

Mediant Server Edition (SE)

Session Border Controller

Version 7.2

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Notice

This document describes installation of AudioCodes' Mediant Server Edition Session Border Controller.

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Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used.

Related Documentation

| Manual Name |
|---|
| Mediant Server & Virtual Editions SBC User's Manual |
| SIP Release Notes |

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Documentation Feedback

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1 Introduction

The Mediant Server Edition (SE) Session Border Controller (SBC) 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™).



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.

1.1 Product Package

Customers can choose how to obtain the product package according to preference.

Two supply options are available:

- The product is supplied as a link, provided by AudioCodes, to a downloadable "disk image" (ISO file), to be burned by customers onto a CD disk and then installed on the designated server.

To burn the downloaded "disk image" (ISO file) to a CD disk, read the instructions (applicable to Windows 7) in:

<http://windows.microsoft.com/en-us/windows7/burn-a-cd-or-dvd-from-an-iso-file>



Note: You can use other disk burning software as well to burn the "disk image", e.g., ImgBurn (www.imgburn.com).

- The product is also supplied as an installation CD disk, containing the Mediant SE software.

1.2 Installation Prerequisites

1.2.1 Hardware

The Mediant SE SBC software can be installed on two server options:

- Low-capacity server
- High-capacity server

For the low-capacity server, the software must be installed on HP ProLiant DL320e Gen8 servers.

For the high-capacity server, the software must be installed on one of the following servers:

- HP ProLiant DL360p Gen8
- HP ProLiant DL360 Gen9

The table below shows the servers' specifications:

Table 1-1: Supported Servers

| Resource | Specification |
|------------------------|--|
| Server | <ul style="list-style-type: none"> ■ HP ProLiant DL320e Gen8 ■ HP ProLiant DL360p Gen8 ■ HP ProLiant DL360 Gen9 |
| CPU | <ul style="list-style-type: none"> ■ DL320e: Intel Xeon E3-1220v2 (4 cores, 3.1 GHz, 8MB Cache) ■ DL360p Gen8: Intel Xeon 2 x E5-2680v2, (2 x 10 cores, 2.8 GHz, 25MB Cache) ■ DL360 Gen9: Intel Xeon E5-2640v3 (8 cores, 2.6 GHz, 20MB Cache) |
| Memory | <ul style="list-style-type: none"> ■ DL320e Gen8: 16GB ■ DL360p Gen8: 64GB ■ DL360 Gen9: 32GB |
| Network Cards | <ul style="list-style-type: none"> ■ Gen8: Dual NC365T ■ DL360 Gen9: 366FLR + 366T |
| Disk | Mechanical hard drive, 300 GB or more, no RAID DL360 Gen9: SATA Only |
| Installation From | CD/DVD drive |
| Installation Interface | VGA Monitor and Keyboard |



Note: See under Appendix B on page 25 for the exact Purchase Order (PO) for the HP DL320e server, HP DL360p Gen8 server and the HP DL360 Gen9 server. Other specifications have not been tested and are not supported!

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 supported **HP ProLiant DL320e Gen8** hardware platform, refer to the *HP ProLiant DL320 Gen8 Server User Guide* at www.hp.com.
- For details on installing the supported **HP ProLiant DL360p Gen8** hardware platform, refer to the *HP ProLiant DL360 Gen8 Server User Guide* at www.hp.com.
- For details on installing the supported **HP ProLiant DL360 Gen9** hardware platform, see refer to *HP ProLiant DL360 Gen9 Server User Guide* at www.hp.com.



Note: Connect your VGA monitor and keyboard to the server. These will be used to perform Mediant SE SBC installation and initial IP address configuration.

2.2 Setting Storage Controller in HP DL360 Gen9

The Smart Array RAID (such as P440AR) is not supported by Mediant SE SBC. If a Smart Array is assembled inside the server, it should be pulled out and the storage cables should be connected to the embedded SATA controller (B140i) located on the mother board.



Note: Only SATA HDDs are supported (SAS HDDs are not supported on DL360 GEN9).

2.3 HP iLO Functionality Limitations

For installation of Mediant SE SBC using the local CD/DVD drive, as described in the chapter, if you are connected through HP Integrated Lights-Out (iLO) remote console to the server on which you are intending to install Mediant SE SBC, you **must disconnect** (log off) HP iLO **prior to installation**.



