Upgrading Avaya Session Border Controller for Enterprise

Release 7.1
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Contents

Chapter 1: Introduction

Purpose

This document provides procedures for upgrading Avaya SBCE from Release 6.2, Release 6.3, and Release 7.0 to Release 7.1. The document includes upgrade checklist, and upgrade procedures.

The primary audience for this document is anyone who is involved with upgrading and maintaining Avaya SBCE. The audience includes and is not limited to implementation engineers, field technicians, business partners, solution providers, and customers.

Change history

Issue	Date	Summary of changes
1.0	June 2016	Initial release
2.0	July 2016	Updated licensing information in the Upgrade from Release 6.3 and Release 7.0 section.
3.0	Aug 2016	Included procedure for installing preupgrade patch for supporting rollback for systems upgraded from Avaya SBCE 6.3.6 or 7.0.1 to 7.1.
4.0	July 2019	Updated Configuring WebLM server IP address on EMS topic.

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Chapter 2: Upgrade overview and specifications

Avaya Session Border Controller for Enterprise upgrade overview

This guide provides the procedures for upgrading Avaya Session Border Controller for Enterprise (Avaya SBCE) Release 6.2 and Avaya SBCE Release 6.3 to Release 7.0, and from Release 7.0 to Release 7.1. The upgrade procedure depends on the current software version of Avaya SBCE.

This guide contains the following upgrade procedures:

- Upgrading from Avaya SBCE Release 6.2 to Avaya SBCE Release 7.0.
- Upgrading from the Release 6.3 to Release 7.0.
- Upgrading from Release 7.0 to Release 7.1.

Depending on the Avaya SBCE release version, perform the appropriate procedure.

From		To		Procedure supported
Version	**Operating system Platform**	**Version**	**Operating system Platform**	
6.2.1Q18	Monta Vista / Debian	7.0	Red Hat	Upgrade from Release 6.2 to Release 7.0 on page 16
6.3 7.0	Red Hat	7.0 7.1	Red Hat	Upgrade from Release 6.3 and Release 7.0 on page 22

Supported hardware

Avaya SBCE Release 7.1 supports the following hardware:

- Dell R210 II
- Dell R210 II XL
- Dell R320
- Dell R330

- Dell R620
- Dell R630
- HP DL360 G8
- HP DL360 G9
- PortWell CAD 0208
- Portwell CAD 0230

For information about the Avaya port matrix, see *Avaya Port Matrix: ASBCE*.

Determining whether EMS is installed on an Amax server

About this task

On Amax servers, Avaya SBCE does not support upgrades to Release 7.0 or later. Use this procedure to check whether EMS is installed on an Amax server.

Procedure

1. Log in as an ipcs user on EMS server, and type `sudo su` to get root privileges.
2. Type `dmidecode | grep 'Supermicro'`.

   For an Amax server, the system displays `Product Name: Supermicro`.

   For other servers, the system does not display any data.

Next steps

If you have Avaya SBCE Release 6.2. 1Q18 or Avaya SBCE Release 6.3, back up the existing configuration and restore on a new server.

For an HA configuration with the EMS on a Dell server and Avaya SBCE on HP DL360 G7, add a new Avaya SBCE device installed on an HP DL360 G8 server, and swap the Avaya SBCE device on HP DL360 G7.

For HA configurations with the EMS on an Amax server and Avaya SBCE on HP DL360 G7, take a snapshot of the Amax server. Restore the snapshot taken on the Amax server with Avaya SBCE 6.2.1Q18 or 6.3 on new Avaya SBCE server of same version as Amax server. Ensure that the new Avaya SBCE hardware is supported for Avaya SBCE 7.0 or later. Then, add a new Avaya SBCE device installed on an HP DL360 G8 server, and swap the Avaya SBCE device on HP DL360 G7.

For HA configurations with the EMS on an Amax server and Avaya SBCE on a Dell server, take a snapshot of the Amax server. Restore the snapshot taken on the Amax server with Avaya SBCE 6.2.1Q18 or 6.3 on new Avaya SBCE server of same version as Amax server. Ensure that the new Avaya SBCE hardware is supported for Avaya SBCE 7.0 or later. For information about the supported hardware on which you can restore the configuration backed up from the Amax server, see the “Supported hardware for moving from HP DL360 G7 and AMAX servers” section.

For more information about swapping a device, see *Troubleshooting and Maintaining Avaya Session Border Controller for Enterprise*.

Related links

Supported hardware for moving from HP DL360 G7 and AMAX servers on page 10

Determining whether Avaya SBCE is installed on an HP DL360 G7 server

About this task

On HP DL360 G7 servers, Avaya SBCE does not support upgrades to Release 7.0 and later. Use this procedure to check whether Avaya SBCE is installed on an HP DL360 G7 server.

Procedure

1. Log in as an ipcs user on EMS server, and type `sudo su` to get root privileges.
2. Type `dmidecode | grep 'ProLiant DL360 G7'`.

   For an HP DL360 G7 server, the system displays `Product Name: ProLiant DL360 G7`.

   For other servers, the system does not display any data.

Next steps

If you have Avaya SBCE Release 6.2. 1Q18 or Avaya SBCE Release 6.3, back up the existing configuration and restore on a new server.

For an HA configuration with the EMS on a Dell server and Avaya SBCE on HP DL360 G7, add a new Avaya SBCE device installed on an HP DL360 G8 server, and swap the Avaya SBCE device on HP DL360 G7.

