Avaya Proactive Outreach Manager Overview and Specification

Release 4.0.2 SP4
Issue 1
February 2025

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Contents

Chapter 1: Introduction

Purpose

This document describes product characteristics and capabilities of Avaya Proactive Outreach Manager (POM), including product overview and feature descriptions, interoperability, performance specifications, security requirements, and licensing requirements.

This document is for anyone who wants to gain a high-level understanding of the product features, functionality, capacities, and limitations within the context of solutions and reference configurations.

Change history

Issue	Date	Summary of changes
Release 4.0.2 SP4, Issue 1	February, 2025	Added the topic Agent Preferred Campaigns.

Table continues…

Issue	Date	Summary of changes
Release 4.0.2 SP3, Issue 1	June, 2024	• Updated the topic Smart Notification Widget on POM Home Page with information about another condition under which the POM Home page displays the System Notifications widget. • Updated the topic Enhanced Health Monitor that displays adherence to POM System Limits with information about more system limits that are displayed on the page. • Updated the topic Contact attribute management with information about a system attribute (`addedOn`) that displays the time when a contact was imported, uploaded, or added into a contact list. • Updated the topic Do Not Call list management with information about the Timed DNC feature, where a user can specify the number of days for which an address remains in a DNC list. • Updated the topic Do Not Call list management with information about options such as User Contact ID or a Customer ID to classify a DNC address. • Updated the topic Campaign Management with information about the quick stop functionality. • Updated the topic Excluded Contacts with information about the Timed Exclusion functionality.
Release 4.0.2 SP2, Issue 2.3	October, 2023	• Added the topic SIP Code to Completion Code Mapping. • Added the topic Enhanced Rules to reduce evaluation of number of rules. • Added the topic Separate database for POM Reports. • Added the topic Export contact list to a text file. • Added the topic Enhanced Health Monitor that displays adherence to POM System Limits. • Added the topic Smart Notification Widget on POM Home Page. • Updated the topic Contact list management with information about deleting contacts from contact list based on filter template and quick upload functionality. • Updated the topic POM system capacity with information about maximum number of records per contact list and the maximum number of contacts per campaign. • Updated the topic Rule execution for the correct order of validations.
Release 4.0.2 SP1, Issue 2.2	March, 2023	Updated the document to add Job tables.

Table continues…

Issue	Date	Summary of changes
Release 4.0.2, Issue 2.1	December, 2022	Updated or removed content related to Cache service for operational database.
Release 4.0.2 Issue 2.0	October, 2022	The added information is as follows: • Advanced guard time with follow-the-sun dialing feature. • Change pacing type of a Call task node in real time. • Allow bulk import feature. • Added the following information in the POM system capacity topic: - Bulk contact list import using REST API - Bulk contact import with load The updated topics are as follows: • The Silence Call Detection overview topic has information about the feature being available in Call task nodes with Progressive, Cruise Control, Expert Call Ratio, Custom, None, Skill Based, and Time Based pacing. • Agent utilization • Web services performance • The updated subsections in the POM system capacity topic are as follows: - Contact list import without load - Contact list import with load • The updated subsections in the Tunable parameters for performance and example deployment scenarios topic are as follows: - BHCA with recommended deployment - Deployment 2: 500 Agents - Deployment 3: 1000 Agents • The updated subsections in the updated POM server specifications topic are as follows: - 101 to 500 agents (Predictive/Preview/Manual) or outbound ports per notification • Removed the Campaign restrictions topic because the Campaign Restrictions feature is obsolete. You can configure campaign restrictions by using the Attribute and System Restrictions rule instead. • In the Connection Pool and Database Sizing topic, the `hibernate` parameter names are replaced with the `hikari` parameter names.

Table continues…

Issue	Date	Summary of changes
Release 4.0.1 Issue 1.1	September, 2021	Updated document with the following 4.0.1 features: • Removed components other than POM core components. • Updated POM core components description. • Updated POM server specifications tables.
Release 4.0.1 Issue 1.0	September, 2021	First version for Release 4.0.1.

Chapter 2: Avaya Proactive Outreach Manager overview

Avaya Proactive Outreach Manager overview

Avaya Proactive Outreach Manager (POM) is a managed application of Avaya Experience Portal, linking the capabilities within the Experience Portal platform closely with the management infrastructure and services. POM provides a solution for unified, outbound capability to communicate through different channels of interaction such as Short Message Service (SMS), email, or voice.

POM integration

- POM integrates with Avaya Aura® Contact Center and Avaya Experience Platform™ (AXP) On-Prem (formerly Avaya Call Center Elite) to offer agent functionality such as agent blending, pacing, callbacks, conference calls, and call transfers.
- POM integrates with Avaya Oceana® to offer outbound functionality such as predictive and progressive agent based dialing. However, this integration does not support preview dialing.
- POM integrates with Avaya Workspaces for Call Center Elite for agents to interact with POM contacts.

POM core components

The core POM components are:

Campaign Director

Campaign Director is a Linux service responsible for triggering campaigns and data imports at a scheduled date and time. Campaign Director is also responsible for pausing and resuming campaigns based on user action and terminating campaigns if their finish criteria is specified. If you install POM as a multiple server configuration, then only one campaign director is in the active state and others are in a dormant state. Campaign Director is responsible for assigning the jobs to be processed across campaign managers. At a given time, the campaign manager processes only one job. In the event of campaign manager failure, Campaign Director redistributes the job to the next available campaign manager.

Campaign Manager

Campaign Manager is a Linux service and is responsible for parsing a campaign strategy, making voice calls, and sending SMS or email messages. Campaign Manager interfaces with one or more EPM servers for making outbound calls and sending SMS or email messages.

If you configure multiple EPM servers, the Campaign Manager uses all the servers in a synchronized manner, using all media resources available for load balancing and failover.

If you install POM as a multiple server configuration, the Campaign Manager service runs on all the POM servers. When a campaign is executed, POM creates a job for the campaign, and the campaign director assigns that job to one of the campaign managers for processing a contact.

Campaign Strategy

Use this feature to define the process of interacting with a customer during a campaign by using various channels.

You can select the following aspects of interaction in the strategy:

- Notification channel: voice, SMS, email, or custom.
- Contact address used for customer interaction.
- Rules such as timing restrictions and number of retries for contacting the customer.
- Applications to use.
- Personalized notifications texts.
- If the notification channel is voice, specify whether POM must skip over to the next Address node in the Call action node if the phone number in the current Address node cannot be attempted because of guard time restrictions.

Rule Engine

Rule Engine is a Linux service responsible for the execution of rules. You can create rules by using the **Rule Editor**. Rules can be used to restrict an attempt based on:

- Contact/address
- Number of attempts
- Channel
- Attempt completion code
- Nuisance frequency

Before making an attempt to contact, Campaign Manager refers to the rule engine to check whether the rule engine has restricted the attempt by any system or user configured rule.

If you install POM as a multiple server configuration, then only one rule engine is in the active/master state, and others are in the dormant state.

Agent Manager

POM Agent Manager (PAM) is a Linux service and is the core module to manage and run campaigns. You can either have agent-based campaigns or agent-less (notification) skill-based campaigns.

PAM is responsible for distributing licenses to all voice-based campaigns. The high-level functions of PAM include:

- Manage agent allocation and state for agents.
- Manage agents in a blended job. Only Avaya Experience Platform™ On-Prem configuration supports this module. For more information about different configurations, see POM server configuration options on page 153.
- Update the POM database with current agent related information for reporting and High Availability (HA) related functionality.

- Distribute the manual, preview, and predictive agent licenses among running agent-based campaigns and distributing outbound ports to voice notification campaigns.
- Support real-time commands from POM Monitor and Supervisor Dashboard such as minimum agents, priority, or agent-based commands such as Forced Logoff.

POM Web services

The system installs web services as a part of POM server and accesses the web services from the external applications. POM Pluggable Data Connector (PDC) uses web services to interface with POM. You can use the Web services to access various contact attributes to play personalized prompts or make decisions in the application flow.

Active MQ

Active MQ is a messaging component used for inter-process message communication between components of POM. For instance, values that modify at runtime on the dashboard of POM, are sent to corresponding POM processes by using ActiveMQ.

POM is enabled to internally use ActiveMQ to send the values that modify at runtime to the corresponding processes in POM.

In addition to the core components, the following components are also required:

Kafka server

Kafka server is a distributed messaging platform. Users subscribe to the platform and publish data to any number of systems or real-time applications. The platform provides a unified, high throughput, low-latency network for handling real-time data feeds.

On the Kafka server, POM creates one topic per event type per organization. For the Default organization, POM uses the organization name for creating a topic. For other organizations, POM uses the organization ID for creating a topic.

For more information, see https://kafka.apache.org/10/documentation.html

POM generates and sends the following events to Apache Kafka.

Example 1:

For Default organization, topic names are as follows:

- POM.Default.JOB
- POM.Default.JOBSTATISTICS
- POM.Default.AGENT
- POM.Default.AGENTSTATISTICS
- POM.Default.ENRICHEDATTEMPTRESULT
- POM.Default.ATTEMPT

Example 2

For an organization with ID=1, topic names are as follows:

- POM.1.JOB
- POM.1.JOBSTATISTICS
- POM.1.AGENT

- POM.1.AGENTSTATISTICS
- POM.1.ENRICHEDATTEMPTRESULT
- POM.1.ATTEMPT
- Real-time events:
  - Default_POM_JOB for JOB events
  - Default_POM_AGENT for Agent events
- Real-time statistics events:
  - Default_POM_JOB_STATISTICS for JOB statistics events
  - Default_POM_AGENT_STATISTICS for Agent statistics events

POM creates one topic per event type on the Kafka server.

Database

The database is a critical component of the POM architecture. POM uses database extensively to store information such as contact records, campaign configurations, schedules, and campaign data.

POM supports Oracle, PostgreSQL, and Microsoft SQL server databases.

To install the required Oracle and MS SQL drivers, see *Implementing Avaya Proactive Outreach Manager*.

ZooKeeper

ZooKeeper is a distributed, open-source coordination service for distributed applications. Zookeeper keeps a track of the status of the Kafka cluster nodes and it also keeps track of the Kafka topics and partitions. The ZooKeeper is primarily responsible for managing a Kafka cluster.

For POM High Availability (HA) deployment, Apache Kafka uses ZooKeeper to store cluster metadata.

To run a ZooKeeper service, you must fulfill the contract quorum. The quorum is the minimum number of ZooKeeper services running at a time. According to the contract, to form the quorums, there must be sevaral non-failing machines communicating with one other.

To create a deployment that can withstand the failure of N number of machines, you must deploy (2×N)+1 number of machines. For example, if one ZooKeeper fails to run, another ZooKeeper starts. This behavior also applies to Kafka brokers, where the system is fault-tolerant.

Event SDK

POM generates events and sends the events to the Apache Kafka messaging system. All the POM Components work as a producer to generate real-time events and statistics for jobs and agents.

Event SDK acquires all the events published to Kafka. Event SDK simplifies all the internal communication and provides an easier interface to a client. Event SDK acquires all the events, which enables a client to monitor the POM system. These events are provided as a plain old java object (POJO). For more information about Event SDK, see the *Avaya Proactive Outreach Manager High Availability* guide published on the support site.

The communication between the Event SDK and POM happens over the Secure Sockets Layer (SSL). A client can connect only using the Experience Portal authorized credentials. A client can receive only the user's organization job events and agents.

Dashboard service

The POM Supervisor Dashboard service is a Linux service introduced in POM 4.0 release. An outbound supervisor can monitor real-time campaigns and agents and read information from the Kafka events using the Supervisor Dashboard Service. Each supervisor can create a customized dashboard.

The POM Supervisor Dashboard service performs the following functions:

- Enriched Attempt Event Aggregation and publishing on Kafka topic.
- Real-time monitoring of the active campaigns, staffed agents, data and DNC imports, outbound skills, and license information.
- Runtime changes to running Campaigns.
- Agent operations.
- Operations on data and DNC imports.
- Provides filters on various data columns depending on the column types such as string, date and time, and integer.
- Creates customized dashboards that support bar charts, column charts, pie charts, and billboards with filters.

POM Monitor

The POM Monitor performs the following:

- Real-time monitoring of the active campaigns, staffed agents, data and DNC imports, outbound skills, and license information.
- Runtime changes to running campaigns.
- Agent operations.
- Operations on data and DNC imports.

Agent SDK Service

This service has the following two components:

- **Atmosphere manage service -** Communicates with the https port for the web socket request from Elite Workspaces.
- **Java Agent SDK -** Opens TCP socket port with active agent manager.

VP_POM_Service

A Tomcat application that hosts all the POM web services. POM uses web services for contact list management, campaign management, and related features.

Advanced List Management

Provides the following advanced features for contact list management:

- **Filter Template -** Users can define filter criteria and use the criteria for several campaigns and contact lists. Users can also specify different filters for each contact list in a campaign

- **List Splitting -** For outbound calls, POM can receive large files from applications such as CRMs and marketing tools.

  Before making outbound calls, import the customer contact lists data into POM. POM uses file splitter to split the large master contacts file into multiple contact list files. Then, POM imports the contact list files based on the configured filter criteria.

Contact List Import

With this feature, users can configure and import contacts from the following data sources:

- **File -** Users can specify an external file location and import contacts from the file into a contact list.
- **Database -** Users can specify the DB connection information and import contacts from this database into a contact list.
- **Custom -** Users can provide the name of a class that contains the logic to import contacts from an external source.

New in this release

The following new features and enhancements are available in the Avaya Proactive Outreach Manager Release 4.0.2 Service Pack 4:

Agent preferred campaigns

With this enhancement, agents have an option to select one or more preferred campaigns. New Agent APIs allow agents to select and view their preferred campaigns. POM attaches the agent to one of their preferred campaigns based on the existing agent assignment logic.

New REST APIs are provided for the supervisor to view and change the agent's preferred campaigns. This provides greater control to the supervisors for configuring the agents to join specific campaigns.

Supervisor Dashboard provides a real-time view to the supervisors to see the preferred campaigns of the agents. Supervisors can also add or change the preferred campaigns of the agents in real-time from the supervisor dashboard without restarting any service.

New API to get Contacts

New API to get contacts is provided with this release. This new API is highly efficient, has a better response time, and is optimized to put less load on DB even for frequent executions. It is highly recommended to use this new API instead of the older one.

Efficient Contacts and Exclude Contacts tabs in User Interface

With this release, the Contacts tab and the Exclude Contacts tabs in Contact Lists user interface are enhanced to load the contacts faster, which improves the user experience.

User Experience Enhancements

The following user interface pages are upgraded to provide a better user experience:

- Agent Attributes

- Agent Address Book
- Agent Group Configuration
- Agent Configuration

The following new features and enhancements are available in the Avaya Proactive Outreach Manager Release 4.0.2 Service Pack 3:

Timed DNC

With this feature, users can specify the number of days for which an address remains in a DNC list.

Timed Exclusion

The Timed Exclusion feature is an extension of the existing Excluded Contacts feature. Users can now specify a duration in number of days when a contact gets excluded from dialing. The contact becomes eligible for dailing after the specified duration expires.

Enhanced DNC

The DNC feature in POM used to work only on an address (Phone number, Email, or SIP number), that is if one address of a customer is in a DNC list, the POM dialer reached to the same customer on the other address. However, if a customer did not want to receive any call on any of their addresses, all the addresses of the contact needed to be in the DNC list.

With the Enhanced DNC feature, POM restricts all the addresses of the contact based on the Customer ID or by User Contact ID.

Option to make phone attributes unavailable for sorting

With this feature, users can make phone attributes of a filter template unavailable for sorting. Users can select this option in the Global Configurations page.

Campaign stop functionality from Campaign Manager User Interface

With the quick stop functionality, users can stop a campaign that is in the running state. The option is available on campaign manager user interface.

For more information about using this functionality, refer to the topic *Campaign Manager page field descriptions* in the *Administrating Avaya Proactive Outreach Manager guide*

New system attribute to calculate age of contacts

POM provides a new system attribute (`addedOn`) that displays the time when a new contact is imported, uploaded, or added into a contact list. This attribute is a part of all contact lists for all organizations. With this attribute, a user can filter contacts based on their age.

Same calendar day is available as a time option for Nuisance frequency

POM provides the Same Calendar Day option in the Rule Category in the Nuisance Frequency area. If users enable this option, the rule engine counts the nuisance call attempts for the same calendar day till midnight of the contact's time zone.

Edit Filter Template from Campaign creation page

With this enhancement, users can edit the Filter Template while creating or editing campaigns from the campaign creation page.

Guardrails for callbacks

With this enhancement, creation of new callbacks will be restricted if the number of active callbacks in the system exceed beyond the system defined limits. The limits are in place at system level, organization level, campaign level, and agent level.

POM Health Monitor page displays system limits for callbacks

In POM 4.0.2 SP2, POM Health Monitor used to display the number of contact lists and campaigns. In Release 4.0.2 SP3, POM displays the number of callbacks in addition to the number of contact lists and campaigns at an organization level.

POM Health Monitor page displays the **POM System Limits** tab.

The **POM System Limits** tab displays the supported limits for:

- The total number of campaigns that exceeds the supported system limit or the threshold percentage for callbacks.
- The total number of callbacks in the POM database that exceeds the supported system limit or the threshold percentage.
- The total number of organizations that exceed the supported system limit or the threshold percentage for callbacks.

  POM System Limits page also displays the system adherence to the supported limits for these categories.

Enhancement to Smart Notification Widget on POM Home Page

The POM Home page used to display the **System Notifications** widget when the supported system limits or the threshold limits for contact lists or campaigns exceeded. In POM 4.0.2 SP3, **System Notifications** widget also displays when the system limits or the threshold limits for callbacks exceed. This feature ensures that the system is well under the supported limits for specific categories before it starts impacting system performance. The notification displays for logged-in users who have permission to access the POM Health Monitor.

Automatically release stuck agents

With this enhancement, POM identifies all the agents stuck in the same state. POM issues `logoff` command to all such agents. This functionality is disabled by default.

Customize the display of number of contact attributes of a contact list

For better performance, the contacts tab inside contact list now limits the display to 15 attributes by default. The Contacts tab in the Contact List page has a new icon ⌄. A non-org user can use the icon to select the number of attributes to be displayed on the **Organization** column.

Organization column on Campaign Manager page

The Campaign Manager page has a new icon ⌄. A non-org user can use the icon to select the number of attributes to be displayed on the **Organization** column.

User experience enhancements

The following User Interface pages are improved to provide better user experience:

- DNC Groups
- Callback Manager

- Supervisor Configuration
- POM Manager

Release 4.0.2 Service Pack 2

The following new features and enhancements are available in the Avaya Proactive Outreach Manager Release 4.0.2 service pack 2:

SIP Code to Completion Code Mapping

When POM receives a telephony event through MPP or EP, the telephony event contains a SIP code or event. This sip code or event is mapped to a system completion code, which is then used to dispose the record.

With this feature, a user can change this default mapping and map a custom completion code to a sip code or event. The mapped completion code is then used to dispose the record.

User also has an option to add new mappings.

New category of completion codes for SIP Codes

The SIP Code to completion code mapping is a system-wide/global configuration, and common for all organizations. This new SIP type of completion codes are used for mapping with SIP codes.

Only an administrator user can see, add, edit, or delete SIP type of completion codes.

Enhanced Rules to reduce evaluation of number of rules

The rules are enhanced to evaluate the current number that POM dials regardless of the phone attribute it is a part of.

With this option, you can:

- Avoid the need to create multiple rules for multiple phone or call attributes.
- Improve operating performance by reducing the number of rules that POM evaluates at the time of dialing.

