# Implementing Avaya Aura® Experience Portal on multiple servers

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# Chapter 1: Introduction

## Purpose

This document provides information about installing the Avaya Aura® Experience Portal software on two or more dedicated server machines.

This document is intended for anyone who is involved with installing, configuring, and verifying Avaya Aura® Experience Portal in a multiple server environment at a customer site. The audience includes and is not limited to implementation engineers, field technicians, business partners, solution providers, and customers.

# Chapter 2: Avaya provided operating system installation

When you purchase an Avaya provided server offer for Avaya Aura® Experience Portal, Avaya supplies the hardware for each server that is a part of the Experience Portal system. With each server, Avaya may also include one or more additional dual in-line memory module (DIMM) cards and Avaya Secure Access Link (SAL) or the Enhanced Access Security Gateway (EASG) solution.

The Avaya Aura® Experience Portal bundled server option includes the following:

- The hardware required for the number of Experience Portal servers.
- The Enterprise Linux installer that is used to install the Avaya Enterprise Linux operating system.
- The Experience Portal software that runs on each EPM and MPP server in the system.
- The Orchestration Designer software.

  Orchestration Designer is an Eclipse plug-in tool that provides an integrated GUI for application design and implementation. Use Orchestration Designer to create speech applications that conform to the Experience Portal requirements and recommendations.

For details about installing steps for common server R3 both HP DL 360 G9 and Dell R630, see Installing the HP ProLiant DL360 G9 Server or Installing the Dell PowerEdge R630 Server.

**Note:**

Ensure that you download the Avaya Aura® Experience Portal ISO from the Avaya Support Site.

**Related links**

Preparing to connect to Avaya Enterprise Linux using a crossover Ethernet cable on page 9

To install Avaya Enterprise Linux on a server using a crossover connection from a laptop, you must configure the laptop to establish communication between the laptop and the server.

Installing and configuring Avaya Enterprise Linux on page 10
State of identity variables in Master Software Image and on first boot on page 14
Restarting the Linux system in a single user mode for diagnostics on page 15

# Preparing to connect to Avaya Enterprise Linux using a crossover Ethernet cable

To install Avaya Enterprise Linux on a server using a crossover connection from a laptop, you must configure the laptop to establish communication between the laptop and the server.

### Before you begin

- Install the Avaya provided hardware on the server.
- Ensure that eth1, which is also called port 2, is available for use when you connect to the server using a crossover network cable.
- Obtain the following equipment for the remote connection:
  - Telnet client and secure shell (SSH) client programs installed on the laptop.

    **Note:**

    PuTTY is a popular, free program that can function as both a Telnet client and as an SSH client.
  - A crossover Ethernet or a CAT5 network cable that connects the laptop to the Services port on the server, eth1.

### About this task

Use the procedure to prepare the laptop to connect to Avaya Enterprise Linux using a crossover Ethernet cable.

### Procedure

1. Connect a crossover Ethernet (or CAT5) network cable from the laptop to the temporary services port eth1.

   **Note:**

   The eth1 port is also called port 2.

   For details on Dell R630 specific issues related to which Ethernet port to use, see Product Support Notice.

2. Configure the laptop with the following settings:

   ```
   ipaddress=192.11.13.5
   ```

   ```
   netmask=255.255.255.252
   ```

3. Verify link connectivity between the system and the server.
   a. At the command line prompt, enter the `ping 192.11.13.6` command.
   b. Check the LED on the temporary Services port and the LED on the network card of the laptop.

      The LED light flashes green when the link is connected.
   c. The screen displays the response from the server that shows that the server is operational.

4. Insert the Enterprise Linux Installer software into a DVD drive on the Experience Portal server.
5. Reboot the server so that the server starts from the Avaya Enterprise Linux Installer software.

### Next steps

Install or upgrade Avaya Enterprise Linux.

### Related links

Avaya provided operating system installation on page 8

# Installing and configuring Avaya Enterprise Linux

### Before you begin

- Install the Avaya provided hardware at the customer site.
- Connect a keyboard and a monitor to the server if you install Avaya Enterprise Linux using a direct connection.
- Configure the laptop if you use a crossover Ethernet connection. For more information, see Preparing to connect to Avaya Enterprise Linux using a crossover Ethernet cable on page 9.
- Complete the installation worksheet to answer the questions raised during the installation.

**Important:**

When you install Avaya Enterprise Linux on a server, the system erases existing data from the server. If required, back up the existing data before you install Avaya Enterprise Linux.

### Procedure

1. Insert the Enterprise Linux Installer DVD into the DVD drive.
2. Reboot the server so that the server boots from the Enterprise Linux Installer software.
3. If you install from the console:

   In the Avaya Enterprise Linux installer Welcome screen, type `1` and press `Enter` at the boot prompt to select the **Fresh Install** option.

   **Important:**

   You must enter your selection in the Welcome screen within 60 seconds. Otherwise, the installer runs a search function to locate an Ethernet crossover connection on the eth1 interface.

   The system displays the file transfer message, and then the Warning screen.
4. If you install on a laptop through a crossover Ethernet connection to eth1:
   a. On a command line, enter the **`ping -t 192.11.13.6`** command to determine when the server completes the reboot.

b. After the screen displays the response from the server, type `Ctrl+C` to stop the ping command.

c. Open a Telnet client, such as PuTTY, and connect to the IP address 192.11.13.6.

**Note:**

The default client is SSH. Ensure that you select telnet.

**Important:**

Initiate the telnet session within 5 minutes of the server responding to the ping command. If you do not initiate the telnet session, the installer ejects the DVD and reboots the server.

**Note:**

To use the Windows command telnet as the telnet client:

a. Enter the **`telnet`** command.

b. At the Microsoft Telnet> prompt, enter the **`set term vt100`** command.

c. At the Microsoft Telnet> prompt, enter the **`open 192.11.13.6`** command.

**Note**: When using telnet connection, the install screen might not display the information clearly.

The system displays the file transfer message and then the Warning screen.

5. On the Warning screen, type `Yes` and press `Enter` to continue with the installation.

**Note:**

Instead of displaying the Warning screen, the system might display the **No Disks found! /dev/sda missing** error. To resolve this error, type `n` and press `Enter` at the **Eject CD/DVD before rebooting** prompt.

The system displays the Network-related information screen.

6. Enter the following details on the Network-related information screen:

- **Hostname or FQDN**: Type the hostname of the server.
- **IP Address (eth0)**: Type a static IP address of the server.
- **SubNetmask** : Type the subnet mask of the server.
- **Gateway**: Type the IP address of the gateway.
- **DNS Domain** : Type the domain name of the server.
- **DNS Server 1**: Type the IP address of the first DNS server.
- **DNS Server 2**: Type the IP address of the second DNS server.
- **DNS Server 3**: Type the IP address of the third DNS server.

7. Press `Enter`.

The system displays the network related information that you have entered.

8. Type `Yes` and press `Enter` to confirm the network related information.

   The system displays the Time Zone selection screen.

9. Type the required option and press `Enter` to select a region.

   The system displays the list of corresponding time zones.

10. Type the required option and press `Enter` to select a time zone.

    The system displays the time zone information that you have specified.

11. Type `c` and press `Enter` to confirm the details.

    The system displays the Date and Time screen.

12. Specify the date details:
    - day of month
    - month
    - year

13. Specify the time details:
    - hours

      **Note:**

      Type the hour in 24 hour format.

    - minutes

14. Press `Enter`.

    The system displays the Date and Time that you have specified.

15. Type `yes` and press **Enter** to confirm the date and time information.

    The system displays the NTP Configuration screen.

16. On the NTP Configuration screen, enter the following details:
    - NTP server 1: Type the IP address of the first NTP server.
    - NTP server 2: Type the IP address of the second NTP server.
    - NTP server 3: Type the IP address of the third NTP server.

    **Note:**

    You can leave all the NTP server addresses blank as the Experience Portal system automatically configures NTP on all servers, other than the primary EPM, to synchronize with the primary EPM.

17. Press `Enter`.

    The system displays the NTP information that you have specified.

18. Type `yes` and press **Enter** to confirm the NTP details.

The system erases all existing data, and installs Avaya Enterprise Linux. When the installation is complete, the system ejects the DVD and reboots the server.

**Important:**

Once the server reboots, you can no longer access the server remotely through telnet. You must use an SSH client, such as PuTTY.

PuTTY can function as an SSH client as well as a telnet client.

19. Remove the Avaya Enterprise Linux DVD from the DVD drive.

    The installation is complete.

20. **(Optional)** Log in to Linux on the Experience Portal server after the server reboots.

    The Enterprise Linux Installer creates craft and sroot accounts but they are disabled with no predefined password. The craft and sroot accounts are Avaya Service Accounts and can only be enabled via EASG control. You should use the cust and root accounts to login to the server. Avaya Enterprise Linux 7.2 has assigned a default password for both accounts.

    For more details, see State of identity variables in Master Software Image and on first boot. on page 14

    **Note:**

    - You cannot log in directly as a root user except through the console. Log in as a non root user and switch to a root account using the **su –** command.
    - If you install from the console, log in to the local Linux console as root.
    - If you install through a crossover Ethernet connection to eth1:
      - Use a secure shell (SSH) client, such as PuTTY, to open an SSH connection to the 192.11.13.6 IP address.
      - Log in to Linux as cust and enter the **su –** command to change to the user root.

### Next steps

After you install Avaya Enterprise Linux, you can:

- Install Avaya Enterprise Linux on another Avaya-provided server by repeating this procedure.
- Install the Experience Portal software.

**Related links**

Avaya provided operating system installation on page 8

# State of identity variables in Master Software Image and on first boot

In Experience Portal 7.2, after you install and configure Avaya Enterprise Linux, the Enterprise Linux Installer creates user accounts. The sroot and craft account passwords are disabled with no predefined password, unless EASG is enabled. You should use cust and root accounts to login to the server.

| User name | Group | Purpose | Status of Account |
|---|---|---|---|
| sroot | root | Avaya Services root access | Disabled |
| root | root | Customer root access | Enabled |
| craft | susers | Avaya Services non-root access | Disabled |
| cust | susers | Customer non-root access | Enabled |

## First boot

You will not be able to use the Avaya Service accounts, craft and sroot, to gain access to the server once the server is upgraded to Avaya Enterprise Linux 7.2. The craft and sroot accounts will be controlled via EASG as soon as Experience Portal is installed.

The craft and sroot users are disabled unless EASG is enabled. In this case, the craft and sroot users will use challenge/response authentication.

This applies to both non-OVA and OVA deployments.

## First root login

The root and cust users which have default values in the software image, are forced to be updated on first root login. These accounts that are needed to log into a newly created system use pre-defined passwords:

| Account | User Name | Password |
|---|---|---|
| Non-root access | cust | custpw |
| Root access | root | rootpw |

After you login to the server as root using the default password, Avaya Enterprise Linux 7.2 will enforce an Avaya First Login Experience which will prompt for a new bootloader, root and cust passwords.

To support headless configuration, root & cust are not forced to be updated on first boot, but are forced to be updated on the first root login.

**Related links**

Avaya provided operating system installation on page 8

# Restarting the Linux system in a single user mode for diagnostics

## About this task

This task must be done on the head of the server since it is executed prior to network services being available.

**Note:**

In Experience Portal 7.2, restarting the Linux system in a single user mode requires a password.

## Procedure

1. Reboot the system or power on the system.
2. As soon as BIOS ends, start typing `ESC`. The screen is blank at this time and the window is only a few seconds long.
3. If the grub screen shows up, proceed with the next step. Otherwise wait till the system boots and then reboot again.
4. Type `p` to enter the boot loader password.
5. Type in the boot loader password that you have set in first root login.
6. Type `a` to append the line.
7. Go to the end of the line, enter a space by pressing the space bar and then type `single` .
8. Press `Enter` to exit edit mode.

   The system will then boot into single user mode.
9. Type the root password when the system prompts.
10. Type the command `runlevel`. It should respond **NS**, where the S stands for single user.
11. Perform diagnostics.
12. Press `Ctrl-D` to return to normal operation.

**Related links**

Avaya provided operating system installation on page 8

# Chapter 3: Customer provided operating system installation

When you purchase the Avaya Aura® Experience Portal software-only offer, you must obtain and install Red Hat Enterprise Linux 6.8 64 bit or later minor update. For security update, you must update Red Hat Enterprise Linux to 6.8.

**Note:**

Major new releases such as Red Hat Enterprise Linux Release 7.0 are not supported.

In addition to Red Hat Enterprise Linux Server 6.8 64 bit that you must install, ensure that you:

- Run it in 64-bit mode.
- Include the `bash` package.
- Include the Open JDK 1.8 packages.

**Note:**

To install the mod_nss package in the `Servers/ Web Servers` directory, configure the package to use an alternate port and not use any of the following reserved Experience Portal ports: 80, 443, 8005, 8009, 8080, 8443, and 9443.

For details about obtaining Red Hat Enterprise Linux Server 6.x 64 bit, see the Red Hat website, http://www.redhat.com.

For hardware requirements, see *Avaya Aura® Experience Portal Overview and Specification.*

If you have already installed Red Hat Enterprise Linux Server 6.x 64 bit and want to verify that you have the correct RPM versions, see Identifying RPM issues on page 98.

**Note:**

Before installing Red Hat Enterprise Linux Server 6.x 64 bit for the software-only offer, you must install and integrate all the new hardware into the system.

**Related links**

Installing Red Hat Enterprise Linux Server on page 17

# Installing Red Hat Enterprise Linux Server

### Before you begin

Complete the Installation worksheet to answer the questions raised during the installation:

### About this task

The default values provided for the Red Hat Enterprise Linux Server installation are suitable from an Experience Portal perspective. However, there are instances where you must select values other than the default. The following steps are guidelines to installing Red Hat Enterprise Linux Server and provide instructions for instances when the default values are not suitable for Experience Portal.

### Procedure

1. Reboot the server so that it boots from the media of a supported version of Red Hat Enterprise Linux Server.

   The system displays the **Welcome to Red Hat Enterprise Linux** screen.
2. Select the **Install or upgrade an existing system** option.
3. Select **English** as the language to use during the installation process.
4. Select the U.S. English keyboard option.
5. Select **Basic Storage Devices** to install Red Hat Enterprise Linux Server.
6. Select the **Fresh Installation** option.
7. Enter a hostname for the system.
8. To configure the network:
   a. Ensure that `eth0`, the main Ethernet interface, is enabled.
   b. Select **Connect automatically** to start the connection automatically when the system boots.
   c. On the **IPv4 Settings** tab, configure the following settings using the values specified on the installation worksheet:
      - Static IP address
      - Netmask
      - Gateway
      - DNS servers
      - Search domains
9. Enter the applicable timezone.
10. Enter the root password. Ensure that you enter the value that you have specified in the installation worksheet.
11. Select the **Use All Space** option on the partitioning screen.
12. Select **Basic Server** as the installation type as **Basic Server** is the recommended option.

13. **(Optional)** Select the **Customize now** option on the screen to customize the installation.

    **Note:**

    To include Red Hat Enterprise Linux Server languages other than English, press the **Customize now** button and install the languages.

14. Complete the installation and reboot the system.
15. After the system reboots, complete the post-installation configuration procedures.
    a. Set the system clock.
    b. Create a non-root account. Ensure that you use the value that you have specified in the installation worksheet.

       **Note:**

       After the Experience Portal software is installed, use a non-root account to log in and then change to `root` account by using the **`su -`** command.

    c. Disable the firewall.
    d. Disable SELinux.
    e. Configure a yum repository that has required Experience Portal packages.
16. Configure Avaya Secure Access Link (SAL) or the Enhanced Access Security Gateway (EASG) solution if you have purchased a maintenance agreement with Avaya services, and the server is the Primary EPM server.

### Next steps

After you install Red Hat Enterprise Linux Server:

- Perform the software installation prerequisite tasks on this server.
- Install Red Hat Enterprise Linux Server on another customer provided server by repeating this procedure.

**Related links**

Customer provided operating system installation on page 16

# Chapter 3: Partition requirements for hard drive

### Recommended partitioning scheme

Consider either of the following options when partitioning the hard drive to ensure Experience Portal files are installed properly:

- All the directories, including /opt and /var are under the main root (/) partition.
- If you have separate root and /var partitions, ensure that minimum 20 to 40 gigs are in the main root partition or in /opt, if it is a separate partition. The rest of the available free space is allocated to the /var partition.

  **Note:**

  The space in the /var partition should be as large as the space of the root partition.

# Chapter 4: Experience Portal software installation prerequisites

## Software installation prerequisites overview

Complete these tasks before you install the Avaya Aura® Experience Portal software on the server.

| ✔ | Description |
|---|---|
| | Make sure that the hard drive is partitioned properly in order to create sufficient space for Experience Portal software installation. For more information, see *Partition requirements for hard drive* in *Administering Avaya Aura® Experience Portal*. |
| | Ensure that you have access to the Avaya Aura® Experience Portal site-specific licensing information from Avaya.Make sure that you have access to the Avaya Aura® Experience Portal site-specific licensing information from Avaya, as described in the *License Requirements* topic in *Upgrading to Avaya Aura® Experience Portal 7.2*. |
| | Verify that you can access all of the target systems using at least one of the following methods:<br>• _____ A computer on the customer's network that has an SSH client to reach the target system<br>• _____ A keyboard, monitor, and mouse, attached directly to the target system<br>• _____ A cross-over cable that connects a second computer that has a keyboard, monitor, mouse, and an SSH client. |
| | Disable any firewall or anti-virus software on the target systems. |
| | Check to see if there are any Experience Portal patches available on the Avaya online support Web site, http://support.avaya.com. If there are, download those patches before you begin the installation. |
| | Verify that all servers are running the correct version of Avaya Enterprise Linux or Red Hat Enterprise Linux as described in Verifying the Linux version number on page 24. |
| | Verify that all servers can communicate with one another as described in Verifying server communication worksheet on page 25. |
| | Make sure that none of the mount points are stale or hung. For details, see Checking for stale or hung mount points on page 31. |
| | Verify that the time is synchronized between all the Experience Portal servers. For details, see Verifying server time synchronization on page 32. |

*Table continues…*

| ✔ | Description |
|---|---|
| | **Important:**<br>If the time is not properly synchronized between the EPM and MPP servers, the upgrade process could hang. |
| | To connect your Experience Portal system to an external Oracle database, you must first obtain the JDBC driver from Oracle. For details, see Installing Oracle JDBC driver on page 33. |
| | Ensure that you configure a yum respository containing all the required Experience Portal packages. Otherwise the prerequisite installation for the Experience Portal server may fail.<br>This is for Red Hat Enterprise Linux installations only. |

# Prerequisite checker and installer utilities

The prerequisite checker — EPPrereqChecker.sh and the prerequisite installer — EPPrereqInstaller.sh are the same utilities that are executed during the installation of Experience Portal. However, in Experience Portal 7.2, the prerequisite checker and installer can be run by customers outside of installation. That is, a customer can check the prerequisites or preinstall these packages before installing Experience Portal.

The prerequisite checker and installer utilities are located under Support/PrereqCheckerInstaller of the Experience Portal media.

**Note:**

Experience Portal does not bundle any packages that are obtained from Red Hat. Experience Portal provides a Prerequisite installer that installs all Red Hat Enterprise Linux packages that are needed to install Experience Portal, provided that customers configure a valid yum repository on the system that contains all required Experience Portal prerequisites. Customers can either run the Experience Portal Prerequisite installer standalone outside of installation or alternatively run the Prerequisite installer within the Experience Portal installer.

All OS packages required by Experience Portal are standard Red Hat Enterprise Linux packages except for php-process. The yum repository or repositories configured on the system must contain standard Red Hat Enterprise Linux packages plus php-process.

Since Avaya Enterprise Linux for Experience Portal 7.2 already contains all the required prerequisites, this note primarily applies to software-only customers.

### Prerequisite checker

The prereq checker can be executed by running the **`bash EPPrereqChecker.sh [epm|mpp|both]`** command.

Where,

- epm|mpp|both: Either EPM, MPP, or both if singlebox system is installed.

### Prerequisite installer

The prereq installer can be executed by running the **bash EPPrereqInstaller.sh [list|check|install|installall] [epm|mpp|both]** command.

Where,

- list: Lists the high level Redhat OS packages required by Experience Portal. This high level list does not include Avaya or other third party non-Redhat packages.
- check: Checks if the current yum configuration will allow the required OS prerequisite packages to be installed by the prerequisite installer.
- install: Installs only the required RedHat OS prerequisite packages.
- installall: Installs all the required prerequisite packages, including RedHat OS, third-party, and Avaya prerequisite packages.
- epm|mpp|both: Either EPM, MPP, or both if singlebox system is installed.

**Related links**

[High level packages required for the installation of Experience Portal 7.2](#) on page 22

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# High level packages required for the installation of Experience Portal 7.2

The following lists the high level packages that are required for the installation of Experience Portal 7.2.

**Note:**

If these packages are not already installed on the OS and a yum repository is configured, the Experience Portal installer will install them.

These packages do not include dependencies that may be required to install these packages. The exact dependency list will vary and depends on what the customer has installed on their OS.

You can view these packages by running the **/mnt/cdrom/Support/PrereqCheckerInstaller/EPPrereqInstaller.sh/ list (epm|mpp|both)** command.

### EPM

- policycoreutils-python.x86_64
- libgcc.x86_64
- libgcc.i686
- libstdc++.x86_64
- libstdc++.i686
- glibc.x86_64
- glibc.i686
- openssl.x86_64

- openssl.i686
- graphviz.x86_64
- httpd.x86_64
- mod_ssl.x86_64
- httpd-tools.x86_64
- php-common.x86_64
- php-cli.x86_64
- php.x86_64
- php-soap.x86_64
- php-xml.x86_64
- php-pgsql.x86_64
- php-process.x86_64
- java-1.8.0-openjdk.x86_64
- java-1.8.0-openjdk-headless.x86_64
- java-1.8.0-openjdk-headless.x86_64

**MPP**

- policycoreutils-python.x86_64
- httpd.x86_64
- mod_ssl.x86_64
- httpd-tools.x86_64
- php-common.x86_64
- php-cli.x86_64
- php.x86_64
- php-process.x86_64
- php-pdo.x86_64
- compat-libstdc++-33.x86_64
- glibc.x86_64
- glibc.i686
- bzip2-devel.i686
- bzip2-libs.x86_64
- bzip2-libs.i686
- zlib-devel.i686
- gd.x86_64
- gd.i686

- libgcc.x86_64
- libgcc.i686
- libstdc++.x86_64
- libstdc++.i686
- openssl.x86_64
- openssl.i686
- libidn.x86_64
- libidn.i686
- openldap.x86_64
- openldap.i686
- ncurses-libs.x86_64
- ncurses-libs.i686
- readline.x86_64
- readline.i686

**Related links**

Prerequisite checker and installer utilities on page 21

# Verifying the Linux version number

## Procedure

1. On the Experience Portal server, log in to Linux as any user.
2. If you use Avaya Enterprise Linux, enter the `swversion` command.

