



HELIUS MEDIAGATE SERVER

SUPPORT MANUAL

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Documents the Video-Audio features of the MediaGate Router.

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MediaWrite is the Helius content distribution software tool. Package creation, and delivery can be tracked, and maintained by the support user. Creation and sending of packages is performed from the MediaGate Server by a Provider. Please refer to the Provider level support manual for more information on Provider features and abilities.

[MediaStream Server](#)

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MediaLock is the Helius secure encryption software tool. MediaLock can provide secure delivery of content to all Routers on the network equipped with the MediaLock option.

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SECTION 1

OVERVIEW

This manual is intended for trained personnel responsible for installation, configuration and maintenance support of the Helius MediaGate Server. This manual is intended to provide instructions on how to use the Helius Management Console™ to perform configuration, and maintenance of the Server.

The Helius MediaGate Server comes equipped to support Helius routers on a network. To allow for the greatest flexibility and use of the network, Helius provides several user level accounts for the server:

- **Support**
A Support User is primarily responsible for setup and configuration of the server and routers, and arranging with the client to assign the appropriate bandwidth availability to their account. Support level access creates Providers.
- **Provider**
A Provider is a client or customer requiring the ability to create and send packages, add receivers and provide authorizations. A Provider is responsible for the content that needs to be delivered and the creation and sending of those packages.
- **SiteAdmin**
SiteAdmin is a limited access level.

This manual is intended to provide instructions for Support level access to Server functions. This manual assumes a basic understanding of web based interfaces and how to use the keyboard and mouse.

This manual includes interactive components such as mouse over pop-ups, links within the document to other locations, bookmarked sections that provide a table of contents view, and links to other documents that are available on the Helius Support CD. Information available in the form of popups does not print out. This manual is intended to be used electronically.

This manual documents all functions of the Server. The specific configuration of a given client may not include all of the available interface options and therefore, may look different than what is presented here.

Legal Declarations

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Use of this product is subject to acceptance of the user license agreements included with this product.

Helius, MediaWrite, MediaLock and Helius Management Console are either registered trademarks or trademarks of Helius, Inc. All other trademarks are the property of their respective owners. Certain Helius products are protected by US Patent 6,205,473 B1 and other patents pending.

Versioning

MediaCore 2.8.2/2.8.3

Safety

The Server contains parts connected to a power supply. Customers should never open the covers of a Server. No internal parts are intended to be field serviceable.



Electric shock hazard. Potentially lethal voltage.

Electrical safety measures should be used when working with the server.



The following safety and caution procedures should be followed when working with or installing a Helius MediaGate Server.

- Do not expose the internal parts of the Server.
- Do not subject the Server to physical shock or vibration.
- Allow the Server to stabilize to room temperature before connecting and powering up.
- Prevent exposure to extreme hot or cold temperatures or moisture.
- Do not cover ventilation openings. Ensure air can circulate freely through ventilation openings.
- Do not allow fluids or objects to pass through ventilation openings.
- Do not place the Server close to an external source of heat or near devices generating magnetic fields.
- Never place the Server in direct sunlight or expose to rain and moisture. Short circuit may cause fire or hazard.
- Use a damp chamois leather or soft cloth for cleaning. Never use an abrasive cleaner or cloth.

Specifications

Dimensions

Height	4.29 cm (1.69 in)
Width	48.26 cm (19 in)
Depth	76.2 cm (30 in)
Weight	17.69 kg (39 lb) (maximum configuration)

Environmental Conditions

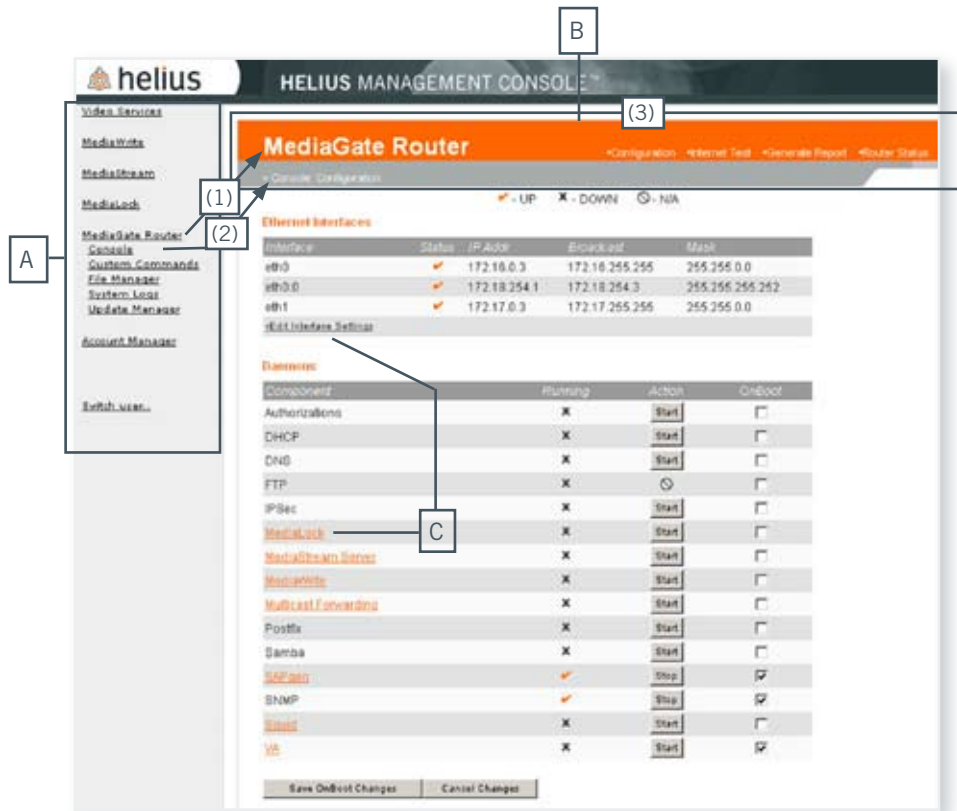
Temperature	
Operating Temperature	10° to 35° C (50° to 95° F)
Storage Temperature	-40° to 65° C (-40° to 149° F)
Relative Humidity	
Operating	8% - 85% non-condensing with a maximum humidity gradation of 10% / hour.
Storage	5% - 95% non-condensing
Maximum Vibration	
Operating	0.25 G at 3-200 Hz for 15 minutes
Storage	0.5 G at 3-200 Hz for 15 minutes
Maximum Shock	
Operating	One shock pulse in the positive z axis on each side of the system of 41 G for up to 2 ms.
Storage	Six consecutively executed shock pulses in the positive and negative x, y, and z axes, one pulse on each side of the system, of 71 G for up to 2 ms.
Altitude	
Operating	-16 to 3048 m (-50 to 10,000 ft)
Storage	-16 to 10,600 m (-50 to 35,000 ft)

Power

AC Power supply	
Wattage	550 W
Voltage	84-262 VAC, autoranging, 47-63 Hz, 7.6 A
Heat dissipation	2130 BTU/hr (theoretical maximum)
Maximum inrush current	Under typical line conditions and over the entire system ambient operating range, the inrush current may reach 25 A per power supply for 10 ms or less

The Helius Management Console

The Helius Management Console is a web-based tool that provides access to configuration, setup and maintenance options for MediaGate routers and servers. Technical support will access all screens through the Helius Management Console.



A Navigation Menu

The Navigation Menu is the main menu of the Helius Management Console. Main sections and subsections are included in the Navigation Menu. The Navigation Menu is always displayed while in the Helius Management Console.

B Navigation Bar

The Navigation Bar is located across the top of the interface. The main section that is active (1) displays in the orange bar. Subsection information (2) displays in a link path below the main section. Some pages offer additional management pages and those links will display in the upper right hand corner of the Navigation Bar (3).

C Links

Most links in the Helius Management Console are underlined and orange. A few may be dark grey such as the Edit Ethernet Interface link shown.


How to Use this Manual

This manual is created as an interactive PDF. Some functions such as a back button will not be available but most of the mouse features function similar to a web interface.

When “jumping” to another location in the manual, use the bookmarks to return to the previous location.

Typographical conventions and symbols used in this manual are described in the next two pages.

Basic headings and subheadings are presented in blue text with no underline. Links that are available throughout the text will be set in the same shade of blue, but underlined.

Pop-ups requiring no action beyond passing the mouse cursor over the field may be present on some of the graphics. The presence of these pop-ups on a graphic will be indicated by a mouse icon . Most fields within the graphic will have a pop-up associated with the field explaining more about the field.

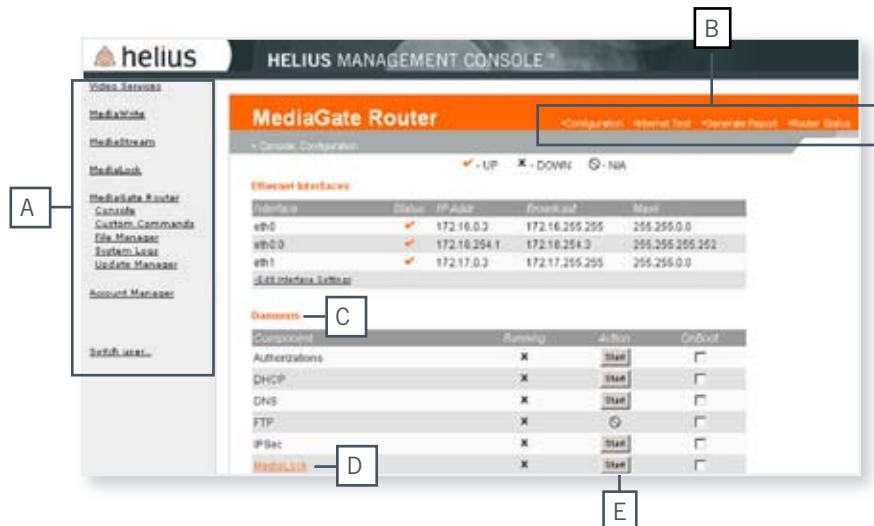
Link text that is blue and underlined will not have associated pop-ups that explain the link.

Please refer any feedback and comments regarding these manuals to:
documentation@helius.com




Typographical Conventions


Typographical conventions are used to show the link path that should be selected in the Helius Management Console to perform an action. Some text will be linked to other locations within the document. These links use the same convention, but display in underlined blue type to indicate they are “hotlinked” to another location.

	Example	Description	Explanation
A	MediaWrite	Bold, Underlined	Navigation menu link.
	<u>MediaWrite</u>	Bold, Underlined, Blue	Live navigation menu link. Links within the manual to another location.
B	<u>Connections</u>	Bold, Underlined, Oblique	Navigation bar link.
	<u>Connections</u>	Bold, Underlined, Oblique, Blue	Live navigation bar link. Links within the manual to another location.
C	<i>Daemons</i>	Oblique	Heading title of a section of the Console page.
	<i><u>Daemons</u></i>	Oblique, Underlined, Blue	Heading title of a section of a Management Console page that links within the manual.
D	<i>DialAccess</i>	Oblique, Underlined	Title of a link within the Management Console.
	<i><u>DialAccess</u></i>	Oblique, Underlined, Blue	Title of a link that is hotlinked within the manual.
E	START	All caps	Button on the Management Console.



Symbols

Symbol	Meaning
>	Link path. Indicates link selections in the Helius Management Console to display the correct screen
↓	Part of the link path. Indicates to scroll down the Console screen to the specified heading.
	Note Icon.
	Attention Symbol. Indicates caution should be taken.
	Mouse icon. The mouse icon indicates that there are hot spots on a graphic that provide pop-ups with additional information. Move the mouse cursor over the graphic on the page to discover the additional details of the graphic. When placed over a field with a pop-up, the pop-up should display within a second.

 The screen graphics in this manual are obtained using MS Internet Explorer 6.0. The appearance of windows in other browser versions may vary slightly but will function the same.

Initiating a Support Connection

To access the client router, the IP address of the client is required.

1. Launch a web browser.
2. Specify the IP address of the equipment followed by “:1000” For example: “http://IP_address:1000”.



Address `http://172.xxx.xxx.xxx:1000/`

The support login will display.



The IP address specified will display in the upper left hand corner of the login screen. Enter the appropriate user name and password.

Upon successful login, the default screen **MediaGate Router** > **Satellite Monitor** will display.

SECTION 2

VIDEO SERVICES

The Video Services section of the Management Console provides configuration and management for video, channel and file playback on the Router.

[Video Services](#)
[Authorizations Config](#)
[Authorizations License](#)
[Channel Editor](#)
[SAPgen Config](#)
[Source Control](#)
[VA Config](#)

[Authorizations Config](#)

Authorizations are used when restricted access to certain features or programs are required. This access is delegated by the Authorizations server. Authorizations Config provides the interface to identify the Authorizations server multicast address and interface.

[Authorizations License](#)

License information.

[Channel Editor](#)

Channel Editor provides the interface to create channels used to announce multicast video events or streams.

[SAPgen Config](#)

SAPgen Config provides the interface to setup and configure Session Announcement Protocols (SAPs).

[Source Control](#)

Source Control provides a view of available programs (Playback Menu) and channels (Program Guide) being received by the Router.

[VA Config](#)

VA Config provides the interface to setup Video-Audio options and SAPListener settings.

Authorizations Configuration

Authorizations are restrictions or permissions provided from the server to any number of selected Helius Routers on the network. Authorizations data is multicast from the Authorizations server to the routers, so the server and the router(s) must be configured to the same multicast address.

Routers that receive authorizations from a server are referred to as “Receivers” in the Helius Management Console. Receivers are identified and assigned an authorizations server by proper configuration of the multicast address being used to send the authorizations data.

Receivers and groups and the authorizations received are identified and controlled by a Provider. Currently the ability to record and pause live video and view Interactive Distance Learning (IDL) events are granted or denied in Authorizations on a network basis. Channel and event specific authorizations are also available for those features. For more information on available authorizations, refer to the Provider Instruction Manual.

The support level user assigns the multicast address and port for outbound information from the Helius MediaGate Server.

Steps to setup Authorizations

1. [Assign multicast address and port.](#)
2. [Start the Authorizations service in the Daemons section.](#)



For security reasons, if the Authorizations service is started on a Router, it will require Helius intervention or system re-imaging to disable Authorizations.

Assign Multicast Address and Port

1. Select **Video Services** > **Authorizations Config**.



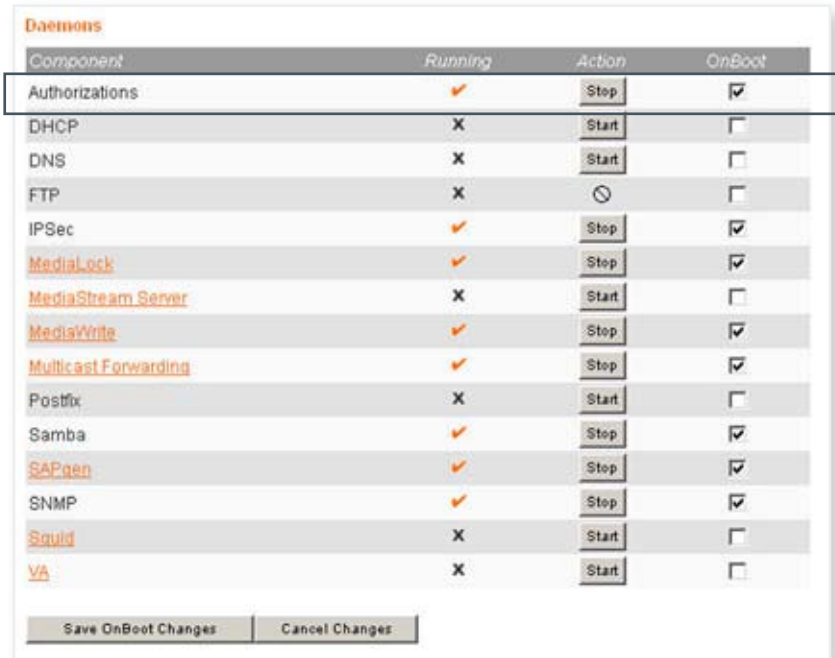
2. Select Interface for multicast address. If using MediaLock, Ipsec0 will need to be selected in addition to the physical interface.
3. Verify or change the multicast address or port of the authorizations server. *This multicast address should be the same on all Routers to receive authorizations from this Server.*
4. Select SAVE, if changes were made.