This is the default option for all new rules.

Separate database for POM Reports

By default, POM retrieves reports from the database to which POM is currently connected.

With this feature, POM retrieves reports from a replicated database. This reduces the load on the primary database, since POM can fetch reports from the replicated database.

Delete contacts from contact list based on filter template

POM has a feature of emptying the contact list while uploading a file through a web browser or while creating a datasource.

As an extension of this feature, users can now delete specific contacts by using a filter template. POM deletes the contacts that match the criteria in the filter template.

If the contact list is associated to a running campaign, POM deletes the contacts from the running campaign. This also helps to reduce the contacts in an ongoing infinite campaign.

Export contact list to a text file

With this feature, POM exports the contacts to a text file such as a `.csv` file. Users have a choice to select the attributes to export and also have an option to specify a delimiter of their choice. The file can then be downloaded from the web browser.

Users also have a choice to export from a different database which is of the same version, type as the database to which POM is currently connected, and also has the same schema.

Enhanced Security for Agent Scripts

Native Agent Scripts are now enhanced for better security. This enhanced security can be turned off from the Global Configurations page.

Enhanced Health Monitor that displays adherence to POM System Limits

POM Health Monitor page now displays the **POM System Limits** tab.

The POM System Limits tab displays the supported limits for:

- Total number of Contacts per contact list
- Total number of Contacts per campaign
- Total number of Contacts in the POM database
- Total number of records in the Contact Attempts History table

POM System Limits page also displays system adherence to the supported limits for the above mentioned categories.

Smart Notification Widget on POM Home Page

The POM Home page displays the **System Notifications** widget only when POM detects that the supported system limits or the threshold for system limits are exceeded. This new widget is not displayed when the system is within the supported limits for specific categories. With this feature, a user can ensure that the system is well under the supported limits for specific categories before it starts impacting system performance.

The following new features and enhancements are available in the Avaya Proactive Outreach Manager Release 4.0.2 service pack 1:

Quick upload functionality for Contact Lists

With the quick upload functionality, users will be able to upload contacts into a contact list using a `.csv` file directly from the Contact Lists page without creating a datasource.

Support $TODAY for timestamp type of attribute in Rule Engine

While creating a rule, users will be able to provide `$TODAY` as a value for all timestamp type of attributes.

Capability to manage agents in real-time without Supervisor role

Supervisor role was mandatory to manage agents in real-time through Monitor or Supervisor Dashboard. The operations include View active agents, release from outbound, move to job, place agent on break, force logoff. Users with one or more of these individual roles will now be able to manage agents in real-time through Monitor or Supervisor Dashboard, without requiring Supervisor Role.

Display agent aux-state reasons in Supervisor Dashboard

For a staffed agent, if the Agent State is Not Ready, Supervisor Dashboard displays the `aux-state` reason if available.

The following new features are available in Avaya Proactive Outreach Manager Release 4.0.2:

Advanced guard time with follow-the-sun dialing

You can specify phone attributes in the **Time Zone Phone Attributes** field on the Campaign Creation page to configure the follow-the-sun dialing feature.

POM picks up a record for dialing from the Job table only when the guard time of at least one of these phone attributes is open for dialing.

In addition, you can also enable the following on the Campaign Creation page:

- **User Preferred Time**: To use the values from the Phone Allowed Time and Phone Disallowed Time attributes of a phone attribute for determining the guard time of the phone attribute.
- **Timezone of Zipcode**: To use the zip code-based guard time of a record for determining the guard time of each phone attribute.

If you enable the **User Preferred Time** and **Timezone of Zipcode** options, POM determines the intersecting time between the guard time of a phone attribute, user preferred time, and zip code-based guard time as the final guard time for the phone attribute.

To pick up those phone attributes for dialing first whose time zone closes first, you can configure a sort condition for the `<Phone attribute name> Time Zone` attribute in the filter template that is associated with the contact lists of the campaign and specify the sort order as Descending.

Change pacing type of a Call task node in real time

You can set the **Runtime Change Pacing Type** property of a Call task node to ON so that an authorized user can change the pacing type of the Call task node from the Supervisor Dashboard in real time.

You can change the pacing type only between Preview, Progressive, Cruise Control, and Expert Call Ratio in real time.

Configure Silence Call Detection for agentless voice campaigns

You can configure Silence Call Detection for Call task nodes with Custom, None, Skill Based, and Time Based pacing types.

SFTP configuration

You can configure an SFTP server in POM and associate the SFTP server with a campaign. POM exports the successfully attempted contacts data along with the completion codes and other result details to the SFTP server after the campaign is completed.

Option to import or exclude multiple contact files simultaneously

When you create a contact data source for automatic file import, you can enable the **Allow Bulk Import** option to import multiple local files simultaneously.

The name of the files must be the same containing incremental numbering.

You can also exclude multiple contact files simultaneously with this feature.

Discontinuation of Cache service for operational database

Avaya Proactive Outreach Manager Release 4.0.2 does not support Cache service for operational database.

Chapter 3: Feature description

Manual campaigns

The manual campaign feature is provided in POM so that POM does not dial a customer number automatically. Instead, an agent must dial a customer number manually using any third-party software, device, or Avaya Workspaces for Call Center Elite.

During a manual campaign, POM sends customer information with a notification to the agents. If the agents decide to talk to the customer, they can dial the provided number manually using any third-party software, device, or Avaya Workspaces for Call Center Elite. After the dialed call is answered successfully, the agent needs to click the Connect button on the Agent desktop. If the dialing through third-party software, device, or Avaya Workspaces for Call Center Elite or does not complete, for example, Ring no answer, Call busy, and so on, the agents can click the Disconnect or Release button. Depending on the notification, the Agent desktop application must enable Disconnect or Release buttons on Desktop after dialing. To ignore or skip the Contact, agent can cancel the request. The Agent desktop application sends the appropriate command and wraps up the call. POM, Experience Portal, or MPP are not involved in the manual dialing. The agents reports the result of the manually dialed call to POM.

To use POM only for Manual campaigns, POM can be configured for non-telephony mode. POM in non-telephony mode does not support Preview, Predictive, or Progressive campaigns. In this configuration mode, POM does not have any telephony communication, that is, SMS, voice, or voice notification (agent-less) to MPP. However, POM can have email campaigns.

In the non-telephony configuration mode:

- POM works entirely for manual campaigns where agent dials the customer either from desktop (CTI integrated), hard phone, or soft phone.
- No Preview, Predective, or Progressive campaigns are possible with this configuraiton.
- In this configuration mode, POM does not have any telephony communication, that is, SMS, voice, or voice notification (agent-less) to MPP.
- POM can have Experience Portal with MPP for IVR or inbound calls.

In the mixed configuration mode:

- POM allows Preview, Predictive, and Progressive campaigns. Preview campaigns can be used with preview timer off.
- Agents can dial a customer from the CTI-enabled desktop and the number is dialed through Experience Portal or MPP.

POM Supervisor Dashboard service

The POM Supervisor Dashboard service is a Linux service used for real-time monitoring of active campaigns, staffed agents, licenses, inbound skills for Avaya Experience Platform™ On-Prem , and active data and DNC import jobs that are configured in POM.

Supervisors can use the POM Supervisor Dashboard to do the following:

- Monitor active campaigns and perform campaign-related operations. For example, pause or resume an active campaign.
- Perform remedial actions based on the status of the active campaigns.
- Change the campaign parameters at run time. For example, change the priority of a campaign job at run time.
- Set the dialing order for the priority, retry, and regular contacts in a campaign at run time.
- Perform run-time changes in filter templates and contact lists that are associated with a campaign.
- Monitor staffed agents and perform agent-related operations. For example, move an agent to another job.
- Monitor active data import and DNC import jobs.
- Pause, resume, and stop active data import and DNC import jobs.
- Perform global configurations for the Supervisor Dashboard, such as, change the time format of your local display to 12 or 24 hour format.
- View the license allocation summary for running campaigns.
- View and monitor the inbound skills for which agent-blending monitoring is enabled for Avaya Experience Platform™ On-Prem and the inbound skills that POM uses for skill-based pacing for Avaya Experience Platform™ On-Prem .
- Create and manage custom views and dashboards.
- Change the state of a zone and assign failover zone.

Supervisor Dashboard provides the following system dashboards:

- **Active Campaigns**: Displays information about the active campaigns.
- **Staffed Agents**: Displays information about the staffed agents.
- **Imports**: Displays information about the active data import and Do Not Call (DNC) import jobs.
- **License Summary**: Displays the license allocation summary for the running campaigns.
- **Inbound Skills**: Displays the inbound skills for which blend monitoring is enabled for Avaya Experience Platform™ On-Prem and the inbound skills that POM uses for skill-based pacing for Avaya Experience Platform™ On-Prem .

However, the system dashboards, system views, and user operations that are available to a user in the Supervisor Dashboard depend on the role and privileges that are assigned to the user account for the **Monitor** component in Avaya Experience Portal. An example of a user operation is the **Stop** option to stop a campaign if a supervisor is not assigned a role with the stop option, they will be restricted from stopping a campaign.

Silence Call Detection overview

The Silence Call Detection feature provides different methods to handle a call when the platform does not detect voice energy.

In POM, when an outbound call connects, the call is answered by the customer or an answering machine, or it passes through the call classification timeouts. If a call is answered and no voice energy is detected, MPP generates a Call Classification Analysis (CCA) timeout event after the configured CCA timeout.

On CCA timeout, POM does the following based on the configuration of Silence Call Detection:

- If **Silence Call Detection** is set to ON, POM classifies the call as Silence Detected and defines the call flow according to the campaign strategy.

  If POM detects a silence call, it performs one of the following actions based on the campaign strategy configuration:

  - Connects the call to the agent.
  - Runs an application.
  - Disconnects the call and attempts to connect with the same contact on another phone.
- If **Silence Call Detection** is set to OFF, POM classifies the call as Answer Human.

The Silence Call Detection feature is available for Call task node with Progressive, Cruise Control, Expert Call Ratio, Custom, None, Skill Based, and Time Based pacing only.

Campaign Linking overview

With this feature, you can link a campaign to another campaign so that when one campaign stops, its linked campaign starts.

Consider Campaign A and Campaign B, where Campaign B is linked to Campaign A. In this case Campaign A is called the base campaign, and Campaign B is called the linked campaign. The campaign linking is denoted as A → B.

The linked campaign starts when it matches one of the following criteria:

- The base campaign stops.
- The base campaign attains the callback state.
- The base campaign attains the stopped callback state.
- The base campaign does not have any contacts yet to be dialed.

Consider the following campaigns:

- Campaign A
- Campaign B
- Campaign C

- Campaign D

When all these campaigns are linked to form a chain, it is called a Campaign Link chain. The Campaign Link chain is denoted as A → B → C → D.

In this chain:

- Campaign A is the base campaign of Campaign B, and Campaign B is the linked campaign of Campaign A.
- Campaign B is the base campaign of Campaign C, and Campaign C is the linked campaign of Campaign B.
- Campaign C is the base campaign of Campaign D, and Campaign D is the linked campaign of Campaign C.

If a campaign in a Campaign Link chain fails to start because of a resource or configuration problem, it cannot trigger its linked campaign and causes an interruption in starting the remaining campaigns in the chain.

When the last campaign of a Campaign Link chain points to the first campaign, it is called a Campaign Link chain cycle. The Campaign Link chain cycle is denoted as A → B → C → D → A.

Important:

Ensure that you correctly configure the Campaign Link chain cycle. An incorrect configuration results in the starting and stopping of all campaigns in the cycle.

Campaign Level Skill Assignment overview

Attributes such as the agent's skill and the sender's address are generally defined at the campaign strategy level. This campaign strategy is then assigned to multiple campaigns. Hence, all the campaigns with the same strategy had the same agent's skill and sender's address.

Using this feature, you can define the following attributes at the campaign level on the Campaign Creation page and override what is defined in the campaign strategy:

- Agent outbound skill
- Sender’s Address
- Sender’s Display Name

Related links

Refresh Agent skills on page 26

Refresh Agent skills

If POM is installed in the Avaya Experience Platform™ On-Prem mode, the **Refresh Skills** option is available in the POM web interface to a user with the **Refresh Agent Skills** user privilege.

If an administrator changes the skills of the agents in Avaya Aura® Communication Manager, the user can click the **Refresh Skills** option from the CC Elite Configurations screen to update the

skills of the currently logged-in agents who belong to the organization of the user. The agents do not need to log out and log in again to update their skills.

The agents are auto-assigned to a new campaign based on the updated skills after their current call is completed.

Using this feature impacts the agent assignment to jobs based on the new skills.

Related links

Campaign Level Skill Assignment overview on page 26

Filter templates overview

You can create filter templates for campaigns or file splitters.

You can use a file splitter filter template to split a contact list based on the splitting criteria defined in the filter template. For more information about file splitters, see File splitters overview on page 28.

You can use a campaign filter template to specify the filter and sort conditions for the contacts in the contact list associated with a campaign. POM filters the contacts in the contact list based on the filter conditions and then sorts the filtered contacts based on the sort conditions configured in the filter template. POM uses these filtered and sorted contacts for the associated campaigns. POM also provides an option to make phone attributes of a filter template unavailable for sorting. However, existing filter templates having phone attribute continues to work without any impact.

You can do the following in a filter template:

- Add, edit, and remove a filter.
- Add, edit, and delete filter conditions within a filter.
- Add, edit, and delete filter condition groups within a filter.
- Add, edit, and delete sort conditions in filter templates created for campaigns.
- Specify the top number of contacts that match the filter and sort conditions. POM uses these top matching contacts for the campaign.

You can add a maximum of 30 filter conditions and 5 sort conditions in a filter template.

Holiday Configuration overview

With this feature, POM restricts outbound dialing on specified days. There are three different types of holidays: country, state, and campaign. POM supports the MM/DD/YY date format to specify the holiday range.

There are a maximum of 20 holidays of each type (country, state, and campaign) that you can configure in POM.

The holiday configuration feature supports the following types of holiday restrictions:

- **Temporary Restriction**:

  POM resumes outbound dialing after the restriction period ends.

  For example, if January 1 is a holiday, POM attempts dialing after January 1 changes to January 2.

  As the campaign level holiday is temporary, POM resumes dialing after the end of the temporary restriction criteria.

- **Permanent Restriction**:

  POM stops dialing on the day specified as a holiday. POM does not attempt dialing again.

  For example, if December 25 is a recurring holiday, POM does not dial after December 25.

  When you set a campaign-level holiday, POM dials the contacts simultaneously. After dialing a few contacts, when POM identifies that a holiday is set for the campaign level, POM stops dialing.

File splitters overview

This feature supports splitting an import file based on splitting criteria defined using a filter template. The splitting criteria can be defined before the actual import of a file into POM. An import file in `CSV` format is split based on the splitting criteria, and the resulting files are imported into individual contact lists as defined by the administrator. A source import file can be split into and imported as 50 individual contact lists. This feature enables POM to do the following:

- Handle large files that contain data for multiple contact lists.
- Use predefined criteria from the filter templates to divide a large file into multiple contact lists.
- Upload these import files to the previously existing contact lists.

Preview option for File splitter:

Users can view the filtered records for a contact list. The Records per page field on the user interface displays the total records on a single page.

Unfiltered Records File Path

This option enables you to view the name and complete path of the file that contains the records not filtered by any filter conditions after the splitter is executed or analyzed.

The Unfiltered Records File Path option is available on the Manage File Splitters page.

Create campaign (contact list and filter selection)

Use the contact list and filter selection page to do the following actions:

- Add one or more contact lists to the campaign.

- Associate filter templates to the contact list.
- Set the dialing allocation for contact lists.
- Set the priority of the contact lists according to the order specified.
- Preview the selected records for the selected contact lists.

Associating a filter template to a contact list filters only those records from the contact list that match the filter conditions specified in the filter template. It is required that the attributes present in filter template must be a part of the contact list to which the filter template is associated. Associating a filter template to a contact list is optional. If no filter template is associated, POM selects all the records of the contact list.

You can add a maximum of fifty contact lists to the campaign.

You can associate only one filter template to a contact list. However, you can associate the same filter template to multiple contact lists.

For an attribute-based campaign, ensure that the filter template you associate to the contact list of the campaign does not contain sort condition attributes that are already configured as attributes for attribute-based dialing on the Campaign Creation page of the campaign. This is because POM, by default, sorts the filtered contacts based on the attribute-based dialing attributes.

An attribute-based campaign is a campaign for which the **Contact Assignment to Agent** option is set to either **Attributes** or **Agent ID** or both on the Campaign Creation page.

For example, if the Age and City attributes are configured for attribute-based dialing on the Campaign Creation page of a campaign, and if Name and ID sort condition attributes are configured in the filter template that is associated with contact list of the campaign, then POM sorts the filtered contacts for dialing based on Age, City, Name, and ID.

Dialing Allocation Percent

Use this field to allocate the percentage of dialing cycle to the contact list.

For example, consider a dialing cycle of 100 records if a calling is given 50 percent allocation then 50 records out of 100 is dialed from that calling list.

If you set the dialing allocation to hundred percent in a contact list, POM dials all the filtered records from that contact list before moving to any other contact list. If you set the dialing allocation to hundred percent for multiple contact lists, POM dials all the records from each list, in the specified order.

For all contact list whose dialing allocation is not hundred percent, the total of the dialing allocations must be hundred.

Priority of the contact list is according to the order and the dialing allocation. If multiple contact lists have same dialing allocation, the order specifies their priority. While calculating the percentage of dialing allocation POM counts only unique attempts. POM does not count system retries or callbacks.

The campaign reports specify the orders of record in which they are disposed. The disposition and sequence of the records are different than the dialing of the records.

Apply same filter

Select this check box to enable POM to apply the first filter template to all subsequent contact lists.

No Dialing Allocation

Select this check box for POM to disable dialing based on the dialing allocation and contact list priority.

You can select this check box only if you previously select the **Apply same filter** check box.

Dialing Cycle

Dialing cycle is the addition of number of calling lists with non-zero and non-hundred allocations multiplied by five.

For example, consider a dialing allocation for the contact list as below:

- List 1 - 50%
- List 2 - 30%
- List 3 - 20%
- List 4 - 100%

In the above example number of non-zero and non-hundred contact lists are 3 in total.

So, according to the formula, dialing cycle = 3 (number of non-zero and non-100 Contact lists) multiplied by 5 is equal to 15.

Therefore, the dialing cycle count calculated is 15.

As per the dialing cycle calculated above, from the 15 records with 50% dialing allocation 7 contacts are picked from list 1.

Also, with 30% dialing allocation, 4 contacts from list 2 are picked for dialing and remaining 20% that is 3 contacts from list 3 respectively are picked for dialing.

In total 7 contacts (from list 1) + 4 contacts (from list 2) +3 contacts (from list 3) = 14 contacts are picked and dialed in every dialing cycle.

Dialing Allocation considerations

Considerations	Description
Dialing allocation is hundred percent for a list	If the dialing allocation is hundred percent, POM dials all the contacts from the contact list before moving to the next one. POM considers a contact list with a hundred percent dialing allocation first, regardless of the order. If there are multiple contact lists with a hundred percent allocation, POM selects each list based on the order in the association.

