



# **Implementing Proactive Outreach Manager**

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# Contents

<b>Chapter 1: Installing and configuring Proactive Outreach Manager.....</b>	<b>7</b>
Prerequisites.....	7
Installing POM.....	8
Using CLI to install POM on auxiliary VPMS.....	9
Using CLI to install POM on primary VPMS.....	11
Using GUI to install POM on primary VPMS.....	13
Using GUI to install POM on auxiliary VPMS.....	14
Configuring.....	16
Configuring POM database.....	17
Configuring POM server.....	18
Different configurations for POM database.....	20
Configuring applications and licenses.....	22
Adding users.....	23
Upgrading POM.....	24
Upgrading POM.....	24
Upgrading POM using CLI.....	24
Using GUI to upgrade POM.....	25
Post upgrade steps.....	26
Upgrading Voice Portal and/or AvayaTised linux.....	27
Uninstalling POM.....	28
<b>Chapter 2: Configuring the Server Environment.....</b>	<b>29</b>
Starting a VNC server.....	29
<b>Chapter 3: Basic Troubleshooting Tips.....</b>	<b>31</b>
Primary or auxiliary VPMS not installed.....	31
Proposed Solution.....	31
Server error.....	31
Proposed Solution.....	31
Database Name Error.....	32
Name of database does not exist.....	32
Database Connection Error.....	32
Database Connection Attempt Failed.....	32
Failed to connect to the database.....	32
Proposed solution.....	33
Database Password Error.....	33
Log in failed.....	33
Database Port Number Error.....	33
Invalid port number.....	33
Database Type Error.....	34
Enter Oracle or Postgres as dbtype.....	34
Database User Error.....	34
Database user does not exist.....	34
Unsupported Version of Voice Portal Error.....	35
Unsupported version of Voice Portal.....	35
Installation Aborted Error.....	35
Proactive Outreach Manager is fully or partially installed.....	35
User does not have sufficient privileges.....	36

Proposed solution.....	36
<b>Index.....</b>	<b>37</b>

# Chapter 1: Installing and configuring Proactive Outreach Manager

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## Prerequisites

Ensure you configure Voice Portal before you install Proactive Outreach Manager (POM).

### Minimal Voice Portal requirements

- Licenses: Use telephony ports more than or equal to the number of POM ports. You also need Text to Speech (TTS) or Automated Speech Recognition (ASR) licenses.
- Speech Servers: Configure a minimum of one TTS. If you expect user inputs, configure an ASR in addition to the TTS.
- VoIP Connections: Configure H.323 or Session Initiation Protocol (SIP) ports.
- Ensure you install the SA8874 patch (Call status messages for 7434ND IP phones) on the Communication Manager to enable CCA (Call classification analysis) feature for H.323 ports.
- Port Distribution: Ensure that the H.323 or SIP ports are In Service.
- Voice Portal Management System (VPMS) and Media Processing Platform (MPP) Server: Use primary VPMS, auxiliary VPMS and MPP servers inline with the help of the recommended sizing tool.
- Check if Voice Portal is running successfully by placing at least one inbound and outbound call.

### POM installation scenarios

You can install POM either as a single server scenario or multiple server scenario based on the outbound calling needs of your contact center.

For single server installation, install the POM server and VPMS plug-in packages on the primary VPMS. For details of installation refer to [Using GUI to install POM on primary VPMS](#) on page 13, or [Using CLI to install POM on primary VPMS](#) on page 11.

#### Note:

Install the VPMS plug-in on the primary VPMS only.

For multiple server installation, install VPMS plug-in on primary VPMS. You can install POM server on a primary VPMS and an auxiliary VPMS. For details of installation, refer to [Using](#)

[GUI to install POM on auxiliary VPMS](#) on page 14, or [Using CLI to install POM on auxiliary VPMS](#) on page 9.



**Note:**

In case of multiple server installation, you can configure up to four POM servers.

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## Installing POM

### Prerequisites

Install Voice Portal 5.1.

If you are installing Voice Portal for the first time, refer to *Voice Portal* documentation from the Support site at <http://support.avaya.com>.

To access POM from a remote desktop, you can use a Virtual Network Computing (VNC) server. For more information, refer to [Starting a VNC server](#) on page 29 .

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1. Log in to Voice Portal as a root user.
  2. Type `mount -o loop <path of iso image> /mnt` to mount the POM iso image to the server.
  3. Type `cd /mnt` to change the directory to mnt.
  4. Type `./installPOM` and press `Enter`.

If the installer detects an earlier version of POM, the system prompts you to choose either an upgrade or an uninstall. For uninstalling , refer to [Uninstalling POM](#) on page 28.

If you chose to upgrade, and if the installed POM version is higher than the version you are trying to install, then the system displays the Uninstall window.

