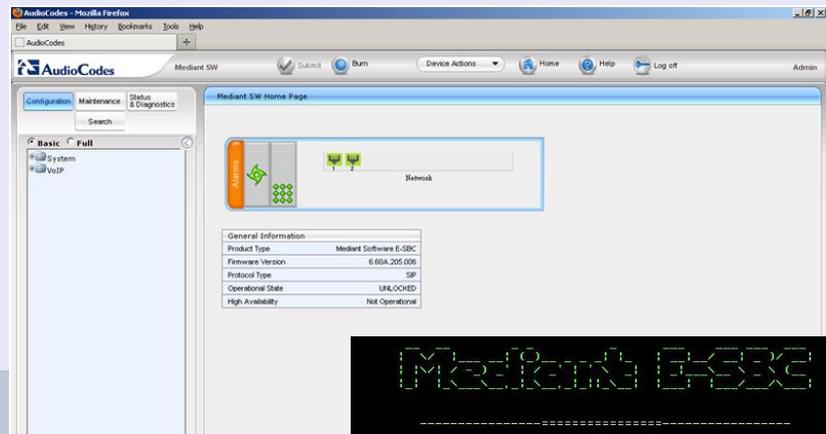


Mediant™ Software E-SBC

Session Border Controllers

Server Edition

Installation Manual



Version 6.6

October 2013

Document # LTRT-10305



Table of Contents

1	Introduction	7
1.1	Product Package.....	7
1.2	Installation Prerequisites	7
1.2.1	Hardware	7
1.2.2	Software.....	8
2	Installing the Product.....	9
2.1	Hardware.....	9
2.2	Software	9
2.2.1	Installing the Mediant Software E-SBC	9
2.2.2	Reconfiguring Default IP Address to Match Customer Network Settings	11
2.2.3	Mapping Logical-Physical Ports Using CLI Command.....	13
2.2.4	Licensing the Mediant Software E-SBC	13
2.2.4.1	Obtaining the Software License Key	14
2.2.4.2	Installing the Software License Key	15
2.2.5	Installing an HA System.....	16
2.2.6	Upgrading	16
3	Returning the System to a Previous State	17
3.1	Taking a Snapshot	17
3.2	Returning to a Snapshot State	18
3.3	Automatic Recovery	19
A	Creating an Installation USB Flash Drive.....	21
B	PO Sample of HP DL320 Server	23

List of Figures

Figure 2-1: HP ProLiant Server Booting.....	10
Figure 2-2: Installation Start Prompt.....	10
Figure 2-3: Installation in Progress.....	10
Figure 2-4: Installation Complete	11
Figure 2-5: CLI Management Interface	12
Figure 2-6: Web Interface.....	13
Figure 2-7: VoIP Ethernet Ports Mapping	13
Figure 8: Software License Key File with S/N Line	14
Figure 9: Software Upgrade Key Status Page	15
Figure 3-1: CLI Management Interface	17
Figure 3-2: GRUB Menu.....	18
Figure 3-3: Selecting a Snapshot.....	18
Figure 3-4: System Returning to Snapshot State.....	18
Figure A-1: File System Format.....	21
Figure A-2: ISO2USB	22

List of Tables

Table 1-1: HP DL120 Server	7
Table 1-2: HP DL320 Server	8
Table 2-1: Default IP Address	11
Table B-1: Sample of PO for HP DL320 Server.....	23

Notice

This document describes installation of AudioCodes' Mediant Software E-SBC (Enterprise Session Border Controller) Server Edition.

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Related Documentation

Manual Name
Mediant Software E-SBC User's Manual
SIP Release Notes



Note: The scope of this document does not fully cover security aspects for deploying the product in your environment. Security measures should be done in accordance with your organization's security policies. For basic security guidelines, you can refer to *AudioCodes Recommended Security Guidelines* document.

1 Introduction

AudioCodes' Mediant Software E-SBC (Enterprise Session Border Controller) Server Edition is a pure-software server-based product enabling connectivity and security between enterprises' and Service Providers' VoIP networks.

The product provides perimeter defense as a way of protecting companies from malicious VoIP attacks; voice and signaling mediation and normalization for allowing the connection of any PBX and/or IP-PBX to any Service Provider; and service assurance for service quality and manageability.

