Implementing Voice Portal on a single server

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Chapter 1: Avaya-provided server installation

When you purchase the Voice Portal bundled server option, Avaya supplies the hardware for each server that will be part of your Voice Portal system. Avaya may also include one or more additional dual in-line memory module (DIMM) cards and a USB modem or the Avaya Access Security Gateway (ASG) solution with each server machine.

Install the provided servers at your site, making sure that:

- Any additional DIMM cards are installed.
- `Eth1`, which is also called `port 2`, is empty and available for use when connecting to this server using a cross-over network cable.
- If Avaya Services will maintain this system, then either the USB modem or the Avaya Access Security Gateway (ASG) solution must be used:
  - Plug the USB modem into one of the USB ports on the machine that will host the primary VPMS software and connect a touchtone telephone line into the modem.
  - To configure the Avaya ASG for remote access as an alternative instead of the modem, refer to the Avaya ASG documentation.

Once the servers are properly configured, install the Avaya Enterprise Linux operating system.

Preparing to run Enterprise Linux Installer remotely

If you are going to install Avaya Enterprise Linux on the server using a remote connection from a laptop, you need to set some configuration options on the laptop so that it can communicate with the server.

Before you begin

Install the Avaya-provided hardware at the customer site.

Ensure that you have the equipment for the remote connection:

- A laptop with telnet and a secure shell (SSH) client such as `PuTTY`
- A cross-over Ethernet (or CAT5) network cable that can connect the laptop to the Services port on the server (Eth1)

Procedure

1. If necessary, turn on the server machine.
2. Insert the Enterprise Linux Installer DVD into the DVD drive.
3. Reboot the server so that it boots from the Enterprise Linux Installer DVD.
4. Configure your laptop with the following settings:
   `ipaddress=192.11.13.5`
   `netmask=255.255.255.252`
   `gateway=192.11.13.4`
5. Plug in a cross-over Ethernet (or CAT5) network cable from the laptop to the temporary Services port (Eth1, also called port 2).
6. Verify link connectivity by:
   - Entering the `ping 192.11.13.6` command
   - Checking the LED on the temporary Services port and the LED on the network card of the laptop. These LEDs are green when the link is up and are not lit when the link is not functioning.

Next steps

Install Avaya Enterprise Linux as described in Installing and configuring Avaya Enterprise Linux.

Installing and configuring Avaya Enterprise Linux

Before you begin

Install the Avaya-provided hardware at the customer site.

If you are installing Avaya Enterprise Linux using a direct connection, make sure that you have a keyboard and monitor connected directly to the server machine. If you are using a remote connection using a laptop, make sure you have configured the laptop properly as described in Preparing to run Enterprise Linux Installer remotely on page 5.

Have the completed Single server configuration worksheet on page 89 ready to help answer the questions raised during the installation.

About this task

The Enterprise Linux Installer software runs in a nongraphical text mode that requires viewing, navigating, and choosing options from text-based screens. Use the following keys on your keyboard to navigate through the screens and choose installation options:

- Press the arrow keys to navigate from field to field.
- Press the `Spacebar` to select or clear an option.
- Press the `Tab` key to move from option to option
- Press `Enter` while a command button is highlighted to select that button.

Procedure

1. If necessary, insert the Enterprise Linux Installer DVD into the server's DVD drive.
2. Boot the system from the Enterprise Linux Installer DVD.
3. If you are installing remotely using a laptop, you can either:
   - Telnet to the server by entering the `telnet 192.11.13.6` command at the MS-DOS Command Prompt.
   - Run PuTTY and configure it to connect to IP address `192.11.13.6`.
4. Press `Enter` to activate the console.
   The Installer displays a warning stating that you are about to reformat the server's hard drive.
5. Select **Yes** to continue with the installation process.
6. Press `Enter` to acknowledge the message. The Installer displays the What do you want to do page.
7. Select **Install** and follow the prompts until you get to the Configure Network Information screen.
8. On the Configure Network Information screen, provide the following information from the worksheet you selected in step 1:
   - **Hostname** : Replace the default, **server1**, with the desired hostname.

     The hostname cannot contain spaces or periods.
   - **DNS Domain** : Type the domain name where this server resides.
   - **DNS Server**: Type the IP address of the DNS server.
   - **eth0**:
     - **Type** : Leave this field blank.
     - **Address** : Type a static IP address for the server.
     - **Netmask** : Enter the subnet mask for the server.
     - **Enable [X]** : Press the spacebar to select enable.

- **eth1**: Leave this field as is if you are installing remotely.

  Important:
  Eth1 is configured for direct access from a laptop, and you cannot change this IP address until installation is complete or you will lose the connection.

  - **Type** : Leave this field blank.
  - **Address** : Leave this field as is.
  - **Netmask** : Leave this field as is.
  - **Enable [X]** : Leave this field as is.

  Note:
  If there are other eth ports, configure them as needed.

- **Default Gateway**: Enter the IP address of the gateway.

9. Press `Enter` to confirm that you want to install Avaya Enterprise Linux.
   If you select **Yes**, the installer erases any existing data and installs Avaya Enterprise Linux. When the installer is finished, it ejects the DVD and reboots the server. This portion of the installation process takes approximately five minutes.

   Important:
   Once the server reboots, you can no longer access that server remotely via telnet. Instead, you must use an SSH client such as PuTTY. In addition, you can no longer log in remotely as a root user. Instead, you must log in as a non-root user and switch to a root account, as described below.

   The Enterprise Linux Installer creates the following accounts:

User name	Group	Purpose
sroot	root	Avaya Services root access
craft	susers	Avaya Services non-root access
cust	susers	Customer non-root access **Note:** This account is disabled until you set the password for it later in this procedure.
root	root	Customer root access **Note:** This account is disabled until you set the password for it later in this procedure.
rasaccess	remote	Avaya Services remote modem access **Note:** You cannot log into this account.

10. After the server reboots, log in to Linux locally as sroot.

    Note:

    If you need the password for sroot or craft accounts, contact Avaya Services.

11. For security reasons, change the passwords for the two Linux customer-related accounts created during the installation.

    Note:

    If this procedure is performed by an Avaya Services representative, you should either have the customer enter the new passwords, or enter default passwords and inform the customer what passwords you used and that they need to change those passwords as soon as possible.

    a. Enter the `passwd root` command.
    b. Type the password and press `Enter`.
    c. Confirm the password at the prompt.
    d. Enter the `passwd cust` command.
    e. Type the password and press `Enter`.
    f. Confirm the password at the prompt.

Next steps

After you successfully install Avaya Enterprise Linux, you can perform the software installation prerequisite tasks on this server as described in Software installation prerequisites overview.

Chapter 1: Customer-provided operating system installation

If you purchased the Voice Portal software-only offer, you are responsible for obtaining and installing Red Hat Enterprise Linux Server Release 5.6 or later. In addition, the Red Hat Enterprise Linux Server release 5.6 or later that you install must:

- Run in 32-bit mode.
- Include the `bash` package.

Note:

Be careful when you select additional Linux packages for installation. For example, if you want to install a package, such as the mod_nss package in the `Servers/ Web Servers` category, which uses a port required by Voice Portal:

Configure the package to use an alternate port and not use any of the following reserved Voice Portal ports: 80, 443, 8005, 8009, 8080, 8443, and 9443.

For details about obtaining Red Hat Enterprise Linux Server release 5.6 or later, go to the Red Hat website, http://www.redhat.com.

For hardware requirements, see the *Minimum server machine hardware requirements* topic in the *Planning for Voice Portal* guide. If you have already installed Red Hat Enterprise Linux Server release 5.6 or later and want to verify that you have the correct RPM versions, see Identifying RPM issues on page 77.

Note:

Before installing Red Hat Enterprise Linux Server release 5.6 or later for the software-only offer, you must install and integrate any new hardware into your network.

Installing Red Hat Enterprise Linux Server release 5.6 or later

Before you begin

Have the completed Single server configuration worksheet on page 89 ready to help answer the questions raised during the installation.

About this task

The default values given during Red Hat Enterprise Linux Server Release 5.6 or later installation are generally suitable from a Voice Portal perspective. There are a few instances,

however, where you must select values other than the default. The following steps are guidelines to installing Red Hat Enterprise Linux Server release 5.6 or later and provide explicit instructions for making selections when the default values are not suitable.

Procedure

1. Follow the instructions of the Red Hat installation utility to install Red Hat Enterprise Linux Server Release 5.6 or later on the server.
2. You can install a minimal version of Red Hat Enterprise Linux Server release 5.6 or later. When installing a minimal version:
   a. Select the **Custom Now** option when you are prompted for further customizing the software selection.
   b. Clear the selection of the following options:
      - Desktop
      - Environments
      - Applications
      - Development
      - Servers
   c. In **Base System**, clear the selection of all options except **Base**.
3. When configuring the network:
   a. Ensure that `eth0` (the main Ethernet interface) is enabled.
   b. For the IP address, click **Edit**, then clear the **DHCP** option and manually enter a netmask value and static IP address to assign to this host.
   c. For the hostname, click **Manual** and enter a hostname for this system.
   d. Enter values for the gateway and primary DNS.
4. Make sure to select the **No Firewall** option.
5. While the VPMS Web pages are written in English, you can use non-English characters when entering field values if you have the appropriate languages installed. When you get to the language selection section, make sure you select all languages you may want to use in the VPMS.

   Note:
   You must install English.
6. When entering the root password, use the value given in the worksheet you selected in step 1.
7. Complete the Red Hat Enterprise Linux Server Release 5.6 or later installation and reboot the system.
8. After the system reboots, several post-installation configuration screens are displayed. When you get to the screen that lets you:

- Set the system clock, leave the **Network Time Protocol** (NTP) section blank, as NTP is automatically configured during Voice Portal software installation.
- Create a non-root account, make sure you use the account information in the worksheet you selected in step 1.

Note:

After the Voice Portal software is installed, you will no longer be able to log in remotely as root. Instead, when connecting remotely you must use a non-root account to log in and then change to `root` using the **su** command.

9. If you have purchased a maintenance agreement with Avaya services and this server will be the primary VPMS server, you must attach and configure a modem or configure the Avaya Access Security Gateway (ASG) solution. For more information, see the *Minimum server machine hardware requirements* topic in the *Planning for Voice Portal* guide.
10. If you want to use the new MultiTech USB modem, model number MT9234ZBA-USB, you need to install the new Linux driver on the server. The drivers are available in the `/Support/VP-Tools/modem/drivers` directory of the Voice Portal installation DVD.

Note:

The new MultiTech USB modem replaces the previous version, model number MT5634ZBA-USB, which is discontinued by the manufacturer.

a. To install the Linux driver, open a command window in Linux.
b. Enter the `uname -r` command to determine the kernel version.

Important:

For kernel version 2.6.18-92.el5, you need to install the SMP_ti_usb_3410_5052-1.28-1.i386.rpm driver file.

For kernel version 2.6.18-92.el5PAE-67, you need to install the PAE_ti_usb_3410_5052-1.28-1.i386.rpm driver file.

c. Enter the `rpm -Uvh <driver-rpm-name.rpm>` command to install the Linux driver. For example, on a Red Hat 5 Update 2 system, enter the `rpm -Uvh SMP_ti_usb_3410_5052-1.28-1.i386.rpm` command.
d. Reboot the server after the driver installation is complete.

Next steps

After you successfully install Red Hat Enterprise Linux Server Release 5.6 or later, you can perform the software installation prerequisite tasks on this server as described in Software installation prerequisites overview on page 15.

Chapter 2: Voice Portal software installation prerequisites

Software installation prerequisites overview

Complete these tasks before you install the Voice Portal software on a single server.