Table continues…

Considerations	Description
Dialing allocation is less than hundred percent for a list	For a contact list with less than a hundred percent allocation, POM dials contacts based on the order of association and dialing allocation. Example 1: Consider the following allocation in the specified order: 1. List 1 with Filter template 1 and dialing allocation 40 percent. 2. List 2 with Filter template 1 and dialing allocation 50 percent. 3. List 3 with Filter template 1 and dialing allocation 10 percent. In this example, the dialing order is list 1, list 2, and list 3 sequentially. When POM selects list 1 for dialing, it dials 40 records out of 100 records, and the allocation is 40 percent. Similarly, POM dials 50 records from list 2 and 10 records from list 3. Example 2: Consider the following allocation in the specified order: 1. List 1 with Filter template 1 and dialing allocation 40 percent. 2. List 2 with Filter template 1 and dialing allocation 50 percent. 3. List 3 with Filter template 1 and dialing allocation 10 percent. 4. List 4 with Filter template 1 and dialing allocation 100 percent. 5. List 5 with Filter template 1 and dialing allocation 100 percent. In Example 2, POM selects list 4 and list 5 with 100 percent allocation for dialing based on the order specified. First, POM dials all the filtered records from list 4 and then dials all the filtered records from list 5. POM then selects all remaining contact lists with non-hundred allocation.

Table continues…

Considerations	Description
Dialing allocation is zero percent	If the dialing allocation is zero percent, POM does not dial any record from the contact list. If there is one contact list with zero dialing allocation, the job does not stop after POM dials all records from the contact list. To dial a record from a contact list, the dialing allocation must be a non-zero value. A user can change the dialing allocation of a contact list using POM Monitor or Supervisor Dashboard. The user can perform this action at any time.

Emptying email addresses

POM imports records that can contain email addresses into its data source.

You can configure POM to empty email address fields if POM evaluates the address has an invalid email format.

Emptying a phone number

If the phone number attribute contains numeric and non–numeric values, you can configure POM to remove only the non–numeric characters from the phone number attributes. As a result, POM does not reject the entire contact during import.

This is applicable based on the defined **Reject Patterns** and **Phone formats rule**.

POM does not clean up the country code if the country code is provided as a separate attribute. If POM finds non-numeric characters in the country code attribute except the leading single +(plus) or –(minus) sign, POM rejects the contact as per the existing behavior.

However, if the country code is not provided as a separate attribute, but is provided in the phone number attribute and separated from the phone number by the country code separator, POM cleans up the non-numeric characters from the country code that is extracted out of the phone number attribute.

Example

Considering # as the country code separator, POM displays the following behavior:

Example

Phone Number Input	Country code input	Phone Number Output	E-mail address	Rational	Record Inserted/ Rejected
(541) 754-3010		5417543010		Non-numeric characters removed	Inserted
(541)754$3+0+1-0		5417543010		Non-numeric characters removed	Inserted
1#514-204-40392		51420440392		1 will be considered as country code as it appears before the separator	Inserted
6-1#514-204-40392		51420440392		61 will be treated as Country code, it will be cleaned. Rest will be treated as phone number, it too will be cleaned	Inserted
6-1#514#204#403-92		51420440392		Values before the first appearance of the country code will be treated as country code, it will be cleaned. Rest will be treated as phone number, it too will be cleaned	Inserted

Table continues…

Phone Number Input	Country code input	Phone Number Output	E-mail address	Rational	Record Inserted/ Rejected
9+1#212#121	91	91212121		As country code is provided separately, entire phone number is cleaned up and numeric digits will be considered as phone number although it has country code separator	Inserted
9+1#212#121	9+abcd+1	<empty>		As country code is provided separately, and it contains non-numeric characters, the entire record will be rejected	Rejected
912121219999 9999	91	<empty>	shamik@pome mail.com	Phone number made empty as it matches phone format rule. But email is valid, so record is accepted	Inserted
912121219999 9999	91	<empty>	abcdefghijk	Phone number made empty as it matches phone format rule. Email is also invalid. So record will be rejected	Rejected

Table continues…

Phone Number Input	Country code input	Phone Number Output	E-mail address	Rational	Record Inserted/ Rejected
9+1#212#121	9+abcd+1	<empty>	shamik@pomemail.com	Although email is valid, but since country code is invalid, the record is rejected. This is as per existing behavior, that is, if any other attribute is invalid (including country code provided separately), the record is rejected	Rejected

POM rejects the entire record if all phone number attributes and email addresses are evaluated to be invalid, based on selection of the configurations in the table above.

If POM evaluates any phone number or email address as valid, POM accepts the record.

Campaign management

A campaign delivers a specific message to all customers in the database through selected channels such as email, SMS, and voice. You can have either a finite campaign or an infinite campaign.

POM provides a web-based Campaign Creation page to create campaigns. A campaign has a name, a campaign strategy, and one or more contact lists. You can set a filter criteria on the contact lists. If you specify filter criteria, POM applies the criterion at the beginning of a campaign and selects only those customer records that meet the specified criterion. You can define and associate one or more custom completion codes with a campaign when you require some user input either from an agent or from a custom application.

A finite campaign can end naturally after processing all contacts or you can specify the following criteria to end a campaign:

- Goal-based campaign: Ends after receiving an expected number of responses from customers.
- Time-based campaign: Ends after running for a specific time duration. For example, you can terminate a campaign after 12 hours.

- Completion code-based campaign: Ends after meeting a specific coded condition. For example, you can end a blood donation campaign after you receive 50 accepted responses.

Note:

For campaigns having agents with completion code-based finish criteria, if the system completion codes are used as completion criteria for a campaign, the campaign does not finish execution after meeting the criteria. This occurs because POM overwrites the completion codes based on the completion codes given by an agent.

For agent-based campaigns, if any of the campaign finished criteria are met or the user stops the job manually through the Supervisor Dashboard, POM monitor, or web services, the job moves to `Stopping` state. The dialing stops and no new calls are launched. However, the campaign does not change to `Completed` state until all agents complete all their calls. For this feature to work, ensure that in the campaign strategy you set the **Next State** to `wait` in the **Result Processor** for `Answer Human` completion code.

After you create a campaign, you can schedule or run the campaign immediately. You can customize the campaign to suit your requirements. You can schedule or run the campaign you create as a single instance or multiple instances with a daily, weekly, or monthly frequency. For example, a birthday campaign can run daily and a credit card notification campaign can run every Monday.

You can stop campaigns that are in the running state.

You can export the successfully attempted contacts data along with the completion codes and other result details of a campaign to a `.csv` file.

Two-way SMS and email campaigns -

In addition to creating voice, SMS, and email campaigns, you can also create a two-way SMS and email campaigns. These campaigns help you to send a message and receive responses and you can then take appropriate actions based on different conditions. You must make appropriate changes or create campaign strategies in specific manner to use two-way SMS and email campaigns.

POM uses web services to enable the two-way communication. POM provides stock applications for both SMS and email. The stock applications receive SMS and email responses and updates the attribute value and completion code for the specific POM contact. For more information about two-way SMS and email campaigns, see *Administering Avaya Proactive Outreach Manager*.

Callbacks -

You can schedule callbacks to run immediately. Users can change the callback time from the Callback Manager page or using web services, to have the callback immediately.

Using the callback time interval and number of callbacks option administrators can set up a callback time interval and the number of callbacks allowed during that time interval.

Parallel dialing

With the Parallel dialing feature, POM can process contacts and dial multiple numbers simultaneously. This results in more dialing attempts. However, Parallel dialing might not always follow the sorting order specified for a campaign.

Administrators can activate Parallel dialing by enabling a parameter on the Global configurations screen. For more information on enabling this parameter, see *Administering Avaya Proactive Outreach Manager*.

Contact list management

Campaigns need phone numbers for making voice calls and sending SMS, and email addresses for sending email messages. A contact list is a collection of customer records. You can set up contact lists and associate one or more contact lists with a campaign. You can also use a single contact list in multiple campaigns. In a multitenant environment, you can associate a contact list with one or more organizations.

The customer record data resides external to POM in a contact management system. Based on your campaign requirements, you must import relevant customer contacts into POM.

You can set up contact lists and define attributes. Using POM, you can import customer records into a contact list from various external data sources such as `CSV` files or external databases.

When you create a contact data source for automatic file import, you can use the **Allow Bulk Import** option to import or exclude multiple local files simultaneously.

You can empty the contact list as well as delete the records while uploading a contact list or while creating a datasource. You can also delete specific contacts by using a filter template. POM deletes the contacts that match the criteria in the filter template.

With the quick upload functionality, you can upload contacts into a contact list using a `CSV` file, directly from the Contact Lists page without creating a datasource.

You can use various web service methods to create, read, and update customer records.

You can add contacts by using either the user interface or web services. For more information on the web services, see *Developer Guide for Proactive Outreach Manager*.

You can delete a contact by using either the user interface or *DeleteContactFromList* web service. You can delete unattempted as well as processed contacts from a running campaign. When you delete a contact from the user interface, the web interface sends a **Delete Contact** event to the campaign manager along with the contact ID of the deleted contact. If the contact is a part of filtered records, the Campaign manager removes the contact from the list of filtered records. If POM has already dialed the contact through the campaign, the count of **Un-attempted** contacts does not decrease. When you delete a contact that POM does not attempt through the job, POM decreases the count of **Filtered** and **Un-attempted** contacts on the real time monitor screen. You

cannot delete the contacts that are “in progress”. Contacts are “in progress” if they meet any of the following conditions:

- Contacts are picked up for attempt, but not attempted.
- Contacts are attempted, but result processing is not done on the contact attempt.
- Callback is set on the contact.
- Retry is set on the contact.
- Attempt is in progress for the contact.

An administrator can see information about deleted contacts in the report.

POM supports:

- A maximum size of 50 MB for uploading a file using the user interface.
- A maximum size of 1 GB for importing a local file data source.
- A maximum size of 1 GB for importing an SFTP file data source.
- Maximum 4000 characters in an SQL query for importing using a database data source.

Association of contacts to running campaigns

You can add contacts to a contact list in real time by using a web service or a user interface. You can use the `SaveContactToList` and `AddContactListToJob` web services to add new contacts to a running campaign.

If you use `SaveContactToList` web service to save new contact to a contact list, it is checked against both, the filter and the sort criteria of the associated campaigns.

If the contact satisfies both of these criteria, POM selects the contact for processing in the running campaign jobs to which this contact list is associated. When a campaign stars, POM creates a running job to manage contact interactions during the campaign.

To add a new contact list to the job which must be considered for dialing, you must add the contact list explicitly to the job by using the `AddContactListToJob` web service. When you add a contact to a contact list, POM allocates the newly added contact for dialing, provided the contact satisfies the filter criteria specified for the job.

POM sends an event sent to the campaign manager whenever new contacts are added to a contact list. Based on this notification, the campaign manager adds the contacts to the processing queue if the contacts satisfy the filter criteria. POM processes the contact as per the sort criteria that is specified for the job.

Important:

When you modify a contact, and the contact matches the filter criteria, the contact is available in the job of the associated campaign. For example, changing the attribute value of a contact. However, if you change the attribute value of an already filtered contact in a campaign job, and if the contact does not match the filter criteria, POM does not remove it from the job. In such a case, you must use the restriction that is based on attribute in the campaign strategy to check runtime changes to the attribute values.

You can add/update the priority of a contact being selected for processing by using the web service “AddContactFromListToJob”. You must pass the priority parameter to change the priority

of the contact. When you add a contact by using the “AddContactFromListToJob” web service, the contact does not adhere to the filter criteria specified. However, the sort criteria that you specified is applicable to the added contact.

You can use the “AddContactFromListToJob” web service when you need to process a contact with **TOP** or **HIGH** priority before other filter contacts are processed.

You can also use the POM user interface to do the following:

- Specify a campaign-specific priority for the contacts when uploading the contacts by using the **Upload Contacts** option.
- Specify a campaign-specific priority for the contacts when importing the contacts through a running data source import job.

In a running campaign job, you can upload or import the contacts with only a single priority at one time. If the contact list is associated with multiple running campaign jobs, you can upload or import the contacts by specifying different priorities for different campaigns.

POM dials the contacts in the descending order of priority. You can specify the following values for priority:

- **LOW**
- **TWO**
- **THREE**
- **FOUR**
- **MEDIUM**
- **SIX**
- **SEVEN**
- **EIGHT**
- **NINE**
- **HIGH**
- **BOTTOM**
- **TOP**

In the system, the priority values are LOW = 1, MEDIUIM = 5 and HIGH = 10. For **BOTTOM** priority, the maximum value is 0 and it goes on decreasing depending on the least priority contact lists. For **TOP** priority, the minimum values is 11 and goes on increasing depending on the highest priority contact lists. Consider the following examples for priority calculation:

If you associate contacts with **LOW** priority, POM adds the contact list with value 1. If you associate the contacts with **BOTTOM** priority, POM adds the contact list with value 0. If you add another contact list to the same campaign job with **BOTTOM** priority, POM adds all contacts with priority –1.

Similarly, if you associate contacts with **HIGH** priority, POM adds the contact list with value 10. If you associate contacts with **TOP** priority, POM adds the contact list with value 11. If you add another contact list to the same campaign job with **TOP** priority, POM adds all contacts with priority 12.

POM processes contacts with all other priorities as per their respective fixed values.

When you upload or import the contacts through the POM user interface, POM first adds the contacts to the contact list, and then adds the newly added contacts along with the specified priority to the running campaign jobs.

For more information about the upload contacts and data source import jobs, see *Administering Avaya Proactive Outreach Manager*.

Contact exclusion

Contact exclusion

When uploading or importing a contact list, POM provides an option to exclude contacts if the contact IDs in the new file match the existing ones. POM supports direct import of the Exclusion list, similar to the Contact list import. POM also supports the creation of data sources for the Exclusion list import. The data sources can be run manually when required or scheduled to run automatically.

When uploading or configuring the data sources, users must specify whether they expect to retain the callbacks already created on the contacts being excluded. If not specified, POM does not dial the contacts, even for callbacks.

POM displays the Exclusion list upload detail in the Contact list import detail report. The report specifies whether the contact ID provided was excluded, the contact was not found, or the contact ID was not excluded due to pending callbacks.

Contact attribute management

Attributes are properties of customer data. POM supports common attributes required to process customer data. You can filter the customer data based on the attributes. In POM, you can set up custom attributes and import data to these attributes. A typical custom attribute has the following components:

- name
- data type
- read-only flag for agents
- masked for agents flag
- privacy flag

Depending on the campaign, you require the following custom attributes: AmountDue, DueDate, and BloodType.

If you enable the read-only for agents flag, the agent cannot edit the values of the attribute through the agent desktop. If you enable the masked for agents flag, the agent cannot see the attribute value through the agent desktop. For example, if you enable the masked for agents flag against the password field, the POM system displays the passwords as ******. The privacy flag helps you to define the visibility of an attribute in a multitenancy setup. For more details about multitenancy, see Multitenancy on page 112.

Masking of contact attributes for users

This feature enables the masking of confidential data. The data is shielded to reduce unintended exposure and misuse of the data. You can mask specific fields in customer contacts when the contacts are displayed in the user interface. This user-masking option can be enabled for the following options in Proactive Outreach Manager:

- Contact attributes in the contact browser
- Contact attributes in the preview campaign filter output
- Contact attributes in the splitter filter output

System attribute to calculate age of contacts

POM provides a system attribute (`addedOn`) that displays the time when a new contact was imported, uploaded, or added into a contact list. This attribute is a part of all contact lists for all organizations. The value of the `addedOn` attribute for all the contacts imported earlier to POM 4.0.2 Service Pack 3 will be set to the time of upgrade to version 4.0.2 Service Pack 3.

With this attribute, a user can filter contacts based on their age. For example, if a user wants to filter contacts added before 30 days, the user can use this attribute to filter the records.

Update the priority of records when the records are marked for retry

The UPDATE_PRIORITY_IF_RETRY parameter is set to true to update the priority of all records marked for retry to that of a common record, which is priority 5.

The UPDATE_PRIORITY_IF_RETRY parameter is available in the `pim_config` table located in the POM database.

If any record is marked for retry after the UPDATE_PRIORITY_IF_RETRY parameter is set to true, POM updates the priority of all such records to priority 5, irrespective of the record priority. This ensures the retry records are dialed depending on the configured retry interval.

By default, the UPDATE_PRIORITY_IF_RETRY parameter is set to true.

You can set the UPDATE_PRIORITY_IF_RETRY parameter to false if you do not want to change the priority of the records when the records are marked for retry.

For example, if the UPDATE_PRIORITY_IF_RETRY parameter is set to false and if a priority 7 record is marked for retry, the record priority is retained to 7.

Advanced guard time with follow-the-sun dialing

You can specify phone attributes in the **Time Zone Phone Attributes** field on the Campaign Creation page to configure the follow-the-sun dialing feature.

POM determines the guard time of these phone attributes before it picks up the records for dialing. POM stores the guard time information in the Job_attribs table and picks up a record for dialing from the Job table only when the guard time of at least one of these phone attributes is open for dialing. Thus, reducing the possibility of the records getting restricted during actual dialing.

In addition, you can also enable the following options on the Campaign Creation page:

- **User Preferred Time**: To use the values from the following attributes of a phone attribute for determining the guard time of the phone attribute:
  - Phone Allowed Time: Use this attribute if your customer permits you to call on a specific phone number only during specific hours and days of the week.
  - Phone Disallowed Time: Use this attribute if your customer does not want to be called on a specific phone number during specific hours and days of the week.
- **Timezone of Zipcode**: To use the zip code-based guard time of a record for determining the guard time of each phone attribute.

  For more information about zip code-based guard time of a record, see Zip code-based guard time calculation for follow-the-sun dialing feature on page 56.

If you enable the **User Preferred Time** and **Timezone of Zipcode** options, POM determines the intersecting time between the guard time of a phone attribute, user preferred time, and zip code-based guard time as the final guard time for the phone attribute.

For more information about guard time determination for the follow-the-sun dialing feature, see Guard time determination if advanced guard time with follow-the-sun dialing feature is enabled on page 53.

Tip:

To pick up those phone attributes for dialing first whose time zone closes first, you can configure a sort condition for the `<Phone attribute name> Time Zone` attribute in the filter template that is associated with the contact lists of the campaign and specify the sort order as Descending.

Note:

The follow-the-sun dialing feature is applicable only to the Call task nodes of a campaign. For other task nodes, such as, Mail and SMS, POM picks up the filtered records for an attempt without validating their guard time.

Even though POM picks up the records for dialing based on the guard time of the phone attributes configured in the **Time Zone Phone Attributes** field, the actual dialing is done based on the order of the phone attributes in the campaign strategy.

After POM picks up a record for dialing from the Job table and before actually dialing the record:

- POM performs the remaining validations on the record. For example, rule validation, holiday validation, and minimum and maximum contact time validation.

  If any of these validations fail, POM marks the record as restricted.
- Because the phone attributes are dialed according to their order in the campaign strategy, POM evaluates the guard time of the phone attributes at the time of dialing.

After you run the campaign, an authorized user can use the Supervisor Dashboard to view the time zone-wise distribution of the records in real time. The user can use the record distribution data to make real-time decisions for a campaign.

For example, the user can decide the number of agents to allocate for outbound activities based on the number of yet to be dialed records for a time zone and whether the time zone is open for dialing.

Scenarios when POM marks the records as not callable or temporarily restricted

POM considers the records as not callable or temporarily restricted in the following scenarios:

- If the guard times of all phone attributes configured in the **Time Zone Phone Attributes** field are closed for a record, POM considers the record as not callable. When the guard time of at least one of these phone attributes is open for dialing, POM picks up the record for dialing from the Job table.
- If POM is busy dialing and processing other records and an open guard time of a record closes by the time it can be picked up from the Job table, POM considers the record as not callable.
- If the following events occur after the records are picked up for dialing from the Job table, POM recalculates the guard time of the records, and till then, marks the records as temporarily restricted:
  - A new day starts according to the time zone of the POM server.
  - Campaign Manager failover.
  - Data center failover.