For HA configurations with the EMS on an Amax server and Avaya SBCE on HP DL360 G7, take a snapshot of the Amax server. Restore the snapshot taken on the Amax server with Avaya SBCE 6.2.1Q18 or 6.3 on new Avaya SBCE server of same version as Amax server. Ensure that the new Avaya SBCE hardware is supported for Avaya SBCE 7.0 or later. Then, add a new Avaya SBCE device installed on an HP DL360 G8 server, and swap the Avaya SBCE device on HP DL360 G7.

For more information about swapping a device, see *Troubleshooting and Maintaining Avaya Session Border Controller for Enterprise*.

Related links

Supported hardware for moving from HP DL360 G7 and AMAX servers on page 10

Supported hardware for moving from HP DL360 G7 and AMAX servers

Avaya SBCE does not support upgrades to Release 7.0 or later for AMAX and HP DL360 G7 servers. If you currently use an AMAX or HP DL360 G7 server, back up the existing configuration. You can then deploy the backed up configuration on another server.

Important:

If you have Avaya SBCE 6.2.1Q18 or 6.3 on HP DL360 G7 or AMAX servers, back up the existing configuration, restore on a new server, upgrade to Release 7.0, and then Release 7.1.

Snapshots taken on Avaya SBCE can be restored on another device with the same software version. If you have Amax or HP DL360 G7 servers, choose from the following options:

- AMAX customers: For an EMS only deployment on an AMAX server, take a snapshot and restore on one of the following servers:
  - Dell R210ii XL with 2 NICs
  - Dell R320
  - Dell R620
  - VMware deployed only with EMS mode
- HP DL360 G7: For a standalone SBCE+EMS deployment, take a snapshot and restore on HP DL360 G8.

  For an HA configuration with the EMS on a Dell server and Avaya SBCE on HP DL360 G7, add a new Avaya SBCE device installed on an HP DL360 G8 server, and swap the Avaya SBCE device on HP DL360 G7.

  For HA configurations with the EMS on an Amax server and Avaya SBCE on HP DL360 G7, take a snapshot of the Amax server. Restore the snapshot taken on the Amax server with Avaya SBCE 6.2.1Q18 or 6.3 on new Avaya SBCE server of same version as Amax server. Ensure that the new Avaya SBCE hardware is supported for Avaya SBCE 7.0 or later. Then, add a new Avaya SBCE device installed on an HP DL360 G8 server, and swap the Avaya SBCE device on HP DL360 G7.

  For more information about swapping a device, see *Troubleshooting and Maintaining Avaya Session Border Controller for Enterprise*.

You cannot move from an AMAX or HP DL360 G7 server to an HP DL360 G9, or Dell R630 server.

For information about taking and restoring snapshots, see *Troubleshooting and Maintaining Avaya Session Border Controller for Enterprise*.

Related links

Upgrade from Release 6.3 and Release 7.0 on page 22

Changing serial number for Avaya SBCE uninstalled from an Amax server

About this task

After the EMS on the new server starts, you must uninstall the Avaya SBCE instances installed on the Amax server,and add them to the new EMS.

When you do a factory reset to remove the Avaya SBCE on the Amax server, the system generates the same serial numbers on both Avaya SBCEs. You can register the primary and secondary Avaya SBCEs with EMS only if you have unique serial numbers for every Avaya SBCE.

Therefore, to make the serial numbers unique you must:

- For restoring snapshot from Amax to Dell R210 ii XL, Dell R620 or VM: manually change the serial number on one of the Avaya SBCE instances that was on an Amax server.
- For restoring snapshot from Amax to Dell R320: download the `match-serial-from-snapshot.py` script from PLDS and run the script on an Avaya SBCE

This issue occurs only for HA configurations.

Procedure

1. Log in to the Avaya SBCE.
2. Type `vi /usr/local/ipcs/etc/sysinfo`.
3. Change the last character of the serial number for one Avaya SBCE.
4. Change the system STATE parameter to `INSTALLED`.
5. Restart both Avaya SBCE devices.

Chapter 3: Planning for upgrade

Prerequisites

Before an upgrade, perform the following:

Item	Information
Backups	Take a snapshot of Avaya SBCE. For more information about restoring and backing up Avaya SBCE, see *Troubleshooting and Maintaining Avaya Session Border Controller for Enterprise*.
Software version	Ensure that the Avaya SBCE version is at least: • 6.2.1Q18 for upgrading to Release 7.0. • 7.0 for upgrading to Release 7.1.
Server condition	Inspect the server and the contents for damages and functionally test or power cycle, and ensure that the server passes POST tests before upgrade.
Debug logs	Disable all debug logs before starting the upgrade.

Upgrade files

Download the following files from the PLDS website at https://plds.avaya.com/:

- For upgrading from Avaya SBCE Release 6.2.x to Release 7.0 using CLI: `ipcs_7.0.0.Qxx_<md5sum>.tar.gz`. CLI is the recommended method for upgrades.
- For upgrading from Avaya SBCE Release 6.2.x to Release 7.0 using DVD: `sbce-7.0.0-xx-xxxx.iso`.
- For upgrading from Avaya SBCE Release 6.2.x to Release 7.0 using a USB device: `sbce-7.0.000-xx-xxxx_<md5sum>.img`.
- For upgrading from Release 6.3 to Release 7.0: `sbce_7.0.0-xx-xxxx-<md5sum>.tar.gz`
- For upgrading from Release 7.0 to Release 7.1: `sbce_7.1.0.0-xx-xxxx-<md5sum>.tar.gz`

Preparing a USB device or DVD for installation or upgrade

Preparing a USB device on Windows

Before you begin

Download the `sbce-7.1.0.0-xx10xxxx_<md5sum>.img` file from the PLDS website at https://plds.avaya.com.