   The result should state that it is version RH6.8.64-AV07EP72. If this version is not correct, contact Avaya technical support.

   **Tip:**

   If you are not sure which operating system a server is using, enter the `swversion` command. If the command returns information about your operating system, the server is running Avaya Enterprise Linux.
3. If you are using Red Hat Enterprise Linux, enter the `rpm -aq | grep redhat-release` command to ensure that the Linux build version is correct.

   The result should state that it is minimally build redhat-release-server-6Server-6.8.0.5.el6.x86_64 or newer. If this build is not correct, please obtain the latest 6.8 build from Red Hat.

# Verifying server communication worksheet

Complete these tasks to ensure that all Experience Portal servers can communicate with each other and with all external servers.

| ✔ | Description |
|---|---|
| | Verify that the primary EPM server can communicate with all servers as described in Verifying communication between the primary EPM server and all other servers on page 25. |
| | Verify that the MPP servers can communicate with all servers as described in Verifying communication between the primary EPM server and all other servers on page 25. |
| | If you plan to configure an EPM server, verify that the EPM server can communicate with all servers as described in Optional: Verifying communication between the auxiliary EPM server and all other servers on page 29. |

**Related links**

Verifying communication between the primary EPM server and all other servers on page 25
Verifying communication between the MPP servers and all other servers on page 27
Optional: Verifying communication between the auxiliary EPM server and all other servers on page 29
Manually mapping hostnames to connect the primary EPM with other servers on page 30

# Verifying communication between the primary EPM server and all other servers

## About this task

The planned primary EPM server must have a static IP address and hostname, and it must be able to communicate with all other Experience Portal servers using either:

- A Domain Name Server (DNS) to translate hostnames to their corresponding IP addresses
- The `/etc/hosts` file to map the IP addresses and hostnames

**Important:**

If the servers cannot communicate with one another, you will encounter installation errors and be forced to rerun the installation.

In addition, the primary EPM server must also be able to communicate with all external servers such as the PBX, application servers, speech servers, and the Communication Manager.

## Procedure

1. Log on to Linux on the Experience Portal Primary EPM server.
2. Verify the primary EPM server's IP address and hostname:
   a. Enter the `hostname -i` command.

This command can return more than one IP address including `127.0.0.1`. The IP address of the EPM server is the address other than `127.0.0.1`. If this check fails, you must manually map the hostnames as described in Manually mapping hostnames to connect the primary EPM with other servers on page 30.

b. Enter the `hostname -s` command.

This command should return the server's hostname and not `localhost`. If this check fails, you need to manually map the hostnames as described in Manually mapping hostnames to connect the primary EPM with other servers on page 30.

3. Verify that the primary EPM server can communicate with all MPP servers:
   a. Enter the `ping -c 4 <mpp_hostname>` command, where:

      *<mpp_hostname>* is the hostname of the MPP server you are testing.

   b. Wait for the system to respond with the contact information.
   c. If both check fails, you need to manually map the hostnames as described in Manually mapping hostnames to connect the primary EPM with other servers on page 30.
   d. If your Experience Portal system contains more than one MPP server, repeat this step for each of the MPP servers.
4. If this system has an auxiliary EPM server, verify that the primary EPM server can communicate with the auxiliary EPM server by hostname or IP address:
   a. Enter the `ping -c 4 <auxiliary_epm_hostname>` command, where:

      *<auxiliary_epm_hostname>* is the hostname of the auxiliary EPM server.

   b. Wait for the system to respond with the contact information.
   c. If this check fails, enter the `ping -c 4 <auxiliary_epm_ipaddress>` command, where:

      *<auxiliary_epm_ipaddress>* is the IP address of the auxiliary EPM server.

   d. Wait for the system to respond with the contact information.
   e. If both of these checks fail, you need to manually map the hostnames.
5. Verify that the primary EPM server can communicate with the external servers by hostname or IP address:
   a. Enter the `ping -c 4 <server_hostname>` command, where:

      *<server_hostname>* is the hostname of the one of the following external components attached to your Experience Portal system:

      - A PBX server.
      - An application server.
      - A speech server.
      - Communication Manager.

- Avaya Aura® Session Manager.

b. Wait for the system to respond with the contact information.

c. If this check fails, enter the `ping -c 4 <server_ipaddress>` command, where:

   *<server_ipaddress>* is the IP address of the server whose hostname you specified in the previous **ping** command.

d. Wait for the system to respond with the contact information.

e. If both of these checks fail, you need to manually map the hostnames as described in Manually mapping hostnames to connect the primary EPM with other servers on page 30.

f. Repeat this procedure for each external server in your Experience Portal system.

**Related links**

Verifying server communication worksheet on page 25

Complete these tasks to ensure that all Experience Portal servers can communicate with each other and with all external servers.

# Verifying communication between the MPP servers and all other servers

## About this task

All planned Experience Portal servers must be able to communicate with each other using either:

- A Domain Name Server (DNS) to translate hostnames to their corresponding IP addresses
- The `/etc/hosts` file to map the IP addresses and hostnames

**Important:**

If the servers cannot communicate with one another, you will encounter installation errors and be forced to rerun the installation.

In addition, the servers must also be able to communicate with all external servers such as the PBX, application servers, speech servers, and the Communication Manager.

## Procedure

1. Log on to Linux on the Experience Portal MPP server.
2. Verify that the MPP server can communicate with the EPM server by hostname or IP address:
   a. Enter the `ping -c 4 <epm_hostname>` command, where:

      *<epm_hostname>* is the hostname of the EPM server.

   b. Wait for the system to respond with the contact information.

   c. If this check fails, enter the `ping -c 4 <epm_ipaddress>` command, where:

*<epm_ipaddress>* is the IP address of the EPM server.

d. Wait for the system to respond with the contact information.

e. If both of these checks fail, you need to manually map the hostnames as described in Manually mapping hostnames to connect the primary EPM with other servers on page 30.

f. If your Experience Portal system contains an auxiliary EPM server, repeat this step for the auxiliary EPM server.

3. Verify that the MPP server can communicate with the external servers by hostname or IP address:

   a. Enter the `ping -c 4 <server_hostname>` command, where:

      *<server_hostname>* is the hostname of the one of the following external components attached to your Experience Portal system:

      - A PBX server.
      - An application server.
      - A speech server.
      - Communication Manager.
      - Avaya Aura® Session Manager.

   b. Wait for the system to respond with the contact information.

   c. If this check fails, enter the `ping -c 4 <server_ipaddress>` command, where:

      *<server_ipaddress>* is the IP address of the server whose hostname you specified in the previous **ping** command.

   d. Wait for the system to respond with the contact information.

   e. If both of these checks fail, you need to manually map the hostnames as described in Manually mapping hostnames to connect the primary EPM with other servers on page 30.

   f. Repeat this procedure for each external server in your Experience Portal system.

4. If you have additional MPP servers in your Experience Portal system, repeat this procedure for each MPP server.

**Related links**

Verifying server communication worksheet on page 25

Complete these tasks to ensure that all Experience Portal servers can communicate with each other and with all external servers.

# Optional: Verifying communication between the auxiliary EPM server and all other servers

## About this task

All planned Experience Portal servers must be able to communicate with each other using either:

- A Domain Name Server (DNS) to translate hostnames to their corresponding IP addresses
- The `/etc/hosts` file to map the IP addresses and hostnames

**Important:**

If the servers cannot communicate with one another, you will encounter installation errors and be forced to rerun the installation.

In addition, the EPM server must also be able to communicate with all external servers such as the PBX, application servers, speech servers, and the Communication Manager.

## Procedure

1. Log on to Linux on the Auxiliary EPM server.
2. Verify that the auxiliary EPM server can communicate with all MPP servers:
   a. Enter the `ping -c 4 <mpp_hostname>` command, where:

      *<mpp_hostname>* is the hostname of the MPP server you are testing.

   b. Wait for the system to respond with the contact information.
   c. If both check fails, you need to manually map the hostnames as described in Manually mapping hostnames to connect the primary EPM with other servers on page 30.
   d. If your Experience Portal system contains more than one MPP server, repeat this step for each of the MPP servers.
3. Verify that the auxiliary EPM server can communicate with the external servers:
   a. Enter the `ping -c 4 <server_hostname>` command, where:

      *<server_hostname>* is the hostname of the one of the following external components attached to your Experience Portal system:

      - A PBX server.
      - An application server.
      - A speech server.
      - Communication Manager.
      - Avaya Aura® Session Manager.

b. Wait for the system to respond with the contact information.

c. If this check fails, enter the `ping -c 4 <server_ipaddress>` command, where:

   *<server_ipaddress>* is the IP address of the server whose hostname you specified in the previous **ping** command.

d. Wait for the system to respond with the contact information.

e. If both of these checks fail, you need to manually map the hostnames as described in Manually mapping hostnames to connect the primary EPM with other servers on page 30.

f. Repeat this procedure for each external server in your Experience Portal system.

**Related links**

Verifying server communication worksheet on page 25

Complete these tasks to ensure that all Experience Portal servers can communicate with each other and with all external servers.

# Manually mapping hostnames to connect the primary EPM with other servers

## About this task

To manually map hostnames to IP addresses without a DNS, you need to edit the `/etc/hosts` file on the planned primary EPM server so that it includes an entry for each of the servers in the Experience Portal system.

## Procedure

1. Log into Linux on the planned primary EPM server.
2. Back up the original file prior to editing it by entering the `cp /etc/hosts /etc/hosts.bak` command.
3. With the ASCII text editor of your choice, open the `/etc/hosts` file.
4. Make sure that the first line contains `127.0.0.1 localhost localhost.localdomain`, with the IP address and hostnames separated by spaces or tabs.
5. Create a new line for each server in the Experience Portal system using the format *IP_address hostname1 hostname2...* where:

   *IP_address* is the IP address of a server in the Experience Portal system and *hostname1 hostname2...* is one or more hostnames, separated by tabs or spaces, to associate with the IP address.

You should have one entry for each of the following components used in your Experience Portal system:

- All MPP servers.
- The auxiliary EPM server, if one is planned for this Experience Portal system.
- All PBX servers.
- All application servers.
- All speech servers.
- Communication Manager.
- Avaya Aura® Session Manager.

6. Save and close the file.

### Example

The following shows a properly-formatted `/etc/hosts` file with two MPP servers:

```
127.0.0.1 localhost localhost.localdomain #Required first line
10.10.10.120 primary-epm primary-epm.samplecompany.com #Primary EPM server IP address
10.10.10.121 first-mpp first-mpp.samplecompany.com  #First MPP server
10.10.10.122 second-mpp second-mpp.samplecompany.com  #Second MPP server
```

### Related links

Verifying server communication worksheet on page 25

Complete these tasks to ensure that all Experience Portal servers can communicate with each other and with all external servers.

# Checking for stale or hung mount points

If you have file systems saved on the Experience Portal servers, check if the mounts points are stale or hung. Stale or hung mount points can cause RPM installations to not respond while installing the Experience Portal software.

### About this task

Use this procedure to check for stale or hung mount points on the Experience Portal servers.

### Procedure

1. On the Experience Portal server, log in to Linux as any user.
2. Enter the `df` command.

   If the server:

   - Responds to the command, the mount points are working.
   - Does not respond to the command, then a mount point is stale or is not responding.

**Note:**

Run the `umount` command to unmount any stale or hung mount points.

# Verifying server time synchronization

## About this task

If you plan to install the EPM and MPP software on separate servers, ensure that the time is synchronized across the servers. Experience Portal automatically configures the Network Time Protocol (NTP) software that synchronizes the servers. Ensure the following:

- The time synchronization is relatively close before you install or upgrade the Experience Portal software. Otherwise the installation process may not complete successfully.
- If there is a difference in the time, the time on all planned MPP servers must lag behind that of the planned EPM server. The NTP software has to set the time on the MPP servers ahead by a small amount instead of trying to adjust the time backward.

**Note:**

Experience Portal only requires that the EPM and MPP servers are synchronized. However, you must also synchronize all servers that Experience Portal connects to, including the application server, any speech servers, and the PBX. For more information, see External time sources on page 86.

## Procedure

1. On each Experience Portal server, in the same time frame, run the `date` command.
2. Verify that all Experience Portal servers report the time within a few seconds of each server response. If there is a time difference, verify that the planned MPP servers lag behind the planned EPM server.

   For example, an MPP server time of 2:10:00 and a EPM server time of 2:10:03 is acceptable.
3. If one or more servers differ by more than a few seconds, set the appropriate date and time by running the `date` *`MMDDhhmmYY.ss`* command, where *`MMDDhhmmYY.ss`* is the two-digit month, day, hour, minute, year, and seconds you want to set based on the 24-hour clock.

   For example, to set the date to 2:15:35 p.m. on March 31, 2008, you must enter `date 0331141508.35`.

# Time Synchronization between the external database and EPM servers

If you connect an Experience Portal system to an external database, you must synchronize the time so that the time is the same across all servers. While Experience Portal only requires that the EPM and media server time be synchronized, make sure that you also synchronize all of the servers that Experience Portal connects to. For more information, see the *External time sources* topic in the *Implementing Avaya Aura® Experience Portal on multiple servers* guide.

# Installing the Oracle JDBC driver

### Before you begin

To connect your Experience Portal system to an external Oracle database, you must first obtain the JDBC driver from Oracle. The Oracle JDBC driver is not shipped with Experience Portal.

Experience Portal supports the following Oracle Releases:

- Oracle 11g Release 2: Download the Oracle JDBC driver from http://www.oracle.com/technetwork/apps-tech/jdbc-112010-090769.html. Download files ojdbc6.jar and orai18n.jar.
- Oracle 12c Release 1: Download the Oracle JDBC driver from http://www.oracle.com/technetwork/database/features/jdbc/default-2280470.html. Download files ojdbc7.jar and orai18n.jar.
- Oracle 12c Release 2 (12.2.0.1): Download the Oracle JDBC driver and UCP downloads from http://www.oracle.com/technetwork/database/features/jdbc/jdbc-ucp-122-3110062.html.

**Important:**

Web browsers might change the file extension of the files to .zip when the files are downloaded. Rename the files to ojdbc6.jar, ojdbc7.jar and orai18n.jar.

Avaya recommends the following for better results:

- Use Oracle 11g drivers if you are using Experience Portal 7.0.2 or below.
- Use Oracle 11g drivers when you are upgrading to Experience Portal 7.2 and connecting to an Oracle 11g database.
- Use Oracle 12c drivers for fresh installation of Experience Portal 7.2 and connecting to either an Oracle 11g or 12c database.
- Use Oracle 12c drivers when you are upgrading to Experience Portal 7.2 and connecting to an Oracle 12c database.

### About this task

**Note:**

This procedure only applies to installing Oracle JDBC driver as all other supported database drivers are packaged with Experience Portal.

To have the Oracle JDBC driver installed by the Experience Portal install program, perform the following steps after you install or upgrade Linux. It is recommended that you perform the procedure before you install or upgrade Experience Portal.

The procedure also provides information about how to install the Oracle JDBC driver after you install or upgrade Experience Portal.

### Procedure

1. Log in to Linux on the Primary Experience Portal server as a root user.
2. Run the **mkdir ~/OracleJDBC** command to create the `~/OracleJDBC` folder.
3. Copy the ojdbc6.jar/ojdbc7.jar/ojdbc8.jar and orai18n.jar driver files to the `~/OracleJDBC` folder.

   **Important:**

   Do not delete the Oracle JDBC driver files from the `~/OracleJDBC` directory after you install or upgrade Experience Portal. You will need the files if you reinstall or upgrade Experience Portal.
4. If you install the Oracle JDBC driver after you install or upgrade the Experience Portal server, you must do the following:
   a. Run the **/sbin/service vpms stop** command to stop the vpms service.
   b. Run the **cd $AVAYA_HOME/Support/Database** command to navigate to the appropriate directory.
   c. Run the **bash InstallOracleJDBC.sh** command to install the JDBC driver.

      **Important:**

      Run the **InstallOracleJDBC.sh** command only after you download the Oracle driver in the `~/OracleJDBC` directory on the server.
   d. Run the **/sbin/service vpms start** command to start the vpms service.
5. Repeat the procedure on each Auxiliary Experience Portal server.

# Chapter 5: Installing the EPM and MPP software on different servers

## Installing the EPM software on the primary EPM server

All Avaya Aura® Experience Portal systems require a primary EPM server running the Experience Portal Manager (EPM) software.

### Before you begin

- Complete the Primary EPM server installation worksheet on page 114 and have it available to help answer the questions raised during the installation.
- Before you install the software, read the Avaya Aura® Experience Portal release notes on the support site at https://support.avaya.com/css/P8/documents/101041248. These release notes contain information about the product that is not included in the formal documentation set.
- Download any patches for Avaya Aura® Experience Portal Release 7.2 from the Avaya Support Web site at http://support.avaya.com.
- Ensure that you download the Avaya Aura® Experience Portal ISO file from the Avaya Support web site and burn it to a DVD if required.

**Note:**

You can run the prerequisite installer before installing Experience Portal. For more details, see Prerequisite checker and installer utilities on page 21

### Procedure

1. Log into the server on which you want to install the primary EPM software.
   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

   **Note:**

   By default, the craft and sroot users are disabled in Avaya Aura® Experience Portal 7.2 Avaya Enterprise Linux fresh installations. Avaya Service Login accounts can only access the Avaya Aura® Experience Portal system if they are EASG protected.
2. Insert the Avaya Aura® Experience Portal 7.2 software installation DVD into the DVD drive of the server.

**Tip:**

These instructions assume that you are going to access the Experience Portal installation DVD by mounting the appropriate DVD drive on the target system. If you want to access the installation DVD files from a shared network directory or a local directory, you can copy the Experience Portal installation ISO image to that directory. However, that directory must be readable by all users on the system. If the directory is only readable for root users, the installation script will encounter errors and will not complete successfully.

3. Mount the Avaya Aura® Experience Portal 7.2 software installation DVD. The **mount** command depends on the server's hardware and operating system.
   - If you are working with Avaya Enterprise Linux, mount the DVD by entering the `mount /mnt/cdrom` command, where `/mnt/cdrom` is the mount point typically associated with the DVD drive in the `fstab` file.
   - If you are working with a supported version of Red Hat Enterprise Linux Server, to mount the DVD:
     - Run the `mkdir /media/cdrom` command.

       **Note:**

       This command is required only if the /media/cdrom mount point does not exist.

     - Run the `mount -o ro /dev/cdrom /media/cdrom` command.

   **Warning:**

   When Red Hat Enterprise Linux Server automatically mounts the DVD, the files on the DVD are not executable. You must manually mount the Experience Portal installation DVD using the commands shown above.
4. Change to the mount point directory.
5. Enter the `bash installvp` command and press `Enter` to start the installation script.

   The system displays the message `For the Experience Portal installer to run, 32-bit glibc must be installed.`, if you have not installed 32–bit glibc.
6. Type `Y` or press `Enter` to proceed with the 32–bit glibc installation.
7. On the Installation Destination screen, if you want to:
   - Use the default `/opt/Avaya/ExperiencePortal` installation directory, press `Enter`.
   - Change the directory, type the new installation directory name and press `Enter` to change the displayed directory.

     Specify an absolute directory path containing only standard English alphanumeric characters and the symbols `/` (forward slash), `_` (underscore), `-` (hyphen), `~` (tilde), or `.` (period).

**Important:**

When choosing installation options, wait for the next prompt before pressing a key. The installation stores your key presses in a buffer and enters all the key presses after the current processing completes. For example, if you press the `Enter` key repeatedly while the system is performing its prerequisite checks, you might unintentionally skip options you want to change. Use the **Previous** option on any screen to go back and change your earlier choices.

8. Press `Enter` to move to the next screen.
9. On the Experience Portal Feature Selection screen, verify that:
   - The **Install Type** says **Full Install** for all selected features.
   - The New Version column indicates that you are installing release 7.2.
10. Press `Enter` to move to the next screen.
11. On the Version Confirmation screen, verify that:
    - The **Install Type** says **Full Install** for all selected features.
    - The **New Version** column indicates that you are installing release 7.2.
12. Press `Enter` to move to the next screen.
13. Read through the end user license agreement.
14. On the final End User License Agreement page, type `1` and press `Enter` to select option **1 - I accept the terms of the license agreement**.

    The screen refreshes with **1 - I accept the terms of the license agreement** as the selected option.
15. Press `Enter` to accept the agreement.
16. Press `Enter` to move to the next screen.

    Experience Portal automatically starts the Prerequisite Checker, which analyzes your system's hardware and operating system configuration.
17. After the configuration analysis is complete, the Prerequisite Checker displays a message stating whether all prerequisite checks passed followed by the first Prerequisite Status page. Press `Enter` to view the rest of the Prerequisite Status pages.

    If any of the prerequisite installation fails, examine the Prerequisite Status pages carefully to determine which checks failed. You must correct these issues before you can continue with this procedure.
18. When all prerequisite checks pass, press `Enter` to move to the next screen.

    Experience Portal automatically starts the Prerequisite Installer, which attempts to install the required software on the Experience Portal server.
19. After the Prerequisite Installer completes installing the required software, the installer displays the Installation Status pages. Press `Enter` to view the rest of the Installation Status pages.

If any prerequisite installations fail, examine the Installation Status pages carefully to determine which installations failed. You must correct these issues before you can continue with this procedure.

20. When all prerequisites are successfully installed, press `Enter` to move to the next screen.
21. On the EPM Type screen, press `Enter` to accept the default option **1 - Primary EPM**.
22. Press `Enter` to move to the next screen.
23. On the EPM Administrator screen:
    a. Type the name you want to use for a EPM user account that will have access to all Experience Portal management functions and press `Enter`.

       The Experience Portal administrator uses this account to log in to the EPM Web interface to administer the Experience Portal system. The account is assigned the Administration user role as well as the Auditor and User Manager user roles. For details about User Roles, see *Administering Avaya Aura® Experience Portal* on http://support.avaya.com.

    b. Type the password for this account and press `Enter`.

       **Note:**

       All passwords you enter during the installation must:

       - Be at least eight characters in length.
       - Contain at least one alphabetic character and one digit.
       - Not be the same as the associated user name.

    c. To confirm the password, type the password again and press `Enter`.
24. Press `Enter` to move to the next screen.
25. The system displays the EASG (Enhanced Access Security Gateway) Acceptance of Terms.
    a. Read through the EASG Acceptance of Terms.
    b. Press **Enter** to move to the next screen.
    c. Type `1` and press **Enter** to enable EASG or Type `2` and press **Enter** to disable EASG.