The product also offers call "survivability", ensuring service continuity to enterprises served by a centralized SIP-based IP-Centrex server or branch offices of distributed enterprises. Survivability functionality enables internal office communication between SIP clients in the case of disconnection from the centralized SIP IP-Centrex server or IP-PBX.

The product features full management through its HTTP/S-based Web server. This user-friendly Web interface allows remote configuration using any standard Web browser (such as Microsoft™ Internet Explorer™).

1.1 Product Package

The Mediant Software E-SBC Server Edition package consists of an Installation CD containing Mediant Software E-SBC software, AudioCodes utilities and related documentation.

1.2 Installation Prerequisites

1.2.1 Hardware

Mediant Software E-SBC Server Edition may be installed on one of the following servers:

Table 1-1: HP DL120 Server

Resource	Server
Server	HP ProLiant DL120 G7
CPU	Intel Xeon E3-1220 (4 cores, 3.1 GHz, 8M Cache)
Memory	4 GB
Network Cards	One of the following add-on network cards may be used: <ul style="list-style-type: none"> ▪ NC360T ▪ NC361T ▪ NC364T ▪ NC365T
Disk	Mechanical hard drive, 72 GB or more, no RAID
Installation From	CD/DVD drive
Installation Interface	VGA Monitor and Keyboard

Table 1-2: HP DL320 Server

Resource	Server
Server	HP ProLiant DL320e G8
CPU	Intel Xeon E3-1220v2 (4 cores, 3.1 GHz, 8M Cache)
Memory	4 GB
Network Cards	One of the following add-on network cards may be used: <ul style="list-style-type: none"> ▪ NC360T ▪ NC361T ▪ NC364T ▪ NC365T
Disk	Mechanical hard drive, 72 GB or more, no RAID
Installation From	CD/DVD drive
Installation Interface	VGA Monitor and Keyboard



Note: An example of a Purchase Order (PO) for the HP DL320 server can be seen in Appendix B on page 23.

1.2.2 Software

All software components required for installation are provided by AudioCodes.

2 Installing the Product

2.1 Hardware

For details on installing the hardware, see the server-specific documentation provided by your server's vendor.

For details on installing the recommended **HP ProLiant DL120 G7** hardware platform, download the user manual using the following URL link:
<http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c02790682/c02790682.pdf>

For details on installing the recommended **HP ProLiant DL320e G8** hardware platform, download the user manual using the following URL link:
<http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c03428882/c03428882.pdf>

**Notes:**

- Connect your VGA monitor and keyboard to the server. These will be used to perform Mediant Software E-SBC installation and initial IP address configuration.
- The Mediant Software E-SBC is configured by default to use the first available Ethernet Port. Use this port to connect the product to your network.

2.2 Software

Mediant Software E-SBC installation entails:

1. Installing the Mediant Software E-SBC – see Section 2.2.1.
2. Reconfiguring the Default IP Address to Match Customer Network Settings – see Section 2.2.2.

2.2.1 Installing the Mediant Software E-SBC

Installing the Mediant Software E-SBC involves booting the server after inserting the CD and following the installation instructions.



Note: Instead of using the CD to perform the installation, the customer may create a bootable USB drive and use it instead. For detailed information, see Appendix A on page 21.

➤ **To install the Mediant Software E-SBC:**

1. Insert the installation CD into the CD/DVD drive.
2. Boot the server from the CD by using (for example) the 'Power Off' button. Some servers may prompt users to 'Press any key' (see the server documentation for details).
The server boots from the CD (see Figure 2-1) and the Mediant Software E-SBC Installation Menu is displayed (see Figure 2-2).