About this task

You can use a USB storage device with the minimum capacity of 4 GB for installation or upgrade of Avaya SBCE.

Procedure

1. Download and set up a disk imaging utility like Win32 Disk Imager.
2. Copy the Avaya SBCE 7.1 USB image file on the Windows system.
3. Ensure that the checksum matches the checksum calculated by any checksum utility.
4. Plug in the USB device on the Windows system.

   If you get an error indicating that the system is in use, format the USB device before using the Win32 Disk Imager application.
5. In the Win32 Disk Imager application, specify the image name and the correct USB device and click **Write**.

   Warning:

   Do not change the label of the filesystem on the USB drive. The default label is SBC_USB.
6. Wait for the image to be written to the USB device.

Preparing a USB device on Linux

Before you begin

Download the image file from the PLDS website. The image file is named as: `sbce-7.1.0.0-xx-xxxx_<md5sum>.img`.

About this task

A USB storage device with a minimum size of 4 GB can be set up for install or upgrade of Avaya SBCE.

Procedure

1. Copy the Avaya SBCE 7.1 USB image file on the linux system.

2. Go to the location where you copied the image file, and type `md5sum filename`, where *filename* is the name of the image file.

   The system displays an alphanumeric hash followed by the image filename.

3. Compare and ensure that the alphanumeric hash matches the checksum value in the file name.

4. Plug in the USB device on the linux server.

   The device can be detected as /dev/sda or /dev/sdb or /dev/sdc. Check with your system administrator if you are not sure.

5. Run the following command: `dd if=/path/of/the/SBCE_USB_image_file of=/dev/sdX bs=16M`

   The command takes up to 10 minutes to complete.

Preparing a DVD

About this task

Use this procedure to prepare a DVD for installing or upgrading Avaya SBCE.

Procedure

1. Download `sbce-7.1.0.0-xx-xxxx.iso` from the plds website at https://plds.avaya.com/.
2. Insert the DVD in a Windows or Linux system.
3. Burn the iso image to the DVD.

Chapter 4: Upgrading Avaya SBCE from 6.2 to 7.0

Upgrade from Release 6.2 to Release 7.0

To upgrade to Avaya SBCE Release 7.1, you must first upgrade from Release 6.2 to Release 7.0 and then upgrade to Release 7.1.

After purchasing an upgrade license for Release 7.0, you can upgrade from Avaya SBCE Release 6.2 to 7.0 by using the command line interface (CLI). You can only use the CLI to upgrade from Release 6.2 to Release 7.0. However, you can use the CLI or the EMS web interface to upgrade from Release 6.3 to Release 7.0.

To upgrade from Avaya SBCE Release 6.2 to 7.0, you must have a WebLM server.

Before beginning the upgrade:

- Download the license file from PLDS.
- Assign the WebLM server as license host for the licenses on PLDS.
- Regenerate the license file.
- Ensure that Avaya SBCE servers in the deployment have unique hostnames. In case two or more servers have the same hostname, change the hostname before attempting an upgrade. For more information, see *Troubleshooting and Maintaining Avaya Session Border Controller*.

To continue using encryption for advance sessions, add a new license for encryption.

Note:

For information about Release 7.0 build, see http://support.avaya.com.

You cannot rollback from Release 7.0 to Release 6.2 directly. To rollback to Release 6.2, you must manually install the same version of Release 6.2 and restore the snapshot that you took prior to upgrade.

You can rollback from Release 7.0 to Release 6.3.

Upgrade sequence

In a multi-server deployment, the upgrade sequence is:

1. EMS server with lower node ID
2. EMS server with higher node ID
3. Avaya SBCE pair:
    a. Avaya SBCE with lower node ID

b. Avaya SBCE with higher node ID

You can find the node IDs in `/usr/local/ipcs/etc/sysinfo`. Before upgrading, ensure that the EMS or Avaya SBCE with lower node id is secondary to avoid losing ongoing calls.

Clearing ghost devices in the database

About this task

Devices that are not present in the network can be present in the database. To avoid problems during upgrade, you must remove ghost devices in the database before upgrading the Avaya SBCE.

Before you begin

Download the fix-orphaned-devices.py script from PLDS by using the SBCE0000021 download ID.

Procedure

1. Log in as an ipcs user on EMS server, and type `sudo su` to get root privileges.
2. Type `/etc/init.d/ipcs-db start`.

   The system starts the database. For the script to run successfully, the database must be running.

   If the database is running when you type `/etc/init.d/ipcs-db start`, the system displays a message to indicate that the database is already running. For example,

   ```
   2015-02-18 10:18:33,031 INFO: DB is already running.
   ```

3. Type `chmod +x fix-orphaned-devices.py`.

   The system makes the script an executable file.

4. Type `./fix-orphaned-devices.py`.

   After the script runs successfully, continue to upgrade Avaya SBCE.

   Important:

   If you come across ghost devices after migrating to Avaya SBCE 7.0, escalate the database migration problem to Tier 4 support.