**Note:**

- Enable EASG allows the Avaya Services Logins to access the system via EASG.
- Disable EASG blocks the Avaya Service Logins from accessing the system. If you disable EASG, make sure that you have access to the system without the Avaya Service Logins, and make sure you can get root access without using sroot.
- The selection will be applied to other systems within the Experience Portal system including MPP and auxiliary EPMs. If you later restore a backup, either as part of an Experience Portal upgrade, or a normal backup/restore procedure, the selection that is stored in the backup may override your selection here.

26. You can create a PostgreSQL database user account that can read the report data in the Experience Portal database. If you:
    - Want to create the report reader database account:
        a. Type `1` and press `Enter`.
        b. Press `Enter` to confirm your selection.
        c. To use the account name in square brackets ([ ]), press `Enter` at the installation prompt. Otherwise, type a unique user name for the account and press `Enter`.
        d. Type a password for the account and press `Enter`.
        e. Confirm the password by typing the password again and press `Enter`.
    - Do not want to create the report reader account:
        a. Verify that option **2 - No** is selected. If it is not selected, type `2` and press `Enter`.
        b. Press `Enter` to confirm your selection.

    **Note:**

    This user account can only read those tables in the Experience Portal database that store report data. Speech application developers can use this account to log in to the database to create custom reports using any SQL-enabled report generation tool.
27. Press `Enter` to move to the next screen.
28. On the Database Login for Auxiliary EPM screen, you can specify whether you want to create a PostgreSQL user account for the optional Auxiliary EPM server.

    This account allows each Auxiliary EPM server limited access to the main Experience Portal database, and it is required if you plan to configure an Auxiliary EPM server.
    - If you want to create the Auxiliary EPM login account:
        a. Type `1` and press `Enter`.
        b. Press `Enter` to confirm your selection.
        c. Type the password for this account and press `Enter`.
        d. Confirm the password by typing it again and pressing `Enter`.
    - If you do not want to create the Auxiliary EPM account:
        a. Verify that option **2 - No** is selected. If it is not selected, type `2` and press `Enter`.
        b. Press `Enter` to confirm your selection.
29. Press `Enter` to move to the next screen.
30. On the Product ID screen, type the Product ID created with the Automatic Registration Tool (ART) for this Experience Portal system and press `Enter`.

    The notification feature uses the Product ID to generate SNMP traps. SNMP traps are unsolicited notifications of significant events from an SNMP agent to an SNMP manager. The SNMP agent resides on a managed network device.

31. Press `Enter` to move to the next screen.
32. Experience Portal uses the ssl protocol to establish a secure connection between its servers. This connection requires a security certificate that can be created by Experience Portal or purchased from a third-party company. On the Security Certificate screen:
    - If you want Experience Portal to create a security certificate:
        a. Verify that option **1 - Create a new certificate for this server** is selected. If not, type `1` and press `Enter`.
        b. Press `Enter` to confirm that selection.

        **Note:**

        The Experience Portal installer generates and installs a SHA256 2048 bit server certificate by default. The installer also generates and installs a SHA256 2048 bit EPM Root certificate.
    - If you want to import a self-signed or third party certificate, ensure the following:
        - The certificate is in PKCS12 format. The certificate must be formatted as a PKCS#12 file. A PKCS#12 file always includes a certificate and the corresponding key, and the certificate is encrypted and requires a password. If the certificate is not self-signed then the PKCS#12 file must include the CA certificates.
        - If the “Extended Key Usage” is specified in the X509.V3 certificate extension, specify “Server Authentication” (also called “serverAuth”) and Client Authentication" (also called "clientAuth"), for the usage.
        - The certificate should have a valid Common Name that represents the Experience Portal server host name. If the Subject Alternate Name is specified in the X509 V3 certificate extension, it should contain valid DNS and IP Address entries that are associated with the Experience Portal server host name.
        - The certificate resides on the local server or on an NFS-mounted drive that is locally accessible.

        To import a self-signed or third party certificate, do the following:

        a. Verify that option **2 - Import a certificate from a specified location** is selected. If not, type `2` and press `Enter`.
        b. Press `Enter` to confirm that selection.
        c. Type the full file path and name of the security certificate and press `Enter`.

            The screen displays the location that you entered for your verification.
        d. Type the password for the security certificate and press `Enter`.
33. Press `Enter` to move to the next screen.
34. On the Security Certificate Verification screen, verify the security certificate and press `Enter` to move to the next screen.

**Tip:**

Record the fingerprint information from this security certificate. During MPP software installation, you are presented with the public key retrieved from the EPM server for verification. The fingerprint information from the public key must match the fingerprint information from the EPM security certificate.

If the imported certificate is a chained certificate, then the final signed certificate (also called the end certificate) of the chained certificate is displayed on the EPM.

35. On the Pre Installation Summary screen, verify the installation information and press `Enter` to install the Experience Portal software.

    Experience Portal displays the Installation Progress screen and begins installing the software. During the install, it displays messages indicating its progress.

    The installation process can appear completed or stopped even though it is still processing and installing the software. Wait until Experience Portal displays the Post Installation Summary screen.

36. On the Post Installation Summary screen, verify that the **Installation Progress Bar** has reached 100% and that the message `...done installing` *`feature_name`* appears for each feature that you selected on the Experience Portal Feature Selection screen.

37. Press `Enter` to end the installation script.

    During the installation process, Experience Portal creates several log files that you can use to verify what happened during installation. When the installation process is complete, Experience Portal moves these logs to the standard log directory and displays the exact path on the screen. You can view the detailed logs at `$AVAYA_HOME/logs/install_<date>`. For more information, see *Implementing Avaya Aura® Experience Portal 7.2 on multiple servers* on http://support.avaya.com.

38. To unmount and eject the DVD:

    a. Change the directory to a location that is outside the mount point. For example, enter the `cd /` command to change to the root directory.

    b. Unmount the DVD as described in the server documentation.

    c. To eject the Experience Portal installation DVD, press the button on the DVD drive or enter the `eject` command.

39. Load the environment variables created during the installation by logging out of Linux and then logging back in.

    a. Log out of the Linux system.

    b. Log back in to the Linux system.

    - Log on to the local Linux console as root.
    - Or log on remotely as a non-root user and then change the user to root by enter the `su - root` command.

40. Check the status of the *`vpms`* service by entering the `service vpms status` command.

If the *vpms* service is running properly, the command displays messages indicating that the `tomcatd`, `SL`, and `ActiveMQ` services are all running. The command ends with the message: `Overall Status: VPMS is running`.

### Next steps

- To verify if the installation or upgrade was successful, do the following:
  1. Run the **`cd $AVAYA_HOME/Support/VP-Tools`** command to go to the directory where the `EPInstallationVerifier` script is to be executed.
  2. Run the **`./EPInstallationVerifier <InstallationLogDirectory>`** command.

     The `<InstallationLogDirectory>` is located in `$AVAYA_HOME/logs/install_date`, where `$AVAYA_HOME` is the directory selected during the installation process. The default installation directory is `/opt/Avaya/ExperiencePortal`.

     The `EPInstallationVerifier` script parses the install logs and reports if the installation or upgrade was successful.

     For more information, see Installation log files on page 93.
- Install any required patches that you download from the Avaya online support Web site, http://support.avaya.com.
- Install the MPP software on the MPP servers as described in MPP software installation on page 42.
- For security reasons, change the password of the EPM user account created during the installation as described in the *Changing your account password* topic in the *Administering Avaya Aura® Experience Portal* guide. The Experience Portal administrator uses this account to log in to the EPM web interface to administer the Experience Portal system.

# Install the MPP software

## MPP software installation

When you install the primary EPM software, Experience Portal automatically records the name and location of the primary EPM server. It then adds that information into a file that can be used to install the MPP software on a server without further user input. Therefore, after you have installed the EPM software there are two MPP installation options.

**Note:**

You can run the prerequisite installer before installing Experience Portal. For more details, see Prerequisite checker and installer utilities on page 21

### Interactive MPP install

On each server, you launch the Experience Portal installation program and answer the prompts as they are displayed, just as you did for the EPM software installation. For details, see Installing the MPP software interactively on page 43.

### Silent MPP install

On each server, you copy the installation files to a local directory on the MPP and run the silent install utility. No prompts are displayed, but any error messages are displayed at the end of the install process and all messages are recorded in the installation log files.

By default, the silent installer:

- Uses the default installation directory `/opt/Avaya/ExperiencePortal`.
- Specifies the IP address of the server on which you installed the primary EPM software to be the server from which the MPP should download its public key.
- Generates a new security certificate for the MPP.

**Note:**

You can change these options before running the silent installer, but if you do so, you are responsible for saving the customized install file in case you need to reinstall at a later date.

For details, see Installing the MPP software without user input on page 50.

## Installing the MPP software interactively

### Before you begin

- Make sure you have installed the EPM software on the primary EPM server as described in Installing the EPM software on the primary EPM server on page 35.
- Complete the MPP server installation worksheet on page 117 and have it available to help answer the questions raised during the installation.
- Download any patches for Avaya Aura® Experience Portal Release 7.2 from the Avaya Support Web site at http://support.avaya.com.
- Ensure that you download the Avaya Aura® Experience Portal ISO file from the Avaya Support web site and burn it to a DVD.

### Procedure

1. Log into the server on which you want to install the primary EPM software.
   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

**Note:**

By default, the craft and sroot users are disabled in Avaya Aura® Experience Portal 7.2 Avaya Enterprise Linux fresh installations. Avaya Service Login accounts can only access the Avaya Aura® Experience Portal system if they are EASG protected.

2. Insert the Avaya Aura® Experience Portal 7.2 software installation DVD into the DVD drive of the server.

**Tip:**

These instructions assume that you are going to access the Experience Portal installation DVD by mounting the appropriate DVD drive on the target system. If you want to access the installation DVD files from a shared network directory or a local directory, you can copy the files from the Experience Portal installation DVD to that directory. However, that directory needs to be readable by all users on the system because the Experience Portal installation script changes users during execution. If the directory is only readable by the root user, the installation script will encounter errors and will not complete successfully. You also need to ensure the directory name does not contain spaces. If there are spaces in the directory name, the installation script will encounter errors and will not complete successfully.

3. Mount the Avaya Aura® Experience Portal 7.2 software installation DVD. The **mount** command depends on the server's hardware and operating system.
   - If you are working with Avaya Enterprise Linux, mount the DVD by entering the `mount /mnt/cdrom` command, where `/mnt/cdrom` is the mount point typically associated with the DVD drive in the `fstab` file.
   - If you are working with a supported version of Red Hat Enterprise Linux Server, to mount the DVD:
     - Run the `mkdir /media/cdrom` command.

       **Note:**

       This command is required only if the /media/cdrom mount point does not exist.

     - Run the `mount -o ro /dev/cdrom /media/cdrom` command.

       **Warning:**

       When Red Hat Enterprise Linux Server automatically mounts the DVD, the files on the DVD are not executable. You must manually mount the Experience Portal installation DVD using the commands shown above.
4. Change to the mount point directory.
5. Enter the `bash installvp` command and press `Enter` to start the installation script.

   The system displays the message `For the Experience Portal installer to run, 32-bit glibc must be installed.`, if you have not installed 32–bit glibc.

6. On the Installation Destination screen, if you want to:
   - Use the default `/opt/Avaya/ExperiencePortal` installation directory, press `Enter`.
   - Change the directory, type the new installation directory name and press `Enter` to change the displayed directory.

     Specify an absolute directory path containing only standard English alphanumeric characters and the symbols `/` (forward slash), `_` (underscore), `-` (hyphen), `~` (tilde), or `.` (period).

   **Important:**

   When choosing installation options, wait for the next prompt before pressing a key. The installation stores your key presses in a buffer and enters all the key presses after the current processing completes. For example, if you press the `Enter` key repeatedly while the system is performing its prerequisite checks, you might unintentionally skip options you want to change. Use the **Previous** option on any screen to go back and change your earlier choices.
7. Press `Enter` to move to the next screen.
8. On the Experience Portal Feature Selection screen:
   a. Type `1` and press `Enter` to clear **EPM**.

      The screen refreshes with only **Documentation** selected.
   b. Type `2` and press `Enter` to select **MPP**.

      The screen refreshes with both **MPP** and **Documentation** selected.
   c. Press `Enter` to confirm your selections.
9. Press `Enter` to move to the next screen.
10. On the Experience Portal Feature Selection screen, verify that:
    - The **Install Type** says **Full Install** for all selected features.
    - The New Version column indicates that you are installing release 7.2.
11. Press `Enter` to move to the next screen.
12. Read through the end user license agreement.
13. On the final End User License Agreement page, type `1` and press `Enter` to select option **1 - I accept the terms of the license agreement**.

    The screen refreshes with **1 - I accept the terms of the license agreement** as the selected option.
14. Press `Enter` to accept the agreement.
15. Press `Enter` to move to the next screen.

    Experience Portal automatically starts the Prerequisite Checker, which analyzes your system's hardware and operating system configuration.

16. After the configuration analysis is complete, the Prerequisite Checker displays a message stating whether all prerequisite checks passed followed by the first Prerequisite Status page. Press `Enter` to view the rest of the Prerequisite Status pages.

    If any of the prerequisite installation fails, examine the Prerequisite Status pages carefully to determine which checks failed. You must correct these issues before you can continue with this procedure.

17. When all prerequisite checks pass, press `Enter` to move to the next screen.

    Experience Portal automatically starts the Prerequisite Installer, which attempts to install the required software on the Experience Portal server.

18. After the Prerequisite Installer completes installing the required software, the installer displays the Installation Status pages. Press `Enter` to view the rest of the Installation Status pages.

    If any prerequisite installations fail, examine the Installation Status pages carefully to determine which installations failed. You must correct these issues before you can continue with this procedure.

19. When all prerequisites are successfully installed, press `Enter` to move to the next screen.

20. On the Primary EPM Server Location screen, specify the server name or IP address of the EPM server.

    - If no existing EPM location exists or you want to change the location of the EPM server, type the server name or IP address where the EPM software is installed. If you used a port other than the default EPM port (80), append `:`*`port_number`* to the address. When you are done, press `Enter` to submit the new address.

      For example, to specify the machine with the server name `EPM_Server` on the default port, type `EPM_Server`. To specify the same server on port 86, type `EPM_Server:86`.

    - If you want to use the existing EPM server and port number that is displayed in square brackets [ ] after the installation prompt, press `Enter`.

    **Note:**

    During the MPP software installation, if the MPP server does not have an EASG state, it will set the EASG state as the same EASG state of the Primary EPM. If the MPP server is set to disable EASG, make sure you have access to the system without the Avaya Service Logins, and make sure you can get root access without using sroot.

21. Press `Enter` to move to the next screen.

22. On the Public Key Verification screen, if you recorded the fingerprint information from the EPM security certificate during the primary EPM software installation, compare it to the Public Key fingerprint information presented in this screen. The fingerprint information from Public Key should match the fingerprint information from the EPM security certificate.

    If the public key could not be downloaded, see MPP could not import EPM key on page 103.

23. Press `Enter` to move to the next screen.

24. Experience Portal uses the ssl protocol to establish a secure connection between its servers. This connection requires a security certificate that can be created by Experience Portal or purchased from a third-party company. On the Security Certificate screen:
    - If you want Experience Portal to create a security certificate:
        a. Verify that option **1 - Create a new certificate for this server** is selected. If not, type `1` and press `Enter`.
        b. Press `Enter` to confirm that selection.

        **Note:**

        The Experience Portal installer generates and installs a SHA256 2048 bit server certificate by default. The installer also generates and installs a SHA256 2048 bit EPM Root certificate.
    - If you want to import a self-signed or third party certificate, ensure the following:
        - The certificate is in PKCS12 format. The certificate must be formatted as a PKCS#12 file. A PKCS#12 file always includes a certificate and the corresponding key, and the certificate is encrypted and requires a password. If the certificate is not self-signed then the PKCS#12 file must include the CA certificates.
        - If the “Extended Key Usage” is specified in the X509.V3 certificate extension, specify “Server Authentication” (also called “serverAuth”) and Client Authentication" (also called "clientAuth"), for the usage.
        - The certificate should have a valid Common Name that represents the Experience Portal server host name. If the Subject Alternate Name is specified in the X509 V3 certificate extension, it should contain valid DNS and IP Address entries that are associated with the Experience Portal server host name.
        - The certificate resides on the local server or on an NFS-mounted drive that is locally accessible.

        To import a self-signed or third party certificate, do the following:

        a. Verify that option **2 - Import a certificate from a specified location** is selected. If not, type `2` and press `Enter`.
        b. Press `Enter` to confirm that selection.
        c. Type the full file path and name of the security certificate and press `Enter`.

            The screen displays the location that you entered for your verification.
        d. Type the password for the security certificate and press `Enter`.
25. Press `Enter` to move to the next screen.
26. On the Security Certificate Verification screen, verify the security certificate and press `Enter` to move to the next screen.

**Tip:**

When you add the MPP to Experience Portal through the EPM Web interface, the EPM displays the MPP security certificate. You should record the fingerprint information from this security certificate so that you can compare it to the one displayed in the EPM Web interface.

If the imported certificate is a chained certificate, then the final signed certificate (also called the end certificate) of the chained certificate is displayed in the EPM Web interface.

27. On the Pre Installation Summary screen, verify the installation information and press `Enter` to install the Experience Portal software.

    Experience Portal displays the Installation Progress screen and begins installing the software. During the install, it displays messages indicating its progress.

    The installation process can appear completed or stopped even though it is still processing and installing the software. Wait until Experience Portal displays the Post Installation Summary screen.

28. On the Post Installation Summary screen, verify that the **Installation Progress Bar** has reached 100% and that the message `...done installing` *`feature_name`* appears for each feature that you selected on the Experience Portal Feature Selection screen.

29. Press `Enter` to end the installation script.

    During the installation process, Experience Portal creates several log files that you can use to verify what happened during installation. When the installation process is complete, Experience Portal moves these logs to the standard log directory and displays the exact path on the screen. You can view the detailed logs at `$AVAYA_HOME/logs/install_<date>`. For more information, see *Implementing Avaya Aura® Experience Portal 7.2 on multiple servers* on http://support.avaya.com.

30. Enter the `/sbin/service mpp status` command to verify that the MPP system manager is running.

    The MPP server returns the message `mppsysmgr (pid <pid>) is running`, where *`<pid>`* is the process id.

31. To unmount and eject the DVD:

    a. Change the directory to a location that is outside the mount point. For example, enter the `cd /` command to change to the root directory.

    b. Unmount the DVD as described in the server documentation.

    c. To eject the Experience Portal installation DVD, press the button on the DVD drive or enter the `eject` command.

32. Load the environment variables created during the installation by logging out of Linux and then logging back in.

    a. Log out of the Linux system.

b. Log back in to the Linux system.

- Log on to the local Linux console as root.
- Or log on remotely as a non-root user and then change the user to root by enter the `su - root` command.

33. To verify that NTP is operating properly on the MPP enter the `/usr/sbin/ntpq -np` command.

    The system displays a status message similar to the following:

```
remote   refid   st  t  when  poll reach  delay   offset  jitter
==============================================================
123.123.123.123  127.127.1.0  6  u 23  64 1 0.354 0.361 0.004
```

    Ensure that:

    - The remote IP address points to the Primary EPM server.
    - The jitter value is *not* 4000.

## Next steps

- To verify if the installation or upgrade was successful, do the following:
  1. Run the **`cd $AVAYA_HOME/Support/VP-Tools`** command to go to the directory where the `EPInstallationVerifier` script is to be executed.
  2. Run the **`./EPInstallationVerifier <InstallationLogDirectory>`** command.

     The `<InstallationLogDirectory>` is located in `$AVAYA_HOME/logs/install_date`, where `$AVAYA_HOME` is the directory selected during the installation process. The default installation directory is `/opt/Avaya/ExperiencePortal`.

     The `EPInstallationVerifier` script parses the install logs and reports if the installation or upgrade was successful.

     For more information, see Installation log files on page 93.
- Install any required patches that you download from the Avaya online support Web site, http://support.avaya.com.
- If desired, install the MPP software on another server machine by repeating this procedure on that machine.
- If desired, install the auxiliary EPM software as described in Optional: Installing the EPM software on auxiliary EPM server on page 57.
- If the Experience Portal software has been installed on all server machines, configure and test the Experience Portal system as described in Experience Portal basic system configuration overview on page 65.

# Installing the MPP software without user input

## Before you begin

If you want to change any of the default installation options for all MPPs, edit the default MPP answer file as described in Customizing the MPP silent install file for all MPPs on page 54. You can change the:

- Security certificate setting to specify that the MPP should use a 3rd party certificate instead of one generated by Experience Portal.
- Installation directory (default: `/opt/Avaya/ExperiencePortal`).
- IP address of the primary EPM server.

## About this task

**Note:**

To install the MPP software silently, you need to copy the installation files to the MPP or any other accessible file server. If you are using Red Hat Enterprise Linux Server 6.x 64 bits, you can share the appropriate directory on the EPM server with your MPP servers instead of copying the files. This option does not work with Avaya Enterprise Linux because network shares cannot be created with that operating system.

In order to work with all operating systems, these instructions assume that you are copying the files directly to the MPP. If you are sharing the EPM directory or using a file server, make the necessary adjustments to this procedure.

## Procedure

1. Log into the server on which you want to install the primary EPM software.
   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

   **Note:**

   By default, the craft and sroot users are disabled in Avaya Aura® Experience Portal 7.2 Avaya Enterprise Linux fresh installations. Avaya Service Login accounts can only access the Avaya Aura® Experience Portal system if they are EASG protected.
2. Make sure that the local directory into which you want to copy the files already exists. If not, create it.

   You can create a directory using the following command: `mkdir /opt/<directory_name>`.

   **Note:**

   Ensure that the directory name does not contain spaces. If there are spaces in the directory name, the installation script will encounter errors and will not complete successfully.

3. Copy the Experience Portal software .iso file from the EPM server to the MPP with a utility such as scp.

   If you are using scp, enter the `scp -rp <NON_ROOT_USER>@<EPM_HOSTNAME>:/opt/Avaya/InstallAgent/download/<ISO_Name>.iso /opt/<directory_name>` command, where:

   - *<NON_ROOT_USER>* is the name of a non-root user account on the EPM server
   - *<EPM_HOSTNAME>* is the hostname or IP address of the EPM server
   - */opt/Avaya/InstallAgent/download/* is the directory in which the EPM software is installed.
   - *<ISO_NAME>.iso* is the name of the ISO file to be transferred.
   - *<directory_name>* is the name of the local directory that you have created.

   For example, `scp -rp NonRoot@EPM_HOSTNAME:/opt/Avaya/InstallAgent/download/7.2.0.0.xxxx.iso /opt/<directory_name>`

   The message for authenticity of host and the RSA key fingerprint is displayed if you are using scp with this host for the first time.