If the installed POM version is lower than the version you are trying to install, then the system displays the Upgrade window. For details on upgrading POM, refer to [Upgrading POM](#) on page 24.

If you choose to install using a Command Line Interface (CLI), refer to [Using CLI to install POM on primary VPMS](#) on page 11, or [Using CLI to install POM on auxiliary VPMS](#) on page 9.

Alternatively, if you choose to install POM using a Graphical User Interface (GUI), refer to [Using GUI to install POM on primary VPMS](#) on page 13, or [Using GUI to install POM on auxiliary VPMS](#) on page 14.

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## Using CLI to install POM on auxiliary VPMS

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1. On the Welcome screen, type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

 **Note:**

At any point during the installation, if you press 4 to quit, the system displays a confirmation message. Type 1 to quit, or 2 to cancel quitting the installation.

2. On the License Agreement screen, type 1 to accept the license agreement, 2 to reject the license agreement. Press **Enter**, and type 1 to continue, 2 for previous, 3 to re-display the menu options, or 4 to quit the installation.
3. Specify the installation path or press **Enter** to select the default path. The default path is `/opt/Avaya/avpom`.

If the directory exists, the system displays the following message:

```
The directory already exists! Are you sure you want to install here and
possibly overwrite existing files? 1. Yes 2. No Do you want to continue?
```

Type 1 to overwrite the existing files or type 2 to specify the installation path.

4. Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

The installer detects whether the system is a primary, or an auxiliary VPMS.

For auxiliary VPMS, choose to install from the following packages:

- POM server
- DD Application

 **Note:**

If you have a DD application on the primary VPMS, or on any application server, do not install the DD application again.

All the packages are pre-selected by default and you can clear some packages.

To select or clear other packages:

- a. Type 2 and press **Enter** to select or clear POM server package.
- b. Type 3 and press **Enter** to select or clear VPMS Plug-in package.
- c. Type 4 and press **Enter** to select or clear DD Application package.
- d. Type `r` to re-display.
- e. Type `c` to continue and press **Enter**. Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

5. In the VPMS Information window, specify the primary Voice Portal server IP address and port number.

The default port is 80.

The system displays the Voice Portal security certificate. Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

6. To install a security certificate for POM, use the option button to either create a new certificate, or import an existing certificate. Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

 **Note:**

Ensure that the certificate is formatted as a PKCS#12 file that stores both the root certificate and its key. The file must also be encrypted and require a password.

7. The system displays the Installation Summary screen, which consists of:

- The installation path
- All the packages that you select to install
- The space occupied by each package
- The used and free system space

 **Caution:**

If you type 2 after this step, you cannot navigate back to make changes to the installation.

Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

 **Important:**

Avaya recommends that you do not quit the installation till the system displays the Post Installation Summary screen.

The installation begins. After the installation is complete, the system displays the following message:

```
Install was successful.  
Application installed on <installation path>  
Please restart the system now! [Console installation done]  
Moving installation log files to $POM_HOME/logs
```

8. Type `reboot` to restart the server.

 **Note:**

Repeat steps 1–8 to install POM on more than one auxiliary VPMS.

Refer to [Configuring](#) on page 16 for basic configuration.

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## Using CLI to install POM on primary VPMS

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1. On the Welcome screen, type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

 **Note:**

At any point during the installation, if you press 4 to quit, the system displays a confirmation message. Type 1 to quit, or 2 to cancel quitting the installation.

2. On the License Agreement screen, type 1 to accept the license agreement, 2 to reject the license agreement.
3. Press **Enter**, and type 1 to continue, 2 for previous, 3 to re-display the menu options, or 4 to quit the installation.
4. Specify the installation path or press **Enter** to select the default path. The default path is `/opt/Avaya/avpom`.

If the directory exists, the system displays the following message:

```
The directory already exists! Are you sure you want to install here and
possibly overwrite existing files? 1. Yes 2. No Do you want to continue?
```

Type 1 to overwrite the existing files or type 2 to specify the installation path.

5. Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

The installer detects whether the system is a primary, or an auxiliary VPMS.

For primary VPMS, choose install from the following packages:

- POM server
- VPMS Plug-in
- DD Application

All the packages are pre-selected by default and you can clear some packages.

To select or clear other packages:

- a. Type 2 and press **Enter** to select or clear POM server package.
  - b. Type 3 and press **Enter** to select or clear VPMS Plug-in package.
  - c. Type 4 and press **Enter** to select or clear DD Application package.
  - d. Type `r` to re-display.
  - e. Type `c` to continue and press **Enter**
6. Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the installation.

To successfully install POM, install a security certificate.

 **Note:**

Ensure that the certificate is formatted as a PKCS#12 file that stores both the root certificate and its key. The file must also be encrypted and require a password.

