Sun StorEdge™ Media Central User's Guide



THE NETWORK IS THE COMPUTER™

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Preface

The *Sun StorEdge Media Central User's Guide* is written for Sun StorEdgeTM Media Central system administrators and users. It describes how to operate the client and server programs supplied with the Media Central software.

Before You Read This Book

Read the *Sun StorEdge Media Central Release Notes* in conjunction with this guide. Limitations and problems described in the *Release Notes* override instructions and features described in this guide.

Using UNIX Commands

This document may not contain information on basic UNIX[®] commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for this information:

- Solaris Handbook for Sun Peripherals
- AnswerBook2[™] online documentation for the Solaris[™] operating environment
- Other software documentation that you received with your system

Typographic Conventions

TABLE P-1 Typographic Conventions

Typeface	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your .login file. Use ls -a to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% su Password:
AaBbCc123	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this.
	Command-line variable; replace with a real name or value	To delete a file, type rm filename.

Shell Prompts

TABLE P-2 Shell Prompts

Shell	Prompt
C shell	machine_name%
C shell superuser	machine_name#
Bourne shell and Korn shell	\$
Bourne shell and Korn shell superuser	#

Related Documentation

TABLE P-3 Related Documentation

Application	Title	Part Number
Application	Title	Part Number
Installation	Sun StorEdge Media Central Installation and Configuration Guide	806-1800-10
Client Programming	Sun StorEdge Media Central Client Programmer's Guide	806-1798-10
All	Sun StorEdge Media Central Release Notes	806-1797-10

For the latest Media Central information, consult the product web site:

http://www.sun.com/storage/media-central

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Media Central Concepts and Terms

This chapter introduces the Media Central system in these topics:

- "Introducing the Media Central System" on page 1
- "Media Central Clients and Servers" on page 2
- "Video Servers" on page 3
- "Asset Servers" on page 5

Introducing the Media Central System

The Sun^{TM} StorEdgeTM Media Central system provides audio and video capture, storage, and streaming for studios, cable operators, and other audio/video service users. The system is based on standard Sun server hardware and provides open software interfaces for extension by Sun and other parties.

The Media Central software consists of server components that capture, store, transfer, and stream video clips, and maintain descriptions of clips, and client components that provide graphical user interfaces to server facilities. Users do not typically interact directly with server software, which is started and stopped automatically.

The Media Central software includes the following clients:

- Launcher displays a row of buttons for launching other clients
- Recorder captures an encoded video stream and stores it as a clip on a video server
- Player streams a clip from a video server to a decoder
- **Migrator** copies a file to a Media Central clip or a Media Central clip to a file; also duplicates and deletes clips

- **Asset Manager** displays and provides an interface for changing the values of assets, which store clip attributes such as Creator and Duration
- Administrator: shows system status and properties and provides an interface for changing property values

To make best use of the Media Central clients, and especially the Administrator, you should understand the concepts and terms this chapter describes.

Media Central Clients and Servers

The Media Central software architecture follows the client/server model. The following figure shows the general arrangement. A user interacts with one or more client programs that typically provide graphical interfaces to server operations. There are two kinds of Media Central servers: video servers and asset servers. Video servers, running on dedicated hosts, manage video clips (files) and hardware such as encoders and decoders. An asset server maintains collections of clip attributes called assets. Servers are usually configured so they start automatically when their hosts are booted. Users start Media Central clients. To start a client, a user clicks a button in the Launcher (see Chapter 2). The Launcher can be started from a command line or desktop icon.

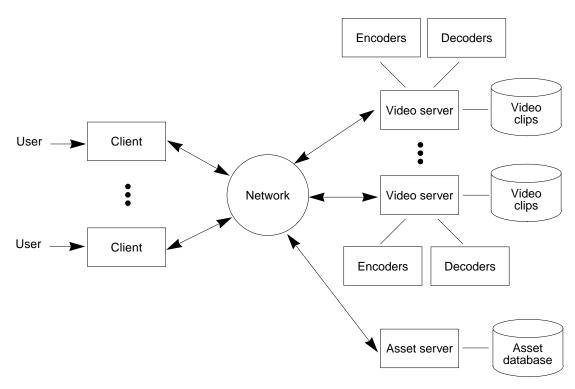


FIGURE 1-1 Media Central Client/Server Architecture

Video Servers

A Media Central video server is a combination of video and computer hardware and software that records, stores, and streams video clips. The server host may include a range of hardware, such as encoders and decoders and other studio equipment. To make the variety of devices easier to comprehend and manage, the Media Central server software presents clients (and, indirectly, users) with a unified interface style called VideoBeans $^{\text{TM}}$ components, as illustrated in the following figure.

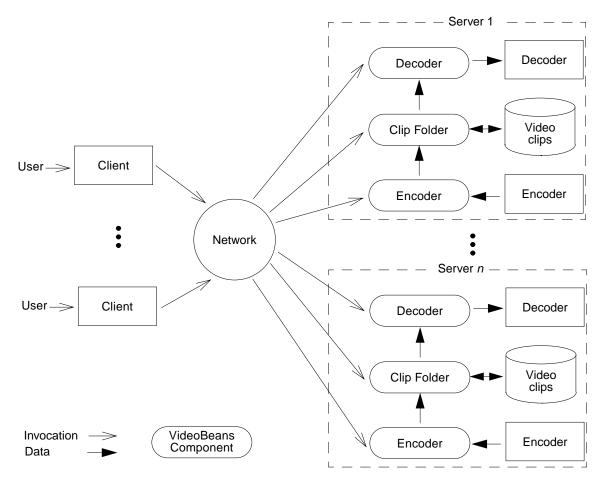


FIGURE 1-2 Clients and Server VideoBeans Components

A *VideoBeans component* is a software interface to one or more physical or virtual devices. A Clip Folder VideoBeans component, for example, represents a server's video file system; it holds video clips. An Encoder is another kind of VideoBeans component; it represents a hardware decoder. Clients interact with Media Central servers by invoking operations on VideoBeans components. For example, to stream a clip to a decoder, the Playback client uses a Decoder VideoBeans component and a Clip Folder VideoBeans component. A client can use any VideoBeans component on any Media Central video server in the network.

Most clients use VideoBeans components to do work: to record or play video clips, for example. The Administrator client configures and monitors VideoBeans components by setting property values in them¹, and monitoring VideoBeans events. VideoBeans *properties* are parameters that affect VideoBeans component behavior

and the behavior of the hardware they control. For example, an Encoder VideoBeans component's properties include VideoFormat and CompressionType. VideoBeans *events* are messages that VideoBeans components emit to notify the rest of the system that something has happened, for example, that the device controlled by a VideoBeans component has stopped. You might find a VideoBeans component's list of events useful for troubleshooting hardware.

System administrators can inspect and set VideoBeans property values with the Administrator. They can constrain the choices that other Administrator users have for setting property values. For example, a system administrator can specify that the only VideoFormat values that users can choose are NTSC and PAL. VideoBeans properties are persistent; when a Media Central video server begins to run, its VideoBeans components reinstate their previous property settings. Thus, most property values only have to be set once.

Note – In Media Central Release 1, any Administrator user can change property value constraints.

To do anything to a VideoBeans component, a client must know the component's name. VideoBeans names that are associated with hardware devices are often obscure to users. For example, here is a typical Decoder VideoBeans name:

VELA.MPEG.2000-04001.0

The first three parts of the name identify the kind of decoder that the Decoder manages: a Vela MPEG 2000 decoder. The last part of the name (-04001.0) distinguishes this decoder from the several others that may be installed on the same server. The number is generated automatically by the server's system software, from the decoder's hardware address. Because VideoBeans names can be awkward to remember or understand, you can give them *aliases* with the Administrator. You might, for example, give this VideoBeans component the simpler alias: Encoder1.

Asset Servers

A Media Central asset server maintains auxiliary data that describes clips stored in video server Clip Folders. The descriptive data include such attributes as Title, Creator, Duration, Format, Category, and so on. The attributes describing one clip are collectively called an *asset*. Video servers coordinate with asset servers, so that adding a clip to a Clip Folder automatically creates an asset. Some of the data in a new asset comes from the Clip Folder, the rest is given default values, which users

Technically, VideoBeans factories have names and properties, as described in the Sun StorEdge Media Central Client Programmer's Guide. However, from a user's perspective, factories are invisible, and are therefore ignored in this user's guide.

can specify with the Administrator. Users interact with assets by means of the Asset Manager client. It can be used to view, edit, and search for assets having particular attribute values.

Launching Clients

This chapter describes the Media Central Launcher, the application that provides push-button launching of Media Central clients. It covers these subjects:

- "Introducing the Launcher" on page 7
- "Using the Launcher: Solaris Operating Environment" on page 8
- "Using the Launcher: Microsoft Windows Environment" on page 9

Introducing the Launcher

You launch a Media Central client by clicking a button in the Media Central Launcher. The following figure shows how the Launcher appears in a Solaris operating environment. When run in a Microsoft Windows environment, the Launcher appears and acts identically except that it has a Microsoft Windows border. Similarly, independent of platform, Media Central clients launched from the Launcher appear and behave identically except for their window borders.



