34.)



When the Config Changes count reaches 20, a message warns you to perform a redistribution.

You can choose specific Workspaces to redistribute, or select one or more Workspaces from one or more Storage Groups, and redistribute all the Workspaces associated with those Storage Groups.

When redistributing files manually, redistribute all Workspaces in a Storage Group. Avid does not recommend performing a full redistribution on some Workspaces in a Storage Group but not on others.

To redistribute Workspaces manually:

1. From the Management Console home page, click Workspaces in the System section.

The Workspaces page opens.

2. Do one of the following:

- ▶ Select a single or multiple Workspaces in the same Storage Group
- ▶ Select multiple Workspaces from different Storage Groups

3. Click Advanced Commands.

The Advanced Workspace Commands dialog box opens.

4. Do one of the following:

- ▶ To start redistribution for only the selected Workspaces, click Full Redistribution.
- ▶ To start redistribution for all Workspaces in the Storage Groups of the selected Workspaces, click Full Redistribution for All.

A confirmation message box opens.

5. Click OK.

Files are redistributed, and the count in the Config Changes column is reset to zero. The amount of time required for the redistribution depends on the amount of data in the Workspaces.

6. If Media Packs have rebooted following the completion of a full redistribution, do the following:

- a. Click Advanced Commands.

The Advanced Workspace Commands dialog box opens.

- b. Select Verify Redistribution, and then click Send.

Suspending and Resuming Redistribution

Under some conditions, you might have to suspend or resume an in-progress redistribution. You can do this with the Advanced Commands options available on the toolbar in the Workspaces page, which also lets you suspend or resume redistribution of all Workspaces associated with the same Storage Groups.



To suspend the redistribution on a Storage Group that has more than 20 Workspaces, suspend all the Workspaces in that group.



Use of the Resume Redistribution and the Suspend Redistribution options can result in degraded system performance. Suspending redistributions can have serious consequences for the file system if not monitored closely. These two Advanced Commands options should be used by Avid Customer Care personnel or under Avid Customer Care direction.

You can also use the Advanced Commands to verify a redistribution. Verification makes sure that all bad blocks on the appropriate Media Packs have been deleted and that the redistribution has completed successfully. Use the Verify Redistribution command after you upgrade your Engine. In this case, Media Packs might report a “Repairing Mirrors” status on reboot; verifying the redistribution replays the redistribution operation using the current configuration and restores the status to normal.



Verification has minimal impact on performance and completes quickly.

To suspend a redistribution:

1. Open the Management Console. (For information on opening the Management Console, see [“Opening the Management Console” on page 13.](#))
2. Click Workspaces in the System Area.
The Workspaces page opens.
3. Do one of the following:
 - ▶ Select specific Workspaces, then click Advanced Commands.
 - ▶ Select a single Workspace, then click Advanced Commands.
 - ▶ Select one or more Workspaces from different Storage Groups, then click Advanced Commands.The Advanced Workspace Commands dialog box opens.
4. Do one of the following:
 - ▶ Click Suspend Redistribution.
Only the selected Workspaces suspend redistribution.
 - ▶ Click Suspend Redistribution for All.
Redistribution is suspended for all Workspaces associated with the Storage Groups of the Workspaces you selected.A confirmation message box opens.
5. Click Send.



When you manually suspend a redistribution, you must also manually resume it. Suspending redistributions should be considered temporary — do not leave Workspaces in the suspended state for extended periods of time.

To resume a redistribution:

1. Open the Management Console. (For information on opening the Management Console, see [“Opening the Management Console” on page 13.](#))
2. Click Workspaces in the System Area.
The Workspaces page opens.
3. Do one of the following:
 - ▶ Select specific Workspaces with suspended redistribution, then click Advanced Commands.
 - ▶ Select a single Workspace, then click Advanced Commands.
 - ▶ Select one or more Workspaces from different Storage Groups, then click Advanced Commands.The Advanced Workspace Commands dialog box opens.
4. Do one of the following:
 - ▶ Click Resume Redistribution.
Only the selected Workspaces resume redistribution.
 - ▶ Click Resume Redistribution for All.
Redistribution is resumed for all Workspaces associated with the Storage Groups of the Workspaces you selected.A confirmation message box opens.
5. Click Send.

To verify a redistribution:

1. Open the Management Console. (For information on opening the Management Console, see [“Opening the Management Console” on page 13.](#))
2. Click Workspaces in the System Area.
The Workspaces page opens.
3. Select the Workspace where the redistribution has completed.
4. Click Advanced Commands.
The Advanced Workspace Commands dialog box opens.
5. Select Verify Redistribution.
6. Click Send.

Monitoring Redistributions

You can display detailed information about the progress of redistributions in the Redistribution Monitor tool.

The Redistribution Monitor tool displays a table listing the status of redistributions, the rate and remaining time of the redistribution, and other information.

To display details about redistribution:

1. Do one of the following:



- ▶ If a redistribution is in process, click the Redistribution Monitor icon in the Status console.
- ▶ In the Management Console, click Redistribution Monitor under the Tools heading.
- ▶ From the Workspaces tool, the Media Packs tool, or the Storage Groups tool, click Redistribution Monitor in the Related Links section.

The Redistribution Monitor tool opens, displaying the information shown and described below.

The Overview section displays the redistribution status, with the number of Workspaces in the process of redistribution, and the number of Workspaces pending (yet to be redistributed). It shows a progress bar, the overall system rate (in GB/hr; the rate column in the table displays blocks per hour), the system time remaining for the redistribution to be complete (same as shown in the table), total GB done, and remaining GB.

Name	Host Name	State	Status	Progress	Rate (blocks/hr)	Time Remaining	Blocks To Move	Blocks Moved	Status Time
MP000	A51-13	Active - Bound	Redistributing		0		0	0	09/21/2015 11:44:39
MP001	A51-13	Spare - Bound	Redistributing	12%	84,252	01:27:38	140,878	17,810	09/21/2015 11:44:24

Heading	Description
Name	Media Pack name
Host Name	Host name of the Storage Controller
State	The state of the Media Pack
Status	Redistribution status
Progress	When a redistribution is in under way, displays a progress bar and the percentage of redistribution currently complete.
Rate (blocks/hr)	Estimated number of blocks that can be moved in one hour
Time Remaining	Estimated amount of time for the redistribution to complete, based on system load, amount of data, and the rate. This is not a guarantee or promise of how long the redistribution will take.
Blocks to Move	Total number of blocks still to be moved
Blocks Moved	Number of blocks that have been moved so far
Status Time	Time that the last status data was retrieved

Redistribution Status Definitions

The following table lists the Status Messages logged by the System Director Service during a redistribution, and a brief description of the error. Other Media Pack errors, not strictly related to redistribution, can also occur, interrupting redistribution or causing it to fail. See [“Media Pack Status” on page 75](#).

Status	Severity	Comments
Initializing Redistribution	Warning	The Media Pack is determining which blocks will be moved. The redistribution status is displayed in the Redistribution Monitor page.
Redistributing	Warning	The Media Pack is evenly redistributing data across all the disks in the Storage Group. The time it takes to redistribute the data depends on the amount of data in the Storage Group.
Stalled Redistribution	Warning	The Media Pack is currently stalled while trying to move blocks to other Media Packs. This might be a temporary condition; if it persists and the overall redistribution has been determined to be stalled contact Avid Customer Care.

4 Managing Clients

Create a client account for any client type (user, group, or device) that needs to access the Avid NEXIS shared storage network. Client accounts allow access from users, groups, and devices to the Workspaces on the Avid NEXIS system, and prevent unauthorized users from accessing other users' data. When you create client accounts, you set basic client information, such as user names and passwords.

User accounts have administrative privilege levels, group membership types, and Workspace access. There can be more user accounts than connected clients. The Avid NEXIS system has a built-in user account named Guest, which you cannot rename or delete.

Each user and user group account has an associated privilege level that controls their access to files stored in the network.

Instead of (or in addition to) manually creating accounts, you can configure external authentication to allow LDAP users to connect to the Avid NEXIS. To import LDAP users, see [“Managing LDAP Accounts” on page 54](#).



Users must have access to at least one Workspace before they can use the shared storage network.

The Avid NEXIS Management Console allows you to create client accounts for each client connected to the system, and maintains a record of all attached clients. The client accounts are listed in dialog boxes for each client type.



Some clients might not be able to connect to the shared storage network if the combined bandwidth requirement of connected components equals the system limit for bandwidth use. For information on monitoring bandwidth use, see [“Monitoring Client Bandwidth” on page 82](#).

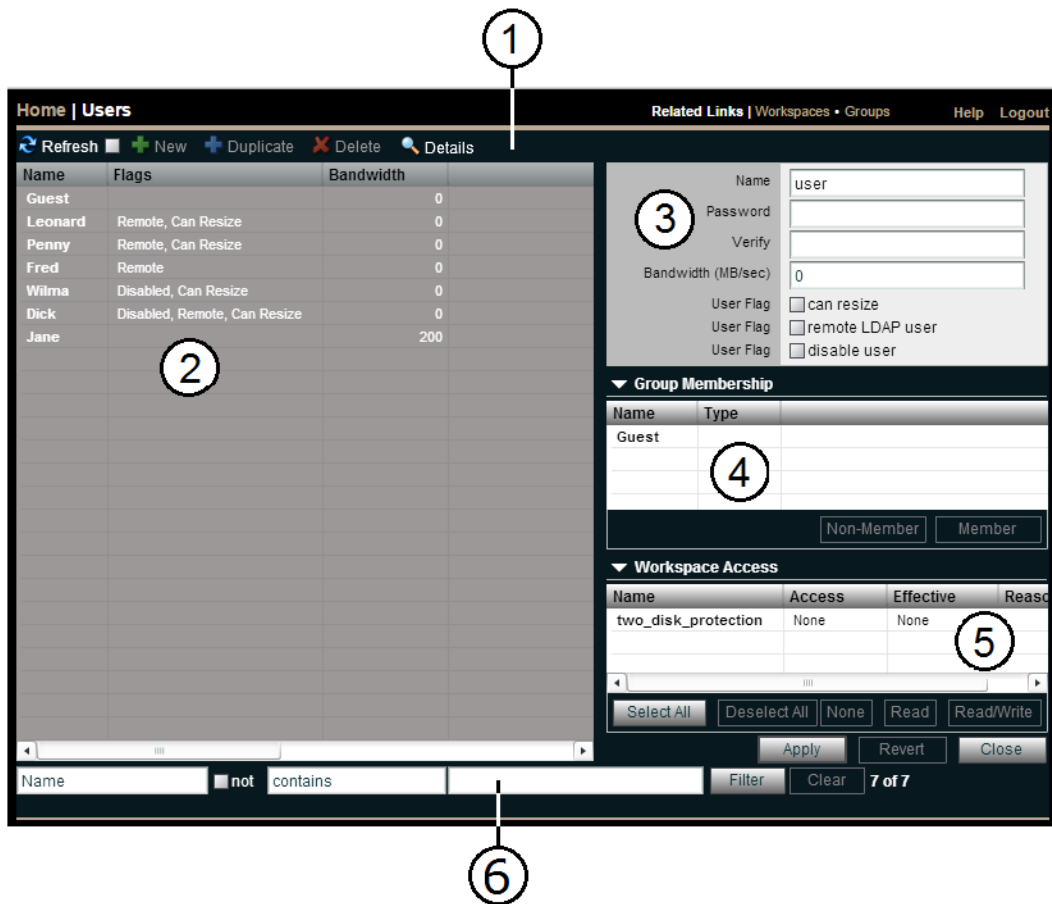
Managing Users

The Users page of the Management Console allows you to create, modify, and delete user accounts; assign users to specific groups; and manage access privileges for all users.

The default Administrator account is not considered a user, and is not shown in the Users panel. A user is an account that accesses the Avid NEXIS file system primarily through a client system. The Administrator account is not such a user. You cannot create a new user account with the name Administrator or administrator.

The Guest account is on every Avid NEXIS system by default, and has no password. Users who log in to the system with the Guest account do not see all the features and functionality that an Administrator sees.

When you double-click a user (or select a user and click **Details**), a Details panel opens to the right of the main Users panel.



Callout	Description
1	Action button toolbar—Perform actions on selected users
2	Users list—Lists all users and related information; see “Users List” on page 49
3	Details panel—Detailed information on the selected users; see “User Details Panel” on page 50
4	Group membership—Displays information about the group membership for the selected user; see “Creating Users” on page 51 and “Changing User Details” on page 52
5	Workspace access—Displays information about the Workspace access for the selected user; see “Creating Users” on page 51 and “Changing User Details” on page 52
6	Filter panel—Filter the user list display based on conditions you configure; see “Filtering the Display” on page 21

Users List

The Users list panel displays the following information.

Heading	Description
Name	Lists the client name

Heading	Description(Continued)
Flags	Indicates the status of client privileges
Bandwidth	Displays the client's bandwidth allocation. Setting a bandwidth limit on editing clients, such as Media Composer®, can decrease playback performance when the Avid NEXIS system is under load.



To sort the information in the Users panel, click any column heading. For more information on sorting items in columns, see “Sorting Information” on page 21.

User Details Panel

The User Details panel displays the following information.

General Details

Heading	Description
Name	Lists the user name
Password	Lets you change the password (up to 15 ASCII characters) for the user to log in to the system
Verify	Re-enter the new password to verify it
Bandwidth (MB/sec)	Lets you change the amount of bandwidth the account can use (default is 0, which means unlimited bandwidth)
User Flag: can resize	When checked, allows the user to resize their Workspaces
User Flag: remote LDAP user	When checked, allows LDAP authentication and group privileges
User Flag: disable user	Disables the user account

Group Membership

Heading	Description
Name	Lists the names of available groups
Type	Lists the user's membership status for each group (Member or Non-Member)

Workspace Access

Heading	Description
Name	Lists the names of available Workspaces
Access	Lists the user's access privileges for the Workspace
Effective	Lists the effective access privileges for the selected user for the Workspace

Workspace Access

Heading	Description(Continued)
Reason	Lists the reason for any difference between the access privileges and the effective access assigned the selected user

Creating Users

To create a user account:

1. From the Management Console home page, click **Users** in the System section.
The Users page opens.
2. Click **New**.
The Create User dialog box opens.
3. Enter a password for the user account, the amount of system bandwidth the account can use, and set any user flags (for more information, see [“User Details Panel” on page 50](#)). The user password can be up to 15 ASCII characters long.
4. (Option) In the Group Membership list, select a group, and click **Member** to make the user a member in the group.
By default, new users are listed as “Non-Member” in the Type category for each group. The Non-Member button is inactive until you assign the user a group membership.
The Group Membership list shows the user as a member of the group.
5. (Option) In the Workspace Access list, select one or more Workspaces and do one of the following:
 - ▶ Click **Read** to set read-only access for the user.
By default, access privileges for new users are listed as “None” in the Access category for each Workspace. The None button is inactive until you set the access. (For information on permissions for Workspace access in the network, see [“Managing User Access Privileges for Workspaces” on page 41](#).)
 - ▶ Click **Read/Write** to set both read and write access for the user.
The Workspace Access list shows the new user access privileges for the selected Workspace.
6. Click **Apply**.
7. Click **Close** to close the Create User dialog box and to return to the Users page.
The new user appears in the Users list.

Duplicating Users

To quickly create additional user accounts based on one you have already created and modified, you can duplicate the user. Duplicated users inherit the bandwidth allocation and access privileges of the accounts from which they were created.

To duplicate a user account:

1. In the Users list, select the user account you want to duplicate.
2. Click **Duplicate**.
The Duplicate User dialog box opens.