7. Type `0` to create a new certificate, or `1` to import the security certificate from specified location, and press `Enter`.

The system displays the security certificate.

8. Type `1` to continue, `2` for previous, `3` to re-display the menu options, and `4` to quit the installation.

The system displays the Installation Summary screen, which consists of:

- The installation path
- All the packages that you select for installation
- The space occupied by each package
- The used and free system space

9. Type `1` to continue, `2` for previous, `3` to re-display the menu options, and `4` to quit the installation.

 **Caution:**

If you type `2` after this step, you cannot navigate back to make changes to the installation.

 **Important:**

Avaya recommends that you do not quit the installation till the system displays the Post Installation Summary screen.

The installation begins. After the installation is complete, the system displays the following message:

```
Installation was successful.  
Application installed on <installation path>  
Please restart the system now! [Console installation done]  
Moving installation log files to $POM_HOME/logs
```

10. Type `reboot` to restart the server.

Refer to [Configuring](#) on page 16 for basic configuration.

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## Using GUI to install POM on primary VPMS

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1. In the Welcome window, click **Next** to continue, or **Quit** to quit the installation.
2. In the Installation Detail window, click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.

 **Note:**

At any point during the installation, if you click **Quit**, the system displays a confirmation message. Click **Yes** to quit, or **No** to cancel quitting the installation.

3. In the License Agreement window, click **I accept the terms of this agreement**, and click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.
4. In the Select the installation path window, browse to select the path where you want to install POM.

The default installation path is `/opt/Avaya/avpom`.

5. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation. If the installation directory does not exist, the system displays a dialog box with the following message:

The target directory will be created:<installation path>

Click **OK** to continue.

If the installation directory exists, the system displays a dialog box with the following message:

The directory already exists! Are you sure you want to install here and possibly overwrite existing files?

Click **Yes** to accept.

The installer detects whether the system is a primary, or an auxiliary VPMS. Select a specific package to view its details, the disk space required and total free disk space.

For primary VPMS, choose to install from the following packages:

- VPMS plug-in
- POM server
- Dialog Designer (DD) application

6. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.
7. To install a security certificate for POM, use the option button to either create a new certificate, or import an existing certificate.

 **Note:**

Ensure that the certificate is formatted as a PKCS#12 file that stores both the root certificate and its key. The file must also be encrypted and require a password.

8. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.  
The system displays the security certificate.
9. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.  
The system displays the Installation Summary screen with the packages you select, and the target directory.

 **Caution:**

Clicking **Next** starts the installation, and you cannot navigate back to make any changes to the installation.

10. Click **Next** to continue.  
The installer installs POM.

 **Important:**

Avaya recommends that you do not quit the installation till the system displays the Post Installation Summary screen.

11. After the installation is complete, click **Next** to continue.
12. Click **Done** to complete the installation process.
13. Restart the server.  
Refer to [Configuring](#) on page 16 for basic configuration.

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## Using GUI to install POM on auxiliary VPMS

1. In the Welcome window, click **Next** to continue, or **Quit** to quit the installation.
2. In the Installation Detail window, click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.
3. In the License Agreement window, click **I accept the terms of this agreement**, and click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.
4. In the Select the installation path window, browse to select the path where you want to install POM.

The default installation path is `/opt/Avaya/avpom`.

5. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.  
If the installation directory does not exist, the system displays a dialog box with the following message:

The target directory will be created:<installation path>

Click **OK** to continue.

If the installation directory exists, the system displays a dialog box with the following message:

The directory already exists! Are you sure you want to install here and possibly overwrite existing files?

Click **Yes** to accept.

The installer detects whether the system is a primary, or an auxiliary VPMS..

For auxiliary VPMS, choose to install from the following packages:

- POM server
- DD Application

Select a specific package to view its details, the disk space required and total free disk space.

 **Note:**

If you have an existing DD application on the primary VPMS, or on any application server, do not install the DD application again.

6. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.
7. In the VPMS Information window, specify the primary Voice Portal server IP address and port number.  
The default port is 80.  
The system displays the Voice Portal security certificate.
8. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.
9. To install a security certificate for POM, use the option button to either create a new certificate, or import an existing certificate.

 **Note:**

Ensure that the certificate is formatted as a PKCS#12 file that stores both the root certificate and its key. The file must also be encrypted and require a password.

10. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.  
The system displays the security certificate.
11. Click **Next** to continue, or **Previous** to go back, or **Quit** to quit the installation.  
The system displays the Installation Summary screen with the packages you selected and the target directory.

 **Caution:**

Clicking **Next** starts the installation, and you cannot navigate back to make any changes to the installation.

12. Click **Next** to continue.  
The installer installs POM.

 **Important:**

Avaya recommends that you do not quit the installation till the system displays the Post Installation Summary screen.