Figure 2-1: HP ProLiant Server Booting

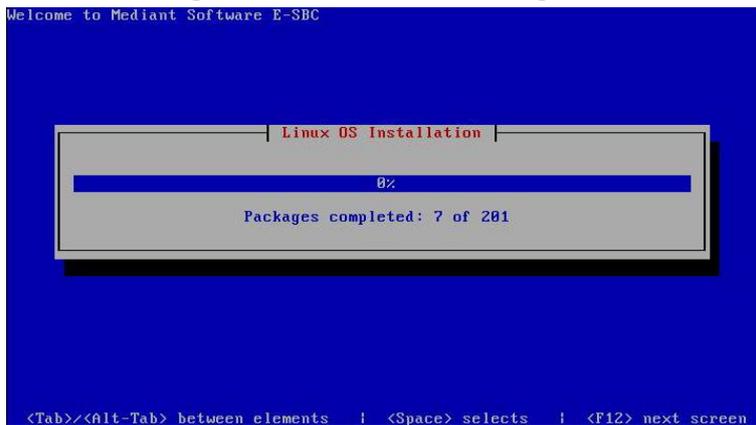


Figure 2-2: Installation Start Prompt



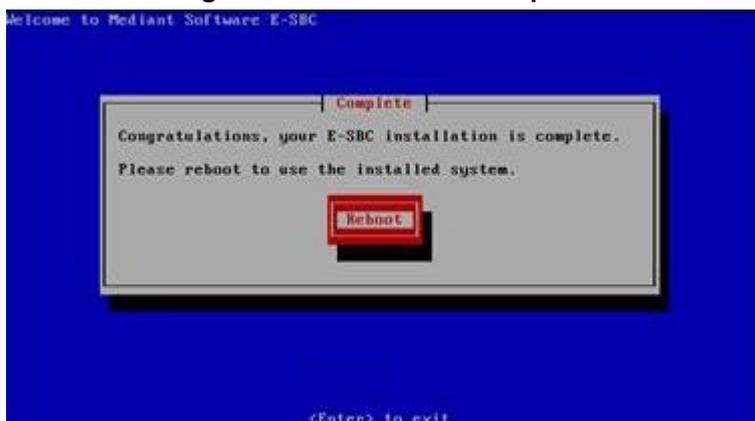
3. Press the ENTER key; installation commences; a bar shows installation progress.

Figure 2-3: Installation in Progress



Note: Installation takes approximately 10 minutes. A 'Complete' prompt notifies you when installation is complete.

Figure 2-4: Installation Complete



4. Press ENTER to reboot the server; after rebooting, the CD is ejected and the server boots from the local disk to the newly installed Mediant E-SBC software.



Note: If, for some reason, the CD is not ejected and the server boots to the installation prompt again, eject the disk manually and reboot the server.

2.2.2 Reconfiguring Default IP Address to Match Customer Network Settings

After the installation, the Mediant Software E-SBC is assigned with a default IP address that will most likely be inaccessible from the customer's network.

Table 2-1: Default IP Address

Parameter	Value
IP Address	192.168.0.1
Subnet Mask	255.255.255.0

Reconfigure the IP address in order to connect to the Mediant Software E-SBC's Web-based management tool (hereafter referred to as 'Web interface').



Note: The Mediant Software E-SBC Server Edition orders available NICs in alphabetical order of corresponding MAC addresses. If, however, the E-SBC identifies an onboard NIC, it will select it first, even if external NICs' MAC addresses precede it alphabetically (see Section 2.2.3 below for identifying network ports).

➤ To reconfigure the IP address using CLI:

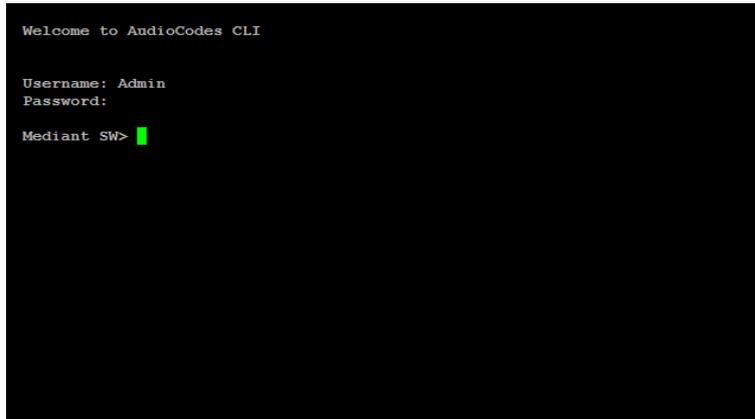
1. Use the VGA monitor and keyboard to connect to the CLI management interface.
2. At the prompt, type the username (default is **Admin** - case sensitive), and then press ENTER:

```
Username: Admin
```