Upgrading EMS and Avaya SBCE using CLI

Before you begin

1. Download the Avaya SBCE Release 6.2.1Q18 image file from PLDS. Set up a USB flash device with this image. This USB flash device will be useful if you have to reinstall Avaya SBCE Release 6.2.1.
2. From PLDS website at https://plds.avaya.com/, download the upgrade tar file to your desktop and then SFTP the file to `/home/ipcs` on the server. For upgrading from Avaya

SBCE 6.2 to Avaya SBCE 7.0, the tar file is named `ipcs_7.0.0.Qxx_<md5sum>.tar.gz`.

About this task

Important:

During the upgrade process:

- Do not restart applications or run any web interface or CLI commands, such as reboot or shutdown.
- Ensure that EMS is reachable from Avaya SBCE.

.

Procedure

1. Connect a keyboard and monitor to the server (VGA mode) or a serial cable to the serial console port on the server.

   Important:

   Do not perform this procedure using SSH session.

   If the server is a primary Avaya SBCE server, ensure that the applications are stopped before starting upgrade.

2. Log in as an ipcs user and type `sudo su` to get root privileges.
3. Type `# mkdir /archive/upgrade_temp` to create a temporary directory in the /archive folder. upgrade_temp is used as an example. It can be any other unique name.

   If this directory already exists, ensure that it is empty. To empty the directory, type

   `# rm -rf /archive/upgrade_temp/*.`
4. Move the upgrade tar file `ipcs-7.0.0*tar.gz` from `/home/ipcs` to `/archive`.
5. Ensure that the checksum of the image matches with the checksum value in the file name by running the **`md5sum`** command.
6. Type the following commands to extract the package to the `/archive/upgrade_temp` directory:

   ```
   # cd /archive
   # tar xvzf ipcs_7.0.0.Qnn_<md5sum>.tar.gz -C /archive/upgrade_temp
   ```

   Do not extract the migration package in the same directory in which the tar.gz file exits.
7. To start an upgrade, type the following commands:

   ```
   cd /archive/upgrade_temp/uber
   #./ursbce.py --migrate --console=[vga/serial]
   ```

Note:

For vga connection, type `--console=vga` or for serial connection, type `–console=serial`.

The system displays `Start Migrating System`.

The system is restarted. After restarting, the **SBC 7.0 migration** option is automatically selected. The system, then backs up data in the `/archive` partition. This procedure repartitions and reformats the system and installs the updated software packages and reboots.

8. If prompted to select option in the "error processing drive" screen, select "Re-initialize all".

Next steps

In a multi-server deployment, repeat these steps to upgrade the secondary Avaya SBCE and primary Avaya SBCE, as applicable.

To verify whether the deployment was successful:

- Log on to EMS and on the System Management page, verify the current Avaya SBCE and EMS versions.
- From the command line, use the **`ipcs-version`** command to check the current version.

Upgrading EMS and Avaya SBCE using a USB device or DVD

Before you begin

- Ensure that you take a snapshot of the system and store the snapshot on an external storage media. During the upgrade procedure, do not restart applications or run any web interface commands, such as reboot or shutdown.
- Download the .iso or .img file from the PLDS website at https://plds.avaya.com/
- If you plan to use a DVD, burn the *.ISO image on the DVD and then insert it. If you plan to use a USB device, save the *.IMG file to the USB device.

About this task

During the upgrade process:

- Do not restart applications or run any web interface commands, such as reboot or shutdown.
- Ensure that EMS is reachable from Avaya SBCE.

Procedure

1. Connect a keyboard and monitor to the server (VGA mode) or a serial cable to the serial console port on the server.
2. Boot the system with the DVD or USB device attached.
3. Change the BIOS settings to ensure that the system boots from DVD or the USB storage device.

You must set the BIOS boot order with USB as first priority and hard drive as second priority. If you do not change the boot order, the system boots from the hard drive.

- For Dell servers, press `F11` to set boot options.
- For CAD 0208, press the `Tab` or `Delete` key to set boot options.

4. Wait until the system displays the message `Found SBC version 6.2.1.Q18 installed on this system`.
5. When the system displays **Proceed with upgrade? (yes/no)**, type `Yes` to proceed with the upgrade.

   If you type `yes`, the system takes a backup of the existing Avaya SBCE specific data and creates new partitions. The system displays a message indicating the connection mode that is being used for installation. Then, the system displays a message to specify the preferred console to be used after installation.

   If you type `no` in the **Proceed with upgrade? (yes/no)** field, the system displays the prompt for a fresh installation.
6. In the **Please select default console type (vga or serial) [serial]** field, type `serial` or `vga`, depending on the connection mode, and press `Enter`.

   The console selected in this step determines the connection mode with which you can connect to the Avaya SBCE console after the upgrade.
7. If prompted to select option in the "error processing drive" screen, select **Re-initialize all**.

   This process might take up to 30 minutes. The system backs up data, repartitions and reformats remaining partitions, installs packages and bootloader, and initiates the post-installation steps. The system displays `Running OS Hardening now` and upgrades the database.
8. When the system displays `Press Enter to reboot the system`, remove the USB device, if used, and press `Enter`.

   The system is restarted. If you use a DVD, and if the DVD is not ejected automatically, then eject the DVD while the system is being restarted.
9. After the system is restarted, enable WebLM with EMS, EMS+SBCE, or an external device such as System Manager acting as WebLM server.
10. Generate the license file on PLDS and enter the number of sessions for which you have purchased a license.