If no interface is selected, this feature will not function.

Start the Authorizations Service

1. Select **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*.



Component	Running	Action	OnBoot
Authorizations	✓	Stop	<input checked="" type="checkbox"/>
DHCP	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
FTP	X	⏸	<input type="checkbox"/>
IPSec	✓	Stop	<input checked="" type="checkbox"/>
MediaLock	✓	Stop	<input checked="" type="checkbox"/>
MediaStream Server	X	Start	<input type="checkbox"/>
MediaWrite	✓	Stop	<input checked="" type="checkbox"/>
Multicast Forwarding	✓	Stop	<input checked="" type="checkbox"/>
Postfix	X	Start	<input type="checkbox"/>
Samba	✓	Stop	<input checked="" type="checkbox"/>
SAPgen	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
Squid	X	Start	<input type="checkbox"/>
VA	X	Start	<input type="checkbox"/>

Save OnBoot Changes Cancel Changes

2. Select the START button in the *Action* column next to the service.
3. Activate (✓) the checkbox in the *OnBoot* column for the service to be enabled when the Server reboots or powers on.
4. Select SAVE ONBOOT CHANGES.



Selecting the [Authorizations](#) link will open the Authorizations Config page.

Authorizations License

Licensing information for Authorizations on the Server may be viewed or edited. Do not adjust licensing information without instruction from Helius support personnel.



The screenshot displays the Helius Management Console interface. The top navigation bar includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE". A left-hand sidebar lists various configuration options: Video Services, Authorizations Config, Authorizations License (highlighted), Channel Editor, SAPgen Config, Source Control, VA Config, MediaWrite, MediaStream, MediaLock, MediaGate Router, Account Manager, and Switch user... The main content area is titled "Video Services" and contains a sub-section for "Authorizations License". Under this section, there are three main areas: "Current License Status" showing "License is Valid" with a checkmark, "Current License Information" showing "License Expiration (DD-mon-YYYY)" as "10-apr-2008", "License Key" as "e28bd205589704268d27ff15a6de", and "Product Key" as "HAU0800E". A "Save" button is located at the bottom of the configuration area.

Channel Editor

Channel Editor displays the available channels on the server. A Provider has the ability to create, edit and delete channels and events.



Creating channels and events at the Support level on the Server can cause problems with Authorizations and cause the system to not function properly. A Support level user does not have access to all the features necessary to properly configure channels and authorizations.

For information on how to set up channels and events, please refer to the Provider Instruction Manual. These features should only be set by the Provider.

SAPgen Config

Session Announcement Protocols (SAPs) announce IP multicast streams to the network. A multicast address, port and interface must be specified to view announced multicast streams.

Configure a SAP

1. Select **Video Services** > **SAPgen Config**.



The screenshot shows the Helius Management Console interface. The top header includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left-hand navigation menu lists various options: Video Services, Authorizations Config, Authorizations License, Channel Editor, SAPgen Config (highlighted), Source Control, VA Config, MediaWrite, MediaStream, MediaLock, MediaGate Router, Account Manager, and Switch user... The main content area is titled "Video Services" and contains a sub-section for "SAPgen Configuration". Below this, a "SAPgen Settings" box contains several input fields: Interface (set to eth0), Days of Events (set to 7), SAP Frequency (in Seconds) (set to 5), SAP Multicast Address (set to 224.2.127.254), SAP Port (set to 9875), SAP TTL (set to 5), SAP Rate (Kbps) (set to 30), and Delete Events After (set to 30 Days). A "Save Settings" button is located at the bottom of the settings box. The footer of the console displays the Helius logo, "Copyright © 2004 Helius, Inc.", and the date/time "Mon Feb 13, 2006 7:26 pm".

2. Insert information or make changes.
3. Select SAVE SETTINGS.

Start SAPgen Service

The SAPgen service must be started in order to function. This step may be skipped if the SAPgen service was already started for the Server and *OnBoot* was checked.

1. Select **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*.



The screenshot shows the Helius Management Console interface. The main content area is titled "MediaGate Router" and contains two tables. The first table, "Ethernet Interfaces", lists interfaces eth0, eth0.0, and eth1 with their respective IP addresses and broadcast/mask information. The second table, "Daemons", lists various services and their status. The "SAPgen" row is highlighted with a red box.

Interface	Status	IP Addr	Broadcast	Mask
eth0	✓	192.168.0.2	192.168.255.255	255.255.0.0
eth0.0	✓	172.18.254.1	172.18.254.3	255.255.255.252
eth1	✓	192.168.0.7	192.168.255.255	255.255.0.0

Component	Running	Action	OnBoot
Authorizations	X	Start	<input type="checkbox"/>
DHCP	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
FTP	X	↻	<input type="checkbox"/>
IPSec	X	Start	<input type="checkbox"/>
MediaLock	X	Start	<input type="checkbox"/>
MediaStream Server	X	Start	<input type="checkbox"/>
MediaWrite	✓	Stop	<input checked="" type="checkbox"/>
Multicast Forwarding	X	Start	<input type="checkbox"/>
Postfix	X	Start	<input type="checkbox"/>
Samba	X	Start	<input type="checkbox"/>
SAPgen	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
Snort	X	Start	<input type="checkbox"/>
SSH	✓	Stop	<input checked="" type="checkbox"/>

2. Select START in the *Action* column next to SAPgen.
3. Activate (✓) the checkbox in the *OnBoot* column.

Selecting the SAPgen link in the Daemons table opens the Channel Editor page.

Source Control

Source Control provides a snapshot of the channels and programs currently provided on the Server (Program Guide) and video selections available (Playback Menu).

Program Guide



The screenshot displays the Helius Management Console interface. On the left is a navigation menu with options like Video Services, Authorizations Config, Channel Editor, SAPgen Config, Source Control, VA Config, MediaWrite, MediaStream, MediaLock, MediaGate Router, Account Manager, and Switch user.. The main content area is titled 'Video Services' and shows a 'Program Guide' for 'Mon Feb 13, 2006 7:26 pm'. A search bar allows filtering by channel (Helius), date (Feb 13, 2006), and time (7:00 pm). Below is a table of program listings.

Mon Feb 13, 2006	7:00 pm	7:30 pm	8:00 pm	8:30 pm	>>
301 Dandana TV	Rec	No Info	No Info	No Info	No Info
304 DMC	Rec	No Info	No Info	No Info	No Info
305 Canal Algerie	Rec	No Info	No Info	No Info	No Info
306 KJO TV	Rec	No Info	No Info	No Info	No Info
307 RTV21	Rec	No Info	No Info	No Info	No Info
308 The Arabic Channel	Rec	No Info	No Info	No Info	No Info
313 NurTV	Rec	No Info	No Info	No Info	No Info
315 ADD TV	Rec	No Info	No Info	No Info	No Info
327 Top Channel	Rec	No Info	No Info	No Info	No Info
5346 Testing	Rec	No Info	No Info	No Info	No Info

Channel and broadcast as well as record status may be verified using this screen.

Playback Menu

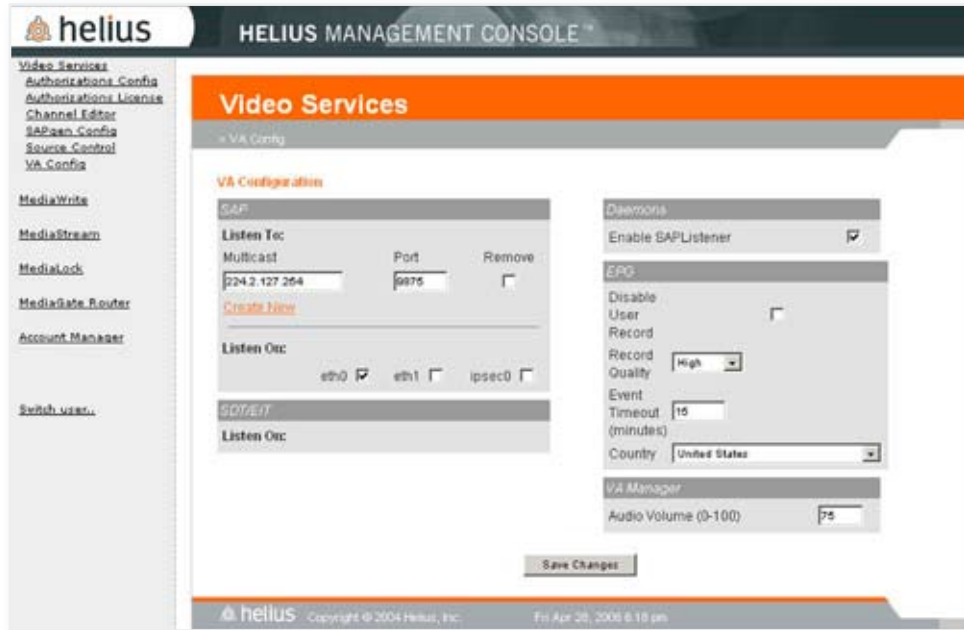
Select Playback Menu on the Navigation Bar to display the Playback Menu. Playback Menu displays the video files available on the Server.



Files should not be played back on the Server. Transfer files to an appropriate network Router in order to display and view files.

VA Config

VA Config sets channel viewing and video playback parameters as well as identifying the listening interfaces and multicast addresses for SAPs.



- ☰ Changes made in the VA section of Helius Management Console will cause VA to restart. This may cause a temporary loss of video.

Create SAP Multicast

1. Select **Video Services** > **VA Config** > *Create New*.

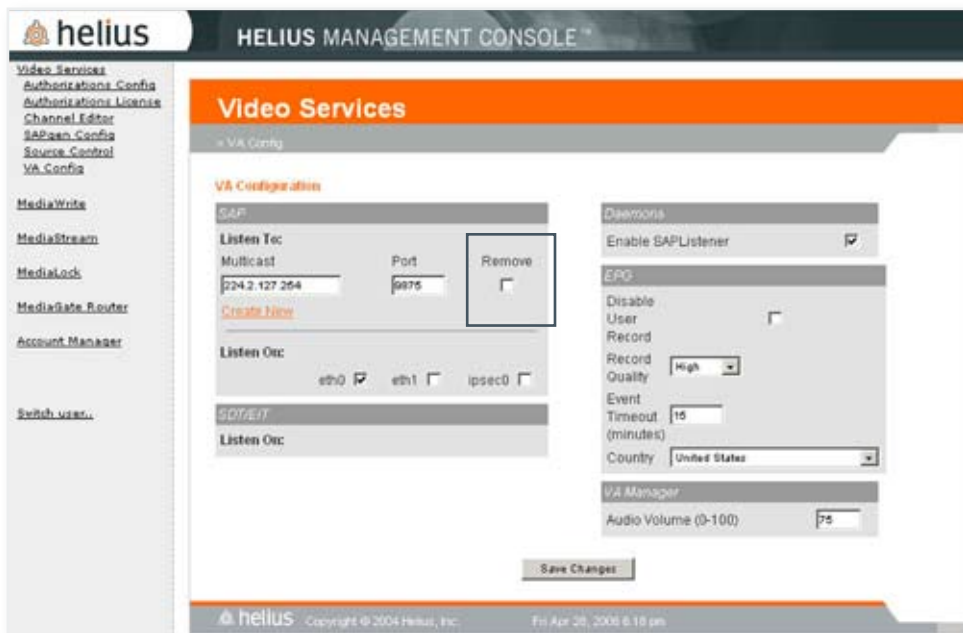


A dialog box titled "New SAP Multicast Address" with two input fields labeled "Address" and "Port". Below the fields is a button labeled "Add Address".

2. Enter Multicast Address and Port.
3. Select ADD ADDRESS. The VA Config interface will re-display.
4. Select SAVE CHANGES.

Delete SAP Multicast

1. Select **Video Services** > **VA Config**.



The Helius Management Console interface for Video Services. The left sidebar contains navigation links: Video Services, Authorizations Config, Authorizations License, Channel Editor, SAPConn Config, Source Control, VA Config, MediaWrite, MediaStream, MediaLock, MediaGate Router, Account Manager, and Switch User. The main content area is titled "Video Services" and "VA Config". It shows a "VA Configuration" section with a table for "Listen To" multicast addresses. The table has columns for "Listen To" (with radio buttons for eth0, eth1, ipsec0), "Listen To:" (with a text input field), "Port" (with a text input field), and "Remove" (with a checkbox). The "Remove" checkbox for the entry "224.2.127.254" on port "9975" is checked. Below the table is a "CREATE" section with a "Listen To:" label. To the right, there are sections for "Daemons" (with "Enable SAPListener" checked), "EPO" (with "Disable User Record" unchecked, "Record Quality" set to "High", "Event Timeout (minutes)" set to "15", and "Country" set to "United States"), and "VA Manager" (with "Audio Volume (0-100)" set to "75"). A "Save Changes" button is at the bottom right. The footer shows the Helius logo, copyright information, and the date/time: "Fri Apr 20, 2006 6:18 pm".

2. Activate (✓) the checkbox in the *Remove* column of the *Listen To* multicast address and port list.
3. Select SAVE CHANGES..

SECTION 3

MEDIAWRITE

Overview

MediaWrite is the Helius content distribution and management software.

[MediaWrite](#)
[MediaBuilder Admin](#)
[License](#)

[MediaBuilder Admin](#)

Monitor MediaWrite activity, delete package information to Package Archive.

[License](#)

View of licensing information.

Creation and sending of packages is a Provider Level function. For more information on how to create and send MediaWrite packages, refer to the Provider Instruction Manual.

Configure MediaWrite

1. Verify the MediaWrite license is valid. **MediaWrite** > **License**. If no valid license is listed, please contact your salesperson for assistance in licensing MediaWrite.
2. Start the MediaWrite process in the Daemons table. **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*.
3. Activate the OnBoot checkbox in the *OnBoot* column of the MediaWrite process.
4. Select SAVE ONBOOT CHANGES.
5. Identify the catalog announcement interface and the package delivery interface in **MediaWrite** > **MediaBuilder Admin** > **Connection Settings**. Refer to page 3-6 of this section for detailed information about each of the settings.

Each MediaGate Router on the network must be set up to receive catalog announcements and package delivery on the same interface that the server is using. These addresses are based on the defined scheme of your network.

MediaBuilder Admin

Package Manager

Packages created and sent by the Provider will display in the Package Manager screen. Support level users have the ability to view and delete packages from Package Manager.

helius HELIUS MANAGEMENT CONSOLE™

Video Services
MediaWrite
MediaBuilder Admin
License
MediaStream
MediaLock
MediaGate Router
Account Manager
Switch user...