- At the prompt, type the password (default is **Admin** - case sensitive), and then press ENTER:

```
Password: Admin
```

Figure 2-5: CLI Management Interface



```
Welcome to AudioCodes CLI

Username: Admin
Password:
Mediant SW> █
```

- At the prompt, type **enable** and press ENTER:

```
Mediant SW> enable
```

- At the prompt, type the password again and press ENTER:

```
Password: Admin
```

- At the prompt, type the following commands to access the network interface configuration:

```
Mediant SW# configure voip
Mediant SW(config-voip)# interface network-if 0
Mediant SW(network-if-0)#
```



Note: Use the Tab key to auto-complete partially entered commands.

- At the prompt, type the following commands to configure the IP address, prefix length and default gateway:

```
Mediant SW(network-if-0)# set ip 10.4.212.155
Mediant SW(network-if-0)# set prefix-length 16
Mediant SW(network-if-0)# set gateway 10.4.0.1
```

- If Mediant Software E-SBC is connected to the IP network that uses VLAN ID, type the following command to configure it:

```
Mediant SW(network-if-0)# set vlan-id 10
```

- At the prompt, type **exit** twice to complete the configuration:

```
Mediant SW(network-if-0)# exit
Mediant SW(config-voip)# exit
```

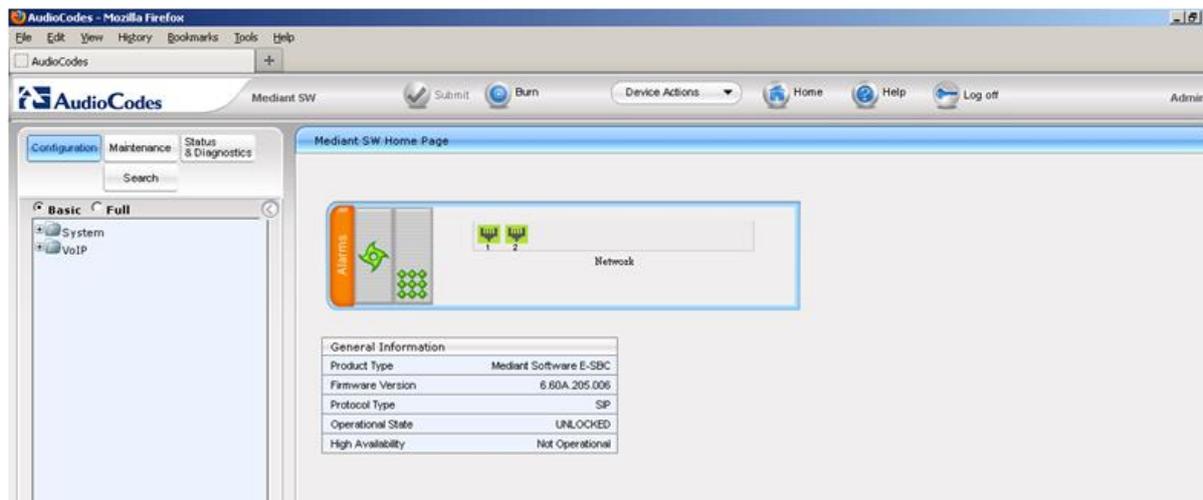
- At the prompt, make sure that port #1 is connected (Link is UP) using the CLI 'show voip ports' as described in Section 2.2.3 on page 13. Port #1 is mapped to network-if-0 by default.

- At the prompt, type **reload** to reset the product and activate the new configuration:

```
Mediant SW# reload now
```

After the Mediant Software E-SBC restarts, connect to its Web interface to continue the provisioning. See the *Mediant Software E-SBC User's Manual* for details.

Figure 2-6: Web Interface



2.2.3 Mapping Logical-Physical Ports Using CLI Command

The CLI features a 'show voip ports' command enabling users to map logical ports 1, 2, 3 and 4 with their physical counterparts on the rear panel of the server.

The feature enables identifying ports by MAC address and port status (up/down).