   For example:

   ```
   The authenticity of host '<host_IP_address> (<host_IP_address>)' can't be established. RSA key fingerprint is b9:de:40:81:62:7d:ba:ba:13:a1:e6:fa:69:8c:72:f1.
   ```

4. Select `Yes` to continue connecting. The following message is displayed:

   ```
   Warning: Permanently added 'host IP address' (RSA) to the list of known hosts.
   ```

5. Enter the non-root user password.
6. Copy the mppanswerfile from the EPM server to the MPP. You can use a utility such as scp.

   For example: `scp <Non_Root_USER>@<EPM_HOSTNAME>:/opt/Avaya/ExperiencePortal/VPMS/share/mppanswerfile /opt/mppanswerfile`

7. Enter the non-root user password.
8. Mount the installation iso file.

   For example, enter the `cd /opt/<directory_name>` command.

9. Change to the mount point directory.
10. Enter the `mount -o ro,loop <ImageFileName> <MountPoint>` command to mount the ISO image. For example, enter the **`mount -o ro,loop 7.2.0.0.xxxx.iso /mnt/cdrom`** command.
11. Enter the `bash silentinstallmpp /opt/mppanswerfile` command to start the installation script.

    As the script proceeds, it produces messages similar to the following:

```
Starting silent install for Avaya Aura Experience Portal MPP. This
will take several minutes to complete. Please wait...

The Avaya Aura Experience Portal installation has completed.
Review the following information.  If there are errors or warnings,
then please review the installation logs.

Installing Documentation...

...done installing Documentation

Installing MPP...

...done installing MPP

Moving installation logs to: /opt/Avaya/ExperiencePortal/logs/
<install_log_directory>
```

**Note:**

During the MPP software installation, if the MPP server does not have an EASG state, it will set the EASG state as the same EASG state of the Primary EPM. If the MPP server is set to disable EASG, make sure you have access to the system without the Avaya Service Logins, and make sure you can get root access without using sroot.

12. Enter the `/sbin/service mpp status` command to verify that the MPP system manager is running.

    The MPP server returns the message `mppsysmgr (pid <pid>) is running`, where *<pid>* is the process id.

13. Load the environment variables created during the installation by logging out of Linux and then logging back in.

    a. Log out of the Linux system.

    b. Log back in to the Linux system.

    - Log on to the local Linux console as root.
    - Or log on remotely as a non-root user and then change the user to root by enter the `su - root` command.

14. To verify that NTP is operating properly on the MPP enter the `/usr/sbin/ntpq -np` command.

    The system displays a status message similar to the following:

```
remote   refid   st  t  when  poll reach  delay   offset  jitter
==============================================================
123.123.123.123  127.127.1.0  6  u 23  64 1 0.354 0.361 0.004
```

    Ensure that:

    - The remote IP address points to the Primary EPM server.
    - The jitter value is *not* 4000.

15. After the installation has completed, you can either delete the local directory into which you copied the installation files or leave those files on the server in case you need to reinstall the MPP.
16. If this is the last MPP server in the Experience Portal system, you can delete the files in the `$AVAYA_HOME/VPMS/share` directory on the EPM server, especially if you have saved the relevant installation files to the MPP server.

    **Important:**

    If you leave the files on the EPM or MPP servers and you have included secure information such as the password for a third-party certificate in the MPP answer file, verify that you secure the local installation directory so that only root users have access to those files.

## Next steps

- To verify if the installation or upgrade was successful, do the following:
  1. Run the **`cd $AVAYA_HOME/Support/VP-Tools`** command to go to the directory where the `EPInstallationVerifier` script is to be executed.
  2. Run the **`./EPInstallationVerifier <InstallationLogDirectory>`** command.

     The `<InstallationLogDirectory>` is located in `$AVAYA_HOME/logs/install_date`, where `$AVAYA_HOME` is the directory selected during the installation process. The default installation directory is `/opt/Avaya/ExperiencePortal`.

     The `EPInstallationVerifier` script parses the install logs and reports if the installation or upgrade was successful.

     For more information, see Installation log files on page 93.
- Install any required patches that you download from the Avaya online support Web site, http://support.avaya.com.
- If desired, install the MPP software on another server machine by repeating this procedure on that machine.
- If desired, install the auxiliary EPM software as described in Optional: Installing the EPM software on auxiliary EPM server on page 57.
- If the Experience Portal software has been installed on all server machines, configure and test the Experience Portal system as described in Experience Portal basic system configuration overview on page 65.

## Customizing the MPP silent install file for all MPPs

Follow this procedure to change the default options specified in the MPP installation answer file created by the EPM for all MPPs.

### About this task

**Tip:**

If you want to change the install file for a specific MPP, you should do that after you copy the installation files to the MPP.

### Procedure

1. Log in to Linux on the EPM server.
2. Change to the share directory by entering the `cd $AVAYA_HOME/VPMS/share` command, where `$AVAYA_HOME` is the environment variable pointing to the name of the installation directory specified during the EPM software installation. The default variable definition is `/opt/Avaya/ExperiencePortal`.
3. Make a backup copy of the original MPP answer file by entering the `cp mppanswerfile mppanswerfile_original` command.
4. Open `mppanswerfile` in an ASCII editor.
5. Change the information as appropriate. Verify that you read the instructions in the file carefully before you change any of the information or the installation will not run properly.
6. Save and close the file.

# Directory details of the EPM system components

Most Experience Portal components and log files are located in the directory that you specify during installation. However, several components cannot be relocated and are stored in fixed paths even if you specify a path that is different from the default installation directory.

The following table describes some of the components that are stored in fixed paths.

Standard RHEL packages that might be installed with or used by Experience Portal, such as Apache and NTP, are not included in this list.

| Component | Directory |
|---|---|
| Experience Portal Manager web application | /opt/Tomcat/tomcat/webapps/VoicePortal |
| Avaya Aura® Experience Portal Management web services | /opt/Tomcat/tomcat/webapps/axis2 |

*Table continues…*

| Component | Directory |
|---|---|
| Application log manager | /opt/Tomcat/tomcat/webapps/axis |
| Alarm manager | /opt/Tomcat/tomcat/webapps/axis |
| Network log manager | /opt/Tomcat/tomcat/webapps/axis |
| Avaya License Manager | The co-located WebLM is installed in the /opt/Tomcat/tomcat/webapps/WebLM directory.<br>**Note:**<br>If you use an external WebLM, the license manager may be installed in a different directory on the external system. |
| Experience Portal database | The Postgres files are installed in the /var/lib/pgsql directory.<br>**Note:**<br>Most of the database data is in the /var/lib/pgsql/data directory. |
| Tomcat for EPM and HTML | /opt/Tomcat |
| Tomcat for SMS and Email Processor | /opt/MMSServer |
| Apache Axis: web services container | /opt/Tomcat/tomcat/webapps/axis |
| Apache Axis2: Web services container | /opt/Tomcat/tomcat/webapps/axis2 |
| Postgres Database | /var/lib/pgsql |
| Experience Portal Backup | /opt/Avaya/backup |
| Install Agent | /opt/Avaya/InstallAgent |
| Core Services | /opt/coreservices, /opt/Avaya/CoreServiceConfig, /opt/Avaya/CoreServiceInstall |

# User accounts created during Experience Portal software installation

During Experience Portal software installation, the following user accounts are created for use on various systems to support Experience Portal operation and management.

| System | User name | Password | Purpose |
|---|---|---|---|
| EPM Web interface | User defined | User defined | The Experience Portal administrator uses this account to administer and configure the Experience Portal system. |
| PostgreSQL on the primary and optional auxiliary EPM server | postgres | Automatically generated | Since Experience Portal 7.0, this password is automatically generated in the database configuration file. This password is no longer |

*Table continues…*

| System | User name | Password | Purpose |
|---|---|---|---|
| | | | user defined as in the case of previous releases.<br>EPM uses this account to log in to the Experience Portal database to store and retrieve data.<br>The database administrator uses this account to access the Experience Portal database to install new updates or patches and perform database backups.<br>**Note:**<br>If you make changes to the Experience Portal database, the EPM might not function properly, and data might be lost. You must then reinstall the EPM software. |
| PostgreSQL on the primary and optional auxiliary EPM server | User defined<br>Default user name is: reportwriter | User Defined | This user account can only read those tables in the Experience Portal database that store report data. Speech application developers can use this account to log in to the database to create custom reports using any SQL-enabled report generation tool. |
| PostgreSQL on the optional auxiliary EPM server | User defined<br>Default user name is: report | User defined | This user account can only change the data in the tables that store report data in the Experience Portal database on the Auxiliary EPM server. |
| Linux on the EPM server | postgres | User defined | Used to run the `psql` tool for interactive database access and internally used to run database processes.<br>**Note:**<br>If you make manual changes to the Experience Portal database, the EPM might not function properly, and data might be lost. You must reinstall the EPM software. |
| Linux on the EPM and MPP servers | avayavp | Login disabled | Used internally to run some Experience Portal processes. |
| | apache (UCID 48) | Login disabled | This account is created when the httpd RPM is installed and it is used by the Apache server. |

# Chapter 6: Optional: Installing the EPM software on auxiliary EPM server

The Avaya Aura® Experience Portal system may include one or more auxiliary EPM servers running the Experience Portal Manager software. The auxiliary EPM server handles Application Interface web service requests, shares Application Logging web service requests when the Primary EPM is in service, and handles all requests when the Primary EPM is down.

### Before you begin

- Complete the Auxiliary EPM server installation worksheet on page 119 and have it available to help answer the questions raised during the installation.
- Download any patches for Avaya Aura® Experience Portal Release 7.2 from the Avaya Support Web site at http://support.avaya.com.
- Install the EPM software on the primary EPM server as described in Installing the EPM software on the primary EPM server on page 35.
- Ensure that you download the Avaya Aura® Experience Portal ISO file from the Avaya Support web site and burn it to a DVD.

### Procedure

1. Log into the server on which you want to install the auxiliary EPM software.
   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

   **Note:**

   By default, the craft and sroot users are disabled in Avaya Aura® Experience Portal 7.2 Avaya Enterprise Linux fresh installations. Avaya Service Login accounts can only access the Avaya Aura® Experience Portal system if they are EASG protected.
2. Insert the Avaya Aura® Experience Portal 7.2 software installation DVD into the DVD drive of the server.

   **Tip:**

   These instructions assume that you are going to access the Experience Portal installation DVD by mounting the appropriate DVD drive on the target system. If you

want to access the installation DVD files from a shared network directory or a local directory, you can copy the Experience Portal installation ISO image to that directory. However, that directory must be readable by all users on the system. If the directory is only readable for root users, the installation script will encounter errors and will not complete successfully.

3. Mount the Avaya Aura® Experience Portal 7.2 software installation DVD. The **mount** command depends on the server's hardware and operating system.
   - If you are working with Avaya Enterprise Linux, mount the DVD by entering the `mount /mnt/cdrom` command, where `/mnt/cdrom` is the mount point typically associated with the DVD drive in the `fstab` file.
   - If you are working with a supported version of Red Hat Enterprise Linux Server, to mount the DVD:
     - Run the `mkdir /media/cdrom` command.

       **Note:**

       This command is required only if the /media/cdrom mount point does not exist.

     - Run the `mount -o ro /dev/cdrom /media/cdrom` command.

   **Warning:**

   When Red Hat Enterprise Linux Server automatically mounts the DVD, the files on the DVD are not executable. You must manually mount the Experience Portal installation DVD using the commands shown above.
4. Change to the mount point directory.
5. Enter the `bash installvp` command and press `Enter` to start the installation script.

   The system displays the message `For the Experience Portal installer to run, 32-bit glibc must be installed.`, if you have not installed 32–bit glibc.
6. Type `Y` or press `Enter` to proceed with the 32–bit glibc installation.
7. On the Installation Destination screen, if you want to:
   - Use the default `/opt/Avaya/ExperiencePortal` installation directory, press `Enter`.
   - Change the directory, type the new installation directory name and press `Enter` to change the displayed directory.

     Specify an absolute directory path containing only standard English alphanumeric characters and the symbols `/` (forward slash), `_` (underscore), `-` (hyphen), `~` (tilde), or `.` (period).

   **Important:**

   When choosing installation options, wait for the next prompt before pressing a key. The installation stores your key presses in a buffer and enters all the key presses after the current processing completes. For example, if you press the `Enter` key repeatedly while

the system is performing its prerequisite checks, you might unintentionally skip options you want to change. Use the **Previous** option on any screen to go back and change your earlier choices.

8. Press `Enter` to move to the next screen.
9. On the Experience Portal Feature Selection screen, verify that:
   - The **Install Type** says **Full Install** for all selected features.
   - The New Version column indicates that you are installing release 7.2.
10. Press `Enter` to move to the next screen.
11. On the Version Confirmation screen, verify that:
    - The **Install Type** says **Full Install** for all selected features.
    - The **New Version** column indicates that you are installing release 7.2.
12. Press `Enter` to move to the next screen.
13. Read through the end user license agreement.
14. On the final End User License Agreement page, type `1` and press `Enter` to select option **1 - I accept the terms of the license agreement**.

    The screen refreshes with **1 - I accept the terms of the license agreement** as the selected option.
15. Press `Enter` to accept the agreement.
16. Press `Enter` to move to the next screen.

    Experience Portal automatically starts the Prerequisite Checker, which analyzes your system's hardware and operating system configuration.
17. After the configuration analysis is complete, the Prerequisite Checker displays a message stating whether all prerequisite checks passed followed by the first Prerequisite Status page. Press `Enter` to view the rest of the Prerequisite Status pages.

    If any of the prerequisite installation fails, examine the Prerequisite Status pages carefully to determine which checks failed. You must correct these issues before you can continue with this procedure.
18. When all prerequisite checks pass, press `Enter` to move to the next screen.

    Experience Portal automatically starts the Prerequisite Installer, which attempts to install the required software on the Experience Portal server.
19. After the Prerequisite Installer completes installing the required software, the installer displays the Installation Status pages. Press `Enter` to view the rest of the Installation Status pages.

    If any prerequisite installations fail, examine the Installation Status pages carefully to determine which installations failed. You must correct these issues before you can continue with this procedure.

20. When all prerequisites are successfully installed, press `Enter` to move to the next screen.
21. On the EPM Type screen:
    a. Type `2`, and press `Enter` to select **Auxiliary EPM**.

       The screen refreshes with **Auxiliary EPM** selected.

    b. Press `Enter` to confirm your selection.
22. Press `Enter` to move to the next screen.
23. On the Primary EPM Server Location screen, specify the server name or IP address of the EPM server.
    - If no existing EPM location exists or you want to change the location of the EPM server, type the server name or IP address where the EPM software is installed. If you used a port other than the default EPM port (80), append `:`*`port_number`* to the address. When you are done, press `Enter` to submit the new address.

      For example, to specify the machine with the server name `EPM_Server` on the default port, type `EPM_Server`. To specify the same server on port 86, type `EPM_Server:86`.
    - If you want to use the existing EPM server and port number that is displayed in square brackets [ ] after the installation prompt, press `Enter`.

    **Note:**

    During the auxiliary EPM software upgrade, if the auxiliary EPM sever does not have an EASG state, it will set the EASG state as the same EASG state of the Primary EPM. If the auxiliary EPM server is set to disable EASG, make sure you have access to the system without the Avaya Service Logins, and make sure you can get root access without using sroot.
24. Press `Enter` to move to the next screen.
25. On the Public Key Verification screen, if you recorded the fingerprint information from the EPM security certificate during the primary EPM software installation, compare it to the Public Key fingerprint information presented in this screen. The fingerprint information from Public Key should match the fingerprint information from the EPM security certificate.

    If the public key could not be downloaded, see MPP could not import EPM key on page 103.
26. Press `Enter` to move to the next screen.
27. On the Database Login Check for Auxiliary EPM screen, type the password for the user you specified for the Auxiliary EPM to access the external Experience Portal database user when you installed the EPM software on the Primary server and press `Enter`.
28. Press `Enter` to move to the next screen.

    Experience Portal makes sure that it can contact the Primary EPM server, and that the password you entered matches the one specified when the Primary EPM server was installed. If the connection can be established and the password is correct, Experience Portal continues to the next screen.

29. You can create a PostgreSQL database user account on the Auxiliary EPM server that can read the report data in the Auxiliary Experience Portal database. If you:
    - Want to create the report reader database account:
        a. Type `1` and press `Enter`.
        b. Press `Enter` to confirm your selection.
        c. To use the account name in square brackets ([ ]), press `Enter` at the installation prompt. Otherwise, type a unique user name for the account and press `Enter`.
        d. Type a password for the account and press `Enter`.
        e. To confirm the password, type the password again and press `Enter`.
    - Do not want to create the report reader account:
        a. Verify that option **2 - No** is selected. If it is not selected, type `2` and press `Enter`.
        b. Press `Enter` to confirm your selection.

    **Note:**

    This user account can only read those tables in the Experience Portal database that store report data. You should create this account if you plan to set up an external database on this server that is shared by multiple Experience Portal systems and you want to create custom reports for the database using an SQL-enabled report generation tool.
30. Press `Enter` to move to the next screen.
31. You can create a PostgreSQL database user account on the Auxiliary EPM server that can allow external systems to write report data into the Experience Portal database on this server.

    You should create this account if you plan to set up an external database on this server that is shared by multiple Experience Portal systems.
    - If you want to create the report writer database account:
        a. Type `1` and press `Enter`.
        b. Press `Enter` to confirm your selection.
        c. To use the account name in square brackets ([ ]), press `Enter` at the installation prompt. Otherwise, type a unique user name for the account and press `Enter`.
        d. Type the password for this account and press `Enter`.
        e. Confirm the password by typing it again and pressing `Enter`.
    - If you do not want to create the report writer account, press `Enter`.

    **Note:**

    This user account can only change the data in the tables that store report data in the Experience Portal database on the Auxiliary EPM server.

32. Press `Enter` to move to the next screen.
33. Experience Portal uses the ssl protocol to establish a secure connection between its servers. This connection requires a security certificate that can be created by Experience Portal or purchased from a third-party company. On the Security Certificate screen:
    - If you want Experience Portal to create a security certificate:
        a. Verify that option **1 - Create a new certificate for this server** is selected. If not, type `1` and press `Enter`.
        b. Press `Enter` to confirm that selection.

        **Note:**

        The Experience Portal installer generates and installs a SHA256 2048 bit server certificate by default. The installer also generates and installs a SHA256 2048 bit EPM Root certificate.
    - If you want to import a self-signed or third party certificate, ensure the following:
        - The certificate is in PKCS12 format. The certificate must be formatted as a PKCS#12 file. A PKCS#12 file always includes a certificate and the corresponding key, and the certificate is encrypted and requires a password. If the certificate is not self-signed then the PKCS#12 file must include the CA certificates.
        - If the “Extended Key Usage” is specified in the X509.V3 certificate extension, specify “Server Authentication” (also called “serverAuth”) and Client Authentication" (also called "clientAuth"), for the usage.
        - The certificate should have a valid Common Name that represents the Experience Portal server host name. If the Subject Alternate Name is specified in the X509 V3 certificate extension, it should contain valid DNS and IP Address entries that are associated with the Experience Portal server host name.
        - The certificate resides on the local server or on an NFS-mounted drive that is locally accessible.

        To import a self-signed or third party certificate, do the following:

        a. Verify that option **2 - Import a certificate from a specified location** is selected. If not, type `2` and press `Enter`.
        b. Press `Enter` to confirm that selection.
        c. Type the full file path and name of the security certificate and press `Enter`.

            The screen displays the location that you entered for your verification.
        d. Type the password for the security certificate and press `Enter`.
34. Press `Enter` to move to the next screen.
35. On the Security Certificate Verification screen, verify the security certificate and press `Enter` to move to the next screen.

**Tip:**

When you add an Auxiliary EPM to Experience Portal through the EPM Web interface, the EPM displays the Auxiliary EPM's security certificate. You should record the fingerprint information from this security certificate so that you can compare it to the one displayed in the EPM Web interface.

If the imported certificate is a chained certificate, then the final signed certificate (also called the end certificate) of the chained certificate is displayed on the EPM.

36. On the Pre Installation Summary screen, verify the installation information and press `Enter` to install the Experience Portal software.

    Experience Portal displays the Installation Progress screen and begins installing the software. During the install, it displays messages indicating its progress.

    The installation process can appear completed or stopped even though it is still processing and installing the software. Wait until Experience Portal displays the Post Installation Summary screen.

37. On the Post Installation Summary screen, verify that the **Installation Progress Bar** has reached 100% and that the message `...done installing` *`feature_name`* appears for each feature that you selected on the Experience Portal Feature Selection screen.

    **Note:**

    If the **Installation Progress Bar** on the Installation Progress screen stops at 25% and the Post Installation Summary screen states that no summary information could be found, see *Upgrading to Avaya Aura® Experience Portal 7.2* on http://support.avaya.com.

38. Press `Enter` to end the installation script.

    During the installation process, Experience Portal creates several log files that you can use to verify what happened during installation. When the installation process is complete, Experience Portal moves these logs to the standard log directory and displays the exact path on the screen. You can view the detailed logs at `$AVAYA_HOME/logs/install_<date>`. For more information, see *Implementing Avaya Aura® Experience Portal 7.2 on multiple servers* on http://support.avaya.com.

39. To unmount and eject the DVD:

    a. Change the directory to a location that is outside the mount point. For example, enter the `cd /` command to change to the root directory.

    b. Unmount the DVD as described in the server documentation.

    c. To eject the Experience Portal installation DVD, press the button on the DVD drive or enter the `eject` command.

40. Load the environment variables created during the installation by logging out of Linux and then logging back in.

    a. Log out of the Linux system.

b. Log back in to the Linux system.

- Log on to the local Linux console as root.
- Or log on remotely as a non-root user and then change the user to root by enter the `su - root` command.

41. Check the status of the *vpms* service by entering the `service vpms status` command.

    If the *vpms* service is running properly, the command displays messages indicating that the `tomcatd`, `SL`, and `ActiveMQ` services are all running. The command ends with the message: `Overall Status: VPMS is running`.

### Next steps

- To verify if the installation or upgrade was successful, do the following:
  1. Run the **`cd $AVAYA_HOME/Support/VP-Tools`** command to go to the directory where the `EPInstallationVerifier` script is to be executed.
  2. Run the **`./EPInstallationVerifier <InstallationLogDirectory>`** command.

     The `<InstallationLogDirectory>` is located in `$AVAYA_HOME/logs/install_date`, where `$AVAYA_HOME` is the directory selected during the installation process. The default installation directory is `/opt/Avaya/ExperiencePortal`.

     The `EPInstallationVerifier` script parses the install logs and reports if the installation or upgrade was successful.