Examples of record selection for advanced guard time with follow-the-sun dialing feature

This topic provides examples of how POM picks up the records for dialing based on the phone attributes configured in the **Time Zone Phone Attributes** field on the Campaign Creation page for follow-the-sun dialing.

Examples of how POM picks up records for dialing from the Job table

The following table provides examples of how POM picks up a record for dialing from the Job table:

Phone attributes configured in the Time Zone Phone Attributes field	Guard time of phone attributes	Result
Phone 1 Phone 2	Phone 1: 9:40 to 10:00 Phone 2: 9:30 to 9:45	As the guard times of phone 1 and phone 2 overlap, POM can pick up the record for dialing between 9:30 to 10:00.

Table continues…

Phone attributes configured in the Time Zone Phone Attributes field	Guard time of phone attributes	Result
Phone 1 Phone 2	Phone 1: 9:30 to 9:45 Phone 2: 13:00 to 13:15	As the guard time of phone 1 is open first, POM can pick up the record for dialing between 9:30 to 9:45. If POM is busy dialing and processing other records and does not pick the record between 9:30 to 9:45, POM considers the record as not callable. POM again considers the record as callable when the guard time of phone 2 is open, that is, from 13:00 to 13:15.
Phone 1 Phone 2	Phone 1: No open guard time for the current day Phone 2: 10:00 to 10:15	POM can pick up the record for dialing between 10:00 and 10:15.
Phone 1 Phone 2	Phone 1: No open guard time for the current day Phone 2: No open guard time for the current day	POM considers the record as not callable because no open guard time is available for any of the phone attributes for the current day.

Examples of actual dialing after POM picks up a record for dialing from the Job table

The following table provides examples of how POM selects a phone attribute of a record for actual dialing after picking up the record for dialing from the Job table:

Phone attributes configured in the Time Zone Phone Attributes field	Order of dialing the phone attributes as per the campaign strategy	Guard time of phone 1 and phone 2	Time at which POM picks up the record from the Job table for dialing	Time at which POM actually dials the record	Condition at the time of actual dialing of the record	Result
Phone 1	Phone 1 Phone 2	Phone 1 guard time: 15:00 to 15:15 Phone 2 guard time: 15:13 to 15:20	15:14	15:16	Guard time of phone 1 is closed for dialing.	According to the campaign strategy, phone 1 is to be dialed first. However, as the guard time of phone 1 is closed during actual dialing, POM evaluates the guard time of phone 2 provided the **Skipover To Next Phone** property of the Call node is enabled. As the guard time of phone 2 is open during actual dialing, POM dials phone 2. If the **Skipover To Next Phone** property of the Call task node is disabled, POM marks the record as temporarily restricted without evaluating the guard time of phone 2.
Phone 1	Phone 2 Phone 1	Phone 1 guard time: 15:00 to 15:15 Phone 2 guard time: 15:13 to 15:20	15:14	15:16	Guard time of phone 1 is closed for dialing.	According to the campaign strategy, phone 2 is to be dialed first. As the guard time of phone 2 is open during actual dialing, POM dials phone 2.

Table continues…

Phone attributes configured in the Time Zone Phone Attributes field	Order of dialing the phone attributes as per the campaign strategy	Guard time of phone 1 and phone 2	Time at which POM picks up the record from the Job table for dialing	Time at which POM actually dials the record	Condition at the time of actual dialing of the record	Result
Phone 1	Phone 1 Phone 2	Phone 1 guard time: 15:00 to 15:15 Phone 2 guard time: 15:13 to 15:20	15:14	15:22	Guard time of phone 1 is closed for dialing.	According to the campaign strategy, phone 1 is to be dialed first. However, as the guard time of phone 1 is closed during actual dialing, POM evaluates the guard time of phone 2 provided the **Skipover To Next Phone** property of the Call node is enabled. As the guard time of phone 2 is also closed during actual dialing, POM marks the record as restricted.

Table continues…

Phone attributes configured in the Time Zone Phone Attributes field	Order of dialing the phone attributes as per the campaign strategy	Guard time of phone 1 and phone 2	Time at which POM picks up the record from the Job table for dialing	Time at which POM actually dials the record	Condition at the time of actual dialing of the record	Result
Phone 1	Phone 1 Phone 2	Phone 1 guard time: 11:00 to 11:15 Phone 2 guard time: 11:10 to 11:25	11:02	-	Guard time of phone 1 is open for dialing.	According to the campaign strategy, phone 1 is to be dialed first. The following are the scenarios: • If the record is selected for actual dialing between 11:02 and 11:15, POM dials phone 1. • If the record is selected for actual dialing between 11:16 and 11:25, POM dials phone 2. This is because the guard time for phone 1 closes at 11:15. POM skips to phone 2 only if the **Skipover To Next Phone** property is enabled in the Call node of the campaign strategy. • If the record is not selected for actual dialing till 11:25, POM marks the record as restricted.

Table continues…

Phone attributes configured in the Time Zone Phone Attributes field	Order of dialing the phone attributes as per the campaign strategy	Guard time of phone 1 and phone 2	Time at which POM picks up the record from the Job table for dialing	Time at which POM actually dials the record	Condition at the time of actual dialing of the record	Result
Phone 1	Phone 2 Phone 1	Phone 1 guard time: 11:00 to 11:15 Phone 2 guard time: 11:10 to 11:25	11:02	-	Guard time of phone 1 is open for dialing.	According to the campaign strategy, phone 2 is to be dialed first. The following are the scenarios: • If the record is selected for actual dialing between 11:02 and 11:09, POM dials phone 1. This is because the guard time of phone 2 is still not open for dialing. Whereas the guard time of phone 1 is open for dialing for this duration. POM skips to phone 1 only if the **Skipover To Next Phone** property is enabled in the Call node of the campaign strategy. • If the record is selected for actual dialing between 11:10 and 11:25, POM dials phone 2. • If the record is not selected for actual dialing till 11:25, POM marks the record as restricted.

Phone Formats

About Phone formats

With the phone formats feature, you can manage phone numbers in POM. Depending on your configuration, POM saves the phone numbers in the database and applies phone formats, reject patterns, and dialing rules. POM provides a list of G14 and other countries with the country codes and the phone formats. In the POM database, you can add missing country codes. To add a country, specify the country code, the country name, the standard phone number length, and the phone prefix. When you specify the standard phone number length, the minimum phone number length must be greater than zero, and the maximum phone number length can be 99. POM displays the default values for the minimum phone number length as 3 and the maximum phone number length as 15.

If the standard phone number length is less than the minimum length before the number is imported to the contact list, POM prefixes the digits that you specify for the phone number and then checks whether the number is between the minimum and maximum lengths of the standard phone number. This procedure ensures consistent formatting for all the phone numbers stored in POM. If the number does not match the standard format, POM empties the phone attribute.

Phone reject patterns

You can apply or use the phone reject patterns for standard phone numbers. You can specify the reject patterns at a global or country-specific level. When you import contacts into the POM database, POM validates all the phone numbers of the contact against the reject patterns. If a phone number matches a reject pattern, POM empties the phone number if the feature is enabled during the data import.

The following are the global reject patterns:

- *0000000*: A number starting with a digit, followed by 7 zeros, followed by a digit. For example, 34000000045.
- *8888888*: A number starting with a digit, followed by 7 eights, followed by a digit. For example, 2388888887.
- *9999999*: A number starting with a digit, followed by 7 nines, followed by a digit. For example, 199999992.

For the list of the default reject patterns that are country-specific, see *Administering Avaya Proactive Outreach Manager*.

You can use the following digits and special characters to specify user-defined patterns:

- digits: Use a whole number
- *: Use as a wild card character. For example, 999* means a number starting with 999
- -: Use to specify a range of numbers. For example, 1–3 means a number from 1 to 3
- ?: Use to specify a single digit. For example, 9?? means a 3-digit number starting with 9. For another example, ? means a single-digit number
- [ ]: Use to specify either one of the numbers in the brackets. For example, [0–1] means a number starting with 0 or 1.

Dialing rules

POM uses the dialing rule feature to convert a standard phone number to a dial-format number before dialing. The dialing rule takes a phone number and a country code as input. Based on the country code, POM applies the dialing rules to the phone number when making a call.

When you specify a dialing rule, you can specify a prefix and a strip for a phone number. Strip is the number of digits to remove from the standard phone number before applying a prefix. Prefix is the number and type of characters to put in front of the standard phone number. For example, you can use # or * as a prefix.

A default dialing rule consists of an empty area code and phone starting digits. You can have one default dialing rule for a country.

You can specify multiple dialing rules for a country. The dialing rules are distinguished by the number of digits to strip and digits to prefix. You must have a unique combination of the number of digits to strip and digits to prefix for a specific country.

For more examples of dialing rules, see *Administering Avaya Proactive Outreach Manager*.

Area code mapping

Using this feature, you can configure the guard times. POM uses the guard times in a campaign strategy for dialing a contact. You can configure the guard times at time zone level and state level. You can use any of the following ways to configure the guard times:

- Basic area code configuration
- Advanced area code configuration

To select one of the options, you must to configure the **Enable Advanced Guard Time Configuration** parameter on Global Configurations page. For more information, see *Administering Avaya Proactive Outreach Manager*.

Note:

If you change from basic area code configuration to advanced area code configuration and vice versa, you must empty the contact list and re-import all the existing contacts. Contact import determines the phone properties based on the area code option configured on the Global Configurations page. During dialing, POM derives the guard times from the configured area code mappings. To re-import records, to enable the new area code feature, you must first stop all the running campaigns.

Basic area code configuration (Basic guard time)

With this feature, you can enable POM to use the area code and the phone starting digits to automatically determine the time zone for a phone number.

You can map a country to multiple time zones, and a time zone can have multiple area codes. Also, an area code can have multiple phone starting digits.

You can set a default time zone and guard time for a country. If a phone number does not match the mapped area codes or time zones for a country, POM maps the default time zone to the phone number.

If a country code associated with the phone number is not found in the POM database, POM does not import the contact.

POM uses the following rules to determine the time zone for a phone number:

Time zone	Mapping	Result
No time zone is defined for a country.	NA	POM uses the time zone in which POM imports the contact.
Only one time zone is defined for a country.	No mapping defined for the country.	As the country has only one time zone, POM uses that time zone and does not consider the other mappings.
	Only one area code mapping defined for time zone.	
	Multiple area code mapping for a time zone.	
Multiple time zones are defined for a country.	The phone number matches with one of the time zones and the area code mapping.	POM uses the matched time zone. **Note:** To enable an import file with a time zone attribute, you can add time zone configurations without defining the area codes. The time zone can have a mismatch with the phone numbers area code with a correct guard time.

Advanced area code configuration (Advanced Guard Time)

POM provides an advanced area code configuration using which you can add more granular rules related to guard time configuration. You can import the area code mapping data from a CSV file. POM takes a backup of existing data before starting the import process. You can use the lock and unlock options in POM to avoid overwriting the existing area code mapping data with new mappings, which you import from a `.csv` file.

You can also map an area code to state and provide state level guard time configuration. You can define guard times for time zone and for state independently.

POM uses the following phone type of attributes of a record to determine the guard time of each phone attribute:

- Phone Country Code
- <*Phone attribute name*>Time zone
- Phone State

Based on the values of the preceding attributes and the country-specific guard times configured in POM, POM derives a guard time for each phone attribute in the following order:

- POM derives a guard time based on the Phone Country Code and Phone State attributes.

  For example, if:

  - Value in the Phone Country Code attribute is 1.
  - Value in the Phone State attribute is New York.

  Then, POM uses the guard time configured for the New York state with country code 1 as the guard time for the phone attribute.

- If no guard time is configured for the Phone State, POM derives a guard time based on the Phone Country Code and <*Phone attribute name*>Time Zone attributes.

  For example, if:

  - Value in the Phone Country Code attribute is 1.
  - Value in the <*Phone attribute name*>Time Zone attribute is PST.

  Then, POM uses the guard time configured for the PST time zone with country code 1 as the guard time for the phone attribute.
- If no guard time is configured for the Phone State or <*Phone attribute name*>Timezone, POM uses the configured Default Time Zone of the country as the guard time for the phone attribute.
- If no guard time is defined for the Phone State or <*Phone attribute name*>Time Zone and no default time zone is configured for the country, POM uses the configured Default Guard Time of the country as the guard time for the phone attribute.

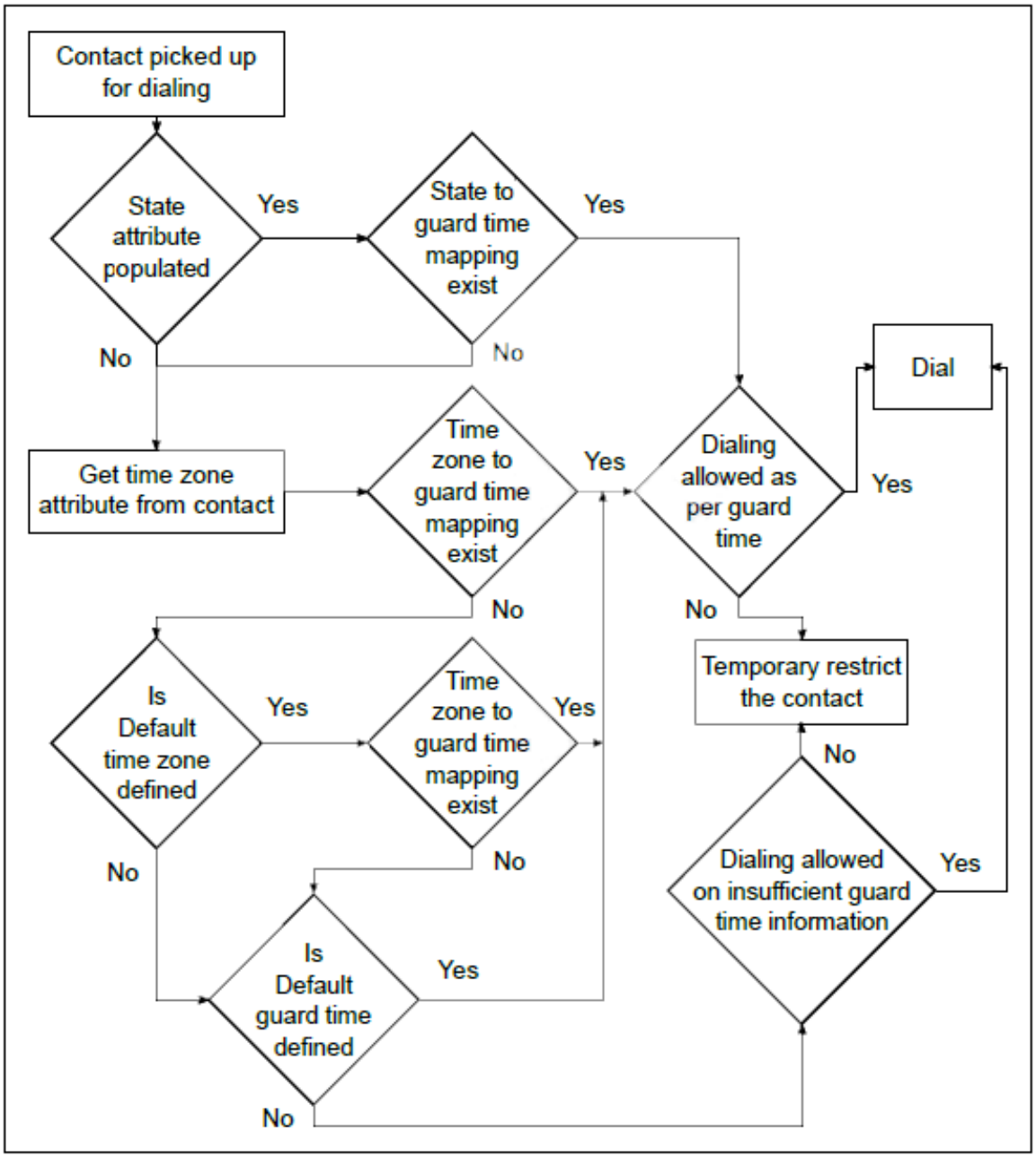
Similarly, POM derives a guard time for each phone attribute of a record.

For more information about area code, time zone, and guard time configurations, see *Administering Avaya Proactive Outreach Manager*.

POM uses the following rule of thumb to determine the time zone for a phone number:

Time zone	Mapping	Result
No area code defined for the country.	NA	POM uses the time zone of the country.
No time zone defined for the country	NA	POM uses the time zone of the zone in which the contact is imported as defined on the AEP Zones configuration.
One or multiple time zones defined for the country	The phone number matches with any one of the time zone and the area code mapping	POM uses the matched time zone.

The following diagram depicts the advanced area code configuration process flow:



Guard time determination if advanced guard time with follow-the-sun dialing feature is enabled

The following table provides information about how POM determines a guard time for a phone attribute based on the configuration of the **Time Zone Phone Attributes**, **User Preferred Time**, and **Timezone of Zipcode** options on the Campaign Creation page for the follow-the-sun dialing feature.

For information about the follow-the-sun dialing feature, see Advanced guard time with follow-the-sun dialing on page 41.

If the POM server is located in a different time zone than the time zone of a record, POM converts the guard time of the record into the local time of the POM server for dialing.

Are phone attributes specified in the Time Zone Phone Attributes field?	User Preferred Time	Timezone of Zipcode	Guard time determination
Yes	Enabled	Enabled	For each phone attribute, POM calculates an intersecting guard time between the following guard times of the record: • Guard time of the phone attribute. • Allowed and disallowed time of the phone attribute. • Zip code-based guard time of the record. The intersecting guard time is the final guard time for the phone attribute of a record.
Yes	Enabled	Disabled	For each phone attribute, POM calculates an intersecting guard time between the following guard times of the record: • Guard time of the phone attribute. • Allowed and disallowed time of the phone attribute. The intersecting guard time is the final guard time for the phone attribute of a record.
Yes	Disabled	Enabled	For each phone attribute, POM calculates an intersecting guard time between the following guard times of the record: • Guard time of the phone attribute. • Zip code-based guard time of the record. The intersecting guard time is the final guard time for the phone attribute of a record.
Yes	Disabled	Disabled	POM considers the guard time of the phone attribute as the final guard time for the phone attribute.

Table continues…

Are phone attributes specified in the Time Zone Phone Attributes field?	User Preferred Time	Timezone of Zipcode	Guard time determination
No	Enabled	Enabled	POM uses the zip code-based guard time of the records to determine the time during which the records can be picked up for dialing from the Job table. However, when actually dialing a record according to the order of the phone attributes in the campaign strategy, POM calculates an intersecting guard time between the following guard times for each phone attribute: • Guard time of the phone attribute. • Allowed and disallowed time of the phone attribute. • Zip code-based guard time of the record. The intersecting guard time is the final guard time for the phone attribute of a record. Hence, at the time of actual dialing, if no intersecting guard time is determined between the guard time of the phone attribute, allowed and disallowed time of the phone attribute, and zip code-based guard time, POM marks the record as temporarily restricted. To avoid the records from getting temporarily restricted, configure the phone attributes in the **Time Zone Phone Attributes** field so that POM picks up the records for dialing from the Job table only when the guard time of at least one of these phone attributes is open for dialing.