- **To view Ethernet ports mapping:**
- At the prompt, type the following command:

```
Mediant SW# show voip ports
```

Figure 2-7: VoIP Ethernet Ports Mapping

Port Num	Port Name	MAC Address	Link Status
1	GE_1	00:1e:67:11:7c:29	UP
2	GE_2	68:05:ca:03:6b:4e	DOWN
3	GE_3	68:05:ca:03:6b:98	DOWN
4	GE_4	00:1e:67:11:7c:28	DOWN

2.2.4 Licensing the Mediant Software E-SBC

The product is shipped by default with a pre-installed Software License Key that enables only one call session. After installation has completed successfully, you need to load an encrypted Software License Key file, supplied in the package, to enable the call capacity and features that you ordered.



Note: If you didn't receive this Software License Key file with your installation disk, contact your AudioCodes sales representative to obtain it (see Section 2.2.4.1 below).

2.2.4.1 Obtaining the Software License Key

If you didn't receive a Software License Key file with your installation disk, you must obtain one.

➤ **To obtain the Software License Key:**

1. Make a note of the serial number of the product:
 - a. In the Web interface open the Device Information page (**Status & Diagnostics** tab > **System Status** menu > **Device Information**).
 - b. The serial number is displayed in the "Serial Number" field.
2. Send the serial number to your AudioCodes representative when requesting the required Software License Key.
3. When you receive the new Software License Key file, check it as follows:
 - a. Open the file with any text-based program such as Notepad.
 - b. Verify that the first line displays "[LicenseKeys]".
 - c. Verify that the file contains a line in the following format:
 "S/N<serial number of the device> = <Software Upgrade Key string>" (see [Figure 8](#) below).

Figure 8: Software License Key File with S/N Line

```
[LicenseKeys]
;Board Type 29
S/N241182 =
okRTr5topwYMBIZd4NN2a3Qhm4N.Jfi daagUyehso94APbBF85hF4by0cmQZif2B8bMcze7JQ9kMSa5h641R1aOkeEb9AddF894Zx
S/N242519 = trrxTr5to0mlMblZdoPd2a3Qh9z.JlifdafilyehsogOQPbBF8pj4by0c9pdx2B8eOoze7JQgywSa5h6o391aOkeTlIAddF8c6Fx
S/N226403 = trrxTr5to0lsmblZdoOB2a3Qh9y.JlifdafilyehsogN4PbBF8piZ4by0c9pdx2B8eOoze7JQgwgSa5h6o2x1aOkeTlIAddF8c6Fx
S/N226417 = r6xTr5to25sMblZdfiB2a3Qh5O.Jlifda92yehsox4PbBF8eOZ4by0c52xlf2B88yoze7JQiNgSa5h6fyx1aOkeXZlAddF8amFx
```

- d. Verify that the "S/N" value reflects the serial number of your product.



Warning: Do not modify the contents of the Software License Key file.

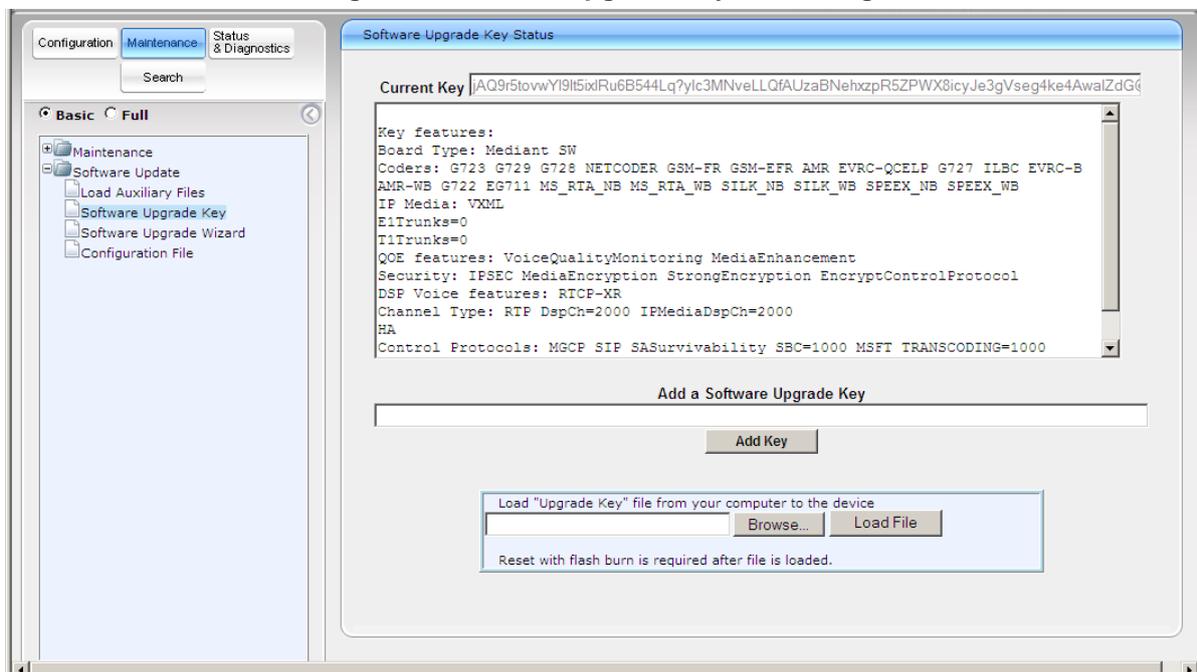
2.2.4.2 Installing the Software License Key

