

Instructions for Configuring a SAFARI Montage® Managed Home Access Expansion Server

~ Please read these instructions in their entirety before you begin. ~

These instructions explain how to add a SAFARI Montage Managed Home Access (MHA) Expansion Server to your WAN Manager environment. An MHA server is a special purpose WAN Expansion Server that provides users with home access to packaged and, if applicable, district-created SAFARI Montage Creation Station® content.

Before You Begin:

- These instructions are for **SAFARI Montage version 3.2.8 or greater**. **Note:** Screens and menu links may vary slightly between software versions.
- Review the **SAFARI Montage System Requirements**, which include important information that will ensure that your environment meets all requirements.
- It is important that you review the **Release Notes**, which are available online; as they may include **Known Issues** you should understand before running the upgrade.
- The MHA server is a special purpose WAN Expansion Server, and it may be helpful to review the **WAN Expansion** topic in the online help, available by navigating to [Help > WAN Manager Guide > WAN Expansion](#).
- You may choose to physically install the MHA Expansion Server in advance. Please do not power on or configure until directed to do so in the instructions below.
- To support home access, SAFARI Montage Creation Station video content must be encoded as H.264 and hinted for streaming. Please see SAFARI Montage Creation Station Encoding Guidelines for Managed Home Access, available online at <http://www.safarimontage.com/support>.
- Include time to backup your system in your upgrade planning.
- No one should use the SAFARI Montage system during the installation process, so please **perform the installation off-hours**.
- Review any questions with Technical Support in advance. Please note that SAFARI Montage Technical Support is available Monday – Friday from 8 a.m. to 6 p.m. Eastern Time, and may be contacted by telephone at 800-782-7230 or online via <http://www.safarimontage.com/support>.

Instructions:

1. Verify the version of SAFARI Montage that you are running by navigating to [Admin > Settings > System](#) on the WAN Controller.
2. Backup your SAFARI Montage system via the Administration Tools:
 - a. Navigate to [Admin > Data Recovery > Backup](#).
 - b. Perform a full backup by setting the backup option **Data Only** to **No**.
3. Prepare your network.

As MHA provides access from home, it requires that you prepare your internal network. To provide public Internet access to the MHA Expansion Server, please confirm the following before proceeding:

- Refer to the attached network diagrams that provide sample site configurations as an overview.
- Confirm that you have the public and private IP addresses and hostnames for your new MHA server and existing WAN Controller.
- Confirm that you have created DNS records with the external (public) and internal (private) hostnames and IP addresses for your new MHA server:
 - The external (public) hostname of the MHA server must be the same as the internal (private) hostname of the WAN Controller in order for permanent links to function correctly from internal and home clients. Refer to the network diagram of the example site configuration for a depiction of this.

- Confirm that your firewall(s) is properly configured to:
 - Translate the public <-> private IP addresses for your MHA server.
 - Allow network traffic for the following ports:

WAN Controller ↔ MHA Server		
Type	Port	Protocol
FTP	21	TCP
SSH	22	TCP
SMTP	25	TCP
DNS	53	TCP/UDP
HTTP	80	TCP
HTTPS	443	TCP
NTP	123	UDP
SMB	135	TCP
SMB	137	UDP
SMB	138	UDP
SMB	139	TCP
SNMP	161	UDP
LDAP	389	TCP
LDAPS	636	TCP
SMB	445	TCP
RSync	873	TCP

External Client → MHA Server		
Type	Port	Protocol
HTTP	80	TCP
HTTPS	443	TCP
RTSP	554	TCP

4. Integrate the new MHA Expansion Server into the existing SAFARI Montage WAN Manager environment.
The MHA Expansion server is a special purpose WAN Expansion Server, and it must first be integrated into your WAN Manager environment:

Verify or Activate the Required Software Licenses on the WAN Controller Server

- a. Log in directly to the WAN Controller server as an **administrator** by using a web browser.
- b. Verify that the necessary add-on modules and content licenses are active.
 - i. Click on the **Admin** tab on the Dashboard.
 - ii. Click on **Add-On Modules** (Add-Ons in earlier versions) from the left-hand navigation menu. Add-On Modules is located under **Settings**.

iii. Locate the following from the **Modules** list. If activated, a green check will appear in the **Active** column. If not activated, click the **Activation** link and follow the on-screen instructions.

- SAFARI Montage WAN Manager
- SAFARI Montage Expansion Controller
- SAFARI Montage Managed Home Access

Note: Internet access is required for activation.

If a module is not listed here then [activate content & modules](#). This will detect and install any new content and modules found in the system.