Table continues…

Are phone attributes specified in the Time Zone Phone Attributes field?	User Preferred Time	Timezone of Zipcode	Guard time determination
No	Disabled	Enabled	POM uses the zip code-based guard time of the records to determine the time during which the records can be picked up for dialing from the Job table. However, when actually dialing a record according to the order of the phone attributes in the campaign strategy, POM calculates an intersecting guard time between the following guard times for each phone attribute: • Guard time of the phone attribute. • Zip code-based guard time of the record. The intersecting guard time is the final guard time for the phone attribute of a record. Hence, at the time of actual dialing, if no intersecting guard time is determined between the guard time of the phone attribute and zip code-based guard time, POM marks the record as temporarily restricted. To avoid the records from getting temporarily restricted, configure the phone attributes in the **Time Zone Phone Attributes** field so that POM picks up the records for dialing from the Job table only when the guard time of at least one of these phone attributes is open for dialing.

For information about how POM determines a guard time for a phone attribute, see Advanced area code configuration (Advanced Guard Time) on page 51.

For information about Phone Allowed Time and Phone Disallowed time attributes, see *Administering Avaya Proactive Outreach Manager*.

For information about how POM determines a zip code-based guard time for a record, see Zip code-based guard time calculation for follow-the-sun dialing feature on page 56.

For examples on guard time determination for follow-the-sun dialing feature, see Examples of final guard time determination for advanced guard time with follow-the-sun-based dialing feature on page 57.

Zip code-based guard time calculation for follow-the-sun dialing feature

If you enable the **Timezone of Zipcode** option on the Campaign Creation page when configuring the follow-the-sun dialing feature, POM uses the zip code-based guard time of a record when deriving the guard time for each phone attribute of the record.

A record can have multiple zip codes. You can add a maximum of two zip codes for a record in POM.

For example, a customer's office and home are located in different cities or states with different zip codes and time zones. Hence, the guard times of these two locations can differ.

For example, the guard time of the primary zip code can be from 10:00 to 13:00, and secondary zip code can be from 12:00 to 15:00.

POM uses the following predefined zip code type of attributes of a record to determine the guard time for each zip code of the record:

- Country Predefined
- Zipcode State Predefined
- Zipcode Time Zone Predefined

Based on the values of the preceding zip code type of attributes and the country-specific guard times configured in POM, POM derives a zip code-based guard time for a record in the following order:

- POM derives a guard time based on the Country Predefined and Zipcode State Predefined attributes.

  For example, if:

  - Value in the Country Predefined attribute is United States.
  - Value in the Zipcode State Predefined attribute is New York.

  Then, POM uses the guard time configured for the New York state with country United States as the guard time for the zip code.
- If no guard time is defined for the Zipcode State Predefined, POM derives a guard time based on the Country Predefined and Zipcode Time Zone Predefined attributes.

Similarly, POM derives a guard time for the secondary zip code of the record.

Examples of final guard time determination for advanced guard time with follow-the-sun-based dialing feature

Example of final guard time determination if the time zone of a record and POM server is the same

The following example explains how POM determines an intersecting guard time for phone 1 if the time zone of the POM server, guard time of phone 1, and zip code-based guard time of the record is the same:

Phone attribute	Guard time of Phone 1	Zip code-based guard time	Zip code1-based guard time	Phone 1 Allowed Time	Phone 1 Disallowed Time	Final guard time
Phone 1	9:00 to 17:00	10:00 to 17:00	9:00 to 14:00	9:00 to 16:00	13:00 to 14:00	10:00 to 13:00

The intersecting guard time between the guard time of Phone 1, zip code-based guard time, zip code1-based guard time, and allowed time is 10:00 to 14:00.

However, because 13:00 to 14:00 is the disallowed time for phone 1, the final guard time for phone 1 is 10:00 to 13:00.

Example of final guard time determination if the time zone of a record is different from the time zone of the POM server

For this example, the following are the conditions:

- The guard time of the phone attributes is in Eastern Standard Time (EST).
- The zip code-based guard time is in Central Standard Time (CST).
- The POM server is located in Indian Standard Time (IST).
- DST is turned off.

The Phone Allowed Time and Phone Disallowed Time attributes are specific to each phone attribute of a record. Hence, the time zone from the <Phone attribute name>Time Zone attribute of each phone attribute is applied to its respective Phone Allowed Time and Phone Disallowed Time, which, in this example, is EST.

The following table provides the guard time of phone attributes, zip code-based guard time, allowed time, and disallowed time for all days of the week for phone attributes 1, 2, 3, and 4:

Phone attributes	Country code	Guard time of phone attribute (EST)	Zip code-based guard time (CST)	Phone Allowed Time (EST)	Phone Disallowed Time (EST)
1	1	8:00 to 20:45	NULL	NULL	NULL
2	1	08:00 to 20:45	08:00 to 20:45	NULL	NULL
3	1	08:00 to 20:45	08:00 to 20:45	12:00 to 18:00	NULL
4	1	08:00 to 20:45	08:00 to 20:45	12:00 to 18:00	14:00 to 16:00

The following table provides conversion of time from the preceding table into the time zone of the POM server, that is, IST. The following table also provides the final guard time for the phone attributes:

Phone attributes	Phone attribute guard time conversion (EST to IST)	Zip code-based guard time conversion (CST to IST)	Phone Allowed Time conversion (EST to IST)	Phone Disallowed Time conversion (EST to IST)	Final guard time (IST)
1	18:30 to 23:59 00:00 to 07:15	NULL	NULL	NULL	18:30 to 23:59 00:00 to 07:15
2	18:30 to 23:59 00:00 to 07:15	19:30 to 23:59 00:00 to 08:15	NULL	NULL	19:30 to 23:59 00:00 to 07:15
3	18:30 to 23:59 00:00 to 07:15	19:30 to 23:59 00:00 to 08:15	22:30 to 23:59 00:00 to 04:30	NULL	22:30 to 23:59 00:00 to 04:30
4	18:30 to 23:59 00:00 to 07:15	19:30 to 23:59 00:00 to 08:15	22:30 to 23:59 00:00 to 04:30	00:30 to 02:30	22:30 to 23:59 00:00 to 00:30 02:30 to 04:30

Oceana Integration

POM integrates with Avaya Oceana® for Avaya Oceana® to work as fully integrated outbound channel. The following are the high level sections of the POM - Avaya Oceana® integration:

POM to serve as an outbound channel for Avaya Oceana®

POM provides JAVA SDK for the POM agent be able to login to the Avaya Oceana® workspace, so that Avaya Oceana® workspace provides the unified desktop for inbound and outbound channel. JAVA SDK provides API to integrate the POM Agent functionality for any desktop implementation. These SDK are in-line with existing `.NET` based SDK except, the login related enhancements. SDK APIs support only secure communication. Therefore, you must configure the POM certificate in the client API while connecting the client API to POM.

Note:

Custom completion code name and completion code ID in POM and Avaya Oceana® must be the same to allow workspace to dispose a call.

POM provides a new install mode as Oceana in the POM installer file. When you install POM in the Oceana mode, the Oceana configuration page is available to configure the outbound provider network address details. Outbound provider is a separate service running in one of the OCP nodes. POM invokes the REST service exposed by the outbound provider to fetch all the agent attributes configured in the Avaya Oceana®. Agents login on to POM by using Oceana workspace with assigned attributes and get attached to the jobs according to the configured attributes.

Note:

If you install POM in the Oceana mode, POM restricts the campaign having skill based pacing.

Context Store Integration

POM provides outbound attempt information to the Context Store server for the completeness of the journey of a customer. You can send the data to Context Store in all the POM installation modes.

POM uses the Context Store REST web service to create the context. Context Store provides an auto-generated unique identifier that is a work request ID for the context record. POM inserts this work request ID into the POM database. While creating the context, POM sets **persistToEDM** field value to `true` to persist the context data in an external database. Also POM provides the **groupID** which is presented as Customer ID. One of the contact attribute is configured as Customer ID. If the Context Store version is 3.8.1 or later, you can send a customer ID and four phone numbers along with the attempted phone number to Customer Management for searching a contact. If you select the **Select Multiple Phone Fields** option, POM displays the **Available Attributes** list and the **Selected Attributes** list. When you select the **Attribute Value is Blank** option and the **Select Multiple Phone Fields** option, POM sends only the attempted phone number, but POM does not send the phone numbers selected from the **Available Attributes** list.

Important:

Customer ID selection is mandatory with the **Select Multiple Phone Fields** option.

The Contact List-Attribute Association page is enhanced to select this configuration. POM provides the group ID which is presented as the Customer ID. The Customer ID uniquely identifies the specific customer record. POM derives the Customer ID based on the **Customer ID Retrieval Mode** configuration on the Contact List-Attribute Association page.

Note:

Select the **Select Multiple Phone Fields** option, only if your Context Store version is 3.8.1 or later.

The following are the retrieval mode configurations:

Retrieval mode	Description
Always	Select after POM does not have a customer ID or if the administrator chooses to use the customer ID from the customer management snap in. POM fetches a Customer ID from the Customer Management snap-in. The selected attribute value and the attempt address are as an input to fetch Customer ID. POM uses the same network address as that of the configured Context Store server while retrieving to the Customer Management snap-in.
Never	POM uses the value of the selected attribute as Customer ID.
Attribute value is blank	If the attribute value is blank, POM retrieves the Customer ID from the Customer Management snap-in, else POM uses the attribute value as Customer ID.

Note:

To see the customer journey, ensure that you do not mark the contact as “done” in a campaign strategy till the time it is with the agent. If you mark the contact as `done` while it is with an agent, Avaya Workspaces does not display the journey of a customer.

POM REST web services

POM converts the existing SOAP web services into equivalent REST web services. The new REST web services can be consumed by an engagement designer call flow within Avaya Oceana® to modify entities related to POM outbound campaign. For more details on POM REST web services, see *Developer Guide for Proactive Outreach Manager*.

Avaya Workspaces for Call Center Elite Integration

Avaya Workspaces for Call Center Elite is a browser-based agent desktop with which the contact center agents can handle customer interactions. Using the widget framework, the Avaya Workspaces for Call Center Elite administrators can configure POM widgets for the agents. After the POM widget is configured, the agents can interact and communicate with the POM contacts. Agents can sign in to POM through the POM widget and work with the contacts that they receive. Through this integration, agents can view customer journey visualization for the POM contacts using Context Store Integration..

Using the Avaya Proactive Outreach Manager integration with Avaya Workspaces for Call Center Elite, agents can:

- Receive an interaction - Agents can make outbound preview calls or receive proactive or predictive POM calls .
- Hold or resume an interaction - Agents can put an active outbound voice interaction on hold and resume the call when needed.
- Consult another agent - Agents can seek advice about an interaction from other agents.
- Transfer an interaction to another agent - Agents can transfer the consult interaction to the interaction area of another agent.
- Add another agent to the interaction - Agents can create a conference with another agent who can help resolve the interaction.

This integration also allows agents to change the Agent Workspaces layout. Each customer interaction is displayed as an interaction card. The Agent Workspaces user interface has an intuitive layout that provides a visual representation of voice interactions.

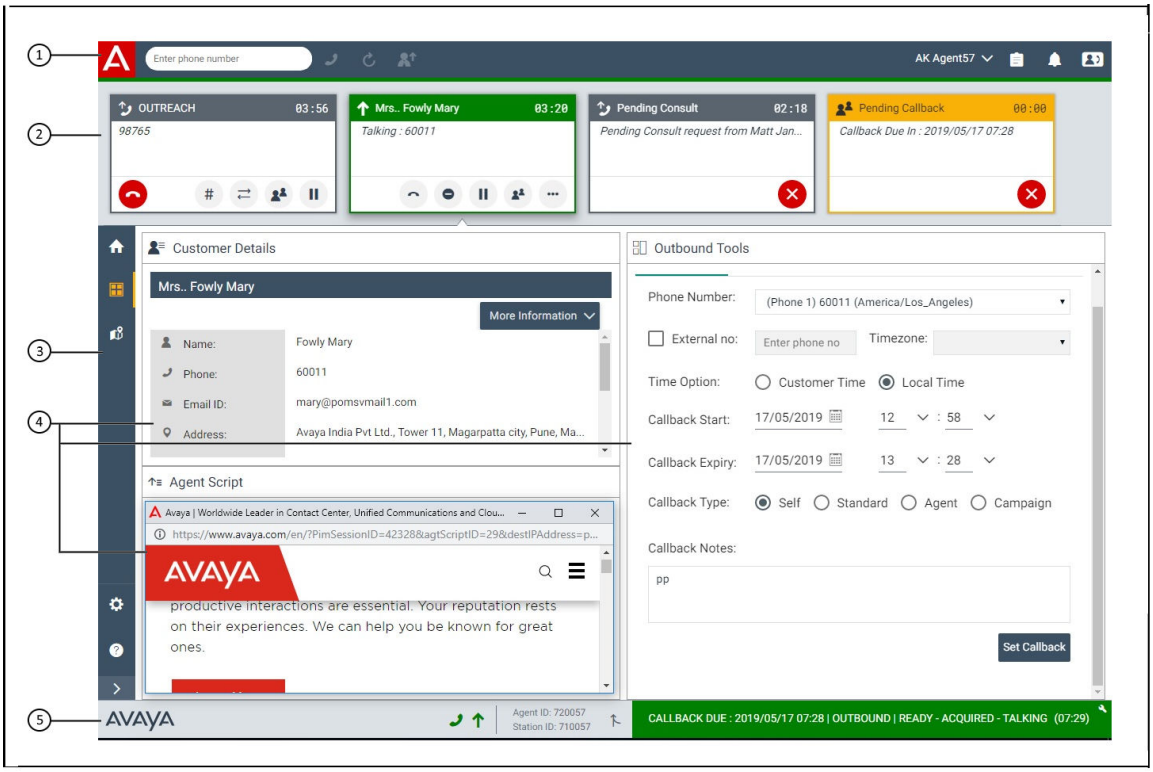


Figure 1: POM Workspaces user interface

No.	Name	Description
1	Agent toolbar	Provides the following options for interactions: • Making voice calls. • Viewing interaction logs. • Changing agent states. • Accessing the address book. • Calling the supervisor.
2	Interaction area	Displays all contacts as interaction cards for the agent.
3	Navigation menu	Provides options to an agent to switch across the widgets.
4	Interaction widgets	Displays interaction information.
5	Agent state summary	Displays Agent ID, Station ID, Outbound state, Nail Up state, and current state with the state timer for outbound mode.

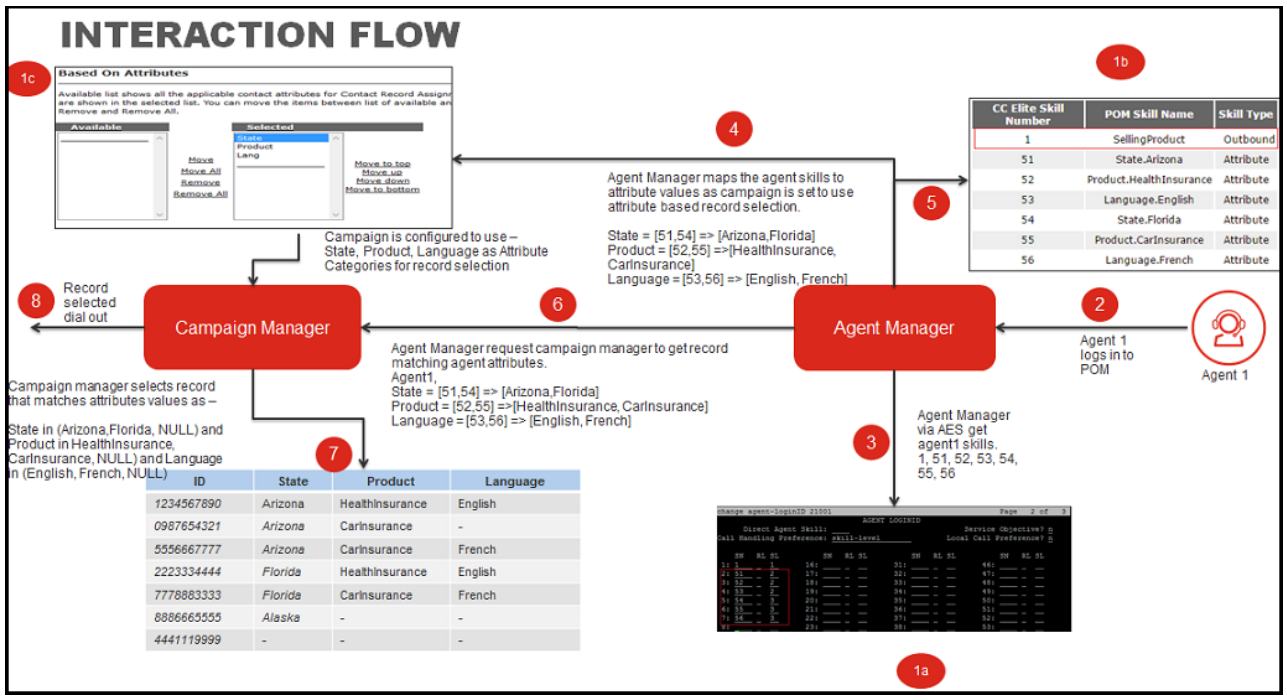
For more information on POM integration with Avaya Workspaces for Call Center Elite, see Integrating POM with Avaya Workspaces for Elite in the *Avaya Proactive Outreach Manager Integration* guide.

Preferred Agent Selection and Personal Agenda

Contact assignment based on attributes - Preferred Agent

You can create an attribute-based campaign. If the agent has a set of attributes defined, POM selects the contacts that match with the agent attributes and present that contact to the agent. The attribute-based selection are applicable only for the progressive or preview type of the campaign. Attribute-based contact selection is applicable for a campaign having a single action node in the handler and all the action nodes are of progressive or preview type. The attribute-based contact selection is not applicable for the predictive type of campaigns.

The following diagram explains the interaction flow for the preferred agent selection:



Legend	Description
1a	The primary skills and the attributes created on Communication Manager for Agents.
1b	The skills from Communication Manager are mapped to the POM attributes. If POM is installed in Oceana mode, attributes are provided to POM in agent login API.
1c	For a record assignment, the attributes are selected for the contact list for which the agent attributes values matches. For more information about the attribute configuration, see the section *Attribute configuration based on POM install modes* in *Administering Avaya Proactive Outreach Manager*.
2	Agent logs on to POM.
3	POM fetches the skill information from Communication Manager through AES. In case of CCElite and Oceana, it is available in agent login command.
4	Agent Manager fetches the campaign details for the attribute matching.
5	Agent Manager maps the fetched skills to the attributes defined in POM.

Table continues…

Legend	Description
6	When an agent is idle, Agent Manager sends the event notification with the agent attributes to the Campaign Manager.
7	Campaign Manager fetches the contact from the contact list based on the provided attributes.
8	Campaign Manager dials out the fetched contact. If more than one contact is found, POM performs the selection as per the sort criteria defined in the campaign filter template.

Note:

POM does not display Attribute type of skills in the strategy configuration.