FIGURE 2-1 Media Central Launcher

Each Launcher button represents a client; clicking a button launches the client. Some clients allow multiple instances of themselves to exist simultaneously; for these clients, clicking a Launcher button creates a new instance. Other clients permit only one instance; for these clients, clicking a button when an instance is running brings the instance to the front.

Using the Launcher: Solaris Operating Environment

▼ To Start the Launcher

Type the Launcher's name and, optionally, the name of the video server you want to use:

% installdir/bin/launcher [videoserverhost]

Substitute your client installation directory for *installdir*. The default installation directory is /opt/MediaCentral.

You may want to specify *videoserverhost* when you start the Launcher for the first time. The Launcher needs the name of a host running the Media Central video server software. If, as is usual, you do not supply a value for *videoserverhost*, the Launcher uses the value in the Launcher.ServerName property (see "Client Properties" on page 31). Specifying a *videoserverhost* value directs the Launcher to use that value instead, and to update the Launcher.ServerName property with the *videoserverhost* value. (If Launcher.ServerName has no value, the Launcher displays a dialog box asking you to set the property.)

When you launch a client, the Launcher passes the current value of Launcher.ServerName to the client. If you change the value of Launcher.ServerName, running clients do not receive the new value. If you want a client to use a different server, change the server in the Launcher, quit the client, and launch it again.

▼ To Quit the Launcher

Quitting the Launcher quits all Media Central clients.

1. Double-click the Launcher's window menu button.

The Launcher displays a dialog box asking for permission to close running clients.

2. Click Yes.

The Launcher terminates the clients and then itself.

Using the Launcher: Microsoft Windows Environment

▼ To Start the Launcher From the Desktop

1. Double-click the desktop shortcut named LAUNCHER.



FIGURE 2-2 Launcher Shortcut

A dialog box asks you to enter parameters.

2. Type the name of video server host you want to use, and click OK.

▼ To Start the Launcher From a Command Line

- 1. Initiate the Microsoft Windows action that presents a command line. For example, use the Run command.
- 2. In the command line, type the Launcher's name:

installfolder\bin\launcher.bat

Substitute your client installation folder for *installfolder*. The default is C:\Program Files\MediaCentral.

A dialog box asks you to enter parameters.

3. Optionally, type the name of video server host you want to use, and click OK.

The Launcher needs the name of a host running the Media Central video server software. If you do not supply a video server host name, the Launcher uses the value in the Launcher. Server Name property (see "Client Properties" on page 31).

Specifying a video server host name parameter directs the Launcher to use that value instead, and to update the Launcher. Server Name property with the value you type.

▼ To Quit the Launcher

Quitting the Launcher quits all Media Central clients.

1. Click the Launcher window's close button.

The Launcher displays a dialog box asking you to confirm that you want to quit the clients it has launched.

2. Click Yes.

The Launcher terminates the clients and then itself.

Managing Assets

This chapter describes the Asset Manager client in these topics:

- "Introducing the Asset Manager" on page 11
- "The Asset Manager Display" on page 12
- "Asset Attributes" on page 13
- "Using the Asset Manager" on page 14

Introducing the Asset Manager

The Asset Manager client is the user interface to the Media Central asset management system (AMS). An asset is a collection of attributes that provide information about a clip; Creator and Category are typical attributes.

When you add a clip to a Clip Folder with the Record or Content Migration clients, a corresponding asset is automatically created. The new asset has default attribute values that are specified by property settings in the Synchronizer VideoBeans component (see "Synchronizer Properties" on page 33). The asset is created in the folder specified in the Synchronizer VideoBeans component.

You can use the Asset Manager to:

- View or edit an asset's attribute values
- Search the AMS for assets having attribute values of interest
- Delete an asset

The Asset Manager Display

When you launch the Asset Manager, it appears similar to the following figure.

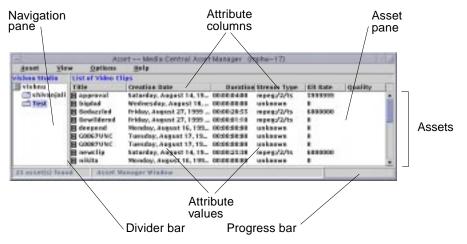


FIGURE 3-1 Asset Manager Display Anatomy

Use the *navigation pane* to show the contents of the folders. A folder can contain assets and other folders.

- To see the folders within a folder, click the *folder twirl* (the icon next to the folder whose folders you want to see).
- To hide a folder's folders, click the folder twirl.
- To view the assets contained in a folder, double-click the folder.

Use the asset pane to view the assets in a folder, and to select an asset for editing.

Drag the *divider bar* to adjust the allocation of space between the navigation and asset panes.

Asset Attributes

An asset is a collection of attributes, each of which has a name and a value. One attribute, Media URL, links an asset to a clip in a Clip Folder. The following table describes the asset attributes.

TABLE 3-1 Asset Attributes

Attribute	Description	Source
Title	Short name associated with clip in Clip Folder	Video server
Brief Description	Brief description of content	User
Category	Identifier, such as "movie" or "news"	User
Creator	Person or organization that created the clip	User
Creation Date	Date clip was added to Clip Folder	Video server
Modification Date	Date clip metadata (Duration, Stream Type, etc.) last modified	Video server
Content Mod Date	Date clip content last modified	Video server
Archive ID	Identifier for archived clip, such as a tape label	User
Archivist	Person who archived clip	User
Archive Date	Date clip was archived	User
Restrictions	List of restrictions, such as "in-house use only"	User
Delete Lock	If set, asset cannot be deleted	User
Purge Date	For future use	Not applicable
Reporters	Names of news reporters in clip; for searching	User
Editors	Names of clip editors	User
First Run Date	Date clip first broadcast	User
Last Run Date	Date clip most recently broadcast	User
Key Words	Useful search words classifying or describing the clip	User
Key People	Names of people in the clip; for searching	User
Media URL	Name by which the clip can be addressed	Video server
Media File Size	Size of clip in bytes	Video server
Duration	Duration in hours:minutes:seconds:frames	Video server

TABLE 3-1 Asset Attributes (Continued)

Attribute	Description	Source
Video Frame Rate	For example, 29.97	Video server
Timecode Type	PAL, NTSC Drop Frame, NTSC Non-drop Frame	Video server
Drop Frame	How time is represented; true or false	Video server
Video Format	NTSC or PAL	Video server
Stream Type	Stream type, for example mpeg:/2/ts	Video server
Bit Rate	Bit rate required to play clip at full quality	Video server
Quality	Quality indicator	User
Picture Width	Width of picture in pixels	User
Picture Height	Height of picture in pixels	User
Audio Channels	Number of channels	User
Audio Type	Audio format, for example, AES_EBU or RCA	Video Server
Audio Sample Rate	Audio sampling rate, for example 44.1 KHz	Video server

The Asset Manager can display each attribute value in a column of the asset pane. However, because of the number of attributes, and the lengths of some of their values, you will likely choose a subset of the attributes to display. "To Change Attribute Columns" on page 15 describes the procedure for selecting the columns that are displayed.

Using the Asset Manager

▼ To Adjust Column Width

 Position the pointer over the edge of the column head you want to expand or contract.

The pointer changes to a symbol that looks similar to this: - |.

2. Drag the column head to the width you want.

The columns are redisplayed.

▼ To Change Attribute Columns

1. In the View menu, choose Column.

A dialog similar to the following figure appears.



FIGURE 3-2 Customize Asset Fields Dialog Box

- 2. Check the boxes next to the attributes you want displayed as columns; uncheck those you do not want displayed.
- 3. Click OK.

▼ To Delete an Asset

- 1. In the asset pane, select the asset.
- 2. Hold down the right mouse button and choose Delete from the menu that appears.

Deleting an asset does not delete the corresponding clip. See "To Delete a Clip" on page 62) if you want to delete the clip as well as the asset.

▼ To Change or View an Attribute Value

- In the asset pane, select the asset whose attribute value you want to view or change.
- **2.** Hold down the right mouse button, and choose Edit from the menu that pops up. A property (attribute) page similar to the one shown in the following figure appears.

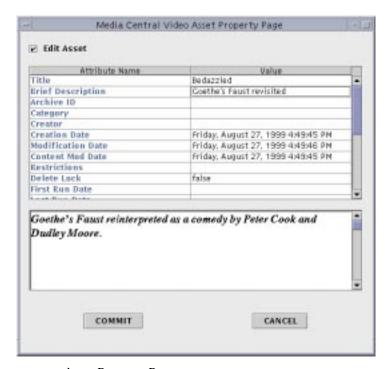


FIGURE 3-3 Asset Property Page

- 3. Double-click the value you want to change.
- 4. Click the value again.

If the attribute is editable, one of the following appears, according to the attribute's type:

- An I-beam for text
- A date selector for dates
- A time selector (hours:minutes:seconds:frame) for durations
- 5. Edit the value, then press Return (text attributes) or click OK.