3. (Option) Modify any of the attributes of the new user. For more information see [“Changing User Details” on page 52](#).
4. Click **Apply** to create a new user containing the attributes of the selected user.
The duplicate user appears in the Users page, and the Duplicate User dialog box refreshes to allow you to duplicate a new user.
The new user account has a default name — user n , where n is an integer that is incremented each time you click Apply to create another duplicate user account.
5. Click **Close** to close the Duplicate User dialog box and to return to the Users page.

Changing User Details

You can rename a user account and also change the password, allocated bandwidth, privileges (including disabling or re-enabling it), group memberships, and the Workspaces the user can access.

You can modify a user account at any time, even when it is being actively used in your work environment, but Avid recommends that users unmount a Workspace if you are changing their access to it.



You cannot rename or delete the default Guest account, but you can change the password (default is blank; no password), its group membership and Workspace access, and the user flags.

To modify a user account:

1. From the User list, do one of the following:
 - ▶ Select the user account you want to modify, and click **Details**.
 - ▶ Double-click the user name.The Details panel displays information about the selected user account.
2. Modify the user options as required. For a list of options, see [“Creating Users” on page 51](#).
3. Modify group membership for the user as required:
 - ▶ Click **Member** to add the user to the group.
 - ▶ Click **Non-Member** to remove the user from the group.
4. Modify Workspace access for the user as required:
 - ▶ Click **None** to remove Workspace access privileges for the user.
 - ▶ Click **Read** to set read-only Workspace access for the user.
 - ▶ Click **Read/Write** to set both read and write Workspace access for the user.For information on permissions for Workspace access in the network, see [“Managing User Access Privileges for Workspaces” on page 41](#) and [“Setting or Changing Workspace Access Privileges” on page 41](#).
5. (Option) Click **Revert** to undo any modifications made to the user information.
6. Click **Apply**.

Deleting Users

You can delete any user account except the default Guest user. If you want to keep an account but temporarily prevent its access to the shared storage network, see [“Disabling Users” on page 53](#). Deleting a user that belongs to a group also removes that user name from the group list. If you remove all the users in a group, the group itself is not deleted.



If you delete the client account, its connection to the System Director is broken immediately and any mounted Workspaces are unmounted as soon as they are accessed.

To delete a user account:

1. Ensure that the client account to be deleted is not currently active.
2. From the Users list, select the user account you want to delete.
3. Click **Delete**.
A dialog box opens, prompting you to confirm that you want to delete the client.
4. Click **OK**.

Disabling Users

You can remove a user temporarily from the Avid NEXIS shared storage network by disabling the account. This preserves the client accounts (they remain in the Users list) and allows you to restore their access to the system later.

To disable a user account:

1. Make sure that the client account to be disabled is not currently active.
2. From the Users list, select the client account you want to disable.
3. Do one of the following:
 - ▶ Click **Details**.
 - ▶ Double-click the client name.The Details panel displays information about the selected user.
4. Select the “disable user” check box.
5. (Option) Click **Revert** to undo any modifications made to the user information.
6. Click **Apply**.
7. Click **Close** to close the Details window.

Displaying User Details

The Details panel displays all information for the currently selected user.

To see information about a user:

- ▶ In the User list, click to select a user.
The Users page displays all the information for the selected user. If the Details panel is not visible, click **Details**.

To hide the User Details panel:

- ▶ Click the arrow next to the Details title bar.

To close the User Details panel:

- ▶ Click **Close**.

Managing LDAP Accounts

LDAP (Lightweight Directory Access Protocol) is an Internet protocol that some applications use to look up information — such as account information, user names, and groups — from a server. The LDAP Sync tool allows Avid NEXIS administrators to synchronize Avid NEXIS user accounts with existing LDAP user accounts and to create or modify a large number of users and groups within the Avid NEXIS system.



To use LDAP, you must have DNS configured. See “Configuring DNS Service” on page 105.

The LDAP Sync tool lets you:

- Display user accounts available within a given LDAP service but not in the Avid NEXIS system, and vice versa
- Add new groups and users to the Avid NEXIS system
- Grant user memberships to groups
- Remove user membership from a group in Avid NEXIS if the user no longer belongs to that group on the LDAP server

Users synchronized by the LDAP Sync tool will automatically be added as “Remote” users for authentication to the LDAP server.

The LDAP Sync Tool lets you search for groups and their users on an LDAP server, synchronize users and groups accounts by adding or removing users and groups from Avid NEXIS, generate a report of the account actions, and see a history of the synchronization activity. Configure a connection by entering the LDAP server’s fully qualified name, port, and user distinguished name and password for authentication.



Users imported by the LDAP Sync Tool cannot log into the Avid NEXIS until it is configured for external authentication. For more information, see “Configuring External Authentication of Users” on page 4.



Avid NEXIS currently supports only Microsoft Active Directory, and might not be compatible with other LDAP implementations.

Installing the LDAP Sync Tool

The LDAP Sync Tool is part of the Avid NEXIS software kit, but is not installed by default.

To install the LDAP Sync Tool:

1. In the Management Console, click **Installers** under the System heading.
2. In the Avid NEXIS Tools section, click the LDAP Sync Tool executable file appropriate for your operating system.
3. Save the executable file to your computer and install it.

Opening the LDAP Sync Tool

You can use the LDAP Sync Tool to configure LDAP connections. If you have not previously configured a connection, enter the connection name and other information specific to the particular LDAP server.



Contact your IT administrator to obtain your LDAP login information. Three failed connection attempts might result in your LDAP user account being disabled.



All connection information is stored locally for the connecting user's account. To connect from a different workstation or as another user, re-enter the Avid NEXIS and LDAP login information.

Alternatively, you can configure external authentication on the Avid NEXIS to add the LDAP server. See [“Receiving Notification of System Problems” on page 5](#).

To open the LDAP Sync Tool:

1. Do one of the following:
 - ▶ (Windows) From the Start menu select Avid > LDAPSynTool > Avid LDAP Sync Tool.
 - ▶ (Mac) Select Applications > Avid NEXIS Tools > LDAP Sync Tool.The Avid Login dialog box opens.
2. In the Hostname field, enter the host name of the System Director.
3. Enter the administrator password.
4. Click **Connect**.
 - ▶ If this is your first time using this tool and an LDAP server is configured, the LDAP Group Selection list opens. See [“Synchronizing LDAP and Avid NEXIS Accounts” on page 57](#).
 - ▶ If this is your first time using this tool but no LDAP server is configured, the Connect to LDAP Server dialog box opens. Enter the information for your LDAP server as shown below and click **Connect**.

The screenshot shows a dialog box titled "Connect to LDAP server". It has a standard Windows-style title bar with a close button (X). The dialog contains the following fields and controls:

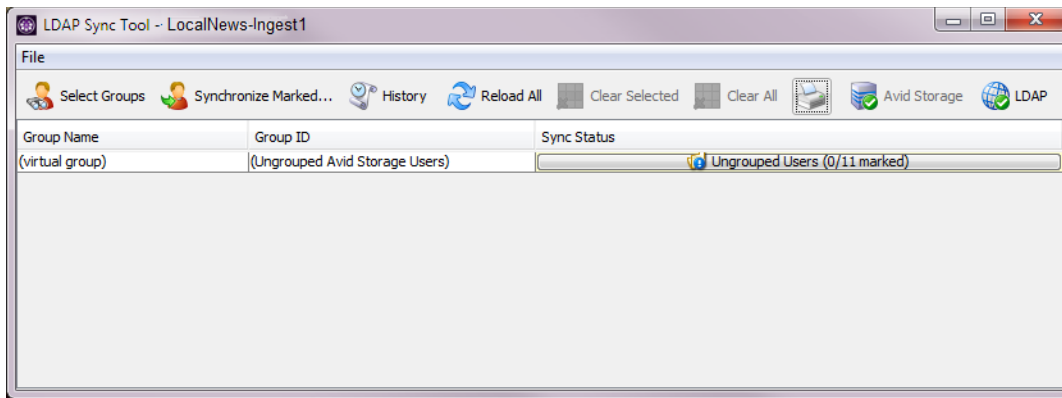
- LDAP Host:** A text box containing "myhost".
- Port:** A text box containing "389".
- Protocol version:** A dropdown menu currently set to "auto".
- Base DN:** A text box containing "DC=mydomain,DC=com".
- User DN:** A text box containing "CN=firstname lastname,DC=mydomain,DC=com".
- Password:** An empty text box.
- Buttons:** "Connect" and "Cancel" buttons at the bottom.

- ▶ If the tool has been used before on this computer, the main window opens.

Using the LDAP Sync Tool

The Account Synchronizer is the main window of the Avid NEXIS LDAP Sync Tool. Use the Account Synchronizer to search the LDAP user accounts, synchronize (reconcile) user accounts by adding or removing users from the Avid NEXIS users list, generate a report of the account actions, and see a history of the accounts. You can also modify the display of the Account Synchronizer to filter out unneeded account information.

LDAP Sync Tool — Main Window (Account Synchronizer)



All LDAP reconciliation session data, such as reports and history, are stored in the local user's account. If you log into another workstation and/or as a different user, this information will not be available.

When you first connect to the Avid NEXIS and the LDAP server, the Account Synchronizer checks the users in the selected LDAP groups against the Avid NEXIS database and builds a set of actions to reconcile the two. The main window displays the complete set of groups, using buttons with colors and icons to indicate the reconciliation status of each group.

Icon	Meaning
	The group is in the LDAP database, but not in the Avid NEXIS system. The default action is to add the group and all users to the Avid NEXIS.
	The group is in both LDAP and the Avid NEXIS system, but the users are different between the two: <ul style="list-style-type: none"> If the user is in LDAP but not the Avid NEXIS system, the user will be added to the Avid NEXIS system. If the user is in the Avid NEXIS system but not in LDAP, the user will be removed from the Avid NEXIS system. <p> <i>The user will no longer share privileges with the group. The user will still be able to access the Avid NEXIS system, and membership in other local or LDAP groups is unaffected.</i></p>
	The group is in both LDAP and the Avid NEXIS system, and all users are reconciled. No action is taken by default.
	The user and/or group is in the Avid NEXIS system, but not LDAP. <p> By default, all users and groups in this entry will be permanently deleted. To prevent this, manually override the default action before performing a Reconcile action.</p>
	The user is in an Avid NEXIS only group. <p> By default, all users and groups in this entry will be permanently deleted. To prevent this, manually override the default action before performing a Reconcile action.</p>

Click any button to see detailed information about the actions you can perform on users in each group.

Changing the Account Synchronizer Display

You can sort the columns in the display alphabetically, and add or remove LDAP groups from the Account Synchronizer display.

To sort columns:

- ▶ Click a column heading to sort the contents of the column alphabetically. Click the heading again to reverse the sort.

To resize columns:

- ▶ Click and drag the divider between column headings.

Synchronizing LDAP and Avid NEXIS Accounts

Synchronizing the LDAP/Active Directory and Avid NEXIS user lists consists of the following steps:

- Selecting LDAP groups
- Specifying user-specific synchronization actions
- Performing the synchronization process



The synchronization process only reads the LDAP/Active Directory user list. The Avid NEXIS LDAP Sync Tool will never alter the LDAP/Active Directory user list.

To add groups to the Account Synchronizer display:



1. Click **Select Groups**.

The LDAP Group Selection window opens.



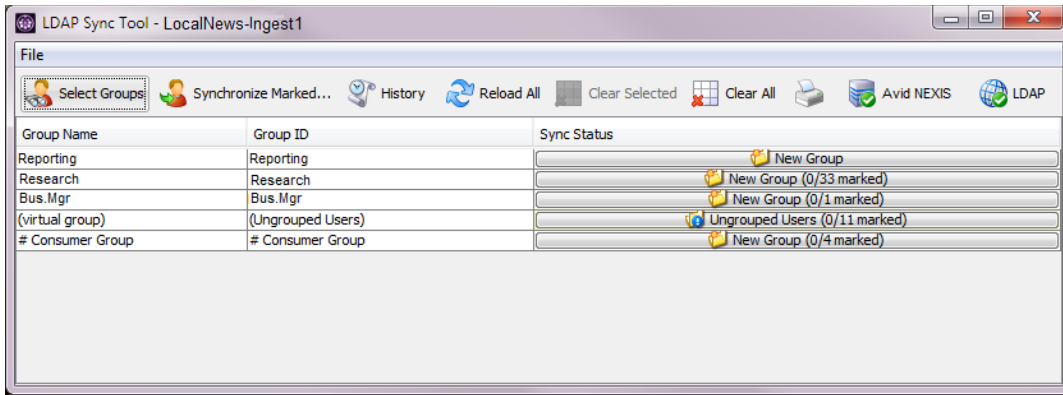
On subsequent LDAP Sync Tool sessions, the main window will open after you log in and display the selected groups from the last session.

2. Select the groups to be synchronized.

To Select This:	Do This:
Single group	Click the group name.
Multiple non-contiguous groups	CTRL-click each name to be selected.
Multiple contiguous groups	Click the first group name, then SHIFT-click the last group name.
All groups	Press CTRL-A.

3. Click **Add Selected**.

The LDAP Sync Tool builds a list of sync actions for the selected groups, and displays the selected groups in the main window.



4. (Option) To print a report of the account list and selections, click **Print**.

To remove groups from the Account Synchronizer display:



1. Select one or more rows and click **Clear Selected** to remove the row from the Group list. Ctrl+click (Windows and Linux) or Cmd+click (Mac) or Shift+click to select multiple rows.

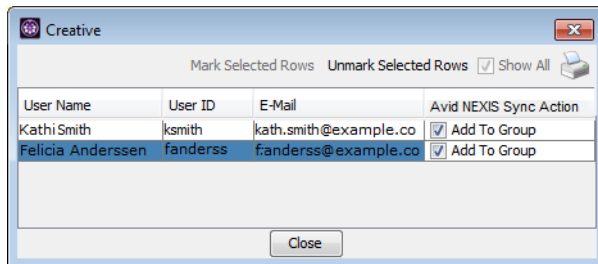


2. Click **Clear All** to remove all rows from the Group list.

To modify the default reconciliation actions for individual users:

1. Click the row in the Sync Status column for the appropriate group (each row in the Sync Status column is a button).

The Descriptive name window opens and displays the user names of all members of the group, as well as actions to be taken.



2. You can do the following:

- ▶ To show all users, including those which are already reconciled, click **Show All**.



The “Show All” check box is disabled if all or no users in the group are already reconciled (all users are shown by default).

- ▶ To override the default action, click the check box in the “Avid NEXIS Sync Action” column to deselect it.

3. (Option) To print a report of the user list and selections, click **Print**.

4. Click **Close** to close the user selection window and return to the main window.

To synchronize LDAP/Active Directory and Avid NEXIS user databases:



- ▶ Click **Synchronized Marked**.

The LDAP Sync Tool performs the reconciliation actions, then displays the groups status in the main window.

To refresh selected entries:

1. Select one or more groups from the main window.

To Select This:	Do This:
Single group	Click the group name.
Multiple non-contiguous groups	CTRL-click each name to be selected.
Multiple contiguous groups	Click the first group name, then SHIFT-click the last group name.
All groups	Press CTRL-A.



2. Click **Reload All**.

Information about the selected groups is retrieved from the LDAP server, reassessed, and displayed in the main window.

To see and/or print the History log:



1. Click **History**.

The Synchronization History window opens.

2. (Option) To print the History Log, click **Print**.

The Print dialog opens.



3. (Option) To clear the History Log, click **Delete History**.

The Delete History dialog box opens. Click **Yes** to delete the history.

4. To close the Synchronization History window, click **Close**.

To exit the LDAP Sync Tool

1. Do one of the following:

- ▶ Click **File > Exit**
- ▶ Click **Close Window** in the upper right corner of the window.