MediaWrite™ Package Manager Package Archive Connection Settings Activity Log

MediaBuilder Admin Package Manager

Bandwidth Usage for Feb 13, 2006 (10 Mbit total) **Send** Time Resolution: 1hr 8 hr 12 hr 1d 2d 3d

18:00 19:00 20:00 21:00 22:00 23:00 00:00 01:00 02:00

Package Manager

<input type="checkbox"/>	Package Name	Type	Size	Date	Info	Status
<input type="checkbox"/>	Sales_Training.mpg Sales Training	mpg	81.67 MB	19-Jan-2006 20:42:00	?	SENT
<input type="checkbox"/>	Having_a_bad_day.mpg Having a Bad Day	mpg	2.22 MB	19-Jan-2006 21:10:00	?	SENT
<input type="checkbox"/>	Thinking_Positive... Think Positive	mpg	4.68 MB	06-Feb-2006 23:08:00	?	SENT

Delete Checked Entries

helius Copyright © 2004 Helius, Inc. Mon Feb 13, 2006 8:13 am

Info

Select  in the Info column of a package to view extended package information.

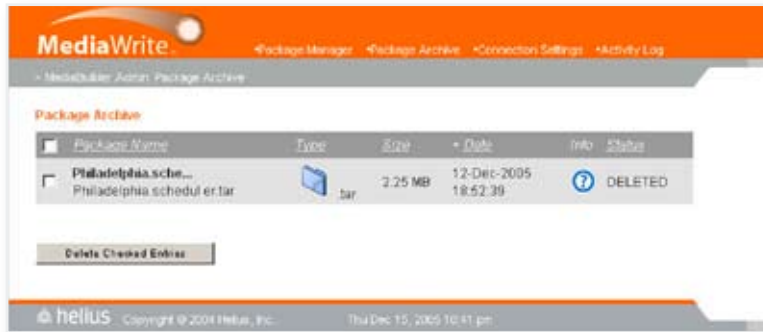
More info	
Extended Package Information	
File Name	Test.mpg
Package Description	movie
Status	SENT
Provider Info	Susan
Date	20-Jul-2005
Time	15:30:00
Notes/Comments	
Stream ID	2
Type	Video
ETA	20-Jul-2005 15:49:00
Transfer Time	00:19:00
Expiration	
Request Mode	Best Effort
Size	1024.00 MB
Bit Rate	10.0 Mbps
Packet FEC	10
Interleave	5
Send Interval	00:45:00
Activity Log	View activity log for this entry


Select [View activity log for this entry](#) to view the activity log.

Activity Log for Test.mpg	
Jul 20 12:24:46	svr MediaBuildSvcWebUpload.cgi[8701]: "Test.mpg" was uploaded successfully: "Susan/Test.mpg"
Jul 20 14:43:51	svr MediaBuildSvcEntry.cgi[16573]: File Test.mpg, Stream_ID 2 added to the database: "Susan/Test.mpg"
Jul 20 14:45:05	svr MediaWrite_Sender[8219]: "Susan/Test.mpg": changed status to SENDING
Jul 20 14:45:05	svr MediaWrite_Sender[16796]: "Susan/Test.mpg": mode = Best Effort
Jul 20 14:48:05	svr MediaWrite_Sender[16796]: "Susan/Test.mpg": Connected to MediaCentral at 127.0.0.1:5000
Jul 20 14:48:05	svr MediaWrite_Sender[16796]: "Susan/Test.mpg": MCast=224.100.100.100:40000 Stream ID=2
Jul 20 14:48:05	svr MediaWrite_Sender[16796]: "Susan/Test.mpg": Starting transfer...
Jul 20 15:05:00	svr MediaWrite_Sender[16796]: "Susan/Test.mpg": Transfer complete. 1073739776 bytes sent. FEC=10% Rate=10000000 bps
Jul 20 15:05:00	svr MediaWrite_Sender[16796]: "Susan/Test.mpg": 1238973478 bytes sent including overhead
Jul 20 15:05:06	svr MediaWrite_Sender[8219]: "Susan/Test.mpg": Changed status to SENT
Jul 20 15:20:08	svr MediaWrite_Sender[8219]: "Susan/Test.mpg": changed status to SENDING
Jul 20 15:30:08	svr MediaWrite_Sender[21666]: "Susan/Test.mpg": mode = Best Effort
Jul 20 15:33:08	svr MediaWrite_Sender[21666]: "Susan/Test.mpg": Connected to MediaCentral at 127.0.0.1:5000
Jul 20 15:33:08	svr MediaWrite_Sender[21666]: "Susan/Test.mpg": MCast=224.100.100.100:40000 Stream ID=2
Jul 20 15:33:08	svr MediaWrite_Sender[21666]: "Susan/Test.mpg": Starting transfer...
Jul 20 15:50:03	svr MediaWrite_Sender[21666]: "Susan/Test.mpg": Transfer complete. 1073739776 bytes sent. FEC=10% Rate=10000000 bps
Jul 20 15:50:03	svr MediaWrite_Sender[21666]: "Susan/Test.mpg": 1238973478 bytes sent including overhead
Jul 20 15:50:09	svr MediaWrite_Sender[8219]: "Susan/Test.mpg": Changed status to SENT

Package Archive

Package Archive contains a list of packages that have expired or been deleted from Package Manager.



Selecting  in Package Archive provides the same information as mentioned for Package Manager. Refer to page 3-3 for more details on this screen.

Connection Settings

Connection Settings is used to specify:

- the interface that will be used to send and receive information during package transmission,
- the multicast address used to determine if receivers are active and receiving,
- and the multicast address used to transmit MediaWrite packages.

Some of these tasks may also be performed in the MediaCentral interface.



MediaWrite Package Manager Package Archive Connection Settings Activity Log

> MediaBuilder Admin: Connection Settings

Connection Settings

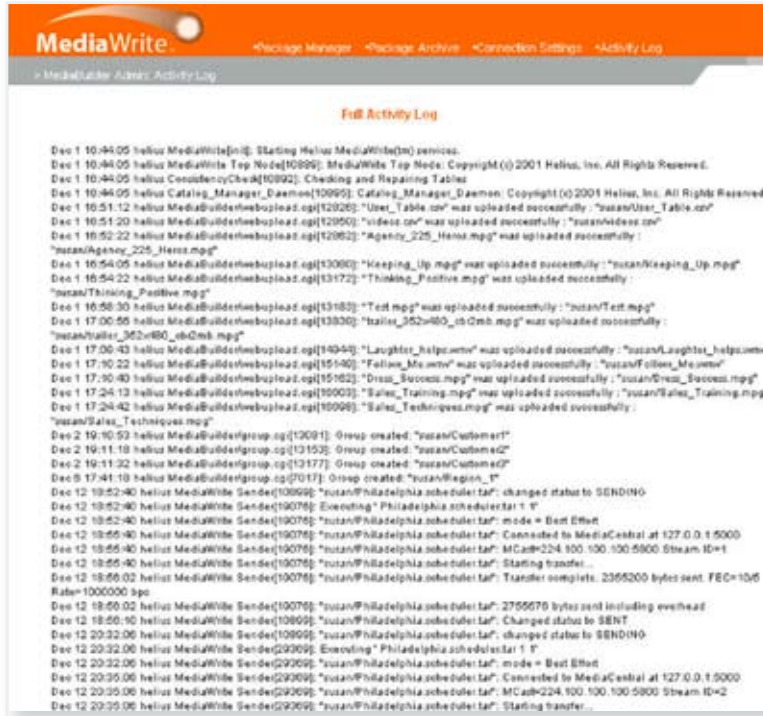
Edit Settings

Multicast Address for Catalog	Port	TTL
<input type="text" value="224.100.0.1"/>	<input type="text" value="9500"/>	<input type="text" value="4"/>
Multicast Address for File Transfer	Port	TTL
<input type="text" value="224.100.100.100"/>	<input type="text" value="5800"/>	<input type="text" value="4"/>
Send Catalog Every	<input type="text" value="15"/> Seconds	
Catalog Bit Rate Limit:	<input type="text" value="100"/> KBits/s	
<hr/>		
MediaWrite Address	Port	TTL
<input type="text" value="127.0.0.1"/>	<input type="text" value="5000"/>	<input type="text" value="4"/>
MediaWrite Interface	<input type="text" value="eth1"/>	
Connection Window	<input type="text" value="180"/> Seconds	
Total Bandwidth:	<input type="text" value="10"/> Mbps	
<input type="button" value="Save Settings"/>		

helius Copyright © 2004 Helius, Inc. Thu Dec 15, 2005 10:42 pm

Activity Log

Selecting **MediaWrite** > *Activity Log* displays all package activity.



License

The MediaWrite license key may be modified or entered here. Do not change the license key without Helius approval and information.

The screenshot displays the Helius Management Console interface. The top header features the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left-hand navigation menu lists various services: Video Services, MediaWrite (with sub-items MediaBuilder Admin and License), MediaStream, MediaLock, MediaGate Router, Account Manager, and Switch user.. The main content area is titled "MediaWrite" and contains a "License" section. Under "License Information", it shows "Current License Status" as "License is Valid" with a green checkmark. Below this, the "Current License Settings" section includes three input fields: "License Expiration (DD-mon-YYYY)" with the value "15-feb-2008", "License Key" with the value "83decb4d4bb61f9da34bc9d4d4de", and "Product Key" with the value "HMWvQQPM". A "Save" button is located at the bottom of the settings area. The footer of the console shows the Helius logo, "Copyright © 2004 Helius, Inc.", and the date/time "Thu Dec 15, 2005 10:42 pm".

SECTION 4

MEDIASTREAM SERVER

Overview

MediaStream Server encapsulates and transmits MPEG-1 or MPEG-2 files as an IP multicast stream. In order for the MediaStream service to function, the MediaStream service needs to be started and a SAPgen channel to advertise the stream must be created.

To create a SAPgen channel, refer to **[Section 2: Video Services > Channel Editor](#)**. The same multicast address and port will be used in both MediaStream Server and SAPgen. MediaStream Server channels are a separate function from channel Editor. Channel Editor provides the ability to communicate channel information to routers on the network and have that channel information viewed by the user.



MediaStream
Admin
License
Server

[MediaStream Admin](#)

Transfer files from a local PC and change the Samba share name.

[MediaStream License](#)

License information. Do not change licensing information without Helius support.

[MediaStream Server](#)

Create channels, and streams.

Steps to Use MediaStream

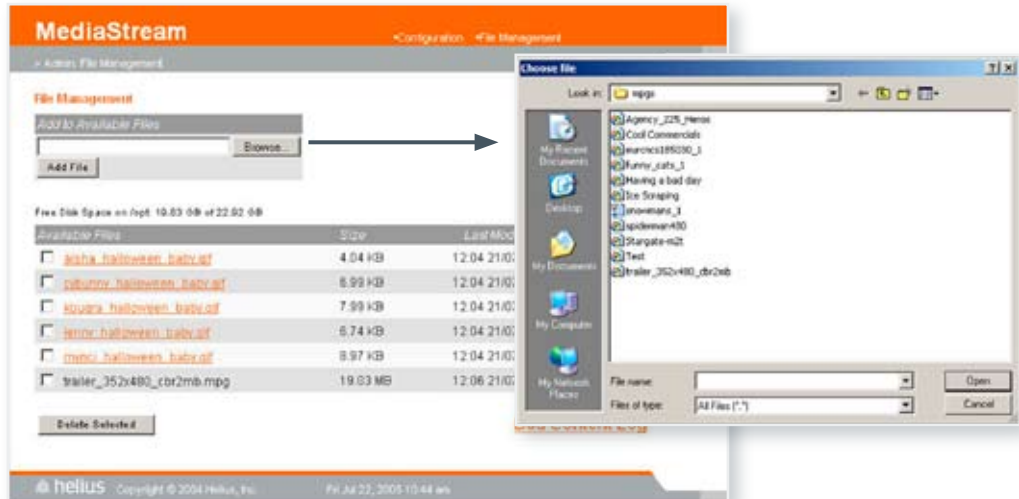
1. Open **MediaStream** > **License** and verify the license is active.
2. Start the MediaStream service. Go to **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons* in the Helius Management Console. Scroll down to MediaStream Server in the *Daemons* table and select START in the *Action* column of the table next to MediaStream Server. If the button already says STOP, MediaStream Server has already been started.
3. Upload Files for streaming. Go to **MediaStream** > **Admin** > **File Management**. To use Samba to transfer files, please refer to the **MediaStream** > **Admin** > **Configuration** part of this section of the manual.
4. Create channels. Go to **MediaStream** > **Server** > **Channels**.
5. Create Streams. Go to **MediaStream** > **Server** > **Streams**.

For detailed information on these sections, navigate through this section of the manual using the bookmarks.

MediaStream Admin

Transfer Files From PC Hard Drive

1. Select **MediaStream** > **Admin** > **File Management**.



2. Select BROWSE.
3. Select the file to be transferred to the Server.
4. Select OPEN. The file will display in the text box under File Management.



5. Select ADD FILE. Once the file has been uploaded, the screen should refresh, displaying the new file in the available list.

☰ When uploading large files and/or over a slow connection, the transfer time may be lengthy.

Change Samba Name

The name displayed for the Samba share may be changed, however, this does not change the underlying directory name on the server and will not affect its function.

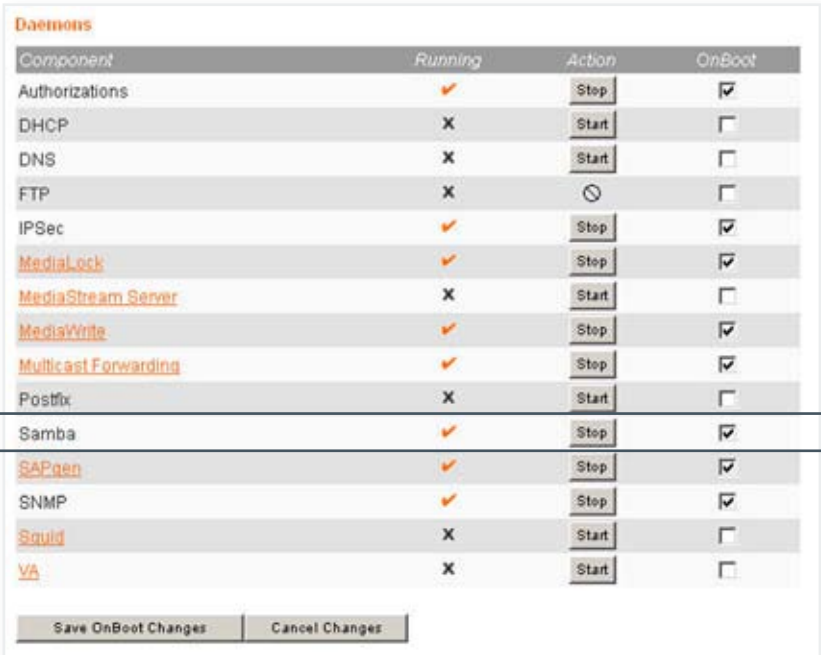


1. Select **MediaStream** > **Admin** > **Configuration**.
2. Highlight the current Samba share name and type in a new one.
3. Select SUBMIT.

To Use Samba for File Transfer

To use Samba to transfer files, the Samba service should be started.