Note: For remote installation using HP iLO remote console, please contact AudioCodes for additional information.

2.4 Server BIOS Settings

The server BIOS settings should be configured for optimal Mediant SE SBC performance:

- **To optimize server BIOS settings:**
 1. Enter the server BIOS (see your server's documentation for details).
 2. Restore the BIOS settings to factory defaults, and then reset the system.
 3. Enter the server BIOS again.

4. Set 'Power Management' to **Maximum Performance** (usually under 'Power' options).
5. Enable 'Intel Turbo Boost' (usually under the 'Processor' options).
6. Disable 'Hyper-Threading' (usually under 'Processor' options).
7. Enable 'Intel Virtualization Technology VT-d' and 'VT-x' (usually under 'Processor' options).

2.4.1 Additional BIOS Settings for HP DL360 Gen9

The default boot mode on DL360 Gen9 is UEFI, which is currently not supported by Mediant SE SBC installation. Therefore, the BOOT mode must be changed to "Legacy". This is done in the BIOS under **BIOS/Platform Configuration (RBSU) -> Boot Options -> Boot Mode -> Legacy BIOS Mode**.

2.5 Software

Mediant SE SBC installation involves:

1. Installing the Mediant SE SBC – see Section 2.5.1.
2. Connecting the Mediant SE SBC to the IP Network – see Section 2.5.2.
3. Reconfiguring the Default IP Address to Match Customer Network Settings – see Section 2.5.3.

2.5.1 Installing the Mediant SE SBC

Installing the Mediant SE SBC involves booting the server after inserting the CD and following the installation instructions.

➤ To install Mediant SE 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 SE SBC Installation Menu is displayed (see Figure 2-2).

Figure 2-1: HP ProLiant Server Booting

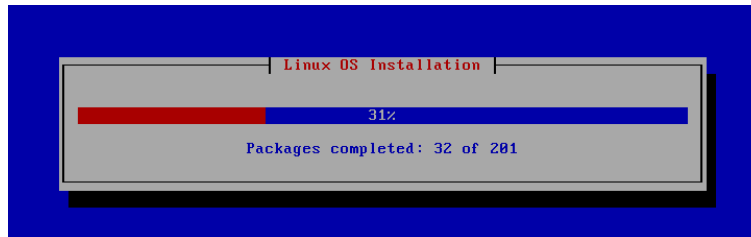


Figure 2-2: Installation Start Prompt

```
- To start installation, press <ENTER> key.  
- To start installation from RS-232 serial console, type rs232 <ENTER>.  
- To boot from local disk, type local <ENTER>.  
boot: _
```

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

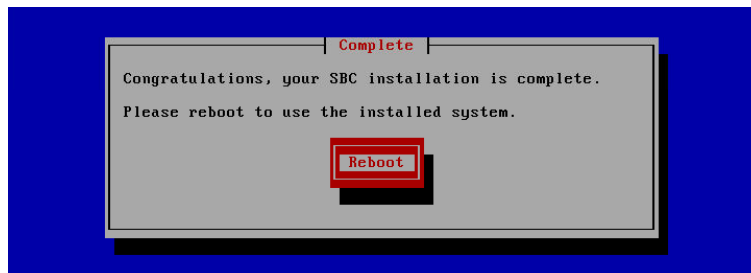
Figure 2-3: Installation in Progress



Note: If installation fails and a "no hard disc found" error is indicated, disable the RAID controller and restart the installation. For example, on the HP DL320e server, press **F9** during the bootup to open the Setup Utility: Go to System Options > SATA Controller Options > Embedded SATA Configuration and choose the **Enable SATA Legacy Support** option.

4. Wait for the 'Complete' prompt, notifying you when installation is complete, to be displayed. Installation takes approximately 10 minutes.

Figure 2-4: Installation Complete



5. 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 SE 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.

2.5.2 Connecting Mediant SE SBC to the IP Network

To connect Mediant SE SBC to the IP Network, connect an Ethernet cable to the first on-board Network Port on the server's rear panel.