A confirmation window opens.

2. Click **Yes**.

The application closes.

Importing LDAP Users with Incorrectly Formatted LDAP UIDs

When synchronizing users from the LDAP Synchronization Tool, the User ID (also known as the UID) must contain characters that Avid NEXIS allows for valid user names. The entry in the User ID column is used as the Avid NEXIS Username. User names and passwords must use only ASCII characters. See [“Guidelines for Names and Passwords” on page 23](#) for more information about valid and invalid characters.

If the User ID contains any invalid characters:

- The user will not be added to Avid NEXIS
- The synchronization for the group is aborted
- Any subsequent user accounts in the group are not reconciled

In such cases, do one of the following:

- Create the user in Avid NEXIS with a user name that does not contain these illegal characters, and manually add them to groups.
- Update the user entry in the LDAP database with a UID that contains no illegal characters, then run the LDAP Sync Tool again to reconcile the users.

Disconnecting and Reconnecting the LDAP Servers

The connection status button icons indicate whether you are connected to the Avid NEXIS or LDAP servers:



Connected to Avid NEXIS



Disconnected from Avid NEXIS



Connected to LDAP server



Disconnected from LDAP server

You can use the connection status buttons to manually disconnect from and reconnect to the LDAP server. (If the connection to the Avid NEXIS is broken, close the LDAP Sync Tool, then restart it and log in again.) The button icons change depending on your current connection status.



You are disconnected from the Avid NEXIS or LDAP servers if their respective session time-out periods are exceeded.

To disconnect from the LDAP server:

- ▶ Click **LDAP**.

The LDAP Sync Tool disconnects from the LDAP server, and the LDAP connection status button icon changes to Disconnected.

To connect (or reconnect) to the LDAP server:

1. Click **LDAP**.

The Connect to LDAP Server window appears.



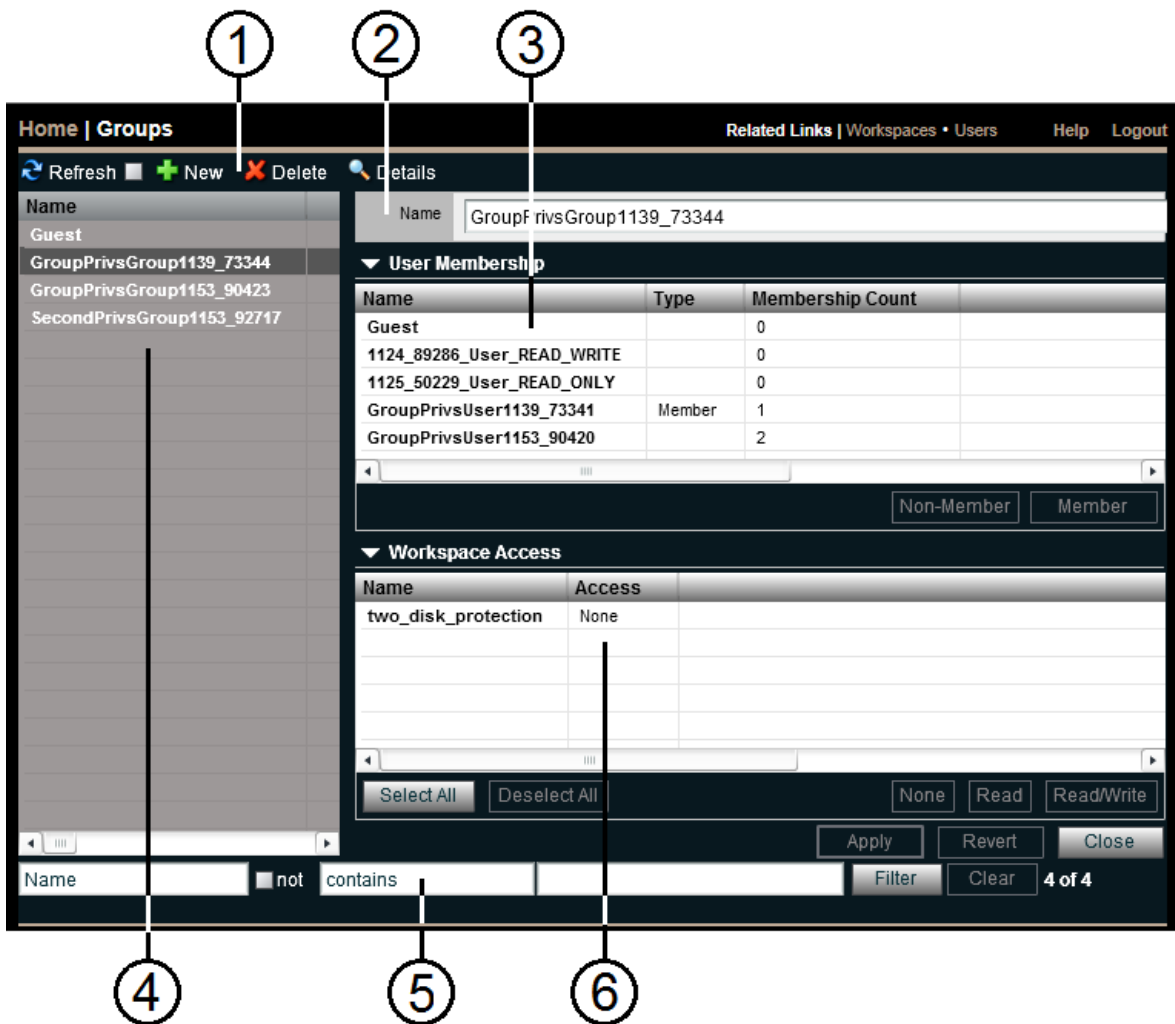
The text fields will be filled in for you if you have previously logged into the LDAP server within the same session.

2. Click **Connect**.

The LDAP Sync Tool connects to the LDAP server and the Connection status icon changes to green (connected).

Managing Groups

Groups allow you to organize and manage users based on their common properties, such as by Workspace access, LDAP users, or other criteria.



Callout Description

- | | |
|---|---|
| 1 | Action button toolbar—Perform actions on selected user groups |
| 2 | Details panel—Detailed information on the selected user group; see page 61 |
| 3 | User membership panel—Displays information about the membership for the selected user group; see “ Adding User Groups ” on page 62 and “ Modifying User Group Details ” on page 62 |
| 4 | User groups list—Lists all user groups and related information |
| 5 | Filter panel—Filter the user list display based on conditions you configure; see “ Filtering the Display ” on page 21 |
| 6 | Workspace access panel—Displays information about the Workspace access for the selected user group; see “ Adding User Groups ” on page 62 and “ Modifying User Group Details ” on page 62 |
-

The Group Details panel displays the following information.

Panel	Heading	Description
Group Details	Name	Lists the user group name
	Membership Count	Lists the number of groups to which each user belongs (up to a maximum of 15)
User Membership	Name	Lists the names of all users
	Type	Lists the user's membership status for each user group (Member or Non-Member)
Workspace Access	Name	Lists the names of available Workspaces
	Access	Lists the access privileges for the selected user group

Adding User Groups

To add a group account:

- From the Management Console home page, click **Groups** in the System section.
The Groups page opens.
- Click **New**.
The Create Group dialog box opens.
- Type a user group name in the Name text box.
If a user group with the name already exists, an error message tells you to type a new name.



For information on valid and invalid characters, see [“Guidelines for Names and Passwords” on page 23](#).

- (Option) In the User Membership list, select a user and click **Member** to make the user a member in the user group. A user can belong to up to 15 user groups.
By default, new users are listed as “Non-Member” in the Type category for each user group. As a result, the Non-Member button is inactive until membership is set.
- (Option) In the Workspace Access list, select a Workspace or click **Select All** to select all Workspaces, and do one of the following:
 - Click **Read** to set read-only Workspace access for the user group.
 - Click **Read/Write** to set both read and write Workspace access for the user group.
By default, access privileges for new user groups are listed as “None” in the Access category for each Workspace. As a result, the None button is inactive until access is set. (For information on permissions for Workspace access in the network, see [“Setting or Changing Workspace Access Privileges” on page 41](#).)
- Click **Apply**.
- Click **Close** to close the Create Group dialog box and to return to the Groups dialog box.
The new user group appears in the Groups list.

Modifying User Group Details

You can rename a user group account, change user membership, and modify Workspace access at any time, even when it is being actively used in your work environment.

To modify a user group account:

1. From the Groups list, do one of the following:
 - ▶ Select the user group account you want to modify, and click **Details**.
 - ▶ Double-click the user group name.The Details panel displays information about the selected user group account.
2. Modify the user group name as required.

If a user group with the name already exists, an error message tells you to type a new name.



For information on valid and invalid characters, see “Guidelines for Names and Passwords” on page 23.

3. Modify user membership for the user group as required:
 - ▶ Click **Member** to make the user a member in the user group.
 - ▶ Click **Non-Member** to remove the user from the user group.
4. Modify Workspace access for the user group as required:
 - ▶ Click **None** to remove Workspace access privileges for the user group.
 - ▶ Click **Read** to set read-only Workspace access for the user group.
 - ▶ Click **Read/Write** to set both read and write Workspace access for the user group.For information on permissions for Workspace access in the network, see “[Managing User Access Privileges for Workspaces](#)” on page 41 and “[Setting or Changing Workspace Access Privileges](#)” on page 41.
5. (Option) Click **Revert** to undo any modifications made to the client information.
6. Click **Apply**.

Deleting User Groups

You can delete any user group account except the default Guest group (of which the default user account, Guest, is a member). Deleting a group does not delete the user accounts who are members of the group.

To delete a user group account:

1. Ensure that the user group account to be deleted is not currently active.
2. From the Groups list, select the user group account you want to delete.
3. Click **Delete**.

A dialog box opens, prompting you to confirm that you really want to delete the user group.
4. Click **OK**.

Displaying User Group Details

The Details panel displays all information for the currently selected user group.

To see detailed information about a User group:

- ▶ In the Group list, click to select a user group.

The Groups page displays all the information for the selected user group. If the Details panel is not visible, click **Details**.

To hide the User Membership or Workspace Access panel:

- ▶ Click the arrow next to the Details title bar or the User Access title bar.

To close the Details panel:

- ▶ Click **Details** in the toolbar, or click **Close** at the bottom of the Details panel.

Managing Bandwidth Limits

The Bandwidth Limits panel lets you display and manage the bandwidth used by clients that can connect to the Avid NEXIS system. Some client applications try to use as much bandwidth as possible, potentially throttling other users of the system. To control this, you can modify the maximum amount of bandwidth a client can use.




Callout Description

- | | |
|---|--|
| 1 | Action button toolbar—Perform actions on selected Bandwidth Limit entries |
| 2 | List—Lists all client devices and related information; see “Bandwidth Limits Panel” on page 64 |
| 3 | Details panel—Detailed information on the Bandwidth Limits; see “Displaying Bandwidth Limits Details” on page 65 |
| 4 | Filter panel—Filter the display based on options you configure; see “Filtering the Display” on page 21 |
-

Bandwidth Limits Panel

The Bandwidth Limits panel displays the following information.

Heading	Description
Name	Lists the client name
Bandwidth	Displays the current bandwidth for the client  <i>You might need to set a bandwidth limit for a device such as an Avid AirSpeed server if it is consuming more bandwidth than expected.</i>
Bandwidth Mode	Lists the mode used to allocate bandwidth (only Device Bandwidth is available)
Description	Displays the user-supplied device description, if any

Displaying Bandwidth Limits Details

The Bandwidth Limits Details panel displays the same information as the Bandwidth Limits list.

To see detailed information about a client or device:

- ▶ In the Bandwidth Limits list, double-click a name.

Adding a Bandwidth Limit Entry

Bandwidth limit entries are created in two ways: either manually (you create them) or automatically, when a client connects to the Avid NEXIS for the first time. You can prevent the automatic creation of entries in the Preferences page on the Management Console by selecting **Force Manual Device Creation** (see “[Configuring Management Console Preferences](#)” on page 25).

For automatically created entries, the default bandwidth is determined by the Preferences page setting called **Default Bandwidth for Auto Created Devices (MB/sec)**. The default value of zero (0) means the client has no limit (unlimited bandwidth).

To create a Bandwidth Limit specification for a client:

1. From the Management Console home page, click **Bandwidth Limits** in the System section.
The Bandwidth Limits page opens.
2. Click **New**.
3. Type the name of the device in the Name text box.
If a device with the same name already exists, an error message is displayed.



For information on valid and invalid characters, see “[Guidelines for Names and Passwords](#)” on page 23.

4. (Option) Type a value in the Bandwidth text box to set the amount of read/write bandwidth (in MB/s) to allocate to the device. A value of 0 (zero) indicates that bandwidth will not be metered.
5. (Option) Type a description in the Description text box.
6. Click **Apply**.
The Bandwidth Limits list refreshes and displays the new client.
7. Repeat steps 2 through 6 to add more clients.
8. When finished, click **Close**.

Changing a Bandwidth Limit Entry

You can rename an entry or change the allocated bandwidth or description at any time. Any changes take effect immediately, even if the user is connected.

To modify a Bandwidth Limit entry:

1. From the Bandwidth Limits list, select the entry to modify, and do one of the following:

- ▶ Click **Details**.
- ▶ Double-click the name.

The Details panel displays information about the selected client.

2. Modify the options as required.
3. (Option) Click **Revert** to undo any modifications.
4. Click **Apply**.

Deleting a Bandwidth Limit Entry

You can delete a Bandwidth Limit entry for user-created clients or any entry you have modified.

To delete a Bandwidth Limit entry:

1. Make sure that the client account is not currently connected.
2. From the Bandwidth Limits list, select the entry to delete.
3. Click **Delete**.

In the Delete Confirmation dialog box click Yes to confirm that you want to delete the entry.

4. Click **OK**.

The entry is deleted and removed from the Bandwidth Limits list.

5 Managing Avid NEXIS Hardware

You perform all storage management operations from the Avid Management Console, which allows you to add, remove, configure, and manage your hardware.

For instructions on replacing failed hardware, see the Setup and Maintenance Guide for your hardware model.



For an overview of the Management Console and information about how to start the tool, see “Opening the Management Console” on page 13.

Managing Engines

The Engines page of the Management Console allows you to see details and to monitor the status of all Engines connected to the shared storage network.

Engine List

The Engine list includes the following information.

Heading	Description
Product Name	Displays the model name of the Engine or System Director Appliance
Product Part Number	Displays the Avid part number for the Engine or System Director Appliance
Enclosure ID	Displays the number (from 00 - 99) assigned to the Engine. In a lab with many Avid NEXIS systems, assigning an Enclosure ID can help you identify a particular Engine. The Enclosure ID is displayed in the window on the left side of the Engine.
Serial Number	Serial number of the Engine
Status Time	The last time the System Director logged the status of the Engine
Status	Displays changes in the working status due to upgrade installation or failure.
Available	Lists the number of unbound Media Packs in each Engine
Spare	Lists the number of spare Media Packs in each Engine (the Media Pack is bound but not part of a Storage Group)
Active	Lists the number of active Media Packs in each Engine
Mode	Indicates the function of the Engine, and can be one of the following values: <ul style="list-style-type: none">• Embedded — Running as the embedded System Director and providing storage• External — Running as the System Director Appliance (does not provide storage)• Expansion — Running as a storage Engine only

Displaying Engine Details

To see information about an Engine:

1. Do one of the following:
 - ▶ Select an Engine and click **Details**.
 - ▶ Double-click an Engine name.

The Details panel displays all information for the Engine. The panel is divided into sections:

- Engine Details — displays the same information as in the Engine list
- Storage Controllers — displays information about the Storage Controllers in the Engine. Within this section you can select one or more controllers to upgrade, or open the Agent page relevant to the controllers by clicking Info.
- Media Packs— displays information also available in the Media Packs list. From this section you can select any number of Media Packs and open the Agent to the relevant page by clicking Info.
- Disks — displays information about the disks in the Engine. From this section you can select one or more Media Packs and open the Agent to the relevant page by clicking Info.