You can change other values in the same way.

6. Click Commit.

To rescind your changes before clicking Commit, click Cancel or dismiss the window.

▼ To Move an Asset

- 1. In the asset pane, select the asset you want to move.
- 2. Hold down the right mouse button and choose Move from the menu that appears.
- 3. In the navigation pane select the destination folder.
 - A dialog asking you confirm the move appears.
- 4. Click Yes.

▼ To Create a Folder

- In the navigation pane, select the folder in which you want the new folder created.
- **2.** Hold down the right mouse button, and choose New from the menu that pops up. A folder named New Folder appears in the selected folder.
- 3. Select the New Folder, hold down the right mouse button, and choose Edit from the menu that pops up.
 - A cursor appears in the New Folder name.
- 4. Enter the new folder's name, then press Return.

▼ To Refresh the Folders

Refreshing updates your Asset Manager display to reflect changes made by other Asset Manager users.

1. Choose Refresh from the Options menu.

▼ To Delete a Folder

Note – Deleting a folder deletes its contents. Before deleting a folder, be sure you want to delete the assets and folders contained in it.

- 1. Select the folder you want to delete.
- 2. Hold down the right mouse button, and choose Delete from the menu that appears.

The Asset Manager may take several seconds or longer to delete a folder.

The Manager will not delete a folder that contains one or more assets whose Delete Lock attribute is set.

▼ To Rename a Folder

- 1. Select the folder.
- 2. Hold the right mouse button down, and choose Rename from the menu that pops up.

A cursor appears in the folder name.

3. Edit the name, and press Return.

Searching for Assets

By searching the AMS, you can view the assets that meet criteria of your choosing, for example, assets whose Titles contain "Wimbledon". You can make a simple search on one attribute or all attributes, or you can make an advanced search consisting of multiple search criteria connected by Boolean operators, such as AND.

▼ To Perform a Simple Search

A simple search has a single criterion.

1. In the Asset Menu, choose Search.

A search window similar to the following figure appears.

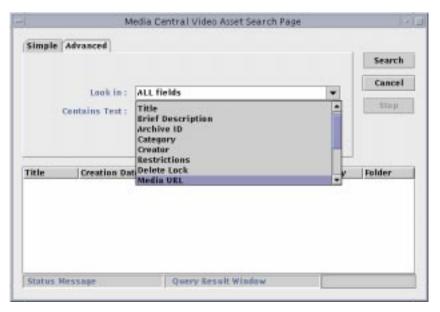


FIGURE 3-4 Simple Search Window

2. Choose the attribute you want to search for from the drop-down box next to "Look in".

Choose "ALL fields" to search all fields.

3. In "Contains Text", type the value you want to search for.

Searches are case-sensitive.

4. Click Search.

The assets whose attributes match your criterion are displayed in the pane at the bottom of the window.

To stop a search, click Stop.

▼ To Perform an Advanced Search

An advanced search has multiple criteria.

1. In the Asset Menu, choose Search.

The simple search window shown FIGURE 3-4 appears.

2. Click the Advanced tab.

The advanced window shown in the following figure appears.



FIGURE 3-5 Advanced Search Window

3. Click New Criterion.

An area for defining a search criterion, shown in the following figure, appears.

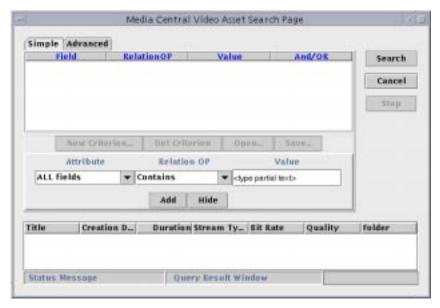


FIGURE 3-6 Criterion Definition Area

4. Choose the attribute to search from the drop-down box under "Attribute".

5. Choose the kind of match from the drop-down box under "Relation OP".

The choices are Contains, Begins, and Ends.

6. Enter the value to search for in the field under "Value".

Searches are case-sensitive.

- 7. Click Add.
- 8. Enter additional criteria by repeating from Step 3.

By default, each additional criterion is ANDed with the previous one.

9. To change the relationship among successive criteria, click AND or OR or NONE at the end of the criterion and choose a different value.

The following figure shows three hypothetical search criteria.



FIGURE 3-7 Three Search Criteria

10. When you have entered all criteria, click Search.

The assets whose attributes match your criterion are displayed in the pane at the bottom of the window.

You can delete a criterion before searching by selecting it, then clicking Del Criterion. The Open and Save buttons are for future use. You can make the criteria area disappear by clicking the Hide button. To make the criteria area reappear, click New Criteria.

To stop a search click Stop.

Administering Servers and VideoBeans Components

This chapter describes the Administrator client, covering the following topics:

- "Introducing the Administrator" on page 24
- "The Administrator Display" on page 25
- "Monitoring Events" on page 27
- "Inspecting and Changing Properties" on page 28
- "Client Properties" on page 31
- "Video Server Properties" on page 32
- "AMS Properties" on page 32
- "Synchronizer Properties" on page 33
- "Encoder Properties" on page 35
- "Decoder Properties" on page 36
- "Clip Folder Properties" on page 37
- "Importer Properties" on page 37
- "Exporter Properties" on page 38
- "Migrator Properties" on page 38
- "Louth Port Properties" on page 38
- "VTR VideoBeans Components" on page 39
- "Video Tape Recorder (VTR) Properties" on page 41

Introducing the Administrator

The Administrator helps you monitor and configure Media Central servers and their VideoBeans components. (VideoBeans components and other Media Central terms are described in Chapter 1.) You can use the Administrator to:

- Monitor Media Central servers and VideoBeans components.
- Change the behavior of VideoBeans components by setting the values of their *properties.* For example, you can set the audio level on a decoder.
- Designate (*constrain*) the property values that other users can choose. For example, you can define a range for a decoder's audio level property; users can only choose values in that range.

Note – In Media Central Release 1 constraint settings are not enforced.

The Administrator Display

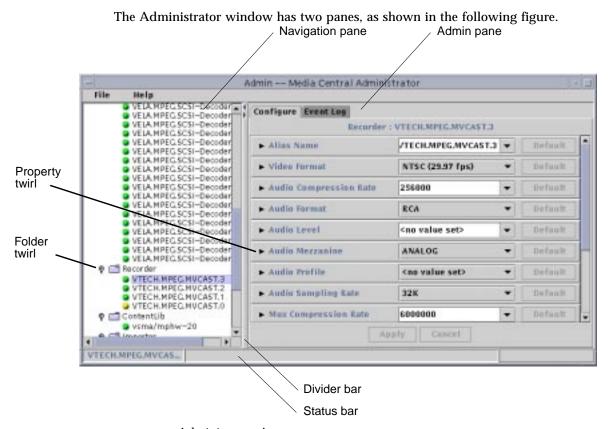


FIGURE 4-1 Administrator Anatomy

The left pane is called the *navigation* pane; use it to expose, hide, and select servers and VideoBeans components. The navigation pane shows one video server and the asset server, if you have installed it. If you want to monitor or control a different video server, change the Launcher.ServerName property as described in "Client Properties" on page 31.

The right pane is the *admin* pane; use it to view or change properties of the server or VideoBeans component that is selected in the navigation pane. The appearance of the admin pane changes depending on what is selected in the navigation pane. To adjust the relative space allocated to the panes, drag the vertical divider bar that separates them. To instantly move the bar all the way to the left or right (maximize a pane), click one of the arrows at the top of the bar.

Below the panes is the *status bar*, which is divided into three sections. From left to right, they show:

- The name of the selected server or VideoBeans component
- The operation, if any, that the Administrator is performing
- The relative progress of the current operation

The Administrator's Help menu provides a quick introduction to using the client.

The Navigation Pane

The Administrator's navigation pane displays an outline-style list of Media Central servers and their VideoBeans components. The Administrator periodically refreshes the list; you can set the refresh frequency in the Admin.RefreshRate property, which is described in "Client Properties" on page 31. Some navigation items are grouped in folders; click a folder's folder twirl to expose or hide its items.

Each VideoBeans component has a round status icon to the left of its name. The icon changes colors as follows:

- Green: OK and available
- Yellow: OK but in use
- Red: Something is wrong; for example, a server is down. For encoders and decoders, a red icon may indicate a transient error that no longer exists. For example, if an Encoder component loses the signal from its encoder hardware, its icon will change to red. However, the Encoder is still usable.

Selecting a server or VideoBeans component in the navigation pane changes the admin pane to show information pertinent to the selected item.

The Admin Pane

The admin pane is divided into a set of tabbed panes; click a tab to bring a pane to the front. Different tabs are shown depending on the type of item selected in the navigation pane.

- If a VideoBeans component is selected, the admin pane shows an Event Log tab and a Configure tab.
- If a server is selected, the admin pane shows a Configure tab, an Add/Remove Device tab, and an Event Log tab.