Figure 2-5: First On-board Network Port on HP DL320e Gen 8 Server



Note: The Mediant SE SBC orders available network ports in two groups: the first group containing on-board ports (included in basic server assembly) and the second group containing ports on the add-on PCIe cards. Ports within each group are sorted alphabetically by their MAC addresses; which typically matches corresponding labels imprinted on the server rear's panel – NIC1, NIC2. If labels are missing or duplicated, see the section below for identifying network ports.

2.5.2.1 Identifying Network Ports

Use the `show network physical-port` CLI command to identify network ports (1, 2, 3, etc.) by their MAC address and port status (up/down).

- **To identify network ports:**
 - Disconnect Ethernet cables from all network ports.
 - Connect the first port via the Ethernet cable to a switch or router. Verify that port status is "up", typically indicated by green LEDs on the port itself and/or by the port status on the connected switch/router. Run the `show network physical-port` command and identify the corresponding port number, by noting the port with Link Status 'UP'.
 - Repeat the sequence for the rest of the ports.

Figure 2-6: Identifying Network Ports

```
# show network physical-port
```

| 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 |

2.5.2.2 Identifying Incompatible Hardware Components

During installation of the Mediant SE SBC from a CD, if an incompatible hardware component is detected (e.g., a network card), a warning message is displayed. You can abort installation or continue.

After the installation is complete, you can view details of the hardware platform by using the **show system hardware** CLI command. Incompatible components are indicated with an asterisk (*), as shown in the example below of an incompatible NIC:

```
# show system hardware
CPU: Intel(R) Xeon(R) CPU E5-2680 v2 @ 2.80GHz, total 20 cores
Memory: total RAM: 65536 MB
Chassis: ProLiant DL360p Gen8
Network:
  Broadcom Corporation NetXtreme BCM5719 Gigabit Ethernet PCIe
  Broadcom Corporation NetXtreme BCM5719 Gigabit Ethernet PCIe
  Broadcom Corporation NetXtreme BCM5719 Gigabit Ethernet PCIe
  Broadcom Corporation NetXtreme BCM5719 Gigabit Ethernet PCIe
  Intel Corporation 82580 Gigabit Network Connection (rev 01)
  Intel Corporation 82580 Gigabit Network Connection (rev 01)
  Intel Corporation 82580 Gigabit Network Connection (rev 01)
  Intel Corporation 82580 Gigabit Network Connection (rev 01)
  *Realtek Semiconductor Co.,Ltd. RTL-8169 Gigabit Ethernet (rev 10)
  *Realtek Semiconductor Co.,Ltd. RTL-8169 Gigabit Ethernet (rev 10)
```

Notes:

- Incompatible hardware should be avoided and replaced with compatible hardware as listed in the recommended specification under Section 1.2.1 on page 8.
- It is recommended that you use the Intel® chipset for ports allocated for media. To verify which ports are using the Intel chipset, you can run the **show network physical-port** command in the CLI. Ports using the Intel chipset are displayed with "igb" in the 'Driver Info' field, as shown in the example below:



```
# show network physical-port
```

| Port Num | Port Name | MAC Address | Speed | Duplexity | Link Status | Native VLAN | Driver Info. |
|----------|-----------|-------------------|---------|-----------|-------------|-------------|---------------------|
| 1 | GE_1 | 2c:76:8a:52:9c:1c | 100Mbps | FULL | UP | 1 | tg3 |
| 2 | GE_2 | 2c:76:8a:52:9c:1d | | | DOWN | 2 | tg3 |
| 3 | GE_3 | 2c:76:8a:52:9c:1e | | | DOWN | 3 | tg3 |
| 4 | GE_4 | 2c:76:8a:52:9c:1f | | | DOWN | 4 | tg3 |
| 5 | GE_5 | f4:ce:46:a5:24:68 | | | DOWN | 5 | <u>igb</u> rx&tx-zc |
| 6 | GE_6 | f4:ce:46:a5:24:69 | | | DOWN | 1 | <u>igb</u> rx&tx-zc |
| 7 | GE_7 | f4:ce:46:a5:24:6a | | | DOWN | 7 | <u>igb</u> rx&tx-zc |
| 8 | GE_8 | f4:ce:46:a5:24:6b | | | DOWN | 8 | <u>igb</u> rx&tx-zc |

2.5.3 Reconfiguring Default IP Address to Match Customer Network Settings

After the installation, the Mediant SE 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 SE SBC's Web-based management tool (hereafter referred to as 'Web interface').