You can sort the information in the details sections by clicking any column heading. Also see [“Sorting Information” on page 21](#).



You can see more detailed information on Engine components by using the Avid Agent tool. See [“Avid NEXIS Agent” on page 101](#).

To close the Details panel:

- ▶ Click **Details** in the toolbar, or click **Close** at the bottom of the Details panel.

Engine and Storage Controller Status

Engines or Storage Controllers can have one of the following status values, or no value (empty field). If the field is empty, the Engine or Storage Controller is operating normally.

Status	Description
Installing	The Avid NEXIS software is being installed
Install failed	The software installation failed. Contact Customer Care.
Install waiting	The installation is in progress
Install needed	A newer version of the Avid NEXIS software is available
Install downloading	The Avid NEXIS software kit is downloading from the Avid support site.
Install Phase (1, 2, 3)	The software installation is in the specified phase
Invalid Configuration	An unsupported Storage Controller is present in the Engine. Remove it and replace it with a valid Storage Controller for the Engine type. For more information, see the Setup and Maintenance Guide for the Engine model.

Upgrading an Engine

When new releases of the Avid NEXIS software are available, you can upgrade the Avid NEXIS clients and Engines to take advantage of new features and bug fixes.

Typically, you upgrade the Avid NEXIS clients first, then upgrade the Avid NEXIS system. (For information on upgrading clients, see the *Avid NEXIS Client Manager Installation and User's Guide*.)

You upgrade the system components through either the Management Console or the Agent, as follows:

System Component	How to Upgrade
ISIS 1000, single-Engine system running v5.x	Use the Agent
ISIS 1000, multi-Engine system running v5.x	Use the Agent for the Engine running the System Director, then use the Management Console for the other Engines To identify the System Director, see “Engine List” on page 67
Avid NEXIS, single Engine running v6.x	Use the Agent
Avid NEXIS, multiple Engines with embedded System Director, running v6.x	Use the Agent for the Engine running the embedded System Director, then use the Management Console for the other Engines, if any. To identify the System Director, see “Engine List” on page 67 .
System Director Appliance	Use the Agent to upgrade the SDA, then use the Management Console to upgrade the Engines



In a multi-Engine configuration, all the Engines (all Storage Controllers) and the System Director Appliance, if applicable, must be running the same version before the system can resume normal operation. Upgrading an Engine or the System Director Appliance causes it to reboot; plan to do upgrades during a maintenance window with no client I/O occurring.

To upgrade through the Avid NEXIS Agent:

1. On your local computer, download the new software from Avid, using your support account.
2. Unzip the software on your computer.
3. In the Management Console, open the Engines page and identify the Engine running the System Director, or the System Director Appliance. Double-click the name to open its Details panel.
4. Double-click the Host Name to open the Agent for the System Director Engine or the System Director Appliance (for more information, see [“Avid NEXIS Agent” on page 101](#)).
5. In the Agent, click **Install** under the Configuration heading.
 - ▶ If the System Director is running on an Engine, confirm that the box next to **Run System Director** is checked (to verify that this is the System Director Engine).
 - ▶ On a System Director Appliance, this check box is not present.
6. Click **Choose File** and navigate to the location of the software kit contents that you just unzipped.
7. Click **Submit**.

To complete the upgrade, the system will reboot. A message is displayed indicating the time remaining until the system is again available. You can then log back in to the Agent or the Management Console and confirm the system is running the new version. The version information is visible at the bottom of the Management Console (see [“Understanding the Management Console Interface” on page 14](#)), and in the Agent (on the System tab under Versioning).

To upgrade through the Management Console:

1. In the Management Console, click **Engines**.
2. Select an Engine in the shared storage system (not the Engine running the System Director) and click Upgrade.

The Upgrade Storage Controllers dialog box opens. (Upgrading an Engine uses the same code path as upgrading the Storage Controller.)

3. Select the `AvidNEXISSetup_nnnnn.bin` file from the list in the right column.

The Command text box displays the location of the upgrade installer.



Do not enter or change any text in the Command or Options fields except under the supervision of qualified Avid Customer Care personnel. Doing so can result in system degradation and data loss.

4. Click **Upgrade**.

You can monitor the progress of the upgrade in the Details panel. To complete the upgrade, the system will reboot. A message is displayed indicating the time remaining until the system is again available. You can then log back in to the Management Console and confirm the system is running the new version. The version information is visible at the bottom of the Management Console (see [“Understanding the Management Console Interface” on page 14](#)), and in the Agent (on the System tab under Versioning).

5. Repeat this procedure until all Engines (and the System Director Appliance, if applicable) are upgraded and running the same software version.

Removing Engines from the Engine List

To replace an Engine, use the Management Console to remove the connection history of the inactive or inoperative Engine from the list in the Engines page. After the Engine is removed from the Avid NEXIS file system, you can physically remove it from the network.

Removing an Engine from an Avid NEXIS system requires that you delete any Workspaces in the Storage Group supported by the Media Pack in the Engine. If the Storage Group contains multiple Media Packs (one from two or more Engines), delete all the Workspaces in that shared Storage Group before you can remove an Engine.

For information on removing Engines from the network, see the *Avid NEXIS Setup and Maintenance Guide*.

To remove an Engine from the Engine list:

1. In the Engine list, select the Engine to remove.
2. Click **Remove Status**.

The Engine is removed from the Engine list.




If you remove an active Engine by mistake, the System Director restores the Engine to the Engine list the next time it polls the shared storage network (usually within 20 seconds).

Managing Storage Controllers

The Storage Controllers page of the Management Console allows you to see details and to monitor the status of all Storage Controllers connected to the shared storage network.

Storage Controllers List

The Storage Controllers list includes the following information:

Heading	Description
Host Name	The name of the Storage Controller  <i>If the System Director is running on this controller, the controller name is also the System Director name.</i>
Status Time	The date and time of the currently displayed information. To update the data, click Refresh .
Status	The Storage Controller status. Storage Controllers have the same status values as Engines; for more information, see “Engine and Storage Controller Status” on page 68 .
Avid NEXIS Version	The Avid NEXIS version running on the Storage Controller
BMC Version	The BMC firmware version running on the Storage Controller
Controller Serial Number	The manufacturer serial number of the controller
Engine Serial Number	The serial number of the Engine that contains this Storage Controller
Free Memory	Displays the amount of memory not in use
Total Memory	Displays the total amount of available memory

Storage Controller Details

To see information about an Storage Controller:

1. Do one of the following:
 - ▶ Select a Storage Controller and click **Details**.
 - ▶ Double-click the Storage Controller name.

The Details panel displays all information for the Storage Controller. The panel is divided into sections:

- Details — displays the same information as in the Storage Controller list
- Media Packs— displays information also available in the Media Packs list. In this section you can select one or more (or all) Media Packs and open the Agent to the relevant page by clicking Info.
- IP Addresses— displays the IP addresses assigned to the Storage Controller. You can select an IP address and click Info to open the relevant Agent page.

You can sort the information in the Details panel by clicking any column heading. For more information on sorting items in columns, see [“Sorting Information” on page 21](#).

To close the Details panel:

- ▶ Click **Details** in the toolbar, or click **Close** at the bottom of the Details panel.

Upgrading a Storage Controller

When new releases of the Avid NEXIS software are available, you can upgrade the Engine to take advantage of new features and bug fixes.

Typically, you upgrade the Avid NEXIS clients first, then upgrade the Avid NEXIS system. (For information on upgrading clients, see the *Avid NEXIS Client Manager Installation and User’s Guide*.)



In a multi-Engine configuration, the Storage Controllers in all Engines must be running the same version before the system can resume normal operation. Upgrading the Storage Controller causes the system to reboot; plan to do upgrades during a maintenance window with no client I/O occurring.

To upgrade the Storage Controllers:

1. On your local computer, download the new software from the Avid support site, using your support account.
2. Unzip the software on your computer.
3. In the Management Console, click **Storage Controllers**.
4. Select the Storage Controller to upgrade.
5. Click **Upgrade**.

The Upgrade Storage Controllers dialog box opens.

6. Select the upgrade installer from the list in the right column.

The Command text box displays the location of the upgrade installer.



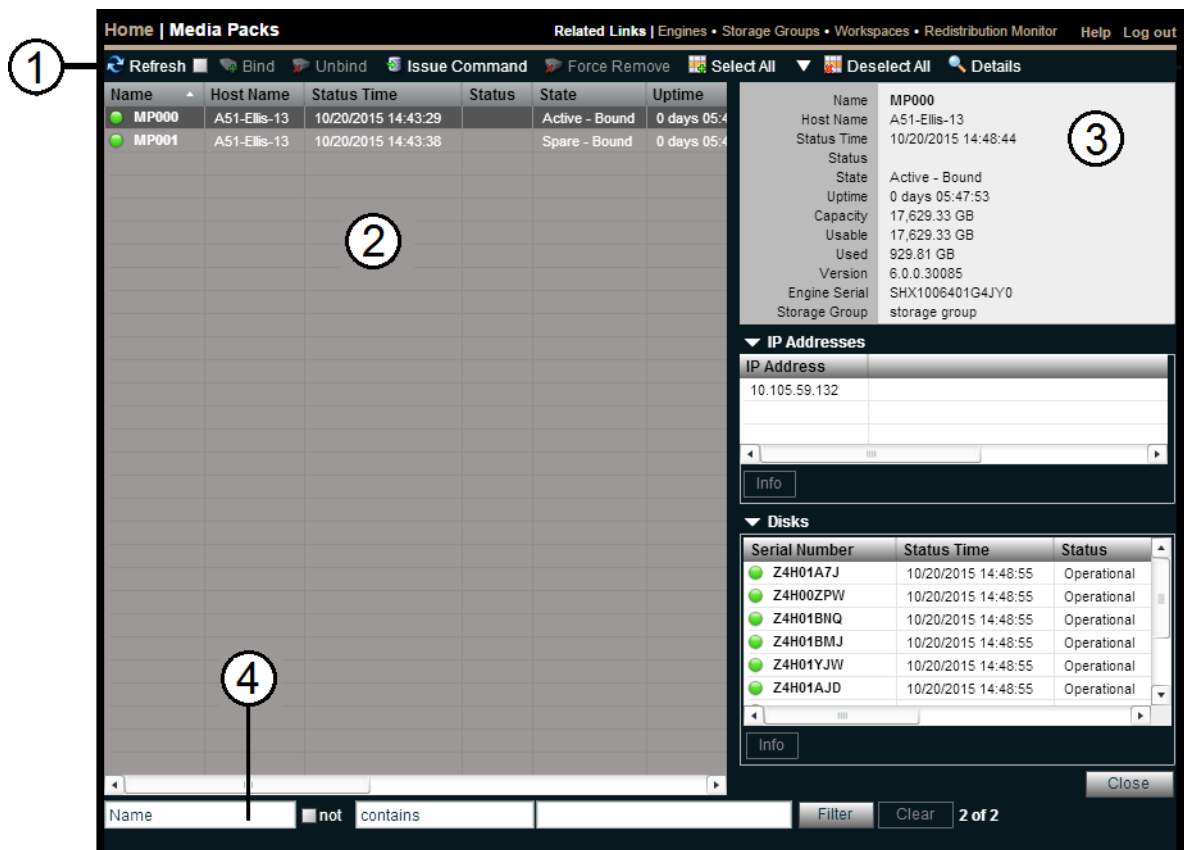
Do not enter any text in the Command or Options fields except under the supervision of qualified Avid support personnel. Doing so can result in system degradation and data loss.

7. Click **Upgrade**.

You can monitor the progress of the upgrade in the Details panel. To complete the upgrade, the system will reboot. A message is displayed indicating the time remaining until the system is again available. You can then log back in to the Management Console and confirm the system is running the new version. The version information is visible at the bottom of the Management Console (see [“Understanding the Management Console Interface”](#) on page 14), and in the Agent (on the System tab under Versioning).

Managing Media Packs

The Media Packs tool coordinates and controls the activity of Media Packs and allows you to bind and unbind Media Packs and perform maintenance operations.



- 1 Action button toolbar — Perform actions on selected Media Packs
- 2 Media Packs list — Lists all configured Media Packs and related information; see [“Media Packs List” on page 73](#)
- 3 Details panel — Displays detailed information on the selected Media Packs; see [“Displaying Media Pack Details” on page 74](#)
- 4 Filter panel — Filters the Media Packs list display based on conditions you configure; see [“Filtering the Display” on page 21](#)

Media Packs List

The Media Packs list contains the following information. If you cannot see a column, it might be hidden. See [“Showing and Hiding Columns” on page 20](#)).

Heading	Description
Name	Displays the name (created automatically) of each Media Pack bound to the system
Host Name	Displays the name of the Storage Controller
Status Time	Lists the last time the System Director logged the Media Pack’s status
Status	Displays any change in the working status logged by the System Director (for a description of status messages, see “Media Pack Status” on page 75)
State	Displays the Media Pack state (Spare, Bound, Unbound)

Heading	Description(Continued)
Uptime	Displays the amount of time the Media Pack has been running (days:hours:min:sec)
Capacity	Displays the total capacity of the Media Pack
Usable	Displays the amount of storage space remaining
Used	Displays the amount of used space
Engine Serial	Displays the serial number of the Engine
Storage Group	Displays the Storage Group, if any, to which the Media Packs are allocated.



You can organize the information in the Media Packs list by showing additional columns or by sorting or filtering displayed items. For more information on modifying the display, see “Customizing the Management Console Display” on page 20.

A colored icon precedes the name of each Media Pack, indicating its status, as follows:

Icon Color	Description
White	Media Pack is unbound (not linked to the Avid NEXIS file system)
Green	Media Pack is bound to the file system and operating normally
Yellow	Media Pack might be experiencing degraded performance
Blue	An installation or software upgrade is in progress, or the Media Pack is not bound
Red	Problem within the Media Pack, such as a disk failure

Displaying Media Pack Details

To see detailed information about a Media Pack:

1. In the Media Packs list, select a Media Pack.
2. Do one of the following:
 - ▶ Click **Details**.
 - ▶ Double-click the Media Pack name.

The Details panel displays all the information for the selected Media Pack, such as the Storage Controller that manages the Media Pack and details about its disks.



If a Media Pack contains a replacement drive of a different size, the actual disk size is shown in the Disks list in the Details panel, but the Media Pack uses only the amount of space that equals the smaller disk sizes. You can replace a failed 2TB drive with a 6TB drive, but not vice versa.

To close the Details panel:

- ▶ Click **Details** in the toolbar, or click **Close** at the bottom of the Details panel.

Media Pack Status

The Status column in the Media Packs list reports the status of the Media Packs logged by the System Director. (The Status line in the Details panel reports the same information.) As long as the Media Pack maintains a working status, the Management Console shows no entries in the Status field. When a problem occurs or when the status of the Media Pack changes, the Management Console refreshes the display.

A Media Pack can have one of the following status values, in alphabetical order.