A Configure tab shows property values; it is the tab you are most likely to use. An Event Log tab shows events generated by a VideoBeans component. The Add/Remove Device tab enables you to create VideoBeans components representing video tape recorders.

Monitoring Events

The Administrator records events emitted by VideoBeans components and servers. You may find this information useful for troubleshooting encoders or decoders. The Administrator's record of events persists only while the Administrator is running.

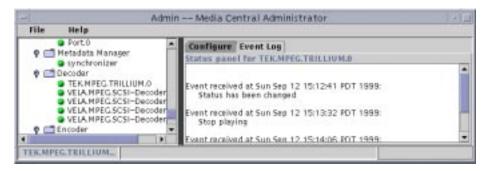


FIGURE 4-2 Sample VideoBeans Component Event Log

▼ To View the Video Server Event Log

The video server event log contains the aggregate of all VideoBeans events.

- 1. Select the server in the navigation pane.
- 2. Click Event Log in the admin pane.

The server event log appears.

▼ To View a VideoBeans Event Log

- 1. Select the VideoBeans component in the navigation pane.
- 2. Click Event Log in the admin pane.

The VideoBeans component's event log appears.

Inspecting and Changing Properties

When you select a VideoBeans component or server and click the Configure tab, the admin pane shows the object's properties and their current values.

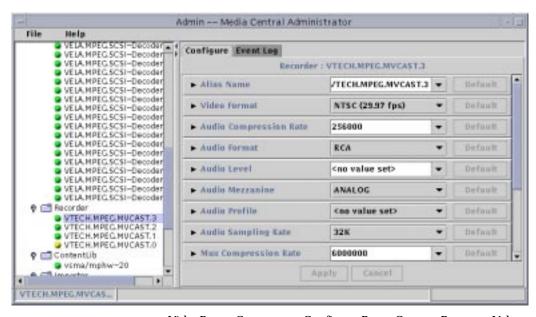


FIGURE 4-3 VideoBeans Component Configure Pane: Current Property Values

Notice in particular the Alias Name property. Use this to give an alternative name to a VideoBeans component whose default name (generated by the Media Central software) is hard to remember or recognize; for example, Monitor3 instead of VELA.MPEG.W000-0401.3.

▼ To Choose a New Value for a Property

1. Either:

Click Default to choose the default value.

or

 Click the down-arrow to the right of the current value and choose a menu item or enter text.

If you do not want to choose a menu item, click somewhere outside of the menu to make the menu disappear.

2. Click Apply to accept the new value or click Cancel to restore the original values.

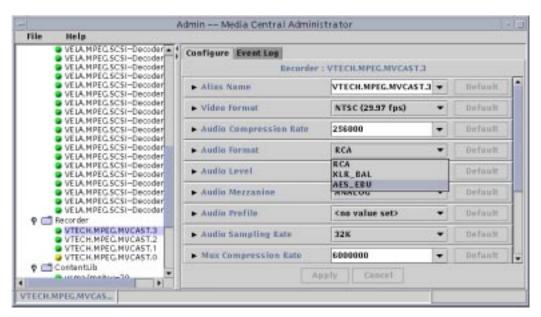


FIGURE 4-4 Typical Property Value Choices

▼ To Constrain a Property Value

1. Click the property twirl to the left of the property name to expose the constraint editor.

A constraint editor drops down; its content varies according to the property. The following figure shows a typical constraint editor in context. If a constraint editor bears the legend "editing restricted", you cannot change the property's constraints.

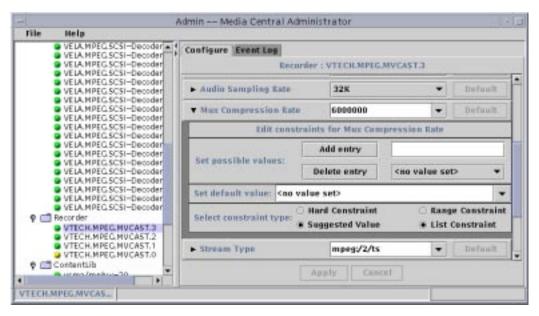


FIGURE 4-5 Typical Constraint Editor

2. Use a constraint editor as follows:

- To add an entry: Type the value, and click Add Entry.
- To delete an entry: Choose the value from the menu, and click Delete.
- To set the default value: Either choose a value from the menu or type it in.
- To enable a user to enter any numeric value that is in range, select Range Constraint. This option only appears for numeric properties.
- To provide a list of values a user can choose from, select List Constraint. This option only appears for numeric properties.
- To force a user to choose from the offered values, select Hard Constraint.
- To enable a user to choose an offered value or type one in, select Suggested Value.

3. To make your changes effective, click Apply; to restore the previous constraint values, click Cancel.

Note — Although the Administrator checks constraint values for type (it will not accept alphabetic characters where a number is required), it is your responsibility to enter values that reflect your site's policies and are valid for the hardware associated with the VideoBeans component.

Client Properties

The following table describes the client properties, which affect the operation of the Launcher (see Chapter 2) and the Administrator. To examine or change a client property follow the steps in "Inspecting and Changing Properties" on page 28.

TABLE 4-1 Client Properties Defined by the Launcher

Property	Description
Launcher.ServerName	Enter the name of the Media Central video server host that Administrator should connect to. If this property has no value, the Administrator tries to connect to a server running on its host. Connecting to its own host may be useful for testing but is not the normal operating mode. You can also set this value by starting the Launcher with the <i>videoserverhost</i> argument; see Chapter 2 for details.
Admin.RefreshRate	This value specifies how often the Administrator is to look for new devices or a new server (following a change to Launcher.ServerName). The default is 30 seconds; specifying a much lower value may adversely affect performance.

When you launch the Administrator, it reads client property values from your property file. If you change a client property, the Administrator stores the new value in your user property file. If you have no property file (because you are running the Launcher for the first time), the Launcher and Administrator use default values for client properties. There is no default value for Launcher.ServerName. If, when you start the Launcher, it tells you that it cannot connect to a server, use the Administrator to set the Launcher.ServerName property.

You should not access the property file with another program; the Launcher manages it implicitly. If you want to know where the property file—it is named .mcconf—is stored, consult the following list.

- For Solaris operating environment users, .mcconf is stored in your home directory.
- For Microsoft Windows 95 and 98 users, .mcconf is stored in installfolder\jre.

 The default installfolder is C:\Program Files\MediaCentral
- For Microsoft Windows NT users, .mcconf is stored in the same folder as it is for Microsoft Windows 95 and 98 users, unless the HOMEPATH or HOME environment variable is set, in which case it is stored in the folder specified by the environment variable.

Video Server Properties

The following table describes the properties of a Media Central video server. To examine or change a video server property follow the steps in "Inspecting and Changing Properties" on page 28.

TABLE 4-2 Server Properties

Property	Description
Event Channel Threads	Enter the number of threads to use for event channels; more threads provide better performance but consume more system resources. See the <i>Sun StorEdge Media Central Client Programmer's Guide</i> for a description of event channels.

AMS Properties

The asset server is represented by a VideoBeans component called AMS that appears in a folder that has the asset server host's name. A system administrator should set these properties as part of the Media Central installation. The AMS properties are described in the following table. To examine or change an AMS property follow the steps in "Inspecting and Changing Properties" on page 28.

TABLE 4-3 AMS Properties

Property	Description
Alias Name	Optionally enter any name by which you want to refer to the AMS VideoBeans component in the Administrator. The default is chosen by the Media Central software.
Studio Name	Enter a name for your assets, for example, Channel 10. The Asset Browser uses this name as the root of its asset folder hierarchy
Database Connection URL	Enter the URL by which a Java program (such as the asset server) can connect with the database server that is to store assets. Consult your database documentation or administrator to obtain this URL. Each database vendor may define the URL differently, but many of them begin with the letters jdbc:
Database User Name	Enter the user name by which the asset server can log into the database. Consult your database administrator to obtain this user name.

 TABLE 4-3
 AMS Properties (Continued)

Property	Description
Database User Password	Enter the password needed to log into the database server as the user named in the Database User Name property. Consult your database administrator to obtain this password.
JDBC Driver Class Name	Enter the name of the Java class that implements the JDBC (Java TM database connection) driver which the asset server uses to communicate with your database server. Consult your database's Java programmer documentation or administrator to obtain the name of the JDBC driver class. If you use the JDBC-ODBC bridge driver, the class name is sun.jdbc.odbc.JdbcOdbcDriver.
JDBC Driver Class Path	Enter the fully qualified UNIX path to the directory that contains the JDBC driver class; the asset server uses the classpath to find the driver. Consult your database's Java programmer documentation or administrator to obtain the name of your JDBC driver classpath. If you use the JDBC-ODBC bridge driver, leave this value null.

Synchronizer Properties

The Synchronizer VideoBeans component in the MetaDataManager folder intermediates between the video server and the optional asset (AMS) server. When you create a clip, the Synchronizer directs the asset server to create a corresponding asset. When you delete or change a clip, the Synchronizer directs the asset server to change or delete the corresponding asset. A system administrator should set the Synchronizer properties when installing the Media Central system.