[Hide Inactive Modules](#)

Modules					
Name	Active	Licenses	Licenses Used	Activation	
SAFARI Montage Datacasting				Activation	
SAFARI Montage EdCast Subscriber				Activation	
SAFARI Montage EdCaster				Activation	
SAFARI Montage Expansion Controller	✓			Activation	
SAFARI Montage Expansion Server				Activation	
SAFARI Montage Live!				Activation	
SAFARI Montage Local Document Camera & DVD Support				Activation	
SAFARI Montage MHA H264 Auto Converter				Activation	
SAFARI Montage Managed Home Access	✓			Activation	
SAFARI Montage Media Over IP - Enterprise				Activation	
SAFARI Montage Media Over IP - Standard				Activation	
SAFARI Montage Pathways SM				Activation	
SAFARI Montage Selective Video Streaming				Activation	
SAFARI Montage WAN Manager	✓			Activation	
SAFARI Montage WAN Manager - School Server				Activation	

Install the MHA Expansion Server and Activate the Software License

- If you have not already done so, physically install the MHA Expansion server according to the setup guide included with the server.
 - Assign an IP address and hostname according to the setup guide included with the server.
 - Log in directly to the MHA Expansion Server as an **administrator** by using a web browser.
 - Verify that the WAN Expansion Server Module license is active.
 - Click on the **Admin** tab on the Dashboard.
 - Click on **Add-On Modules** (Add-Ons in earlier versions) from the left-hand navigation menu. Add-On Modules is located under **Settings**.
- iii. Locate **SAFARI Montage Expansion Server** from the **Modules** list. If activated, a green check will appear in the **Active** column. If not activated, click the **Activation** link and the follow on-screen instructions.

Note: Internet access is required for activation.

If a module is not listed here then [activate content & modules](#). This will detect and install any new content and modules found in the system.

[Hide Inactive Modules](#)

Modules					
Name	Active	Licenses	Licenses Used	Activation	
SAFARI Montage Datacasting				Activation	
SAFARI Montage EdCast Subscriber				Activation	
SAFARI Montage EdCaster				Activation	
SAFARI Montage Expansion Controller				Activation	
SAFARI Montage Expansion Server	✓			Activation	
SAFARI Montage Live!				Activation	
SAFARI Montage Local Document Camera & DVD Support				Activation	
SAFARI Montage MHA H264 Auto Converter				Activation	
SAFARI Montage Managed Home Access				Activation	
SAFARI Montage Media Over IP - Enterprise				Activation	
SAFARI Montage Media Over IP - Standard				Activation	
SAFARI Montage Pathways SM				Activation	
SAFARI Montage Selective Video Streaming				Activation	
SAFARI Montage WAN Manager				Activation	
SAFARI Montage WAN Manager - School Server				Activation	

Synchronize the MHA Expansion Server With the WAN Controller Server

- a. From the MHA Expansion Server
 - i. Login directly into the MHA Expansion Server as an **administrator** by using a web browser.
 - ii. Click on the **Admin** tab on the Dashboard.
 - iii. Click on **Expansion Server** from the left-hand navigation menu.
 - iv. Click on **Server Settings** from the left-hand navigation sub menu.
 - v. Enter the **Expansion Controller (IP or Computer Name)** under **Expansion Server Settings**.
 - vi. Check the **Allow Direct Login** checkbox under **Expansion Server Settings**.

The screenshot shows two sections of a web interface. The top section, titled "Expansion Controller Information", has a light green header and contains the following fields: "Version Number: 0.0.0", "Last communications: August 21, 2009 01:22:35 PM", and "Database synchronized: --- [status](#)". The bottom section, titled "Expansion Server Settings", also has a light green header and contains: "Version Number: 4.0.30", "Allow Direct Login: ", and "Expansion Controller (IP or Computer Name): [login](#)". At the bottom of the settings section are "Update" and "Cancel" buttons.

- vii. Click on the **Update** button.
- viii. Allow the MHA Expansion server to synchronize with the WAN Controller server before continuing. This process synchronizes configuration and, if applicable, SAFARI Montage Creation Station content. Typical time for server synchronization is 2 to 6 hours. It is recommended that synchronization be allowed to run overnight.
- ix. You may monitor the synchronization process by viewing the following screen.

The screenshot shows a progress screen titled "Initializing...". It contains the text: "Communicating with **gauntlet.lvc.com**. This process could take a full day to synchronize." Below this, it says: "This server last communicated with the Expansion Controller Server at **August 21, 2009 11:23:31 AM**". A progress bar is shown at 99.99%. At the bottom center is a "Back" button.