✔	Description
	Verify that you can access the planned Voice Portal server using at least one of the following methods: • _____ A computer on the customer's network that has an SSH client to reach the target system • _____ A keyboard, monitor, and mouse, attached directly to the target system • _____ 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 Voice 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 16.
	Verify that the planned Voice Portal server can communicate with the application server, speech servers, and the PBX. For details, see Verifying communication between the Voice Portal server and the external systems on page 16.
	Make sure that none of the mount points are stale or hung. For details, see Checking for stale or hung mount points on page 19.

Verifying the Linux version number

Procedure

1. On the Voice Portal server, log in to Linux as any user.
2. If you are using:
   - Avaya Enterprise Linux, enter the `swversion` command.

     The result should state that it is version RHE5.7-AV16.0VP5 or later. If this version is not correct, contact Avaya technical support.
   - Red Hat Enterprise Linux, enter the `cat /etc/issue` command.

     The result should be Red Hat Enterprise Linux Server Release 5.6 or later. If you have an earlier version of Red Hat, you must update the system.

   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 -q redhat-release` command to ensure that the Linux build version is correct.
   The result should state that it is build redhat-release-5Server-5.3.0.3 or later. If this build is not correct, please obtain the latest build from Red Hat.

Related topics:

Customer-provided operating system installation on page 11

Verifying communication between the Voice Portal server and the external systems

About this task

The planned Voice Portal server must have a static IP address and hostname, and it must be able to communicate with the external systems 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

Procedure

1. On the Voice Portal server, log in to Linux as any user.
2. Verify the primary VPMS server's IP address and hostname:
   a. Enter the `hostname -i` command.
   This command should return the server's IP address and not `127.0.0.1`. If this check fails, you need to manually map the hostnames as described in Manually mapping hostnames to connect the Voice Portal server with other servers in the system on page 18.
   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 Voice Portal server with other servers in the system on page 18.
3. Verify that the VPMS server can communicate with all 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 Voice Portal system:
      - A PBX server.
      - An application server.
      - A speech server.
      - Communication Manager.
      - Avaya SIP Enablement Services.
   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 either of this check fails, you need to manually map the hostnames as described in the *Manually mapping hostnames to connect the primary VPMS with other servers* topic in the *Implementing Voice Portal on multiple servers* guide.
   f. Repeat this procedure for each external server in your Voice Portal system.

Manually mapping hostnames to connect the Voice Portal server with other servers in the system

About this task

To manually map hostnames to IP addresses without a DNS, you need to edit the `/etc/hosts` file on the planned Voice Portal server so that it includes an entry for each speech server, application server, and PBX in the Voice Portal system.

Procedure

1. Log into Linux on the planned Voice Portal 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 Voice Portal system using the format *`IP_address hostname1 hostname2...`* where:

   `IP_address` is the IP address of a server in the Voice 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 types of servers used in your Voice Portal system:

   - All PBX servers.
   - All application servers, unless you plan to install the application server on the Voice Portal server.
   - All speech servers.
   - Communication Manager
   - Avaya SIP Enablement Services
6. Save and close the file.

Example

The following shows a properly-formatted `/etc/hosts` file:

```
127.0.0.1          localhost    localhost.localdomain
123.123.123.123    asr_server   asr_server.domainname.com
123.123.123.124    tts_server   tts_server.domainname.com
```

```
123.123.123.125   app_server   app_server.domainname.com
123.123.123.126   pbx_server   pbx_server.domainname.com
```

Checking for stale or hung mount points

If you have any file systems mounted on your Voice Portal servers, check that none of these mounts points are stale or hung. Stale or hung mount points can cause RPM installations to hang while installing the Voice Portal software.

Procedure

1. On the Voice Portal server, log in to Linux as any user.
2. Enter the `df` command.
   If the server:
   - Responds to this command, then the mount points are working.
   - Does not return right away, then a mount point is stale or hung. Enter the `umount` command to unmount any stale or hung mount points.

Chapter 3: Installing the Voice Portal software

Before you begin

- Complete the Single server configuration worksheet on page 89 and have it available to help answer the questions raised during the installation.
- Before you install the software, read the Voice Portal release notes on the Voice Portal installation DVD under `Documentation`. These release notes contain information about the product that is not included in the formal documentation set.
- Go to the Avaya online support Web site, http://support.avaya.com, and download any patches for Voice Portal Release 5.1 .
- Make sure you have completed the software prerequisites described in Software installation prerequisites overview on page 15.
- Make sure you have the physical Voice Portal installation DVD that was shipped with the Voice Portal product, or that you know where on the network the Voice Portal installation files reside.

Procedure

1. Log into the server on which you want to install the Voice Portal software.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.

2. Insert the Voice Portal installation DVD into the server's DVD drive.

   Tip:

   These instructions assume that you are going to access the Voice 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 Voice Portal installation DVD to that directory. However, that directory needs to be readable by all users on the system because the Voice Portal installation script changes users during execution. If the directory is only readable by the root or `sroot` user, the installation script will encounter errors and will not complete successfully.

3. Mount the Voice Portal 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 device in the `fstab` file.
- If you are working with Red Hat Enterprise Linux Server release 5.6 or later, to mount the DVD:
  - Enter the `mkdir /media/cdrom` command.

    Note:
    This command is required only if the /mnt/cdrom mount point is not created.
  - Enter the `mount /dev/cdrom /media/cdrom` command.

Warning:
When Red Hat Enterprise Linux Server release 5.6 or later automatically mounts the DVD, the files on the DVD are not executable. You must manually mount the Voice Portal installation DVD using the commands shown above.

If the **`mount`** commands shown above do not work, consult your server documentation for the appropriate **`mount`** command.

4. Change to the mount point directory.
5. Enter the `bash installvp` command and press `Enter` to start the installation script.

   Important:
   When choosing installation options, be sure to wait for the next prompt before pressing a key. The installation stores your key presses in a buffer and enters all of them after the current processing completes. For example, if you press the `Enter` key repeatedly while the system is performing its prerequisite checks, you may unintentionally skip options you want to change. If that happens, use the **Previous** option on any screen to go back and change your earlier choices.
6. On the Installation Destination screen, if you want to:
   - Use the default `/opt/Avaya/VoicePortal` 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).
7. Press `Enter` to move to the next screen.
8. On the Voice Portal Feature Selection screen:
   a. Type 2 and press `Enter` to select **MPP**.
      The screen refreshes with **VPMS**, **MPP**, and **Documentation** selected.
   b. Press `Enter` to confirm your selections.
9. Press `Enter` to move to the next screen.

10. 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 5.1.
11. Press `Enter` to move to the next screen.
12. Read through the end user license agreement, pressing `Enter` to page through it until you get to the end.
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.
    Voice Portal automatically starts the Prerequisite Checker, which analyzes your system's hardware and operating system configuration.
16. After the Prerequisite Checker has finished, it displays a message stating whether all prerequisite checks passed followed by the first Prerequisite Status page. Press `Enter` as necessary to view the rest of the Prerequisite Status pages.

    If any prerequisite installations fail, examine the Prerequisite Status pages carefully to determine which checks failed. You must correct these issues before you can continue with this procedure. For troubleshooting information, see Fixing Prerequisite Checker failures on page 73.
17. When all prerequisite checks pass, press `Enter` to move to the next screen.
    Voice Portal automatically starts the Prerequisite Installer, which attempts to install some required software on the Voice Portal server.
18. After the Prerequisite Installer has finished, it displays a message stating whether all prerequisite installs were successful followed by the first Installation Status page. Press `Enter` as necessary 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. For troubleshooting information, see Fixing Prerequisite Installer failures on page 75.
19. When all prerequisite installs succeed, press `Enter` to move to the next screen.
20. On the VPMS Type screen, press `Enter` to accept the default option **1 - Primary VPMS**.

    Important:

    This release of Voice Portal does *not* support the combination of a auxiliary VPMS and an MPP. Therefore, you can only install a primary VPMS in a single server system.
21. Press `Enter` to move to the next screen.
22. On the VPMS Administrator screen:

a. Type the name you want to use for a VPMS user account that will have access to all Voice Portal management functions and press `Enter`.

   The Voice Portal administrator uses this account to log in to the VPMS web interface to administer the Voice Portal system. The account is assigned the Administration user role as well as the Auditor and User Manager user roles. For details, see the *User Roles* topic in the *Administering Voice Portal* guide.

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. Confirm the password by typing it again and pressing `Enter`.

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

24. On the Database Logins screen:, type a password for the postgres user account and press `Enter`.

    The VPMS server uses this account to log in to the Voice Portal database to store and retrieve data, and to install new updates or patches. The database administrator can use this account to log into the local `VoicePortal` database and perform database administration tasks.

25. Confirm the password by typing it again and pressing `Enter`.

26. You can create a PostgreSQL database user account that can read the report data in the Voice Portal database. If you:

    - Want to create the report reader database account:

      i. Type `1` and press `Enter`.

      ii. Press `Enter` to confirm your selection.

      iii. If you want to use the account name displayed in **[ ]** (square brackets) after the installation prompt, press `Enter`. Otherwise, type a unique user name for the account and press `Enter`.

      iv. Type a password for the account and press `Enter`.

      v. Confirm the password by typing it again and pressing `Enter`.

    - Do not want to create the report reader account:

      i. Verify that option **2 - No** is selected. If it is not selected, type 2 and press `Enter`.

      ii. Press `Enter` to confirm your selection.

Note:

This user account can only read those tables in the Voice Portal database that store report data. Speech application developers can use this account to login 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 VPMS screen, you can specify whether you want to create a PostgreSQL user account for the optional auxiliary VPMS server.

    This account allows the auxiliary VPMS server limited access the main Voice Portal database, and it is required if you plan to configure a auxiliary VPMS server.

    - If you want to create the auxiliary VPMS login account:

        i. Type `1` and press `Enter`.

        ii. Press `Enter` to confirm your selection.

        iii. If you want to use the account name displayed in **[ ]** (square brackets) after the installation prompt, press `Enter`. Otherwise, type a unique user name for the account and press `Enter`.

        iv. Type a password for the account and press `Enter`.

        v. Confirm the password by typing it again and pressing `Enter`.

    - If you do not want to create the auxiliary VPMS account:

        i. Verify that option **2 - No** is selected. If it is not selected, type `2` and press `Enter`.

        ii. 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 that was generated with the Automatic Registration Tool (ART) for this Voice 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, which resides on a managed network device, to an SNMP manager.

31. Press `Enter` to move to the next screen.
32. Voice Portal uses SSL protocol to establish a secure connection between its servers. This connection requires a security certificate that can be created by Voice Portal or purchased from a third-party company. On the Security Certificate screen:

    - If you want Voice Portal to create a security certificate:

        i. Verify that option **1 - Create a new certificate for this server** is selected. If not, type `1` and press `Enter` to select it.

        ii. Press `Enter` to confirm that selection.

- If you want Voice Portal to use a certificate from a company such as VeriSign, you can import that certificate as long as it is in PKCS12 format and it resides on the local server or on a locally accessible NFS-mounted drive. To do so:

  i. Verify that option **2 - Import a certificate from a specified location** is selected. If not, type 2 and press `Enter` to select it.

  ii. Press `Enter` to confirm that selection.

  iii. Type the full file path and name of the security certificate and press `Enter`.

  The screen refreshes with the location that you entered displayed for your verification.

  iv. 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.

35. On the Pre Installation Summary screen, verify the installation information and press `Enter` to install the Voice Portal software.
    Voice Portal displays the Installation Progress screen and begins installing the software. During the install, it displays messages indicating its progress.

    Be patient because the installation process can appear completed or stopped even though it is still processing and installing the software. Wait until Voice 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 Voice Portal Feature Selection screen.

    Note:

    If the **Installation Progress Bar** on the Installation Progress screen stopped at 25% and the Post Installation Summary screen states that no summary information could be found, see Installation Progress Bar stops at 25% completed on page 79.

37. Press `Enter` to end the installation script.
    During the installation process, Voice Portal creates several log files that you can use to verify what happened during installation. When the installation process is complete, Voice Portal moves those logs to the standard log directory and displays the exact path on the screen. For more information, see Installation log files on page 71.