1. Select **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*.



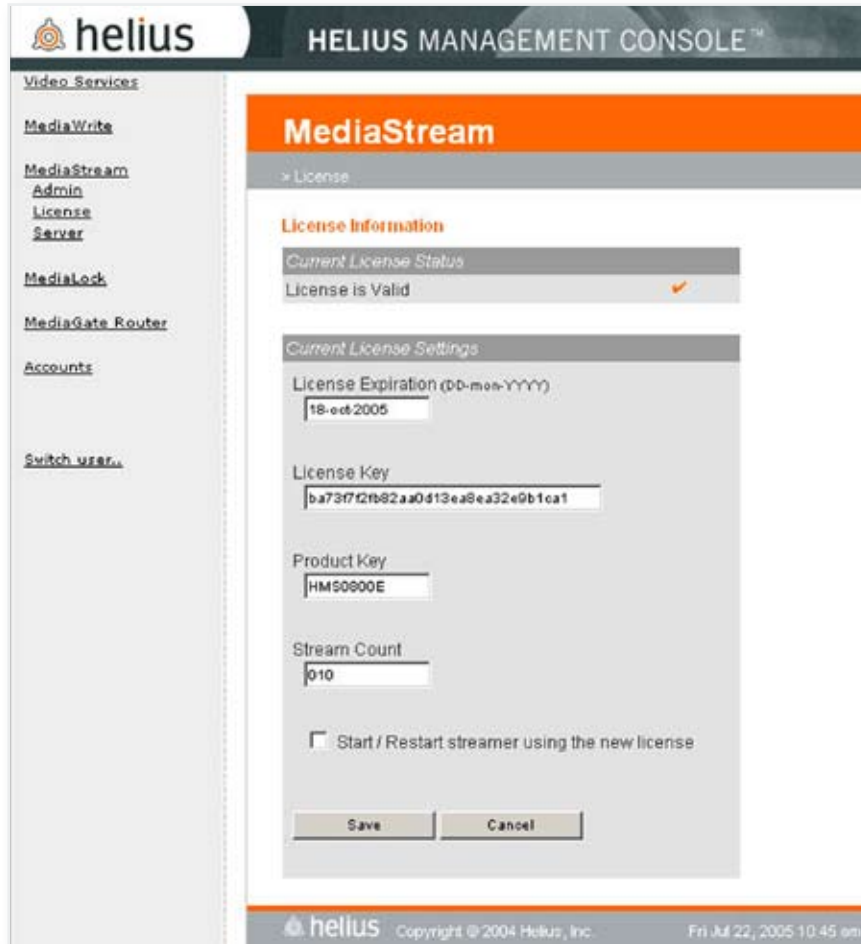
Component	Running	Action	OnBoot
Authorizations	✓	Stop	<input checked="" type="checkbox"/>
DHCP	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
FTP	X	⏸	<input type="checkbox"/>
IPSec	✓	Stop	<input checked="" type="checkbox"/>
MediaLock	✓	Stop	<input checked="" type="checkbox"/>
MediaStream Server	X	Start	<input type="checkbox"/>
MediaWrite	✓	Stop	<input checked="" type="checkbox"/>
Multicast Forwarding	✓	Stop	<input checked="" type="checkbox"/>
Postfix	X	Start	<input type="checkbox"/>
Samba	✓	Stop	<input checked="" type="checkbox"/>
SAPaen	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
Squid	X	Start	<input type="checkbox"/>
VA	X	Start	<input type="checkbox"/>

Save OnBoot Changes Cancel Changes

2. Select the START button in the *Action* column.
3. Activate (✓) the checkbox in the *OnBoot* column.
4. Select SAVE ONBOOT CHANGES.

MediaStream License

Any modification of this information must be provided by Helius.



The screenshot displays the Helius Management Console interface. The top navigation bar includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left-hand sidebar lists various services: Video Services, MediaWrite, MediaStream (with sub-links for Admin, License, and Server), MediaLock, MediaGate Router, Accounts, and Switch user. The main content area is titled "MediaStream" and contains a "License" section. Under "License Information", the "Current License Status" is "License is Valid" with a checkmark. The "Current License Settings" section includes input fields for "License Expiration (dd-mon-YYYY)" (18-oct-2005), "License Key" (ba73f72f82aa0d13ea8ea32e0b1ca1), "Product Key" (HMS0000E), and "Stream Count" (010). A checkbox labeled "Start / Restart streamer using the new license" is currently unchecked. At the bottom of the settings panel are "Save" and "Cancel" buttons. The footer of the console shows the Helius logo, "Copyright © 2004 Helius, Inc.", and the date/time "Fri Jul 22, 2005 10:45 am".

Activate (✓) the checkbox to start/restart the MediaStream service using the new license information. When SAVE is selected after this checkbox is activated, the start/restart for the Samba service will occur immediately.

MediaStream Server

A MediaStream Server channel consists of a multicast address and port. To advertise a MediaStream Server channel, a SAPgen channel must be created in **Video Services > Channel Editor**. The same channel multicast address and port will be used in both MediaStream Server and SAPgen. MediaStream Server channels are a separate function from Channel Editor. Channel Editor provides the ability to communicate channel information to routers on the network.

Channels

Channels must be created before streams. Each stream is created on a channel. The channel identified here should also be created in **Video Services > Channel Editor** in order to advertise the channel and enable its availability to be viewed.

Create a Channel

1. Select **MediaStream > Server > Channels**.



Select Channel	Channel Name	Multicast Address
New Channel	<input type="text"/>	<input type="text"/>
test	<input type="text"/>	<input type="text"/>

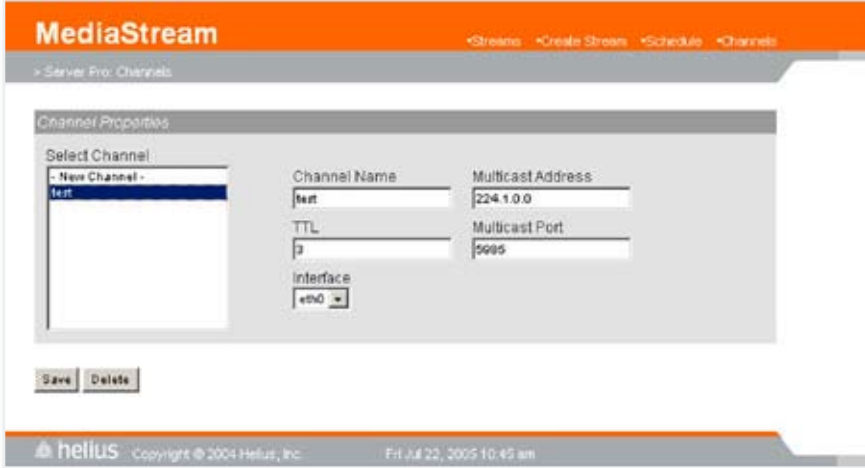
TTL:
Multicast Port:
Interface:

Save Delete

2. Select New Channel in the *Select Channel* column.
3. Enter channel information and select the interface to broadcast on.
4. Select SAVE.

Edit a Channel

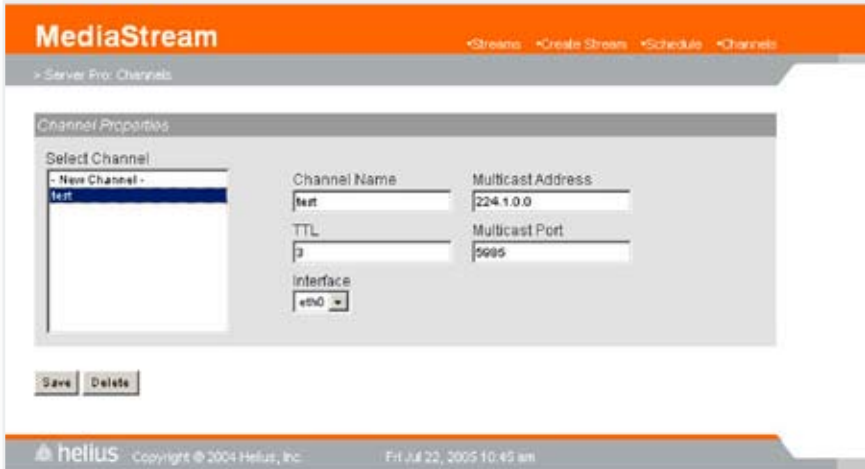
1. Select **MediaStream** > **Server** > **Channels**.



2. Select the channel to edit in the *Select Channel* column.
3. Change channel information.
4. Select SAVE.

Delete a Channel

1. Select **MediaStream** > **Server** > **Channels**.



2. Select the channel to delete in the *Select Channel* column.
3. Select DELETE.

Streams

A channel needs to be created in MediaStream Server first in order to create a stream.

Managing Bandwidth Usage

Each file added to a stream has a stated bit rate (Kbps or Mbps). The highest bit rate file in a stream is used to determine the rate of the stream. For instance, three files, 2 Mbps and one file, 10 Mbps are added to a stream. The bit rate used for that stream will be 10 Mbps.

Files

For best results, all files streamed on a channel should be encoded with identical settings. Settings include: geometry size, frame rate, video encoding, audio encoding, aspect ratio and target bit rate.

Format types supported by MediaStream Server are: MPEG-1 (m1s), MPEG-2 Program (m2p) and MPEG-2 Transport (m2t).

Scheduling

If a client schedules a stream to end at 1:00 pm and schedules the next stream to begin at 1:00 pm, the streams need to be encoded with identical settings. Using the same settings will allow a one second transition between streams. If the streams are encoded with different settings on the same channel, the player will require at least a ten second space of time transitioning between the streams. Using files encoded with different settings on the same channel may prevent MediaStream Server from functioning as intended.

Create a Stream Steps

1. Create a channel. If channels have already been created, this step can be skipped. To find out more about creating channels, please refer to the Channels subsection of this manual.
2. Select files for stream.
3. Order file list.
4. Set stream properties.

Steps 2 - 4 will be detailed in the following pages.

Select Files For Stream



Media files should be transferred to the server before this step. Refer to *Transfer Files From PC Hard Drive* in this section of the manual for instructions on making files available.

1. Select **MediaStream** > **Server** > **Create Stream**.

MediaStream

> Streams > Create Stream > Schedule > Channels

> Server Pro: Stream Info

File List

Order	Name	Date (YYYY-MM-DD)	Duration (HH:MM:SS)	Bit Rate
-------	------	-------------------	---------------------	----------

Edit List

Stream Properties

Program Name:

Start Time (YYYY-MM-DD HH:MM:SS):

Start Now?

Continuous Play?

Play Count:

Stop Time (Optional) (YYYY-MM-DD HH:MM:SS):

Channel:

Save **Cancel**

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2. Select EDIT LIST to display available MPEGs.



Edit File List

File Name	Type	Date	Size	Duration (HH:MM:SS)	Bit Rate
<input type="checkbox"/> Agency_225_Heros.mpg	m2p	2005-07-26	113.88M	00:01:52	8.10 Mbps
<input checked="" type="checkbox"/> Cool Commercials.mpg	m1s	2005-07-26	81.67M	00:04:55	2.22 Mbps
<input checked="" type="checkbox"/> eurcncs185030_1.mpg	m1s	2005-07-22	4.88M	00:00:32	1.17 Mbps
<input checked="" type="checkbox"/> Having a bad day.mpg	m1s	2005-07-26	2.22M	00:00:15	1.21 Mbps
<input type="checkbox"/> Ice Scraping.wmv		2005-07-26	528.14K		
<input type="checkbox"/> trailer_352x480_cbr2mb.mpg	m2p	2005-07-21	19.03M	00:01:08	2.30 Mbps

Submit Files **Cancel** **Recheck Content** [Bad Content Log](#)

3. Activate (✓) the checkbox next to each MPEG file to be included in the stream. All MPEGs in the same stream must be the same file type (m1s, m2t, m2p.) File type is listed in the second column of the Edit File List.
4. Select SUBMIT FILES. The list of selected files will display in the File List of the Create Stream page.

Order File List

Video files may be sorted into the desired play order.

The duration of the file in a stream may be set to longer or shorter than the stream length. If the default duration of a file is extended, the file will loop until the time duration has been met. If the default duration of a file is shortened, the file will end without playing the whole file. Once the duration time has been met, the next file in the stream will display.



If order or duration are changed, and the file list is later edited, the order and duration will reset to default values. To avoid changes being reset, make them after all files have been added to the stream and placed in order.



The screenshot shows a software interface with two main sections. The top section is titled "File List" and contains a table with the following data:


Order	Name	Date (YYYY-MM-DD)	Duration (HH:MM:SS)	Bit Rate
1	Cool Commercials.mpg	2005-07-26	00:04:55	2.22 Mbps
2	eurcncs185030_1.mpg	2005-07-22	00:00:32	1.17 Mbps
3	Having a bad day.mpg	2005-07-26	00:00:15	1.21 Mbps

Below the table is an "Edit List" button. The bottom section is titled "Stream Properties" and contains several fields and checkboxes:

- Program Name: [Text input field]
- Start Time (YYYY-MM-DD HH:MM:SS): [Text input field with a calendar icon]
- Start Now?:
- Continuous Play?:
- Play Count: [Text input field]
- Stop Time (Optional) (YYYY-MM-DD HH:MM:SS): [Text input field with a calendar icon]
- Channel: [Dropdown menu showing "ch-00"]

At the bottom of the "Stream Properties" section are "Save" and "Cancel" buttons.

Sort Files

1. Add all files to the stream *File List*.
2. Select the down button  to the left of the file to move the file down one step in the file order. Continue to order file list until desired order is displayed.
3. Make duration changes, if necessary.
4. Select SAVE when all stream information is complete.

Change File Duration

1. Add all files to the stream *File List*.
2. Highlight the text box in the *Duration* column of the file to loop. Make changes using Hours:Minutes:Second (HH:MM:SS) format.
3. Select SAVE when all stream information is complete.

Set Stream Properties



File List

Order	Name	Date (YYYY-MM-DD)	Duration (HH:MM:SS)	Bit Rate
↓	Cool Commercials.mpg	2005-07-26	00:04:55	2.22 Mbps
↓	eurcnsc185030_1.mpg	2005-07-22	00:00:32	1.17 Mbps
↓	Having a bad day.mpg	2005-07-26	00:00:15	1.21 Mbps

Edit List

Stream Properties

Program Name

Start Time (YYYY-MM-DD HH:MM:SS) ...

Start Now?

Continuous Play?

Play Count

Stop Time (Optional) (YYYY-MM-DD HH:MM:SS) ...

Channel

Save **Cancel**

Select SAVE when all stream properties have been assigned.

Edit a Stream

1. Select **MediaStream** > **Server** > **Streams**.



The screenshot shows the MediaStream web interface. At the top, there is a navigation bar with "MediaStream" and links for "Streams", "Create Stream", "Schedule", and "Channels". Below this is a breadcrumb trail: "Server > Streams". The main content area is titled "Streams" and contains a table with the following data:

Program/Channel	Status	Start/Stop	Play	Action
Streamer List	ready	now	continuous	<input type="button" value="Stop"/>
Marketing News		no stop time		
advertising1	playing	2005-07-21 12:06:55	continuous	<input type="button" value="Stop"/>
ch-98		no stop time		
Trailer	playing	2005-07-26 13:00:05	continuous	<input type="button" value="Stop"/>
ch-38		no stop time		

Below the table are buttons for "Stop Streamer" and "Delete All Streams". At the bottom right, there is a "Display" dropdown menu set to "All Streams" and a "Go" button. The footer of the page includes the "hellus" logo, "Copyright © 2004 Hellus, Inc.", and the date/time "Tue Jul 26, 2005 2:01 pm".

2. Stop the stream that needs to be edited by selecting the STOP button in the *Action* column of the stream.
3. Select the highlighted stream name in the *Program/Channel* column.