Status	Description
Disk Failure	The hard disk error threshold for a disk has been exceeded and the Media Pack has set the disk offline. The default threshold is 25 hard errors.
Disk full	One or more Media Packs in a Storage Group has reached its full capacity. Even if some of the Media Packs still have available space, the Storage Group is considered full as soon as one Media Pack is filled. As data is written and deleted, some Media Packs are filled before others. During redistribution, the data is redistributed evenly among the Media Packs.
Disk Performance Degraded	Disk Performance Degraded, because either: <ul style="list-style-type: none">• A disk has logged a Long Command Time. The Avid NEXIS system periodically clears this log. The Long Command Time counter is also cleared during a reboot.• A disk has reached 75% of its hard error threshold. Reboot the Engine to clear the status.
Drive missing	A drive is missing from the Media Pack
Drive rebuilding	The contents of a data drive are being rebuilt from the other drives in the Media Pack (after you replace a failed drive)
Missing Disks - unbound	The System Director starts a Storage Manager process for every Media Pack that the Engine can support. If the Engine is not fully populated, the Storage Managers report the missing Media Pack drives.
Network degraded	The IP interfaces on the Media Pack have failed or the Media Pack has experienced at least a 10% error rate (usually due to lost packets), indicating a network communication problem (possibly a cable or switch issue). Although the Media Pack is reporting and detecting the errors, it is usually not the Media Pack itself that is the problem. Each Media Pack has an associated Storage Manager that could be experiencing a problem.
Offline	A Media Pack was set offline by the system.
Rectifying Files	The Avid NEXIS system is cleaning up deleted files and verifying existing files on Media Packs. This occurs every time the system restarts and every 10 days thereafter, and also when manually initiated. Each Media Pack staggers its process so that they do not run simultaneously.

Displaying Drive Details

You can display detailed information about the drives in a Media Pack, spare drives in the Engine (if applicable), and the system drives.

To see detailed information about a Media Pack drive:

1. In the Media Packs list, select a Media Pack.
2. Do one of the following:
 - ▶ Click **Details**.
 - ▶ Double-click the Media Pack name.

The Details panel displays all the information for the selected Media Pack, such as the Storage Controller that manages the Media Pack and details about its disks.



If you replace a failed 2TB drive with a 6TB drive, the actual size is shown in the Disks list in the Details panel, but the Media Pack treats it as another 2TB drive. You cannot replace a failed 6TB drive with a 2TB drive.

To see detailed information about a spare or system drive:

1. In the Engines list, select an Engine.
2. Do one of the following:
 - ▶ Click **Details**.
 - ▶ Double-click the Engine name.

The Details panel displays all the information for the selected Engine, such as its Storage Controller, Media Packs, spare drives (if applicable) and system drives.





If you replace a drive with one of a different size, the actual disk size is shown in the Disks list in the Details panel, but the Media Pack uses only the space equal to the other disks. You can replace a failed 2TB drive with a 6TB drive, but not vice versa.






To close the Details panel:

- ▶ Click **Details** in the toolbar, or click **Close** at the bottom of the Details panel.

Disk Status

The individual drives in a Media Pack and the system drives can have the following status values:

Status	Description
Capacity Insufficient	<p>(Applies to system drives only). The system drive is not the appropriate size for the Engine it is in. Replace the drive with one of the minimum required size.</p> <p> <i>More detailed information for this state is displayed in the Agent. See “Advanced Tab” on page 103.</i></p>
Empty	<p>(Applies to system drives only). The system requires two blank metadata (system) drives. Insert another blank drive of the same capacity as the other one.</p>
Failed	<p>The drive has failed and must be replaced. You cannot reuse it. See the <i>Avid NEXIS Setup and Maintenance Guide</i> for your Avid NEXIS model for instructions on replacing a drive.</p> <p>You must replace a failed system drive with a drive of the same capacity.</p> <p> <i>Within a Media Pack, you can replace a smaller drive with a larger one (for example, use a 6TB drive to replace a failed 2TB drive), but the Media Pack will use only 2TB of space on the drive. You cannot replace a larger drive with a smaller one in a Media Pack.</i></p>

Status	Description(Continued)
Failing	(Applies to Media Pack drives only.) The drive is failing. Although there is no way to tell how much time you have before the drive fails, this status alerts you to obtain a replacement drive as soon as possible. To check the performance of Media Pack drives, see “Statistics Tab” on page 103 .
Foreign	For Media Pack drives, the drive possibly came from a different Engine. To use it, clear the foreign drive configuration; see “Foreign Disk Error” on page 77 .  <i>For system drives, more detailed information for this state is displayed in the Agent. See “Advanced Tab” on page 103.</i>
Initializing	The Engine is starting up (for example, after a reboot) and performing internal housekeeping.  <i>For system drives, more detailed information for this state is displayed in the Agent. See “Advanced Tab” on page 103.</i>
Missing/Empty	A drive is missing or the slot is empty. The serial number of any missing drive is displayed with the status, to help you identify which drive is missing. You can put it into any empty slot.  <i>For system drives, more detailed information for this state is displayed in the Agent. See “Advanced Tab” on page 103.</i>
Operational	The drive is functioning normally.
Partition Unsupported	(Applies to system drives only). The drive is partitioned for a different Engine than the one it is in, or some partitions are missing or the wrong size. Remove the drive and insert a blank drive or one partitioned correctly for this Engine.  <i>More detailed information for this state is displayed in the Agent. See “Advanced Tab” on page 103.</i>
Rebuilding	The data on the drive is being rebuilt from the other drives in the Media Pack, or from the other system drive. This status occurs after you replace a failed drive.
Spare	The drive is a spare. To see all the drives in an Engine, see “Displaying Drive Details” on page 75 .  <i>More detailed information for this state is displayed in the Agent. See “Advanced Tab” on page 103.</i>
Unsupported	The drive was not purchased from Avid and cannot be used in the Engine.

Foreign Disk Error

The Foreign Disk message is displayed in the following cases:

- When a drive came from a different Media Pack (usually from a different Engine)
- When the drive has been out of the Engine for longer than five minutes, and replaced by a spare drive, then reinserted into the same Engine.

(If a drive is removed accidentally, the Media Pack requests its return for five minutes. If it is reinserted within those five minutes, the Media Pack resumes normal operation. After five minutes, if it was replaced by a spare drive and then reinserted, it is marked Foreign. If a spare drive did not replace the removed drive, the removed drive can rejoin the Media Pack at any time.)

 *You cannot clear the foreign configuration on a system drive. If a system drive is reporting a status of foreign, contact Avid Customer Care.*

If the drive has failed, you cannot reuse the drive even if you clear the configuration.



Clearing the foreign disk configuration deletes all data on the drive, and is a permanent operation. If you are using a drive that came from a different Media Pack, make sure the original Media Pack no longer needs it.

To replace media drives, see the *Avid NEXIS Setup and Maintenance* guide for your Avid NEXIS model.

To clear the Foreign Drive status:

1. Open the Agent.
2. Click **Advanced**, then **Disks**.
3. Select the drive, then click **Clear Foreign Config**.
4. A dialog box opens, warning that continuing with this operation will permanently destroy all data on the drive. Type the words **Destroy My Data** in the text field and click **OK** to continue.
5. After the old configuration is cleared, the drive gets assigned to any Media Pack that needs one, or becomes a spare (if supported in this Engine type).

Unbinding Media Packs from the Avid NEXIS File System

To move a Media Pack to a different Engine, you remove the Media Pack from its current Storage Group (if it belongs to one), and then unbind it on the current system. Then you can physically pull the drives and insert them into another Engine.



[SSENG-5728] You cannot unbind a Media Pack if it has any drive errors or is missing drives. Replace missing or failed drives.

Removing a Media Pack starts a redistribution of all its data to other Media Packs in the same Storage Group. For more information, see “[Removing Media Packs from Storage Groups](#)” on page 31. When the Media Pack has been removed, its state changes to Spare - Bound.

All the Media Packs you want to unbind must be in the Spare state.

Avid strongly recommends that you wait until any in-process redistributions are complete before unbinding Media Packs. Redistribution can take a long time; use the Redistribution Monitor tool to track the progress and estimate the time remaining (see “[Monitoring Redistributions](#)” on page 46).

To unbind a Media Pack from the Avid NEXIS file system:

1. Select the Media Pack you want to unbind.
2. Click **Unbind**.

A confirmation dialog appears.

3. Click **Yes** to confirm.

The selected Media Pack is removed from the Avid NEXIS file system and its state changes to Unbound. You can then physically remove the media drives from the Engine. When you insert them into a different Engine, they are reported as foreign; clear the Foreign Disk Error on each drive (see “[Foreign Disk Error](#)” on page 77). The new Engine can then use them to create a new Media Pack.

Clearing Network Degraded Status Messages

Network Degraded status indicates that the Media Pack has detected a high number of errors (see “[Media Pack Status](#)” on page 75). If correcting the problem does not clear the status messages, use the Issue Command button to clear the messages and reset the error count.



Correct the cause of the Network Degraded status messages before you clear them from the Management Console.

To clear all Network Degraded messages in the Media Packs list:

1. Select one or more Media Packs from the Media Packs list.

You can use the Shift and Control keys to select multiple items. For more information, see [“Selecting Items” on page 23](#).

2. Click **Issue Command**.
3. Click **Clear Network Degraded**, and then click **Send**.

Removing Orphaned Media Packs

Orphaned Media Packs are connected to a file system that is not currently in use, for example when a Media Pack is moved from one Avid NEXIS environment to another, or when you create a new active partition on a system that already includes bound Media Packs. The “Force Remove” command removes the file system binding from the Media Pack and makes it available for use in the current file system.



The Force-Remove command erases all data stored on the Media Packs. Do not remove orphaned Media Packs unless you are certain they contain no data you want to save.

To remove orphaned Media Packs:

1. From the Management Console home page, click **Media Packs**.

The Media Packs tool opens.

2. Select the orphaned Media Pack.
3. Click **Force Remove**.

A message warns you that removing Media Packs erases all data on the component.

4. Click **Yes**.

The Force Removal Text Confirmation dialog box opens.

5. Type **remove** in the text box, and then click **Remove**.

The orphaned Media Pack is unbound from the Avid NEXIS file system and removed from the Orphaned Media Pack list.

Cleaning Up Files (Manually Rectifying Files)

Media Packs periodically check the status of stored files, cleaning up deleted files and verifying existing files. This process, called “rectifying files,” occurs randomly and asynchronously during normal system operation to minimize any potential decrease in system performance. The Status column in the Media Packs list indicates this operation.

Media Packs also rectify files when starting or restarting. When this happens, data stored on the Media Packs might not be in sync with the data in the file system itself. Also, if a client cannot communicate with the Media Pack, there can appear to be more data allocated to the Media Packs than the file system has allocated. To correct this, you can manually send the Media Pack a command to rectify its files.

To rectify files:

1. Select one or more Media Packs from the Media Packs list.

Use the Shift and Control keys to select multiple items. For more information, see [“Selecting Items” on page 23](#).

2. Click **Issue Command**.

The Issue Media Packs(s) Command dialog box opens.

3. Click **Initiate Block Rectify**, and then click **Send**.

The system rectifies files on the selected Media Packs and changes the status in the Media Packs list to Rectifying Files.

6 Managing Connections

This section describes how to monitor and manage connections to the Avid NEXIS shared storage network.

Monitoring System Connection Status

The Connection Status page allows you to see the status of all connections to the shared storage network.

To open the Connection Status page:

From the Management Console home page, click **Connection Status** in the Connect section.



Some clients might not be able to connect to the shared storage network if the combined bandwidth requirement of connected components equals the system limit for bandwidth use. For information on monitoring bandwidth use, see “Monitoring Client Bandwidth” on page 82.

Name	ID	Os	Type	License	Messages/second	Last seen
pelz840	3	Windows	Client	1	4	03/27/2015 12:33:23
m6800-pc	7	Windows	Client	1	1	03/27/2015 12:33:22
pel2u3_sm0	9	Linux	StorageMa	0	0	03/27/2015 12:32:54
pel2u2_sm0	10	Linux	StorageMa	0	0	03/27/2015 12:32:58
pelmac4	13	Mac	Client	1	1	03/27/2015 12:33:19
pelmaccan	16	Mac	Client	1	1	03/27/2015 12:33:19
pelmac2	17	Mac	Client	1	1	03/27/2015 12:33:20
pel2u33968	2,001	Linux	Admin	0	0	03/27/2015 12:33:23

Callout Description

- 1 Action button toolbar—Perform actions on selected components
- 2 Connections list—List connected components and related information; see “Connection Status Descriptions” on page 81

Connection Status Descriptions

The Connection Status dialog box lists information about everything — both active and inactive — connected to the shared storage network. The following table describes the information displayed in the dialog box.

Heading	Description
Name	The name of the component

Heading	Description(Continued)
ID	An internal numeric identifier used by the System Director to represent the component; these identifiers are assigned when a component first contacts the System Director
OS	The operating system running on the component
Type	The category or principal function of the component, such as Client or Storage Manager (every Media Pack has an associated Storage Manager)
License	The number of licenses allotted to the component
Messages/Second	The number of messages per second being sent between the component and the system
Last Seen	For inactive components, displays the date and time when the component last sent its status to the System Director; for active components, displays a zero (0) as the default value For active components, displays the date and time when the component last sent its status to the System Director. The System Director removes information about components that have not been seen for a week, unless the component's bandwidth limit is configured to custom values or the Default Device Bandwidth option in the Preferences dialog box is selected



To sort the information in the Connection Status dialog box, click any column heading. For more information on sorting items in columns, see [“Sorting Information”](#) on page 21.

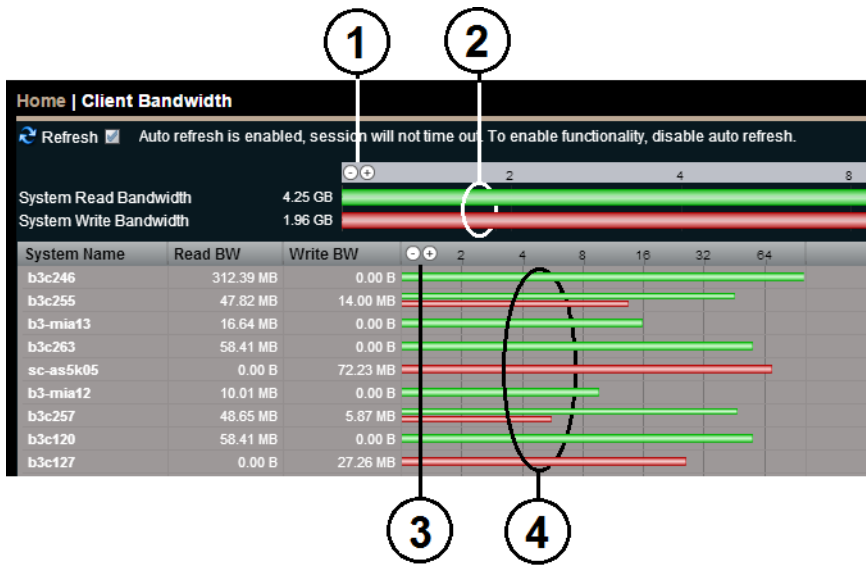
Monitoring Client Bandwidth

The Client Bandwidth page allows you to monitor system usage, including total system bandwidth use and bandwidth consumption of each connected system.

To open the Client Bandwidth page, on the Management Console home page, click **Client Bandwidth** in the Connect section.

The System Read Bandwidth and System Write Bandwidth rows in the Client Bandwidth page show total system read bandwidth (green bar) and total system write bandwidth (red bar).

Below the System Read Bandwidth and System Write Bandwidth rows is a list of all active system components showing their current activity and their system identification, as described in the following figure and table:



Callout Description

- 1 System bandwidth scale buttons—Increase or decrease the scale of the system bandwidth graph; see [“Scaling the Bandwidth List Graph Display”](#) on page 84
- 2 System bandwidth read and write graphs—Graphic display of system read (green) and write (red) bandwidth; see [“Client Bandwidth List”](#) on page 83
- 3 Device bandwidth scale buttons—Increase or decrease the scale of the device bandwidth graph; see [“Scaling the Bandwidth List Graph Display”](#) on page 84
- 4 Device bandwidth read and write graphs—Graphic display of device read (green) and write (red) bandwidth; see [“Client Bandwidth List”](#) on page 83

Client Bandwidth List

The following table describes the information displayed in the Client Bandwidth page.