38. 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.

39. Check the status of the `vpms` service by entering the `/sbin/service vpms status` command.

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

40. To verify that NTP is operating properly on the server, enter the `/usr/sbin/ntpq -np` command.
    A status message similar to the following is displayed:

    ```
    remote refid st t when poll reach delay offset jitter
    ==============================================================
    *127.127.1.0 73.78.73.84 5 l 4 64 377 0.000 0.000 0.001
    ```

    Make sure that:

    - The remote IP address is `*127.127.1.0`.
    - The jitter value is *not* 4000. If it is, see Time synchronization problems on page 85.

41. To unmount and eject the DVD:
    a. Change directories to anything outside the mount point. For example, you could enter the `cd /` command to change to the root directory.
    b. If necessary, unmount the DVD device as described in your server documentation.
    c. To eject the Voice Portal installation DVD, press the button on the DVD device or enter the `eject` command.

42. Load the environment variables created during the installation by logging out of Linux and then logging back in as a non-root user. To do so:
    a. Log completely out of the Linux system.
    b. Log back in to Linux by entering a non-root user name and password at the prompts.
    c. Log back in as root or `sroot`. To do so:
        - If you are working with Avaya Enterprise Linux, enter the `su - sroot` command.
        - If you are working with Red Hat Enterprise Linux Server release 5.6 or later, enter the `su -` command.

Next steps

- Install any required patches you downloaded from the Avaya online support Web site, http://support.avaya.com.
- Install the Tomcat application server, if required. For more information, see Optional: Single server Voice Portal and application server configuration on page 31.
- Configure and test the Voice Portal system as described in Voice Portal basic system configuration overview on page 43.
- For security reasons, change the password of the VPMS user account created during the installation as described in the *Changing your account password* topic in the *Administering Voice Portal* guide. The Voice Portal administrator uses this account to log in to the VPMS web interface to administer the Voice Portal system.

Chapter 3: User accounts created during Voice Portal software installation

System	User name	Password	Purpose
VPMS web interface	User defined	User defined	The Voice Portal administrator uses this account to administer and configure the Voice Portal system.
PostgreSQL on the primary and optional auxiliary VPMS server	postgres	User defined	VPMS uses this account to log in to the Voice Portal database to store and retrieve data. The database administrator uses this account to access the Voice Portal database to install new updates or patches and perform database backups. **Note:** If you make changes to the Voice Portal database, the VPMS might not function properly, and data might be lost. You must then reinstall the VPMS software.
PostgreSQL on the primary and optional auxiliary VPMS server	User defined Default user name: reportwriter	User defined	This user account can only read those tables in the Voice Portal database that store report data. Speech application developers can use this account to login to the database to create custom reports using any SQL-enabled report generation tool.
PostgreSQL on the optional auxiliary VPMS server	User defined Default user name: report	User defined	This user account can only change the data in the tables that store report data in the Voice Portal database on the auxiliary VPMS server.
Linux on the VPMS server	postgres	User defined	Used to run the `psql` tool for interactive database access and internally used to run database processes. **Note:** If you make manual changes to the Voice Portal database, the VPMS might not function properly, and data might be lost. You must reinstall the VPMS software.

System	User name	Password	Purpose
Linux on the VPMS and MPP servers	avayavp	Login disabled	Used internally to run some Voice 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 4: Optional: Installing a Tomcat application server

Optional: Single server Voice Portal and application server configuration

If you install the Voice Portal, VPMS and MPP software on the same server machine, you can also install a Tomcat application. The following versions are supported:

- Tomcat 6.0.18 or later
- Tomcat 5.0.28 or later
- Tomcat 5.5.23 or later

Avaya supplies an application installation script that automatically installs a Tomcat 6.0.18 application server. For details, see Optional: Installing a Tomcat 6.0.18 application server on the Voice Portal server on page 32. If you want to install a Tomcat 5.0.28 or later or Tomcat 5.5.23 or later application server, you must do so manually. For details, see Optional: Manually installing a Tomcat application server on the Voice Portal server on page 34.

Considerations

The performance of the VPMS and MPP software can be negatively impacted if the applications running on the system require a great deal of memory. If your applications are memory-intensive, Avaya recommends that you install the application server on a different server machine.

There must be sufficient disk space available on the server for the VPMS and MPP software as well as any logs created by the applications. If your applications generate a large number of log files, make sure that you monitor the available disk space carefully. For information about generating an alarm when disk space usage exceeds a given percentage, see the *Resource thresholds for events and alarms* topic in the *Administering Voice Portal* guide.

Requirements

If you want to install an application server on the Voice Portal server:

- Do not modify or access the `VoicePortal` database or the version of Postgres installed and accessed by Voice Portal.
- Do not modify or reconfigure the JDK installed during the Voice Portal software installation.

- Do not install another version of JDK or JRE on the Voice Portal system. Instead, you must use the version installed by Voice Portal.
- Voice Portal installs its own Tomcat server. You cannot:
  - Modify or reconfigure this Tomcat server. You must install a second Tomcat server as described in this section.
  - Deploy any applications on this Tomcat server. You must deploy them to the second Tomcat server.
- Make sure that the application server does *not* use any of the following reserved Voice Portal ports: 80, 443, 8005, 8009, 8080, 8443, and 9443.
- Make sure that your applications are configured to use the same ports as the application server. By default, the Avaya-supplied application server installation script sets the port for non-SSL connections to 7080 and the port for SSL connections to 7443.
- Do not modify or upgrade the PHP software installed by Voice Portal unless recommended by Avaya.
- Do not modify the Apache `httpd.conf` or `ssl.conf` files. Instead, you must create a custom `/etc/httpd/conf.d/`*`myconfig`*`.conf` file with your configuration information. Make sure that the settings in the custom `conf` file do not conflict with Voice Portal configuration files `mpp.conf`, `ssl.conf`, and `vpms.conf` files.

Optional: Installing a Tomcat 6.0.18 application server on the Voice Portal server

If you cannot use a dedicated server machine for the Application server associated with this Voice Portal system, you can install a Tomcat application server on the same machine as the Voice Portal software.

Before you begin

- Install the Voice Portal software on the server as described in the *Implementing Voice Portal on a single server* guide.
- Make sure you have the physical Voice Portal installation DVD that was shipped with the Voice Portal product, or that you know where on the network the Voice Portal installation files reside.

Procedure

1. Log in to Linux on the Voice Portal server.

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

   - Log in to the local Linux console as sroot.

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- Or log in remotely as a non-root user and then change the user to sroot by entering the `su - sroot` command.

Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.

2. Navigate to the `Support/AppServer` directory under the Voice Portal installation directory by entering the `cd $AVAYA_HOME/Support/AppServer` command.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   Tip:

   This script is also available in the `Support/AppServer` directory of the Voice Portal installation DVD.

3. Run the installation script by entering the `bash InstallAppServer.sh` *`install_dir`* command, where *`install_dir`* is the name of the directory in which you want to install the application server.
   For example, to install the application server in the `/opt/AppServer` directory, you would enter `bash InstallAppServer.sh /opt/AppServer`.

4. Follow the prompts displayed by the script.
   When the script has completed, the system displays the message `Application Server Installation complete`.

   Note:

   The installation script also registers the application server as a Linux service so that it will be restarted whenever the server restarts.

5. Start the application server by entering the `/sbin/service appserver start` command.

6. Give the server time to start, and then check the server status by entering the following command:`/sbin/service appserver status`
   The server should respond that the `tomcat` service is running.

7. If you want to administer the tomcat server from the Tomcat Manager Web interface, you need to add a tomcat user as specified in Adding Tomcat user accounts on page 38.

   If you use the Avaya provided application installation script, the script creates the user accounts automatically.

   Note:

   You can access the Tomcat Manager Web Interface from the System Management > Application Server menu in VPMS with the tomcat user account.

8. If you want to administer the server, open a web browser and go to `http://VP-server:7080/`, where *`VP-server`* is the hostname or IP address of the Voice Portal server.

Next steps

After you install the application server, you need to deploy the speech applications to the application server as described in your application server documentation.

Optional: Manually installing a Tomcat application server on the Voice Portal server

Voice Portal includes an automated installation script for the Tomcat 6.0.18 application server. Avaya recommends that you use this script if at all possible, but you can manually install either the Tomcat 6.0.18 (or later build) application server.

Before you begin

- Install the Voice Portal software on the server as described in the *Implementing Voice Portal on a single server* guide.
- Voice Portal includes the Tomcat installation tar file for Tomcat 6.0.18. If you want to install a later build of the 6.0 Tomcat application server, download the appropriate Tomcat installation tar file from the Apache website http://jakarta.apache.org/tomcat/ and have the file available.

About this task

Note:

For details about the automated installation script, see Optional: Installing a Tomcat 6.0.18 application server on the Voice Portal server on page 32.

Procedure

1. Log in to Linux on the Voice Portal server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.

2. Create the installation directory by entering the `mkdir /opt/Tomcat/AppServer` command.

Important:

This procedure assumes that you are going to install the application server in the `/opt/Tomcat/AppServer` directory. If you want to install Tomcat in a different directory, you need to replace `/opt/Tomcat/AppServer` with that directory path in the steps below.

3. Navigate to the installation directory by entering the `cd /opt/Tomcat/AppServer` command.
4. If you want to:
   - Use the Tomcat 6.0.18 installation tar file installed with Voice Portal, enter the `cp $AVAYA_HOME/Support/AppServer/manual/apache-tomcat-6.0.18.tar.gz .` command.
   - Use the installation tar file you downloaded from the Apache website, copy that file to the directory by entering the `cp` *`pathname/tomcat-tar-file`* `.` command, where *`pathname/tomcat-tar-file`* is the name of the Tomcat installation tar file.

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.

5. Install the server by entering the `tar -zxvf` *`tomcat-tar-file`* command, where *`tomcat-tar-file`* is the name of the Tomcat installation tar file.
   The Tomcat files are extracted to `/opt/Tomcat/AppServer/`*`tomcat-subdirectory`*, where *`tomcat-subdirectory`* is the name of the Tomcat installation tar file without the `.tar.gz` extensions. For example, if you extract the `apache-tomat-6.0.18.tar.gz` installation file installed with Voice Portal, the installation subdirectory would be `apache-tomat-6.0`.
6. Create a soft link for the new directory by entering the `ln -s /opt/Tomcat/AppServer/`*`tomcat-subdirectory`* `tomcat` command.
7. Navigate to the new Tomcat bin directory by entering the `cd tomcat/bin` command.
8. Backup the configuration files by entering the commands:
   - `cp startup.sh startup.sh.old`
   - `cp shutdown.sh shutdown.sh.old`
9. Modify the startup configuration script:
   a. Open `startup.sh` in the ASCII editor of your choice.
   b. Add the following `export` *`variable-name`* statements at the top of the script:

```
export CATALINA_BASE=/opt/Tomcat/AppServer/tomcat
export CATALINA_HOME=/opt/Tomcat/AppServer/tomcat
export JAVA_OPTS="-server –Xmx1024M -XX:
+UseConcMarkSweepGC -XX:+UseParNewGC
```

```
-XX:ThreadStackSize=512 -
Davaya.appserver.type=tomcatappserver"
```

Important:

Each `export variable-name` line must be specified on a separate line without line breaks. If you copy the above lines from the documentation, make sure you remove the extra line break in the `export JAVA_OPTS` definition.

In addition, if you installed Tomcat in a directory other than `/opt/Tomcat/AppServer`, make sure you change the `export variable-name` statements accordingly.

c. Save and close the file.

10. Modify the shutdown configuration script:

    a. Open `shutdown.sh` in the ASCII editor of your choice.

    b. Add the following environment variables at the top of the script:

    ```
    export CATALINA_BASE=/opt/Tomcat/AppServer/tomcat
    export CATALINA_HOME=/opt/Tomcat/AppServer/tomcat
    ```

    c. Save and close the file.