The following table describes the Synchronizer properties. To examine or change a Synchronizer property follow the steps in "Inspecting and Changing Properties" on page 28.

TABLE 4-4 Synchronizer Properties

Property	Values
AMS Server Hostname	Enter the name of the host on which you installed the Media Central asset server. There is no default value.
AMS Server Username	Enter the name of a user who can log into the asset server host. There is no default value.
AMS Server Password	Enter the password corresponding to the AMS Server Username property. There is no default value.

 TABLE 4-4
 Synchronizer Properties (Continued)

Property	Values
AMS Folder for new clips	Enter the name of the Asset Browser folder in which the video server should create an asset when it creates a clip. The default is the top (studio) folder defined by the AMS Studio Name property value. If your studio is named Channel 10, and you want new assets created in a folder named New Assets which is in a folder called Assets, type this value: Assets/New Assets. The asset server will create the Asset folder and the New Assets folder if they do not exist.
Initial value: Brief Description	Enter the value a new asset should have. The default is no value.
Initial value: Archive ID	Enter the value a new asset should have. The default is no value.
Initial value: Category	Enter the value a new asset should have. The default is no value.
Initial value: Creator	Enter the value a new asset should have. The default is no value.
Initial value: Description	Enter the value a new asset should have. The default is no value.
Initial value: Archivist	Enter the value a new asset should have. The default is no value.
Initial value: Restrictions	Enter the value a new asset should have. The default is no value.
Initial value: Reporters	Enter the value a new asset should have. The default is no value.
Initial value: Editors	Enter the value a new asset should have. The default is no value.
Initial value: Keywords	Enter the value a new asset should have. The default is no value.
Initial value: Key People	Enter the value a new asset should have. The default is no value.
Initial value: Picture Width	Enter the value a new asset should have. The default is no value.
Initial value: Picture Height	Enter the value a new asset should have. The default is no value.
Initial value: Number of Audio Channels	Enter the value a new asset should have. The default is no value.
Alias Name	Enter any alternate name by which you want to refer to the Synchronizer (the default).

Encoder Properties

Encoder properties are described in the following table. To examine or change an Encoder property follow the steps in "To Choose a New Value for a Property" on page 28.

TABLE 4-5 Encoder Properties

Property	Values (Default Emphasized)
CompressionType	MPEG2
VideoFormat	NTSC (29.97 Hz), PAL (25 Hz), YC (25 Hz), YC (29.97 Hz), SDI (25 Hz), SDI (29.97 Hz). Note: Be sure the video source matches the property value. Connecting a PAL source to an encoder whose Encoder is configured as NTSC, for example, will produce an incorrect clip.
StreamType	mpeg:/2/ts
MuxCompressionRate	1500000-12000000 bits/sec.; 6000000
TimecodeFormat	LTC, VITC
AudioLevel	-41–0db; <i>0</i>
AudioFormat	XLR_BAL, AES_EBU, RCA
Alias Name	Any. The default is the hardware name generated by the Media Central software.
AudioSamplingRate	32 Kbits, 44.1 Kbits, 48Kbits
VideoFrameRate	29.97, 23.976, 24, 25, 30, 50, 59.94, 60
AudioCompressionRate	190000, 256000, <i>320000</i> . When the AudioSamplingRate is 32 Kbits, use 190000; when it is 44.1 Kbits, use 256000; when it is 48 Kbits, use 320000.
Video Compression Rate	For VisionTek: 1500000–12000000 bits/sec.; 5500000. For Tektronix, the encoder calculates the value from MuxCompressionRate.
GOP Structure	For VisionTech: <i>IBBPBBPBBPBB</i> . For Tektronix: <i>IBBPBBP</i> or enter a GOP size of up to 15.
AudioMezzanine	Meaningful for Tektronix encoders only. You cannot edit this value; it identifies the audio mezzanine card installed on the encoder as ANALOG or DIGITAL.

 TABLE 4-5
 Encoder Properties (Continued)

Property	Values (Default Emphasized)
VideoMezzanine	Meaningful for Tektronix encoders only. You cannot edit this value; it identifies the video mezzanine card installed on the encoder as ANALOG or DIGITAL.
AudioProfile	Meaningful for Tektronix encoders only. Select a value to set the audio profile to <i>MPEG1</i> , PCM, SMPTE, AC3, or MPEG2.
VideoProfile	Meaningful for Tektronix encoders only. Select a value to set the video profile to: • MPEG1 • MPEG1/Const • MPEG2/MP@ML • MPEG2/HP@ML/4:2:0 • MPEG2/HP@ML/4:2:2 • MPEG2/SP@ML • MPEG2/MP@LL • MPEG2/MP@HL

Note — Changes to an Encoder's properties do not take effect until a user selects an Encoder in the Record client.

Decoder Properties

The following table describes the Decoder properties. To examine or change a Decoder property follow the steps in "To Choose a New Value for a Property" on page 28.

TABLE 4-6 Decoder Properties

Property	Description (Default Emphasized)
TimecodeFormat	VITC, LTC
AudioLevel	-41–0db; <i>0</i>

 TABLE 4-6
 Decoder Properties (Continued)

Property	Description (Default Emphasized)
Alias Name	Any. The default is the hardware name generated by the Media Central software.
AudioMezzanine	Meaningful for Tektronix decoders only. You cannot edit this value; it identifies the audio mezzanine card installed on the encoder as ANALOG or DIGITAL.
VideoMezzanine	Meaningful for Tektronix decoders only. You cannot edit this value; it identifies the video mezzanine card installed on the encoder as ANALOG or DIGITAL.

Note – Changes to a Decoder's properties do not take effect until a user selects a Decoder in the Playback client.

Clip Folder Properties

A Clip Folder has a single property, Alias Name. Enter any value you like. The default name is generated by the Media Central software. To examine or change the Clip Folder property follow the steps in "To Choose a New Value for a Property" on page 28.

Note – Changes to a Clip Folder's properties do not take effect until a user selects a Clip Folder in a client such as the Record client.

Importer Properties

An Importer has a single property: Alias Name. Enter any value you like. The default name is generated by the Media Central software. To examine or change the Importer property follow the steps in "To Choose a New Value for a Property" on page 28.

Exporter Properties

An Exporter has a single property: Alias Name. Enter any value you like. The default name is generated by the Media Central software. To examine or change the Exporter property follow the steps in "To Choose a New Value for a Property" on page 28.

Migrator Properties

A Migrator has a single property: Alias Name. Enter any value you like. The default name is generated by the Media Central software. To examine or change the Migrator property follow the steps in "To Choose a New Value for a Property" on page 28.

Louth Port Properties

A Louth Automation device server is represented in the Administrator as a collection of Louth port VideoBeans components in a folder called Louth. The properties of each Louth port VideoBeans component establish the correspondence between the Louth port, a serial port expander port, and the encoder or decoder that is to be controlled by the Louth port. The Media Central server needs this information to respond correctly to commands issued by the Louth Automation device server.

The Louth port properties are described in the following table. To examine or change a Louth port property, follow the steps described in "To Choose a New Value for a Property" on page 28. After setting Louth port properties, restart the Media Central video server as described in the Sun StorEdge Media Central Installation and Configuration Guide.

TABLE 4-7 Louth Port Properties

Property	Description
Alias Name	Any. The default is the hardware name generated by the Media Central software.
Encoder/Decoder	Choose the Encoder or Decoder you want controlled by this Louth port.
TTY	Enter the name of the Solaris device that represents the serial port expander port. For the Digi serial expander, the value should be /dev/cua/a001, /dev/cua/a002, and so on.

VTR VideoBeans Components

The Media Central video server automatically creates most VideoBeans components, including those representing encoders and decoders. However, a video server cannot detect video tape recorders (VTRs). You (typically, a system administrator) must manually create VTR VideoBeans components. The Administrator remembers the VTR VideoBeans components you create, so you need do this only once per VTR.

▼ To Create a VTR VideoBeans Component

- 1. Select the video server in the navigation pane.
- 2. Click Add/Remove Device in the admin pane.

The Add/Remove Device pane appears.

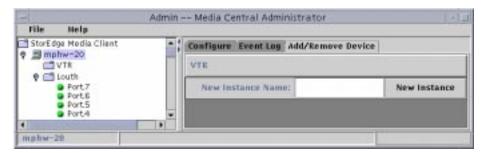


FIGURE 4-6 Add/Remove Device Pane

3. Type the VTR's name in the New Instance Name field.

A VTR name follows this convention:

/dev/ttyport/noden

port corresponds to the serial port to which the V-LAN controller is connected. It is usually b.

n corresponds to the V-LAN controller port to which the VTR is connected. Use 1 for the lowest numbered V-LAN port, 2 for the next, and so on. For example, the VideoMedia VLXi controller's ports are labeled SERIAL 1, SERIAL 2, SERIAL 3, and SERIAL 4. The corresponding *n* values are 1, 2, 3, and 4.

/dev/ttyb/node1 and /dev/ttyb/node2 are typical VTR names.