Heading	Description
System Read Bandwidth	The value of the total system bandwidth currently in use for reading files
System Write Bandwidth	The value of the total system bandwidth currently in use for writing to files
System Name	The name of the system specified during the System Director configuration
Read BW	For the listed system components, the value of the bandwidth currently in use for reading files
Write BW	For the listed system components, the value of the bandwidth currently in use for writing to files
Bandwidth	For the listed system components, graphical display of bandwidth usage: <ul style="list-style-type: none"> • Read (green bar) • Write (red bar)



To sort the information in the Bandwidth Monitor list, click any column heading. For more information on sorting items in columns, see “Sorting Information” on page 21.

Scaling the Bandwidth List Graph Display

The Bandwidth Monitor list represents bandwidth consumption for the network and for individual system components in the form of horizontal bars in a graph display. You can adjust the scale of the graph to make it easier to monitor bandwidth information.

To decrease or increase the size of the graph view:

- ▶ Click the **Decrease Size** or **Increase Size** button.

7

System Monitoring and Diagnostics

The Avid NEXIS provides tools for logging, monitoring, and system diagnostics. The following table describes each tool and where to find it.

Tool Name	What It Does	Where to Find It
Hardware Monitoring Service	Periodically polls critical system components and reports status to the System Director	Runs in the background; in case of problems, hardware status is displayed in the System Status panel on the Management Console
Displaying System Director Information	Displays detailed information about the Avid NEXIS System Director	Management Console -- Logging
Displaying System Logs	Displays all events initiated by the system, sortable by type	Management Console -- Logging
Displaying Administration Logs	Displays all the administrative actions performed on the system, such as creating Storage Groups and Workspaces, changing an object's attributes, or deleting an object	Management Console -- Logging
Capturing System Information (Avid NEXIS Snapshots)	Creates a snapshot of the current state of the Avid NEXIS system	Management Console -- Logging
Displaying System Status History	Provides an interactive log of error and warning events, capturing the state of the system at the time of the event	Management Console -- Tools
Connection Analyzer Tool	Provides a quick look at the connection status of all Media Packs in the shared storage network	Avid NEXIS Toolbox
Log Aggregator Tool	Collects a full set of event logs and system statistics, including Media Packs and the System Director	Avid NEXIS Toolbox
Disk Analyzer Tool	Runs basic disk performance tests on your Media Packs	Avid NEXIS Toolbox
Media Pack Parameters Tool	Sets and retrieves Media Pack logging and redistribution flags	Avid NEXIS Toolbox
Media Pack Log Viewer	Displays event information about Media Packs	Avid NEXIS Toolbox

Hardware Monitoring Service

When the Hardware Monitoring service detects a hardware problem, it sends status to the System Director. The System Director displays this status on the Management Console. Errors and warnings are indicated in the System Status Console (see “[System Status Console](#)” on page 15). Expand the Status Console panel to see which component is causing the error or warning.

If the Management Console is not running, possibly due to a system error or unsupported hardware, the hardware status messages are displayed in the Agent.

The status messages describe system issues that might not be obvious because in most cases the Avid NEXIS system continues to function. Correct any issues as soon as possible so that a more serious failure does not occur.

Displaying System Status History

The System Status History page displays the past 5 days (96 hours) of system status information collected by the System Status Console. You can download the history as a zip file, and then send the file to Avid Customer Care for analysis.

To open the Status History page:

- ▶ From the Management Console Home page, click **System Status History**, in the Tools section.

The System Status History page opens to the day of the first logged system event.

To see information on a system event:

1. In the Hours column, click the hour with the colored icon corresponding to the time and type of system event you want to see.

The Seconds column opens.

2. In the Seconds column click the second with the colored icon corresponding to the time and type of system event you want to see.

A snapshot image of the System Status Console, taken at the time of the logged event, is displayed.

To clear Status History Event flag:

- ▶ Click **Clear status history event flag**.

The status event history panel indicator is cleared.



This command only clears the status event history indicator from the System Status Console. It does not remove any status event history entries.

To download the status history:

- ▶ Click **Download**.

The status event history is saved to a file (named history.zip). When prompted to open or save the file, click **Save**. By default, the file is saved to the Downloads directory on the computer running the Management Console. You can then send it to Avid Customer Care.

Testing the Network

The Network Utilities page in the Management Console provides you with the following standard utility tests:

- Network Statistics—displays statistics for IPv4 and IPv6, TCP and UDP
- Ping—allows you to test the connection between a system in the shared storage network and the System Director
- Traceroute—allows you to verify the path between a system in the shared storage network and the System Director



You must have Administrator privileges to run the utility tests.

To open the Network Utilities page:

1. From the Management Console home page, click **Network Utilities**, in the Tools section.
The Network Utilities page opens.
2. Select **Network Statistics**, **Ping**, or **Traceroute** from the Command list.
3. Enter the network name or IP address (only for the ping and traceroute commands) of the target machine in the “Target name” field.
4. Click **Submit** to perform the command.

The results of the command are shown in the Results area.

Displaying System Director Information

The System Director Information page in the Logging section displays detailed information about your System Director and network. You cannot edit the information displayed in the System Director Information window, but you can change some Agent settings through either the Agent Settings page (see) or the Avid NEXIS Agent (see [“Avid NEXIS Agent” on page 101](#)).

To see System Director Information:

- ▶ From the Management Console home page, click **System Director Information**, in the Logging section.
The System Director Information page opens. The System Director Information includes:
 - Server (System Director) status and Avid NEXIS software version
 - Server (System Director) details, including the maximum allowed number of clients
 - Metadata information, such as the creation time and how much is available and in use
 - A list of the processes currently running on the system
 - Agent environment, statistics, and configuration information (mostly for internal and Support use), some of which can be changed: see [“Configuring the Agent Settings” on page 25](#).

Displaying System Logs

The System Logs page provides a complete view of the system-generated events. You can filter the log reports to display messages in a particular category (WARNING vs INFO), by date, by the subsystem or Storage Controller that generated the event, or by words in the messages themselves.

The logs provide detailed status information that is especially useful to Avid Customer Care personnel for monitoring system status during prolonged operations.

Displaying or Clearing the System Logs Page

Open the System Logs window to see and to clear event logs. Clearing the logs empties the log of all event entries and resets the logging process.

To access System Logging functions:

1. From the Management Console home page, click **System Logs**, in the Logging section.

The System Logs page opens.

2. In the Select Log list, select a file to display. Your Avid Customer Care representative can guide you in selecting the file to view.
3. Click **View**.

The selected log displays in the Logs panel.

To clear logs:

1. Click **Clear**.
2. Click **OK**.

The event log for the selected category is cleared, and logging is reset to start recording new events.

Displaying Administration Logs

Administration logs list all the actions performed on the Avid NEXIS system by any user with administrative privileges. You can filter the log reports by type of event, time, the user who performed the reported operation, or words in the messages themselves.

The logs provide an audit trail that is especially useful to Avid Customer Care personnel.

Using the Administration Logs

Administration Logs are records of Administrator actions reported by the Management Console, including informational messages (such as when upgrades occur), errors, and warnings. You can sort the log entries by column or filter them to show only a certain type of entry (for example, only errors). The log displays the following data for each event:

- **Type** — The categories are the following: Info, Error, Warning
- **Time** — The time of the logged event
- **IP** — The recorded IP address of the client or the System Director, depending on where the logged event happened
- **User** — Who initiated the event
- **Message** — Detailed information about the event

To see the Administration logs:

1. From the Management Console home page, click **Administration Logs**, located in the Logging section.

The Administration Logs page opens.

2. Do one of the following:

- ▶ Click **View** to see the Administration logs.
 - ▶ Click **Download** to download the Administration logs in Comma Separated Values (CSV) format.
3. (Option) To filter the log entries in the View Administration logs window:
 - a. Type the appropriate keyword in a Filter text box.
 - b. Press Enter. To see all log entries, clear the text box and press Enter.
 4. (Option) To refine your filtering, enter keywords into multiple Filter text boxes.
 5. If the log contains more entries than it displays, use the Navigation controls to move through the log.

Capturing System Information (Avid NEXIS Snapshots)

The Avid NEXIS Snapshots page lets you capture the current state of the system and store that information to display or download later. This information, coupled with the system logs collected by the Log Aggregator tool (see “[Log Aggregator Tool](#)” on page 93), can be used by Avid Customer Care personnel to diagnose and troubleshoot problems.

The following information is collected in an Avid NEXIS Snapshot:

- General information, such as the System Director (Storage Controller) name and the date the snapshot was collected, and the name of the zip file containing the snapshot
- The system component information (in .csv and .zip files), including any current warnings or errors and their details
- System Director status and metadata
- All currently configured system preferences

Creating, Displaying, and Deleting Snapshots

Snapshot files are saved in folder named with the timestamp of the snapshot and the Storage System name — for example, `02-23-16 155950 brndx01`.

Click **Download** to save the file to a computer.

To create a snapshot:

1. From the Management Console home page, click **Avid NEXIS Snapshots**, in the Logging section.
The Avid NEXIS Snapshots page opens.
2. Click **New**.
3. Enter a name for the snapshot or accept the default name (default) and click **OK**.
The snapshot is created and the details are displayed in the Snapshots window.

To see a snapshot:

1. By default, the most recent snapshot is displayed automatically. To see a different snapshot, select one from the list.
2. Click **View**.
The selected snapshot detail is displayed.

To delete a snapshot:

1. Select a snapshot from the list.
2. Click **Delete**.
A confirmation dialog window opens.
3. Click **OK** to confirm the deletion.
The selected snapshot is deleted.

To delete all snapshots:

1. Click **Delete All**.
A confirmation dialog window opens.
2. Click **OK** to confirm the deletion.
All snapshots are deleted.

Working with Snapshot Archives

When you create a snapshot, the Avid NEXIS Snapshots tool creates a folder which includes a compressed file containing all the collected information. You can combine snapshots into an archive to keep track of the system status — for example, you can archive snapshots weekly or monthly. The Snapshot tool compresses archives in a ZIP file (*archivename.zip*).

Archives are stored in folders named with the time stamp of the snapshot and the Storage System name — for example, *02-23-16 162915 brndx01.zip*. The compressed archive uses the same file name format as the snapshot folder.

You can download the archive in compressed form as a ZIP file by clicking **Download**.

To create a snapshot archive:

1. On the Snapshots page, click **New** next to Archives.
A confirmation dialog window opens.
2. Enter a name for the archive or accept the default name (default) and click **OK**.
3. Click **OK** to confirm building a new archive from all current snapshots.
The archive is created and listed in the Archives drop-down list. After you create an archive, the snapshots are no longer available to view and the message No Available Snapshots is displayed.

To delete a snapshot archive:

1. Select a snapshot archive from the list. (If no snapshot archives exist, the Avid NEXIS Snapshots page displays “No Available Archives.”)
2. Click **Delete**.
A confirmation dialog appears.
3. Click **OK** to confirm the deletion.
The selected archive is deleted.

To delete all archives:

1. Click **Delete All**.
A confirmation dialog window opens.

2. Click **OK** to confirm the deletion.

All archives are deleted.

Avid NEXIS Toolbox

The Avid NEXIS Toolbox is a collection of tools you can use to monitor and perform diagnostic operations on all your Avid NEXIS hardware. The Avid NEXIS Toolbox is included in the Avid NEXIS software kit, but is not installed automatically. You can install it from the Management Console Installers link.

Installing the Avid NEXIS Toolbox

To install the Toolbox:

1. In the Management Console, click **Installers** under the System heading.
2. In the Avid NEXISTools section, click the Toolbox file appropriate for your operating system.
3. Save the file to your computer and install it.

Opening the Avid NEXIS Toolbox

Make sure the Avid NEXIS Toolbox is installed; see [Installing the Avid NEXIS Toolbox](#).

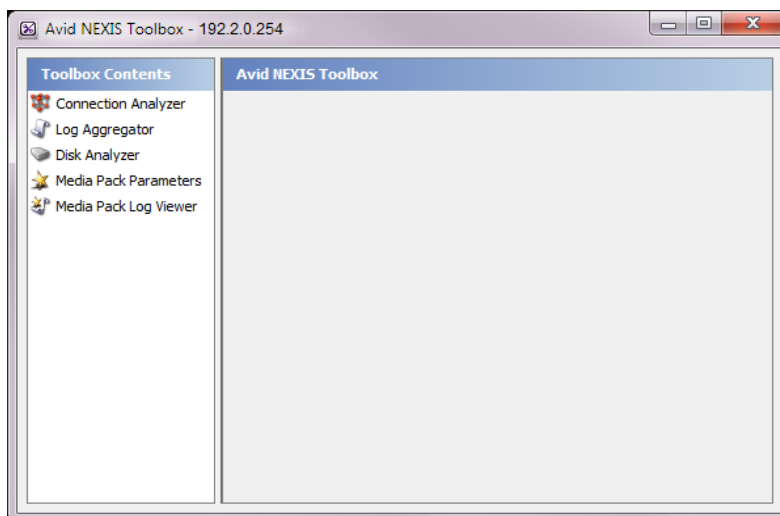
To open the Toolbox:

1. Do one of the following:
 - ▶ (Windows) Select Start, then Avid, then Toolbox, then Avid NEXIS Toolbox.
 - ▶ (Mac) Select Applications, then Avid NEXISTools, then Avid NEXIS Toolbox.
 - ▶ (Linux) Select Applications, then Avid NEXISTools, then Avid NEXIS Toolbox.

If any site security warnings open, click **Yes** to accept the certificate. If you are not sure about the security requirements of your shared storage network, see your system administrator.

2. In the Login screen, enter the host name or IP address of your System Director (this might be filled in for you) and the Administrator password, then click **OK**.

The Avid NEXIS Toolbox opens.



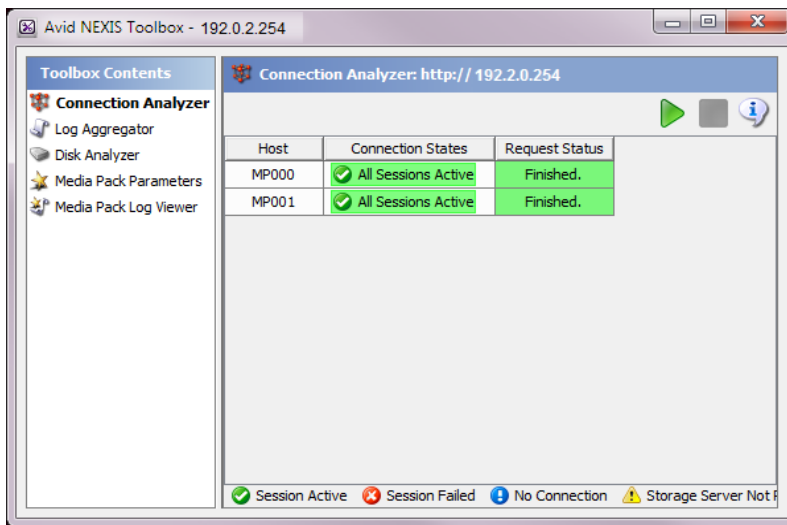
From the Avid NEXIS Toolbox, you can run any of the following tools:

- [Connection Analyzer Tool](#)
- [Log Aggregator Tool](#)
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Connection Analyzer Tool


The Connection Analyzer provides a quick look at the connection status of all Media Packs in the shared storage network.