13. After the installation is complete, click **Next** to continue.
14. Click **Done** to complete the installation process.
15. Restart the server.

 **Note:**

Repeat steps 1–15 to install POM on more than one auxiliary VPMS.

Refer to [Configuring](#) on page 16 for basic configuration.

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## Configuring

To configure POM on Voice Portal 5.1:

1. Configure POM database.  
Refer to [Configuring POM database](#) on page 17.
  2. Configure POM servers.  
Refer to [Configuring POM server](#) on page 18.
  3. Configure application server.  
Refer to [Configuring applications and licenses](#) on page 22.
  4. Add users or assign POM specific privileges to existing users.  
Refer to [Adding users](#) on page 23.
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## Configuring POM database

POM database can reside on Oracle or Postgres database. POM supports Oracle version 10g and higher and Postgres version 8.3.

You can install the POM database either on a local or remote server. You can create POM schema in the Voice Portal 5.1 database, or you can create a POM schema on the local Postgres database server.

If you want to create POM schema on an Oracle database, you must install the Oracle database on a remote server.

You can choose to install the POM database in more than one manner. For details of various configurations, refer to [Different configurations for POM database](#) on page 20.

### Prerequisites

1. Install POM successfully.
2. Restart the system.
3. In case of Postgres database, modify the `pg_hba.conf` from `/var/lib/pgsql/data/pg_hba.conf` to enable the database access to all the POM servers residing on the primary and auxiliary VPMS. Restart the database service after modifying the file.
4. Create a database user. For details on creating a Oracle database user, refer <http://www.oracle.com>, and for Postgres database user, refer <http://www.postgres.org>.



#### Note:

For a Oracle database user, you need to have the CREATE SEQUENCE, CREATE SESSION, CREATE TABLE, and CREATE VIEW privileges. For a Postgres database user, you need to have the CREATE privilege on the database.

- 
1. Log in to the primary VPMS as a root user.
  2. Type `cd $POM_HOME/bin` and press Enter.
  3. Type `./installDB.sh $POM_HOME` and press Enter.  
The system displays the following message. This script can modify /  
`$POM_HOME/config/PIMHibernate.cfg.xml` or Test the DB  
connection Do you like to continue? (y/n)
  4. Type `y` to start the database configuration.
  5. Specify the database type. You can configure either a Postgres or Oracle database.
  6. Specify the database server IP address or host name.

7. Specify the port number. The default port is 5432 for Postgres database and 1521 for Oracle database.
  8. Specify the name of the database. If you are using a Voice Portal 5.1 database, specify `VoicePortal` as the database name.
  9. Specify the user name and password for connecting to the database.
  10. Type `1` to verify the database connection.  
If the command returns  
`SUCCESS`  
proceed to the next step.  
If the command returns  
`FAILURE`  
the system displays the reason for failure on the console.  
Refer to [Failed to connect to the database](#) on page 32 for more information.
  11. Type `2` to create a POM schema on the specified database  
The system displays the following message:  
`Do you want to save the values on the config file(y/n)?`  
Type `y` to save the values in the configuration file, or `n` to not save the values.  
Step 12 is optional. You need not perform the step if you are running the `./installDB.sh` for the first time.
  12. Type `3` to save the configuration settings in the file.  
Use these configuration settings to point to the existing POM database you have configured using the same steps.
  13. (Optional) Type `4` to re-configure the settings such as changing the login credentials, or changing the type of the database, or changing the server IP address or host name, or changing the port number.
  14. Type `5` to exit.
  15. Restart the VPMS by typing `/sbin/service vpms restart`.
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## Configuring POM server

POM runs either on a primary or an auxiliary VPMS. You can determine the number of POM servers with the help of the recommended sizing tool. You can configure up to four POM servers.

### Prerequisites

1. Install POM successfully.

 **Note:**

Voice Portal uses Network Time Protocol (NTP) to control and synchronize the clocks when the VPMS, POM software, and POM database are running on different servers. The dedicated POM servers, POM database server, and the optional auxiliary VPMS server should point to the primary VPMS server as the reference clock. The time and the time zones on all the systems must be same. For more details on time synchronization, refer to *Troubleshooting Voice Portal* guide from <http://support.avaya.com>.

2. Run the `installDB.sh` successfully.
3. Restart the VPMS successfully.

- 
1. Log in to the Web interface `http://<VPMSIPAddress>` using Voice Portal administrator credentials. The Voice Portal administrator inherits all the POM specific roles.
  2. In the left pane, select **POM Configuration > POM Server**.
  3. Click **Add** to add the POM Server.
  4. Specify the POM server name and IP address.
  5. Click **Continue**.
  6. Select the **Trust this certificate** check box.
  7. Click **Save**.
  8. Start the POM Manager from the command line interface by typing `/sbin/service POM start`. Alternatively, use **System Management > POM Manager** menu option to start POM.