     For more information, see Installation log files on page 93.
- Install any required patches that you download from the Avaya online support Web site, http://support.avaya.com.
- If the Experience Portal software has been installed on all server machines, configure and test the Experience Portal system as described in Experience Portal basic system configuration overview on page 65.

# Chapter 7: Configuring and initializing the Avaya Aura Experience Portal system

## Experience Portal basic system configuration overview

After you install Experience Portal Manager and at least one Media Processing Platform, you can configure and test the Avaya Aura® Experience Portal system. After you have successfully tested the system, you can configure the optional Experience Portal features.

**Important:**

You must complete the following steps in the order given or you might encounter errors during the procedures.

| Step | Description | ✔ |
|---|---|---|
| 1 | Log in to the EPM Web interface.<br>**Tip:**<br>Once you have logged in, click the **Help** button on the appropriate EPM Web pages for information on how to configure the EPM Web page. | |
| 2 | Install the Experience Portal license file as described in Installing the license file on page 68. | |
| 3 | Add at least one Voice over IP (VoIP) H.323 or SIP connection as described in Adding H.323 connections on page 73 or Adding a SIP connection on page 73. | |
| 4 | (Optional) Add multichannel applications, such as SMS, Email, and HTML applications. You can add one SMS, one Email and one HTML application for each channel as described in *Administering Avaya Aura® Experience Portal*. | |
| 5 | Add all of the installed MPP servers as described in Adding the MPP servers on page 73. | |
| 6 | Add one or more Automatic Speech Recognition (ASR) servers as described in Adding ASR servers on page 74. | |
| 7 | Add one or more Text-to-Speech (TTS) servers as described in Adding TTS servers on page 74. | |

*Table continues…*

| Step | Description | ✔ |
|---|---|---|
| 8 | If you have installed the EPM software on an optional auxiliary EPM server, add the auxiliary EPM server to the Experience Portal system as described in Optional: Adding the auxiliary EPM server on page 74. | |
| 9 | Add the Experience Portal test application as described in Adding the Experience Portal test application on page 76. | |
| 10 | Start all MPPs in the Experience Portal system as described in Starting all MPP servers on page 75. | |
| 11 | Connect the EPM server to an external time source so that all servers in the Experience Portal system are synchronized as described in External time sources on page 86. | |
| 12 | EPM can accept input in non-English languages. Configure EPM to accept input in Chinese, Japanese, or Korean as described in:<br>• Configuring Chinese on Avaya Enterprise Linux on page 88<br>• Configuring Japanese on Avaya Enterprise Linux on page 90<br>• Configuring Korean on Avaya Enterprise Linux on page 91 | |
| 13 | To enable organization level access in Experience Portal, enter the `EnableOrganizations` command. For more information, see *Administering Avaya Aura® Experience Portal*. | |

# Logging in to the EPM Web interface using the Avaya Services init account

## Procedure

1. Open a compatible browser and enter the URL of your Experience Portal system.

   The URL is: `http://`*`EPM-server`*`/VoicePortal`.

   *`EPM-server`* is the hostname or the IP address of the system where the primary EPM software is installed.

   **Note:**

   Enable TLS security in your IE browser.

2. In the **User Name** field, enter `init`.
3. Click **Submit**.
4. Use the challenge information to generate the appropriate response password for the init account, and enter the password in the **Password** field.
5. Click **Logon**.

The system logs you in to EPM.

# Logging in to the Experience Portal Web interface

The Experience Portal Manager (EPM) Web interface is the main interface to the Experience Portal system.

**Procedure**

1. Open an Internet Explorer browser and enter the URL for your Experience Portal system.

   The default URL is: `https://EPM-server/VoicePortal`, where *EPM-server* is the hostname or IP address of the system where the primary EPM software is installed.

   **Note:**

   TLS security must be enabled in the IE browser. For more information on configuring browsers to use TLS security, see Configuring browsers to use TLS security on page 70.

2. In the **User Name** field, enter the user name of the EPM Administration account that was created during the installation procedure.

   The user name must match the specified Administration account name exactly, including case.

3. Click **Submit**.

4. In the **Password** field, enter the password assigned to the EPM Administration account during the installation procedure.

   The password must match the password assigned to the specified user name exactly, including case.

5. Click **Logon**.

   If the user name and password:

   - Match what was specified for the Administration account during installation, the EPM displays the Avaya Aura Experience Portal Management System Home page with the Experience Portal version number and **Legal Notice** display text box.
   - Do not match the Administration user account, the EPM displays an error message and returns you to the **User Name** prompt so that you can try again.

     **Important:**

     Be careful when you enter the user name and password a second time, because the EPM will automatically lock the user account out of the system if you specify too many incorrect user name and password combinations.

# Installing the license file

A license file is required for the Experience Portal operation as the license file defines all features authorized to use. Avaya sends the Experience Portal license file separately in an email.

### Before you begin

If the WebLM server does *not* reside on the Experience Portal EPM server, you can upgrade the WebLM software to version 7.0.1 as described in the file `/opt/Avaya/ExperiencePortal/Support/WebLM/Licensing Installation Instructions.pdf` that is available on the Experience Portal server.

### About this task

**Note:**

If you do not receive a license file from Avaya, contact your Avaya representative or Avaya Partner representative.

Experience Portal provides an initial 30 day grace period for all features with restricted capacity for fresh installs.

### Procedure

1. Open the email that contains the Experience Portal license file.
2. Detach the license file from the email and store the license file locally on either the WebLM server or on a computer that is accessible to the Experience Portal servers from a network connection.

   For example, you can install the license file on any server from which you can access the EPM Web interface.
3. Log on to the EPM Web interface using an account with the Administration user role.
4. From the EPM main menu, select **Security** > **Licensing**.

   The Licensing page displays the license information and the location of the License server.
5. If the **License Server URL** field is blank or if the location of WebLM has changed, type the location of the license server in the **Location** field.

   The URL must be in the format `https://`*`WebLM-machine`*`:`*`port_num`*`/WebLM/LicenseServer`, where *`WebLM-machine`* is the hostname or IP address of the WebLM server and `:`*`port_num`* is an optional parameter that consists of a colon followed by the port number for the WebLM server. If WebLM uses the default configuration, specify: `8443` or `52233`.

   If no port number is specified, Experience Portal uses 443 as the port number.
6. Click **Verify**.

   The browser opens a separate window and displays the Avaya WebLM page, which contains a **License Administration** link.
7. Click **License Administration**.

The system displays the Web License Manager Logon page.

8. If you have done a fresh installation of the WebLM server, you have to do the following:
   a. Enter the default user name `admin`.
   b. Enter the default password `weblmadmin`.
   c. Press `Enter` or click the arrow button to log in.
   d. Enter the details on the Change Password page. Make sure that you type `weblmadmin` in the **Current Password** field.
   e. Click **Submit**.
   f. On the Logon page, log in with your new password.
9. If you have an existing WebLM server, you have to do the following:
   a. Type the user name.
   b. Type the password.
   c. Click **Log on**.
10. On the Install License page, click **Browse** to locate the Experience Portal license file and select the license file to use.
11. Select **Accept the License Terms & Conditions**, and click **Install**.

    WebLM uploads the license file from your computer to the WebLM server and displays the message `License file installed successfully.`
12. Log out of the Web License Manager and close the Web License Manager page.
13. On the EPM Licensing page, click **Apply**.
14. Click **Save** to save the changes.
15. Verify that the new licensing information is correct.

# External systems configuration worksheet

In order to work with Experience Portal, you need to set configuration options in the 3rd party products.

| ✔ | Description |
|---|---|
| | You need at least one Windows system with a Microsoft Internet Explorer (IE) browser that is configured to use TLS security as described in Configuring browsers to use TLS security on page 70. |

*Table continues…*

| ✔ | Description |
|---|---|
| | If you are running Orchestration Designer applications with a WebSphere Application Server (WAS) and Nuance speech servers, you need to configure the MIME type declarations as described in Configuring a WebSphere Application Server to work with Nuance speech servers on page 71 |
| | To use A-Law encoding with a Nuance server that supports Automatic Speech Recognition (ASR), you need to configure Nuance server as described in Configuring A-Law encoding for Nuance ASR servers on page 71. |
| | If you want to use Nuance SWI_rawScore, you need to configure additional parameters on the Nuance speech server as described in the Nuance documentation. |

**Related links**

Configuring browsers to use TLS security on page 70
Configuring a WebSphere Application Server to work with Nuance speech servers on page 71

If you are running Orchestration Designer applications with a WebSphere Application Server (WAS) and Nuance speech servers, you need to manually declare the grammars that Orchestration Designer uses on the WAS.

Configuring A-Law encoding for Nuance ASR servers on page 71
Configuring parameters for getting recognition results from Nuance server on page 72

# Configuring browsers to use TLS security

A web interface to the EPM for administering Experience Portal is included with the EPM software. To access the EPM Web interface, you must use a Microsoft Internet Explorer IE11 browser that is configured to use TLS security.

### Procedure

1. In an IE browser window, select **Tools** > **Internet Options**.
2. Go to the **Advanced** tab.
3. In the **Security** section, ensure that the **Use TLS 1.x** check box is selected. If not, select the check box.
4. Click **OK**.

**Related links**

External systems configuration worksheet on page 69

# Configuring a WebSphere Application Server to work with Nuance speech servers

If you are running Orchestration Designer applications with a WebSphere Application Server (WAS) and Nuance speech servers, you need to manually declare the grammars that Orchestration Designer uses on the WAS.

**Procedure**

1. Open a Web browser and go to `http://<WAS_ipaddress>:9090/admin`, where *<WAS_ipaddress>* is the IP address of your WAS server.
2. Log in as `AnyOne`.
3. Expand **Environment** in the left-hand pane.
4. Click **Virtual Hosts** in the expanded list.
5. In the right-hand pane, select the virtual host that manages your speech applications or, if you have not created a separate virtual host, select **default host**.
6. Click **MIME Types**.
7. Look for the `application/srgs+xml` MIME type. If it does not exist, click **New** and add it. If it does exist, select it and click **Edit**.
8. Add `grxml grammar` to the `application/srgs+xml` MIME type extensions.
9. Stop and then restart the WAS server.

**Related links**

External systems configuration worksheet on page 69

# Configuring A-Law encoding for Nuance ASR servers

If you want to use A-Law encoding with a Nuance server that supports Automatic Speech Recognition (ASR), you need to configure the additional parameters.

**Procedure**

1. On each Nuance server machine, log in to the operating system and navigate to the directory in which the Nuance `Baseline.xml` file is stored.
2. Open the `Baseline.xml` file in an ASCII editor.
3. Add the following additional value to *both* the `swirec_audio_media_type` and `swiep_audio_media_type` parameters:

   ```
   <value>audio/x-alaw-basic;rate=8000</value>
   ```

4. Save and close the file.
5. Restart the Nuance server.

6. Repeat this procedure for any other Nuance ASR servers in the Experience Portal system.

**Related links**

External systems configuration worksheet on page 69

# Configuring parameters for getting recognition results from Nuance server

You must configure parameters in the NSSserver.cfg and Baseline.xml files of the Nuance speech server to get the recognition results of *no match* from the Nuance server.

## About this task

Make sure that you have installed a supported version on Nuance Speech Server and Nuance Recognizer. For Nuance version information, see the *Avaya Aura® Experience Portal Overview and Specification* .

## Procedure

1. On each Nuance server machine, log in to the operating system.
2. Navigate to the `usr/local/Nuance/SpeechServer/server/config` directory in which the Nuance `NSSserver.cfg` file is stored.
3. Open the `NSSserver.cfg` file in an ASCII editor.
4. Define the values as given below:

   ```
   server.mrcp2.osrspeechrecog.mrcpdefaults.VSP.server.osrspeechrecog.result.sendnomatch VXIString true

   server.mrcp1.osrspeechrecog.result.sendnomatch VXIString true
   ```

5. Save and close the file.
6. Open the `Baseline.xml` file in an ASCII editor.
7. Define the value as given below:

   ```
   <param name=”swisr_result_enable_speech_mode"> <value> 1 </value> </param>
   ```

8. Restart the NSSservice.

**Related links**

External systems configuration worksheet on page 69

# Adding H.323 connections

### Before you begin

Ensure that the switch is configured.

### Procedure

1. From the EPM main menu, select **System Configuration** > **VoIP Connections** and go to the H.323 tab.
2. Click **Add**.
3. On the Add H.323 Connection page, enter the appropriate information and click **Save**.
4. Repeat this procedure for each H.323 connection you want to add.

# Adding a SIP connection

### Before you begin

Configure Communication Manager.

### Procedure

1. From the EPM main menu, select **System Configuration** > **VoIP Connections** and go to the SIP tab.
2. Click **Add**.
3. On the Add SIP Connection page, enter the appropriate information and click **Save**.

# Adding the MPP servers

### Procedure

1. From the EPM main menu, select **System Configuration** > **MPP**.
2. On the MPP Server page, click **Add**.
3. On the first Add MPP Server page, enter the appropriate information and click **Continue**.
4. On the second Add MPP Server page, enter the appropriate information and click **Save**.

   If you logged in using the init account, ensure you enter the appropriate LDN number for the server in the **LDN** field. If you do not specify an LDN number, Experience Portal uses the default value (000)000-0000.

**Note:**

Make sure you verify the security certificate details in the **MPP Certificate** section, and check the **Trust new certificate** check box. You cannot save the MPP page unless the check box is selected.

# Adding ASR servers

### Procedure

1. From the EPM main menu, select **System Configuration** > **Speech Servers**.
2. On the ASR tab of the Speech Servers page, click **Add**.
3. On the Add ASR Server page, enter the appropriate information and click **Save**.
4. Repeat this procedure for each ASR server you want to add.

   After you save the changes, the **System Monitor** webpage and the **MPP Manager** webpage on EPM display the **Restart Required** configuration status for MPPs that are in the **Running** state.
5. Restart the MPP server.

# Adding TTS servers

### Procedure

1. From the EPM main menu, select **System Configuration** > **Speech Servers**.
2. On the TTS tab of the Speech Servers page, click **Add**.
3. On the Add TTS Server page, enter the appropriate information and click **Save**.
4. Repeat this procedure for each TTS server you want to add.

   After you save the changes, the **System Monitor** webpage and the **MPP Manager** webpage on EPM display the **Restart Required** configuration status for MPPs that are in the **Running** state.
5. Restart the MPP server.

# Optional: Adding the auxiliary EPM server

### Before you begin

Ensure that you configure the Outcall Web Service Authentication on the EPM Settings page.

### Procedure

1. Log in to the EPM Web interface using an Administration user role.
2. From the EPM main menu, select **System Configuration** > **EPM Server**.
3. On the EPM Servers page, click **Add**.
4. On the first Add EPM Server page, enter the appropriate information and click **Continue**.
5. On the second Add EPM Server page, enter the appropriate information.

   If you logged in using the init account, make sure that the LDN number specified in the **LDN** field matches the information in the Avaya Services database for this server.
6. Click **OK**.

# Starting all MPP servers

### Before you begin

Add all of the installed MPP servers as described in Adding the MPP servers on page 73.

### Procedure

1. From the EPM main menu, select **System Management** > **MPP Manager**.
2. On the MPP Manager page, make sure that the **Mode** column says **Online** for all servers. If any servers are shown as **Offline**:
   a. Click the Selection check box next to each Offline MPP server.
   b. Click the **Online** button in the **Mode Commands** group and confirm your selection when prompted by the system.
3. Click the Selection check box in the first column header of the MPP server table to select all MPP servers.
4. Click **Start** in the **State Commands** group and confirm your selection when prompted by the system.

   Experience Portal starts the MPP servers. This process can take several minutes depending on how many servers there are in your system.
5. After a few minutes, click **Refresh**, and verify the following for all MPP servers:
   - **Mode** is **Online**
   - **State** is **Running**
   - **Config** is **OK**
6. Make sure that all licensed telephony ports are correctly allocated to the MPP servers:
   a. From the EPM main menu, select **Real-Time Monitoring** > **Port Distribution**.

b. On the Port Distribution page, verify the details in the **Mode** and **State** columns.

### Next steps

Once the MPP servers start successfully, the Avaya Aura® Experience Portal system is available. You can now test it by running the sample application as described in Running the sample application on page 78.

# Adding the Experience Portal test application

### Before you begin

If you want to test Automatic Speech Recognition (ASR) resources, ensure that you add one or more ASR servers to the Experience Portal system.

If you want to test Text-to-Speech (TTS) resources, ensure that you add one or more TTS servers to the Experience Portal system.

### About this task

You can use the sample application that is installed with Experience Portal to test how the system handles telephony resource requests.

- If you run the sample application as a VoiceXML application, Experience Portal uses the default CCXML page installed on the MPP server to provide basic CCXML controls. The VoiceXML application tests:
  - ASR resources
  - TTS resources
  - Bridge transfers
  - Blind transfers
  - Supervised transfers
  - Several audio prompt formats
  - Audio prompt recording and playback
- If you run the sample application as a CCXML application, Experience Portal uses a more advanced CCXML page that provides all the functionality of the VoiceXML application and you can test the following CCXML features:
  - Call conferencing
  - Call classification
  - Call merge for calls using a SIP connection

### Procedure

1. From the EPM main menu, select **System Configuration** > **Applications**.
2. On the Applications page, click **Add**.

   EPM displays the Add Application page.

3. In the **Name** field, type the name you want to use to identify the application on the system. After you save the application, this name cannot be changed.

   For example, type `Test_App`.

4. Enter the required parameters for the application.

   The following table provides information on the parameters that you must enter for each application type.

| Application type | Required parameters |
|---|---|
| **VoiceXML application** | In the **MIME Type** field, select **VoiceXML**.<br>In the **VoiceXML URL** field, type `http://`*`MPP_Identifier`*`/mpp/misc/avptestapp/intro.vxml`, where *`MPP_Identifier`* is the hostname or IP address of any one of the MPP servers in the Experience Portal system. |
| **CCXML application** | In the **MIME Type** field, select **CCXML**.<br>In the **CCXML URL** field, type `http://`*`MPP_Identifier`*`/mpp/misc/avptestapp/root.ccxml`, where *`MPP_Identifier`* is the hostname or IP address of any one of the MPP servers in the Experience Portal system. |

5. Click **Verify** to make sure that the system can locate the sample application page.

   If EPM can find the specified page, EPM displays the page in a separate browser window. If this check succeeds, continue with this procedure. Otherwise, correct the information in the **VoiceXML URL** or **CCXML URL** field and repeat this step until the system can locate the sample application page.

   **Note:**

   Instead of opening the file in a separate window, the browser might prompt you to save the file as a text file. You can choose to save the file and use text editor to open the file.

6. If you want to test ASR resources, complete the following steps:
   a. Select the type of ASR server you want to use from the **ASR** drop-down list.
   b. From the **Languages** list, select **English(US) en-us**.
7. If you want to test TTS, complete the following steps:
   a. Select the type of TTS server you want to use from the **TTS** drop-down list.
   b. From the **Voices** list, select one or more of the **English(US)** voices.
8. To associate one or more incoming numbers with this application, enter the appropriate information in the **Application Launch** group.
9. To test transcriptions, go to the **Transcription** section of the **Reporting Parameters** group and set the transcription parameters.

   **Note:**

   You can set the transcription parameters only if you have the Privacy Manager user role.

10. Click **Save**.

EPM displays the Applications page with the test application listed in the table.

# Running the sample application

## Procedure

1. Call the test application number.

   The test application number is the number that you specify when you add the test application to the Experience Portal system.

2. If you run the test application as a VoiceXML application, press:
   - `1` for Automatic Speech Recognition (ASR)
   - `2` for Text-to-Speech (TTS)
   - `3` for Bridge Transfer
   - `4` for Blind Transfer
   - `5` for Consultative Transfer
   - `6` for Audio test
   - `7` to Exit
3. If you run the test application as a CCXML application, press:
   - `1` for Automatic Speech Recognition (ASR)
   - `2` for Text-to-Speech (TTS)
   - `3` for Bridge Transfer
   - `4` for Blind Transfer
   - `5` for Consultative Transfer
   - `6` for Audio test
   - `7` to test Conferencing
   - `8` to test Merge
   - `9` to test Call Classification
   - `0` to Exit

## Next steps

After you run the application, you can create reports to verify the application's performance and, if you have enabled transcriptions, view the transcription data.

**Related links**

Test Application result for Call Classification option on page 79
Test Application result for Call Conferencing option on page 79

Test Application result for Call Merge option on page 80

## Test Application result for Call Classification option

When you run the test application as a CCXML application, and press 9 to test call classification, the application plays the following prompts based on the call status:

| Call Status | Prompt |
|---|---|
| Line is busy | The busy tone is detected. |
| Invalid number is detected | Fail to create call. |
| Call is connected and human voice is heard | Detected live voice. |
| Call is connected and a recorded message is detected | Detected answering machine. |
| Call is connected and fax is detected | Detected fax. |
| Call is connected and sit tone is detected | The sit tone is detected. |
| Trunks are busy | The fast busy tone is detected. |
| Call classification detection does not detect anything within the specified timeout period | Timeout is detected. |
| Error occurs during call classification detection | Error occurs while detecting. |
| Call is not answered | No answer is detected. |

**Related links**

Running the sample application on page 78

## Test Application result for Call Conferencing option

When you run the test application as a CCXML application, and press 7 to test call conferencing, the application plays the following prompts based on the call status:

| Call Status | Prompt |
|---|---|
| Call to destination fails | Fail to create call. |
| Call is successful | Thank you. |

*Table continues…*

| Call Status | Prompt |
|---|---|
| | **Note:**<br>When the call conference is successful, the application plays additional prompts.<br>For H323, enter 9 with the phone number. Otherwise, the call fails. |

**Related links**

Running the sample application on page 78

## Test Application result for Call Merge option

When you run the test application as a CCXML application, and press 8 to test call merging, the application plays the following prompts based on the call status:

| Call Status | Prompt |
|---|---|
| The application detects H.323 connection | This option is not supported in H.323. Please use SIP. |
| Merge is successful. | Thank you.<br>**Note:**<br>After playing the thank you prompt, the application merges the call.<br>This option is not supported for H.323. |

**Related links**

Running the sample application on page 78

# Configure and run the Application Interface test client

Use the Application Interface test client to validate the Application Interface web service and the Experience Portal outcall functionality. The Application Interface test client is available in `$AVAYA_HOME/Support/OutCallTest/VPAppIntfClient`.

**Related links**

Configuring Experience Portal for outcall on page 81
Running the Application Interface test client VPAppIntfClient.sh on page 81

# Configuring Experience Portal for outcall

## About this task

**Important:**

This configuration is required only if you use Experience Portal to perform outcalls or the Application Interface web service to launch VXML and CCXML applications.