Connection Analyzer Tool



The Connection Analyzer displays connection status in a grid, using the following icons to denote the status of each Media Pack:

Icon	Label	Status
	Session Active	Source Media Pack has a session with the target Media Pack
	Session Failed	Source Media Pack does not have a session with the target Media Pack
	No Connection	Target Media Pack is not communicating with the System Director
	Storage Server Not Running	Microserver failure—Failure in the request from the Agent to the Media Pack for session information—for example, a failed request resulting from the Media Pack not running or the Media Pack not servicing the request before it timed out

Icon	Label	Status(Continued)
	System Not Responding	Communication failure—Unable to determine status—for example, the Agent is not running or there is a network problem between the Connection Analyzer tool and the Media Pack

To open the Connection Analyzer and test the connection status of Media Packs:

1. In the Avid NEXIS Toolbox, click **Connection Analyzer** from the left pane.

The Connection Analyzer window opens and checks the connection status of all Media Packs in the network. The tool displays results in a color-coded grid.

Place your pointer over a block in the Connection States column to display a tooltip with details about the Media Pack. If there are more Media Packs than can be displayed in the dialog box, use the scroll bars to see a specific connection.



2. (Option) Click **Info** to display version information.

To update the status of Media Packs:



1. Click **Start** to update the status of Media Packs without reloading the entire list from the System Director.

2. (Option) To stop the status update operation, do the following:



- a. Click **Stop**.

A confirmation dialog appears.

- b. Click **Yes**.

The update process stops and the main display returns to the previous result.

Log Aggregator Tool

The Log Aggregator tool, included in the Avid NEXIS Toolbox, allows you to collect a full set of the event logs and system statistics of a network, including installation logs, active Media Packs, and the System Director.

To use the Log Aggregator, you must have Administrative privileges and be logged into a system with access to the shared storage network.



Run the Log Aggregator from a system with network access to the entire shared storage network. Otherwise, the tool cannot collect logs for all systems connected to the network.

The Log Aggregator lists all components of the shared storage network in a tree view. You can see events:

- For all components in the shared storage network by selecting all active Avid NEXIS systems in the Selection window (the highest level in the tree view).
- For any subset of components by selecting one or more entries in the Selection window (at a level lower than the Avid NEXIS Systems in the tree view).

You can select which information — from the network, the System Director software, and Media Packs — you want to collect in the log reports. This provides you with a system record that you can use to see error and status messages. The logs provide detailed status information that is especially useful to Avid Customer Care personnel for monitoring system status during prolonged operations.



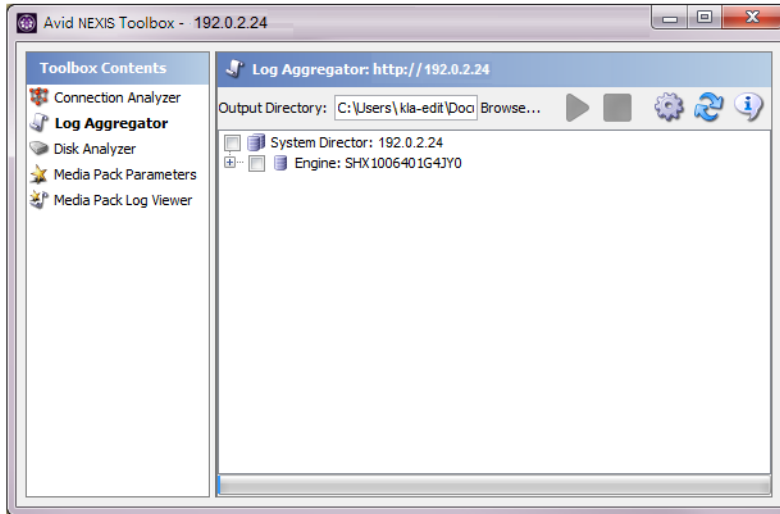
Do not use the Log Aggregator unless instructed to do so by Avid Customer Care. Improper use could result in system downtime or degraded performance.

Using the Log Aggregator Tool

To use the Log Aggregator tool:

1. In the Avid NEXIS Toolbox, click **Log Aggregator** in the left pane.

The Log Aggregator window opens.



2. In the Selection window, do one of the following:

- ▶ Select all active Avid NEXIS systems to see events from all components in the shared storage network.
- ▶ Select one or more components to see events from specific System Directors, Engines, Media Packs, and clients attached to the network.



3. Click **Configure**.

4. Choose the types of data you want collected in the event logs:

5. (Optional) In the Output Directory text section, click **Browse** to navigate to a directory where you want the logs to be saved, if other than the default (C:\Users\username).

6. Click **OK** to close the Aggregator Options dialog box and return to the Log Aggregator.



7. Click **Start**.

The progress bar indicates the status of the log aggregation. The Log Aggregator displays a Success icon (green) or a Fail icon (red) for each system and component logged.



- To cancel the log aggregation process, click **Stop**.

Displaying Aggregate Logs

The Log Aggregator saves individual logs in a log directory called LogAggregator_*date-time* at the location indicated in the Output Directory section in the Log Aggregator. Subdirectories include separate logs for each component in the network for which you created logs. The Log Aggregator also creates a compressed file containing all logs in the top-level folder (aggregator_results.zip). You can forward this compressed file to your Avid Customer Care representative if requested.

To see saved logs:

1. Navigate to the directory where the Log Aggregator saved the collected logs.
2. Double-click the file name of the log you want to see.

Disk Analyzer Tool

The Disk Analyzer runs the following basic disk performance tests on your Media Packs, which you can run in either Sequential or in Random access mode:

- Read test
- Write test
- Read/Write test
- Erase test

You can also use the Disk Analyzer to collect statistics on the status of Media Packs and network use and redistribution actions, including the statistics generated by Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.) and by local Media Pack processes — for example, statistics on Long Command Times (LCT).



S.M.A.R.T. data is also available through the Log Aggregator tool.

You can run the Disk Analyzer on more than one Media Pack at a time, but this might degrade performance on the shared storage network.



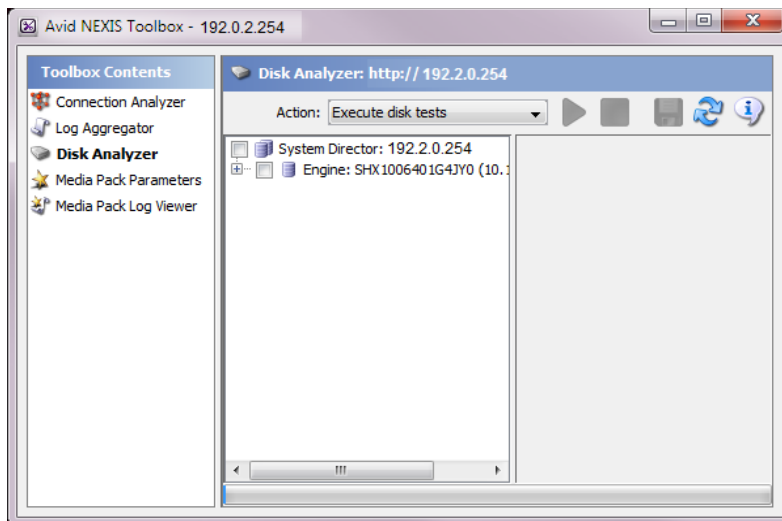
Do not run the Disk Analyzer unless instructed to do so by Avid Customer Care, and only during a maintenance window.

Running Tests with the Disk Analyzer Tool

To open the Disk Analyzer tool and run tests:

1. In the Avid NEXIS Toolbox, click **Disk Analyzer** in the left pane.

The Disk Analyzer window opens.



2. From the Action drop-down list select one of the following:

- Execute disk tests
- Collect disk statistics
- Collect network statistics
- Collect redistribution statistics

3. In the Selection window, do one of the following:
 - ▶ Select all active Avid NEXIS systems to test all Media Packs in the shared storage network.
 - ▶ Select one or more Media Packs to test specific components in the network.



4. Click **Start**.

If you selected Execute disk tests, the Disk Test Options dialog box opens.

5. Configure the appropriate options for the test you want to run.

Option	Description
Test Type	The type of test to be performed: Read, Write, Read/Write, or Erase.
Access Mode	Perform sequential or random access test
Duration	Test duration either in minutes or number of passes (specify the number of minutes or passes in the text field)
Refresh Rate	Slider bar to specify how often to refresh the test status
Reattach to existing tests	By default, starting a new test will abort any currently running tests and clear any existing results. Select this option to resume any currently running tests and retain the results

6. Click **OK** to close the Disk Test Options dialog box and return to the Disk Analyzer.

Results of the test display in the Results area.



7. To stop the test at any time, click **Stop**.

Updating the Disk Analyzer Tool Display

To update the display:



- ▶ Click **Refresh**.

Saving Disk Analyzer Test Results

You can save the results of the Disk Analyzer tests to your local system. The test results are saved in comma separated value (CSV) format.

To save the results of the Disk Analyzer tests:



1. Click **Save Results**.

The Save Results window opens.

2. Browse to the location on your local system where you want to save the test results and click **Save**.

The test results are saved to the specified location.

Media Pack Parameters Tool

The Media Pack Parameters tool, included in the Avid NEXIS Toolbox, allows you to set and retrieve Media Pack logging and redistribution flags. This status information is useful to Avid Customer Care personnel for monitoring system status during prolonged operations.



Run the Media Pack Parameters tool from a system with network access to the entire shared storage network. Otherwise, the tool cannot collect logs for all systems connected to the network.

To use the Media Pack Flag Parameters, you must have Administrative privileges and be logged into a system with access to the shared storage network.

The Media Pack Parameters tool lists all components of the shared storage network in a tree view. You can see events for:

- All components in the shared storage network — Select all active Avid NEXIS systems in the Selection window (the highest level in the tree view).
- Any subset of components — Select one or more entries in the Selection window (at a level lower than the Avid NEXIS Systems in the tree view).



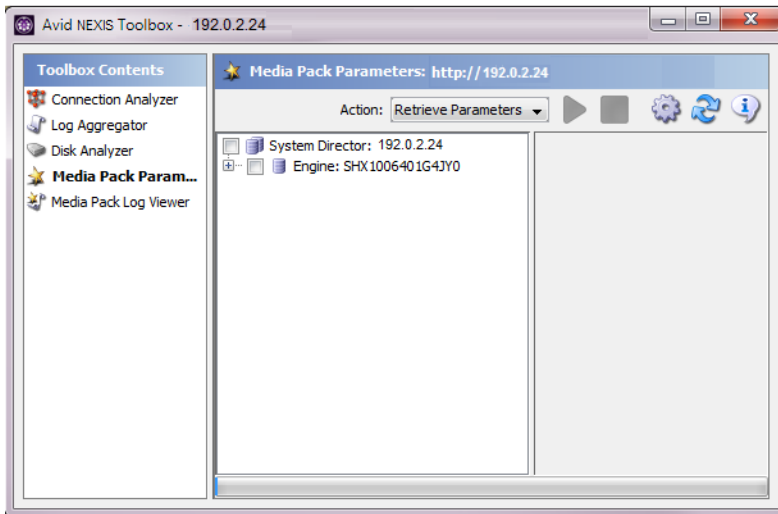
Do not use the Media Pack Parameters tool unless instructed to do so by Avid Customer Care. Improper use could result in system downtime or degraded performance.

Using the Media Pack Parameters Tool

To use the Media Pack Parameters tool:

1. In the Avid NEXIS Toolbox, click **Media Pack Parameters** in the left pane.

The Media Pack Parameters window opens.



2. In the Selection window, do one of the following:
 - ▶ Select all System Directors to see events from all components in the shared storage network.
 - ▶ Select one or more Media Packs to see events from specific System Directors.



3. Click **Configure**.

The Media Pack Parameters dialog box opens.

Retrieving Media Pack Flag Parameters

To retrieve the Media Pack Parameters:

1. Configure the following options to retrieve data:

Option	Description
No filtering	Selects all of the parameters listed in the Media Pack Parameters window
All other Media Pack Parameters	Allows you to specify the data to collect by selecting one or more parameters
Log Level and Throttle	Do not change the Log Level or Throttle setting unless instructed to do so by Avid Customer Care. Improper use could result in system downtime or degraded performance.

2. Click **OK** to close the Media Pack Parameters dialog box.



3. Click **Start**.

The Media Pack displays the retrieved information.

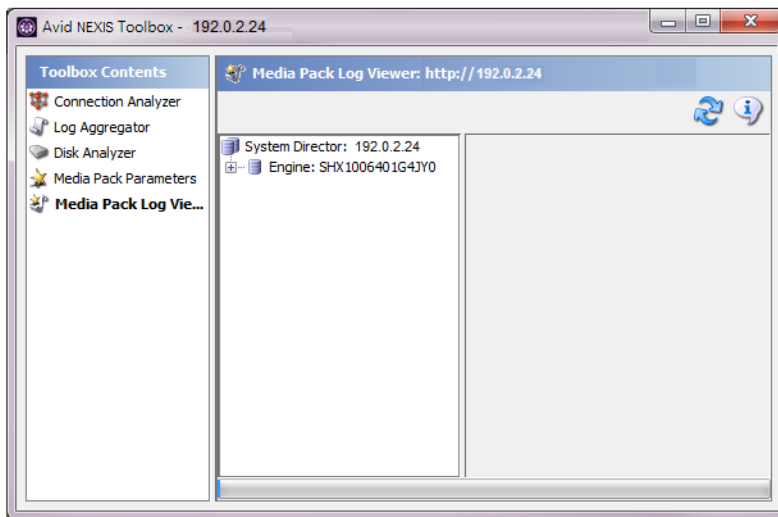
Media Pack Log Viewer

The Media Pack Log Viewer is a utility that displays event information about Media Packs. You cannot save the information displayed in the Log Viewer, but you can copy it to a word processing application, such as Notepad. You can also save event logs displayed in the Logging tab. The information is used primarily by Avid Customer Care personnel to help analyze problems with Media Packs.

To use the Media Pack Log Viewer:





1. In the Avid NEXIS Toolbox, click **Media Pack Log Viewer**.

The Log Viewer opens.



If the Avid NEXIS system has no Media Pack event logs, nothing is displayed.

2. Select an option as described in the following table.

Icon	Option	Description
	Resume	Resumes monitoring Media Pack events
	Pause	Stops monitoring Media Pack events
	Clear	Clears all event data from the Console View tool
	Resync	Restores previously-cleared event data to the Console View tool
(None)	Autoscroll	Scrolls the display to the bottom of the page
(None)	Refresh Rate (sec)	Sets the rate at which the Console View tool refreshes event data

Creating a Metadata Dump File

To help you resolve a problem with your system, Avid Customer Care might ask you to dump the system metadata to a file. This file, named `PartitionDump.txt`, is very large and can take a long time to create.



Perform this operation only as a diagnostic aid. You cannot restore metadata from a metadata dump file.

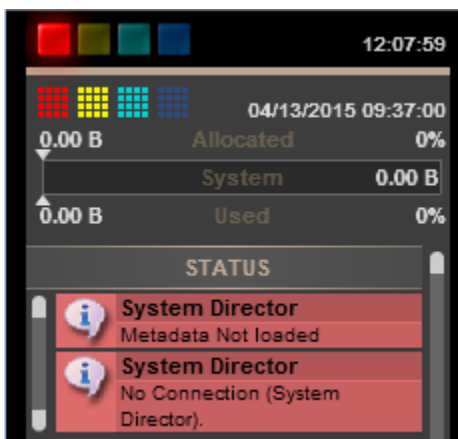
To create a metadata dump file:

1. From the Management Console Home page, click **System Settings** in the Advanced section.
By default, the System Settings tool opens on the File System page.
2. Click **Other**.
3. Click **Dump Metadata**, then click **Apply**.