The procedure below describes how to change the default IP address using the CLI. The procedure uses the regular CLI commands. Alternatively, you can use the CLI Wizard utility to set up the Mediant SE SBC with the initial OAMP settings. The utility provides a fast-and-easy method for initial configuration of Mediant SE SBC through CLI. For more information, refer to the *CLI Wizard User's Guide*.

➤ **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
```

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

```
Password: Admin
```

Figure 2-7: CLI Management Interface

```
Username: Admin
Password:
```

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

```
> enable
```

5. At the prompt, type the password again and press ENTER:

```
Password: Admin
```

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

```
# configure network
(config-network)# interface network-if 0
(network-if-0)#
```



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

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

```
(network-if-0)# ip-address 10.4.212.155
(network-if-0)# prefix-length 16
(network-if-0)# gateway 10.4.0.1
```

8. At the prompt, type **exit** to complete the **network-if** configuration:

```
(network-if-0)# exit
```

9. If Mediant SE SBC is connected to the IP network that uses VLAN ID, type the following commands to configure it (otherwise skip to step 10):
(config-network)# **interface network-dev 0**
(network-dev-0)# **vlan-id 10**
(network-dev-0)# **exit**
10. At the prompt, type **exit** to complete the configuration:
(config-network)# **exit**
11. At the prompt, make sure that port #1 is connected (Link is UP) using the **show network physical-port** CLI command as described in Section 2.5.2.1 on page 12.
Port #1 is mapped to network-if-0 by default.
12. At the prompt, type **reload now** to reset the product and activate the new configuration:
reload now

After the Mediant SE SBC restarts, connect to its Web interface to continue the provisioning. See the *Mediant Server & Virtual Editions SBC User's Manual* for details.

2.5.4 Installing an HA System

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

➤ **To configure an HA system:**

1. Reconfigure a temporary IP address for each, as described in Section 2.5.2.
2. To support HA functionality, the devices must be installed with the an HA-enabled license. Follow the instructions described in Section 3 on page 17 for licensing each device in the HA system.
3. Follow the instructions described under the section 'High Availability System' in the *Mediant Server & Virtual Editions SBC User's Manual* document to set network topology correctly, and configure each accordingly using the Web interface.

3 Licensing the Product

After you have successfully completed the software installation, you need to obtain and install the License Key file to enable the call capacity and features that you ordered with the product, as described in the following subsections.

3.1 Entering the Product Key

The Product Key identifies a specific purchase of your device installation for the purpose of subsequent communication with AudioCodes (for example, for support and software upgrades). The Product Key is provided in the Order Confirmation e-mail sent to you by AudioCodes upon your purchase, as shown in the example below:

Figure 3-1: Product Key in Order Confirmation E-mail



Note:

- Make sure you write down the Product Key and store it in a safe place where it can later be retrieved, if necessary, for re-installation.
- For 1+1 High-Availability orders, you are provided with two Product Keys, one for each unit.

You need to configure your device with this Product Key through the Web interface, as described below.

➤ **To enter the Product Key:**

1. Open the License Key page (**Setup** menu > **Administration** tab > **Maintenance** folder > **License Key**).
2. In the 'Product Key' field, enter the Product Key:

Figure 3-2: Entering Product Key

Product Key

3. Click the **Change Product Key** button.

You can view the Product Key on the Device Information page (**Monitor** menu > **Monitor** menu > **Summary** tab > **Device Information**).

3.2 Obtaining and Activating the License Key

The procedure below describes how to obtain and activate the License Key.

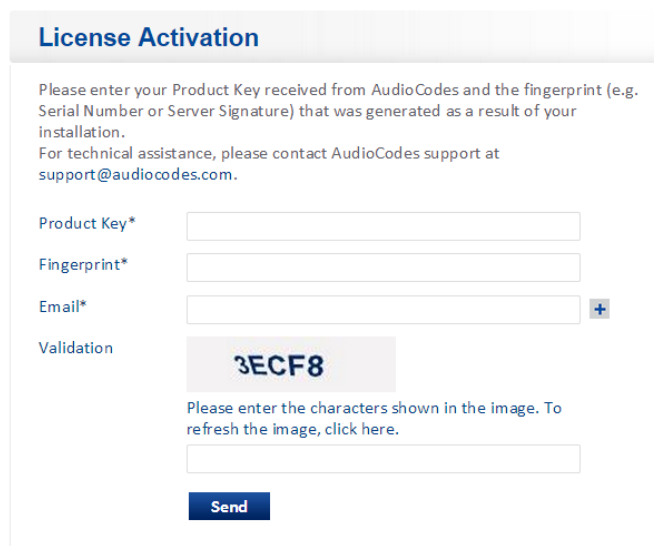


Note: License activation is intended **only** for first-time software activation upon product purchase (or if your License Key is "lost" due to whatever reason). For subsequent software feature upgrades, the License Key file is e-mailed to you when your Purchase Order is processed.