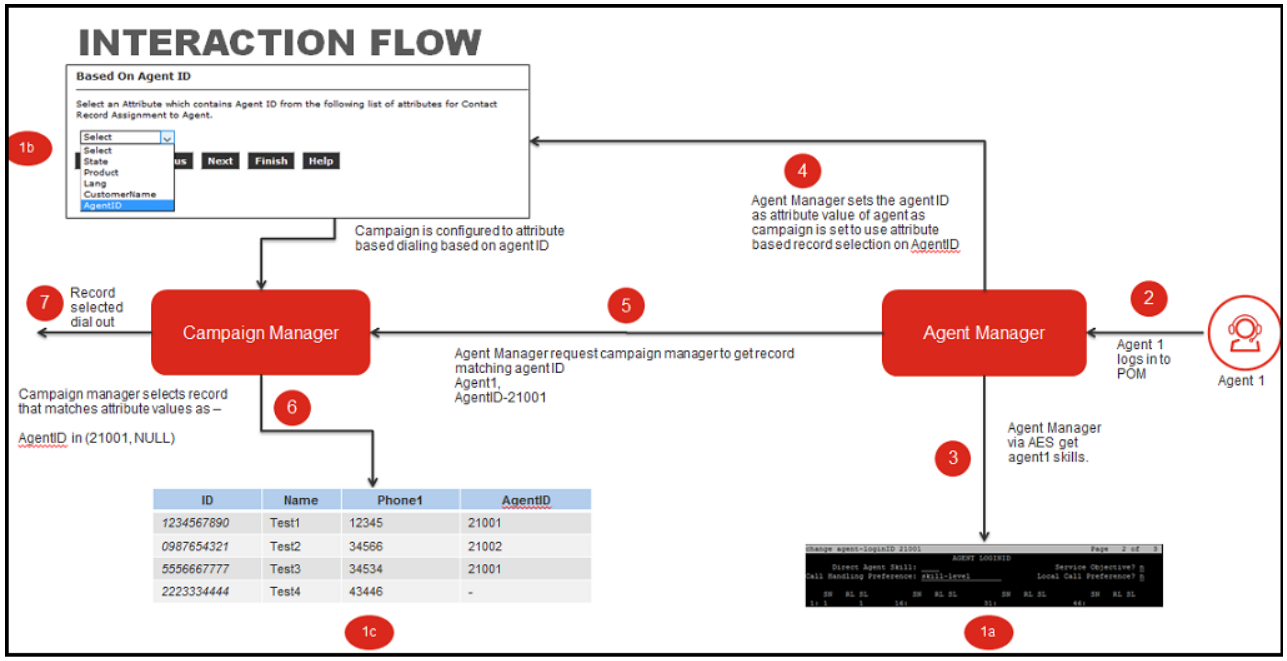
In progressive dialing, over dial ratio greater than one might result in more abandon calls as compared to the standard dialing approach.

Contact assignment based on the Agent ID - Personal Agenda

Contact assignment based on the Agent ID is to utilize a specific agent for an outbound attempt. POM presents a record to an agent that matches the Agent ID system attribute associated with the contact.

The Agent ID based selection is applicable only for progressive and preview type of the campaign. Agent ID based record selection is applicable for a campaign having a single action node in the handler and all the action nodes are of type either progressive or preview. The agent ID based record selection is not applicable for the predictive type of campaigns.

The following diagram explains the interactive flow for the Agent ID based contact assignment:



Legend	Description
1a	Create an agent skill on Communication Manager.
1b	Select Agent ID as attribute for record allocation in Campaign Creation Wizard.
1c	Contact list is created with Agent ID as a system attribute.
2	Agent1 logs in to POM.
3	POM fetches agent information from Communication Manager via AES.
4	The Agent Manager fetches the campaign details for the attribute based dialing configuration.
5	When an Agent is idle, the Agent Manager sends the event notification with Agent ID as an attribute to Campaign Manager.
6	Campaign Manager fetches the record from a contact list based on the Agent ID attribute.
7	Campaign Manager dials out the fetched record.

Note:

In the AACC and Oceana install mode, POM supports the Record assignment based on the Agent ID only.

In progressive dialing, over dial ratio greater than 1 may result in more abandon calls as compared to the standard dialing approach.

Assign a record to an agent with matching attributes

POM selects only those records for dialing which match the agent attributes. The following scenario explains the attribute based record assignment to the agent. Consider the following record attributes:

State	Product	Language
51 – Arizona	52 – HealthInsurance	53 – English
54 – Florida	55 – CarInsurance	56 – French
57 – Alaska	-	-

Assuming the following agents and related attributes:

- Agent 21000 => 1, 51, 52, 53, 54, 55, 56 => [{State=Arizona, Florida}, {Product=HealthInsurance, CarInsurance}, Language={English, French}]
- Agent 21001 => 1, 51, 52, 53 => [{State=Arizona}, {Product=HealthInsurance}, Language={English}]
- Agent 21002 => 1, 57, 55, 56 => [{State=Alaska}, {Product=CarInsurance}, Language={French}]

POM searches multiple records for the attributes of an agent and selects the record which has maximum matching attributes for dialing. If no record matches for an agent, POM selects the

next available record which has no attribute values defined. The following table explains the detail record assignment for each agent:

Record ID	State	Product	Language	Agent 210000 record selection	Agent 210001 record selection	Agent 210002 record selection
1234567890	Arizona	HealthInsurance	English	Yes	Yes	No
0987654321	Arizona	CarInsurance	-	Yes	No	No
5556667777	Arizona	CarInsurance	French	Yes	No	No
2223334444	Florida	HealthInsurance	English	Yes	No	No
7778883333	Florida	CarInsurance	French	Yes	No	No
8886665555	Alaska	-	-	No	No	Yes
4441119999	-	-	-	Yes	Yes	Yes

- For ID 8886665555 record, state attribute matches only with Agent 210002, so the record is assigned to Agent 210002.
- For ID 2223334444 record, state attribute matches with Agent 210000 and Agent 210002. The product attribute matches with Agent 210000 and Agent 210001, so the record gets assigned to Agent 210000.

Note:

Blank value attributes are not considered in matching attributes.

“-” depicts null values.

Record selection order for record assignment

If more than one record matches the agent attributes, POM uses sort criteria defined for the campaign to select the most appropriate record amongst the set of records. The following scenario explains the attribute based record selection order. The following table displays various attributes:

State	Product	Language
51 – Arizona	52 – HealthInsurance	53 – English
54 – Florida	55 – CarInsurance	56 – French
57 – Alaska	-	-

In this example, the following attributes are assigned to Agent 1:

Agent 1 => 1, 51, 52, 53, 54, 55, 56 => [{State=Arizona, Florida}, {Product=HealthInsurance, CarInsurance}, Language={English, French}].

For a record dialing, the system searches matching attributes for an agent. The record which has maximum matching attributes is selected for dialing first. In this case Record ID 1234567890 has maximum number of matching attributes to agent attributes, therefore, this record is assigned to Agent 1 first.

Record selection for the rest is done in the chronological order of maximum matching attributes in this case the order from second dial is ID 2223334444, ID 0987654321, ID 7778883333, ID 5556667777 and ID 4441119999.

The following table displays the chronological record assignment based on the count of matching attributes:

Record ID	State	Product	Language	Record selection order
1234567890	Arizona	HealthInsurance	English	1
0987654321	Arizona	CarInsurance	-	3
5556667777	Arizona	-	-	5
2223334444	Florida	HealthInsurance	English	2
7778883333	-	CarInsurance	French	4
4441119999	-	-	-	6

Note:

If two records have the same number of matching attributes, POM assigns the records as per the sorting criteria.

Record selection based on Agent ID

For personal agenda based campaigns, POM selects the records based on `AgentID`. If the selected record has an `AgentID` specified by using a custom attribute with a value of the agents phone login ID, that record can only be handled by the agent specified. If the record does not have an `AgentID` specified, meaning the attribute value is blank or null, then POM assigns this record to any available agent.

Consider the following scenario to understand how POM selects the contact based on the `AgentID`. Consider two agents 210001, 210002, and also a sample contact list with `AgentID` as an attribute. Agent 210001 is eligible for the Record ID 1234567890 as the `AgentID` value matches with ID 210001. Similarly, agent 210002 is eligible for the Record ID 5556667777. Both agents are eligible for the Record ID 0987654321 as shown in the following table:

Record ID	Agent ID	Is agent 21001 eligible for a record?	Is agent 21002 eligible for a record?
1234567890	21001	Yes	No
0987654321	-	Yes	Yes
5556667777	21002	No	Yes

Callback behavior for callback types

Agent

This callback is the preferred agent callback in which an agent can schedule a callback for another agent.

Campaign

You can create this callback for a campaign and assign the campaign to any available agent of the campaign.

Standard

You can assign this callback to any available agent whose skills match with the skills of the running job.

Strict agent

POM tries to deliver this callback to an assigned agent for maximum attempts. If all attempts are exhausted, POM assigns the callback to another agent who matches the campaign.

For more information about each callback type, see Callback management on page 88.

Contact data sources

With contact data sources, you can define a source from which you can import customer records to a contact list. You can define three types of data sources; file based, database based, and custom. With the file based data source, you can import customer records from a `.csv` file into a contact list. The `.csv` file can either be on a file system of the POM server or the Secured File Transfer Protocol (SFTP) server. With the database-based data source, you can import customer records from an external database. You can activate the data source to import data. You can also define recurring schedules to import data at a fixed interval from an external file or a database.

POM supports new features for the phone numbers.

Depending on the settings you configure, POM saves the phone number in the database and applies the specified phone formats, reject patterns, or dialing rules. You can specify when POM can place calls.

For example, if you want POM to place calls only during specific timings or days, you can specify a guard time with the criteria.

For more information on phone formats, reject patterns, dialing rules, and guard times, see *Administering Avaya Proactive Outreach Manager*.

Media channel management

POM uses various notification channels to run voice, video, SMS, and e-mail campaigns.

SMS channel

POM leverages capabilities provided by Avaya Experience Portal to send/receive SMS in a campaign. Use this notification channel to send an SMS to the selected customers using the Short Message Peer-to-Peer Protocol (SMPP) 3.4. If the length of the SMS exceeds 165 characters, POM sends the message in the form of multiple SMS.

Email channel

POM leverages the capabilities provided by Avaya Experience Portal to send/receive e-mail messages in a campaign. Use this notification channel to send email messages by using the Simple Mail Transfer Protocol (SMTP). SMTP supports only text in emails and multiple attachments.

Voice channel

You can assign Avaya Orchestration Designer applications, as a part of the campaign strategy. POM runs these applications when a call launched from a call campaign is answered by a customer. You can use the applications supplied by POM such as AvayaPOMNotifier and AvayaPOMAgent, to send simple notifications or to transfer a call to an agent. You can use a voice channel to run an agent-based campaign or an automated notification campaign.

Campaign strategy management

Use campaign strategies to define the process of interacting with a customer during a campaign by using various channels.

You can select the following aspects of interaction in the strategy:

- Notification channel: voice, SMS, email, or custom.
- Contact address used for customer interaction.
- Rules such as timing restrictions and number of retries for contacting the customer.
- Applications to use.
- Personalized notifications texts.
- If the notification channel is voice, specify whether POM must skip over to the next Address node in the Call action node if the phone number in the current Address node cannot be attempted because of guard time restrictions.

Note:

With AES, POM supports up to 240 skills per agent.

Campaign pacing overview

Use pacing to control the distribution of the number of calls, SMS, or emails you want the POM system to make or send depending upon the availability of the resources such as ports, licenses, and agents.

You can define the pacing type in the campaign strategy and associate the campaign strategy to the campaign.

POM supports time-based and skill-based pacing for call, SMS, and email.

POM supports various modes of pacing for agent-based campaigns such as preview, manual, progressive, and predictive campaign.

Time-based pacing for automated voice campaigns

Use time-based pacing to control the number of calls the POM system makes per second, minute, or hour. You can specify the pacing type in the Call node of the campaign strategy.

Time-based pacing for SMS campaigns

Use time-based pacing for SMS to monitor and control the number of SMS messages the POM system sends per second, minute, or hour. You can specify the pacing type in the SMS node of the campaign strategy.

Time-based pacing for email campaigns

Use time-based pacing for email to monitor and control the number of emails the POM system sends per second, minute, or hour. You can specify the pacing type in the Mail node of the campaign strategy.

Skill-based pacing for campaigns

You can use skill-based pacing with Avaya Experience Platform™ On-Prem or with Avaya Aura® Contact Center (AACC). Skills are monitored using Call Management System (CMS) for Avaya Experience Platform™ On-Prem .

To use skill-based pacing for campaigns with AACC, configure the skills on AACC. For more information about configuring and creating skills in AACC, see *Avaya Aura® Contact Center Proactive Outreach Manager Integration* documentation.

The inbound skills on Avaya Experience Platform™ On-Prem are monitored and are used to control the rate of outbound calls, SMS messages, or email messages. You must map the skills from the CMS to the skills created in POM. POM accordingly varies the outbound call, SMS, or email flow based on the traffic on the inbound skill.

Note:

To create and run skill-based campaigns using Avaya Experience Platform™ On-Prem , you must configure RT Socket on the CMS server. When configuring the RT Socket to send CMS real-time data to the POM server, ensure you use the *tvi1* report format.

You can use skill-based pacing to control the rate of the outbound calls, SMS messages, or email messages based on certain inbound parameters. The parameters are queue length, expected wait time, average speed of answer, and percentage (%) answered within service levels.

You can select the **EWTLevel** values as either **High**, **Med**, **Low**, or combination of any of these three values while configuring skill-based pacing in a campaign strategy. If you select more than

one **EWTLevel** values, the maximum of the selected **EWTLevel** values is used to make the decision by comparing the value against the configured threshold value. If the maximum value of selected **EWTLevel** is higher than the desired level, the pacing is decreased, else the pacing is increased.

If the queue length, the average speed of answer, or the maximum value of the selected EWTLevel is higher than the desired value, the pacing is decreased, else the pacing is increased. However, if the service level parameter value is higher than the desired value, the pacing is increased, else the pacing is decreased.

Example on how POM increases or decreases the pace:

Consider you have created a skill-based campaign strategy CS1 for handling calls, with configurations as shown in the following table:

Parameter	Value
Parameter	Queue Length
Desired Value	3
Initial Pace	1
Pace Interval	MINUTE
Pacing Variation (%)	50
Max Pace	5

As per the configuration, POM starts pacing with initial pace 1 per minute and controls the outbound calls based on the **Queue Length** parameter. POM keeps calculating the pace after every 2 seconds and increases or decreases the pace depending upon the **Parameter** and **Desired Value** parameters. POM considers the **Pacing Variation (%)** value for increasing or decreasing the pace. To increase the current pace, POM adds the **Pacing Variation (%)** to the current pace value. To decrease the current pace, POM subtracts the **Pacing Variation (%)** from the current pace value. POM considers the maximum and minimum pace values while adjusting the pace. The minimum pace value is 1.

Pacing behavior for the Queue length parameter

The following table illustrates how POM adjusts the pace after every 2 seconds depending upon the strategy configurations:

Queue length received from AACC/CMS	Current Pace (per min)	Pacing behavior	Updated Pace (per min)
1	1	The queue length is less than the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	1 + 0.5 = 1.5. Considering the floor value, updated pace is 2.

Table continues…

Queue length received from AACC/CMS	Current Pace (per min)	Pacing behavior	Updated Pace (per min)
2	2	The queue length is less than the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	2 + 1 = 3.
3	3	The queue length is equal to the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	3 + 1.5 = 4.5. Considering the floor value, updated pace is 5.
3	5	The queue length is equal to the desired value, but the current pace is also equal to the max pace value. So, POM does not change the pace.	5
4	5	The queue length is greater than the desired value. So, POM decreases the pace.	5 - 2.5 = 2.5. Considering the floor value, updated pace is 3.
5	3	The queue length is greater than the desired value, and the current pace is greater than the min pace value. So, POM decreases the pace.	3 - 1.5 = 1.5. Considering the floor value, updated pace is 2.
5	2	The queue length is greater than the desired value, and the current pace is greater than the min pace value. So, POM decreases the pace.	2 - 1 = 1
5	1	The queue length is greater than the desired value, but the current pace is equal to the min pace value. So, POM does not change the pace.	1

Pacing behavior for the Expected Wait Time (EWT) parameter

Consider the following example to understand how POM increases or decreases the pace if you select LOW, Med, or High as the **EWT Level**:

Parameter	Value
Parameter	Expected Wait Time
EWT Level	Med
Desired Value	3
Initial Pace	1
Pace Interval	MINUTE
Pacing Variation (%)	50
Max Pace	5

As per the configurations, POM starts pacing with initial pace 1 per minute and controls the outbound calls based on the **Expected Wait Time** parameter. POM calculates the pace after every 2 seconds and increases or decreases the pace depending upon the **Parameter** and **Desired Value** parameters. POM considers the **Pacing Variation (%)** value for increasing or decreasing the pace. To increase the current pace, POM adds the **Pacing Variation (%)** to the current pace value. To decrease the current pace, POM subtracts the **Pacing Variation (%)** from the current pace value.

POM considers the maximum and minimum pace values when adjusting the pace. The minimum pace value is 1.

Pacing behavior for the Expected Wait Time (EWT) parameter with EWT Level value Med

The following table illustrates how POM adjusts the pace after every 2 seconds depending upon the strategy configurations:

EWT Level Med Value received from CMS RTS Socket	Current Pace (per min)	Pacing behavior	Updated Pace (per min)
1	1	The EWTLevel value is less than the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	1 + 0.5 = 1.5. Considering the floor value, updated pace is 2.
2	2	The EWTLevel value is less than the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	2 + 1 = 3
3	3	The EWTLevel value is equal to the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	3 + 1.5 = 4.5. Considering the floor value, updated pace is 5.
3	5	The EWTLevel value is equal to the desired value, but the current pace is also equal to the max pace value. So, POM does not change the pace.	5
4	5	The EWTLevel value is greater than the desired value. So, POM decreases the pace.	5 - 2.5 = 2.5. Considering the floor value, updated pace is 3.

Table continues…

EWT Level Med Value received from CMS RTS Socket	Current Pace (per min)	Pacing behavior	Updated Pace (per min)
5	3	The EWTLevel value is greater than the desired value, and the current pace is greater than the min pace value. So, POM decreases the pace.	3 - 1.5 = 1.5. Considering the floor value, updated pace is 2.
5	2	The EWTLevel value is greater than the desired value, and the current pace is greater than the min pace value. So, POM decreases the pace.	2 - 1 = 1
5	1	The EWTLevel value is greater than the desired value, but the current pace is equal to the min pace value. So, POM does not change the pace.	1

Pacing behavior for the Expected Wait Time (EWT) parameter

Consider you select a combination of LOW, or Med, or High values. For example, if you select the EWTLevel as Low and Med, then POM considers the maximum of EWTLevel values to increase or decrease the pace as follows:

Parameter	Value
Parameter	Expected Wait Time
EWT Level	Low, Med
Desired Value	3
Initial Pace	1
Pace Interval	MINUTE
Pacing Variation (%)	50
Max Pace	5

As per the configurations, POM will start pacing with initial pace 1 per minute and control the outbound calls based on the **Expected Wait Time** parameter. POM keeps calculating the pace after every 2 seconds and increases or decreases the pace depending upon the **Parameter** and **Desired Value**. POM considers the **Pacing Variation (%)** value for increasing or decreasing the pace. To increase the current pace, POM adds the **Pacing Variation (%)** to the current pace value. To decrease the current pace, POM subtracts the **Pacing Variation (%)** from the current pace value.

POM considers the maximum and minimum pace values while adjusting the pace. The minimum pace value is 1.

Pacing behavior for parameter Expected Wait Time (EWT) with EWT Level value Low, Med

The following table illustrates how POM adjusts the pace after every 2 seconds depending upon the strategy configurations:

EWT Level Values received from CMS RTS Socket		Current Pace (per min)	Pacing behavior	Updated Pace (per min)
Low	Med			
1	1	1	POM considers the maximum of EWTLevel values. In this case, since both the values are same, the EWTLevel value considered will be 1. The EWTLevel value is less than the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	1 + 0.5 = 1.5. Considering the floor value, updated pace is 2.
2	1	2	POM considers the maximum of EWTLevel values, which, in this case is 2. The EWT value is less than the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	2 + 1 = 3
2	3	3	POM considers the maximum of EWTLevel values, which, in this case is 3. The EWTLevel value is equal to the desired value, and the current pace is less than the max pace value. So, POM increases the pace.	3 + 1.5 = 4.5. Considering the floor value, updated pace is 5.
2	3	5	POM considers the maximum of EWTLevel values, which, in this case is 3. The EWTLevel value is equal to the desired value, but the current pace is also equal to the max pace value. So, POM does not change the pace.	5
4	2	5	POM considers the maximum of EWTLevel values, which, in this case is 4. The EWTLevel value is greater than the desired value. So, POM decreases the pace.	5 - 2.5= 2.5. Considering the floor value, updated pace is 3.