When you successfully install the POM server, a primary VPMS is appended in the Voice Server tab.

You need to provide the user name and password to connect to the voice server. Use the same user name and password specified in the VPMS settings for configuring outcall Web service.

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### Next steps

Follow these steps to successfully install and configure POM.

1. Login to the VPMS as an administrator.
2. In the left pane, select **System Management > POM Manager**.
3. Check if the status of POM Campaign Manager is Running, and the allocated ports are equal to the number of POM licenses.

4. Login to the CLI of the VPMS as a root user.
5. Type `/sbin/service POM status`. Ensure this command returns a confirmation that the Campaign Manager and Campaign Director are running successfully.

The POM service is a wrapper service around the campaign manager and campaign director. You can start and stop or get the status of these services.

Also, if you use the SMS server, you can start and stop the SMS gateway services.

To start, stop, and get the status for the POM Manager, type

```
- /sbin/service POM start
- /sbin/service POM stop
- /sbin/service POM status
```

These steps are optional. On the command prompt, type the following commands if you want to start, stop, or get the status of the individual services.

- To start, stop, and get the status for campaign manager service, type

```
- /sbin/service cmpmgr start
- /sbin/service cmpmgr stop
- /sbin/service cmpmgr status
```

- To start, stop, and get the status for campaign director service, type

```
- /sbin/service cmpdir start
- /sbin/service cmpdir stop
- /sbin/service cmpdir status
```

- To start, stop, and get the status for SMS gateway, type

```
- /sbin/service msgwy start
- /sbin/service msgwy stop
- /sbin/service msgwy status
```

---

## Different configurations for POM database

You can install the POM server and the POM database in more than one way. POM supports both Oracle and Postgres databases. The following table lists some configurations and will help you to decide the configuration you want to setup as per your requirements.

 **Note:**

POM does not support Oracle database if it is configured to accept only secured connection.

Configuration	Database	Considerations
POM schema is installed on local Postgres database in the Voice Portal (VoicePortal) database.	Postgres	<ul style="list-style-type: none"> <li>Whenever you schedule the Voice Portal database for backup, the POM database is also backed up.</li> <li>Cross filtering of Voice Portal custom reports and POM reports is possible.</li> </ul>
POM schema is installed on local Postgres database in any manually created database.	Postgres	<ul style="list-style-type: none"> <li>POM database is not backed up with the Voice Portal database. You need to manually take the backup of the POM database.</li> <li>Cross filtering of Voice Portal custom reports and POM reports is not possible.</li> </ul>
POM schema is installed on remote database, which is configured as Voice Portal's remote reporting database.	Postgres and Oracle	<ul style="list-style-type: none"> <li>You cannot backup the POM database using the Voice Portal database backup tool. You need to manually take the backup of the POM database.</li> <li>Cross filtering of Voice Portal custom reports and POM reports is possible.</li> </ul>
POM schema is installed on remote Oracle database, and the Voice Portal remote reporting database is configured on some other database.	Oracle	<ul style="list-style-type: none"> <li>You cannot backup the Voice Portal and POM databases using the Voice Portal database backup tool. You need to manually take the backup of the databases.</li> <li>Cross filtering of Voice Portal custom reports and POM reports is not possible.</li> </ul>

Cross filtering means you can generate a POM custom report and use it as a filter in Voice Portal's standard reports, or you can generate a Voice Portal custom report and use it as filter in POM Campaign Detail Report. For example, you can generate a custom POM Campaign Detail report and use it as a filter to in Voice Portal's call detail report. This will help you to get campaign specific call details. For example, you can generate a custom Voice Portal call detail report with First Prompt Latency set. Apply this as a filter in POM Campaign Detail Report to get all the call records having the specified latency.

 **Note:**

If multiple Voice Portal systems are sharing a common reporting database, then:

- If you install a POM system on a single Voice Portal system, then you can create the POM schema with the common reporting database. In this case, cross filtering of Voice Portal custom reports and POM reports is possible.
- If you install a POM system on multiple Voice Portal systems, then you cannot create the POM schema with the common reporting database. You need to create the POM schema for each of the POM system associated with every Voice Portal system in a separate database. In this case, cross filtering of Voice Portal custom reports and POM reports is not possible.