The screenshot shows the "File List" dialog box. It contains a table with the following data:

Order	Name	Date (YYYY-MM-DD)	Duration (HH:MM:SS)	Bit Rate
1	Cool Commercials.mpg	2005-07-26	00:04:55	2.22 Mbps
2	eurencs185030_1.mpg	2005-07-22	00:00:32	1.17 Mbps
3	Having a bad day.mpg	2005-07-26	00:00:15	1.21 Mbps

Below the table is an "Edit List" button. The "Stream Properties" section contains the following fields:

- Program Name:
- Start Time (YYYY-MM-DD HH:MM:SS):
- Start Now?:
- Continuous Play?:
- Play Count:
- Stop Time (Optional) (YYYY-MM-DD HH:MM:SS):
- Channel:

At the bottom are "Save" and "Cancel" buttons.

4. Make changes to stream information.
5. Select SAVE.



Remember that any changes will cause the order and duration of the files to be reset to the default order and duration.

Delete a Stream

1. Select **MediaStream** > **Server**.




The screenshot shows the MediaStream web interface. At the top, there is a navigation bar with 'MediaStream' and links for 'Streams', 'Create Stream', 'Schedule', and 'Channels'. Below this is a breadcrumb trail '> Server Pro. Streams'. The main content area is titled 'Streams' and contains a table with the following data:

Program/Channel	Status	Start/Stop	Play	Action
advertising1 ch-98	stopped	2005-07-21 12:06:55 no stop time	continuous	<input type="button" value="Start"/> <input type="button" value="Delete"/>
Trailer ch-38	playing	2005-07-26 13:00:05 no stop time	continuous	<input type="button" value="Stop"/>
Streamer List Marketing News	playing	2005-07-27 10:09:57 no stop time	continuous	<input type="button" value="Stop"/>

Below the table, there are two buttons: 'Stop Streamer' and 'Delete All Streams'. On the right, there is a 'Display' dropdown menu set to 'All Streams' and a 'Go' button. At the bottom of the page, there is a footer with the 'helius' logo, 'Copyright © 2004 Helius, Inc.', and the date 'Wed Jul 27, 2005 10:12 am'.

2. Stop the stream that needs to be deleted by selecting the STOP button in the *Action* column of the stream.
3. Select the DELETE button in the *Action* column.

Delete All Streams

 Streams must be stopped before they can be deleted. Using the DELETE ALL STREAMS button will delete only streams that are stopped. Currently playing streams will not be deleted.

All streams may be stopped simultaneously by selecting STOP STREAMER.

1. Stop the streams that need to be deleted by selecting the STOP button in the *Action* column of each stream or STOP STREAMER to stop all streams.
2. Select the DELETE ALL STREAMS button to delete all stopped streams.

Display Stream Properties

Stream properties may be displayed for a stream that is currently running. To edit the stream properties, the stream must be stopped. Refer to Edit a Stream for more information.

1. Select **MediaStream** > **Server** > **Streams**.



The screenshot shows the MediaStream web interface. At the top, there is a navigation bar with "MediaStream" and links for "Streams", "Create Stream", "Schedule", and "Channels". Below this, there is a breadcrumb trail: "Server > Streams". The main content area is titled "Streams" and contains a table with the following data:

Program/Channel	Status	Start/Stop	Play	Action
advertising ch-90	stopped	2005-07-21 12:06:55 no stop time	continuous	<input type="button" value="Start"/> <input type="button" value="Delete"/>
Trailer ch-38	playing	2005-07-26 13:00:05 no stop time	continuous	<input type="button" value="Stop"/>
Streamer List Marketing News	playing	2005-07-27 10:09:57 no stop time	continuous	<input type="button" value="Stop"/>

Below the table, there are buttons for "Stop Streamer" and "Delete All Streams". On the right, there is a "Display" dropdown menu set to "All Streams" and a "Go" button. At the bottom of the interface, there is a footer with the Helius logo, copyright information "Copyright © 2004 Helius, Inc.", and the date/time "Wed Jul 27, 2005 10:12 am".

2. Select the orange highlighted name in the *Program/Channel* column of the active stream.



The screenshot shows two sections of the MediaStream web interface. The top section is titled "File List" and contains a table with the following data:

Name	Date (YYYY-MM-DD)	Duration (HH:MM:SS)	Bit Rate
eurcncs185030_1.mpg	2005-07-22	00:00:32	1.17 Mbps

The bottom section is titled "Stream Properties" and contains the following information:

Program Name: **Trailer** Start Time: **2005-07-27 10:17:44**
Play: **Continuously** Stop Time: **never**
Channel: **ch-38** Packet Format: **UDP**

Schedule

Schedule displays a list of channels and streams.

MediaStream <Streams <Create Stream <Schedule <Channels

> Server Pro: Schedule

Schedule Wed Jul 27, 2005 10:20 am

Wed Jul 27, 2005	10:00 am	10:30 am	11:00 am	11:30 am	>>
5985 ch-98	<< advertising1 >>				
5875 Marketing News	(10:17am) Streamer_List >>				
5875 ch-38	(10:17am) Trailer >>				
Total Bitrate	5.69 Mbps	5.69 Mbps	5.69 Mbps	5.69 Mbps	

helius Copyright © 2004 Helius, Inc. Wed Jul 27, 2005 10:20 am

SECTION 5

MEDIALOCK

Overview

MediaLock is the Helius secure data encryption system. This feature provides IP-Sec in a one-way satellite environment without requiring a back channel.

For MediaLock software to function, two pieces of hardware are required: the MediaGate Server and the MediaLock Gateway device. The MediaGate Server must have MediaLock enabled and licensed. The MediaLock Gateway device is the hardware that performs the encryption of data on the network.

The MediaLock Server controls administration of networks and clients to be encrypted. The MediaLock Gateway performs the encryption. MediaGate Routers receive and decrypt the data.

This section describes the MediaLock link and functions in the Helius Management Console on the MediaGate Server.

The MediaLock Gateway device is initially setup as the server is: with ethernet addresses according to the network addressing scheme, with time zone and settings appropriate for the area and features enabled that are available. Please refer to the [MediaLock Gateway Manual](#) or the [MediaGate Server Installation and Configuration Manual](#) for more information.

The MediaLock service needs to be started in the Daemons table for MediaLock to function. Please refer to the License section for instructions for how to start the MediaLock service.

For initial setup and configuration of MediaLock functions, please refer to the [MediaGate Server Installation and Configuration Manual](#).



[Keyserver](#)

Gateway configuration options. Encrypted network, channel and event information.

[License](#)

View of license information.

Keyserver Admin



The screenshot displays the Helius Management Console interface. The top navigation bar includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left-hand sidebar lists various services: Video Services, MediaWrite, MediaStream, MediaLock (with sub-items KeyServer and License), MediaGate Router, and Account Manager. A "Switch user..." link is also present. The main content area is titled "MediaLock" and contains a breadcrumb trail: "> KeyServer: Administration". Below this, there is a section for "KeyServer Administration" with a sub-section for "MediaLock Gateway Configuration". This section includes an "Add Gateway" link and a "Gateways Remove?" section stating "No Gateways defined.". The "KeyServer Configuration" section contains several settings: Key Rotation (24 hours), Network Poll Interval (1 minute), Announce Interval (10 seconds), Update Send Rate (25 Kbps), and Receiver Send Rate (25 Kbps). A "Save" button is located at the bottom of the configuration section. The footer of the console shows the Helius logo, copyright information for 2004 Helius, Inc., and the date/time: Thu Feb 16, 2006 5:49 pm.

Keyserver View

helius HELIUS MANAGEMENT CONSOLE

Video Services
MediaWrite
MediaStream
MediaLock
KeyServer
Licenses
MediaGate Router
Account Manager
Switch user...

MediaLock

Administration View

KeyServer View

Network	Description	User	Status
224.100.0.1/32	MV Catalog	helius	encrypted
224.100.100.100/32	MV Data	helius	encrypted
224.2.127.254/32	SAPs	helius	encrypted
225.0.0.58/32	Heartbeat	helius	encrypted
226.100.13.1/32	Authorizations	helius	encrypted

Channel	Description	User	Status
10>	Channel 10	helius	encrypted
11>	Channel 11	helius	encrypted
12>	Channel 12	helius	encrypted
13>	Channel 13	helius	encrypted
14>	Channel 14	helius	encrypted
15>	Channel 15	helius	encrypted
16>	Channel 16	helius	encrypted
17>	Channel 17	helius	encrypted
18>	Channel 18	helius	encrypted
19>	Channel 19	helius	encrypted

Event	Description	User	Status
14>48002	N/A	helius	encrypted
14>48003	N/A	helius	encrypted
14>48004	N/A	helius	encrypted
14>48005	N/A	helius	encrypted
15>59008	N/A	helius	encrypted
15>59009	N/A	helius	encrypted

helius Copyright © 2004 Helius, Inc. Fri Apr 28, 2006 3:23 pm

Add a Gateway

1. Select **MediaLock** > **KeyServer** > *Add Gateway*.



2. Enter IP address of new gateway.
3. Select ADD.

Remove a Gateway

1. Select **MediaLock** > **KeyServer**.



2. Activate (✓) the checkbox in the *Remove?* column.
3. Select REMOVE.

License

The License page allows for confirmation of licensing information. Any changes or update to the license may be entered here. Do not make changes to the licensing information without Helius involvement.



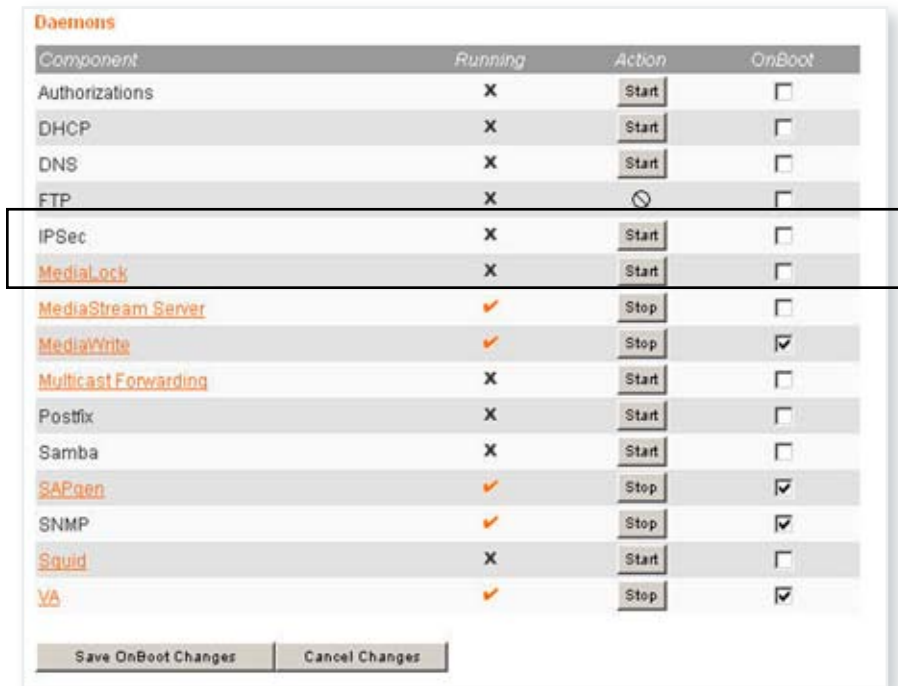
The screenshot displays the Helius Management Console interface for the MediaLock service. The left sidebar contains navigation links for Video Services, MediaWrite, MediaStream, MediaLock, KeyServer, License, MediaGate Router, Account Manager, and Switch user.. The main content area is titled 'MediaLock' and shows 'License Settings'. Under 'License Information', the 'Current License Status' is 'License is Valid' with a checkmark. The 'Current License Settings' section includes a 'License Expiration (DD-mon-YYYY)' field with the value '10-Apr-2006', a 'License Key' field with the value '66cd3c78aa559cf773df1791867b1', and a 'Product Key' field with the value 'IPLIQPM'. There is a checkbox labeled 'Start / Restart MediaLock using the new license.' and a warning message: 'Warning: Restarting MediaLock will temporarily interrupt existing encrypted traffic.' A 'Save' button is located at the bottom of the settings area. The footer of the console shows the Helius logo, 'Copyright © 2004 Helius, Inc.', and the date/time 'Thu Feb 16, 2006 6:08 pm'.

Select SAVE to enable changes.

Once licensed, the MediaLock service in the Daemons table should be started on the Media-Gate Server, Gateway and all Routers with MediaLock licensed in order for MediaLock to function properly.

Start the MediaLock Service


1. Select **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*.



Component	Running	Action	OnBoot
Authorizations	X	Start	<input type="checkbox"/>
DHCP	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
FTP	X	⊘	<input type="checkbox"/>
IPSec	X	Start	<input type="checkbox"/>
MediaLock	X	Start	<input type="checkbox"/>
MediaStream Server	✓	Stop	<input type="checkbox"/>
MediaWrite	✓	Stop	<input checked="" type="checkbox"/>
Multicast Forwarding	X	Start	<input type="checkbox"/>
Postfix	X	Start	<input type="checkbox"/>
Samba	X	Start	<input type="checkbox"/>
SAPgen	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
Squid	X	Start	<input type="checkbox"/>
VA	✓	Stop	<input checked="" type="checkbox"/>

Save OnBoot Changes Cancel Changes

2. Select the START button in the *Action* column of IPsec.
3. Select the START button in the *Action* column of MediaLock.
4. Activate (✓) the checkbox in the *OnBoot* column of both services.
5. Select SAVE ONBOOT CHANGES.

 Selecting the MediaLock link opens the **MediaLock** > **Keyserver** > **Admin** page.

IPsec should be started before starting the MediaLock daemon. Refer to the **MediaGate Server Installation and Configuration Manual** for more information.

SECTION 6

MEDIAGATE ROUTER

Helius MediaGate Router provides configuration and settings options, access to custom commands and file upload as well as maintenance and troubleshooting features.



[Console](#)

Local Router settings for ethernet, time and services, plus test, status and report features.

[Custom Commands](#)

A set of custom commands that initiate tests or functions on the Router. Site specific custom commands that are developed are available through this interface.

[File Manager](#)

File Manager provides the Graphical User Interface (GUI) for accessing files on the Router. This interface is limited in order to protect the Router from accidental file deletion.

[System Logs](#)

Detailed list of available logs for troubleshooting.

[Update Manager](#)

Interface for downloading and applying patches.

Console

Console is the default screen when selecting MediaGate Router in the Navigation Menu of the Helius Management Console.

This page in the Management Console provides the interface for assigning network ethernet addresses and starting specific services, processes and software features for the MediaGate Server.