    For more information about generating the license file, see Configuring WebLM server IP address on EMS.
11. Log in to the EMS web interface.
12. In the left navigation pane, click **System Management**.

    The system displays the System Management page.
13. In the **Devices** tab, locate the device you upgraded, and click **Edit**.

The system displays the Edit Device dialog box.

14. In the **Standard Sessions**, **Advanced Sessions**, and **Scopia Video Sessions** fields, type the number of licensed sessions depending on the license you purchased.
15. Click **Finish**.

Next steps

In a multi-server deployment, repeat these steps to upgrade the secondary Avaya SBCE and primary Avaya SBCE, as applicable.

To verify whether the deployment was successful:

- Log on to EMS and on the System Management page, verify the current Avaya SBCE and EMS versions.
- From the command line, use the **`ipcs-version`** command to check the current version.

Related links

Configuring WebLM server IP address on EMS on page 31

Chapter 5: Upgrading Avaya SBCE from 6.3 and 7.0 to 7.1

Installing GUI patch for upgrades from Release 7.0 or Release 6.3.6 to Release 7.1

Before you begin

Download the GUI patch from PLDS:

- For upgrades from Avaya SBCE 7.0 to 7.1, download `7.0-upgrade_regex_patch.tar`.
- For upgrades from Avaya SBCE 6.3.6 to 7.1, download `6.3.6-upgrade_regex_patch.tar`.

About this task

Avaya SBCE Release 7.0 does not accept upgrade packages with three-digit version numbers. To overcome this issue, run the GUI patch before upgrading from Release 7.0 to Release 7.1.

You must also run the patch before upgrading from Avaya SBCE 6.3.6 to 7.1.

This patch is not required if you have already upgraded to Avaya SBCE 7.0.1.

Procedure

1. Log in to Avaya SBCE as root.
2. Untar the package to `/home/ipcs`.
3. Type `cd upgrade-patch/`.
4. Type `sh upgrade-regex.sh`.

Upgrade from Release 6.3 and Release 7.0

To upgrade from Release 6.3 to Release 7.1, you must first upgrade from Release 6.3 to Release 7.0 if you have a service pack earlier than 6.3.6. You must follow the same procedure to upgrade from Release 6.3 to Release 7.0 and from Release 7.0 to Release 7.1.

Note:

You can directly upgrade Avaya SBCE 6.3.6 to Release 7.1 after applying the GUI patch.

You can upgrade from Release 6.3 to Release 7.0 after purchasing an upgrade license for Release 7.0. Perform all upgrades in a maintenance window. If the system uses 6.2 or an earlier version, follow the upgrade procedures in Chapter 4. For information about the latest Release 7.1 build, see http://support.avaya.com.

Note:

Before beginning the upgrade, ensure that:

- All debug logs are disabled.
- Avaya SBCE servers in the deployment have unique hostnames.

  If two or more servers have the same hostname, change the hostname. For more information, see *Troubleshooting and Maintaining Avaya Session Border Controller*.

You can check the upgrade status at `/archive/log/icu/upgrade.log`

Supported upgrade paths from Avaya SBCE 6.3.x

If you have Avaya SBCE 6.3.5 or earlier, upgrade to Avaya SBCE 6.3.6.

From Avaya SBCE 6.3.6, you can apply the GUI patch and then upgrade to Avaya SBCE 7.1 without upgrading to release 7.0 or 7.0.1.

If you have Avaya SBCE 6.3.3, you can upgrade to release 7.0, then release 7.0.1, and finally upgrade to release 7.1.

Upgrades from Avaya SBCE 6.3.5 and 6.3.6 to release 7.0 is not supported.

Upgrade sequence in multi-server deployments

In a multi-server deployment, the upgrade sequence is:

1. EMS server with lower node ID
2. EMS server with higher node ID
3. Avaya SBCE pair:
   a. Avaya SBCE with lower node ID
   b. Avaya SBCE with higher node ID

You can find the node IDs in `/usr/local/ipcs/etc/sysinfo`. Before upgrading, ensure that the EMS or Avaya SBCE with lower node id is secondary to avoid losing ongoing calls.

Upgrading primary EMS or standalone Avaya SBCE

Procedure

Copy the upgrade tar file to the EMS server by using one of the following methods:

- Copy the upgrade tar file to the EMS by using the web interface.
- Copy the upgrade tar file manually to the EMS server using SFTP or SCP.

Note:

You can use the same procedure to upgrade a standalone Avaya SBCE or EMS+Avaya SBCE deployment from Release 6.3 to Release 7.0 or from Release 7.0 to Release 7.1.

Related links

Uploading using SFTP or SCP on page 25
Upgrading EMS using a web browser on page 24

Upgrading EMS using a web browser

Before you begin

Download the upgrade package to a local or remote PC from Avaya Product Licensing and Delivery System (PLDS).

About this task

Uploading larger files using a browser can sometimes be unreliable, especially when using older browser versions such as Internet Explorer 7, Internet Explorer 8, or Firefox 3.x. Uploading large files through a browser might result in a failed upload or checksum error.

Transfer the file to EMS by using SFTP.

Procedure

1. Log in to the EMS web interface with administrator credentials.
2. In the left navigation pane, click **System Management**.

   The system displays the System Management screen.
3. Click the **Updates** tab.
4. Click **Upgrade from uploaded file**.
5. Click the **Browse** button and navigate to the folder containing the downloaded upgrade file.
6. Select the upgrade file.
7. Click **Upgrade**.