## Procedure

1. Ensure that at least one of the ports in the system is configured to allow outbound calls. For more information on configuring ports, see *Administering Avaya Aura® Experience Portal*.
2. The VPAppIntfService Web service version authenticates users that are configured as Experience Portal users. The user must have the Web Services role.

**Related links**

Configure and run the Application Interface test client on page 80

# Running the Application Interface test client VPAppIntfClient.sh

## Before you begin

Ensure that you configure Experience Portal for the Application Interface test client as described in Configuring Experience Portal for outcall on page 81.

## Procedure

1. Log on to Linux on the Experience Portal server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, the Avaya Service accounts will not be available after the Avaya Enterprise Linux upgrade. The Avaya Service accounts will be available through EASG configuration during the Experience Portal upgrade.

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.
2. Navigate to the Application Interface test client directory by entering the `cd $AVAYA_HOME/Support/OutCallTest/VPAppIntfClient` command.
3. Use the following examples to show calling Application Interface test client using different authentication schemes:

   a. Password Authentication

Enter the `./VPAppIntfClient.sh –n <outcall-username> –p <outcall password>` command to request the number of available outbound ports.

- <outcall-username> is an Experience Portal user configured on the Users page of the EPM web interface..
- <outcall password> is the password for <outcall-username> that is configured on the Users page of the EPM web interface.

**Note:**

The user must have the Web Services user role.

b. Certificate Authentication

Enter the `./VPAppIntfClient.sh -y certificate -k <Java Keystore> –o <Java Keystore password>` command to request the number of available outbound ports.

- -y: <certificate> the authentication type is certificate.
- -k: <Java Keystore> the Java keystore file name including the path. The Java keystore should contain the User identity certificate including the private key.
- -o: <Java Keystore password> the password for the Java keystore file.

**Note:**

Import the User identity certificate to the EPM and ensure that the certificate is assigned to a user of Certificate type.

The user must have the Web Services user role.

c. Password and Certificate Authentication

Enter the `./VPAppIntfClient.sh -n <outcall-username> -p <outcall password> -y password+certificate -k <Java Keystore> –o <Java Keystore password>` command to request the number of available outbound ports.

- <outcall-username> is an Experience Portaluser configured on the Users page of the EPM web interface..
- <outcall password> is the password for <outcall-username> that is configured on the Users page of the EPM web interface..
- -y: <password+certificate> the authentication type is password and certificate.
- -k: <Java Keystore> the Java keystore file name including the path. The Java keystore should contain the User identity certificate including the private key.
- -o: <Java Keystore password> the password for the Java keystore file.

**Note:**

Import the User identity certificate to the EPM and ensure that the certificate is assigned to the <outcall-username> and the user authentication type is Password and Certificate.

The user must have the Web Services user role.

4. Verify that the Application Interface test client displays a response that shows the total ports and unused ports available for outcalls.

   For example:

   Mon Jun 03 16:55:26 PDT 2017:VPAppIntfServiceClient: queryResources succeeded, Total Resources = 0, Unused H323 = 0, Unused SIP = 0

   Mon Jun 03 16:55:26 PDT 2017: VPAppIntfServiceClient: exiting

5. Use the following examples to show calling Application Interface test client using different authentication schemes.

   Password Authentication

   a. Enter the `./VPAppIntfClient.sh -R 1 -A <application-name> -T <number-to-dial> -n <outcall-username> -p <outcall password>` command to initiate an outcall and launch a VoiceXML application.

      - <application-name> is the name of the application that you specify on the application page.
      - <number-to-dial> is the phone number to place the outcall to.
      - <outcall-username> is the Experience Portal username configured with the Web Services role on the Users page of the EPM web interface..
      - <outcall password> is the password assigned to the outcall-username above that was configured on the Users page of the EPM web interface.

      **Note:**

      The user must have the Web Services user role.

   Certificate Authentication

   b. Enter the `./VPAppIntfClient.sh -R 1 -A <application-name> -T <number-to-dial> -y certificate -k <Java Keystore> —o <Java Keystore password>` command to initiate an outcall and launch a VoiceXML application.

      - <application-name> is the name of the application that you specify on the application page.
      - <number-to-dial> is the phone number to place the outcall to.
      - -y: <certificate> the authentication type is certificate.
      - -k: <Java Keystore> the Java keystore file name including the path. The Java keystore should contain the User identity certificate including the private key.
      - -o: <Java Keystore password> the password for the Java keystore file.

**Note:**

Import the User identity certificate to the EPM and ensure that the certificate is assigned to the user of Certificate type.

The user must have the Web Services user role.

Password and Certificate Authentication

c. Enter the `./VPAppIntfClient.sh -R 1 -A <application-name> -T <number-to-dial> -n <outcall-username> -p <outcall password> -y password+certificate -k <Java Keystore> —o <Java Keystore password>`command to initiate an outcall and launch a VoiceXML application, where:

- <application-name> is the name of the application that you specify on the application page.
- <number-to-dial> is the phone number to place the outcall to.
- <outcall-username> is the Experience Portal user name configured from EPM Web interface.
- <outcall password> is the password for <outcall-username> that is configured from the EPM Web interface.
- -y: <password+certificate> the authentication type is password + certificate.
- -k: <Java Keystore> the Java keystore file name including the path. The Java keystore should contain the User identity certificate including the private key.
- -o: <Java Keystore password> the password for the Java keystore file.

**Note:**

Import the User identity certificate to the EPM, ensure that the certificate is assigned <outcall-username>, and the user authentication type is **Password and Certificate**.

The user must have the Web Services user role.

6. Verify that the dialed phone number rings.
7. Answer the phone and verify that the specified application handles the call.

**Note:**

The application handles the call in the same way as when an actual user calls into the system.

8. Verify that the Application Interface test client displays the following:
   - A response that shows the result of the LaunchVXML operation.
   - The total ports and the unused ports available for outcalls.

   For example:

Mon Jun 03 17:00:31 PDT 2017: VPAppIntfServiceClient: launchVXML succeeded, SessionID = scaaep134-2013155001030-5, TotalRes = 100, UnusedH323 = 0, UnusedSIP = 99

Mon Jun 03 17:00:31 PDT 2017: VPAppIntfServiceClient: exiting

**Related links**

Configure and run the Application Interface test client on page 80

# Software Upgrade functionality

You can upgrade the MPPs running on the Experience Portal system from the Software Upgrade page in the EPM web interface. If you want to use the Software Upgrade functionality, you need to authorize the EPM to upgrade the MPPs. For more information on Software Upgrade, see *Administering Avaya Aura® Experience Portal*.

If you don't want to use the Software Upgrade functionality to upgrade the MPPs, disable the InstallAgent RPM.

**Note:**

Disabling the InstallAgent package is optional.

Disable the InstallAgent package if you don't want EPM to use a public key-based SSH mechanism to remotely administer the MPP upgrades, and if you don't want this package installed on your system.

**Related links**

Optional: Disabling the InstallAgent RPM on page 85
Reinstalling the InstallAgent RPM on page 86

# Optional: Disabling the InstallAgent RPM

## Procedure

1. Delete the .ssh directory by entering the *rm -r /home/vpinstall/.ssh* command.

   Or

   If you want to save the .ssh directory for future reference, you can rename the directory. For example, to rename the .ssh file to .sshOld, enter the `mv /home/vpinstall/.ssh /home/vpinstall/.sshOld` command.

2. Enter the `chmod -s /opt/Avaya/InstallAgent/bin/InstallAgent` command to disable the InstallAgent RPM.

   The command removes the user ID permission from the InstallAgent package.

**Related links**

Software Upgrade functionality on page 85

## Reinstalling the InstallAgent RPM

### About this task

If you have previously disabled the InstallAgent RPM, as described in Optional Disabling the InstallAgent RPM on page 85, and want to use the Software Upgrade feature to upgrade the MPPs, you need to reinstall the InstallAgent RPM.

### Procedure

On the Experience Portal server, enter the `rpm -U <IA RPM> --replacepkgs` command to reinstall the InstallAgent RPM.

For example, `rpm -U av-ia-7.2.0.0-0626.rpm --replacepkgs`.

**Note:**

The InstallAgent RPM is located in the `Support/PrereqCheckerInstaller/ExternalPackages/installagent` directory of the Experience Portal installation image.

**Related links**

Software Upgrade functionality on page 85

# External time sources

To make sure that the reporting and logging activities across all servers in your network are synchronized to the same time, use the same external time source for the following:

- The server running the Primary EPM software
- Any application servers running on dedicated machines
- All available speech servers
- All PBX switches
- All email servers

You can use a corporate or a public time server as the external time source.

**Note:**

Avaya only provides guidelines for public time servers. Ensure that the servers you choose are accessible through your corporate firewall. Some public time servers either limit the amount of access a particular site has or charge for their services. If you select a public time server, make sure that the time server meets all requirements before you change the `ntp.conf` file on the Primary EPM server.

**Related links**

Configuring the Primary EPM server to point to an external time source on page 87

# Configuring the Primary EPM server to point to an external time source

## Before you begin

Make sure you have the server names or IP addresses of one or two appropriate external time sources. For more information, see External time sources on page 86.

## Procedure

1. Log on to Linux on the Experience Portal Primary EPM server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

2. Open the `/etc/ntp.conf` file in an ASCII text editor.
3. Edit the `/etc/ntp.conf` file to add the server you want to use as the primary external time source and an explicit declaration to set the local clock. If desired, you can also add a server to use as the secondary time source if the primary source cannot be found. The format is:

   ```
   server xxxx             // primary external time server
   server yyyy             // optional secondary external time server
   server 127.127.1.0      // set local clock to time received from external server
   fudge 127.127.1.0 stratum 10
   driftfile /var/lib/ntp/drift
   authenticate no
   ```

   Where *xxxx* and *yyyy* are either server names or IP addresses of the external time servers you want to use.

   **Note:**

   The typical settings for `driftfile` and `authenticate` are shown above. If the `ntp.conf` file at your site has different settings, check with your system administrator before you change them.

   The following uses the external time sources `clock.sjc.he.net` and `ntp-1.cede.psu.edu`:

   ```
   server clock.sjc.he.net             // primary external time server
   restrict clock.sjc.he.net nomodify
   server ntp-1.cede.psu.edu           // secondary time server
   restrict ntp-1.cede.psu.edu nomodify
   server 127.127.1.0                  // set local clock
   fudge 127.127.1.0 stratum 10
   ```

```
driftfile /var/lib/ntp/drift
authenticate no
```

4. Save and close the file.
5. Using a text editor of your choice, open the `/etc/ntp/step-tickers` file.

   This file is used for initial time setup on the EPM.
6. Add a line in the file to specify the time source server names or IP addresses.

   For example, if you are using the servers `clock.sjc.he.net` and `ntp-1.cede.psu.edu`, you would add the following lines:

```
clock.sjc.he.net
ntp-1.cede.psu.edu
```

7. Save and close the file.
8. Restart the `ntpd` daemon by entering the `/sbin/service ntpd restart` command.

   The system returns:

```
Shutting down ntpd: [OK]
Synchronizing with time server [OK]
Starting ntpd: [OK]
```

**Related links**

External time sources on page 86

# Non-English language support

## Non-English character support on the EPM web pages

While the EPM You can use non-English characters when entering field values if you have the appropriate languages installed on the EPM server. Avaya Enterprise Linux, Avaya provides font files for Chinese, Japanese, and Korean.

**Related links**

Configuring Chinese on Avaya Enterprise Linux on page 88
Configuring Japanese on Avaya Enterprise Linux on page 90
Configuring Korean on Avaya Enterprise Linux on page 91

## Configuring Chinese on Avaya Enterprise Linux

### Procedure

1. Log on to Linux on the Experience Portal Primary EPM server.

If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

- Log on to the local Linux console as root.
- Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

2. Navigate to the Linux font directory by entering the `cd /usr/share/fonts` command.

   **Note:**

   If the font directory does not already exist, create the directory by entering the `mkdir /usr/share/fonts` command, then navigate to the directory you just created.

3. Copy the Chinese font file to the font directory by entering the `cp $AVAYA_HOME/Support/fonts/zh_CN/TTzh_CN.tar .` command.

   **Important:**

   Make sure you include the . (period) at the end of the **cp** command to indicate that you want Linux to copy the files to the current directory.

4. Extract the font file by entering the `tar -xvf TTzh_CN.tar` command.
5. Copy the system language file to the Linux system configuration directory by entering the `cp $AVAYA_HOME/Support/fonts/zh_CN/i18n /etc/sysconfig/` command.
6. Navigate to the Java fonts directory by entering the `cd $JAVA_HOME/jre/lib/fonts` command.

   **Note:**

   If the fonts directory does not already exist, create the directory by entering the `mkdir $JAVA_HOME/jre/lib/fonts` command, then navigate to the directory that you just created.

7. Create the fallback directory by entering the `mkdir fallback` command.
8. Navigate to the fallback directory by entering the `cd fallback` command.
9. Copy the Chinese font files to the fallback directory by entering the `cp /usr/share/fonts/zh_CN/TrueType/*.ttf .` command.

   **Important:**

   Make sure you include the . (period) at the end of the **cp** command to indicate that you want Linux to copy the files to the current directory.

10. Reboot the EPM server machine by entering the `reboot` command.

**Related links**

Non-English character support on the EPM web pages on page 88

# Configuring Japanese on Avaya Enterprise Linux

## Procedure

1. Log on to Linux on the Experience Portal Primary EPM server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

2. Navigate to the Linux font directory by entering the `cd /usr/share/fonts` command.

   **Note:**

   If the font directory does not already exist, create the directory by entering the `mkdir /usr/share/fonts` command, then navigate to the directory you just created.

3. Copy the Japanese font file to the font directory by entering the `cp $AVAYA_HOME/Support/fonts/ja/TTja.tar .` command.

   **Important:**

   Make sure you include the . (period) at the end of the **cp** command to indicate that you want Linux to copy the files to the current directory.

4. Extract the font file by entering the `tar -xvf TTja.tar` command.
5. Copy the system language file to the Linux system configuration directory by entering the `cp $AVAYA_HOME/Support/fonts/ja/i18n /etc/sysconfig/` command.
6. Navigate to the Java fonts directory by entering the `cd $JAVA_HOME/jre/lib/fonts` command.

   **Note:**

   If the fonts directory does not already exist, create the directory by entering the `mkdir $JAVA_HOME/jre/lib/fonts` command, then navigate to the directory that you just created.

7. Create the fallback directory by entering the `mkdir fallback` command.
8. Navigate to the fallback directory by entering the `cd fallback` command.
9. Copy the Japanese font files to the fallback directory by entering the `cp /usr/share/fonts/ja/TrueType/*.ttf .` command.

   **Important:**

   Make sure you include the . (period) at the end of the **cp** command to indicate that you want Linux to copy the files to the current directory.

10. Reboot the EPM server machine by entering the `reboot` command.

**Related links**

Non-English character support on the EPM web pages on page 88

## Configuring Korean on Avaya Enterprise Linux

### Procedure

1. Log on to Linux on the Experience Portal Primary EPM server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

2. Navigate to the Linux font directory by entering the `cd /usr/share/fonts` command.

   **Note:**

   If the font directory does not already exist, create the directory by entering the `mkdir /usr/share/fonts` command, then navigate to the directory you just created.

3. Copy the Korean font file to the font directory by entering the `cp $AVAYA_HOME/Support/fonts/ko/TTko.tar .` command.

   **Important:**

   Make sure you include the . (period) at the end of the **cp** command to indicate that you want Linux to copy the files to the current directory.

4. Extract the font file by entering the `tar -xvf TTko.tar` command.
5. Copy the system language file to the Linux system configuration directory by entering the following command:

   `cp $AVAYA_HOME/Support/fonts/ko/i18n /etc/sysconfig/` command.

6. Navigate to the Java fonts directory by entering the `cd $JAVA_HOME/jre/lib/fonts` command.

   **Note:**

   If the fonts directory does not already exist, create the directory by entering the `mkdir $JAVA_HOME/jre/lib/fonts` command, then navigate to the directory that you just created.

7. Create the fallback directory by entering the `mkdir fallback` command.
8. Navigate to the fallback directory by entering the `cd fallback` command.
9. Copy the Korean font files to the fallback directory by entering the `cp /usr/share/fonts/ko/TrueType/*.ttf .` command.

**Important:**

Make sure you include the . (period) at the end of the **cp** command to indicate that you want Linux to copy the files to the current directory.

10. Reboot the EPM server machine by entering the `reboot` command.

**Related links**

Non-English character support on the EPM web pages on page 88

# Disabling the display of avayavp user name in the RedHat Enterprise Linux GUI login page user list

## About this task

If you have installed a graphical interface for RHEL 6.x, the RHEL 6.x GUI login page displays a list of users on the startup screen.

This list also includes the avayavp user. To eliminate potential security hazard, you must disable the RHEL 6.x GUI login page from listing users.

## Procedure

1. To disable the login page from listing users, enter the following command on the console:

   ```
   sudo -u gdm gconftool-2 --type bool --set /apps/gdm/simple-greeter/
   disable_user_list true
   ```

2. To verify that the user list is disabled on the login page, enter the following command on the console:

   ```
   sudo -u gdm gconftool-2 --get /apps/gdm/simple-greeter/
   disable_user_list
   ```

   If the command returns the value as True, then the login page does not display the list of users.

# Chapter 8: Troubleshooting installation issues

## Installation log files

The installation log files contain detailed information about the installation process.

You can run the EPInstallationVerifier script to check if the installation or upgrade was successful. The script parses the install logs and reports if the installation or upgrade was successful. To run the script, enter the **./EPInstallationVerifier <InstallationLogDirectory>** command where <InstallationLogDirectory> is located in /opt/Avaya/ExperiencePortal/logs and is specified at the end of each upgrade. An example of the command: ./EPInstallationVerifier /opt/ Avaya/ ExperiencePortal/logs/install_2012-06-25.000.

Avaya Aura® Experience Portal creates several log files during the installation process. If the installation process:

- Completes successfully, Experience Portal copies the log files to `$AVAYA_HOME/logs/install_`*`date`*, where `$AVAYA_HOME` is the environment variable pointing to the installation path you specified on the Installation Destination installation screen and *`date`* is the date the installation process was run. The default installation directory is `/opt/Avaya/ExperiencePortal`.
- Does not complete successfully, Experience Portal leaves the log files in `/opt/_Avaya_Voice-Portal_temp`.

### General installation log files

| Log filename | Description |
|---|---|
| `VP_Install.log` | Main log containing output from all EPM and MPP installation processes. This is the first log file you should consult if you need to troubleshoot an installation issue.<br>**Note:**<br>This file contains detailed log messages which might appear to be warnings or errors, but can safely be ignored, particularly if those warnings do not appear in the installation summary (ISSummary.log). |
| `ISSummary.log` | Summary of the Experience Portal installation, including any warning or error messages encountered during the installation. |

*Table continues…*

| Log filename | Description |
|---|---|
| ISOpt.log | InstallShield generated log containing internal data. |
| installSequence.log | Subset of ISOpt.log |
| prereqchecker.log | Detailed information from the Prerequisite Checker. |
| prereqchecker.out.log | Results from the Prerequisite Checker. |
| prereqchecker.err.log | Any internal errors encountered by the Prerequisite Checker. |
| prereqinstaller.log | Detailed information from the Prerequisite Installer. |
| prereqinstaller.out.log | Results from the Prerequisite Installer. |
| prereqinstaller.err.log | Any internal errors encountered by the Prerequisite Installer. |
| SetIAVersion<component>.log | Version history of the Experience Portal components installed. The <component> can be VPMS, MPP, or Docs. |
| ExtensionsPersistFiles.log | A directory containing files used to preserve properties during EPM upgrades. |
| installStatus.log | Log file generated for use by auto upgrade to log and track major steps during the installation |
| GetIAVersionVPMS.err.log | Log file containing any warning messages generated while trying to retrieve version information as part of an upgrade. The presence of a warning in this log file does not necessarily indicate an error. |

## MPP-specific installation log files

| Log filename | Description |
|---|---|
| av-mpp-<buildnumber>-Install-<date>.log | mppinstall.sh script output. |
| av-mpp-<buildnumber>-Install-rpm-<date>.log | Output from the Red Hat Package Manager (RPM) during the MPP software installation. |
| mpp.cert.gen.out.log | Results from the security certificate generation process. |
| mpp.cert.gen.err.log | Any internal errors generated from the certificate generation process. |
| mpp.cert.import.out.log | Results from the security certificate import process. |
| mpp.cert.import.err.log | Any internal errors generated from the certificate import process. |
| mpp.key.import.out.log | Results from the public key import process from the EPM. |
| mpp.key.import.err.log | Any internal errors generated from the public key import process from the EPM. |
| mpp.key.log | Summary and fingerprint information about the public key imported by the MPP from the Primary EPM. |

## EPM-specific installation log files

| Log filename | Description |
|---|---|
| vpms.cert.gen.out.log | Results from the security certificate generation process. |
| vpms.cert.gen.err.log | Any internal errors generated from the certificate generation process. |

*Table continues…*

| Log filename | Description |
|---|---|
| vpms.cert.import.out.log | Results from the security certificate import process. |
| vpms.cert.import.err.log | Any internal errors generated from the certificate import process. |
| vpms.cert.log | Summary and fingerprint information about the certificate generated during EPM installation that is used for communication with the MPP and any Auxiliary EPMs. |

# Fixing Prerequisite Checker failures

### Solution

1. Examine the Prerequisite Checker pages to determine exactly what problems were encountered.

   **Tip:**

   If the error is `UnknownHostException: localhost`, see Prerequisite Checker fails with UnknownHostException:localhost on page 95.

2. Upgrade your system to meet the minimum hardware and operating system requirements for Experience Portal
3. If you aborted the installation, enter `installvp/autoupgradevp` to start the installation.
4. After you upgrade your system, you can resume the Experience Portal installation script at the current point as long as you did *not* exit the installation script or restart your Experience Portal server. If you want to:
   - Resume the script, type `2` and press `Enter` until you go past the first Prerequisite Status page. Experience Portal reruns the Prerequisite Checker and you can then continue with the installation instructions.
   - Quit the installation script, type `3` and press `Enter`, then type `1` and press `Enter` to confirm.

### Related links

Prerequisite Checker fails with UnknownHostException:localhost on page 95

# Prerequisite Checker fails with UnknownHostException:localhost

If you receive an error during the prerequisite check for the `localhost`, or a `faultString` reporting `UnknownHostException:localhost` during Experience Portal installation or upgrade, it is likely that the `/etc/hosts` file of the server is not properly set up. As a result, the installation script cannot deploy certain Experience Portal components correctly.

The `/etc/hosts` file is a simple text file that associates IP addresses with one or more hostnames. The format is one line per IP address, with the associated hostnames separated by white space (spaces or tabs).