11. Modify the Tomcat configuration XML file:

    a. Navigate to the configuration directory by entering the `cd tomcat-subdirectory/conf` command.

    b. Backup the configuration file by entering the `cp server.xml server.xml.old` command.

    c. Open `server.xml` in the XML editor of your choice.

    d. Change the port numbers as shown:

Change port number...	To port number...
8080	7080
8443	7443
8005	7005
8009	7009

    e. Save and close the file.

12. Before you can configure the application server to run as a Linux service, you must define an environment variable so that the service script can always find the application server. To do so:

    a. Enter the `cd /etc/profile.d` command.

    b. Copy the Avaya-provided configuration files to this directory by entering the `cp $AVAYA_HOME/Support/AppServer/manual/appserver.* .` 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.

c. If you installed Tomcat in a directory other than `/opt/Tomcat/AppServer`:

- Open the `appserver.sh` script in an ASCII editor and change all occurrences of `/opt/Tomcat/AppServer` to the directory in which you installed Tomcat.
- Open the `appserver.csh` script in an ASCII editor and change all occurrences of `/opt/Tomcat/AppServer` to the directory in which you installed Tomcat.

d. Set the configuration file permissions by entering the `chmod 0755 appserver.*` command.

13. Configure the application server to run as a Linux service so that the application server responds to the Linux **service** command and Linux automatically restarts the application server if the machine reboots:

a. Enter the `cd /etc/init.d` command.

b. Copy the Avaya-provided application server script to this directory by entering the `cp $AVAYA_HOME/Support/AppServer/appserver .` 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.

c. If you installed Tomcat in a directory other than `/opt/Tomcat/AppServer`, open the `appserver` script in an ASCII editor and change all occurrences of `/opt/Tomcat/AppServer` to the directory in which you installed Tomcat.

d. Set the script permissions by entering the `chmod 0755 appserver` command.

e. Register the service by entering the `chkconfig --add appserver` command.

f. Start the application server by entering the `service appserver start` command.

g. Give the server time to start, and then check the server status by entering the `/sbin/service appserver status` command.
The server should respond that the `tomcat` service is running.

h. If you want to administer the server, open a web browser and go to `http://`*`VP-server`*`:7080/`, where *`VP-server`* is the hostname or IP address of the Voice Portal server.

Next steps

After you install the application server, you need to deploy the speech applications to the application server as described in your application server documentation.

Add user accounts to the Tomcat Application as described in Adding Tomcat user accounts on page 38

Adding Tomcat user accounts

About this task

After you install the application server, you need to add tomcat user accounts to the server. If you use the Avaya provided application installation script, the script creates the required Voiceportal tomcat user account automatically. Otherwise, you need to add the user account manually. Additionally, to administer the tomcat server from the Tomcat Manager Web interface, you need to add a tomcat user.

Note:

For details see the application server documentation.

These accounts authorize users to:

- Access the Tomcat Manager Web interface which allows users to deploy, remove, start and stop applications on the application server.
- Access the Tomcat Manager Web interface from the Voice Portal system.

Procedure

1. Navigate to the configuration directory by entering the `cd installation_location/tomcat/conf` command where `installation_location` is the location of the co-resident application server.
2. Backup the users configuration file by entering the `cp tomcat-users.xml tomcat-users.xml.old` command.
3. Open tomcat-users.xml in the XML editor of your choice.
4. Verify if there is a role with rolename set to manager. Otherwise, add a role with rolename set to manager by adding <role rolename="manager"/> in a new line immediately after the <tomcat-users> tag.
5. Verify if there is a username set to voiceportal. Otherwise, add the following after the opening <tomcat-users> tag and before the closing </tomcat-users> tag:
   a. A user with username set to voiceportal.
   b. A password set to any password of your choice.
   c. Roles set to manager.

   For example:

   <tomcat-users>

   <role rolename="manager"/>

   <user username="voiceportal" password="`password`" roles="manager"/>

</tomcat-users>

Note:

Make sure there are no duplicate users specified with the same user name.

If you add a user, you need to restart the Tomcat application server.

6. If you want to create another user for administering the system, add the following after the opening <tomcat-users> tag and before the closing </tomcat-users> tag:

   a. A user with a username of your choice.
   b. A password set to any password of your choice.
   c. Roles set to manager.

   For example:

   <tomcat-users>

   <role rolename="manager"/>

   <user username="`administrator`" password="`password`" roles="manager"/>

   </tomcat-users>

   Note:

   Make sure there are no duplicate users specified with the same user name.

   If you add a user, you need to restart the Tomcat application server.

7. Save and close the file.

Chapter 5: Uninstalling the Tomcat application server

Before you begin

- Make sure that the applications hosted by the co-resident application server are not handling any active calls.
- Backup the required configuration files, data files, web applications and associated components, libraries and binaries from the directory where the application server is installed.

About this task

Important:

By uninstalling the Tomcat application server:

- All the applications deployed on the co-resident application server are deleted.
- All the components or libraries deployed on the co-resident application server are deleted.
- All the customized configuration information of the application server are deleted.
- All log files under the application server directory are deleted.
- The Application Server menu is not available in the VPMS.

Procedure

1. Log in to Linux on the Voice Portal server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.
2. Enter the `/sbin/service appserver stop` command to stop the Application server.
3. Change to the application server home by entering the `cd $APPSERVER_HOME` command.
4. Change to the parent directory by entering the `cd ..` command.
5. Remove the Tomcat soft link by entering the `rm -f tomcat` command.

6. Remove the Tomcat directory by entering the `rm -rf <tomcat-subdirectory>` where Tomcat-subdirectory is the directory where Tomcat is extracted. The directory form is `apache-tomcat*`or `akarta-tomcat*`.
7. In the `/opt/Tomcat/tomcat/lib/config/voiceportal.properties` file, set the value of *enableLocalAppServer* to false.
8. Unregister the service by entering the `chkconfig --del appserver` command.
9. Remove the application server service script by entering the `rm /etc/init.d/appserver` command.
10. Remove the appserver scripts by entering the **rm /etc/profile.d/appserver** command.
11. Restart the VPMS service by entering the **/sbin/service vpms restart** command.
    When the command has successfully stopped all relevant components, it displays the message: `VPMS Shutdown Status: [ OK ].` The command immediately starts the same components. When it has finished, it displays the message: `VPMS Start Status: [ OK ]`.
12. Check the status of the VPMS service by entering the `/sbin/service vpms status` command. The command displays the message: `Overall Status: VPMS is running`.

Chapter 6: Configuring and initializing the Voice Portal single server system

Voice Portal basic system configuration overview

After you install the Voice Portal software, you can configure and test a basic system. After the basic system has passed the tests, you can configure the optional Voice Portal features as desired.

Important:

Because these steps build on each other, you must complete them in the order given or you may encounter errors during the procedures.

Step	Description	✔
1	Have the completed installation worksheets ready to help answer the questions raised during the configuration. For a list of the available worksheets, see Installation worksheets for the Voice Portal single server configuration on page 89.	
2	If the customer plans to have their system maintained by Avaya Services, set up the Avaya Services access requirements as described in: • Setting the RAS IP address on the primary VPMS server on page 45 • Configuring the Avaya Service accounts on page 46	
3	Log onto the Voice Portal Management System (VPMS) web interface. If you are an Avaya Services representative, log in as described in Logging into the VPMS web interface using the Avaya Services init account on page 48. **Tip:** Once you have logged in, you can get help with any of the remaining tasks by clicking the **Help** button on the appropriate VPMS web page.	

Step	Description	✔
4	Install the Voice Portal license file as described in Installing the license file on page 49. **Note:** There is a 30 day grace period after installation during which Voice Portal provides 10 telephony ports. After the grace period expires, the Voice Portal system automatically stops processing calls.	
5	Add at least one Voice over IP (VoIP) H.323 or SIP connection as described in Adding H.323 connections on page 51 or Adding a SIP connection on page 51.	
6	Add the MPP server to the system and then start it as described in Add and start the MPP server on page 52.	
7	If desired, add one or more Automatic Speech Recognition (ASR) servers as described in Adding ASR servers on page 53.	
8	If desired, add one or more Text-to-Speech (TTS) servers as described in Adding TTS servers on page 53.	
9	Add the Voice Portal test application as described in . Adding the Voice Portal test application on page 54	
10	Test the basic system by running the sample application as described in Running the sample application on page 55.	
11	If desired, connect the VPMS server to an external time source so that all servers in the Voice Portal system stay properly synchronized as described in External time sources on page 64.	
12	The VPMS can accept input in non-English languages if desired. If you are using Red Hat Enterprise Linux, the languages need to be installed with the operating system. If you are using Avaya Enterprise Linux, you can configure it to accept input in Chinese, Japanese, or Korean as described in: • Configuring Chinese on Avaya Enterprise Linux on page 67 • Configuring Japanese on Avaya Enterprise Linux on page 68 • Configuring Korean on Avaya Enterprise Linux on page 69	
13	If you want to enable organization level access in Voice Portal, execute the `EnableOrganizations` command *as described in the Configuring organization level access in Voice Portal* section of the *Administering Voice Portal* guide.	

Setting the RAS IP address on the primary VPMS server

About this task

If Avaya Services is going to access this system through a dial-up modem instead of using a Virtual Private Network (VPN), you need to set the Remote Access Service (RAS) IP address on the server running the primary VPMS software.

The RAS IP address allows authorized users to establish a Point-to-Point Protocol (PPP) connection over the modem and then use that connection to access the VPMS web interface.

The RAS IP addresses are generated though the Automatic Registration Tool (ART) whenever a dial-up modem number is entered for a particular server. ART creates a unique RAS IP address for the server and for the associated client. The client IP address is identical to the server IP address except for the last octet, which is incremented by one.

For example, if the RAS server IP address is `10.23.2.15`, the associated RAS client IP address is `10.23.2.16`.

The server and client IP addresses are stored in the `/etc/ppp/options.ttyACM0` file.

Procedure

1. Log in to Linux on the Voice Portal primary VPMS server.
   - If you are using Avaya Enterprise Linux or if the Avaya Service accounts have already been installed on this server, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.
   - Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.
2. Navigate to the `Support/VP-Tools` directory by entering the `cd $AVAYA_HOME/Support/VP-Tools` command.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   Tip:

   This script is also available in the `Support/VP-Tools` directory of the Voice Portal installation DVD.
3. Enter the `bash SetRASIP` *`RAS_server_IP_address`* command, where *`RAS_server_IP_address`* is the RAS server IP address assigned by ART. The first octet in this IP address must be `10` and the last octet must be less than or equal to `254`. You do not need to enter the RAS client IP address, because the script calculates that for you automatically.

4. When prompted, press `Enter` to confirm the change or `Ctrl+C` to cancel if the RAS IP address you entered is incorrect.
   If you confirm the change, the utility calculates the RAS client IP address based on the server address you entered and then changes the RAS IP server and client addresses in the `/etc/ppp/options.ttyACM0` file.
5. To verify that the change was made correctly, enter the `bash SetRASIP` command.
   For example, if the RAS server IP address is `10.23.2.15`, the utility would display the following message:

   ```
   This utility sets the RAS IP addresses. Usage: <ServerIPAddress> where
   ServerIPAddress is a valid server IP address whose first octect is 10 and
   whose last octet is 254 or less. The client IP address will automatically
   be set based on the server IP address. Please refer to Avaya Voice Portal
   product documentation for more information. The current server and client
   IP addresses are: 10.23.2.15:10.23.2.16
   ```
6. Verify that the current RAS IP addresses shown in the last line match the ones received from ART.

Configuring the Avaya Service accounts

Before you begin

Make sure you have the Avaya Service Account authentication file generated by the Authentication File System (AFS) tool.