   The system displays the Upgrade Confirmation screen.
8. Click **Start Upgrade**.

   The system displays Upgrade Status screen with the upgrade log file in a viewable window. The upgrade process takes some time. Do not reboot when an upgrade is in progress. After the upgrade is complete, the system displays the **Return to EMS** tab.
9. Click **Return to EMS** to log back in to EMS.

Next steps

To verify whether the deployment was successful:

- Log on to EMS and on the System Management page, verify the current Avaya SBCE and EMS versions.

- From the command line, use the **ipcs-version** command to check the current version.

Uploading using SFTP or SCP

Before you begin

Download the tar file from the PLDS website.

Procedure

1. Log on to the EMS server as an ipcs user by using port 222.
2. Upload the upgrade tar file to the EMS server using SFTP or SCP.
3. Copy the file to `/home/ipcs`.
4. Log in with the root privileges and move the file from `/home/ipcs` to the EMS server folder:`/archive/urpackages`.

   Note:

   If the urpackages folder does not exist, create the urpackages folder in the exact path shown above and then proceed with Step 5.
5. On the command line, type `md5sum` *`filename`* to verify the integrity of the file. Ensure that results on the left match the string embedded within the file name.
6. Log on to the EMS web interface.
7. In the left navigation pane, click **System Management** > **Updates**.

   The system displays the current EMS version and the available upgrade options.
8. In the Updates tab, in the **Upgrade from local file** field, select the upgrade file.
9. Click **Upgrade**.

   The system displays the Upgrade Confirmation screen.
10. Click **Start Upgrade**.

    The system displays a series of windows to indicate that the EMS software is upgrading.

    When the upgrade is complete, the system displays the final window.
11. Click **Return to EMS**.

    The system displays the System Management page.

Next steps

To verify whether the deployment was successful:

- Log on to EMS and on the System Management page, verify the current Avaya SBCE and EMS versions.
- From the command line, use the **ipcs-version** command to check the current version.

Upgrading secondary EMS

Before you begin

Download the tar file from the PLDS website:

- For upgrading from Release 6.3 to Release 7.0, use `sbce-7.0.0-xx-xxxx-<md5sum>.tar.gz`.
- For upgrading from Release 7.0 to Release 7.1, use `sbce-7.1.0.0-xx-xxxx-<md5sum>.tar.gz`.

Procedure

1. Copy the tar file to the Secondary EMS server using ipcs user on port 222.

   You can use SFTP or SCP tools to access the Secondary EMS server.
2. Connect to the system using VGA or Serial console.
3. Using root permissions, move the upgrade tar file from the ipcs user home directory to `/archive/urpackages` directory.
4. Ensure that the md5sum of the upgrade tar file matches the checksum given in the name of the file.

   You can use the **`md5sum`** command to verify whether the md5sum and the checksum match.
5. At the command prompt, type `mkdir /archive/`*`temp_upgrade`*, where *temp_upgrade* is the name of the temporary directory.

   The system creates a temporary directory in the archive directory.
6. At the command prompt, type `rm –rf /archive/`*`temp_upgrade`*`/*`.

   This command removes all content in the temporary directory.
7. At the command prompt, do one of the following:
   - For upgrading from Release 6.3 to Release 7.0, type `tar xvf /archive/sbce-7.0.0-xx-xxxx-<md5sum>.tar.gz –C /archive/`*`temp_upgrade`*, where xx-xxxx is the build number.
   - For upgrading from Release 7.0 to Release 7.1, type `tar xvf /archive/sbce-7.1.0.0-xx-xxxx-<md5sum>.tar.gz –C /archive/`*`temp_upgrade`*.

   The system extracts the upgrade tar file in the temporary directory.
8. At the command prompt, type `cd /archive/`*`temp_upgrade`*, where *temp_upgrade* is the name of the temporary directory.
9. At the command prompt, type `chmod +x ursbce.py`.
10. At the command prompt, type `./ursbce.py -U --daemonize`.

    This step reboots the system.

Warning:

Use the --daemonize option while using CLI-based upgrades over SSH. Without the --daemonize option, the upgrade fails if the user is disconnected because of inactivity.

11. Wait for the system to reboot.
12. Type `cat /etc/sbce-version` and verify the version of the system.

    The file `/archive/log/icu/upgrade.log` contains upgrade related logs.

Upgrading HA pairs

Before you begin

Ensure that EMS servers are upgraded before upgrading HA pairs.

About this task

With this procedure, you can upgrade Avaya SBCE devices that are in HA pairs. For more than one Avaya SBCE pair in HA, repeat the procedure for each HA pair.

Procedure

1. In the **Updates** tab, click **System Management** and then click **Upgrade**.

   The system displays the Upgrade Devices window.
2. Select the check box before the Device Name column.

   The system determines and selects the primary Avaya SBCE.
3. Click **Next**.

   The system displays a window that states that the Device is upgraded.
4. Click **Finish**.

   The system displays the Upgrade Devices window.
5. Select the check box before the Device Name column.

   The system now selects the other Avaya SBCE in the HA pair.
6. Click **Next**.

   The system displays a message indicating that the device is upgraded.
7. Click **Finish**.