The procedure below describes how to install the received Software License Key.

➤ **To install the Software License Key:**

1. Open the Software Upgrade Key Status page (**Maintenance** tab > **Software Update** menu > **Software Upgrade Key**):

Figure 9: Software Upgrade Key Status Page



2. Back up the Software License Key currently installed on the product, as a precaution. You can reload this backup to restore the product's original capabilities if the key does not comply with your requirements.
 - a. In the 'Current Key' field, select the entire text string and copy it to any standard text file (e.g., Notepad).
 - b. Save the text file with any file name and file extension (e.g., key.txt) to a folder on your computer.
3. Open the Software License Key file using a text-based program such as Notepad.
4. Copy-and-paste the string from the file to the 'Add a Software Upgrade Key' field.
5. Click the **Add Key** button; the key is installed on the product and displayed in the 'Current Key' field.
6. Verify that the key was successfully installed:
 - In the Software Upgrade Key Status page, check that the listed features and capabilities activated by the installed key match those that were ordered.
7. Reset the product; the new capabilities and resources enabled by the key are activated.

2.2.5 Installing an HA System

Users can configure two products to work in a High Availability (HA) configuration.

➤ **To configure an HA system:**

- Reconfigure a temporary IP address for each, as described in Section 2.2.2.
- Follow the instructions described under the section 'High Availability System' in the *Mediant Software E-SBC User's Manual* document to set network topology correctly, and configure each accordingly using the Web interface.

2.2.6 Upgrading

Users can update the Mediant Software E-SBC in order to (for example) implement software fixes. For detailed information, see the *Mediant Software E-SBC User's Manual*.



Note:

- Upgrading from v6.4 to v6.6 requires reinstallation of the E-SBC software.
- To preserve the configuration configured in v6.4, retrieve all configuration files from v6.4 and upload to v6.6 after installation of v6.6.
- When upgrading from v6.4 to v6.6, contact AudioCodes for a new Software License Key as described in Section 2.2.4.

3 Returning the System to a Previous State

Taking a System Snapshot captures a complete state of the Mediant Software E-SBC Server Edition, including:

- installed Mediant Software E-SBC software
- the current configuration
- auxiliary files
- the Software License Key

The first snapshot is automatically taken when initial installation is performed. Additional snapshots (up to 10) may be taken, as described in Section 3.1 below.

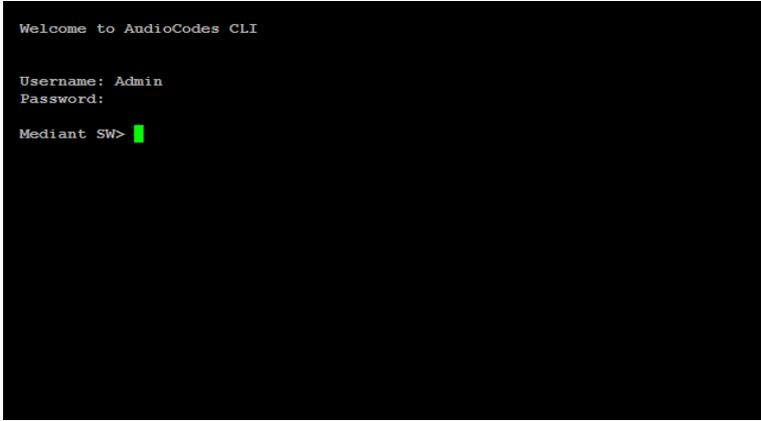
The Mediant Software E-SBC can be returned to a snapshot, as described in Section 3.2 below.