Important:

After you run this script, customers using Avaya Enterprise Linux cannot log into the sroot account and therefore must use the root account. Before you run this script, log in as root to make sure that the password for the root account has been properly set. For more information, see Installing and configuring Avaya Enterprise Linux on page 6.

Procedure

1. Log into Linux on the Voice Portal server. If you are using:
   - Avaya Enterprise Linux or if the Avaya Service accounts have already been installed on this server, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.
   - Red Hat Enterprise Linux Server release 5.6 or later, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.

2. Copy the Avaya Service Account authentication file to the `/tmp` directory on the server.
3. Navigate to the `Support/VP-Tools` directory by entering the `cd $AVAYA_HOME/Support/VP-Tools` command.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   Tip:

   This script is also available in the `Support/VP-Tools` directory of the Voice Portal installation DVD.
4. Enter the `bash AddServiceAccounts` *`authentication_file_path`* command, where *`authentication_file_path`* is the fully-qualified path to the authentication file you copied to the server.
5. Press `Enter` to continue adding Avaya service accounts for this system.
   The following warning message is displayed:

```
Primary VPMS found; creating VPMS admin user init
Creating VPMS service account
Checking System [VP,VP,]
  Added SDResource name=init type=USER desc=
    Added SDPropertyContainer name=Default category=Default desc=
      Added SDProperty name=roles
      Added SDProperty name=createTime
Return value for adding VPMS admin user init: 0
Loading file /tmp/AF-7000112969-080808-155712.xml
useradd: warning: the home directory already exists.
Not copying any file from skel directory into it.

Utility has completed.  Please review the information above for possible
errors
```

   Note:

   This is an informational message and needs no corrective action.

   The AddServiceAccounts script changes the following Linux accounts so that you can only log into them using the Avaya Services challenge/response authentication procedure:

User name	Group	Purpose
sroot	root	Avaya Services root access
craft	susers	Avaya Services non-root access
rasaccess	remote	Avaya Services remote modem access **Note:** You cannot log into this account.

In addition, the script creates the VPMS user account init, which has Administration, Auditor, and User Manager privileges and uses the same Avaya Services challenge/response authentication procedure.

Logging into the VPMS web interface using the Avaya Services init account

Procedure

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

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

   Note:

   TLS security must be enabled in your IE browser. For more information, see the *Configuring browsers to use TLS security* topic in the *Planning for Voice Portal* guide.

2. In the **User Name** field, enter `init`.
3. Click **Submit**.
4. Use the challenge information displayed to generate the appropriate response password for the init account and enter it in the **Password** field.
5. Click **Logon**.
   If the correct password has been entered, the system logs you into the VPMS. Otherwise the VPMS displays an error message and returns you to the **User Name** prompt so that you can try again.

Logging in to the Voice Portal web interface

The Voice Portal Management System (VPMS) web interface is the main interface to the Voice Portal system.

Procedure

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

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

Note:

TLS security must be enabled in your IE browser. For more information, see the *Configuring browsers to use TLS security* topic in the *Planning for Voice Portal* guide.

2. In the **User Name** field, enter the user name of the VPMS 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 VPMS 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 VPMS displays the Voice Portal Management System Home page with the Voice Portal version number and **Legal Notice** display text box.
   - Do not match the Administration user account, the VPMS displays an error message and returns you to the **User Name** prompt so that you can try again. Be careful when you enter the user name and password a second time, because the VPMS 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 Voice Portal operation as it defines the telephony ports and the ASR and TTS connections that you are authorized to use. The Voice Portal license file is distributed separately in an email from Avaya.

Before you begin

If the WebLM server for your installation does *not* resides on the same machine as the Voice Portal VPMS server, you need to upgrade the WebLM software to version 4.5.5 as described in the file `Support/WebLM/Licensing Installation Instructions.doc` on the Voice Portal installation DVD.

About this task

Note:

If you have not received a license file from Avaya, contact your Avaya representative or Avaya Partner representative.

Procedure

1. Locate the email that contains the Voice 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 Voice Portal servers via a network connection.

   For example, you can install the license file on any computer from which you can access the VPMS web interface.
3. Log in to the VPMS web interface using an account with the Administration user role.
4. From the VPMS main menu, select **Security** > **Licensing**.
   The Licensing page opens, summarizing the license information (if available) 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 this 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`. If no port number is specified, Voice Portal sets the default to `:443`.
6. Click **Verify**.
   Your browser opens a separate window displaying the Avaya WebLM page, which contains a **License Administration** link.
7. Click **License Administration**. Your browser displays the Web License Manager Logon page.
8. If this is:
   - A new installation of WebLM:
     i. Enter the default user name `admin`.
     ii. Enter the default password `weblmadmin`.
     iii. Press `Enter` or click the arrow button to log in.
     iv. Complete the Change Password page, making sure that you type `weblmadmin` in the **Current Password** field.
     v. Click **Submit**.

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vi. On the Logon page, log in with your new password. Your browser displays the Install License page.

- An existing installation of WebLM, type your existing user name and password and click **Continue**. Your browser displays the **Install License** page.

9. Under **Install License**, click **Browse** and locate the Voice Portal license file. After you have located the license file, click **Install**.

   WebLM uploads the license file from your computer to the WebLM server and displays the message `License file installed successfully.`

10. Log out of the Web License Manager and close the Web License Manager page.
11. Return to the VPMS Licensing page and click **Apply**, then click **OK** to confirm the change.
12. Verify that the new licensing information is correct.

Adding H.323 connections

Before you begin

Make sure the switch is configured as described in *Avaya Configuration Note 3910* on the Avaya online support Web site, http://support.avaya.com.

Procedure

1. From the VPMS 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 the Avaya Communications Manager with Avaya SIP Enablement Services (SES) enabled. For details, see the *Avaya Configuration Note 3911* on the Avaya online support Web site, http://support.avaya.com.

Procedure

1. From the VPMS 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**.

Add and start the MPP server

Procedure

1. From the VPMS main menu, select **System Configuration** > **MPP Servers**.
2. On the Add 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, make sure you enter the appropriate LDN number for the server in the **LDN** field. If you do not specify an LDN number, Voice Portal uses the default value (000)000-0000.

   Note:
   Make sure you verify the security certificate displayed in the click the **MPP Certificate** section and then check the **Trust new certificate** check box. You cannot save the MPP unless this check box has been selected.
5. Click the name of the MPP server.
6. On the Change MPP Server page, go to the **MPP Certificate** section and select the **Trust new certificate** check box if that check box is visible.
7. At the bottom of the page, click **Save**.
8. From the VPMS main menu, select **System Management** > **MPP Manager**.
9. On the MPP Manager page, look at the **Mode** column for this server. If it says **Offline**:
   a. Select the check box next to the name of the MPP.
   b. In the **Mode Commands** group, click **Online**.
   c. In a few moments, click **Refresh** to verify that the **Mode** column now says **Online**.

10. Select the check box next to the name of the MPP.
11. In the **State Commands** group, click **Start** and confirm your selection when prompted.
12. In a few minutes, click **Refresh** to verify that the current **State** is **Running**.

Adding ASR servers

Procedure

1. From the VPMS 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**.

   If you logged in using the init account, make sure you enter the appropriate LDN number for the server in the **LDN** field. If you do not specify an LDN number, Voice Portal uses the default value (000)000-0000.
4. Repeat this procedure for each ASR server you want to add.

Adding TTS servers

Procedure

1. From the VPMS 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**.

   If you logged in using the init account, make sure you enter the appropriate LDN number for the server in the **LDN** field. If you do not specify an LDN number, Voice Portal uses the default value (000)000-0000.
4. Repeat this procedure for each TTS server you want to add.

Adding the Voice Portal test application

Before you begin

If you want to use Automatic Speech Recognition (ASR) resources, make sure that one or more ASR servers have been added to the system.

If you want to use Text-to-Speech (TTS) resources, make sure that one or more TTS servers have been added to the system.

About this task

You can use the sample application that is installed with Voice Portal in order to test how this system handles telephony resource requests. If you run the sample application as a:

- VoiceXML application, Voice 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.
- CCXML application, Voice Portal uses a more advanced CCXML page that provides all the functionality of the VoiceXML application and allows you to test the following CCXML features:
  - Call conferencing.
  - Call classification.
  - Call merge for calls using a SIP connection.

Procedure

1. From the VPMS main menu, select **System Configuration** > **Applications**.
2. On the Applications page, click **Add**.
   The VPMS displays the Add Application page.
3. In the **Name** field, type the name you want to use to identify this application on the system. After you save the application, this name cannot be changed.
   For example, type `Test_App`.
4. If you want to run the sample application as a:

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Application type	Required parameters
VoiceXML application	In the **MIME Type** field, select **VoiceXML**. 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 Voice Portal system.
CCXML application	In the **MIME Type** field, select **CCXML**. 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 Voice Portal system.

5. Click **Verify** to make sure that the system can find this page.
   If the VPMS can find the specified page, it displays that 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 page is found.
6. If you want to test ASR resources:
   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 resources:
   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. If you want to test transcriptions, go to the **Transcription** section of the **Reporting Parameters** group and set the desired transcription parameters.
10. When you have finished, go to the bottom of the page and click **Save**.
    The VPMS redisplays the Applications page with the test application now listed in the table.

Running the sample application

Before you begin

Add the test application as described in the *Adding the Voice Portal test application* in the *Implementing Voice Portal on multiple servers* guide.

Procedure

1. Call the number you associated with the test application when you added it to Voice Portal.
2. When the system answers, press:
   - 1 to test Automatic Speech Recognition (ASR) resources
   - 2 to test Text-to-Speech (TTS) resources
   - 3 to test bridge transfers
   - 4 to test blind transfers
   - 5 to test supervised transfers
   - 6 to test the play an audio recording
3. If you are running the test application as a CCXML application, press:
   - 7 to test conferencing
   - 8 to test merge
   - 9 to test call classification
4. To exit the sample application, press `0`.

Next steps

After you run the application, you can create reports about that application's performance and, if transcriptions are enabled, view the transcription data.

Call activity reports

Call activity reports

The following reports track call activity in the Voice Portal system:

Call Summary report : Provides summary information about all calls handled by the specified MPPs and applications for the specified time period.

Call Detail report : Provides detailed information about all calls handled by the specified MPPs and applications for the specified time period.

Session Summary report : Provides summary information about call-handling sessions for the specified MPPs and applications for the specified time period.

Session Detail report: Provides detailed information about all call-handling sessions for the specified MPPs and applications for the specified time period. This report also provides access to any transcription information saved for the applications.

The amount of data available for these reports depends on the **Retention Period** setting for the **Call Data Record** and **Session Data** fields on the MPP Settings page.

For example, if this value is set to 14, you can enter a start date that is two weeks prior to the current date. If it is set to 7, you can only check for the previous week.

Creating a Call Detail report

About this task

The Call Detail report provides detailed information about all calls handled by the specified MPPs and applications for the specified time period.

Procedure

1. Log in to the VPMS web interface using an account with the Administration, Operations, or Maintenance user role.
2. From the VPMS main menu, select .**Reports** > **Standard**.
3. On the Standard Reports page, click **Call Detail** link under the **Report Name** column.
4. Optionally, click next to **Call Detail** link to generate the report with the default selections of filters.
5. On the Call Detail page, enter the filter criteria that you want to use.

   Tip:
   Click the **more >>** link to display the rest of the optional filters.
6. Click **OK**.
7. On the Call Detail Report page, if you want to:
   - View the messages generated by one of the Dialog Designer applications listed in the table, click the appropriate name in the **Application** column. The VPMS displays the Application Detail Report page detailing the messages generated during the associated call session.
   - Get more information about how a call ended, hover the mouse over a value in the **End Type** column. Information about how a call ended is displayed in a pop-up window.

- View details about the session that handled the call, click the **View Session Details** icon at the end of the appropriate row. The VPMS displays the Session Details page.