---

## Configuring applications and licenses

---

1. If you use a remote application server, use `http://<ServerIPAddress>:portnumber/runtimeconfig` to log in to the Web interface. This method provides the DD run-time licenses to run the sample DD applications.
  - a. Specify both, the user name and password as `ddadmin`.
  - b. Select License Server from the left pane.
  - c. Type the URL of the license server in the text box.
2. Log in to VPMS using the user name and password provided during Voice Portal installation.
3. To configure the following applications in VPMS from the left pane select, **System Configuration > Applications**.
  - a. POMDriver: `http://<application server ip>:7080/PomDriverApp/ccxml/start.jsp`  
Application Type = POM:Driver , Enable TTS, Outbound Type
  - b. AvayaPOMNotifier: `http://<application server ip>:7080/AvayaPOMNotifier/Start`  
Application Type = POM:Application/VXML, Outbound Type
  - c. AvayaPOMAnnouncement: `http://<application server ip>:7080/AvayaPOMAnnouncement/Start`  
Application Type = POM:Application/VXML, Outbound Type
  - d. AvayaPOMAgent: `http://<application server ip>:7080/AvayaPOMAgent/Start`  
Application Type = POM:Application/VXML, Outbound Type



**Caution:**

The AvayaPOMNotifier, AvayaPOMAnnouncement, and AvayaPOMAgent application names are case-sensitive.



**Note:**

If you are using a remote application server, and you have installed the DD application package while installing POM, you need to:

- e. Copy the \*.war files from `$POM_HOME/DDapps` to `$CATALINA_HOME/webapps` of the application server.
- f. Copy files from `$POM_HOME/DDapps/lib/*` to `$CATALINA_HOME/lib` of application server.
- g. Restart the application server.

Alternatively, you can configure the DD applications using the `$POM_HOME/bin/insert_POM_DD_Apps.sh` script.

- a. Type `./insert_POM_DD_Apps.sh`
  - b. Enter the VPMS Web administrator user name.
  - c. Enter the VPMS Web administrator password.
  - d. Re-enter the password for verification.
  - e. Enter the IP Address of the VPMS application server on which the POM DD applications are installed.
4. Use the Avaya WebLM to configure the license information for POM.  
Configure licenses for the following three channels:
    - SMS channel: This communication channel sends SMS using the SMPP (Short Message Peer-to-Peer Protocol) 3.4 protocol.
    - e-mail channel: This communication channel sends e-mail messages using the Simple Mail Transfer Protocol (SMTP).
    - Voice and video channel: This communication channel assigns various Dialog Designer applications for call answer, answering machine as part of contact strategy.
  5. Specify the hostname or IP address of the License Server along with the port number. The default port is 8443. The administrator allocates licenses for telephony ports, ASR, and TTS connections.
- 

---

## Adding users

By default, the Voice Portal administrator has all the POM privileges. You can add new users in the same manner as in Voice Portal.

- 
1. In the left pane, select **User Management > Users**. You can either add a new user or assign POM administration privileges. You can assign the following two privileges:
    - POM Administration
    - POM Campaign Manager
  2. Log off and log in with the user credentials you just created.  
This ensures that the changes are effective.  
Once you assign the POM administration privileges, you will be able to see the POM menu options in the left pane of VPMS.
-

---

## Upgrading POM

---

### Upgrading POM

If you have POM beta build installed on the system then you can upgrade to the POM GA build using the POM Installer. Before you upgrade, Avaya recommends that user you take a backup of the POM database as POM Installer upgrades the POM database to latest version. POM Upgrade deletes the existing `$POM_HOME` folder and reinstall the new binaries of this version so you should take a backup of any user created files in `$POM_HOME`, and any log files which you want to save. The following table lists the different configurations:

POM version	Voice Portal version	Support for upgrade
POM.02.00.00.00.26(Beta 1)	GA build	Yes
POM.02.00.00.00.30(Beta 2)	GA build	Yes

- 
1. Log in to Voice Portal as a root user.
  2. Type `mount -o loop <path of the iso image> /mnt` to mount the POM iso image to the server.
  3. Type `cd /mnt` to change the directory to mnt.

If you choose to upgrade using a Command Line Interface (CLI), refer to [Upgrading POM using CLI](#) on page 24.

Alternatively, if you choose to upgrade POM using a Graphical User Interface (GUI), refer to [Using GUI to upgrade POM](#) on page 25.

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### Upgrading POM using CLI

---

1. Type `./installPOM`.
2. On the Welcome window, type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the upgrade.

 **Note:**

At any point during the upgrade, if you press 4 to quit, the system displays a confirmation message. Type 1 to quit, or 2 to cancel quitting the upgrade.

The system displays the POM Upgrade or Un-installation window, with two options; POM Upgrade and POM Un-install.

3. Type 0 for upgrade, or 1 for uninstall.
4. Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the upgrade.

The system displays the POM Upgrade Warning window.

 **Note:**

You need to take a back up of the POM database before you upgrade POM.

5. Type 1 to continue, 2 for previous, 3 to re-display the menu options, and 4 to quit the upgrade.

The system displays a Upgrade Summary window and you can view all the packages which will be upgraded and their From and To versions.