3.1 Taking a Snapshot

➤ **To take a snapshot using the CLI:**

1. Connect to the CLI interface as described under Section 2.2.2.

Figure 3-1: CLI Management Interface



```
Welcome to AudioCodes CLI

Username: Admin
Password:
Mediant SW>
```

2. At the prompt, type **enable** and press ENTER:

```
Mediant SW> enable
```

3. At the prompt, type the password and press ENTER:

```
Password: Admin
```

4. At the prompt, save the current configuration (burn) before creating a snapshot:

```
Mediant SW# write
```

5. Type the following commands to take a snapshot:

```
Mediant SW# configure system
```

```
Mediant SW# startup-n-recovery
```

```
Mediant SW# create-system-snapshot <snapshot name>
```

3.2 Returning to a Snapshot State

➤ To return to a snapshot state:

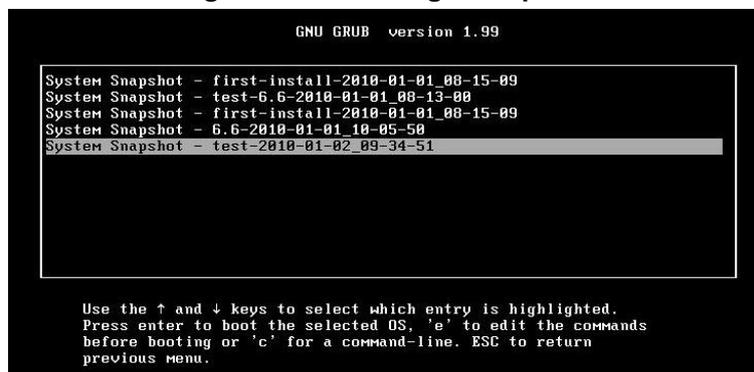
1. Reboot the server.
2. In the GRUB menu that's displayed for 5 seconds during the server start-up, press the Down ↓ key to prevent the server from starting the Mediant Software E-SBC software.

Figure 3-2: GRUB Menu



3. Select 'System Snapshots' and press ENTER; you're prompted to select a snapshot.

Figure 3-3: Selecting a Snapshot



4. Select a snapshot and press ENTER; the system returns to the snapshot state; it may take up to 10 minutes to complete (see [Figure 3-4](#)).

Figure 3-4: System Returning to Snapshot State



5. The system will automatically reboot after the return is complete.

3.3 Automatic Recovery

The Mediant Software E-SBC Server Edition features automatic recovery capability, i.e., after three unsuccessful attempts at rebooting, the E-SBC automatically returns to the default snapshot.

The default snapshot is either

- the first snapshot automatically taken when initial installation is performed from the CD
- OR-
- the last snapshot taken by the customer

Reader's Notes

A Creating an Installation USB Flash Drive

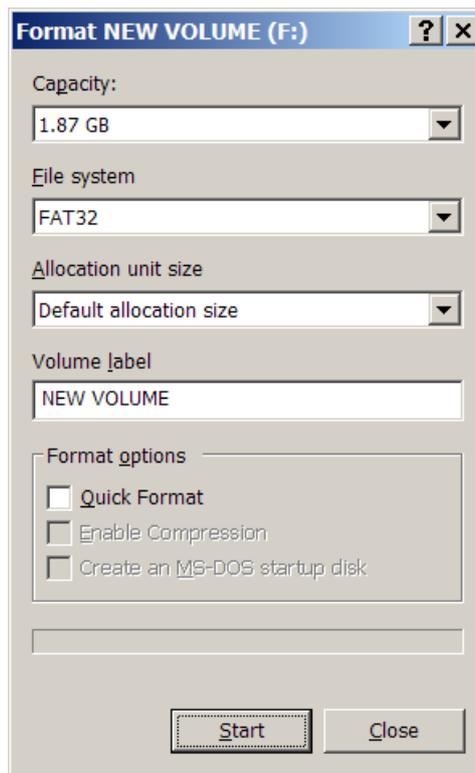
Instead of installing Mediant Software E-SBC software from the installation CD, you can create an installation USB Flash Drive and use it to perform the installation.