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HELIUS MANAGEMENT CONSOLE™

[Video Services](#)

[MediaWrite](#)

[MediaStream](#)

[MediaLock](#)

[MediaGate Router](#)

[Console](#)

[Custom Commands](#)

[File Manager](#)

[System Logs](#)

[Update Manager](#)

[Account Manager](#)

[Switch user...](#)

[Account Manager](#)

[Switch user...](#)

[Account Manager](#)

[Switch user...](#)

[Account Manager](#)

[Switch user...](#)

[Account Manager](#)

MediaGate Router

[Configuration](#)
[Internet Test](#)
[Generate Report](#)
[Router Status](#)

> Console: Configuration

✔ - UP
 ✘ - DOWN
 ⊙ - N/A

Ethernet Interfaces

Interface	Status	IP Addr	Broadcast	Mask
eth0	✔	192.168.0.2	192.168.255.255	255.255.0.0
eth0.0	✔	172.18.254.1	172.18.254.3	255.255.255.252
eth1	✔	192.168.0.7	192.168.255.255	255.255.0.0

[Edit Interface Settings](#)

Daemons

Component	Running	Action	OnBoot
Authorizations	✘	Start	<input type="checkbox"/>
DHCP	✘	Start	<input type="checkbox"/>
DNS	✘	Start	<input type="checkbox"/>
FTP	✘	⊙	<input type="checkbox"/>
IPSec	✘	Start	<input type="checkbox"/>
MediaLock	✘	Start	<input type="checkbox"/>
MediaStream Server	✘	Start	<input type="checkbox"/>
MediaWrite	✘	Start	<input type="checkbox"/>
Multicast Forwarding	✘	Start	<input type="checkbox"/>
Postfix	✘	Start	<input type="checkbox"/>
Samba	✘	Start	<input type="checkbox"/>
SAPoint	✔	Stop	<input checked="" type="checkbox"/>
SNMP	✔	Stop	<input checked="" type="checkbox"/>
Squid	✘	Start	<input type="checkbox"/>
VS	✘	Start	<input checked="" type="checkbox"/>

Save OnBoot Changes
Cancel Changes

Time Settings

Local Time	Time Zone
Fri Dec 16 19:58:51 GMT 2005	GMT

Miscellaneous

Component	Running	Action
DNS Client	⊙	Edit
Route Config	⊙	Edit
Firewall	✘	Edit
SendMail	✘	Enable
Ntop Web	✘	Enable
Transparent Cache	✘	Enable
Sreadmin Password	⊙	Change

helius
Copyright © 2004 Helius, Inc.
Fri Dec 16, 2005 7:58 pm

Edit Ethernet Interfaces

Ethernet Interfaces				
Interface	Status	IP Addr	Broadcast	Mask
eth0	✓	192.168.0.2	192.168.255.255	255.255.0.0
eth0:0	✓	172.18.254.1	172.18.254.3	255.255.255.252
eth1	✓	192.168.0.7	192.255.255.255	255.0.0.0
-Edit Interface Settings				

1. Select *Edit Interface Settings*.



Ethernet Interface Editor						
Device	Address	Mask	Network	Broadcast	Gateway	OnBoot Action
eth0	192.168.0.2	255.255.0.0	192.168.0.0	192.168.255.255		yes ▾ Stop
eth0:0	172.18.254.1	255.255.255.252	172.18.254.0	172.18.254.3		yes ▾ Stop
eth1	192.168.0.7	255.0.0.0	192.0.0.0	192.255.255.255		yes ▾ Stop

2. Make changes according to the assigned network scheme for your network.
3. Once modifications have been made, select APPLY CHANGES.

Daemons

This section provides descriptions of links that are not available elsewhere for the services available through the Daemons table.

Squid

Squid uses access policies to either allow or deny access to domains.

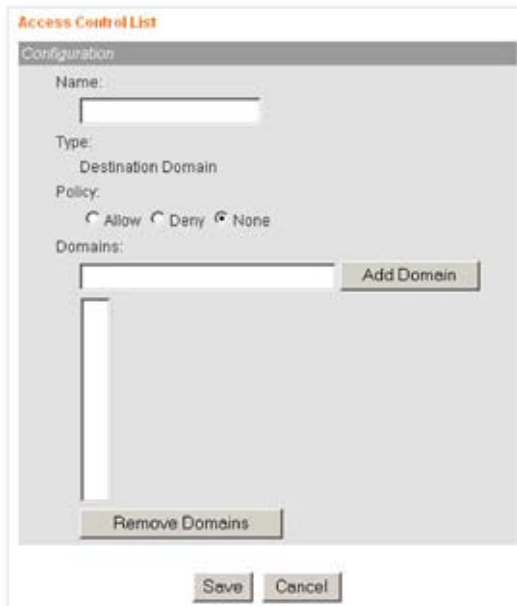
Configure Access Policies

1. Select the Squid link in the *Daemons* table.



The screenshot shows the 'Browsing - Default Access' configuration page. At the top, there is a section titled 'Browsing - Default Access' with a 'Default Access Policy.' and two radio buttons: 'Allow' (selected) and 'Deny'. Below this is another section titled 'Browsing - Access Control Lists' with a 'New ACL' link. A table with columns 'Name', 'Policy', and 'Remove' is visible. At the bottom, there are 'Save' and 'Cancel' buttons.

2. Select New ACL.



The screenshot shows the 'Access Control List' configuration page. It has a 'Configuration' section with the following fields: 'Name:' (text input), 'Type:' (dropdown menu with 'Destination Domain' selected), 'Policy:' (radio buttons for 'Allow', 'Deny', and 'None', with 'None' selected), and 'Domains:' (text input with an 'Add Domain' button next to it). Below the 'Domains:' input is a 'Remove Domains' button. At the bottom, there are 'Save' and 'Cancel' buttons.

3. Enter the policy information.
4. Select ADD DOMAIN. Repeat for each domain.
5. Select SAVE.

Time Settings

Local Time

Select the link in the *Local Time* column.



MediaGate Router

Internet Test | Generate Report

Router Configuration: Configuration > Time Settings and Synchronization

Current system time: Thu Jul 28 08:58:05 MDT 2005

Helius Time Communication

Settings

Multicast Address: 224.0.1.1

UDP Port: 246

Helius Time Server

Time Server Settings

Communication Interface: vB0

Multicast Interval: 600

TTL: 5

Helius Time Client

Time Client Settings

Communication Interface: vB0

Step Time Threshold (sec): 50

Reset Time Threshold (sec): 3000 Reboot

Consecutive Packets for Average: 3

Time Packet Tolerance (pkts): 2

Enable NTP Time

Client Option (time consumer)

Broadcast Receive only (novolley) Broadcast Delay (in seconds): 003

Time Source Servers

Server:

Server:

Server:

Change System Date and Time

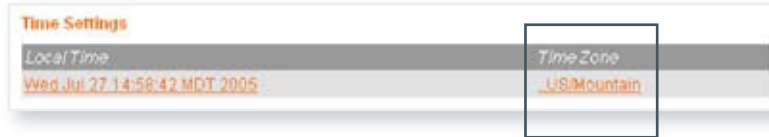
Source	Day	Date	Month	Year	Hour	Min	Sec	Time Zone
Hardware:	Thu	28	Jul	2005	08	58	02	n/a
System:	Thu	<input type="text" value="28"/>	<input type="text" value="Jul"/>	<input type="text" value="2005"/>	<input type="text" value="08"/>	<input type="text" value="58"/>	<input type="text" value="05"/>	MDT

None

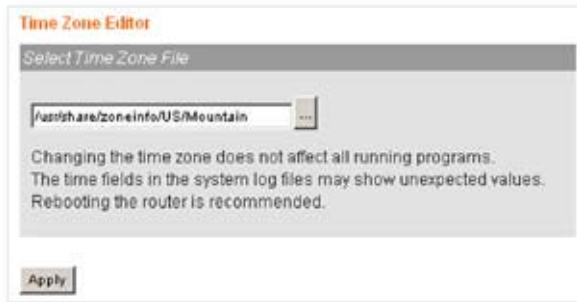
helius Copyright © 2004 Helius, Inc. Thu Jul 28, 2005 8:58 am

Time Zone

Set Time Zone



1. Select the highlighted text under *Time Zone*.



2. Select the ... button to display a list with selections for time zone.

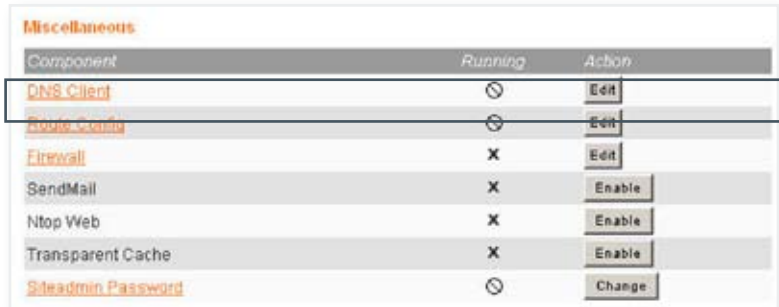


3. Select the time zone, then select OK. The Time Zone Editor screen will re-display with the selection in the text box.
4. Select APPLY. The screen will refresh and display the changes made.

Miscellaneous

DNS Client

Identify a DNS Server



Component	Running	Action
DNS Client	<input type="checkbox"/>	Edit
Route Config	<input type="checkbox"/>	Edit
Firewall	X	Edit
SendMail	X	Enable
Ntop Web	X	Enable
Transparent Cache	X	Enable
Steadmin Password	<input type="checkbox"/>	Change

1. Select DNS Client or the EDIT button to set the hostname and domain.



Edit DNS Options

DNS Client Options

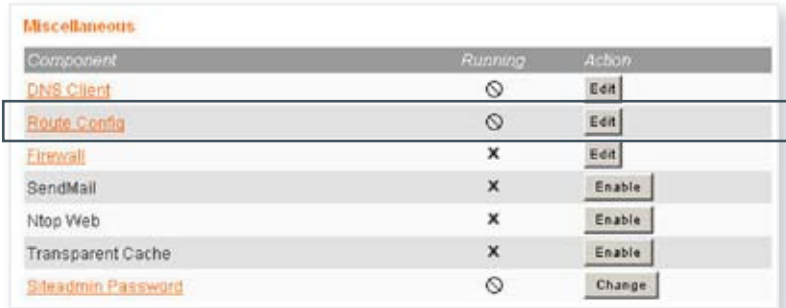
Hostname:

DNS Servers:

2. Enter DNS server address.
3. Select SAVE DNS.

Route Config

Add A Route



Component	Running	Action
DNS Client	<input type="checkbox"/>	Edit
Route Config	<input type="checkbox"/>	Edit
Firewall	X	Edit
SendMail	X	Enable
Ntop Web	X	Enable
Transparent Cache	X	Enable
Steadmin Password	<input type="checkbox"/>	Change

1. Select *Route Config* or the EDIT button in the *Action* column.



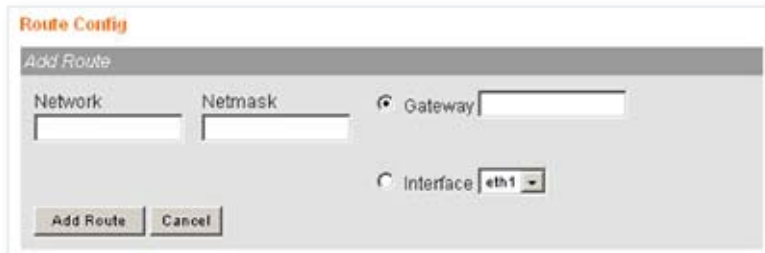
Route Config

Current Routes Delete

route add -net 224.0.0.0 netmask 240.0.0.0 eth1	<input type="checkbox"/>
---	--------------------------

Add Route Delete Routes

2. Select ADD ROUTE.



Route Config

Add Route

Network Netmask

Gateway

Interface

Add Route Cancel

3. Enter network information and select interface or gateway address. At this time, you cannot use slash notation to specify a subnet mask. Subnet masks should be entered in 255.255.0.0 format, not /16.
4. Select ADD ROUTE to save.

Edit a Route

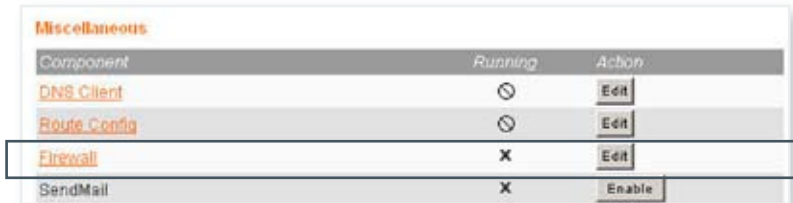


1. Select the route link in the *Current Routes* column.



2. Make changes.
3. Select ADD ROUTE to save changes.

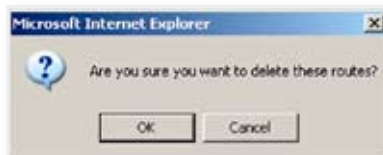
Delete a Route



1. Select Route Config or EDIT.



2. Activate (✓) the checkbox in the *Delete* column.
3. Select DELETE ROUTES.



4. Select OK to confirm route deletion.

Firewall



Three choices are available for configuration: Blocking, Redirect and NAT.

Blocking

Blocking allows specific ports or IIP addresses to be identified for blocking.

Redirect

Redirect creates rules to forward a request on a specific incoming port to another IP address on the Local Area Network (LAN). Redirect can only apply to incoming packets originating from outside the network and requires a public IP address.

NAT

Network Address Translation (NAT) is used to change outgoing traffic to the IP address specified.

Blocking

Set Blocking Rule

1. Select *Blocking*.

IP Address	Port	Delete?
------------	------	---------

[Add New Rule](#)

Save Cancel

2. Select *Add New Rule*.

Add New Blocking Rule

Rule Properties

IP Address

Port

Save Cancel

3. Enter an IP address and port.
4. Select SAVE. Repeat for each IP and port. Select SAVE for each entry.

Delete Blocking Rule

1. Select *Blocking*.

IP Address	Port	Delete?
224.224.0.0	5875	<input checked="" type="checkbox"/>

[Add New Rule](#)

Save Cancel

2. Activate (✓) the checkbox in the *Delete* column next to the rule.
3. Select SAVE.

Redirect

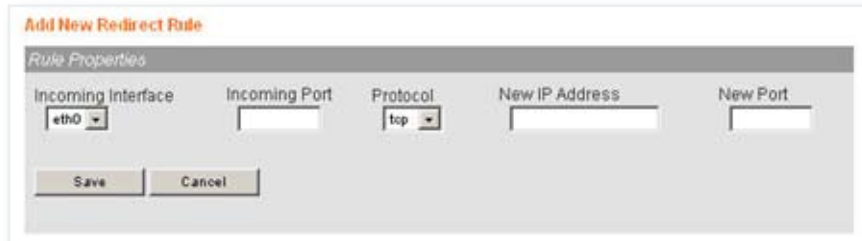
Add Redirect Rule

1. Select *Redirect*.



The screenshot shows a table titled "Current Redirect Rules" with the following columns: Incoming Port, New IP Address, New Port, and Delete?. Below the table is a link "Add New Rule" and two buttons: "Save" and "Cancel".

2. Select *Add New Rule*.



The screenshot shows the "Add New Redirect Rule" form with the following fields: Incoming Interface (dropdown menu with "eth0" selected), Incoming Port (text input), Protocol (dropdown menu with "tcp" selected), New IP Address (text input), and New Port (text input). Below the form are two buttons: "Save" and "Cancel".

3. Enter the port information of the incoming packets and the IP address and port to redirect the packet through.
4. Select SAVE.

Delete Redirect Rule

1. Select *Redirect*.



The screenshot shows the "Current Redirect Rules" table with the following columns: Interface, Incoming Port, Protocol, New IP Address, New Port, and Delete?. The table contains one rule with the following values: Interface: eth0, Incoming Port: 9075, Protocol: tcp, New IP Address: 224.224.0.2, New Port: 5000, and Delete?: . Below the table is a link "Add New Rule" and two buttons: "Save" and "Cancel".