Upon completion, the user will be returned to **Expansion Server Settings**, and **Database synchronized** will display the percentage synchronized with a link to view the status.

The screenshot shows two sections: "Expansion Controller Information" and "Expansion Server Settings".

Expansion Controller Information

Version Number:	4.0.30
Last communications:	August 21, 2009 01:12:59 PM
Database synchronized:	100% status

Expansion Server Settings

Version Number:	4.0.30
Allow Direct Login:	<input checked="" type="checkbox"/>
Expansion Controller (IP or Computer Name):	<input type="text" value="montage.school.edu"/> login

Buttons: [Update](#) [Cancel](#)

- x. Once the MHA Expansion server is fully synchronized, proceed to the next step.

Activate Content Licenses on the WAN Controller and Synchronize Them With the MHA Expansion Server

- a. From the WAN Controller Server
 - i. Log in directly to the WAN Controller server as an **administrator** by using a web browser.
 - ii. Click on the **Admin** tab on the Dashboard.
 - iii. Click on **Activate Content & Modules** (Activate All Contents & Add-Ons in earlier versions) from the left-hand navigation menu. Activate Content & Modules is located under **Settings**, along with the on-screen instructions for activation.
 - iv. Allow the WAN Controller server to synchronize with the MHA Expansion Server before continuing. Synchronization can be monitored by viewing the following screen under **Expansion Servers**.

Reset Usage

Results 1 to 1 of 1

Active	Streamer	Version	Serial Number	IP	Host	Last Communication	% Synchronized	Status	Usage	Packages	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4.0.30	001039	172.20.1.144	montage.school.edu	2 mins 6 secs	99.99%	ok	44.33%	25	clear

- v. Once the WAN Controller Server is fully synchronized, proceed to the next step.

5. Configure the MHA Expansion Server for Home Access.

The MHA Expansion server can now be configured for Home Access:

- a. Log in directly to the MHA Expansion Server as an **administrator** by using a web browser.
- b. Click on the **Admin** tab on the Dashboard.
- c. Click on **Managed Home Access** from the left-hand navigation menu.
- d. Click on **Streamer Settings** from the left-hand navigation sub menu.

- e. Check the **This Server Streams** checkbox under **Settings**.

- f. Click on the **Update** button.
- g. Click on **Exclude Subnets** from the left-hand navigation sub menu.

Exclude Internal Subnets – IP address ranges included in the setting will be treated as Direct Play connections (i.e., internal connections), and SAFARI Montage will behave as if being used in a local environment. IP addresses or ranges **not** included here will be treated as Managed Home Access connections and will receive lower bit rate content intended for home access.

- h. Assign additional networks to the server by entering an IP address and its corresponding Netmask, then clicking on the **Add** button.

Configuration of the MHA Expansion Server and WAN Controller Servers are complete. Test the configuration from an external client for verification.

Optional Settings:

Refer to the image below as reference for these settings. These settings can be found by clicking on [Admin](#) > [Managed Home Access](#) > [Streamer Settings](#).

The screenshot shows the 'Settings' page for a streamer. It includes sections for 'Maximum Allowed Settings' and 'Restricted Settings', both with 'Unlimited' bandwidth and 0 users. A 'Restricted Bandwidth Hours' section shows a schedule for Monday from midnight to midnight. Below that is a list of 'Excluded Internal Subnets' and a 'change' link. An 'Update' button is at the bottom.

- **Maximum Allowed Settings**

- **Maximum Users** – The number of users that can access the server at the same time.
- **Maximum Bandwidth** – The amount of bandwidth to be used while streaming.

Note: To view SAFARI Montage pre-packaged content, **Maximum Bandwidth** should be set to 0 kbps (unlimited) or 384 kbps or higher.

- **Restricted Settings**

- **Restricted Users** – The number of users that can access the server at the same time during the **Restricted Bandwidth Hours**.
- **Restricted Bandwidth** – The amount of bandwidth to be used while streaming during the **Restricted Bandwidth Hours**.
- **Restricted Bandwidth Hours** – Used to set days and times for restricted bandwidth. **Restricted Users** and **Bandwidth** settings become active during the scheduled times.

Notes:

- The Managed Home Access Expansion Server must have access to the Internet. It is recommended that the server be put into a DMZ with the appropriate ports open. For a list of the specific ports to open, see the attached network drawing labeled [Sample Setup Using a DMZ](#).
- For MHA servers not within a DMZ, see attached network drawing labeled [Sample Setup Without a DMZ](#).

Troubleshooting:

Most issues are resolved by verifying that the proper network and firewall configuration exists.