4. Click New Instance.

▼ To Delete a VTR VideoBeans Component

- 1. Select the server in the navigation pane.
- 2. Click Add/Remove Device in the admin pane.

The Add/Remove Device pane appears.

3. Find the VTR you want to delete in the admin pane, and click the Delete Instance button next to it.

Video Tape Recorder (VTR) Properties

A VTR VideoBeans component has a single property: Alias Name. Enter any value you like. The default name is generated by the Media Central software. To examine or change the VTR property follow the steps in "To Choose a New Value for a Property" on page 28.

Note — Changes to a VTR's properties do not take effect until a user selects a VTR in the Record client.

Playing Clips

This chapter describes how to play clips, covering these topics:

- "Introducing the Player" on page 43
- "Using the Player" on page 44

Introducing the Player

The Player client streams a sequence of video clips to one or more decoders. To use the Player, you:

- 1. Load the Player with the names of clips you want to play
- 2. Select a Decoder VideoBeans component (representing the decoder to which the clips will be sent)
- 3. Select one or more clip names, then click the Player's Play button.

You can optionally:

- Direct the Player to loop through your selections until you click the Stop button
- Choose a time of day to start playing your selections
- Load up to eight Player channels with selections to be played independently

Before using the Player client, be sure that the properties, such as TimeCodeFormat and AudioLevel, of the Decoder VideoBeans component you intend to use are set to the values you want. Use the Administrator (see Chapter 4) to inspect and set property values. Also, be sure that the Decoder you want to use is not being used by someone else.

The following figure illustrates the main features of the Player display.



FIGURE 5-1 Player Client Display

Using the Player

To use the Player client, you load one or more of its eight channels with clips, optionally set a time when playback should begin, and select which of the loaded clips should be played.

▼ To Load and Play Clips

1. Click Add Clip.

A list of video clips appears.

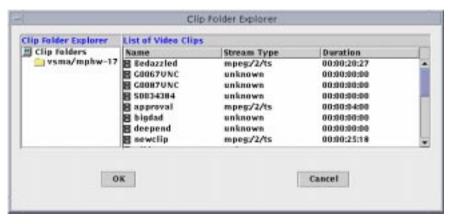


FIGURE 5-2 Select Clip Dialog Box

2. Select a clip and click OK.

You can select multiple contiguous clips by Shift-clicking and multiple discontiguous clips by Control-clicking.

The clip(s) appear(s) in the Player's display.

- 3. To play a segment of a loaded clip:
 - a. Select the clip in the Player display and click Edit.
 - b. In the dialog box that appears, set the inpoint and/or outpoint and click OK.
- 4. Repeat Step 1 through Step 3 until you have loaded all the clips you want to play in this channel.
- 5. Click Select Decoder.

The Select Decoder dialog box appears.

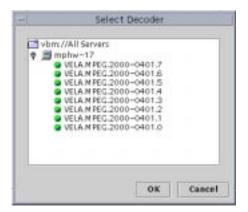


FIGURE 5-3 Select Decoder Dialog Box

6. Select a Decoder and click OK.

The Decoder appears in the Player display. If the Decoder is in use, a dialog advising you of that fact appears.

You must select a different Decoder for each channel. To reassign a Decoder from one channel to another, exit the Player client and launch it again.

- 7. If you want all clips played continuously until you click Stop, check Looping.
- 8. If you want selected clips to be played automatically at a future time, check At time, choose a time code type, and set the time (hour:minute:second:frame)

The start time, relative to the current time, cannot be after midnight. For example, if the current time is 2100 hours, you can choose a start time of 2200 or 2300 but not 0100.

9. Select the loaded clips you want to play.

You can select multiple contiguous clips by Shift-clicking or multiple discontiguous clips by Control-clicking.

10. Click Play to commence playback immediately or at the time displayed to the right of At time.

To stop a playing clip, click Stop. If you subsequently click Play, playback begins at the start of the clip, not at the point where you stopped it.

11. If want to load another channel, click its tab and repeat Step 1 through Step 10.

▼ To View a Loaded Clip's Attributes

• Select the clip and click View.

▼ To Delete a Loaded Clip

• Select the clip and click Delete.

Deleting a clip in the Player client only removes its name from the display. To really delete a clip, see "To Delete a Clip" on page 62.

Recording Clips

This chapter describes how to record clips with the Recorder client in these sections:

- "Introducing the Recorder" on page 49
- "Using the Recorder" on page 50

Introducing the Recorder

The Recorder client captures an encoded stream coming as a video clip. To use the Recorder client, you:

- 1. Load the Recorder with clip descriptions, each of which names and gives the duration of a clip you want to create
- 2. Select an Encoder VideoBeans component (representing the encoder that will supply the data)
- 3. Optionally select a video tape recorder (VTR) that contains the material to be captured
- 4. Select a clip description, then click the Recorder's Record button

The following figure illustrates the main features of the Recorder display.

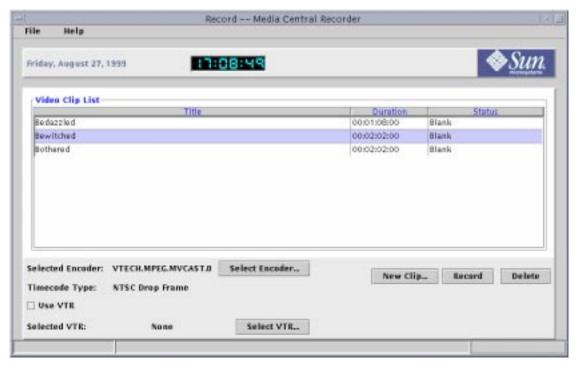


FIGURE 6-1 Recorder Client Display

The incoming data is captured in the clip whose description you have selected. When the capture is complete, you can select another clip description (or load one), and click the Record button again to capture another clip.

Before using the Recorder, be sure that the properties, such as VideoCompressionRate and MuxCompressionRate, of the Encoder VideoBeans component you intend to use are set to the values you want. Use the Administrator (see Chapter 4) to inspect and change property values. Ensure as well that the Encoder you want to use is not busy.

Using the Recorder

To use the Recorder client, you load it with one or more clip descriptions, and, for each clip description, select a source, and click the Record button.

▼ To Load Clip Descriptions

1. Click New Clip.

The New Clip dialog box appears.



FIGURE 6-2 New Clip Dialog Box

2. Type the title of the new clip.

This is the name that will be stored in the video server. The name must be different from names already loaded into the Recorder but not yet recorded. If you reuse the Title of a clip that has been recorded, the Recorder asks you to verify overwriting the old clip.

3. Choose the Timecode type.

4. Select the Duration in hours:minutes:seconds:frames.

If you want a duration longer than 24 hours, check Over 24 Hours before choosing the hours.

5. Click the ... button and choose a clip folder.

If the Clip Folder field has a value, you can leave it as is.

6. Click Apply if you want to specify additional clips in the New Clip dialog; click OK to load the clip you have just defined in the Recorder client and dismiss the dialog.

You can load more clips at any time by clicking New Clip.

▼ To Record a Clip

- 1. Select a clip description.
- 2. If you have not selected an Encoder, or want to change your selection, click Select Encoder.

A Select Encoder dialog box appears.

3. Select an Encoder, then click OK.

If the Encoder is in use, a dialog box advising you of that fact appears.

- 4. If you want to record from a video tape recorder that is connected to both the encoder you have selected and to the Media Central video server:
 - a. Check Use VTR, then click Select VTR.

A Select VTR Controller dialog box appears.

b. Select the VTR, and click OK.

A VTR Controller appears.



FIGURE 6-3 VTR Controller

c. Load a tape into the VTR if necessary, and position the tape where recording is to begin.

You can control the operation of the VTR with the buttons on the VTR Controller image but you cannot turn the VTR's power on or off. You can change to a different VTR by clicking VTR Controller.

5. Click Record.

A Recording Status dialog box appears.



FIGURE 6-4 Recording Status Dialog Box

6. To begin recording now, click Start.

The Recorder begins recording, starting the VTR if appropriate. (The Recorder's time of day clock may pause momentarily but will resume without losing time.) When the operation completes, the dialog disappears.

You can abort the recording by clicking Stop. The partly recorded clip is retained; you can delete it with the Migrate client (see Chapter 7).

7. To begin recording later, check Start Recording At, choose a timecode type, and enter the start time in hours:minutes:frames:seconds.

To abort a scheduled recording, click Stop.

8. You can remove the clip description from the Recorder display by selecting it and clicking Delete. "Deleting" only removes the clip description; to really delete a clip from a Clip Folder, see "To Delete a Clip" on page 62.

Managing Clips

You can use the Migrator client to copy, delete, and change the attributes of clips. This chapter describes the Migrator in these topics:

- "Introducing the Migrator" on page 55
- "Using the Migrator" on page 55

Introducing the Migrator

The Migrator copies a video clip from a *source* to a *destination*. There are three ways to copy:

- Import Copy from a UNIX file or a Sony MAV70 file to a clip folder.
- **Export** Copy a clip from a clip folder to a UNIX file on the network.
- Migrate Duplicate a clip in a clip folder, giving the copy a different name.