 **Caution:**

If you type 2 after this step, you cannot navigate back to make changes to the upgrade.

 **Important:**

Avaya recommends that you do not quit the upgrade till the system displays the Post Upgrade Summary window.

The upgrade begins. After the upgrade is complete, the system displays the following message:

```
Installation was successful.
Application installed on <installation path>
Please restart the system now! [Console installation done]
Moving installation log files to $POM_HOME/logs
```

6. Type `reboot` to restart the server.

## Using GUI to upgrade POM

1. Type `./installPOM`.

The system displays a Welcome window.

2. Click **Next**, or **Previous** to go back, or **Quit** to quit the upgrade.

The system displays the Upgrade/Un-installation window with two options: POM Upgrade, and POM Uninstall.

 **Note:**

Click **Quit** to quit the upgrade at any point. The system displays a confirmation message. Click **Yes** to quit the upgrade and **No** to cancel the quitting.

3. Select POM Upgrade.
4. Click **Next** or **Previous** to go back, or **Quit** to quit the upgrade.  
The system displays the POM Upgrade Warning window.

 **Note:**

You need to take a backup of the POM database before you upgrade POM.

5. Click **Next** or **Previous** to go back, or **Quit** to quit the upgrade.  
The system displays the Upgrade Summary window, and you can view all the packages which will be upgraded and their From and To versions.

 **Caution:**

Clicking **Next** starts the upgrade, and you cannot navigate back to make any changes to the upgrade.

6. Click **Next** to continue.  
POM upgrade starts.

 **Important:**

Avaya recommends that you do not quit the upgrade till the system displays the Post Upgrade Summary window.

7. After the upgrade is complete, click **Next** to continue.
8. Click **Done** to complete the upgrade.
9. Restart the server.

---

## Post upgrade steps

1. Check the POM version by typing `/sbin/service POM status`.

The POM version should match the GA version.

2. Check the local application server status, after the DD application package is upgraded, by typing `/sbin/service appserver status`.
3. If the application server status is Stopped, start the server by typing `/sbin/service appserver restart`.

 **Note:**

If you are using a remote application server, and you have upgraded the DD application package while upgrading POM, you need to:

- a. Copy the \*.war files from `$POM_HOME/DDapps` to `$CATALINA_HOME/webapps` of the application server.
  - b. Copy files from `$POM_HOME/DDapps/lib/*` to `$CATALINA_HOME/lib` of the application server.
  - c. Restart the application server.
4. Login to the VPMS Web administration and select **System Management > POM Manager** to check if the POM server is functional and has acquired the licenses successfully.
  5. If the POM server status is Stopped, click **Start** to start the POM server.
  6. In the left pane select **Real-Time Monitoring > System Monitor** and check the VPMS mode is online and the state is Running.

 **Caution:**

Do not run the `installDB.sh` post upgrade to recreate the POM schema as POM uses the existing schema.

7. Check if Voice Portal is running successfully by placing at least one inbound and outbound call.

## Upgrading Voice Portal and/or Avayatized linux

### Prerequisites

Ensure you stop all POM services before you upgrade Avayatized linux by typing `/sbin/service POM stop`, and `/sbin/service/msgwy stop`.

1. If you upgrade Voice Portal or Avaya-tised linux, to ensure that POM runs successfully, synchronize the latest VPMS certificate with POM, run the `vpUpgrade.sh` script, by typing `$POM_HOME/bin/vpUpgrade.sh`.  
The system displays a prompt asking Y/N for importing the certificate.
2. Select Y.
3. Enter the IP address of the primary VPMS.
4. Restart the VPMS service by typing `/sbin/service vpms restart`.
5. Restart the POM services by typing `/sbin/service POM restart`, and `/sbin/service/smsgwy restart`.

 **Caution:**

In case of Postgres database, modify the `pg_hba.conf` from `/var/lib/pgsql/ data/pg_hba.conf` to enable the access to POM database to all POM servers residing on the primary and auxiliary VPMS.

6. Restart the database service after modifying the `pg_hba.conf` file.
- 

---

## Uninstalling POM

You can uninstall POM using `uninstalPOM.sh` script. The uninstallation logs will be at `/PomUnInstall.log`.

1. Log in to a Voice Portal server as a root user.
  2. Type `cd $POM_HOME/bin` to go to the bin directory.
  3. Type `./uninstallPOM.sh` to uninstall.  
When the uninstalaton is successful, the system displays the following message:  

```
POM UNINSTALLATION complete. Please restart the system now!
```
  4. Type `reboot` to restart the server.
-

# Chapter 2: Configuring the Server Environment

---

## Starting a VNC server

A VNC server works similar to Telnet or SSH daemon, except that it allows VNC clients running on various Operating Systems to remotely access Linux Desktop Manager of the server, instead of the command line console ( PuTTY console).