2. Activate (✓) the checkbox in the *Delete* column of the blocking rule to be deleted.
3. Select SAVE.

NAT

NAT Configuration

1. Select NAT.

Interface	Rule	Target	Add/Retain?
eth1	None	SNAT	<input type="checkbox"/>
eth0	None	SNAT	<input type="checkbox"/>
ppp0	None	SNAT	<input type="checkbox"/>

2. Select or change *Target*.
3. Activate (✓) the checkbox in the *Add/Retain* column.
4. Select SAVE.

Internet Test

1. Select *Internet Test* in the navigation bar.



The screenshot shows the 'Internet Test' configuration page on a MediaGate Router. The page has an orange header with the title 'MediaGate Router' and navigation links for '< Configuration', 'Internet Test', '> Generate Report', and '< Router Status'. Below the header, there is a breadcrumb trail '> Console: Internet Test'. The main content area is titled 'Internet Test' and contains two input fields: 'Target IP Address:' with the value '192.168.0.1' and 'Timeout (per ping):' with a value of '1' and the unit 'second(s)'. There are two buttons: 'Save Settings' and 'Start Test'. At the bottom of the page, there is a footer with the 'helius' logo, 'Copyright © 2004 Helius, Inc.', and the date/time 'Fri Apr 25, 2008 9:55 pm'.

2. Enter the target information. Timeout seconds equal how long to run the test before stopping.
3. Select START TEST. Using the ENTER key on the keyboard will not work.

```
Internet test in progress.

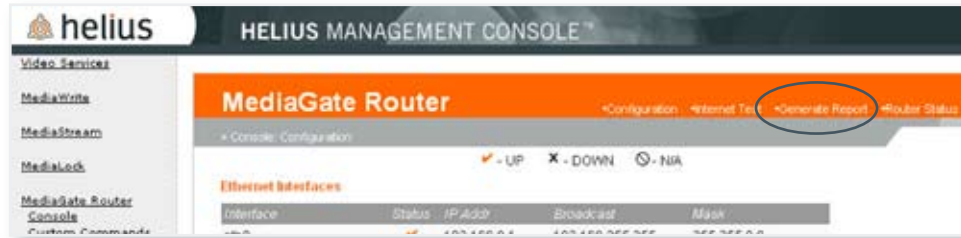
PING 192.168.0.1 (192.168.0.1): 56 octets data
64 octets from 192.168.0.1: icmp_seq=0 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=1 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=2 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=3 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=4 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=5 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=6 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=7 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=8 ttl=64 time=0.1 ms
64 octets from 192.168.0.1: icmp_seq=9 ttl=64 time=0.1 ms

--- 192.168.0.1 ping statistics ---
10 packets transmitted, 10 packets received, 0% packet loss
round-trip min/avg/max = 0.1/0.1/0.1 ms

Connectivity Status: Good internet connection
```

The Internet Test results will display onscreen.

Generate Report



Select [MediaGate Router](#) > [Console](#) > [Generate Report](#).

```
Generate Report
-----
*** Generate Report ***
# helius Fri Apr 28 22:02:23 GMT 2006
-----

*** Version and Patch Level ***
/root/BUILD_srv_2.8.3_2006-04-25
-----

*** HostName ***
gethostname()='helius.nodomain'
Resolving 'helius.nodomain' ...
Result: h_name='helius.nodomain'
Result: h_aliases='helius'
Result: h_addr_list='192.168.0.1'
helius.nodomain
-----

*** Patches ***
total 24
drwxr-xr-x  3 support  users      4096 Apr 25 17:05 .
drwxr-xr-x  7 support  users      4096 Apr 25 16:45 ..
drwxr-xr-x  2 root    root       4096 Apr 25 17:06 200604251705_CustomHW.norpm
-rw-r--r--  1 root    root       9796 Apr 25 16:45 CustomHW.norpm.tar.gz
-----

*** arp Table ***
? (192.168.0.3) at 00:90:27:10:06:28 [ether] on eth0
-----

*** Routing Table ***
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
172.18.254.0 0.0.0.0 255.255.255.252 U 0 0 0 0 eth0
172.17.0.0 0.0.0.0 255.255.0.0 U 0 0 0 0 eth1
172.17.0.0 0.0.0.0 255.255.0.0 U 0 0 0 0 ipsec0
192.168.0.0 0.0.0.0 255.255.0.0 U 0 0 0 0 eth0
```

Ethernet and hardware (MAC) addresses may be found in Generate Report for configuration purposes.

Router Status

Selecting [Router Status](#) on the navigation bar returns a status log for the Router. The log will be displayed onscreen.

Custom Commands



helius HELIUS MANAGEMENT CONSOLE

[Help](#)

Custom Commands

RunLevel
RunLevel (0-6)
Are you sure Yes No

Send Text to message log
Text to send to /var/log/messages

TCPOUMP
Interface [ra0]
Options
Max Seconds to run [30 sec]

grep /var/log/messages
String to search for
Options

Tail /var/log/messages
Max Duration (120 secs default)

Running Processes

sendmail now

Reapply Custom-HW Patch
Are you sure? Yes No

Enable/Disable Softdog
Disable Yes No
Reboot Yes No

Upreconds

Launch qntest gui

Test Suite Details
Suite

Switch user...

me/q

Video Services

MediaWrite

MediaStream

MediaWeb

MediaWeb Router

Console

Custom Commands

File Manager

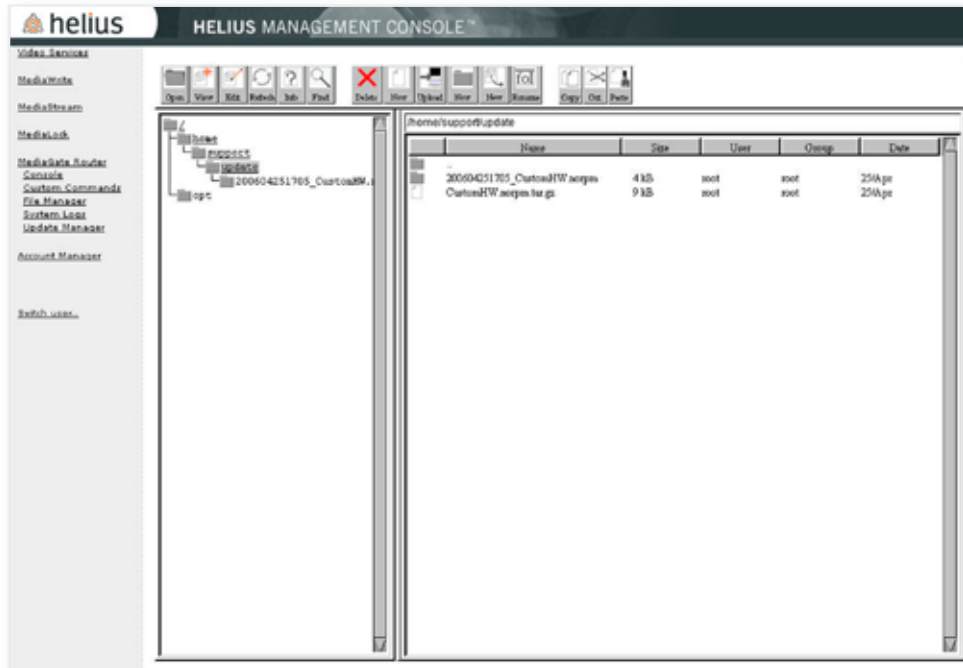
System Logs

Update Manager

Account Manager

File Manager

File Manager is a Graphical User Interface (GUI) that allows an administrator to access files on the MediaGate Router. Limited access is available to protect the Router from accidental file deletion.



Use the tool buttons to manage the files.

- File Manager is a Java application and some Windows features such as dragging and dropping files are not available. File transfer will be slow.

System Logs



helius HELIUS MANAGEMENT CONSOLE™

MediaGate Router

Custom Logs

Log destination	View	Active?	Messages selected
File /dev/console	View	No	0/0
File /var/log/messages	View	Yes	* info ; cron,news,mail,smtppriv,auth none
File /var/log/debug	View	Yes	* debug ; news,mail,smtppriv,auth none
File /var/log/secure	View	Yes	smtppriv * ; auth *
File /var/log/mail	View	Yes	mail *
File /var/log/news	View	Yes	news *
File /var/log/spooler	View	Yes	uucp,news err
All users	View	No	* emerg
Syslog server on loghost	View	No	* emerg
File /var/log/helius/error	View	Yes	* err
File /dev/3umpTrap1.0	View	Yes	* crit
File /var/log/helius/dongle	View	Yes	local2 info
File /var/log/helius/dongle.err	View	Yes	local2 err
File /var/log/helius/VA	View	Yes	local1 info
File /var/log/helius/VA.err	View	Yes	local1 err
File /var/log/helius/MediaWrite	View	Yes	local3 info ; local3 notice
File /var/log/helius/MediaWrite.err	View	Yes	local3 err
File /opt/MediaWrite/log/activity.log	View	Yes	local3=info
File /var/log/helius/MediaWrite.notice	View	Yes	local3 notice
File /var/log/helius/WIR	View	Yes	local0 * local1 * local2 * local3 * local4 * local5 * local6 * local7 *
File /var/log/helius/WIR.err	View	Yes	local0 err local1 err local2 err local3 err local4 err local5 err local6 err local7 err

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Standard CSV Save File

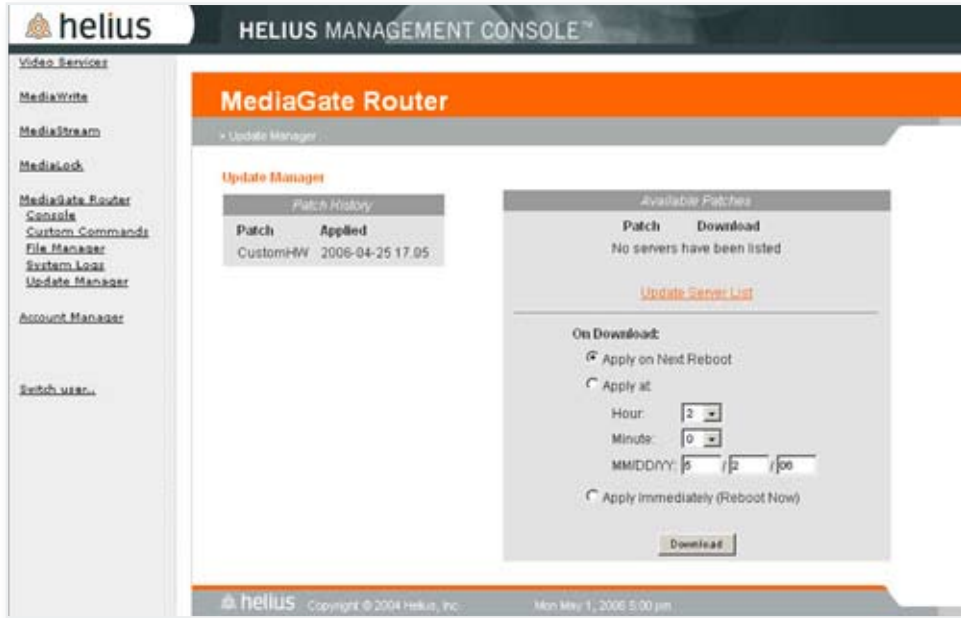
```

Jul 28 09:44:43 sev miniserv.pl[28184]: connect from 192.168.0.3
Jul 28 09:44:44 sev miniserv.pl[28185]: connect from 192.168.0.3
Jul 28 09:44:48 sev miniserv.pl[28187]: connect from 192.168.0.3
Jul 28 09:44:48 sev miniserv.pl[28188]: connect from 192.168.0.3
Jul 28 09:44:48 sev miniserv.pl[28189]: connect from 192.168.0.3
Jul 28 09:44:48 sev miniserv.pl[28190]: connect from 192.168.0.3
Jul 28 09:44:49 sev miniserv.pl[28191]: connect from 192.168.0.3
Jul 28 09:45:04 sev miniserv.pl[28283]: connect from 192.168.0.3
Jul 28 09:45:04 sev miniserv.pl[28284]: connect from 192.168.0.3
Jul 28 09:45:04 sev miniserv.pl[28285]: connect from 192.168.0.3
Jul 28 09:45:04 sev miniserv.pl[28286]: connect from 192.168.0.3
Jul 28 09:45:04 sev miniserv.pl[28287]: connect from 192.168.0.3
Jul 28 09:45:30 sev miniserv.pl[28306]: connect from 192.168.0.3
Jul 28 09:45:30 sev miniserv.pl[28307]: connect from 192.168.0.3
Jul 28 09:45:30 sev miniserv.pl[28308]: connect from 192.168.0.3
Jul 28 09:45:30 sev miniserv.pl[28309]: connect from 192.168.0.3
Jul 28 09:45:31 sev miniserv.pl[28310]: connect from 192.168.0.3
Jul 28 09:45:49 sev miniserv.pl[28334]: connect from 192.168.0.3
Jul 28 09:46:07 sev miniserv.pl[28414]: connect from 192.168.0.3
Jul 28 09:46:27 sev miniserv.pl[28418]: connect from 192.168.0.3
    
```

Last 20 lines of /var/log/secure Refresh

USE 0 FOR ALL ENTRIES

Update Manager



Update Server List

1. Select Update Server List.



2. Select Add New Server.



3. Enter server URL and username and password.
4. Select SAVE NEW SERVER.
5. Select SAVE SERVERS.

SECTION 7

ACCOUNT MANAGER

Account Manager
Account Manager

Account Manager allows a MediaGate Server administrator to assign a Provider to the Server. A Provider is a client or customer requiring the ability to create and send packages, add receivers and provide authorizations. A Provider is responsible for the content that needs to be delivered and the creation and sending of packages.

Currently, only a single Provider with full privileges may be created per MediaGate Server.



helius HELIUS MANAGEMENT CONSOLE™

Video Services
MediaWrite
MediaStream
MediaLock
MediaGate Router
Account Manager
Account Manager

Switch user...

Account Manager

> Account Manager > Edit Provider

Edit Provider

Edit Login Settings

Login Name Provider
New Password Confirm

Product Access

MediaWrite MediaLock
 MediaSignage MediaTraining

MediaWrite Package Delivery Settings

Package Transfer

Mbps 10 Mbps

* Maximum Available bandwidth is currently set to 10 Mbps

Groups Receivers

Enable Broadcast Group
Limit the number of receivers in a list box to:

Feedback

Feedback Window seconds
Maximum delivery reports per second:
Complete package resend on missing report

File Upload

Enable FTP Enable Samba

MediaWrite Commands

Select All

<input type="checkbox"/> MediaTraining Info	<input type="checkbox"/> MediaTraining Reports	<input type="checkbox"/> MediaTraining Video	<input type="checkbox"/> AutoRun
<input type="checkbox"/> Channel Down	<input type="checkbox"/> Channel Up	<input type="checkbox"/> MoveXML	<input type="checkbox"/> Patch
<input type="checkbox"/> Playback	<input type="checkbox"/> Reboot	<input type="checkbox"/> Shutdown	<input type="checkbox"/> MediaSignage Publish

MediaWrite FEC Settings

Good Block Size <input type="text" value="10"/>	Good Interleave Size <input type="text" value="5"/>
Better Block Size <input type="text" value="8"/>	Better Interleave Size <input type="text" value="7"/>
Best Block Size <input type="text" value="7"/>	Best Interleave Size <input type="text" value="8"/>

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SECTION 8

SWITCH USER

Select Switch User.... to redisplay the login screen.



Login with a different support level or select CANCEL to close this window.

For more information on types of login access, refer to the Overview section of this manual.



APPENDIX A

GLOSSARY OF TERMS

Glossary of Terms

This Glossary of Terms is separated into Definitions and Acronyms.

Definitions

Catalog

A list of packages to be sent via MediaWrite containing all send details.

Digital Video Broadcast (DVB)

DVB is standard satellite video only. DVB cannot be multicast nor forwarded on to other devices on a network as DVB. To be multicast to other devices on a network, DVB must be converted to IP. For devices on the network to receive DVB to IP broadcasts, they must be configured to the multicast address and port and interface the router is broadcasting on and have software loaded that allows DVB to IP viewing. Helius MediaStream Player provides DVB to IP viewing capability on local PCs.