Avid support personnel can retrieve the file from your Avid NEXIS system.

Restoring the File System (Support Use Only)

Use this procedure only with guidance from Avid Customer Care. You might be advised to restore the file system if the System Director cannot find and load a valid partition file. The Status panel in the Management Console displays the following messages:



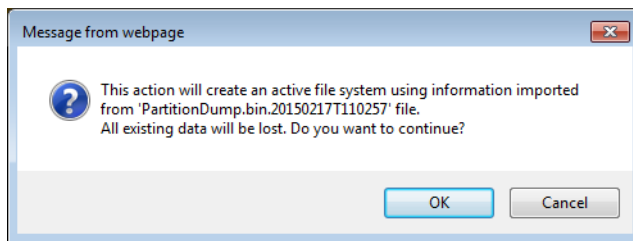


Restoring a file system from a backup metadata file is a destructive process. You will lose all files, Workspaces, and other objects. In addition, the Administrator password reverts to the password that was in use as of the metadata file you restore from, or to the factory default.

To restore the file system from a metadata file:

1. In the Management Console, click **System Settings**.
2. Click **Create File System From Import**.
3. Select a PartitionDump.bin file from the Metadata Files list; in general, use the most recent file. Work with Avid Customer Care to determine the best file to use.
4. Click **Apply**.

A confirmation screen appears, asking you to confirm the operation, which will destroy all existing data on the Avid NEXIS system, and create a new file system using the data in the file.



5. Click **OK** to continue.

The Results panel displays the following messages:

Working... Creating active file system from filename

Success... Created File System from Import File.

6. Your Avid Customer Care representative will help you with the next steps, which might include re-creating Storage Groups, Workspaces, and user accounts.

8 Avid NEXIS Agent

For most day-to-day operations and system monitoring, use the Management Console. To perform more advanced operations, such as changing the logging properties or the network configuration, or to see more detailed information about system components, use the Avid NEXIS Agent. Not all of the Agent functionality is described here; some is for Customer Care use only, or with their guidance.



You must have Administrator privileges to access the Agent.

Opening the Avid NEXIS Agent

The Agent runs as a Web service and can be opened from various places in the Management Console.

Alternatively, you can open a browser window and enter the IP address of a Storage Controller, in the format:
`https://ip_address:5015/`

The default Agent password is **se-admin**. To change it, see [“Changing the Agent Password” on page 106](#).

On any Avid NEXIS system, you can also use the Avid NEXIS Administrator password to access the Agent. If you are already logged in to the Management Console, you are automatically logged in to the Agent when you open it. This is known as single sign-on.

To open the Avid NEXIS Agent:

1. In the Management Console, click **Engines**, or **Storage Controllers**, or **Media Packs**.
2. Double-click an item in the list to open the Details pane.
3. Do one of the following:
 - ▶ In Engine Details, double-click a Storage Controller name or a Media Pack name.
 - ▶ In Storage Controller Details, double-click a Media Pack name or an IP address.
 - ▶ In Media Packs Details, double-click an IP address or a Disk name.
4. If you see a warning about the website security certificate, click **Continue**.

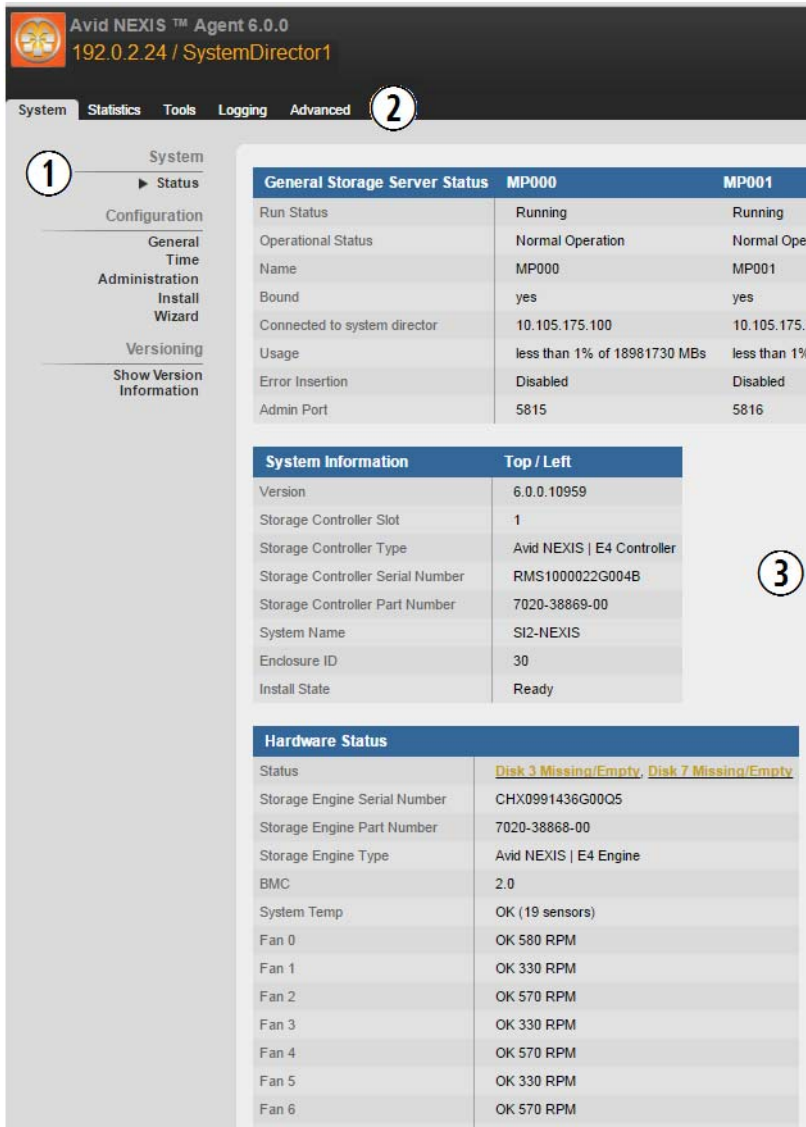
Understanding the Agent Interface

In the Avid NEXIS Agent interface, controls are grouped by function and are displayed by clicking the appropriate buttons.

The following figure illustrates the Avid NEXIS Agent with the System tab selected.



The Agent running on a System Director Appliance looks slightly different from an Agent running on an Avid NEXIS Engine. The differences are noted in the following sections.



The Agent interface is divided into the following areas:

Callout	Description
1	Command menu—Contains the options used for basic management functions.
2	Tabs—You can access different Command functions by clicking the tabs at the top of the Agent tool. The System tab is selected by default.
3	Main display area—Displays information about your network and in some cases allows you to configure components. On a System Director Appliance, the General Storage Server Status panel is not displayed.

System Tab

The System tab lists general information about component status, version, and usage. The Configuration section contains links that let you set and change general system, networking, and interface values.

On a System Director Appliance, the Agent does not contain the General Storage Server Status panel on the System tab, and does not include the checkbox to Run System Director on the Configuration Install panel.



Some changes require a system reboot. When an action might cause the system to reboot, a confirmation dialog is shown, allowing you to continue with the operation or cancel.

Statistics Tab

The Statistics tab displays basic information about your network or network components and provides statistics for the local system and for the Media Packs. The Media Pack Disk Statistics page displays detailed information about the performance of the Media Pack disks.

On a System Director Appliance, the Agent does not contain the Media Pack menu items.

Tools Tab

The Tools tab lets you perform tests to evaluate the function of the network and disk operations. These tools are used primarily by Avid Customer Care to diagnose problems with components of the shared storage network.

Logging Tab

The Logging tab provides a complete view of the system logs. The logs provide a snapshot of error and status messages, and are especially useful to Avid Customer Care personnel for monitoring system status during prolonged operations.

On a System Director Appliance, the Logging tab does not contain the Media Pack menu items.

Advanced Tab

The Advanced tab contains agent configuration utilities and diagnostic tools for Avid Customer Care personnel to troubleshoot problems with the shared storage network. From this tab, you can also shut down or restart the Storage Controller.

On the Advanced tab, click All Disks under the Storage Engine heading to see detailed status information for disks (especially system drives).

On a System Director Appliance, the Agent does not contain the Media Pack menu items.



Using the tools in the Advanced tab can result in degraded system performance or loss of data. The tools should be used only by Avid Customer Care personnel or under their direction.



Never use the Command field to change the administrator password; doing so can prevent all future log-ins.

Changing the Storage System Name

The Storage System name represents all the Avid NEXIS Engines (and the System Director Appliance, if applicable) operating as one shared storage system.

The name can be up to 31 English alphanumeric characters long, any combination of upper and lower case (a-z and A-Z), can contain a dash or hyphen (-), and must start and end with a letter or number.

Always change the Storage System Name on the System Director Appliance first (if applicable), or on the Engine running the System Director. Then change the name on the other Engines.

Renaming the system requires a reboot. You might want to perform this change when clients are not connected and actively using the system.

To change the Storage System Name:

1. Open the Agent on the System Director Appliance (if applicable) or the Engine running the System Director.
2. On the System tab, click **General** (under Configuration).
3. Enter a new name into the Storage System Name field, then click **Submit**.

A confirmation message is displayed stating that the system might reboot. To continue, click **OK**.

If you click OK, the Agent displays a message that it is applying the changes. When the system reboots, a message is displayed stating that the system is rebooting and will attempt to reconnect. The amount of time remaining until reconnection is displayed and counts down in real time.

When the remaining time has elapsed, you can log into the Agent (or the Management Console) again.

4. One at a time, change the Storage System Name on all the other Engines in the system.
5. When the last Engine has rebooted, clients can reconnect to the system. Users might need to refresh the host list in the Client Manager to see the new name.

Changing the Hostname of the Storage Controller

You can change the hostname of any Storage Controller. The embedded System Director uses the same name as the Storage Controller it is running on.

The name can be up to 25 English alphanumeric characters long, any combination of upper and lower case (A-Z and a-z), can contain a dash or hyphen (-), and must start and end with a letter or number.

This operation requires a reboot. To avoid disruption, plan to perform this change when clients are not connected and actively using the system.

To change the Storage Controller name:

1. On the System tab, click **General** (under Configuration).
2. In the Basic Network Configuration section, enter a new name in the Hostname field, then click **Submit**.

A confirmation message is displayed stating that the system might reboot. To continue, click **OK**.

If you click OK, the Agent displays a message that it is applying the changes. When the system reboots, a message is displayed stating that the system is rebooting and will attempt to reconnect. The amount of time remaining until reconnection is displayed and counts down in real time.

When the remaining time has elapsed, you can log into the Agent (or the Management Console) again.

Changing the Enclosure ID

Setting an enclosure ID is optional. The enclosure ID is displayed on the front of the Engine, in the LED panel on the left side (see [“Engine List” on page 67](#)). During initial system setup, you have the option of setting an Enclosure ID. You can change (or delete) it at any time, with no effect on the system operation.

To set, change, or delete the Enclosure ID:

1. On the System tab, click **General** (under Configuration).
2. Enter a new value for the Enclosure ID in the field, or delete existing text to delete the current ID.
3. (Option) If you make a mistake, click **Reset** to clear all the fields. Nothing is changed.
4. Click **Submit**.

Configuring DNS Service

If your network environment includes one or more Domain Name servers, you can add the Avid NEXIS system to the DNS service, and add the DNS domain to the Avid NEXIS. This enables you to open the Management Console using the System Director host name, as an alternative to the IP address. Enabling DNS also allows you to use LDAP for external user authentication; for more information, see [“Configuring External Authentication of Users” on page 4](#).

To configure DNS:

1. Open the Avid NEXIS Agent. (For more information, see [“Opening the Avid NEXIS Agent” on page 101](#)).
2. On the System tab, click **General** under the Configuration heading.
3. In the Basic Network Configuration area, enter the following information:
 - The DNS domain you want the Avid NEXIS system to join
 - One or more IP addresses for the DNS servers in your environment, separated by spaces
 - (Optional) Additional domains in your environment (if applicable) to search through when trying to resolve a host name.
4. Click **Submit**.

If you enter an invalid IP address, an error message is displayed.
5. Make sure to add the Avid NEXIS system to your DNS service. Only then will you be able to log into the Avid NEXIS Management Console using the System Director host name.

Setting the System Time

You can configure the system time manually or use one or two external NTP servers. (If you configure an NTP server *and* enter the system time manually, the NTP server takes precedence.)

You typically set the system time or configure NTP servers during initial system setup, but you can change the system time or the NTP server information (for example if the IP address of an NTP server changed) at any time.

To set system time, or add or change and NTP server:

1. On the System tab, click **Time** (under Configuration).
2. Do one of the following:
 - ▶ To configure an NTP server, check the box and enter the IP addresses or host names for up to two NTP servers on your network.
 - ▶ To set the date and time manually, enter the current date and time in the fields, and choose a time zone from the list
3. Click **Submit**.

A confirmation dialog box opens indicating that the system might have to reboot. Click **OK** to continue or **Cancel** to stop. If you changed the time zone and canceled the operation (for example, to wait for a better time to reboot), click **Reset** to restore the previous time zone setting.

Changing the Agent Password

By default the Agent password is set to `se-admin`. Avid recommends changing this password the first time you use the Agent page. The Agent password can be up to 8 ASCII characters long.



In a multi-Engine configuration, change the Agent password on all Engines, and use the same password on all.

To change the Agent password:

1. On the System tab, click **Administration** (under Configuration).
2. Type the current password in the “Current Password” field.
3. Type the new password in the “New Password” field.
4. Retype the new password in the “Confirm Password” field.
5. (Option) If you make a mistake, click **Reset** to clear all the fields. Nothing is changed.
6. Click **Submit**.

Shutting Down the System

Under normal working conditions, you will not need to shut down the system. All the components are hot-swappable, so that if a piece of hardware fails (a drive, power supply, or fan) you can replace it while the system remains running.

Before moving the Engine to a different location or if it will be unused for an extended period, shut it down.

To shut down the system:

1. Alert all clients to stop using and unmount all Workspaces.
2. Open the Agent. For more information, see [“Opening the Avid NEXIS Agent” on page 101](#).
3. Click the Advanced tab.
4. Under System Tools, click **Shutdown**.

The Agent page displays the message `Confirm shutdown request`, and a field in which to enter the Administration password to continue.

5. Enter the Administrative password, then click **Shutdown**.

A message is displayed that the system is shutting down. When it does, the Agent page closes, the Management Console closes (if open), and all clients are disconnected from the system.

6. Optionally, turn off the switches on both power supplies and disconnect the power supplies from AC power; for example, if you are going to physically relocate the system.

Restarting the System

You can restart the system after a clean shutdown.

To restart the system, do one of the following:

- ▶ If the power supplies are not plugged in to AC power, connect them.
- ▶ If the power supplies are still connected to AC power, turn off the switches for a few seconds, then turn them on again.

The system begins its power on self test (POST) processing, and after several minutes the fans start running at full speed. After a few more minutes, the system becomes available on the network and you can open a browser and log into the Management Console.

Rerunning the Setup Wizard

On a fully configured system, you can run the setup wizard again to either confirm or change your entries. Resellers can use this feature to repeat a demonstration of the setup process to customers.

All other system objects, including bound Media Packs, Storage Groups, Workspaces, user and group accounts, and other system settings remain intact.

To run the setup wizard again:

1. In the Agent page, click the System tab.
2. Click Wizard under the Configuration heading.
3. Make any changes, and click Next to go to the next wizard page.
4. Continue until you reach the Install screen, then click Finish.

The system reboots and your changes take effect.

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