In addition to copying clips, you can use the Migrator to display and change a clip's attributes; for example, its bit rate. You can also delete clips with the Migrator.

Using the Migrator

The Migrator operates much the same whether you are importing, exporting, or migrating a clip, and whether you are doing so with the Local, Remote (FTP), or Sony MAV70 modes. (The term "local" means "UNIX file accessible with the Network File System."

The Migrator Display

The following figure shows the Migrator's major panes and controls. The appearance of the panes and controls changes somewhat depending on the function and mode tabs that you select.

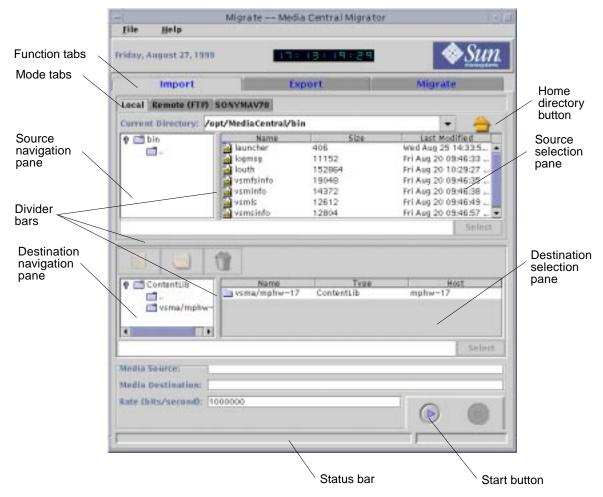


FIGURE 7-1 Migrator Anatomy

You can adjust the relative space allocated to areas of the window by dragging the divider bars that separate the areas. You can adjust the relative width of columns by dragging their separators, as you would in a spreadsheet application.

In general terms, to copy a clip, you:

- 1. Click a function tab: Import, Export, or Migrate.
- 2. Click a mode tab: Local, Remote (FTP), or SONYMAV70 (import only).
- 3. Select a source file or clip.
- 4. Select a destination folder in which to create a new file or clip, or a destination file or clip to overwrite.
- 5. Click the start button.

▼ To Import a File

- 1. Click Import.
- 2. Click Local, Remote (FTP), or SONYMAV70.

If you have selected Remote (FTP) or SONYMAV70, connect to the source device using the fields shown in the following figure. (If you have clicked Remote (FTP) the Transcode checkbox does not appear.)

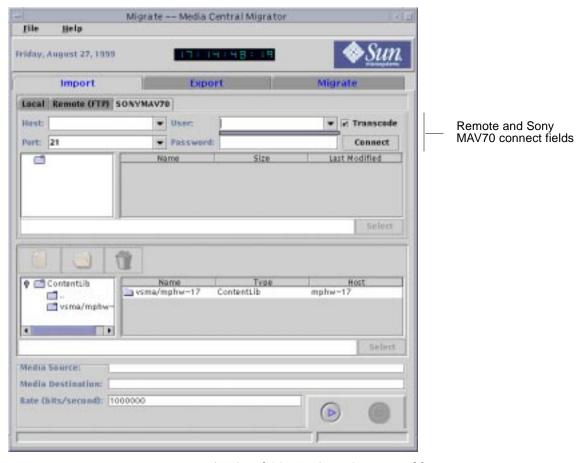


FIGURE 7-2 Remote (FTP) and SONYMAV70 Connect Fields

a. Type the host name, port number, user name, and password.

The drop-down menus contain values entered earlier in the same session. If you do not know what values to type in these fields, consult your system administrator.

b. Click Connect.

If the Migrator makes the connection, the contents of the remote host's / folder (directory) appear in the navigation pane. If the Migrator fails to make the connection, for example, because the user name or password is incorrect, it displays a message.

If you are connecting to a Sony MAV70, a Transcode checkbox appears above the Connect button. Check this if you want the Migrator to translate the Sony MAV70 clip's format to MPEG2 ES as it copies the clip.

3. Select the source file.

a. Double-click folders in the source navigation pane until the source file appears in the source selection pane.

To move up a level in the folder hierarchy, double-click the .. folder. Double-clicking a folder in the source selection pane has no effect.

b. Select the source file, and click Select.

The source file name appears in the Media Source field near the bottom of the window.

You can select multiple files in the same folder to import; use Shift-click to select contiguous files, or Control-click to select discontiguous files. When you import multiple files, the clips all go into one folder and have the same names as the sources.

4. Select the destination folder (to create a new clip) or clip (to overwrite).

To create a new clip:

- a. Double-click folders in the destination navigation pane until the destination folder appears in the destination selection pane.
- b. Select the destination folder in the destination selection pane, and click the document (new clip) icon.

A new clip dialog box appears.



FIGURE 7-3 New Clip Dialog Box

c. Type the name of the new clip and the space (size) that should be reserved for it in the ContentLib.

You can calculate the size by multiplying the clip's duration in seconds by its bit rate.

Optionally, you can choose a Stream Type, and enter the clip's bit rate and duration. If you specify these Metadata items (attributes), they will be saved with the clip, but they do not affect the copy operation. You can enter values for Metadata items later as described in "To Change a Clip's Attributes" on page 62.

d. Click OK.

The new clip name appears in the destination selection window; the Migrator gives the clip the same name as the file that is to be imported.

To overwrite an existing clip:

- a. Double-click folders in the destination navigation pane until the target clip appears in the destination selection pane.
- b. Select the target clip, and click Select.

The target clip appears in the Media Destination field.

5. In the Rate field, type the bit rate you want to dedicate to the copy operation.

A higher rate speeds the copy but consumes bandwidth that could otherwise be used for recording or playing clips.

6. Click the start button (it is marked with a triangle).

The Migrator grays the Start button and displays "Import operation in progress" in the status bar. When the operation completes, the client colors the Start button and displays "Import operation completed for *clipname*" in the status bar.

▼ To Export a Clip

- 1. Click Export.
- 2. Click Local or Remote (FTP).
- 3. Select the source clip.
 - a. Double-click folders in the source navigation pane until the source clip appears in the source selection pane.

To move up a level in the folder hierarchy, double-click the .. folder. Double-clicking a folder in the source selection pane has no effect.

b. Select the source clip, and click Select.

The source clip name appears in the Media Source field near the bottom of the window.

You can select multiple clips to export; use Shift-click to select contiguous clips, and Control-click to select discontiguous clips. When you export multiple files, the files all go into one folder and have the same names as the sources.

- 4. If you have selected Remote (FTP), connect to the destination device.
 - a. Type the host name, port number, user name, and password.

The drop-down menus contain values entered earlier in the same session.

b. Click Connect.

If the Migrator makes the connection, the contents of the destination host's / folder (directory) appear in the navigation pane. If the Migrator fails to make the connection, it displays a message.

5. Select the destination folder (to create a new file) or file (to overwrite).

To create a new file:

- a. Double-click folders in the destination navigation pane until the destination folder appears in the destination selection pane.
- b. Select the destination folder in the destination selection pane, and click Select
 The destination folder name, with the source clip name appended, appears in the Media Destination field. You can choose a different file name by editing this field.
 To overwrite an existing file:
- a. Double-click folders in the destination navigation pane until the target file appears in the destination selection pane.
- b. Select the target file, and click Select.

The target file appears in the Media Destination field.

6. In the Rate field, type the bit rate you want to dedicate to the copy operation.

A higher rate speeds the copy but consumes bandwidth that could otherwise be used for recording or playing clips.

7. Click the start button (it is marked with a triangle).

If you have selected a file to overwrite, a dialog appears asking you permission to do so; click Yes.

The Migrator grays the Start button and displays "Export operation in progress" in the status bar. When the operation completes, the client colors the Start button and displays "Export operation completed for *clipname*" in the status bar.

▼ To Duplicate a Clip

- 1. Click the Migrate tab.
- 2. Select the source clip.
 - a. Double-click folders in the source navigation pane until the source clip appears in the source selection pane.

To move up a level in the folder hierarchy, double-click the .. folder. Double-clicking a folder in the source selection pane has no effect.

b. Select the source clip, and click Select.

The source clip name appears in the Media Source field near the bottom of the window.

3. Select the destination folder.

- a. Double-click folders in the destination navigation pane until the destination folder appears in the destination selection pane.
- **b.** Select the destination folder in the destination selection pane, and click Select The destination folder name, with the source clip name appended, appears in the Media Destination field.
- c. Edit the Media Destination field to give the new clip a different name.
- 4. In the Rate field, type the bit rate you want to dedicate to the copy operation.

A higher rate speeds the copy but consumes bandwidth that could otherwise be used for recording or playing clips.

5. Click Start.

When the operation completes, a message appears in the status bar at the bottom of the window.

▼ To Delete a Clip

- 1. Click the Migrate tab.
- 2. Double-click folders in the source navigation pane until the clip to be deleted appears in the source selection pane.