➤ **To obtain and activate the License Key:**

1. Make a note of the device's Serial Number. You can view the Serial Number in the 'Serial Number' field on the Device Information page (**Status & Diagnostics** tab > **System Status** menu > **Device Information**) in the Web interface.
2. Activate your device through AudioCodes License Activation tool:
 - a. Go to AudioCodes' Web-based License Activation tool at <http://www.audiocodes.com/swactivation>:

Figure 3-3: Software License Activation Tool



License Activation

Please enter your Product Key received from AudioCodes and the fingerprint (e.g. Serial Number or Server Signature) that was generated as a result of your installation.
For technical assistance, please contact AudioCodes support at support@audiocodes.com.

Product Key*

Fingerprint*

Email* +

Validation

3ECF8

Please enter the characters shown in the image. To refresh the image, click [here](#).

Send

- b. Enter the following information:
 - ◆ **Product Key:** The Product Key identifies your specific device purchase, as explained in Section 3.1.



Note: For 1+1 High-Availability orders, you are provided with two Product Keys, one for each unit. In such cases, you need to perform license activation twice in order to obtain License Keys for both units.

- ◆ **Fingerprint:** The fingerprint is the device's Serial Number. The Serial Number uniquely identifies the software installation (see Step 1).
 - ◆ **Email:** Provide one or more e-mail addresses to where you want the License Key to be sent.
 - c. Click **Send**; once AudioCodes processes your activation, you will receive an e-mail notification with the License Key file attached.

3. Verify that the serial number in the received License Key file is correct and reflects the Serial Number of your device. To do this, open the file with any text-based program (e.g., Notepad). The serial number is displayed on the "**S/N**" line.



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

3.3 Installing the License Key

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

➤ **To install the License Key:**

1. Open the License Key page (**Setup** menu > **Administration** tab > **Maintenance** folder > **License Key**):
2. Back up the 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 License 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. Depending on whether you are loading a License Key file with a single License Key (i.e., one "S/N") or with multiple License Keys (i.e., more than one "S/N"), do one of the following:
 - **Loading a File with Multiple License Keys:**
 - a. Under the "Load License Key file ..." text, click the **Browse** button, and then navigate to and select the License Key file on your computer.
 - b. Click **Load File**; the new License Key is installed on the <device> and saved to flash memory. The License Key is displayed in the 'Current License Key' field.



Note: If the device is operating in High-Availability mode, you can only install the License Key by loading a License Key file, as the file includes two License Keys (for active and redundant devices).

- **Loading a File with a Single License Key:**
 - a. Open the License Key file using a text-based program such as Notepad.
 - b. Copy-and-paste the string from the file into the 'New License Key' field, and then click **Change Key**.

4. Verify that the License Key was successfully installed:
 - On the License Key page, check that the listed features and capabilities activated by the installed License Key match those that were ordered.
 - Access the Syslog server and ensure that the following message appears in the Syslog server: "S/N____ Key Was Updated. The Board Needs to be Reloaded with ini file\n"
5. Reset the product; the new capabilities and resources enabled by the key are activated.

A Rescue Options

The Mediant SE SBC features a System Snapshots mechanism that provides the capability of returning the system to a previous state. The mechanism may be used as a rescue option if a system malfunction occurs.

A.1 Taking a Snapshot

Taking a System Snapshot captures a complete state of the Mediant SE SBC, including:

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

The first 'factory' snapshot is automatically taken when initial installation is performed. Additional snapshots (up to 10) may be taken. The Mediant SE SBC can be returned to a snapshot, as described below.

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

1. Connect to the CLI interface as described under Section 2.5.2.

Figure A-1: CLI Management Interface