   Note:

   After the EMS software has been upgraded, the system displays the following message for Avaya SBCE boxes and HA pairs on the **Updates** tab:

   ```
   One or more devices are in an orphan state.  If you would like
   to upgrade these devices now, please click the Upgrade button
   below. You may also choose to rollback your EMS at this point.
   ```

HA system pairs and all other Avaya SBCE systems must be upgraded before this message is resolved.

Upgrading Avaya SBCE servers

Before you begin

Ensure that the EMS servers are upgraded before upgrading Avaya SBCE servers.

About this task

This procedure upgrades Avaya SBCE servers that are not in an HA pair. When more than one Avaya SBCE server is available, repeat this step for each Avaya SBCE server.

Procedure

1. In the left navigation pane, click **System Management** > **Upgrade**.

   The system displays the Upgrade Devices message box.

2. Select the check box next to the devices that you want to upgrade.

   The devices can be upgraded one at a time or as a group. If you select more than one device, the devices are put in a queue and upgraded one at a time.

3. Click **Next**.

   The system displays a message box indicating that the device is upgraded.

4. Click **Finish**.

   Note:

   After the EMS software has been upgraded, the following message is displayed for Avaya SBCE boxes and HA pairs on the Updates tab:

   ```
   One or more devices are in an orphan state.  If you would like
   to upgrade these devices now, please click the Upgrade button
   below.  You may also choose to rollback your EMS at this point.
   ```

   HA system pairs and all other Avaya SBCE servers must be upgraded before this message is resolved.

Next steps

To verify whether the deployment was successful:

- Log on to EMS and on the System Management page, verify the current Avaya SBCE and EMS versions.
- From the command line, use the **`ipcs-version`** command to check the current version.

Rolling back using web interface

About this task

If you upgrade from Release 6.2 or Release 6.3, rollback option is unavailable. But, the rollback option is available if you upgrade from Release 7.0 to Release 7.1.

Procedure

1. From the left navigation pane, click **System Management**.

   The system displays the System Management screen.

2. Select the **Updates** tab.

   The system displays the current EMS version and the available upgrade and rollback options.

3. Click **Rollback**.

   The system displays the Rollback Status screen during rollback, and displays the **Return to EMS** tab after the rollback is complete.

4. Click the **Return to EMS** tab to log back on to the EMS web interface.

Rolling back through CLI

Before you begin

Download the Avaya SBCE tar file for the release to which you want to roll back.

About this task

You can roll back to the last Avaya SBCE release from CLI.

Rolling back from Avaya SBCE 7.1 to 6.3.6 is not supported through the web interface. You must use CLI to roll back from Avaya SBCE 7.1 to 6.3.6.

Procedure

1. Log on to Avaya SBCE as a super user.
2. Delete the existing files from `/archive/temp`.
3. Untar the package to which you want to roll back, in the temp directory.
4. To begin rollback, type `./ursbce.py ––rollback –daemonize`.

   After the rollback process is complete, you can check the rollback logs stored at `/archive/log/icu`.

Chapter 6: Licensing requirements

Avaya SBCE uses WebLM for licensing requirements. You can install the Avaya SBCE license file on Element Management System (EMS) using the System Management page. Ensure that the license file of the WebLM server displays the product code Session Border Controller E AE. Before you configure the license file, you can view the **License State**, **Grace Period State**, and **Grace Period Expiration Date** fields on the Dashboard page. To install a license file on a newly installed or upgraded EMS, you have a 30-day grace period from the day of installation or upgrade.

The license file contains the following information:

- Product name
- Supported software version
- Expiration date
- Host ID

  The primary host ID of WebLM is used for creating the license file.
- Licensed features
- Licensed capacity

All hardware Avaya SBCE devices can use a local WebLM server for licences. However, for mixed deployment environments with EMS on VMware and Avaya SBCE on hardware, use a WebLM server installed on VMware or System Manager WebLM.

Avaya SBCE license features

To use a feature, you must ensure that the license file that you upload to WebLM has the appropriate licenses for the feature. You cannot configure or use a feature if the correct license for that feature is not present in the license file.

License feature	Description
VALUE_SBCE_STD_SESSION_1	Specifies the number of standard session licenses.
VALUE_SBCE_STD_HA_SESSION_1	Specifies the number of standard service HA session licenses.

Table continues…

License feature	Description
VALUE_SBCE_ADV_SESSION_1	Specifies the number of session licenses for remote worker, media recording, and encryption. **Note:** You must buy and deploy a standard session license with every advanced license feature.
VALUE_SBCE_ADV_HA_SESSION_1	Specifies the number of advanced service HA session licenses.
VALUE_SBCE_VIDEO_CONF_SVC_SESSION_1	Specifies the number of Avaya Scopia® video conferencing session licenses.
VALUE_SBCE_VIDEO_CONF_HA_SVC_SESSION_1	Specifies the number of Avaya Scopia® video conferencing HA session licenses.
VALUE_SBCE_CES_SVC_SESSION_1	Specifies the number of Client Enablement Services session licenses.
VALUE_SBCE_CES_HA_SVC_SESSION_1	Specifies the number of Client Enablement Services HA session licenses.
VALUE_SBCE_TRANS_SESSION_1	Specifies the number of transcoding session licenses.
VALUE_SBCE_TRANS_HA_SESSION_1	Specifies the number of transcoding HA session licenses.
VALUE_SBCE_ELEMENTS_MANAGED_1	Specifies the maximum number of Avaya SBCE elements managed.
VALUE_SBCE_VIRTUALIZATION_1	Specifies that download of VMware OVA files is permitted for Avaya SBCE.
VALUE_SBCE_ENCRYPTION_1	Specifies the Avaya SBCE encryption, and is required for advanced licenses.
FEAT_SBCE_HIGHAVAILABILITY_CONFIG_1	Specifies the configuration of HA for the setup.