Creating a Call Summary report

About this task

The Call Summary report provides summary information about all calls based on the specified filtering options.

Procedure

1. Log in to the VPMS web interface using an account with the Administration, Operations, or Maintenance user role.
2. From the VPMS main menu, select **Reports** > **Standard**.
3. On the Standard Reports page, click **Call Summary** link under the **Report Name** column.
4. Optionally, click next to **Call Summary** link to generate the report with the default selections of filters.
5. On the Call Summary page, enter the filter criteria that you want to use.

   Tip:
   Click the **more >>** link to display the rest of the optional filters.
6. Click **OK**.
   The VPMS displays the Call Summary Report page.

Creating a Session Detail report

About this task

The Session Detail report provides detailed information about the call-handling sessions for the specified Media Processing Platform (MPP) servers and applications for the specified time period. A session starts with the initial inbound or outbound call and ends with the termination of the CCXML page that resulted from the call.

Procedure

1. Log in to the VPMS web interface using an account with the Administration, Operations, or Maintenance user role.

2. From the VPMS main menu, select **Reports** > **Standard**.
3. On the Standard Reports page, click **Session Detail** link under the **Report Name** column.
4. Optionally, click next to **Session Detail** link to generate the report with the default selections of filters.
5. On the Session Detail (Filters) page, enter the filter criteria that you want to use.

   Tip:
   Click the **more >>** link to display the rest of the optional filters.
6. Click **OK**.
   The VPMS displays the Session Detail Report page.
7. If you want to view more information about a particular session, click the **View Session Details** icon at the end of the appropriate row.
   Voice Portal displays the Session Details page.

Creating a Session Summary report

About this task

The Session Summary report provides summary information about call handling sessions for the specified Media Processing Platform (MPP) servers and applications for the specified time period. A session starts with the initial inbound or outbound call and ends with the termination of the CCXML or VoiceXML page that resulted from the call.

Procedure

1. Log in to the VPMS web interface using an account with the Administration, Operations, or Maintenance user role.
2. From the VPMS main menu, select **Reports** > **Standard**.
3. Optionally, click next to **Session Summary** link to generate the report with the default selections of filters.
4. On the Standard Reports page, click **Session Summary** link under the **Report Name** column.
5. On the Session Summary (Filters) page, enter the filter criteria that you want to use.

   Tip:
   Click the **more >>** link to display the rest of the optional filters.
6. Click **OK**.

The VPMS displays the Session Summary Report page.

Viewing application transcription data

Procedure

1. Log in to the VPMS web interface using an account with the Administration, Operations, or Maintenance user role.
2. From the VPMS main menu, select **Reports** > **Session Detail**.
3. On the Session Detail page, the **more >>** link to display the rest of the optional filters.
4. Enter any criteria you want to use for the report.

   Tip:
   If you want to limit the report to those sessions that have transcription information, select **Yes** in the **Session Transcription** field.
5. When you are finished, click **OK**.
   The VPMS displays the Session Detail Report page.
6. Locate the particular session for which you want to view the transcription data and click the **View Session Details** icon at the end of the appropriate row.
   Voice Portal displays the Session Details page, which shows the both session and transcription data grouped by information category.
7. If you want to view the transcription information in XML format, click the **Export** link in the **Session Transcription** group.

Configure and run the Outcall test application

You can use the Outcall test application to validate the Application Interface web service and the Voice Portal outcall functionality. Avaya supplies an installation script that automatically installs the Outcall test application when Voice Portal is installed. The application is installed in the following Voice Portal VPMS directory: `$AVAYA_HOME/Support/OutCallTest/AppIntfWS-Client`.

Related topics:

Configuring Voice Portal for the Outcall test application on page 61
Running the Outcall test application on page 61

Configuring Voice Portal for the Outcall test application

Before you begin

- Ensure that the Outcall test application is installed in the following Voice Portal VPMS directory: `$AVAYA_HOME/Support/OutCallTest/AppIntfWS-Client`.
- Verify that the hostnames are mapped to the IP addresses without a DNS, as described in the *Manually mapping hostnames to connect the primary VPMS with other servers* topic in the *Implementing Voice Portal on multiple servers* guide.

About this task

Important:

This configuration is required only if you use Voice Portal to perform outcalls or the Application Interface web service to launch 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 the *H.323 tab on the VoIP Connections page field descriptions* section or the *SIP tab on the VoIP Connections page field descriptions* section of the *Administering Voice Portal* guide.
2. Ensure that a user name and password is configured in VPMS from the **System Configuration > VPMS Servers > VPMS Settings** page. This is the authentication information that is used for accessing the Application Interface web service.

Running the Outcall test application

Before you begin

Ensure that Voice Portal is configured for the Outcall test application as described in Configuring Voice Portal for the Outcall test application on page 61.

Procedure

1. Log in to Linux on the Voice Portal server.

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

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

Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.

2. Navigate to the Outcall test application directory by entering the `cd $AVAYA_HOME/Support/OutcallTest/AppIntfWS-Client` command.
3. Enter the `./runclient.sh –n <outcall-username> –p <outcall password>` command to request the number of available outbound ports, where:
   - <outcall-username> is the user name assigned to the outcall user in the **System Configuration > VPMS Servers > VPMS Settings** page.
   - <outcall password> is the password assigned to the outcall user in the **System Configuration > VPMS Servers > VPMS Settings** page.
4. Verify that the Outcall test application displays a response that shows the total ports and unused ports available for outcalls.
   For example:

   Fri Oct 17 15:21:02 PDT 2008: TestClient: queryResources succeeded, TotalRes = 25, UnusedH323 = 15, UnusedSIP = 10

   Fri Oct 17 15:21:02 PDT 2008: TestClient: exiting.
5. Enter the `./runclient.sh –R 1 –A VoicePortalTest –T <number-to-dial> –n <outcall-username> –p <outcall password>` command to initiate an outcall and launch the Voice Portal test application, where:
   - <number-to-dial> is the phone number to place the outcall to.
   - <outcall-username> is the user name assigned to the outcall user in the **System Configuration > VPMS Servers > VPMS Settings** page.
   - <outcall password> is the password assigned to the outcall user in the **System Configuration > VPMS Servers > VPMS Settings** page.
6. Verify that the dialed phone number rings.
7. Answer the phone and verify that the Voice Portal test application is handling 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 Outcall test application displays:
   - A response that shows the result of the LaunchVXML operation.
   - The total ports and the unused ports available for outcalls.

   For example:

   Fri Oct 17 15:24:58 PDT 2008: TestClient: launchVXML succeeded, SessionID = sys-mpp-2008291222458-2, TotalRes = 24, UnusedH323 = 12, UnusedSIP = 12

Fri Oct 17 15:24:58 PDT 2008: TestClient: exiting.

Configuring the Software Upgrade feature in VPMS

The Software Upgrade feature allows you to upgrade the MPPs running on your Voice Portal system, from the VPMS Web interface. If you want to use this feature, you need to authorize the VPMS to upgrade the MPPs. For more information, see the *Software Upgrade overview* section in the Administering Voice Portal guide.

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

Note:

Disabling the InstallAgent package is optional.

You can disable it if you don't want the VPMS to use a public-key based SSH mechanism to remotely administer the MPP upgrades, and don't want this package installed on your system.

Related topics:

Optional: Disabling the InstallAgent RPM on page 63
Reinstalling the InstallAgent RPM on page 64

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 it. 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.

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 63, and want to use the Software Upgrade feature to upgrade the MPPs, you need to reinstall the InstallAgent RPM.

Procedure

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

For example, `rpm -U av-ia-5.0.0.0-3302.rpm –replacepkgs`.

Note:

The InstallAgent RPM is located in the external/installagent directory of the Voice Portal installation image.

External time sources

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

- The server running the primary VPMS software
- Any application servers running on dedicated machines
- All available speech servers
- All PBX switches

You can use a corporate or a public time server as the external time source. If you intend to use a public time source, choose an appropriate one for your needs. You can find public Network Time Protocol (NTP) servers at http://www.ntp.isc.org/bin/view/Servers/WebHome.

Note:

Avaya only provides guidelines for public time servers. It is your responsibility to make sure that the servers you choose are accessible through your corporate firewall. In addition, you should be aware that 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 it fits all of your needs before you change the `ntp.conf` file on the primary VPMS server.

Related topics:

Configuring the primary VPMS server to point to an external time source on page 65

Configuring the primary VPMS 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 64.

Procedure

1. Log in to Linux on the Voice Portal primary VPMS server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` 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 VPMS.
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]
   ```

Non-English language support

Non-English character support on the VPMS web pages

While the VPMS Web pages are written in English, you can use non-English characters when entering field values if you have the appropriate languages installed on the VPMS server. If you are using:

- Red Hat Enterprise Linux, all you need to do is select the appropriate languages while installing the operating system.
- Avaya Enterprise Linux, Avaya provides a font file for Chinese, Japanese, and Korean.

Related topics:

Configuring Chinese on Avaya Enterprise Linux on page 67
Configuring Japanese on Avaya Enterprise Linux on page 68
Configuring Korean on Avaya Enterprise Linux on page 69

Configuring Chinese on Avaya Enterprise Linux

Procedure

1. Log in to Linux on the Voice Portal primary VPMS server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.

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

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   Note:
   If the font directory does not already exist, create it 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.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   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.

   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.

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 VPMS server machine by entering the `reboot` command.

Configuring Japanese on Avaya Enterprise Linux

Procedure

1. Log in to Linux on the Voice Portal primary VPMS server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.
2. Navigate to the Linux font directory by entering the `cd /usr/share/fonts` command.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   Note:
   If the font directory does not already exist, create it 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.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   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.

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.
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 VPMS server machine by entering the `reboot` command.

Configuring Korean on Avaya Enterprise Linux

Procedure

1. Log in to Linux on the Voice Portal primary VPMS server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.
2. Navigate to the Linux font directory by entering the `cd /usr/share/fonts` command.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

Note:

If the font directory does not already exist, create it 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.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   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.

   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 `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.
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 VPMS server machine by entering the `reboot` command.

Chapter 7: Troubleshooting installation issues

Installation log files

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

Voice Portal creates several log files during the installation process. If the installation process:

- Completes successfully, Voice 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/VoicePortal`.
- Does not complete successfully, Voice Portal copies the log files to `/opt/_Avaya_Voice-Portal_temp`.

General installation log files

Log filename	Description
`VP_Install.log`	Main log containing output from all VPMS and MPP installation processes. This is the first log file you should consult if you need to troubleshoot an installation issue.
`ISLog.log`	InstallShield generated log containing internal data.
`ISOpt.log`	InstallShield generated log containing internal data.
`installSequence.log`	Subset of ISLog.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.

Log filename	Description
`prereqinstaller.err.log`	Any internal errors encountered by the Prerequisite Installer.
`SetIAVersion<component>.log`	Version history of the Voice Portal components installed. The component can be the VPMS, MPP or Docs.

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.imp.out.log`	Results from the security certificate import process.
`mpp.cert.imp.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 VPMS.
`mpp.key.import.err.log`	Any internal errors generated from the public key import process from the VPMS.

VPMS-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.
`vpms.cert.imp.out.log`	Results from the security certificate import process.

Log filename	Description
`vpms.cert.imp.err.log`	Any internal errors generated from the certificate import process.

Fixing Prerequisite Checker failures

Solution

Procedure

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 73.

2. Upgrade your system to meet the minimum hardware and operating system requirements for Voice Portal, as described in the *Minimum server machine hardware requirements* topic of the *Planning for Voice Portal* guide.

Next steps

After you upgrade your system, you can resume the Voice Portal installation script at the current point as long as you did *not* exit the installation script or restart your Voice Portal server. If you want to:

- Resume the script, type 2 and press `Enter` until you go past the first Prerequisite Status page. Voice 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.

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 Voice 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 Voice 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

Procedure

1. Log into Linux on the VPMS server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` 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 in the form *`IP_address hostname1 hostname2...`*, where *`IP_address`* is the IP address of a server in the Voice Portal system and *`hostname1 hostname2...`* is one or more hostnames, separated by tabs or spaces, to associate with the IP address.

Example

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