Table continues…

EWT Level Values received from CMS RTS Socket		Current Pace (per min)	Pacing behavior	Updated Pace (per min)
5	4	3	POM considers the maximum of EWTLevel values, which, in this case is 5. The EWTLevel value is greater than the desired value, and the current pace is greater than the min pace value. So, POM decreases the pace.	3 - 1.5 = 1.5. Considering the floor value, updated pace is 2.
4	2	2	POM considers the maximum of EWTLevel values, which, in this case is 4. The EWTLevel value is greater than the desired value, and the current pace is greater than the min pace value. So, POM decreases the pace.	2 - 1 = 1
2	5	1	POM considers the maximum of EWTLevel values, which, in this case is 5. The EWTLevel value is greater than the desired value, but the current pace is equal to the min pace value. So, POM does not change the pace.	1

Call pacing for agent-based campaigns

Call pacing methods are used for agent- based campaigns to control the call rate based on the availability of agents.

The pacing methods are:

- Predictive Expert Calling Ratio: You can use this method to optimize the use of agents, or manage and change call handling time, or place as many calls as possible during the job. Expert Calling Ratio allows you to change the way POM determines when to place the next call while a job is running.

  An administrator sets parameters of Predictive Expert Calling Ratio campaign for efficient agent utilization and better calling speed.

  The parameters of Predictive Expert Calling Ratio campaign are as follows:

  - **ECR update probability**
  - **Expert Call Ratio Type**
  - **Minimum Hit Rate**

  Alternatively, you can use a cruise control algorithm which automatically ensures efficient agent utilization and better calling speed and maintaining the desired service level as mentioned in the campaign strategy and Real Time Monitor per job setting.

- Predictive Cruise Control: You can use this method to limit abandoned or nuisance calls while maximizing the agent utilization (AU). Cruise control automatically maintains the service level of outbound dialing during a job and connects the calls to agents within a specified time period. During the job, you do not have to monitor or change the call pacing settings. The algorithm tries to maximize the AU while maintaining the service level. So in some extreme conditions such as low hit rate, the AU drops.

  For the minimum agent requirement to achieve efficient agent utilization for Predictive Cruise Control type of pacing, see the *Agent Utilization* section.
- Progressive: You can use this method to ensure that for each call that POM launches, an agent is available. This method ensures that nuisance calls are minimal, but also reduces the agent utilization. The pace of the job is slow as the system keeps waiting for an agent. The system does not do over dialing using forecasting as for predictive methods. You can accelerate the pacing by defining the overdial ratio as more than 1. For example, if you set the ratio as 1, POM launches 1 call for each available agent.

  For Progressive type of pacing, there is no minimum agent attachment requirement.
- Preview: You can use this method if you want the agent to preview the customer record before dialing. This helps in better customer service.

  Also, for Preview type of pacing, there is no minimum agent attachment requirement.
- Manual: Use this method to dial a customer number through a third-party software or device. You can view the details of the customer before dialing the number and record the details of the call after the call.

Note:

POM uses REFER and replaces SIP extensions to connect the customer call with the agent nail-up in case of Progressive & Predictive type of campaigns and for Consult, Transfer and Conference functionality for all type of campaigns except Manual campaigns.

POM has the following port utilization for different dialing types:

- Preview: 2 ports
- Predictive: 2 ports + 1 port (INVITE/REPLACE)
- Progressive: 2 ports + 1 port (INVITE/REPLACE)
- Manual: No MPP port is required because the dialing is not done through MPP or POM.

Consult/Conference/Transfer scenarios will require extra ports. For more details on ports, refer the Sizing tool.

Custom pacing for all automated voice campaigns

You can use the web services, `SetMaxAttemptsCountForTask` and `GetActiveJobTaskIdForTask` for custom pacing. For more information on the web services, see *Developer Guide for Proactive Outreach Manager.*

Change the pacing type of a Call task node in real time

If you set the **Runtime Change Pacing Type** property of a Call task node to ON in the campaign strategy, the **Runtime Pacing** feature is available for the Call task node in the Supervisor Dashboard.

A Supervisor Dashboard user can use the **Runtime Pacing** feature to change the pacing type of the Call task node in real time, that is, when the campaign is in a running or callback state. The user can also configure parameters specific to the new pacing type in real time.

The **Runtime Change Pacing Type** property is available for a Call task node with Preview, Progressive, Cruise Control, and Expert Call Ratio pacing types only. In real time, a user can change the pacing type only between Preview, Progressive, Cruise Control, and Expert Call Ratio.

For attribute-based campaigns, a user can change the pacing type only between Preview and Progressive.

When a user changes the pacing type of a Call task node in real time:

- POM does not pick up any new contacts for dialing till it processes the new pacing request.

  However, if a contact is already being dialed or is In Progress when the pacing type is changed, the call is completed according to the original pacing type.

  A contact is considered to be In Progress if it meets any of the following conditions:

  - The contact is picked up for an attempt but not yet attempted.
  - The contact is attempted, but result processing is not done on the contact attempt yet.
  - Attempt is in progress for the contact.
- In case of a failover, POM applies the latest configured pacing type and CCA parameters to the Call task node.
- The following parameters are common between the Preview, Progressive, Cruise Control, and ECR pacing types.

  POM replicates the values of the following parameters from the old pacing type in the new pacing type:

  - **Min. Agents**
  - **Max. Agents**
  - **Agent Outbound Skill**
  - **ACW Time (Sec)**
  - **# of ACW extensions**
  - **Default Completion Code**

  For example, **Min. Agents** is set to 2 in a Call task node with Preview pacing type. If a user changes the pacing type from Preview to ECR in real time, POM replicates the **Min. Agents** value from Preview in ECR, that is, 2.

A user can also specify whether to overwrite the pacing type of the Call task node in the campaign strategy with the new pacing type in real time. The pacing type POM applies to the Call task node depends on whether the user selects to overwrite the pacing type in the campaign strategy in real time.

The following table provides information about the pacing type POM applies to the Call task node based on what the user selects to do:

Overwrite pacing type in the campaign strategy with the new pacing type in real time	Do not overwrite pacing type in the campaign strategy with the new pacing type in real time
• For the current campaign: When the user changes the pacing type of a Call task node in the current campaign, POM immediately applies the new pacing type to the Call task node in the current campaign. If the user pauses and resumes or stops and restarts the current campaign, POM applies the new pacing type to the Call task node in the current campaign. • For other campaigns that use the same campaign strategy: If the user changes the pacing type of a Call task node in the current campaign when the other campaigns are in a running state, the other campaigns continue to run with the original pacing type. However, if the user pauses and resumes or stops and restarts the other campaigns, POM applies the new pacing type to the Call task node in the other campaigns.	• For the current campaign: When the user changes the pacing type of a Call task node in the current campaign, POM immediately applies the new pacing type to the Call task node in the current campaign. If the user pauses and resumes the current campaign, POM applies the new pacing type to the Call task node. However, if the user stops and restarts the current campaign, POM applies the original pacing type to the Call task node, as defined in the campaign strategy. • For other campaigns that use the same campaign strategy: The other campaigns continue to use the original pacing type as defined in the campaign strategy.

Do Not Call list management

Do Not Call (DNC) lists have contact information of those customers who opt out from receiving any unwanted calls. With POM, you can import the DNC lists from various service providers to the POM database.

POM does not contact the phone numbers or email addresses listed in the DNC list for campaigns if DNC is set in the campaign strategy or in the campaign creation wizard.

You can do the following with a DNC list:

- Enable DNC in CCW.
- Create a maximum of five DNC groups during a campaign creation.
- Create a maximum of five lists in one DNC group.
- Create a maximum of 200 groups in POM.
- Create a maximum of 200 DNC lists in POM.

You can assign one or more DNC groups to a campaign by using the **Apply DNC Group** option provided on CCW. By default, this option is enabled for new campaigns. Existing DNC checks in campaign strategy and global restrictions remain same.

Note:

You can assign a maximum of five DNC groups per campaign.

You can enable DNC check for callback, redial, and preview dial for agent based campaigns using the options provided under **DNC settings** on Global Configurations page. For more information, see *Administering Avaya Proactive Outreach Manager*.

As per multi tenancy, in addition to the DNC groups added, the org based DNC list and common DNC list is applicable to a campaign by default.

Timed DNC

POM provides an option to specify the number of days for which the addresses are added in the DNC list. During this time, POM does not dial the address. After the time ends, POM removes the address from the DNC list. Therefore, the address becomes available for dialing.

Enhanced DNC

Currently, the DNC feature in POM works only on address (Phone number, Email, or SIP number), that is if one address of a customer is in a DNC list, then the POM dialer can reach to the same customer on the other address.

However, if a customer does not want to receive any call on any of their addresses, the entire customer record needs to be in the DNC list.

With the Enhanced DNC feature, POM can restrict the entire customer record based on the Customer ID or by User Contact ID.

POM now provides more options such as User Contact ID or Customer ID to classify a DNC address. POM then adds this address to a DNC list.

Note:

Enhanced DNC checks are not included while importing the contacts to a contact list.

Dynamic Filtering and Sorting

You can add new records to a running job. The campaign manager picks one contact at a time for dialing instead of a batch of records. The newly added contacts adhere to the filter and sort criteria defined for the job. The SaveContactToList web service ensures that the newly added contact become eligible for dialing if they meet filter criteria of the job. POM automatically considers new contacts added in the contact list for dialing if job states are running, queued, filter in progress, or callback. The newly added contacts are dialed as per the sort criteria.

Note:

Newly added contacts are not picked up for dialing if job is in **Completed**, **Creating History** or **Stopped Callback** state.

You can change the filter or sort criteria of a running campaign at runtime without having to pause or stop the campaign.

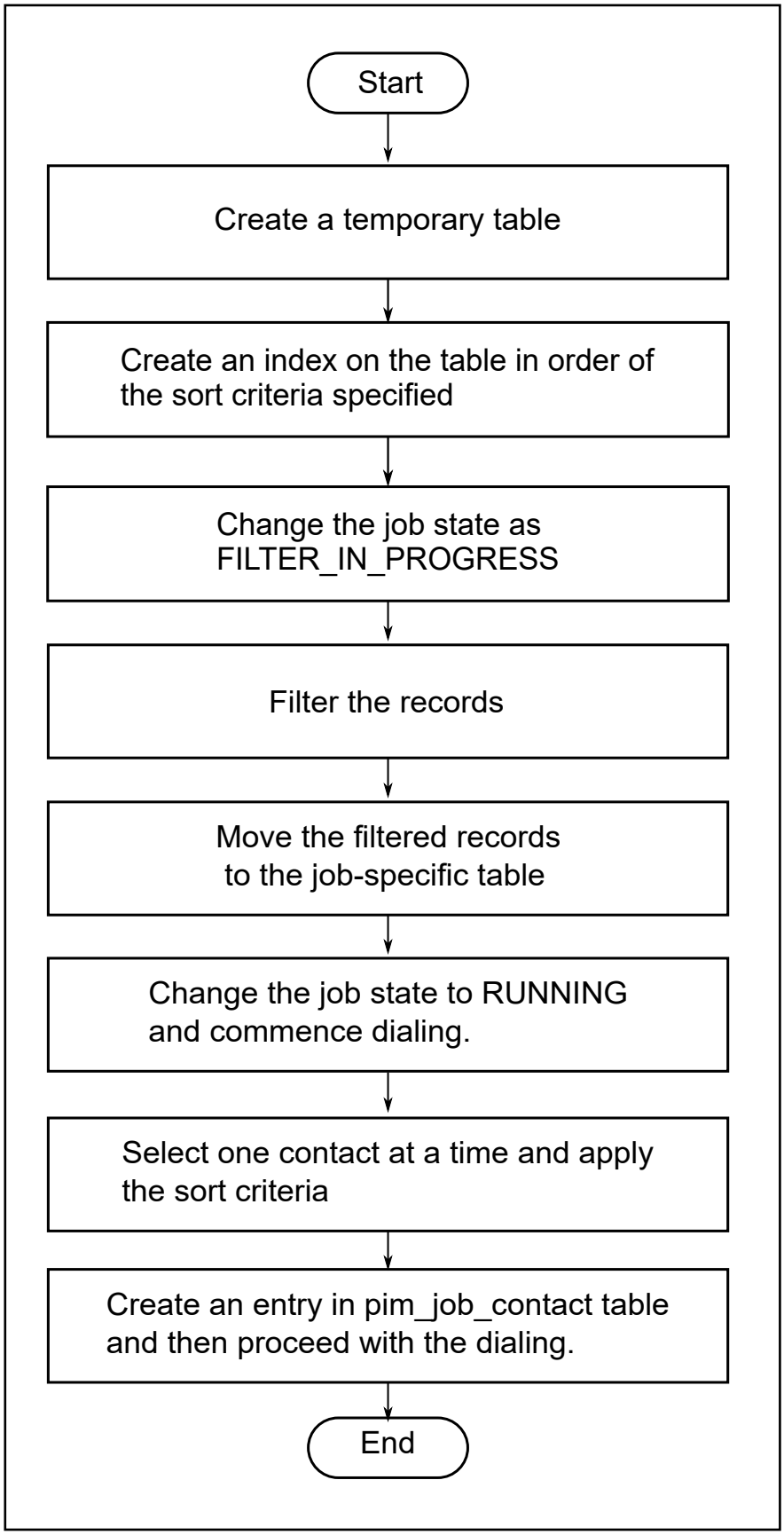
Dynamic Filtering process

In addition to the regular POM database, POM creates temporary Job tables that act as operational databases during the dynamic filtering process. This schema holds the tables related to each running job. These tables hold the dialing records which are filtered based on criteria specified. The tables are created when the job starts, and are removed once the job finishes. The tables are also recreated when you change the filter criteria.

Purging the temporary Job tables is not required. When the POM database reaches its maximum size limit, errors get logged in the log files, the job remains in the current state, and no new records are filtered.

The campaign manager filters the records on the job start, job resume, campaign manager failover, campaign manager restart, filter/sort criteria change, or when the contact list association with the job changes.

The following diagram depicts the steps that a campaign manager performs for dynamic filtering:


Start
Create a temporary table
Create an index on the table in order of the sort criteria specified
Change the job state as FILTER_IN_PROGRESS
Filter the records
Move the filtered records to the job-specific table
Change the job state to RUNNING and commence dialing.
Select one contact at a time and apply the sort criteria
Create an entry in pim_job_contact table and then proceed with the dialing.
End

By default, POM does not start dialing till the filtering of records are complete. So, if a contact list has millions of records that satisfy the filter criteria and become eligible for dialing, then till the records are filtered and moved to operational table, the dialing does not start. If you want to start dialing without waiting for the filtering to complete, the administrator must disable the **Pause Dialing During Record Selection** flag in campaign creation wizard (CCW).

Note:

During filtering process, POM just filters the records and moves them to the Job table. The records are not inserted in sorted order as per CCW configuration. The sort condition gets applied only when the contact is selected for dialing. Thus, if the **Pause Dialing During Record Selection** option is disabled, POM applies the sort condition on the set of records and moves the records to the Job table at that instant and starts dialing the records at the same time. To apply sort on all filtered records, the administrator must enable the **Pause Dialing During Record Selection** option on the CCW page.

Change the filter and sort criteria using Supervisor Dashboard or POM Monitor

You can change the filter criteria or sort criteria in real time for a running job.

You can use the Supervisor Dashboard or POM Monitor to do the following:

- Change the filter criteria of a job.
- Change the sort criteria of a job.
- Add or remove a contact list.
- Assign a priority to a contact list.

After the system applies the changes that you make by using the Supervisor Dashboard or POM Monitor, the campaign manager discards existing contacts from the dialing table.

The campaign manager does not discard the contacts that are in the **in-progress** state.

Contacts are in the **in progress** state if the contacts meet any one of the following conditions:

- The system selects a contact, but does not attempt to connect to the contact.
- The system attempts to connect to a contact, but does not process the result further.
- The system sets a callback on a contact.
- The system sets a retry on a contact.
- The system indicates that an attempt is in progress for a contact.

For more information on changing the filter/sort criteria at run time, see *Using Avaya Proactive Outreach Manager Supervisor Dashboard*.

Contact dialing order

The records in a contact list can be of types: callback, priority, regular, and retry. POM dials these different types of records as per the dialing order you configure for the campaign in the campaign creation wizard (CCW).

You can also modify the dialing order when the campaign is running using the POM Supervisor Dashboard service.

Note:

You can configure the dialing order only for the priority, regular, and retry records.

For a callback record, if the callback time matures, the callback record always takes precedence over the other record types for dialing.

If you do not specify a dialing order for a campaign, POM uses the following default dialing order for the campaign:

- Callback
- Priority
- Retry
- Regular

When you run a campaign, a job is created for that campaign. Campaign director then assigns this job to one of the least busy campaign managers. The campaign manager, which is responsible for making the attempt, then filters the contacts as per the filter criteria specified in CCW and makes the outbound attempts.

To identify the least busy campaign manager, POM takes into account the number of worker threads in campaign manager. Each campaign manager stores the count of its worker threads into a database. The number of worker threads that are created for job processing depends on the number of agents working on the job/licenses allocated to the job. The number of these worker threads vary from job to job. The worker threads count is determined as follows:

- For agent-based campaigns, 1 worker thread is associated with 5 agents.
- For notification campaigns, 1 worker thread is associated with 20 ports.
- For SMS and email campaigns, 1 worker thread is associated with each campaign.

The campaign manager periodically updates the numbers of threads related information in the database across all jobs handled. If 2 or more campaign managers have lowest threads, POM considers the number of jobs allocated to the campaign manager to identify the least busy campaign manager. If the number of running jobs is also same, POM considers the first identified campaign manager with lowest campaign manager ID as the least busy campaign manager.

While dialing the records as per the dialing order, if a campaign manager that is handling the job becomes nonfunctional, then the campaign director moves all the jobs associated with that campaign manager to different campaign managers one by one. In case a job is paused and resumed, the campaign director will identify the least busy campaign manager and allocate the job to that campaign manager.

If you have a campaign strategy with multiple handlers, the first attempt of the contact will be maintained in sort order. For example, following is a strategy with multiple handlers:

```
Handler<initial>
    Call <action node>
        Result  <CompletionCode=Sales Done>
            Next state = SendSMS
Handler<SendSMS>
    SMS <action node>
        Result <CompletionCode=All>
            Next state = Done
```

All contacts dialed through the initial handler are as per the sort order for the first attempt being made to the contact. Once the contact moves to the next handler, the sort order cannot be

guaranteed as the call completion time might vary or there might be wait conditions for some completion codes.

The selector node distributes the contacts across handlers. The first attempt of the contact will be maintained in sort order. For example, following is strategy with handlers:

```
Handler<initial>
    Selector <action node>
        Conditions <attribute=CustomerType>
            Condition=Gold
                NextState=”MakeCall”
            Condition=Silver
                NextState=”SendSMS”
Handler<MakeCall>
    Call <action node>
        Result  <CompletionCode=Sales Done>
            Next state = SendSMS
Handler<SendSMS>
    SMS <action node>
Result <CompletionCode=All>
            Next state = Done
```

For all contacts with the state initial, POM does not attempt to dial those records as the selector is updating the next state for the contacts based on the assigned conditions. The campaign manager then picks the next contact with state MakeCall and Send SMS in parallel and starts dialing. The campaign manager ensures the contacts are dialed as per sort order for MakeCall or Send SMS.