- Verify that the DNS hostnames are properly registered and resolved to the correct IP addresses.
 - From an external client, the fully qualified hostname (e.g., montage.school.edu) should resolve to the external (public) IP address of the MHA Expansion Server.
 - From an internal client, the fully qualified hostname (e.g., montage.school.edu) should resolve to the internal (private) IP address of the WAN Controller.
- Verify that the Network Address Translation (NAT) is properly configured and the public IP address of the MHA server correctly redirects to the private IP address of the MHA server.
- Verify that the required firewall ports are open.
 - Network traffic can typically be viewed from your firewall and/or router console or monitoring applications.
 - It may also be helpful for external and internal clients to use a port scanner such as WSPingPro to verify that the required ports are open. Scan each required port and adjust firewall configuration as required to allow access on the required ports.

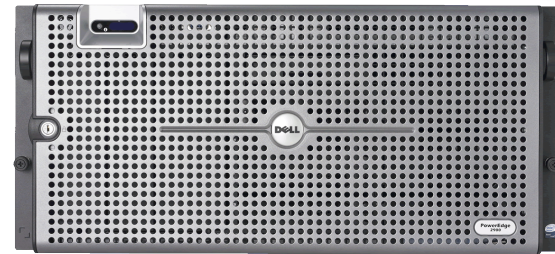
Support:

For assistance with SAFARI Montage or SAFARI Montage Managed Home Access, please contact SAFARI Montage Technical Support by calling (800) 782-7230 or by visiting <http://www.safarimontage.com/support>.

Sample Setup Using a DMZ

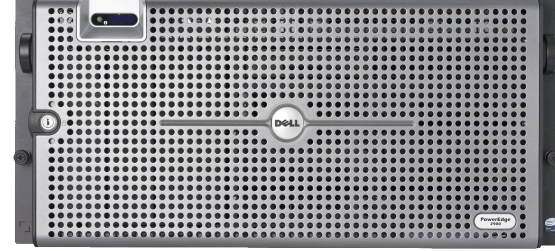
For permanent links to work, the FQDN for the WAN server needs to be internally mapped on the Internet side to MHA Streamer.

WAN Manager
Expansion Controller
Managed Home Access



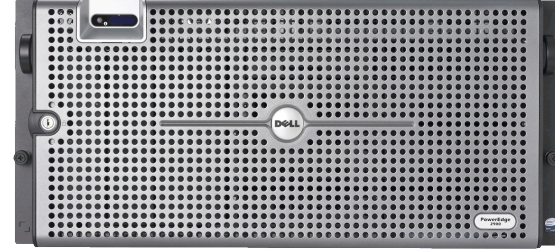
FQDN
montage.school.edu
10.10.0.1

Expansion Server



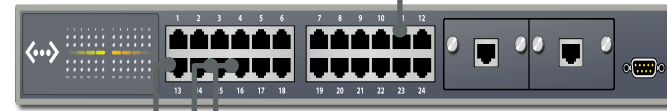
FQDN
montage-exp1.school.edu
10.10.0.2

Expansion Server



FQDN
montage-exp2.school.edu
10.10.0.3

You MUST use host names (FQDN) on all servers and the "forced IP address" checkbox in the settings page MUST be unchecked.



Open Ports

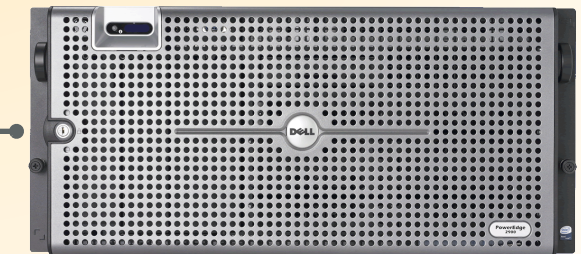
- TCP 21 (FTP)
- TCP 22 (SSH)
- TCP 25 (SMTP)
- TCP/UDP 53 (DNS)
- TCP 80 (HTTP)
- UDP 123 (NTP)
- TCP 135 (SMB)
- UDP 137 (SMB)
- UDP 138 (SMB)
- TCP 139 (SMB)
- UDP 161 (SNMP)
- TCP 389 (LDAP)
- TCP 443 (HTTPS)
- TCP 445 (SMB)
- TCP 636 (LDAPS)
- TCP 873 (RSync)

FQDN
montage-exp3.school.edu
172.16.0.1

FQDN
montage.school.edu
69.67.80.112

Open Ports
TCP 80 (HTTP)
TCP 443 (HTTPS)
TCP 554 (RTSP)

SAFARI Montage
Managed Home Access Streamer



DMZ



Sample Setup Without a DMZ