```
127.0.0.1        localhost     localhost.localdomain       #Required first line
123.123.123.122  vpms_server_hostname                      #Primary VPMS server IP
addy and hostname
123.123.123.123  first_mpp     first_ mpp.domainname.com   #First MPP server
123.123.123.124  second_ mpp   second_ mpp.domainname.com  #Second MPP server
```

Fixing Prerequisite Installer failures

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

These failures are generally the result of installing Voice Portal on a server running a:

- More recent version of Red Hat Enterprise Linux than Red Hat Enterprise Linux Server Release 5.6 or later. Although Voice Portal does support updates to Red Hat Enterprise Linux, some of system RPMs in the newer updates may conflict with some of the RPMs that Voice Portal is attempting to install.
- Customized Red Hat Enterprise Linux installation that is missing an RPM required by one of the Voice Portal prerequisite RPMs.

Solution

Procedure

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 76.
2. If you are using Red Hat Enterprise Linux Server release 5.6 or later and the Prerequisite Installer fails for any of the php RPMs, install the following RPMs from your Red Hat installation CD-ROM or the Red Hat support website:
   - `php-domxml`
   - `php`
   - `php-pear`
3. If that does not solve the problem, see Identifying RPM issues on page 77 for more information.

Next steps

After you fix any prerequisite software issues, you can resume the Voice Portal installation script at the current point as long as you did *not* exit the installation script or restart your Voice Portal server. If you want to:

- Resume the script, type `2` and press `Enter` until you go past the first Installation Status page. Voice 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 Voice Portal was about to install. You can use this example as a guideline for solving any Prerequisite Installer issues you encounter.

```
==============================================================================
Installation Status
============================================================================== -
Third-Party Software============================================================ | -
Network Time Protocol (NTP)------------------------------Already Completed | - GNU
MP (Arbitrary Precision Library)----------------------Already Completed | - XML
Library-----------------------------------------------Already Completed | -
Internationalized Domain Name Support Library-------------Already Completed | - cURL
(File Download Utility)------------------------------Already Completed | - GnuPG
Common Error Library--------------------------------Already Completed | - General
Purpose Crypto Library---------------------------Already Completed | - XML File
Transform Library-------------------------------Already Completed | -
ActiveMQ--------------------------------------------------Already Completed | -
TrueType Font Rendering Engine----------------------------Already Completed | - Font
Configuration and Customization Library--------------Already Completed | - Password
quality-control module-------------------------------------Success | - Shared
Library for X Window System------------------------Already Completed | - Java(TM) 2
SDK Standard Edition-------------------------------------Failed
```

The following line indicates the start of the error information:

```
| | Error: RPM Installation failed with the following detail. | |
==================================== | | jdk-1.5.0_12-fcs.i586.rpm install | | -
original directory='/mnt/cdrom/external' | | - RPM install directory='/mnt/cdrom/
external/J2SDK' | | - RPM name ='jdk-1.5.0_12-fcs.i586.rpm' | | - LOG file = '/tmp/
Avaya/install-rpm.log' | | ------------------------------------ | | >>>>>>Starting
RPM installation: 'rpm -U --replacepkgs jdk-1.5.0_12- | | fcs.i586.rpm'
```

The following two lines show the installed JDK version and why it does not match the version Voice Portal needs to install:

```
| | package jdk-1.5.0_14-fcs (which is newer than jdk-1.5.0_12-fcs) is | | Already
Completed | | >>>>>>RPM Installation failed: Exit Code: 2 | |
====================================
```

The following three lines restate the error that the version found was not the version expected:

```
| | RPM installation check: Expecting 'Found' = 'Expected'. | | Expected:
jdk-1.6.0_07-fcs.i586.rpm | | Found: jdk-1.5.0_14-fcs Out of Date | | Non-compliant
Java SDK found. Enter "rpm -e j2sdk" in the command line | | to uninstall the SDK,
then run the prerequisite installer again.
==============================================================================
Install aborted due to installation failure.
==============================================================================
```

To resolve this issue:

1. If you want to verify that this version is actually installed, enter the `rpm -q jdk` command.
2. 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 Prerequisite Installer expected that the version it found installed on the system would be identical to the version it was installing. The solution is to remove the more recent version and let the Prerequisite Installer install the JDK version Voice Portal requires.
   b. To remove the installed JDK version, enter the `rpm -e jdk` command.
   c. Once the JDK version has been removed, return to the Voice Portal installation script and resume the installation.

Identifying RPM issues

If you have installed Red Hat Enterprise Linux Server release 5.6 or later, you should also verify that the correct RPMs are installed on your system. Voice Portal requires Red Hat Enterprise Linux Server Release 5.6 or later. If you registered with Red Hat to automatically receive updates, there might be a conflict with one or more of the updated RPMs.

The Voice Portal installation included a file called `ES4-Update5.txt` that lists the RPMs and version numbers in Red Hat Enterprise Linux Server Release 5.6 or later. This file is installed in `$AVAYA_HOME/Support/RedHat-RPM-Lists` and on the Voice 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 Voice Portal system not to operate.

Note:

If the list of RPMs installed on your system does not exactly match the list of RPMs in `ES5.2.txt`, 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 inline with the verified list of RPMs to see if that solves the problem.

Solution

Procedure

1. On each Voice Portal server, log in to Linux as root.
2. Enter the `cat /etc/issue` command.
3. Verify that the version is Red Hat Enterprise Linux Server Release 5.6 or later.
4. To get a list of the RPMS installed on your system and redirect the list to a file, enter the `rpm -qa | 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 Voice Portal, enter the `diff /tmp/rpmlist.txt $AVAYA_HOME/Support/RedHat-RPM-Lists/RHEL5.2.txt` command.
6. To display the differences file, enter the `cat /tmp/diffrpms.txt` command.
7. Review the reported differences and bring the installed RPMs inline with the ones listed in `ES4-Update5.txt`.
8. If you need the correct version of an RPM, download it from Red Hat website, http://www.redhat.com.
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/rpmname`* is the complete filename and path 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 Voice 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 Voice Portal. Please wait...
|-----------|-----------|-----------|------------| 0% 25% 50% 75% 100% ||||||||||
-------------------------------------------------------------------------------
Post Installation Summary The Voice 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 Voice Portal software was actually installed or upgraded.

Solution

Procedure

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 Voice Portal installation script `installvp`.

VPMS install finishes with an Axis error

A known issue with Axis sometimes affects the VPMS software installation. If this problem occurs, the VPMS 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 VPMS... 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 VPMS...
Possible Error during operation: Start Tomcat - Start error description - Warning:
Axis may not be accepting new applications properly - End error description - ...done
installing VPMS Installing MPP... ...done installing MPP
```

In this case, you need to:

Solution

Procedure

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

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 Voice 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

Procedure

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 Voice 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 VPMS... ...done installing VPMS Installing
MPP... ...done installing MPP Press 3 to Finish or 5 to Redisplay [3] Moving
installation logs to: /opt/Avaya/VoicePortal/logs/install_2008-01-21.000
[sroot@vpms-server cdrom]# reboot
```

MPP installation is hanging

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

Solution

Procedure

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 VPMS and MPP clocks are properly synchronized as described in Time synchronization problems on page 85.
   - 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 Voice 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 VPMS key

The VPMS 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://VPMS-server/cert.pem`

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

Solution

Procedure

1. Log in to Linux on the Voice Portal primary VPMS server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` 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://VPMS-server/cert.pem` command, where *VPMS-server* is the domain name or IP address of the system where the primary VPMS 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 shuts down several VPMS components. When the command has successfully stopped all relevant components, it displays the message: `VPMS Shutdown Status: [ OK ]`.

   The command immediately starts the same components. When it has finished, it displays the message: `VPMS Start Status: [ OK ]`.
5. Verify that you can log in to the VPMS web interface as described in the *Logging in to the Voice Portal web interface* topic in the *Administering Voice Portal* guide.
6. Return to the MPP server and either continue the current installation or restart the installation process.

Lost PostgreSQL user account passwords

Before you begin

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

About this task

Voice Portal uses the following PostgreSQL user accounts:

Default account name	Description
postgres	The VPMS server uses this account to log in to the Voice Portal database to store and retrieve data, and to install new updates or patches. The database administrator can use this account to log into the local `VoicePortal` database and perform database administration tasks. You can set the password for this account, but you cannot add other accounts of this type, delete this account, or change the account name. **Important:** Contact your Avaya Services representative if you need 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 Voice Portal database that store report data. Speech application developers can use this account to login to the database to create custom reports using any SQL-enabled report generation tool. You can have any number of accounts of this type with any account names you want to use.

Default account name	Description
reportwriter	This user account can only change the data in the tables that store report data in the Voice Portal database on the auxiliary VPMS server. You can have any number of accounts of this type with any account names you want to use. **Important:** Contact your Avaya Services representative if you need to modify the tables that store report data in the local VoicePortal database.
vpcommon	This account allows the auxiliary VPMS server limited access the main Voice Portal database, and it is required if you plan to configure a auxiliary VPMS server. You can delete this account or set the password for it, but you cannot add other accounts of this type or change the account name.

The `SetDbpassword` script allows you to change all account passwords and add and delete all accounts except for postgres, which cannot be deleted.

Note:

This script replaces the `UpdateDbPassword` script that was included with Voice Portal 4.0 or 4.1.

Procedure

1. Log in to Linux on the primary or auxiliary VPMS server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.

2. Navigate to the `Support/VP-Tools/SetDbpassword` directory by entering the `cd $AVAYA_HOME/Support/VP-Tools/SetDbpassword/SetDbpassword.sh` command.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`

   Tip:

   This script is also available in the `Support/VP-Tools` directory of the Voice Portal installation DVD.

Comments? infodev@avaya.com

3. Enter the `bash SetDbpassword.sh update -u` *`username`* `-p` *`password`* command, where:
   - *`username`* is the name of the user account whose password you want to change
   - *`password`* is the new password you want to use for this account.

   For example, to set the postgres password to NewPostgres1, you would enter the `bash SetDbpassword.sh update -u postgres -p NewPostgres1` command.

   If you change the password for the postgres account, Voice Portal stops and then restarts the VPMS service.

Next steps

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

Time synchronization problems

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

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

Changing the Product ID for an existing Voice Portal system

Before you begin

If you have just installed or upgraded the Voice Portal software and are still logged into the server, verify that you reloaded the environment variables as described in Reloading the Voice Portal environment variables on page 87.

About this task

Note:

This script stops and then restarts Tomcat automatically. This means that the VPMS will be unavailable until Tomcat reinitializes.

Procedure

1. Log in to Linux on the Voice Portal primary VPMS server.

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

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

   Otherwise, log in to Linux locally as root, or log in remotely as a non-root user and then change the user to root by entering the `su -` command.

2. Navigate to the `Support/VP-Tools` directory by entering the `cd $AVAYA_HOME/Support/VP-Tools` command.

   $AVAYA_HOME is the environment variable pointing to the name of the installation directory specified during the Voice Portal software installation. The default value is `/opt/Avaya/VoicePortal`.

   Tip:

   This script is also available in the `Support/VP-Tools` directory of the Voice Portal installation DVD.

3. Enter the `bash ResetProductID` *`New_ProductID`* command, where *`New_ProductID`* is the product ID that you want to use.

4. Follow any on-screen instructions displayed by the script.

Changing the Avaya Enterprise Linux network configuration for an existing Voice Portal server

Procedure

To change the Avaya Enterprise Linux network configuration after you have installed the operating system, enter the `/usr/sbin/netconfig` command and follow the prompts.

Comments? infodev@avaya.com

Reloading the Voice Portal environment variables

After you install or upgrade a Voice Portal server, you need to load the new environment variables.

Procedure

1. Log completely out of the Linux system.
2. Log in to Linux by entering a non-root user name and password at the prompts.
3. If you are working with:
   - Avaya Enterprise Linux, enter the `su - sroot` command.
   - Red Hat Enterprise Linux Server release 5.6 or later, enter the `su -` command.

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.

This following is an example of the error message:

```
Sep 20 13:34:35 i3250-mpp fsck: RHE4.0-AV11.3VP2 has gone 49706 days without being
checked, check forced.
Sep 20 13:34:35 i3250-mpp fsck: RHE4.0-AV11.3VP2:
```

Related topics:

Solution on page 88

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.

Chapter 8: Installation worksheets

Installation worksheets for the Voice Portal single server configuration

Before you begin the installation of the Voice Portal software on a single server, you should complete these installation worksheets. They are your guide to collecting the information necessary for a successful Voice Portal installation and configuration.

All users should complete the Single server configuration worksheet on page 89.

In addition, if this deployment includes:

- H.323 connections, complete the H.323 installation worksheet on page 95.
- SIP connections, complete the SIP installation worksheet on page 97.
- Automatic Speech Recognition (ASR) servers, complete one copy of the ASR server installation worksheet on page 93 for each ASR server
- Text-to-Speech (TTS) servers, complete one copy of the TTS server installation worksheet on page 94 for each TTS server
- Speech applications, complete one copy of the Speech application installation worksheet on page 98 for each application that will be deployed on the Voice Portal system.

Single server configuration worksheet

Complete this worksheet if you are installing the Voice Portal VPMS and MPP software on a the same server.

Requirement/ Information Needed	Your value	Notes
Ensure that the hardware meets the minimum requirements.		See *Minimum server machine hardware requirements* topic in the *Planning for Voice Portal* guide.

Requirement/ Information Needed	Your value	Notes
What access method are you going to use?	_____ Local keyboard, mouse, and monitor _____ Remote access via SSH client or modem	
Server information	IP address _____ Hostname _____	The hostname cannot contain spaces or periods.
Corporate LAN IP address	_____	
PBX LAN IP address, if different from corporate LAN	_____	
Avaya Enterprise Linux network configuration information	Subnet mask on Corporate LAN _____ Subnet mask on PBX LAN, if different from Corporate LAN _____ Default gateway _____ Primary DNS Server _____ DNS domain name _____ Timezone _____	See the *Avaya-provided server installation* chapter in the *Implementing Voice Portal on multiple servers* guide.
For customer-provided hardware, is Red Hat Enterprise Linux Server Release 5.6 or later installed?	_____ Yes _____ No	If No, install Red Hat Enterprise Linux Server Release 5.6 or later as described in the *Customer-provided operating system installation* chapter in the in the *Implementing Voice Portal on multiple servers* guide.
Is the default language for Linux set to English?	_____ Yes _____ No	If No, set the default language to English. You can change the default language after Voice Portal is installed.
Can all planned Voice Portal servers communicate with one another?	_____ Yes _____ No	For more information, see the *Verifying server communication worksheet* topic in the *Implementing Voice Portal on multiple servers* guide.

Requirement/ Information Needed	Your value	Notes
For Avaya Enterprise Linux, user account passwords	`cust` account password: _____ root account password: _____	
For Red Hat Enterprise Linux Server release 5.6 or later, user accounts and passwords	root account password: _____ Non-root account name: _____ Non-root account password: _____	
Installation directory, if different from default	_____	Default directory: `/opt/Avaya/VoicePortal` Specify an absolute directory path containing only standard English alphanumeric characters and the symbols `/` (forward slash), _ (underscore), `-` (hyphen), ~ (tilde), or `.` (period).
VPMS web interface administration user name and password	User name: _____ Password: _____	The Voice Portal administrator uses this account to log in to the VPMS web interface to administer the Voice Portal system. The account is assigned the Administration user role as well as the Auditor and User Manager user roles. For details, see the *User Roles* topic in the *Administering Voice Portal* guide.
postgres database account password	_____	The VPMS server uses this account to log in to the Voice Portal database to store and retrieve data, and to install new updates or patches. The database administrator can use this account to log into the local `VoicePortal` database and perform database administration tasks.
Do you want to create a database account that can access the report information in the database?	_____ Yes _____ No If Yes, account user name, if different from default: _____	Default user name: report This user account can only read those tables in the Voice Portal database that store report data. Speech application developers can use this account to login to the

Requirement/ Information Needed	Your value	Notes
	Password: _____	database to create custom reports using any SQL-enabled report generation tool. **Note:** The report user name cannot be the same as the VPMS web interface administration user account name or the report reader user account name.
What is the Product ID for this system?	_____	See the *License Requirements* topic in the *Planning forVoice Portal* guide.
3rd-party SSL certificate information, if required	The existing certificate's location: _____ The existing certificate's password: _____	
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 Voice Portal will allocate to this MPP. 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, see the *MPP server capacity* topic in the *Planning for Voice Portal* guide.
Will Avaya Services maintain this server?	_____ Yes _____ No If Yes, what is the Listed Directory Number (LDN) for this server? _____ Where is the Avaya Service Account authentication file located? _____ If Avaya Services is going to connect to the system using a dial up modem, what is the Remote	

Requirement/ Information Needed	Your value	Notes
	Access Service (RAS) IP address for this system? _____	
WebLM information	License server URL, if not located on the VPMS server: _____ WebLM password: _____	
External time sources that the VPMS server should be synchronize with, if desired	Name or IP address of primary time source: _____ Name or IP address of secondary time source: _____	
Do you want to enter values in the VPMS in languages other than English?	_____ Yes _____ No	

ASR server installation worksheet

Complete a copy of the following worksheet for each Automatic Speech Recognition (ASR) server in the Voice Portal system.

Requirement or information needed	Your value
Server name	_____
IP address	_____
Server type	____ IBM WebSphere, minimum version R5.1.3 with Fix Pack 3 ____ Loquendo ____ Nuance Recognizer , minimum version 9.0.1 with Nuance Speech Server version 5.0.1 ____ Nuance OpenSpeech Recognizer (OSR) , minimum version 3.0.13 with SpeechWorks MediaServer (SWMS) component version 3.1.14 or 3.1.15 **Note:** SWMS version 4.0 is *not* supported.

Requirement or information needed	Your value
Total number of Nuance, Loquendo or IBM licenses available on this speech server	_____
Configured languages	_____ _____ _____ _____ _____ _____
Will Avaya Services maintain this server?	_____ Yes _____ No If Yes, what is the Listed Directory Number (LDN) for this server? _____

TTS server installation worksheet

Complete a copy of the following worksheet for each Text-to-Speech (TTS) server in the Voice Portal system.

Requirement or information needed	Your value
Server name	_____
IP address	_____
Server type	_____ IBM WebSphere, minimum version R5.1.3 with Fix Pack 3 ____ Loquendo _____ Nuance RealSpeak, minimum version 4.5 with Nuance Speech Server version 5.0.1 _____ Nuance RealSpeak, minimum version 4.0.12 with the Nuance patch for RealSpeak and SpeechWorks MediaServer (SWMS) component version 3.1.14 or 3.1.15 **Note:** SWMS version 4.0 is *not* supported.
Total number of Nuance, Loquendo or IBM licenses available on this speech server	_____
Configured voices	_____

Requirement or information needed	Your value
	_____ _____ _____ _____ _____
Will Avaya Services maintain this server?	_____ Yes _____ No If Yes, what is the Listed Directory Number (LDN) for this server? _____

H.323 installation worksheet

Complete the following worksheet for each H.323 connection that you want to use with this Voice Portal system.

Important:

Configure the PBX as detailed in *Avaya Configuration Note 3910* on the Avaya online support Web site, http://support.avaya.com.

Requirement or information needed	Your value
Do you want to use supervised transfers or perform outbound calling with the Application Interface web service?	_____ Yes _____ No **Note:** 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	_____ _____ _____ _____ _____
Does the PBX use Media Encryption?	_____ Yes _____ No
Hunt Group information -- Group 1	

Requirement or information needed	Your value
Pilot number	_____
Station range	_____
First station password	_____
What type of passwords does the group use?	_____ Identical _____ Sequential
What type of calls are the ports used for?	_____ Inbound only _____ Inbound and outbound _____ Maintenance
Hunt Group information -- Group 2	
Pilot number	_____
Station range	_____
First station password	_____
What type of passwords does the group use?	_____ Identical _____ Sequential
What type of calls are the ports used for?	_____ Inbound only _____ Inbound and outbound _____ Maintenance
Hunt Group information -- Group 3	
Pilot number	_____
Station range	_____
First station password	_____
What type of passwords does the group use?	_____ Identical _____ Sequential
What type of calls are the ports used for?	_____ Inbound only _____ Inbound and outbound _____ Maintenance
Hunt Group information -- Group 4	
Pilot number	_____
Station range	_____
First station password	_____
What type of passwords does the group use?	_____ Identical _____ Sequential
What type of calls are the ports used for?	_____ Inbound only _____ Inbound and outbound _____ Maintenance

Requirement or information needed	Your value
Hunt Group information -- Group 5	
Pilot number	_____
Station range	_____
First station password	_____
What type of passwords does the group use?	_____ Identical _____ Sequential
What type of calls are the ports used for?	_____ Inbound only _____ Inbound and outbound _____ Maintenance

SIP installation worksheet

Complete the following worksheet for each SIP connection that you want to configure on this Voice 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 SIP Enablement Services as detailed in *Avaya Configuration Note 3911* on the Avaya online support Web site, http://support.avaya.com.

Requirement or information needed	Your value
Do you want to use Secure Real-time Transport Protocol (SRTP)?	_____ Yes _____ No **Note:** If Yes, you need Avaya SIP Enablement Services version 4.0 or later with either Communication Manager version 3.0 or later or a third-party SIP Gateway or SIP Trunk.
PBX name	_____
What proxy transport do you want to use?	_____ TCP _____ TLS
SIP Domain	_____
Proxy server address	_____
Proxy server port, if different from default	_____

Requirement or information needed	Your value
	Note: The default for TCP is 5060, and the default for TLS is 5061.
Listener port, if different from default	_____ **Note:** 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 If desired, specify the number of simultaneous calls that can be: _____ Inbound _____ Outbound **Note:** 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 Voice Portal system.

Note:
For information about using Avaya Dialog Designer to create speech applications, see your Dialog Designer documentation.

Requirement or information needed	Your value
Application name	_____
What is the application MIME type?	_____ VoiceXML _____ CCXML _____ CCXML/VoiceXML
If the MIME type is VoiceXML or CCXML/VoiceXML, the URL to the initial VoiceXML page	_____
If the MIME type is CCXML or CCXML/	_____

Requirement or information needed	Your value
VoiceXML, the URL to the initial CCXML page	
If this application uses Automatic Speech Recognition (ASR) resources, what languages are required?	_____ _____ _____ _____ _____
If this application uses Text-to-Speech (TTS) resources, what voices are required?	_____ _____ _____ _____ _____
What will this application be used for?	_____ Specific inbound calls _____ Inbound calls not handled by another application _____ Outbound calls **Note:** If it is for outbound calls, configure the Application Interface web service. For details, see *The Application Interface web service* topic in the *Administering Voice Portal* guide.
What called numbers should be associated with this application?	_____ _____ _____ _____ _____
Which server will perform DTMF processing?	_____ The ASR server. You must select this option if the DTMF grammar uses ECMA script. _____ The MPP server.
If this application was not developed using Dialog Designer, do you want to add its log and breadcrumb information to the Voice Portal report database so that it appears in the application reports?	_____ Yes _____ No **Note:** If Yes, configure the Application Logging web service. For details, see *The Application Logging web service for third-party speech applications* topic in the *Administering Voice Portal* guide.