This can be useful, for example, when installation is performed on a server that does not feature a DVD/CD drive.

➤ **To create an installation USB Flash Drive:**

1. Connect the USB Flash Drive to a free USB port on your Windows-based PC.
2. Open 'My Computer', right-click on the entry that corresponds to the USB Flash Drive and choose **Format**.
3. Choose **FAT** or **FAT32** File System and press **Start** to start the formatting.

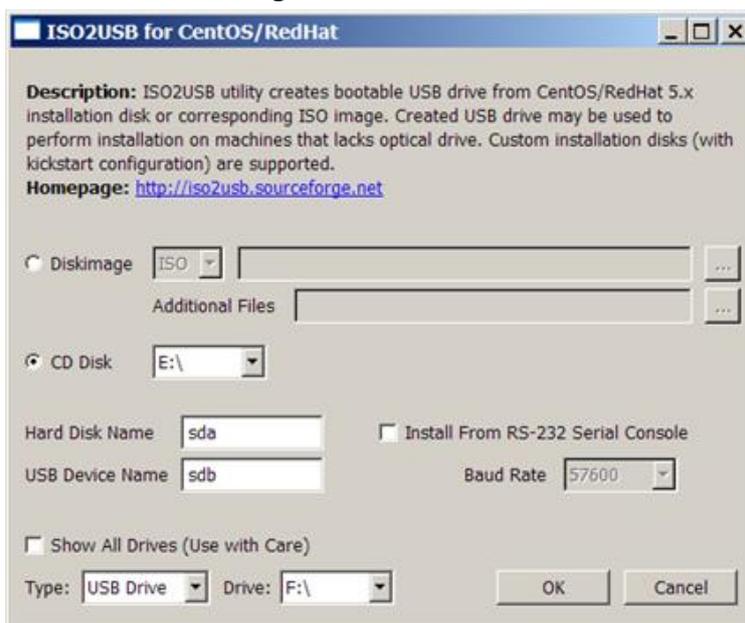
Figure A-1: File System Format



4. When formatting is complete, insert the Mediant Software E-SBC Installation CD into the CD/DVD drive on your Windows PC.
5. Open 'My Computer' and double-click the entry that corresponds to the CD/DVD drive. The content of the Mediant Software E-SBC Installation CD is displayed.

6. Open the **iso2usb** folder and run the **iso2usb.exe** file by double-clicking on it.

Figure A-2: ISO2USB



7. Click the **CD Disk** radio button option and choose the drive letter that corresponds to the CD/DVD drive in which the Mediant Software E-SBC Installation CD is inserted.
8. From the 'Type' drop-down list, select **USB Drive**
9. From the 'Drive' drop-down list, select the drive letter that corresponds to the USB Flash Drive.
10. Click the **OK** button to create an installation image on the USB Flash Drive.
11. Wait patiently while the image is created. It may take up to 15 minutes, depending on the write speed of the USB Flash Drive that you use.

B PO Sample of HP DL320 Server

The table below provides a sample of a Purchase Order (PO) for the HP DL320 server.

Table B-1: Sample of PO for HP DL320 Server

Resource	Server
675597-B21	HP DL320e Gen8 Hot Plug 4LFF CTO Server
682787-L21	HP DL320eGen8 E3-1220v2 FIO Kit
647907-B21	HP 4GB 2Rx8 PC3L-10600E-9 Kit
658071-B21	HP 500GB 6G SATA 7.2k 3.5in SC MDL HDD
652241-B21	HP 9.5mm SATA DVD RW Jb Kit
652497-B21	HP Ethernet 1Gb 2P 361T Adptr
674845-B21	HP Dedicated iLO Management Port Kit
663202-B21	HP 1U LFF BB Gen8 Rail Kit
675450-B21	HP 350W 1U FIO Pwr Supply Kit



Installation Manual