### Solution

1. Log into Linux on the EPM server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.
2. Back up the original file prior to editing it by entering the `cp /etc/hosts /etc/hosts.bak` command.
3. With the ASCII text editor of your choice, open the `/etc/hosts` file.
4. Verify that:
   - The first line contains `127.0.0.1 localhost localhost.localdomain`, with the IP address and hostnames separated by spaces or tabs
   - If the file has other entries, each entry must be in the form *`IP_address hostname1 hostname2...`*, where *`IP_address`* is the IP address of a server in the Experience Portal system and *`hostname1 hostname2...`* is one or more hostnames, separated by tabs or spaces, to associate with the IP address.

**Related links**

Fixing Prerequisite Checker failures on page 95

# Fixing Prerequisite Installer failures

The Prerequisite Installer installs additional software required for Experience Portal such as the Apache Web Server, Tomcat, and php. The majority of this software comes from RPMs installed by the Prerequisite Installer.

### Cause

Installer failures are generally the result of installing Experience Portal on a server running a:

- More recent supported version of Red Hat Enterprise Linux Server. Although Experience Portal does support updates to Red Hat Enterprise Linux Server, some system RPMs in the newer updates can conflict with some of the RPMs that Experience Portal is attempting to install.
- Customized Red Hat Enterprise Linux Server installation that is missing an RPM required by one of the Experience Portal prerequisite RPMs.

***Solution***

1. Examine the Prerequisite Installer report to determine exactly what problems were encountered and what log file, if any, is available for more information.

   For an example of one such error, see Sample Prerequisite Installer error message on page 97.

2. If you are using a supported version of Red Hat Enterprise Linux Server and the Prerequisite Installer fails for any of the php RPMs, install the following RPMs from your Red Hat Enterprise Linux Server installation DVD or the Red Hat support website:
   - `php-common.x86_64`
   - `php-cli.x86_64`
   - `php.x86_64`
   - `php-soap.x86_64`
   - `php-xml.x86_64`
   - `php-pgsql.x86_64`
   - `php-process.x86_64`
3. If that does not solve the problem, see Identifying RPM issues on page 98 for more information.
4. If you aborted the installation, enter `installvp/autoupgradevp` to start the installation.
5. After you fix any prerequisite software issues, you can resume the Avaya Aura® Experience Portal installation script at the current point as long as you did *not* exit the installation script or restart your Avaya Aura® Experience Portal server. If you want to:
   - Resume the script, type `2` and press `Enter` until you go past the first Installation Status page. Avaya Aura® Experience Portal reruns the Prerequisite Installer and you can then continue with the installation instructions.
   - Quit the installation script, type `3` and press `Enter`, then type `1` and press `Enter` to confirm.

### Sample Prerequisite Installer error message

The following is an example of the error messages produced by the Prerequisite Installer when the installer encounters a more recent version of the JDK than Experience Portal was about to install. You can use this example as a guideline for solving any Prerequisite Installer issues you encounter.

```
================================================================================
======
Installation Status
================================================================================
======
- Operating System
Prerequisites================================================
| - Semanage Libraries-------------------------------------------------
Failed
| |    Error: RPM installation failed with the following details:
| |    Loaded plugins: product-id, search-disabled-repos, security,
| |      subscription-
| |                  : manager
| |    This system is not registered to Red Hat Subscription Management.
You
| |      can use subscription-manager to register.
| |    Setting up Install Process
| |    No package policycoreutils-python.x86_64 available.
| |    Error: Nothing to do
```

```
| |    Setting up Install Process
| |    No package policycoreutils-python.x86_64 available.
| |    Error: Nothing to do
| |
| |    Error getting repository data for , repository not found
| |    ====================================
| |    Expected: policycoreutils-python.x86_64
| |    Found:    policycoreutils-python.x86_64  Not Installable
| |    Package check failed with the following message:
| |    Setting up Install Process
| |    No package policycoreutils-python.x86_64 available.
| |    Error: Nothing to do
| |    policycoreutils-python.x86_64     Out of date
================================================================================
======
Install aborted due to installation failure.
================================================================================
======
```

***Solution***

Before you remove the more recent RPM version that you have installed, check the Avaya online support Web site, http://support.avaya.com, to make sure that a solution to this issue has not been posted. If no solution is available:

a. Look at the `RPM installation check` line, which is the third highlighted line in the example.

   In this case, the error message and the log file prereqinstaller.log indicate that the required policycoreutils-python.x86_64 RPM is not available.

b. Define a valid yum repository that has the policycoreutils-python.x86_64 RPM and other required Experience Portal packages.

c. Re-execute the Prerequisite Installer.

You can also manually install the required packages.

# Identifying RPM issues

If you have installed a supported version of Red Hat Enterprise Linux Server, you should also verify that the correct RPMs are installed on your system. If you are registered with Red Hat to automatically receive updates, there might be a conflict with one or more of the updated RPMs.

The Experience Portal installation included a file that lists the RPMs and version numbers in the supported version of Red Hat Enterprise Linux Server. This file is installed in `$AVAYA_HOME/Support/RedHat-RPM-Lists` and on the Experience Portal installation DVD under `Support/RedHat-RPM-Lists`.

You can generate a listing of the RPMs that are currently installed on your system and then compare the RPMs you have installed against what has been verified. Other versions than the ones verified might cause your Experience Portal system not to operate.

**Note:**

If the list of RPMs installed on your system does not exactly match the list of RPMs in the `RedHat-RPM-Lists` file that is located in the Support directory of the Experience Portal installation DVD, it does not necessarily mean there is a problem. However, if you are still experiencing problems after you have reviewed the installation log files and initial configuration settings, you might bring your system in line with the verified list of RPMs to see if that solves the problem.

**Note:**

For Red Hat Enterprise Linux installations, ensure that you configure a yum respository containing all the required Experience Portal packages. Otherwise the prerequisite installation for the Experience Portal server may fail.

### Solution

1. Log on to Linux on the Experience Portal Primary EPM server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

2. Enter the `cat /etc/issue` command.
3. Verify that the version is Release 6.8 64 bit or later, but not RHEL 7.x.
4. To get a list of the RPMS installed on your system and redirect the list to a file, enter the `rpm -qa --qf='%{name}.%{arch}\n'| sort> /tmp/rpmlist.txt` command.

   When the system has finished generating `rpmlist.txt`, it stores the file in the `/tmp` directory.

5. To find any differences between the RPMs currently installed and the RPMs that are required for Experience Portal, enter the `diff /tmp/rpmlist.txt $AVAYA_HOME/Support/RedHat-RPM-Lists/RHEL6.8.txt` command.
6. Review the reported differences and bring the installed RPMs in line with the RPMs listed in the `Support > RedHat-RPM-Lists` directory of the Experience Portal installation DVD.
7. If you need the correct version of an RPM, download it from Red Hat website, http://www.redhat.com.
8. Ensure that you configure a yum repository if you have installed Red Hat Enterprise Linux Server on a single server.
9. Once you have identified the problems and downloaded any required RPMs:
   - To upgrade an RPM to a different version, enter the `rpm -U <path>/rpmname` command, where *<path>* is the complete path and *rpmname* is the filename of the RPM you are updating.
   - To install an RPM, enter the `rpm -i path/rpmname` command, where *path/rpmname* is the complete filename and path of the RPM you are installing.

- To remove an RPM, enter the `rpm -e rpmname` command, where *rpmname* is the name of the RPM you are removing.

  **Important:**

  Do not specify a file path when you remove an RPM.

# Installation Progress Bar stops at 25% completed

If the **Installation Progress Bar** does not advance beyond 25% completed and the Post Installation Summary screen states that no summary information could be found, then InstallShield has encountered an internal error and the Experience Portal installation or upgrade was not successful.

This error condition is shown in the following example:

```
Installation Progress
Note: The last portion of the install might take several minutes to
complete.
Please be patient and wait for the Post Installation Summary to be
displayed.
Installing Avaya Aura Experience Portal. Please wait...
|-----------|-----------|-----------|------------|
0%             25%            50%             75%            100%
||||||||||
-------------------------------------------------------------------------
------
Post Installation Summary
The Avaya Aura Experience Portal
 installation has completed. Review the following information.
If there are errors or warnings, then please review the installation
logs.
No summary information could be found; please check the log files for
more
information
Press 3 to Finish or 5 to Redisplay [3]
java.io.IOException: java.io.IOException: /opt/_Avaya_Voice-Portal_temp/
MoveLogFiles: not found
       at java.lang.UNIXProcess.<init>(UNIXProcess.java:143)
       at java.lang.Runtime.execInternal(Native Method)
       at java.lang.Runtime.exec(Runtime.java:566)
       at com.installshield.util.Java2ProcessExec.processExec(Unknown
Source)
       at com.installshield.util.ProcessExec.executeProcess(Unknown
Source)
       at
com.installshield.wizardx.actions.ExecWizardAction.executeProcess(Unknown
 Source)
       at com.installshield.wizardx.actions.ExecWizardAction.run(Unknown
Source)
       at java.lang.Thread.run(Thread.java:534)
```

In this case, no Experience Portal software was actually installed or upgraded.

**Solution**

1. Type `3` to finish the aborted installation or upgrade process.
2. Return to the beginning of the installation or upgrade procedure you were following and rerun the Experience Portal installation script `installvp or autoupgradevp`.

# EPM install finishes with an Axis error

A known issue with Axis sometimes affects the EPM software installation. If this problem occurs, the EPM software installer displays either `Exception: AxisFault` or `Warning: Axis may not be accepting new applications properly`, as shown in the following Post Installation Summary screens.

First sample Post Installation Summary screen:

```
Installing EPM...
Possible Error during operation: Register vpappLog with Axis
- Start error description -
Exception: AxisFault
faultCode: {http://schemas.xmlsoap.org/soap/
envelope/}Server.generalException
 faultSubcode:
 faultString: Couldn't find an appropriate operation for XML QName
{http://xml.apache.org/axis/wsdd/}deployment
 faultActor:
 faultNode:
 faultDetail:
 {http://xml.apache.org/axis/}hostname:takuma.avaya.com

- End error description -
Possible Error during operation: Deploy Core Services (Part 2/2)
- Start error description -
Error: Could not deploy network log server: 255
Error: Could not deploy alarm server: 255
- End error description -
```

Second sample Post Installation Summary screen showing the `Warning: Axis may not be accepting new applications properly` message:

```
Installing Documentation...
...done installing Documentation
Installing EPM...
Possible Error during operation: Start Tomcat
- Start error description -
Warning: Axis may not be accepting new applications properly
- End error description -
...done installing EPM
Installing MPP...
...done installing MPP
```

In this case, you need to:

### Solution

1. Type `3` to finish the incomplete installation process.
2. Return to the beginning of the installation procedure you were following and rerun the Experience Portal installation script `installvp or autoupgradevp`.

## Install hangs at Post Installation Summary screen

A known InstallShield issue sometimes causes the software installation to hang, especially if there is a long delay between steps.

In this case, the Post Installation Summary screen displays:

```
Post Installation Summary

The Avaya Aura Experience Portal installation has completed. Review the
following
information. If there are errors or warnings, then please review the
installation logs.

Installing Documentation...
Press 3 to Finish or 5 to Redisplay [3]
```

### Solution

Restart the installation script from the beginning, making sure that you do not pause too long between steps.

The Post Installation Summary screen should display messages similar to the following:

```
Post Installation Summary

The  Experience Portal installation has completed. Review the following
information. If there are errors or warnings, then please review the
installation logs.

Installing Documentation...
...done installing Documentation

Installing EPM...
...done installing EPM

Press 3 to Finish or 5 to Redisplay [3] 3
Moving installation logs to: /opt/Avaya/ExperiencePortal/logs/install_2013-12-12.000

[root@vpms-server cdrom]# reboot
```

# MPP installation is hanging

Any hung or stale NFS mount points can cause RPM installations to hang while installing the Experience Portal software.

### Solution

1. On the MPP server, enter the `df` command.
2. If the server:
   - Responds to this command, then all NFS mount points are operational. Make sure that the EPM and MPP clocks are properly synchronized.
   - Does not respond to the command, continue with this procedure.
3. Enter the `umount -l` command to unmount any file systems.
4. If not already done, exit the Experience Portal installation script.
5. If the automount feature is enabled, disable it by commenting out the appropriate lines in the server's `/etc/fstab` file.
6. Reboot the server.
7. Restart the installation script from the beginning.

# MPP could not import EPM key

The EPM installs correctly but the Public Key Verification screen displayed during the MPP installation contains the error:

`Failed to import key from specified host. Please check the following: URL: http://`*`EPM-server`*`/cert.pem`

The most common cause of this error is that the `iptables` firewall is enabled on the primary EPM server.

### Solution

1. Log on to Linux on the Experience Portal Primary EPM server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:
   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.
2. Determine whether the `iptables` firewall is active by entering the `service iptables status` command.
3. If the firewall is:
   - Running, disable it by entering the `chkconfig --del iptables` command and proceed to Step 4.

- Not running, try to manually download the certificate by entering the `curl http://EPM-server/cert.pem` command, where *EPM-server* is the domain name or IP address of the system where the Primary EPM software is installed.

  If the command displays the lines `-----BEGIN CERTIFICATE-----` and `-----END CERTIFICATE-----`, regardless of what information is displayed between those lines, continue with this procedure. Otherwise, contact your Avaya Services representative.

4. Restart the *vpms* service by entering the `/sbin/service vpms restart` command.

   You will see a series of messages as the command starts to shut down EPM components. When the command has successfully stopped all relevant components, the system displays the message: `VPMS Shutdown Status: [ OK ].`

   The command immediately starts the relevant components. When the command is run successfully, the system displays the message: `VPMS Start Status: [ OK ].`

5. Verify that you can log in to the EPM Web interface as described in the *Logging in to the Avaya Aura® Experience Portal web interface* topic in the *Administering Avaya Aura® Experience Portal* guide.
6. Return to the MPP server and either continue the current installation or restart the installation process.

# Changing the Product ID for an existing Experience Portal system

### Before you begin

If you have just installed or upgraded the Experience Portal software and are still logged into the server, verify that you reloaded the environment variables as described in Reloading the Experience Portal environment variables on page 111.

### Procedure

1. Log on to Linux on the Experience Portal Primary EPM server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

2. Navigate to the Support/VP-Tools directory by entering the **`cd /opt/Avaya/ExperiencePortal/Support/VP-Tools`** command.
3. Stop *vpms* service by entering the **`service vpms stop`** command.
4. To run the script:

**On Linux**: Enter the `bash ResetProductID New_ProductID` command where New_ProductID is the product ID that you want to use.

5. Restart *vpms* service by entering the **`service vpms restart`** command.
6. Restart all MPPs by entering the **`service mpp restart`**
7. Follow any on-screen instructions displayed by the script.

# Changing the Avaya Enterprise Linux network configuration for an existing Avaya Aura® Experience Portal server

## Procedure

To change the Avaya Enterprise Linux network configuration after you have installed the operating system, enter the `system-config-network` command and follow the prompts.

# Changing PostgreSQL user account passwords

## Before you begin

If you have just installed the EPM software and are still logged into the EPM server, make sure that the environment variables are properly loaded.

## About this task

Experience Portal uses the following PostgreSQL user accounts:

| Default account name | Description |
|---|---|
| postgres | The database administrator can use this account to log in to the local Avaya Aura® Experience Portal database and perform database administration tasks.<br>The password for this account is automatically generated. You cannot add other accounts of this type, delete this account, or change the account name.<br>**Important:**<br>Contact the Avaya Services representative to modify the local VoicePortal database as the database contains critical configuration information used to run the system. |
| report | This user account can only read those tables in the Experience Portal database that store report data. Speech application developers can use this account to log in |

*Table continues…*

| Default account name | Description |
|---|---|
| | to the database to create custom reports using any SQL-enabled report generation tool.<br>You can have any number of accounts of this type with any account names. |
| reportwriter | This user account can only change the data in the tables that store report data in the Experience Portal database on the Auxiliary EPM server.<br>You can have any number of accounts of this type with any account names.<br>**Important:**<br>Contact the Avaya Services representative to modify the tables that store report data in the local VoicePortal database. |
| vpcommon | This account allows each Auxiliary EPM server limited access to the main Experience Portal database, and it is required if you plan to configure an Auxiliary EPM server.<br>You can delete this account and set the password for this account, but you cannot add other accounts of this type or change the account name. |

Use the `SetDbPassword.sh` script to change all account passwords and add and delete all accounts except for postgres, which you cannot delete.

## Procedure

1. Log on to Linux on the Experience Portal server with root privileges.
2. Enter the `cd $AVAYA_HOME/Support/Security-Tools/SetDbPassword` command, where `$AVAYA_HOME` is an environmental variable pointing to the name of the installation directory specified during the Experience Portal software installation.
3. Enter the `bash SetDbPassword.sh update -u` *username* command, where *username* is the name of the user account whose password you want to change.
4. Type the password you want to use for this account and press `Enter`.

   When you change the password for the postgres account, Experience Portal stops and then restarts the **vpms** service.
5. Enter the `/sbin/service vpms status` command to verify if the **vpms** service has started.

## Next steps

If you change the password for the vpcommon account on the primary EPM server, you must also change the password on the auxiliary EPM server.

# Time synchronization problems

Experience Portal uses Network Time Protocol (NTP) to control and synchronize the clocks when the EPM and MPP software is running on different servers. The dedicated MPP servers and the optional auxiliary EPM server point to the primary EPM server as the reference clock.

**Note:**

If the time difference is too large, NTP cannot synchronize the client and server clocks immediately. A workaround is to manually synchronize the clocks before starting NTP. After NTP starts, it adjusts the clients clock with the server timings slowly. The slow process is by design so that confusion with other processes that are running and depends on the clock can be avoided.

To troubleshoot synchronization errors, perform the following procedures in the order given, advancing to the next procedure only if the problem continues to persist.

**Related links**

Determining whether the servers are synchronized on page 107
Verify that the NTP service is operating properly on page 107
Synchronizing the MPP or auxiliary EPM clock with the primary EPM on page 108
Advanced time synchronization troubleshooting on page 110
Time Synchronization between external database and EPM servers on page 111

# Determining whether the servers are synchronized

**Procedure**

1. Simultaneously log in to Linux on the EPM server, each MPP server, and, if configured, the optional auxiliary EPM server.
2. On each server, during the same time enter the `date` command.
3. Verify that each MPP server and the optional auxiliary EPM server are synchronized with the primary EPM server.
4. If you find one or more unsynchronized servers, follow the procedure Verify that the NTP service is operating properly on page 107 below.

**Related links**

Time synchronization problems on page 107

# Verify that the NTP service is operating properly

**Procedure**

1. Log on to Linux on the Experience Portal server with root privileges.
2. Enter the `/sbin/service ntpd status` command.

If the server returns a message stating that the NTP service is running, continue with this procedure. Otherwise, go to Synchronizing the MPP or auxiliary clock with the primary on page 108.

3. To verify that the NTP service is operating properly, enter the `/usr/sbin/ntpq -np` command.
4. A status message similar to the following appears:

```
remote           refid      st   t  when  poll   reach   delay
offset   jitter
==============================================================
=============
123.123.123.123   LOCAL(0)    6    u   23    64      1     0.354
0.361    0.004
```

If the `jitter` value displayed is 4000, go to Synchronizing the MPP or auxiliary clock with the primary on page 108.

**Note:**

The remote IP address displayed should point to the primary EPM server.

**Related links**

Time synchronization problems on page 107

# Synchronizing the MPP or auxiliary EPM clock with the primary EPM

## Procedure

1. If you are working with an MPP server and the MPP software is running, stop it using the EPM Web interface:
   a. Log on to the EPM Web interface using an account with the Administration or Operations user role.
   b. From the EPM main menu, select **System Management** > **MPP Manager**.
   c. On the MPP Manager page, click the selection box associated with the MPP that you want to stop, then click **Stop** in the **State Commands** group.
   d. Confirm the action when requested.
   e. Wait until the operational state changes to Stopped.

   To check this, click **Refresh** and look at the **State** field.

   **Note:**

   The operational state changes when the last active call completes or the operational grace period expires, whichever comes first.

2. If necessary, log in to Linux on the server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

3. If you are working with:

   - An MPP server, stop the `mpp` process by entering the `/sbin/service mpp stop` command.
   - The auxiliary EPM server, stop the vpms service by entering the `/sbin/service vpms stop` command.

4. Restart the NTP process by entering the `/sbin/service ntpd restart` command.

   The system returns:

   ```
   Shutting down ntpd: [OK]
   Synchronizing with time server [OK]
   Starting ntpd: [OK]
   ```

   **Note:**

   After you restart the NTP process, wait up to 10 minutes for the server to synchronize with the EPM.

5. After you give the servers enough time to synchronize themselves, verify that the process worked by entering the `/usr/sbin/ntpq -np` command.

   A status message similar to the following appears:

   ```
   remote           refid      st   t  when  poll   reach    delay
   offset jitter
   ==============================================================================
   ==============
   123.123.123.123   LOCAL(0)    6    u   23    64      1      0.354
   0.361  0.004
   ```

   **Note:**

   The remote IP address displayed should point to the primary EPM server.

6. If the `jitter` value is still set to 4000, go to Advanced time synchronization troubleshooting on page 110 below. Otherwise continue with this procedure.

7. If you are working with:

   - An MPP server, start the `mpp` process by entering the `/sbin/service mpp start` command.
   - The auxiliary EPM server, start the vpms service by entering the `/sbin/service vpms start` command.

8. Verify the service has started by entering the `/sbin/service mpp status` or `/sbin/service vpms status` command.

**Related links**

Time synchronization problems on page 107

# Advanced time synchronization troubleshooting

## Procedure

1. If necessary, log in to Linux on the MPP or auxiliary EPM server.

   If you are an Avaya Services representative, and use Avaya Enterprise Linux, or if the Avaya Service accounts are installed on this server:

   - Log on to the local Linux console as root.
   - Or log on remotely as a non-root user and then change the user to root by entering the `su - root` command.

2. Using an ASCII text editor, open the following files on the server and ensure that the hostname or the IP address of the primary EPM server is correct:

   - `/etc/ntp.conf`
   - `/etc/ntp/step-tickers`

3. If the IP address or hostname is incorrect in either of the above files, fix it then save and close the files. Otherwise simply close the files.

4. If the primary EPM server is synchronized with an external clock, verify that the `/etc/ntp.conf` file on the primary EPM server is properly set up.

5. If you made any changes to the files:

   a. Stop the appropriate service by entering the `service mpp stop` or `/sbin/service vpms stop` command.

   b. Restart the NTP process by entering the `/sbin/service ntpd restart` command.

      The system returns:

      ```
      Shutting down ntpd: [OK]
      Synchronizing with time server [OK]
      Starting ntpd: [OK]
      ```

      **Note:**

      After you restart the NTP process, wait up to 10 minutes for the server to synchronize with the EPM.

   c. After you give the servers enough time to synchronize themselves, verify that the process worked by entering the `/usr/sbin/ntpq -np` command.