### Prerequisites

- Linux Operating System
- VNC server package installed on the server.
- You must have root permissions.

---

Perform the following steps to start and configure the VNC server:

1. Login to the command line interface on which Voice Portal is installed.
2. Type `vncserver` and press **Enter** to start the VNC server. The system assigns a unique port number.

 **Note:**

VNC server uses different set of login authentication than the Linux `/etc/passwd`. If you have granted remote access to the VNC client, you have to create VNC login password for those Linux login accounts.

3. Type the password that you want to set for the VNC server and press **Enter**.
4. Type the password again and press **Enter**.
5. To enable Graphical Desktop Interface on the VNC server.

- a. Open the application path in an editor. For example:

```
vi /root/.vnc/xstartup
```

- b. Uncomment the following lines:

```
unset SESSION_MANAGER
exec /etc/X11/xinit/xinitrc
```

Following is an example of the file:

```
# Uncomment the following two lines for normal desktop:
unset SESSION_MANAGER
exec /etc/X11/xinit/xinitrc

[ -x /etc/vnc/xstartup ] && exec /etc/vnc/xstartup
[ -r $HOME/.Xresources ] && xrdb $HOME/.Xresources
xsetroot -solid grey
vncconfig -iconic &
xterm -geometry 80x24+10+10 -ls -title "$VNCDESKTOP Desktop" &
twm &
```

6. Type `:wq` and press `Enter` to save the changes and exit the editor.
  7. Type `vncserver kill <X-display>` and press `Enter` to stop the VNC server.
  8. Type `vncserver` and press `Enter` to start the VNC server.
-

# Chapter 3: Basic Troubleshooting Tips

---

## Primary or auxiliary VPMS not installed

The installer fails to detect either a primary or auxiliary VPMS, and quits.

---

### Proposed Solution

Install a primary or auxiliary VPMS on the server. Refer to the Voice Portal documentation for installing primary or auxiliary VPMS.

---

## Server error

Installation of Proactive Outreach Manager aborts as server restarts.

---

### Proposed Solution

1. Go to the bin directory by typing `cd $POM_HOME/bin`.
2. Type `./uninstallPOM.sh`.
3. If you do not find the bin directory, then go to the root directory by typing `cd`, followed by `rm -rf $POM_HOME`.

---

## Database Name Error

---

### Name of database does not exist

The database name is incorrect.

### Proposed Solution

---

Verify the name of the database. You have to manually create the database before you try and establish a connection with the database.

---

---

## Database Connection Error

---

### Database Connection Attempt Failed

You are unable to connect to the POM database.

### Proposed Solution

---

Verify the host name or the IP address of the database server.

---

---

## Failed to connect to the database

The system displays the following message:

```
FATAL: no pg_hba.conf entry for host "IP address", user "admin", database
"VoicePortal", SSL off
```

---

## Proposed solution

- 
1. Enter the IP address of the database server in the `pg_hba.conf`, at the following location: `/var/lib/pgsql/data/pg_hba.conf`.
  2. Provide valid server IP address of the server connecting to the database, port, user name, and password.
- 

---

## Database Password Error

---

### Log in failed

You cannot login to the database.

### Proposed solution

---

Verify the password used for connecting to the database.

---

---

## Database Port Number Error

---

### Invalid port number

You are unable to connect to the POM database, as the port number is incorrect.

## Proposed Solution

---

Verify the port number for the database connection. The default port number is 5432 for Postgres database and 1521 for Oracle database.

---

---

## Database Type Error

---

### Enter Oracle or Postgres as dbtype

You cannot connect to the database as database name is incorrect.

### Proposed solution

---

Verify you enter the correct name. The database type is case-sensitive and has to be entered as medial capital or camel case.

---

---

## Database User Error

---

### Database user does not exist

You are unable to connect to the POM database as the user name is incorrect.

## Proposed solution

---

Verify the user name you specify before you try to connect to the POM database.

---

---

## Unsupported Version of Voice Portal Error

---

### Unsupported version of Voice Portal

If you try to install Proactive Outreach Manager on an unsupported Voice Portal version, the installer quits.

## Proposed Solution

---

Install the latest version of Voice Portal. Refer to the *Voice Portal* documentation on <http://support.avaya.com> for installation.

---

---

## Installation Aborted Error

---

### Proactive Outreach Manager is fully or partially installed

Installation quits.

## Proposed solution

---

Uninstall Proactive Outreach Manager.

---

---

## User does not have sufficient privileges

The system displays this error message if the user name you provide while running `./installDB.sh` does not sufficient privileges.

---

## Proposed solution

---

Ensure the user has the Create Table, Alter Table privileges.

---