Configuring WebLM server IP address on EMS

Before you begin

Install the Avaya SBCE license file on System Manager WebLM, local WebLM, or standalone WebLM server.

Procedure

1. Log on to the Element Management System web interface with administrator credentials.
2. In the left navigation page, click **System Management**.
3. On the System Management page, click the **Licensing** tab.

4. Perform one of the following tasks:
   - For a System Manager WebLM server or standalone server, in the **WebLM Server URL** field, type the URL of the WebLM server and click **Save**.

     The url format of the System Manager WebLM server is `https://<SMGR_server_IP> :52233/WebLM/LicenseServer` and the standalone WebLM server is `https://<WEBLM_server_IP> :52233/WebLM/LicenseServer`.
   - For a local WebLM server, select the **Use local WebLM server** check box and click **Save**.

   If the WebLM server is not reachable or connection to the WebLM server fails, then run the following command to obtain license file for EMS:

   ```
   file/usr/local/ipcs/icu/workaround/fixextweblmcert.sh
   ```
5. On the Dashboard screen, check the **License State** field.

   If the configuration is successful, the **License State** field shows `OK`.
6. Click the **Devices** tab.
7. Locate the Avaya SBCE device you configured, and click **Edit**.

   The system displays the Edit Device dialog box.
8. In the **Standard Sessions**, **Advanced Sessions**, and **Scopia Video Sessions** fields, type the number of licensed sessions depending on the license you purchased.
9. Click **Finish**.

Chapter 7: Resources

Documentation

The following table lists the documents related to this product. Download the documents from the Avaya Support website at http://support.avaya.com

Title	Description	Audience
Understanding		
Avaya Session Border Controller for Enterprise Overview and Specification	High-level functional and technical description of characteristics and capabilities of the Avaya SBCE	Sales Engineers, Solution Architects and Implementation Engineers
Installing and configuring		
Deploying Avaya Session Border Controller for Enterprise	Hardware installation and preliminary configuration procedures for installing Avaya SBCE	Implementation Engineers, Solution Architects, and Implementation Engineers
Installing Dell R620	Hardware installation and preliminary configuration	Implementation Engineers, Solution Architects, and Implementation Engineers
Installing HP DL360 G7	Hardware installation and preliminary configuration	Implementation Engineers, Solution Architects, and Implementation Engineers
Installing the Dell PowerEdge R630 Server	Hardware installation and preliminary configuration	Implementation Engineers, Solution Architects, and Implementation Engineers
Installing the HP ProLiant DL360 G9 Server	Hardware installation and preliminary configuration	Implementation Engineers, Solution Architects, and Implementation Engineers
Deploying Avaya Session Border Controller for Enterprise in Virtualized Environment	Hardware installation and preliminary configuration procedures for installing Avaya SBCE in a virtualized environment	Implementation Engineers, Solution Architects, and Implementation Engineers
Administering		
Administering Avaya Session Border Controller for Enterprise	Configuration and administration procedures	Implementation Engineers, Administrators
Troubleshooting and Maintaining Avaya Session Border Controller for Enterprise	Troubleshooting and maintenance procedures for Avaya SBCE	Sales Engineers, Administrators, and Implementation Engineers

Finding documents on the Avaya Support website

About this task

Use this procedure to find product documentation on the Avaya Support website.

Procedure

1. Use a browser to navigate to the Avaya Support website at http://support.avaya.com/.
2. At the top of the screen, enter your username and password and click **Login**.
3. Put your cursor over **Support by Product**.
4. Click **Documents**.
5. In the **Enter your Product Here** search box, type the product name and then select the product from the drop-down list.
6. If there is more than one release, select the appropriate release number from the **Choose Release** drop-down list.
7. Use the **Content Type** filter on the left to select the type of document you are looking for, or click **Select All** to see a list of all available documents.

   For example, if you are looking for user guides, select **User Guides** in the **Content Type** filter. Only documents in the selected category will appear in the list of documents.
8. Click **Enter**.

Training

The following courses are available on the Avaya Learning website at www.avaya-learning.com. After logging into the website, enter the course code or the course title in the **Search** field and click **Go** to search for the course.

Course code	Course title
5U00090E	Knowledge Access: Avaya Session Border Controller
5U00160E	Knowledge Collection Access: Avaya Unified Communications Core Support

Viewing Avaya Mentor videos

Avaya Mentor videos provide technical content on how to install, configure, and troubleshoot Avaya products.

About this task

Videos are available on the Avaya Support website, listed under the video document type, and on the Avaya-run channel on YouTube.

Procedure

- To find videos on the Avaya Support website, go to http://support.avaya.com and perform one of the following actions:
  - In **Search**, type `Avaya Mentor Videos` to see a list of the available videos.
  - In **Search**, type the product name. On the Search Results page, select **Video** in the **Content Type** column on the left.
- To find the Avaya Mentor videos on YouTube, go to www.youtube.com/AvayaMentor and perform one of the following actions:
  - Enter a key word or key words in the **Search Channel** to search for a specific product or topic.
  - Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the website.

Note:

Videos are not available for all products.

Support

Go to the Avaya Support website at http://support.avaya.com for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

Index

V

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