```
Username: Admin
Password:
```

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

```
> 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:

```
# write
```

5. Type the following commands to take a snapshot:

```
# configure troubleshoot
# startup-n-recovery
(startup-n-recovery)# create-system-snapshot <name>
```

A.2 Viewing Available Snapshots

Currently available system snapshots can be viewed by using the **show-system-snapshots** command. The 'default' snapshot is indicated by asterisk.

```
(startup-n-recovery)# show-system-snapshots
first-install-2010-01-01_03-18-29
pre-production-6.70.037.010-2010-01-08_00-39-58
*production-6.70.037.010-2010-01-08_00-41-30
```

A.3 Changing the Default Snapshot

The 'default' snapshot indicates a restore point that is used by Automatic Recovery in the case of software malfunction (see Section A.6) and/or Manual Recovery (see Section A.5). The last user-created snapshot is automatically set as 'default' though it can be changed using the **set-default-snapshot** command.

```
(startup-n-recovery)# set-default-snapshot pre-production-
6.70.037.010-2010-01-08_00-40-27
```

A.4 Deleting a Snapshot

To delete a snapshot, use the **delete-system-snapshot** command:

```
(startup-n-recovery)# delete-system-snapshot pre-production-
6.70.037.010-2010-01-08_00-39-58
```

A.5 Manual Recovery

Manual recovery is performed on user request. When the Mediant SE SBC reboots, a GRUB menu is displayed that allows users to select one of the following rescue options:

- Return to default snapshot
- Fix current installation
- Browse available system snapshots
- Return to factory snapshot (after install from CD)

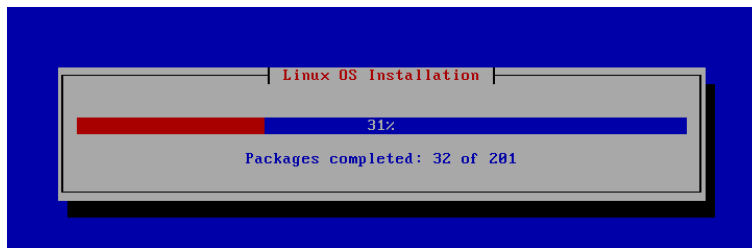
A.5.1 Returning to the Default Snapshot

➤ **To return to the default snapshot:**

1. Reboot the server.
2. In the GRUB menu that's displayed for 5 seconds during the server start-up, press the Down ↓ key, select **Rescue option**, and press **Enter**.
3. In the Rescue Options menu, select **Return to default snapshot** and press **Enter**.

The system returns to the default snapshot, restoring the software version and the full configuration (see Section A.3). The process can take up to 10 minutes to complete.

Figure A-2: **System Returning to Snapshot State**



A.5.2 Fixing the Current Installation

- **To fix the current installation:**
 - In the GRUB menu, select **Fix current installation** and press **Enter**; the system is repaired while the currently installed software version and its configuration are preserved. The process can take up to 10 minutes to complete.

A.5.3 Returning to an Arbitrary Snapshot

- **To return to an arbitrary (non-default) system snapshot:**
 1. In the GRUB menu, select **Browse available system snapshots** and press **Enter**; you're prompted to select a snapshot.
 2. Select a snapshot and press **Enter**; the system returns to the selected snapshot, restores the software version and the full configuration. The process may take up to 10 minutes to complete.

A.5.4 Returning to a Factory Snapshot

- **To return to a factory snapshot (after install from CD):**
 - In the GRUB menu, select **Return to factory snapshot (after install from CD)** and press **Enter**; the system returns to the first snapshot automatically taken when initial installation from CD was performed. The process can take up to 10 minutes to complete.