      A status message similar to the following appears:

```
remote           refid      st   t  when  poll   reach
delay    offset jitter
==============================================================
==================
123.123.123.123   LOCAL(0)    6    u   23    64      1
0.354    0.361  0.004
```

**Note:**

The remote IP address displayed should point to the primary EPM server.

6. If the `jitter` value is still set to 4000:
   a. Reboot the server.
   b. Enter the `/usr/sbin/ntpq -np` command.
   c. If the `jitter` value is still set to 4000, reinstall the MPP or auxiliary EPM software.

**Related links**

Time synchronization problems on page 107

## Time Synchronization between external database and EPM servers

If you connect a Experience Portal system to an external database, you may want to make sure that you synchronize the time so that it is same across all servers. While Experience Portal only requires that the EPM and MPP server time be synchronized, you can also synchronize all the servers that Experience Portal connects to. For more information, see the *External time sources* topic in the *Implementing Avaya Aura® Experience Portal on multiple servers* guide.

**Related links**

Time synchronization problems on page 107

# Reloading the Experience Portal environment variables

After you install or upgrade an Experience Portal server, you need to load the new environment variables.

### Procedure

1. Log completely out of the Linux system.
2. If you are on the console and are working with:
   - Avaya Enterprise Linux, enter the `su - root` command.
   - Red Hat Enterprise Linux Server, enter the `su -` command.

**Note:**

If you are a remote user, log in to Linux by entering a non-root user name and password at the prompts.

# File system check (fsck) reports number of day’s error

If a file system check (fsck) is performed during the boot up process and indicates an error of extremely large number of days since the file system was checked, it is likely that:

- The system's clock was set backwards manually.
- NTP was reconfigured and then restarted at the time of OS or software installation.

Following is an example of the error message:

```
Sep 20 13:34:35 i3250-mpp fsck: RHE4.0-AV11.3EP2 has gone 49706 days
without being checked, check forced.

Sep 20 13:34:35 i3250-mpp fsck:  RHE4.0-AV11.3EP2:
```

**Related links**

Solution on page 112

# Solution

## Procedure

You can ignore the number of days reported since the last check. Regardless of the exact number of days since the file system was last checked, fsck performs this check and reports the file system errors.

**Related links**

File system check (fsck) reports number of day’s error on page 112

# Chapter 9: Installation worksheets

## Installation worksheets for the Avaya Aura® Experience Portal dedicated server configuration

Before you begin the installation of Avaya Aura® Experience Portal on two or more dedicated servers, you should complete these installation worksheets. They are your guide to collecting the information necessary for a successful Experience Portal installation and configuration.

All users should complete:

- One copy of the Primary EPM server installation worksheet on page 114.
- One copy of the MPP server installation worksheet on page 117 for each planned MPP.
- If desired, one copy of the Auxiliary EPM server installation worksheet on page 119.

In addition, if this deployment includes:

- H.323 connections, complete one copy of the H.323 installation worksheet on page 123 for each connection.
- SIP connections, complete one copy of the SIP installation worksheet on page 126 for each connection that you want to configure.
- Automatic Speech Recognition (ASR) servers, complete one copy of the ASR server installation worksheet on page 122 for each ASR server
- Text-to-Speech (TTS) servers, complete one copy of the TTS server installation worksheet on page 123 for each TTS server
- Speech applications, complete one copy of the Speech application installation worksheet on page 127 for each application that will be deployed on the Experience Portal system.

# Primary EPM server installation worksheet

Complete this worksheet if you are installing the EPM server on a dedicated Experience Portal server.

| Requirement/ Information Needed | Your value | Notes |
|---|---|---|
| Ensure that the hardware meets the minimum requirements. For more information on minimum server machine hardware requirements, see *Avaya Aura® Experience Portal* Overview and Specification on http://support.avaya.com. | | |
| What access method are you going to use? | _____ Local keyboard, mouse, and monitor<br>_____ Remote access via SSH client | |
| Server information | IP address<br>_____<br>Host name<br>_____ | The hostname cannot contain spaces or periods. |
| Do you want to enable EASG on the Primary EPM? | _____ Yes<br>_____ No | |
| Avaya Enterprise Linux network configuration information | Subnet mask on Corporate LAN<br>_____<br>Default gateway<br>_____<br>Primary DNS Server<br>_____<br>DNS domain name<br>_____<br>Time zone<br>_____ | |

*Table continues…*

| Requirement/ Information Needed | Your value | Notes |
|---|---|---|
| For customer-provided hardware, is Release 6.8 64 bit or later installed? | _____ Yes<br>_____ No | See Customer provided operating system installation on page 16. |
| Is the default language for Linux set to English? | _____ Yes<br>_____ No | If No, set the default language to English. You can change the default language after Experience Portal is installed. |
| Can all planned Experience Portal servers communicate with one another? | _____ Yes<br>_____ No | For more information, see the *Verifying server communication worksheet* topic in the *Implementing Avaya Aura® Experience Portal on multiple servers* guide. |
| For Avaya Enterprise Linux, user account passwords | `cust` account password:<br>_____<br>root account password:<br>_____ | |
| For Red Hat Enterprise Linux Server 6.x 64 , user accounts and passwords | root account password:<br>_____<br>Non-root account name:<br>_____<br>Non-root account password:<br>_____ | |
| Installation directory, if different from default | _____ | Default directory: `/opt/Avaya/ExperiencePortal`<br>Specify an absolute directory path containing only standard English alphanumeric characters and the symbols `/` (forward slash), `_` (underscore), `-` (hyphen), `~` (tilde), or `.` (period). |
| EPM Web interface administration user name and password | User name:<br>_____<br>Password:<br>_____ | The Experience Portal administrator uses this account to log in to the EPM Web interface to administer the Experience Portal system. The account is assigned the Administration user role as well as the Auditor and User Manager user roles. For details about User Roles, see *Administering Avaya Aura® Experience Portal* on http://support.avaya.com. |
| postgres database account password | _____ | From EP 7.0 onwards, this password is automatically generated. |

*Table continues…*

| Requirement/ Information Needed | Your value | Notes |
|---|---|---|
| Do you want to create a database account that can access the report information in the database? | _____ Yes<br>_____ No<br>If Yes, account user name, if different from the default: _____<br>Password:<br>_____ | Default user name is: report<br>This user account can only read those tables in the Experience Portal database that store report data. Speech application developers can use this account to log in to the database to create custom reports using any SQL-enabled report generation tool.<br>**Note:**<br>The report user name cannot be the same as any of the EPM Web interface administration user account names or the report writer user account name. |
| Do you want to create an account that the optional auxiliary EPM server can use to access the Experience Portal database? | _____ Yes<br>_____ No<br>If Yes, account password:<br>_____ | With this account, the auxiliary EPM server gets limited access to the main Experience Portal database. The access is required to configure an auxiliary EPM server. For details, see *Administering Avaya Aura® Experience Portal*. |
| What is the Product ID for this system? | _____ | For information about license requirements, see *Avaya Aura® Experience Portal Overview and Specification* on http://support.avaya.com. |
| Third-party SSL certificate information. | The location of the existing certificate:<br>_____<br>The existing certificate's password:<br>_____ | |
| Will Avaya Services maintain this server? | _____ Yes<br>_____ No<br>If Yes, what is the Listed Directory Number (LDN) for this server?<br>_____<br>Where is the Avaya Service Account authentication file located?<br>_____ | |
| WebLM information | License server URL, if not located on the EPM server: | |

*Table continues…*

| Requirement/ Information Needed | Your value | Notes |
|---|---|---|
| | _____<br>WebLM password:<br>_____ | |
| The external time sources that the EPM server should be synchronized with, if desired | The name or IP address of primary time source:<br>_____<br>The name or IP address of secondary time source:<br>_____ | |
| Do you want to enter values in the EPM in languages other than English? | _____ Yes<br>_____ No | |

# MPP server installation worksheet

Complete the following worksheet for each planned Media Processing Platform (MPP) server on this Experience Portal system.

| Requirement or information needed | Your value | Notes |
|---|---|---|
| Ensure that the hardware meets the minimum requirements. For more information on minimum server machine hardware requirements, see *Avaya Aura® Experience Portal* Overview and Specification on http://support.avaya.com. | | |
| What access method are you going to use? | _____ Local keyboard, mouse, and monitor<br>_____ Remote access via SSH client | |
| Corporate LAN IP address | _____ | |

*Table continues…*

| Requirement or information needed | Your value | Notes |
|---|---|---|
| PBX LAN IP address, if different from the corporate LAN | _____ | |
| Avaya Enterprise Linux network configuration information | Subnet mask on Corporate LAN<br>_____<br>Subnet mask on PBX LAN, if different from Corporate LAN<br>_____<br>Default gateway<br>_____<br>Primary DNS Server<br>_____<br>DNS domain name<br>_____<br>Time zone<br>_____ | |
| Is the default language for Linux set to English? | _____ Yes<br>_____ No | If No, set the default language to English. You can change the default language after Experience Portal is installed. |
| Maximum simultaneous calls | _____ | The maximum number of calls that this MPP can handle at any one time. It is equivalent to the maximum number of ports that Experience Portal will allocate to this MPP.<br>For assistance in sizing your MPP server capacity and setting the correct value for the **Maximum Simultaneous Calls** parameter for each MPP server, contact your Avaya Services representative or Avaya Business Partner. For more information about MPP server capacity, see *Avaya Aura® Experience Portal Overview and Specification* on http://support.avaya.com. |
| Will Avaya Services maintain this server? | _____ Yes<br>_____ No<br>If Yes, what is the Listed Directory Number (LDN) for this server?<br>_____ | |

# Auxiliary EPM server installation worksheet

Complete this worksheet if you are installing an auxiliary EPM server.

| Requirement/ Information Needed | Your value<br>e | Notes |
|---|---|---|
| Ensure that the hardware meets the minimum requirements. For more information on minimum server machine hardware requirements, see *Avaya Aura*® *Experience Portal* Overview and Specification on http://support.avaya.com. | | |
| What access method are you going to use? | _____ Local keyboard, mouse, and monitor<br>_____ Remote access via SSH client | |
| Server information | IP address<br>_____<br>Host name<br>_____ | The host name cannot contain spaces or periods. |
| Avaya Enterprise Linux network configuration information | Subnet mask on Corporate LAN<br>_____<br>Default gateway<br>_____<br>Primary DNS Server<br>_____<br>DNS domain name<br>_____<br>Time zone<br>_____ | See Avaya provided operating system installation on page 8. |
| For customer-provided hardware, is Release 6.8 64 bit or later installed? | _____ Yes<br>_____ No | See Customer provided operating system installation on page 16. |

*Table continues…*

| Requirement/ Information Needed | Your value<br>e | Notes |
|---|---|---|
| Is the default language for Linux set to English? | _____ Yes<br>_____ No | If No, set the default language to English. You can change the default language after Experience Portal is installed. |
| Can all planned Experience Portal servers communicate with one another? | _____ Yes<br>_____ No | For more information, see *Implementing Avaya Aura® Experience Portal on multiple servers* on http://support.avaya.com. |
| For Avaya Enterprise Linux, user account passwords | `cust` account password:<br>_____<br>root account password:<br>_____ | |
| For Red Hat Enterprise Linux Server 6.x 64 , user accounts and passwords | root account password:<br>_____<br>Non-root account name:<br>_____<br>Non-root account password:<br>_____ | |
| Installation directory, if different from default | _____ | Default directory: `/opt/Avaya/ExperiencePortal`<br>Specify an absolute directory path containing only standard English alphanumeric characters and the symbols `/` (forward slash), `_` (underscore), `-` (hyphen), `~` (tilde), or `.` (period). |
| Primary EPM server host name or IP address | _____ | |
| If Yes, account password:<br>_____ | _____ | See Primary EPM server installation worksheet on page 114 |
| postgres database account password | _____ | From EP 7.0 onwards, this password is automatically generated. |
| Do you want to create a database account that can access the report information in the database? | _____ Yes<br>_____ No<br>If Yes, account user name, if different from the default: _____<br>Password:<br>_____ | Default user name is: report<br>This user account can only read those tables in the Experience Portal database that store report data. Speech application developers can use this account to log in to the database to create custom reports |

*Table continues…*

| Requirement/ Information Needed | Your value<br>e | Notes |
|---|---|---|
| | | using any SQL-enabled report generation tool.<br>**Note:**<br>The report user name cannot be the same as any of the EPM Web interface administration user account names or the report writer user account name. |
| Do you want to create a database account that can write report data into the database? | _____ Yes<br>_____ No<br>If Yes, account user name, if different from the default: _____<br>Password:<br>_____ | Default user name is: reportwriter<br>This user account can only change the data in the tables that store report data in the Experience Portal database on the Auxiliary EPM server.<br>You should create this account if you plan to set up an external database on this server that is shared by multiple Experience Portal systems.<br>**Note:**<br>The report user name cannot be the same as the EPM Web interface administration user account name or the report reader account name. |
| Third-party SSL certificate information. | The location of the existing certificate:<br>_____<br>The existing certificate's password:<br>_____ | |
| Will Avaya Services maintain this server? | _____ Yes<br>_____ No<br>If Yes, what is the Listed Directory Number (LDN) for this server?<br>_____ | |

# ASR server installation worksheet

Complete a copy of the following worksheet for each Automatic Speech Recognition (ASR) server in the Experience Portal system.

| Requirement or information needed | Your value |
|---|---|
| Server name | _____ |
| IP address | _____ |
| Server type | ____ Loquendo, minimum version: ____<br>____ Nuance Recognizer (using Real Speak), minimum version: ____<br>____ Nuance Recognizer (using Vocalizer), minimum version: ____<br>**Note:**<br>For information about the supported minimum versions, see the Self Service Compatibility Matrix on the Avaya Support site at http://support.avaya.com. |
| Total number of Nuance or Loquendo licenses available on this speech server | _____ |
| Configured languages | _____<br>_____<br>_____<br>_____<br>_____<br>_____ |
| Will Avaya Services maintain this server? | _____ Yes<br>_____ No<br>If Yes, what is the Listed Directory Number (LDN) for this server?<br>_____ |

# TTS server installation worksheet

Complete a copy of the following worksheet for each Text-to-Speech (TTS) server in the Experience Portal system.

| Requirement or information needed | Your value |
|---|---|
| Server name | _____ |
| IP address | _____ |
| Server type | _____ Loquendo, minimum version: _____<br>_____ Nuance RealSpeak, minimum version: _____<br>_____ Nuance Vocalizer, minimum version: _____<br>**Note:**<br>For information about the supported minimum versions, see the Self Service Compatability Matrix on the Avaya Support site at http://support.avaya.com. |
| Total number of Nuance or Loquendo licenses available on this speech server | _____ |
| Configured voices | _____<br>_____<br>_____<br>_____<br>_____<br>_____ |
| Will Avaya Services maintain this server? | _____ Yes<br>_____ No<br>If Yes, what is the Listed Directory Number (LDN) for this server?<br>_____ |

# H.323 installation worksheet

Complete the following worksheet for each H.323 connection that you want to use with this Experience Portal system.

**Important:**

Configure the PBX.

| Requirement or information needed | Your value |
|---|---|
| Do you want to use supervised transfers or perform outbound calling with the Application Interface web service? | _____ Yes<br>_____ No<br>**Note:**<br>If Yes, you need Communication Manager 3.1 build 369 or later with the Avaya Special Application SA8874 feature. |
| PBX name | _____ |
| Gatekeeper IP address | _____ |
| Alternative Gatekeeper IP address | _____ |
| Codecs installed on the switch | _____<br>_____<br>_____<br>_____<br>_____ |
| Does the PBX use Media Encryption? | _____ Yes<br>_____ No |
| *Hunt Group information -- Group 1* | |
| Pilot number | _____ |
| Station range | _____ |
| First station password | _____ |
| What type of passwords does the group use? | _____ Identical<br>_____ Sequential |
| What type of calls are the ports used for? | _____ Inbound only<br>_____ Inbound and outbound<br>_____ Maintenance |
| *Hunt Group information -- Group 2* | |
| Pilot number | _____ |
| Station range | _____ |
| First station password | _____ |
| What type of passwords does the group use? | _____ Identical<br>_____ Sequential |
| What type of calls are the ports used for? | _____ Inbound only<br>_____ Inbound and outbound |

*Table continues…*

| Requirement or information needed | Your value |
|---|---|
| | _____ Maintenance |
| *Hunt Group information -- Group 3* | |
| Pilot number | _____ |
| Station range | _____ |
| First station password | _____ |
| What type of passwords does the group use? | _____ Identical<br>_____ Sequential |
| What type of calls are the ports used for? | _____ Inbound only<br>_____ Inbound and outbound<br>_____ Maintenance |
| *Hunt Group information -- Group 4* | |
| Pilot number | _____ |
| Station range | _____ |
| First station password | _____ |
| What type of passwords does the group use? | _____ Identical<br>_____ Sequential |
| What type of calls are the ports used for? | _____ Inbound only<br>_____ Inbound and outbound<br>_____ Maintenance |
| *Hunt Group information -- Group 5* | |
| Pilot number | _____ |
| Station range | _____ |
| First station password | _____ |
| What type of passwords does the group use? | _____ Identical<br>_____ Sequential |
| What type of calls are the ports used for? | _____ Inbound only<br>_____ Inbound and outbound<br>_____ Maintenance |

# SIP installation worksheet

Complete the following worksheet for each SIP connection that you want to configure on this Experience Portal system.

You can configure as many SIP connections as you need. However, only one SIP connection can be enabled at any one time.

**Important:**

Configure the PBX and Avaya Aura® Session Manager.

| Requirement or information needed | Your value |
|---|---|
| Do you want to use Secure Real-time Transport Protocol (SRTP)? | _____ Yes<br>_____ No<br>**Note:**<br>If Yes, you need Avaya Aura® Session Manager with Communication Manager version 5.2. |
| PBX name | _____ |
| What proxy transport do you want to use? | _____ TCP<br>_____ TLS |
| SIP Domain | _____ |
| Proxy server address | _____ |
| Proxy server port, if different from the default | _____<br>**Note:**<br>The default for TCP is 5060, and the default for TLS is 5061. |
| Listener port, if different from the default | _____<br>**Note:**<br>The default for TCP is 5060, and the default for TLS is 5061. |
| P-Asserted-Identity, if used | _____ |
| Simultaneous call settings | _____ Maximum number of calls that this connection can handle at any one time<br>If desired, specify the number of simultaneous calls that can be:<br>_____ Inbound<br>_____ Outbound<br>**Note:**<br>If you specify the number of inbound and outbound calls, the values should add up to the maximum number of calls. |

# Speech application installation worksheet

Complete the following worksheet for each speech application you want to deploy on the Experience Portal system.

**Note:**

For information about using Orchestration Designer to create speech applications, see the Orchestration Designer documentation at http://support.avaya.com/.

| Requirement or information needed | Your value |
|---|---|
| Application name | _____ |
| What is the application MIME type? | _____ VoiceXML<br>_____ CCXML<br>_____ CCXML/VoiceXML |
| If the MIME type is VoiceXML or CCXML/VoiceXML, what is the URL to the initial VoiceXML page? | _____ |
| If the MIME type is CCXML or CCXML/VoiceXML, what is the URL to the initial CCXML page? | _____ |
| If the application uses Automatic Speech Recognition (ASR) resources, which are the languages that you require? | _____<br>_____<br>_____<br>_____<br>_____ |
| If the application uses Text-to-Speech (TTS) resources, which are the voices that you require? | _____<br>_____<br>_____<br>_____<br>_____ |
| What is the application used for? | _____ Specific inbound calls<br>_____ Inbound calls not handled by another application<br>_____ Outbound calls |

*Table continues…*

| Requirement or information needed | Your value |
|---|---|
| | **Note:**<br>If the application is used for outbound calls, configure the Application Interface web service. For details, see *Administering Avaya Aura® Experience Portal*. |
| Which dialed numbers are associated with the application? | _____<br>_____<br>_____<br>_____<br>_____ |
| Which server performs DTMF processing? | _____ The ASR server. You must select this option if the DTMF grammar uses the ECMA script.<br>_____ The MPP server. |
| If the application is not developed using Orchestration Designer, do you want to add the log and call flow data information to the Experience Portal report database so that the information appears in the application reports? | _____ Yes<br>_____ No<br>**Note:**<br>If Yes, configure the Application Logging web service. |

# Chapter 10: Resources

## Documentation

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

| Title | Description | Audience |
|---|---|---|
| *Avaya Aura® Experience Portal Documentation Roadmap* | Lists all the documents related to Experience Portal and describes the organization of content across the documents. | Avaya Professional Services<br>Implementation engineers |
| *Avaya Aura® Experience Portal Overview and Specification* | Describes tested product characteristics and capabilities, including product overview and feature descriptions, interoperability, performance specifications, security, and licensing requirements. | Implementation engineers |
| *Implementing Avaya Aura® Experience Portal on a single server* | Provides procedures to install and configure the Avaya Aura® Experience Portal software on a single server. | Implementation engineers |
| *Upgrading to Avaya Aura® Experience Portal 7.2* | Describes how to upgrade your Avaya Aura® Experience Portal 6.0.3 or 7.x to Experience Portal 7.2. | Implementation engineers |
| *Deploying Avaya Aura® Experience Portal in an Avaya Customer Experience Virtualized Environment* | Provides procedures for deploying the Experience Portal virtual application in the Avaya Customer Experience Virtualized Environment. This document includes installation, configuration, initial administration, troubleshooting, and basic maintenance checklists and procedures. | Implementation engineers |
| *Administering Avaya Aura® Experience Portal* | Provides general information about and procedures for administering and configuring specific Experience Portal functions and features using a web-based interface. | Implementation engineers |
| *Troubleshooting Avaya Aura® Experience Portal* | Provides general information about troubleshooting and resolving system | Implementation engineers |

*Table continues…*

| Title | Description | Audience |
|---|---|---|
| | problems. This document also provides detailed information and procedures for finding and resolving specific problems. | |
| *Avaya Aura® Experience Portal Security White Paper* | Provides information about the security strategy for Experience Portal, and provides suggestions that companies can use to improve the security of the Experience Portal systems and applications. | Avaya Professional Services<br>Implementation engineers |
| Avaya Aura® Experience Portal 7.2 Mobile Web Best Practices White Paper | Provides recommended strategies for deploying Avaya Aura® Orchestration Designer Mobile Web applications with Avaya Aura® Experience Portal 7.2, detailing configuration for security, scalability and high availability. | Avaya Professional Services<br>Implementation engineers |

**Related links**

Finding documents on the Avaya Support website on page 130

# 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**.

**Related links**

Documentation on page 129

# 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.

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