To move up a level in the folder hierarchy, double-click the .. folder. Double-clicking a folder in the source selection pane has no effect.

3. Select the clip, and click the delete (trashcan icon) button.

You can select multiple clips to delete; use Shift-click to select contiguous clips, and Control-click to select discontiguous clips.

▼ To Change a Clip's Attributes

1. Click the Migrate tab.

One or both of the source/destination panes will display an open button (folder icon) above it.

2. Double-click folders in the source navigation pane until the clip to be deleted appears in the source selection pane.

To move up a level in the folder hierarchy, double-click the .. folder. Double-clicking a folder in the source selection pane has no effect.

3. Select the clip, and click the open (folder icon) button.

The dialog box shown in the following figure appears.

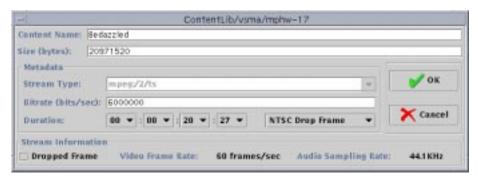


FIGURE 7-4 Clip Attributes Dialog Box

4. Type and select the new attribute values, and click OK.

Setting the TZ Time Zone Variable

This appendix describes the procedure for setting a Java time zone environment variable called $\[mathbb{TZ}$. The appendix applies only to Solaris client users in some time zones. You can tell if you need to set $\[mathbb{TZ}$ by looking at the time of day clock displayed by the Recorder or Player clients. If the client time is incorrect, and your computer's clock is correct, follow these steps.

- 1. Close the Launcher if it is running.
- If you are using the C shell:

```
% setenv TZ timezonecode
% installdir/bin/launcher videoserverhost
```

Replace *installdir* with your Media Central installation directory; the default directory is /opt/MediaCentral.

• If you are using the Bourne shell:

```
$ TZ=timezonecode
$ export TZ
$ installdir/bin/launcher videoserverhost
```

Replace *installdir* with your Media Central installation directory; the default directory is /opt/MediaCentral.

The following table shows the recognized values for *timezonecode*.

TABLE 7-1 Time Zones and Codes

Time Zone	Code	Difference from GMT	Daylight Time?	Representative Region/ City
GMT Standard Time	GMT	0000		Africa/Casablanca
GMT Standard Time	UTC	0000		Africa/Casablanca
Romance Standard Time	ECT	1000	Yes	Europe/Paris
Egypt Standard Time	EET	2000	Yes	Africa/Cairo
(Arabic) Egypt Standard Time	ART	2000	Yes	Africa/Cairo
Saudi Arabia Standard Time	EAT	3000		Asia/Riyadh
Iran Standard Time	MET	3500	Yes	Asia/Tehran
Arabian Standard Time	NET	4000		Asia/Yerevan
West Asia Standard Time	PLT	5000		Asia/Karachi
India Standard Time	IST	5500		Asia/Calcutta
Central Asia Standard Time	BST	6000		Asia/Dacca
Bangkok Standard Time	VST	7000		Asia/Bangkok
China Standard Time	CTT	8000		Asia/Shanghai
Tokyo Standard Time	JST	9000		Asia/Tokyo
Cen. Australia Standard Time	ACT	9500		Australia/Adelaide
Sydney Standard Time	AET	10000	Yes	Australia/Sydney
Central Pacific Standard Time	SST	11000		Pacific/Guadalcanal
New Zealand Standard Time	NST	12000		Pacific/Auckland
Samoa Standard Time	MIT	-11000		Pacific/Apia
Hawaiian Standard Time	HST	-10000		Pacific/Honolulu
Alaskan Standard Time	AST	-9000	Yes	America/Anchorage
Pacific Standard Time	PST	-8000	Yes	America/Los Angeles
Phoenix Standard Time	PNT	-7000		America/Phoenix
US Mountain Standard Time	MST	-7000	Yes	America/Denver
Central Standard Time	CST	-6000	Yes	America/Chicago
Eastern Standard Time	EST	-5000	Yes	America/New York
Indiana Eastern Standard Time	IET	-5000		America/Indianapolis
Atlantic Standard Time	PRT	-4000		America/Halifax

TABLE 7-1 Time Zones and Codes (Continued)

		Difference	Daylight	Representative Region/
Time Zone	Code	from GMT	Time?	City
Newfoundland Standard Time	CNT	-3500	Yes	America/St. Johns
SA Eastern Standard Time	AGT	-3000		America/Buenos Aires
E. South America Standard Time	BET	-3000	Yes	America/Sao_Paulo
Azores Standard Time	CAT	-1000		Atlantic/Azores

Troubleshooting

This appendix describes what to do if a Media Central client operates incorrectly; it covers these topics:

- "Introducing Troubleshooting" on page 69
- "Troubleshooting Procedures" on page 69

Introducing Troubleshooting

Because the Media Central software is divided into client and server components, a problem that manifests itself in a client can be due to a malfunction in a server or in an intervening network component, such as a router. The most common symptom is a client that stops updating its window or does not respond to mouse clicks or typing.

Before undertaking the following procedures, consult the Sun StorEdge Media Central Release Notes and the product web site:

```
http://www.sun.com/storage/media-central
```

These source may explain the problem you have observed and possibly offer a remedy for it.

Troubleshooting Procedures

Although the root cause of a symptom exhibited by a client may be a misbehaving server, begin by terminating the client, which does not affect other Media Central users.

Restarting a Client

▼ To Terminate Clients: Solaris Operating Environment

To terminate a client, you terminate the Launcher which terminates all clients.

- 1. Close the Launcher by double-clicking its window menu button or choosing Close from its window menu.
- 2. If the Launcher does not respond:
 - a. In a terminal window, type:

```
% xkill
```

- b. Click the Launcher window.
- c. If the Launcher does not disappear:
 - i. Find the Launcher's process ID:

```
% ps -ef | grep launcher
```

The command will show the Launcher's process ID.

ii. Type

```
% kill -9 launcherprocessID
```

▼ To Terminate Clients: Microsoft Windows Platforms

To terminate a client, you terminate the Launcher which terminates all clients.

1. Press Control-Alt-Delete.

A scrolling list of tasks appears.

2. Select StorEdge Media Central, and click End Task.

A confirmation dialog box appears.

3. Click End Task.

After terminating the clients, restart the Launcher as described in Chapter 2. Use the Administrator to display the properties of the device (for example, an encoder) that your client was using when the problem appeared. (See "Inspecting and Changing

Properties" on page 28.) If the Administrator cannot display the device's properties, the problem is in the video server, unless you were using the Asset Manager client, in which case it is in the asset server or the asset database server.

▼ To Diagnose and Restart a Video Server

1. Verify that the video server host is running by opening a terminal window and typing:

```
% ping videoserverhost
```

You can find the video server's host name in the Administrator. If the ping command completes immediately, the host is running and is reachable over the network. If the ping command is sluggish there is probably a problem with the network; consult a system administrator to remedy it.

- 2. If the ping command times out without a response from the video server host, reboot it or ask a system administrator to do it.
- 3. Using a terminal window or the video server console, examine the tail of the log file /etc/adm/messages.

Messages written in the log by the video server processes vsm, vssm, and vbm may describe the root cause.

4. Using the video server console or a remote terminal window, check the video server processes:

```
% ps -ef | grep vsm
[vsm process data]
% ps -ef | grep vssm
[vssm process data]
% ps -ef grep jre
[vbm process data]
```

Note which, if any, video server processes are not running.

5. Become superuser on the video server host, and restart the video server:

```
# installdir/sbin/mcsinit restart
```

Replace *installdir* with the directory where the Media Central video server software is installed. The default is /opt/MediaCentral.

▼ To Diagnose and Restart the Asset Server

1. Use the Administrator to examine the asset server's event log.

"Monitoring Events" on page 27 describes event logs. To see the asset server's event log, click AMS in the Administrator's navigation pane, and then click the Event Log tab.

2. If the event log does not identify the problem, use the Administrator (see "Inspecting and Changing Properties" on page 28) to get the names of the asset server and asset database hosts.

The asset server host name is the value of the synchronizer VideoBeans component's AMS Server Hostname property. The database server's host name is in the AMS VideoBeans component's Database Connection URL value; it follows the // characters in the URL.

3. Verify that the database server host is running by opening a terminal window and typing:

% ping dberverhost

If the ping command completes immediately, the host is running and is reachable over the network. If the ping command is sluggish there is probably a problem with the network; consult a system administrator to remedy it.

- 4. If the ping command times out without a response from the database server host, reboot the host or ask a system administrator to do it.
- 5. Verify that the database server is functioning.

Your database may provide diagnostic tools; check its documentation or consult your database administrator.

6. If the asset server runs on a different host than the database server, repeat Step 3 for the asset server host.

The dbserver host is named in AMS Database Connection property.

7. If the asset server host is running, use the asset server console or a terminal window to become superuser on the asset server host, then restart the asset server:

installdir/sbin/mcainit restart

Replace *installdir* with the directory where the Media Central asset server software is installed. The default is /opt/MediaCentral.

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