A.6 Automatic Recovery

The Mediant SE SBC activates Automatic Recovery when it encounters a severe software malfunction that prevents it from successfully booting for three subsequent attempts. Automatic Recovery returns the system to the 'default' snapshot and may take up to 10 minutes to complete.

B PO of Supported Servers

B.1 Low-Capacity Server

B.1.1 HP ProLiant DL320 Server

The table below provides the supported Purchase Order (PO) for the HP ProLiant DL320 server, which has been qualified for the Mediant SE SBC Low-capacity server.

Table B-1: Supported PO for HP ProLiant DL320e Gen8 Server

| Resource | Qty | Description |
|------------|-----|--|
| 675597-B21 | 1 | HP DL320e Gen8 Hot Plug 4LFF CTO Server |
| 682787-L21 | 1 | HP DL320eGen8 E3-1220v2 FIO Kit |
| 669324-B21 | 2 | HP 8GB 2Rx8 PC3-12800E-11 Kit |
| 658071-B21 | 1 | HP 500GB 6G SATA 7.2k 3.5in SC MDL HDD |
| 652241-B21 | 1 | HP 9.5mm SATA DVD RW Jb Kit |
| 593722-B21 | 2 | HP NC365T 4-port Ethernet Server Adapter |
| 674845-B21 | 1 | HP Dedicated iLO Management Port Kit |
| 663202-B21 | 1 | HP 1U LFF BB Gen8 Rail Kit |
| 675450-B21 | 1 | HP 350W 1U FIO Pwr Supply Kit |

B.2 High-Capacity Servers

B.2.1 HP ProLiant DL360p Server Gen8

The table below provides the supported Purchase Order (PO) for the HP ProLiant DL360p Gen8 server, which has been qualified for the Mediant SE SBC High-capacity server.

Table B-2: Sample PO for HP ProLiant DL360p Gen8 Server

| Resource | Qty | Description |
|------------|-----|--|
| 654081-B21 | 1 | HP DL360p Gen8 8-SFF CTO Server |
| 712506-L21 | 1 | HP DL360p Gen8 E5-2680v2SDHS FIO Kit |
| 712506-B21 | 1 | HP DL360p Gen8 E5-2680v2SDHS Kit |
| 731761-B21 | 8 | HP 8GB 1Rx4 PC3-14900R-13 Kit |
| 652564-B21 | 1 | HP 300GB 6G SAS 10K 2.5in SC ENT HDD |
| 652241-B21 | 1 | HP 9.5mm SATA DVD RW Jb Kit |
| 684217-B21 | 1 | HP 1GbE 4-port 366FLR Adapter FIO Kit |
| 734807-B21 | 1 | HP 1U SFF Easy Install Rail Kit |
| 593722-B21 | 2 | HP NC365T 4-port Ethernet Server Adapter |
| 656363-B21 | 2 | HP 750W CS Plat PL Ht Plg Pwr Supply Kit |

B.2.2 HP ProLiant DL360 Server Gen9

The table below provides the supported Purchase Order (PO) for the HP ProLiant DL360 Gen9 server, which has been qualified for the Mediant SE SBC High-capacity server.

Table B-3: Sample PO for HP ProLiant DL360 Gen9 Server

| Resource | Qty | Description |
|------------|-----|--|
| 755258-B21 | 1 | HP DL360 Gen9 8SFF CTO Server |
| 755386-L21 | 1 | HP DL360 Gen9 E5-2640v3 FIO Kit |
| 726718-B21 | 4 | HP 8GB 1Rx4 PC4-2133P-R Kit |
| 655708-B21 | 1 | HP 500GB 6G SATA 7.2k 2.5in SC MDL HDD |
| 764632-B21 | 1 | HP DL360 Gen9 SFF DVD-RW/USB Kit |
| 766207-B21 | 1 | HP DL360 Gen9 SFF Embed SATA Cable |
| 665240-B21 | 1 | HP Ethernet 1Gb 4-port 366FLR Adapter |
| 811546-B21 | 1 | HP Ethernet 1Gb 4-port 366T Adapter |
| 734807-B21 | 1 | HP 1U SFF Easy Install Rail Kit |
| 720478-B21 | 1 | HP 500W FS Plat Ht Plg Pwr Supply Kit |

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