Dynamic Host Configuration Protocol (DHCP)

A protocol that allows network administrators to centrally manage and automate assignment of IP addresses on a network. Using TCP/IP, each machine that can connect to the Internet requires a unique IP address. When an organization provides computer users with a connection to the Internet, an IP address must be assigned to each machine. Without DHCP, the IP address must be entered manually at each computer, and if computers move to another location in another part of the network, a new IP address must be entered. DHCP allows a network administrator to supervise and distribute IP addresses from a central point by automatically sending a new unique IP address when a computer is connected to the network in any location. See Appendix C for more information.

Forward Error Correction (FEC)

FEC improves the success rate of MediaWrite packages. See Appendix C for more information.

File Transfer Protocol (FTP)

The standard Internet protocol for file transfer. FTP is the simplest way to exchange files between computers on the Internet. FTP is an application protocol that uses TCP/IP.

Internet Protocol (IP)

Specifies the format of packets, also called datagrams, and the addressing scheme. Most networks combine IP with a higher-level protocol called Transport Control Protocol (TCP) which establishes a virtual connection between a destination and a source. IP by itself is similar to a letter: it allows you to address a package and drop it in the system, but there is no direct link between you and the recipient. TCP acts as the postal delivery service by establishing a connection between two hosts so that they can send messages back and forth for a period of time.

IP Address

A 32-bit address assigned to hosts using TCP/IP. Each address contains a network number, a subnetwork number (optional) and a host number. The network number and subnetwork number are used for routing. The host number is used to address an individual host within a network or subnetwork.

IP addresses can be private or public. Public addresses are sanctioned by the Internet Assigned Number Authority (IANA).

IP datagram

The unit end-to-end transmission in the protocol. An IP datagram consists of an IP header followed by transport layer data such as a message.

IPSec

A developing standard for security at the network or packet-processing layer of network communication. Earlier security approaches have inserted security at the application layer of the communications model. IPSec is useful for implementing virtual private networks and for remote user access through dialup connections to private networks. Security arrangements can be handled without requiring changes to individual user computers.

Local Area Network

A network of interconnected workstations sharing the resources of a single processor or server within a relatively small geographic area. Using Fiber Distributed Digital Interface (FDDI) extends a LAN over a much wider area and now a LAN may serve as few as four or five computers in a single location or several thousand.

Low Noise Block (LNB)

Converts satellite dish signals to an intermediate frequency.

Multicasting

Allows one host computer on the Internet to send content to other computers that have identified themselves as interested in receiving the originating computer's content. Multicasting can be used for such applications as updating the address books of mobile computer users in the field, sending out company newsletters to a distribution list, and broadcasting high bandwidth programs of streaming media to an audience that has set up a multicast group membership.

Point-to-Point Protocol

A protocol for communication between two computers using a serial interface such as a personal computer connected by phone line to a server. For example: An Internet Service Provider (ISP) may provide a PPP connection so the provider's server can respond to user requests, pass them on to the Internet and forward requested Internet responses back to the user. PPP uses IP and is designed to handle other protocols as well. PPP is sometimes considered a member of the TCP/IP suite of protocols. Relative to the Open Systems Interconnection (OSI) reference model, PPP provides layer 2 (data-link layer) service: PPP packages TCP/IP packets from a user's computer and forwards them to the server where they can actually be put on the Internet.

Simple Mail Transfer Protocol (SMTP)

A TCP/IP used in sending and receiving email. SMTP has limited ability to queue messages at the receiving end and is generally used for sending messages. POP3 or IMAP allow the user to save messages in a server mailbox and download them periodically from the server so POP3 or IMAP are generally used for receiving messages. Most mail programs allow specification of an SMTP server and a POP server.

Simple Network Management Protocol (SNMP)

Spider

A program that automatically fetches Web pages. Another term for these programs is webcrawler. Most Web pages contain links to other pages, so a spider can start almost anywhere. As soon as it sees a link to another page, it goes off and fetches it. MediaWrite can send spider packages to receivers to speed up browsing when using the MediaGate Router as the Internet access point.

Squid

A full-featured Web proxy cache with the following features:

- proxying and caching of HTTP, FTP, and other URLs
- proxying for SSL
- cache hierarchies
- ICP, HTCP, CARP, Cache Digests
- transparent caching
- WCCP
- extensive access controls
- HTTP server acceleration
- SNMP
- caching of DNS lookups

Status Messages/MediaWrite

PENDING	Package is being prepared for sending.
DOWNLOADING	Package is being sent from the server to the router. This message appears on the router.
SENDING	Package is being sent from the server to the router. This message appears on the server.
DELIVERED	Package was received by the router.
DELETED	Package has been deleted. This message displays in Package Archive.
ERROR	Something occurred to stop transmission of the package. Usually the package needs to be resent. It is suggested that all settings and connections on the router be checked to assure the IP addresses and configuration are correct for receiving packages.
INCOMPLETE	Package transfer initially failed and is waiting for a scheduled re-send to complete.

Subnet Address

The part of an IP address that is specified as the subnetwork by the subnet mask.

Subnet Mask

Address mask used in IP to indicate the bits of an IP address being used for the subnet address.

Subnetwork

In IP networks, a network sharing a particular subnet address. Subnetworks are arbitrarily segmented by administrators to provide a multi-level hierarchical routing structure while shielding the subnetwork from the addressing complexity of any attached networks.

Transmission Control Protocol (TCP)

A method used in conjunction with IP to send data in the form of message units between computers over the Internet. IP takes care of handling the actual delivery of data and TCP takes care of keeping track of the individual units of data (packets) that a message is divided into for efficient routing through the network.

Acronymns

BER	Bit Error Rate
CA	Conditional Access
CAM	Conditional Access Module (Channel Access Method)
CM	Content Manager (former playlist acronym)
CSV	Comma Separated Value
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
DVB	Digital Video Broadcast
EIT	Event Information Table
EPG	Electronic Program Guide
FEC	Forward Error Correction
GUI	Graphical User Interface
HMC	Helius Management Console
HSR	Helius Satellite Router
IGMP	Internet Group Management Protocol
IP	Internet Protocol
IP/DVB	Internet Protocol/Digital Video Broadcast
LAN	Local Area Network
LNB	Low Noise Block
MAC	Media Access Control (Hardware address)
MGR	MediaGate Router
MVP	Music-Video-Pictures
NAT	Network Address Translation
NOC	Network Operations Center
NTP	Network Time Protocol
PID	Program Identifier (DVB)/Process ID number (MGR)
PPP	Point-to-Point Protocol
PSTN	Public Switched Telephone Network. Same as PTSN.
PTSM	Public Telephone Switched Network. Same as PSTN.
RF	Radio Frequency
SAP	Session Announcement Protocol (also: Service Advertising Protocol)
SDT	Service Description Table
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol

SQF	Signal Quality Factor
SSP	Satellite Service Provider
SST	Not an acronym. Product Name
TCP	Transmission Control Protocol
TDT	Time and Date Table
TTL	Time To Live
UDP	User Datagram Protocol or Usenet Death Penalty
VA	Video-Audio



APPENDIX B

SERVICES AND PROCESSES

Overview

This Appendix provides a list of services and processes available on the MediaGate Server. These can be accessed and enabled using the Helius Management Console. Some processes such as MediaWrite and MediaStream Server are for purchase and require licensing before they can be activated.

The following list of services and processes are started using the **MediaGate Router > Console > Configuration** page in the Helius Management Console. These display either in the Daemons table or the Miscellaneous section of this page. This appendix provides a brief description of each item and is not intended to be a complete coverage of each topic.

Daemons Table Options

Authorizations	Allows the server to distribute authorizations to the network.
DHCP	<p>The DHCP service allows DHCP clients to receive IP network configuration from the service. When the service is enabled, the default DHCP configuration will serve IP to any DHCP client.</p> <p>By default, DHCP will be configured to assign addresses within the first 250 addresses of the network defined in <i>Edit Interface Settings</i>, excluding the Router address.</p> <p>EXAMPLE: eth0 is defined as 172.16.0.1/255.255.0.0, the range will be 172.16.0.2 - 172.16.0.252.</p>
DNS	<p>DNS resolves hostnames to IP addresses. This service allows the Server to act as a DNS server, allowing the resolution of hostnames to IP addresses. If DNS is not used, or if the client configuration is incorrect, browsing functionality will be greatly reduced.</p> <p>The DNS service does not have any configuration options, however, the DNS Client is configured in the Miscellaneous section of the MediaGate Router > Console > Configuration page. Select the DNS Client link to open the configuration page.</p> <p>When Postfix is used for return email reporting, DNS should be enabled.</p>
FTP	Start the FTP service in order to use FTP to upload files to the server.
IPSec	<p>The IPSec service should be started for any Router or Server using the MediaLock feature. IPSec enables the Router or Server to deal with IP security tunnels. The IPSec service will not start if the default gateway is not defined.</p> <p>IPSec is an industry standard security solution used by MediaLock to create Virtual Private Networks.</p>

MediaLock	<p>MediaLock enables encryption over satellite. The MediaLock service enables the Router or Server to use the MediaLock functions of assigning routers, groups and data to appropriate tunnels.</p> <p>MediaLock must be licensed and configured before starting the service in the Daemons table of the Helius Management Console.</p>
MediaStream Server	<p>The MediaStream Server process should be started in order to use the streaming functions of the server. MediaStream Server is a purchase option and must be licensed to function.</p> <p>Selecting the MediaStream Server link in the Daemons table of the MediaGate Router > Console > Configuration page opens the MediaStream Server > Streams page.</p>
MediaWrite	<p>MediaWrite enables the MediaWrite Client Software. MediaWrite is a purchased option and must be licensed to function.</p> <p>MediaWrite software pushes data from the MediaGate Server to routers on the network. The service must be started on the MediaGate Server and all MediaGate Routers on the network that will need to receive packages from the server.</p>
Multicast Forwarding	<p>Multicast Forwarding is a tool that allows emulation of multicast clients in environments where no IGMP proxy is available.</p>
Postfix	<p>Postfix is a Linux system mail service that can be used by the MediaGate Server and Router.</p>
Samba	<p>The Samba service allows the Server to share files and directories with Microsoft Windows clients. Samba does not currently have configuration options.</p>
SAPgen	<p>Start this service to enable the ability to send session announcements.</p> <p>SAPgen needs to be enabled on the Server and the Routers on the network in order for the SAPs to be received.</p>
SNMP	<p>Simple Network Management Protocol (SNMP) is used to activate the ability to query devices on a network using third party SNMP management software.</p>

Squid	<p>The Squid service is a caching proxy server.</p> <p>If Transparent Cache in the Miscellaneous section of this page is not enabled, client machines must be configured properly to use the Squid proxy service.</p> <p>Squid access policies need to be defined. Please refer to Squid in the MediaGate Server Support Manual for more information.</p>
VA	<p>The VA service runs the video player on the Router for video playback and IP/DVB video display. This service is not used on the MediaGate Server. Verify that the OnBoot checkbox is deselected in the Daemons table on the Server. If there is a check in the OnBoot box, select the checkmark in order to remove it.</p>

Miscellaneous Options

DNS Client	<p>The DNS servers are used for name resolution. It is recommended that the default domain remain 127.0.0.1. This is the loopback address.</p> <p>Select the link or the EDIT button in MediaGate Router > Console > Configuration ↓ <i>Miscellaneous</i> to open the DNS Client configuration page.</p>
Route Config	<p>Add a static network route to the Server or Router.</p>
Firewall	<p>The Firewall service allows minimal firewall configuration. For more information, please refer to Firewall in the MediaGate Server Support Manual.</p>
NTop	<p>Ntop is a tool that allows monitoring of network traffic. Enabling Ntop Web starts a service that can be accessed through an Internet browser on a different port than the Helius Management Console.</p>
Transparent Cache	<p>Transparent proxy service. Enabling Transparent Cache allows the Server or Router to be used as a network gateway without having to enable any proxy settings in the local Internet browser.</p>
SiteAdmin	<p>Selecting this link or the the CHANGE button opens a change password page. This changes the password for the limited access siteadmin login.</p>



APPENDIX C

ADDITIONAL INFORMATION

Overview

Some topics require a little more information to help understand how to use the features in the Helius Management Console. In this appendix, some features are covered in more depth to provide that additional information.

DHCP

Dynamic Host Control Protocol (DHCP)

There are two main methods of client configuration: automated (1) and manual (2).

1. Each client computer can be set to automatically obtain an IP address using DHCP. With this method, the DHCP and DNS services in the Daemons table (**MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*) must be started and the *OnBoot* option checked.

On client computers, select the option for an IP address and DNS server address to be obtained automatically.

At bootup, an IP address will be requested over the network and the router will dynamically assign an available IP address and set up the required network information based on router configuration.

For automated configuration to work properly, the router should either be the only DHCP server on the network, or other DHCP servers must be set up to cooperate with the router in order to avoid conflicts and ensure all clients receive correct information.

2. For manual configuration, the administrator sets the IP address, Gateway and DNS information on each computer in the network. The client IP address should be within the same subnet as eth0 of the router. The router should be set as the default gateway for each client computer and the DNS information must be set on each client.

For manual configuration, the DHCP service in the Daemons table (**MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*) does not need to be turned on.

FEC Analysis

Forward Error Correction (FEC) adds parity packets which contain information to reconstruct missing packets at regular intervals throughout the package delivery. Helius MediaWrite features FEC in combination with Interleave and transmission redundancy.

The FEC setting determines the intervals for which parity packets will occur. If the FEC setting is 10, then 9 regular packets will be sent, followed by 1 parity packet. The preset transmission robustness settings in MediaWrite are:

Good	FEC 10, Interleave 5
Better	FEC 8, Interleave 7
Best	FEC 7, Interleave 10

While higher reliability is achieved with lower FEC settings, more bandwidth is used.

The overhead needed for a particular FEC setting can be estimated using the following formula:

$$1/(\text{FEC setting} - 1) \times 100 = \% \text{ overhead}$$

Example: $1/(10-1) \times 100 = 11.1\% \text{ overhead}$

FEC is helpful if a single packet in a group is lost. Interleave is helpful if more than one packet in a group is lost. When brief interruptions in traffic are encountered such as an obstruction passing in front of the satellite dish, or when moving a network cable, more than one contiguous packet may be lost. FEC alone cannot compensate for this situation. With Interleave, packets are sent as groups instead of individually. All members of one group may be lost and the package will still successfully transfer.

Using both FEC and Interleave, the data that is being transferred is organized into tables. The FEC setting represents the number of columns and the Interleave setting represents the number of rows.

Example: FEC 10, Interleave 5

1	6	11	16	21	26	31	36	41	P(46)
2	7	12	17	22	27	32	37	42	P(47)
3	8	13	18	23	28	33	38	43	P(48)
4	9	14	19	24	29	34	39	44	P(49)
5	10	15	20	25	30	35	40	45	P(50)

The packets are sent in numerical order as shown. The last column contains the parity packets (P). Data can be recovered as long as the following conditions are met:

- Only 1 packet per row can be missing, including the parity packet for that row.
- Up to 5 packets may be missing.

The number of packets allowed to be missing is determined by the number set for Interleave. Most commonly, missing packets will be contiguous, so in this example, any 5 ordinal packets may be missing. This may be packets 1-5, or 9-13, as long as no more than 1 packet per row is missing.

FEC and Interleave sizes should be kept below 25 due to memory limitations.



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