The campaign manager processes the contact in sequence for all actions defined before moving to the next contact. Thus calls will be paced based on the slowest action defined.

For example, you have a contact strategy to call and send SMS to all the contacts. The contact strategy will be as follows:

```
Handler<initial>
                Call <action node>
                                Result  <CompletionCode=All>
                                                Next state = Done
                SMS <action node>
Pacing = TimeBased
Speed= 5 per minute
                Result <CompletionCode=All>
                                                Next state = Done
```

The net dialing speed of a campaign job which is using above strategy will be around 5 SMSs per minute and 5 Calls per minute though there is no pacing defined for the call node. This is because both the call node and SMS node will be served by the same pool of worker threads for that handler. At a time only one worker thread from the pool is allowed to work on a contact. When a worker thread makes first call attempt, it will be blocked on SMS attempt. SMS will not be sent till the allowed time interval between 2 SMSs is elapsed, which is 12 seconds in above example. Then another thread is allowed to make the next call, which means that calls will also be made after every 12 seconds. The net dialing speed achieved will be around 5 SMSs per minute and 5 Calls per minute.

Caveats for dialing the records as per the sort order

The contacts will not be dialed as per sort order in following scenarios:

- Temporary Restrictions and Guard time: The contacts which fall under temporary restrictions and guard time will be dialed only when the dialing conditions are met. Thus, report will show

some contacts dialed out of order. Such contacts will have their attempt type set to Out of temp restrictions.

- Callbacks: If there are any callbacks scheduled, POM gives them highest priority and dials them immediately. Thus, the report shows some contacts dialed out of order. Such contacts will have their attempt type set to callback.
- High/Top priority contact dialing: High/Top priority contacts added through Web service will be dialed immediately after processing of one or two contacts which are locked for dialing. Such contacts will appear out of order in the report and attempt type set to High Priority Contacts.
- Media Server failure while dialing contact: POM leverages experience portal Web service for initiating dialing. If for some reason request fails, POM re-attempts the contact after the existing batch is completed. Such contacts will appear out of order and will not have any attempt type defined in the report as the first attempt itself failed.

Reset the retry count for contacts on dynamic filter changes

You can reset the retry count for contacts in a contact list that are filtered at run time because of the following:

- You add or change a filter condition in a filter template that is associated with the contact list of a campaign at run time.
- You associate another filter template with the contact list of a campaign at run time.

POM might have already attempted some of these contacts before the new filter is applied. However, if retry attempts are pending for such contacts and if these contacts are filtered again by the new filtering criteria, then to reset the retry count for such contacts to the maximum number of retries that is configured in the campaign strategy, set the RESET_RETRY_ON_DYNAMIC_FILTER_CHANGE parameter to true. The RESET_RETRY_ON_DYNAMIC_FILTER_CHANGE parameter is available in the pim_config table in the POM database.

For example, in the campaign strategy, the maximum number of retries configured if a dialed contact is busy is 3. POM performs two attempts to dial contact A. Contact A is busy during the first two attempts. After the second attempt, you make changes in the filter template during the running campaign. Contact A is filtered again by the new filtering criteria. POM resets the retry count for contact A to 3.

If an attempt for a contact is in progress when the new dynamic filtering is being applied, the retry count is reset for such contact only after the current attempt is completed and the contact is marked for a retry on attempt completion.

The retry count is reset only if the RESET_RETRY_ON_DYNAMIC_FILTER_CHANGE parameter is enabled before any changes are done to the filter template.

By default, the RESET_RETRY_ON_DYNAMIC_FILTER_CHANGE parameter is set to false.

Note that the retry count is not reset if the following is performed in a campaign at run time:

- A sort condition is added or changed in a filter template at run time.
- The dialing allocation percentage for the contact lists that are associated with the campaign is changed at run time.

- A contact list that is associated with the campaign is updated at run time.
- A new contact list is added to the campaign at run time.

Excluded Contacts

You can exclude contact records from the **Filtered dialing** list by using the **Excluded contacts** icon on the Contact Lists page. While excluding a contact and marking the excluded contact as **not callable**, if the contact is already present in some running campaigns, it will not be dialed through any campaign after exclusion. Contacts which are marked as excluded are never picked for dialing through new campaigns that are started after the exclusion. To attempt excluded contacts, then you must remove these contacts from the exclusion list.

If the excluded contacts are not yet dialed, then they are removed from the contact list of the running campaigns. However, contacts that are ”in process” are not excluded immediately if:

- The dialing of the contacts is in progress.
- Retry or Callback set for a contact.
- Callback is set on the contact using a web-service before the start of the job.

Contacts in above scenarios are marked as excluded at the time of their next attempt. For example, consider a contact list associated with a running campaign has 10 contacts, and 5 contacts are already picked up for dialing. If you exclude all the contacts in this contact list, the campaign manager excludes and removes only the 5 contacts that are not yet picked up for dialing, whereas it continues processing the other 5 contacts that it had already picked up for dialing.

In another example, consider a contact list associated with a running campaign has 10 contacts, and 5 contacts are marked for Callback or Retry. When the Callback or Retry time for the contacts mature, campaign manager checks if these contacts are marked excluded. If they are excluded, it does not pick these contacts for dialing.

In such cases, Supervisor Dashboard or POM Monitor does not reduce the count of **Un-attempted Contacts**. The job remains in running state till the Callback or the Retry matures.

Timed Exclusion

POM now provides a functionality to exclude the records from a contact list for a certain number of days.

After the exclusion period is over, records are automatically removed from the exclusion list and are available for dialing. Once the exclusion period is over, if the contact is already present in some running campaigns and if it satisfies the applied filter criteria, then the contact is available for dialing without stopping the job.

For more information about Excluded contacts, see *Administering Avaya Proactive Outreach Manager*.

Callback management

POM provides the callback feature to provide an agent opportunity to get in touch with the contact at some later point of time. POM Agent Manager (PAM) allows the agent to set a callback while the agent is talking to the contact, or when the agent is wrapping up the call. All the callbacks after the scheduled time are presented as Preview call to the agent. There are two ways to create a callback:

- Agent Desktop
- Web Services

There are two ways to reschedule or edit an already created callback:

- Callback Manager page
- Web service

The start time of the callback can be anything greater than the current time. Therefore, the callbacks can be created or edited to have the start time greater than the current time. The current time here is evaluated on the POM server, which can be different than the current time of the agent desktop or supervisor system that uses Web Services to edit a callback, if the agent desktop or supervisor system have a different time zone or are in a different time zone than the POM server.

Note:

If the POM service is stopped when the callback is in the Preview state and the contact is not dialed, then after the POM service starts and the callback expiry time exceeds, the contact is not dialed.

To check for the time restrictions before attempting the callbacks, in the Callback Settings section in global configurations, select the **Enable Time Restriction** check box.

POM supports the following callback types:

- Agent
- Campaign
- Standard
- Strict Agent

You can use the **Number of Callbacks in Queue** option in the global configuration to specify the maximum number of agent callbacks and strict agent callbacks that POM can add to the call queue of each agent if the agent is busy on another call or is wrapping up a call.

Note that a standard callback or a campaign callback is added to the call queue of an agent only when the call queue is empty. Only one standard callback or campaign callback can be present in the call queue of an agent at one time.

However, POM counts all types of callbacks present in the call queue of an agent when calculating the total number of callbacks in the call queue of the agent.

For example, the **Number of Callbacks in Queue** value is set to 10. A standard callback is already present in the call queue of agent A. When agent A is busy attending a call, 12 new strict agent callbacks mature for agent A. Out of the 12 strict agent callbacks, only 9 callbacks are added to the call queue of agent A. This is because the total number of callbacks in the call queue of agent A has reached the maximum callbacks in queue configured, that is, 1 standard callback

+ 9 strict agent callbacks = 10 callbacks. The remaining 3 strict agent callbacks are postponed as per the configured callback retry interval.

The callback can be in one of the following states:

Callback states	Description
ActiveAttachedToJob	Callback is currently attached to job and is yet to be picked for dialing (Maturity time is not arrived yet.)
Completed	Callback is presented to the agent.
Expired	Callback end time is reached before presenting to the agent.
ContactExcluded	Contact of a callback is excluded.
WaitingForJob	Callback is waiting for a job to start.
Overwritten	If a new callback is created for a same contact in the same campaign before presenting the old callback to agent then old callback is marked as Overwritten.
ManuallyCancelled	Callback is terminated by using the GUI or the web service. It will not be presented to the agent.
QueuedForDialing	Callback is currently attached to job and is picked for dialing.
InProgress	Callback is currently attached to job and is yet to be picked for dialing and system is finding the best agent for callback.

Agent callback

Agent callback is an agent scheduled callback for self or for any other agent. When an agent selects agent callback, the system displays all outbound agents whose skill matches with the campaign skill. The system displays the list of agents who are working or anticipating the work. Agent can select the Agent ID to create the callback.

When an agent callback matures, POM searches for the agent for whom the callback is set. If the agent is busy on another call, the callback is added to the call queue of the agent provided the total number of callbacks already in the call queue of the agent is less than the maximum number of callbacks in queue configured. If the call queue of the agent already contains the maximum number of callbacks permitted, the agent callback is converted into a standard callback. The callback is then assigned to another agent who has the matching skills and does not have any pending callback.

If an agent callback matures and the agent for whom the callback is created is logged off or is in a Not Ready state, the agent callback is converted into a standard callback. The callback is then assigned to another agent who has the matching skills and does not have any pending callback.

If no suitable agent is found, POM postpones the callback as per the callback retry interval configured in the global configuration.

When a Callback Schedule time arrives, the Callback Manager checks the Expiry time of the callback which is set for the callback:

- If the callback Expiry time has arrived, the Campaign Manager marks the callback status as `Expired` and does not present the callback to the agent.
- If the callback Expiry time has not arrived, the Campaign Manager handovers the callback to the Agent Manager to find the best agent for the callback.

Note:

The completion code updated by the agent after setting a callback is not processed by the strategy and is ignored.

In some cases where the callback maturity and the campaign start time are very close, the callback might get postponed as the agents are not attached to the job.

The agent can set a callback for a number through the agent desktop even if the number is a part of a DNC list, but while running the campaign, the number is not dialed. Ensure the **Apply DNC** check box in the global configuration is set as per the requirement. For more information, see *Administering Avaya Proactive Outreach Manager*.

If the campaign is using skill based or time based pacing, callbacks are not considered while determining the pacing rate of the campaign as callback attempts are always processed on the scheduled time.

Campaign callback

While creating a callback, if the agent selects the callback type as Campaign, the Agent Manager prepares the list of all jobs and provides it to the agent. The agent selects the job and schedules the callback.

When a campaign callback matures, the callback is assigned to an agent who has the matching skills and does not have any pending callback. If no suitable agent is found, POM postpones the callback as per the callback retry interval configured in the global configuration.

The following are the different scenarios associated with creating a callback:

- If the selected campaign has a running job, the callback is associated with that job and callback state is set to `Active Attached to Job`.
- If the selected campaign does not have a running job, then the callback state is set to `Waiting for Job`.
- When a callback Schedule time arrives, Campaign Manager checks the expiry time of the callback which is set at the time of creating the callback:
  - If the callback Expiry time has arrived, Campaign Manager marks the callback status as Expired and does not present the callback to the agent.
  - If the callback Expiry time has not arrived, Campaign Manager handovers the callback to PAM to find the best agent for the callback.
- In a running campaign, whenever the campaign meets the finish criteria specified in the Campaign Creation Wizard, the system automatically stops the campaign. If there are non-completed callbacks for that campaign, then those callbacks are moved to the `Waiting for Job` state and are processed through the next job of the campaign.

Standard callback

While creating a callback, if the agent selects the callback type as Standard, then the callback is associated with the current campaign to which the agent is associated. If the campaign is in the `Stopping` state, the callback is not associated with the current campaign job, instead, its state is changed to `Waiting for Job` and the callback is processed through the next job of the campaign.

When a standard callback matures, the callback is assigned to an agent who has the matching skills and does not have any pending callback. If no suitable agent is found, POM postpones the callback as per the callback retry interval configured in the global configuration.

Strict Agent Callback

While creating a callback, if the agent selects the callback type as Strict Agent, POM ensures that the callback is delivered to that specific agent only. POM provides a global configuration to configure the maximum number of retries allowed for a callback.

If a strict agent callback matures while the agent is busy on another call, POM adds the callback to the call queue of the agent provided the total number of callbacks already in the call queue of the agent is less than the maximum number of callbacks in queue configured.

If the call queue of the agent already contains the maximum number of callbacks permitted, POM postpones the callback as per the configured callback retry interval.

If a strict agent callback matures and the agent for whom the callback is created is logged off or is in a Not Ready state, POM postpones the callback as per the configured callback retry interval.

POM reschedules the strict agent callback till the maximum number of retries configured. If all the retries are attempted, POM treats the strict agent callback as an existing agent callback and assigns the callback to the next suitable agent with matching skills. For more information, see *Administering Avaya Proactive Outreach Manager*.

Consider the following examples for strict agent callback for Agent A:

Example 1

Configuration parameter	Value
Maximum Retry count for strict agent	4
Default end time offset (min)	300
Retry time (min)	30
Agent	A

Maximum time a callback is postponed is End time offset / Retry time = 300 / 30 = 10. After this, the callback expires. Maximum time POM searches for Agent A is 4.

1. Callback is launched for Agent A.
2. POM searches for Agent A.
3. If Agent A is available, then the outcome of the search is one of the following:
    a. If Agent A is available, then the callback is presented to Agent A.
    b. If Agent A is busy with another call, then the callback remains pending for Agent A and is presented to that agent after the current call.

4. If Agent A is not available or is in a Not Ready state, then POM does not search for the next available agent to take the callback. Instead, POM postpones the callback for the configured interval. In this case, POM postpones the callback 4 times. After all the retries are exhausted, POM presents the callback to any other available agent with matching skill.

Example 2

Configuration Parameter	Value
Maximum Retry count for strict agent	4
Default end time offset (min)	90
Retry time (min)	30
Agent	A

Maximum time a callback is postponed is End time offset / Retry time = 90 / 30 = 3. After this, the callback expires. But the callback must be delivered before the expiry time. So POM sets the **Maximum attempt count for Strict Agent callback** parameter to 3 instead of 4.

Rules overview

Rules are restrictions that you can configure for outreach attempts based on contact or address, number of attempts, channel, last attempt completion code, or nuisance frequency.

For example, you can create a rule to allow maximum three attempts in 24 hours. You can use the Rule Editor to configure rules. The Rule service must be running while performing any action in the Rule Editor. Otherwise, the system displays an error message.

Rule Editor supports multitenancy.

If you have Experience Portal administrator role or POM Campaign Manager role, then by default you have access to the rule editor. You can also create a custom role for accessing the rule editor.

In the Rule Editor, you can:

- Configure rules that can be applied to all or specific campaigns.
- Exclude rules for callbacks, redial, external consult, or preview type of campaigns.
- Apply rules for voice, SMS, email, or custom type of channel.
- Apply rules for contact address or contact record. A contact record is identified based on the contact ID you provide while importing the contact record into the POM system.
- Apply rules based on completion codes.
- Identify attempts that are restricted due to rules with custom completion codes.
- Enable or disable rules, retaining the campaign association, for a particular zone.
- Change the order in which the system and user-defined rules are run at a campaign level for a specific zone.
- Edit a rule at run time in a running campaign.
- Delete a rule. You can also delete a rule associated with a running campaign. When you delete a rule, the campaign and job association with the rule is removed.

- Create custom rules by using a custom Java class.

  For more information about creating a custom class for custom rules, see *Developer Guide for Proactive Outreach Manager*.
- The rules you create are associated with the organization and are owned by you. While creating a rule, the owner organization information is stored in PIM_Rule table.

Note:

You cannot configure rules with duration greater than the data retention period for restricted attempts. If you modify the purge schedule, ensure you modify the rules accordingly if required.

You can configure strategy restrictions, attribute and system restrictions, and rules. The order of precedence is: strategy restrictions, attribute and system restrictions, and then rules.

Based on the completion code specified in the rule that restricts a contact, you can create a handler node in the campaign strategy. In a campaign strategy, POM supports only one action for each handler node.

For example, before making an attempt, Campaign Manager checks if the rule engine has restricted any calls by the 24Hours AMD rule. If the contact is restricted by the 24Hours AMD rule, you can switch the attempt to the Preview mode.

For example, if a contact list is associated with two different campaigns and the same records are selected after applying filter in both the campaigns, it is likely that all the records get dialed from both the campaigns. If you want a record or contact to be dialed only once regardless of its selection in any of the campaigns, create a rule by using the Rule Editor.

You can configure the rule at a global or campaign level to restrict the number of dialing attempts made on a contact, record, or address within a specified time.

For example, you can create a rule to dial a record only once in 24 hours. If you create such a rule at a global level, a contact is dialed only once in 24 hours even if it is part of multiple campaigns. If you create such a rule at a campaign level, then associate the rule with the campaigns where such behavior is desired.

Limitations

The **Rule Editor** has the following limitation:

- The rules are applied at zone level, but the rule engine counts the attempts across all zones for a contact. Also, the rules are specific to any particular organization.

Rules association with organizations

Every rule created is associated with the organization. While creating a rule the owner organization information is stored in PIM_Rule table. The rules created are owned by the user organization. The organization association with the rules does not specify that if user is default organization, they can associate rules to multiple organizations.

Rules association behavior for different roles:

- If the user is logged in as a default organization user, you can view and edit all rules irrespective of being created by any organization.
- If user is logged in as organization specific user, you can view only those rules that are associated to the specific organization. You cannot edit any rules but can view the rules created.

While creating a rule, if the rule is marked as All Organizations, it cannot be modified to be assigned to specific organizations later. The default organization user can view and edit rules created by other organization user. The default organization user is unable to modify the organization association for those rules.

Important:

When you create a new organization in Experience Portal, organization specific rule order is created and all global rules with all organization marked are added under this order for new organization. When organization is deleted, rule association for this organization which is created at the global as well as campaign level is also deleted. Rules earlier associated with this organization does not exist. Rules which were earlier associated with campaign mapped with this organization are also removed from the association.

System and user-defined rules

Rule Editor provides two types of rules: system rules and user-defined rules.

System rules

System rules are the rules that are available out of the box. By default, these rules are disabled and apply at a “global” level. All the fields, except the option to enable/disable the rule, are disabled. POM ensures to provide predefined system rules to support the legal requirements of 24 and 72 hour restrictions.

In POM, the following two system rules are available:

- **24Hours AMD**: If AMD equipment identifies a call as being picked up, then the **24Hours AMD** rule restricts any attempt to this number within the next 24 hours. The system marks such contact with **Restricted_by_24_hours_AMD** system completion code.

  Important:

  Ensure you enable the **Enhanced CCA** parameters in the campaign strategy for the **24Hours AMD** rule to function as expected.

- **72Hours NUISANCE**: When a nuisance call has been made to a particular number, then the **72Hours NUISANCE** rule restricts any repeat calls to that number within the next 72 hours, starting from the detection of the last nuisance time. The system marks such contact with **Restricted_by_72_hours_Nuisance** system completion code. **72Hours NUISANCE** is also configured for all the phone addresses of a record. For more information about the different scenarios see 72 Hours Nuisance rules.

Note:

The system rules are not applicable to callbacks and preview type of campaigns because, in preview campaigns, a live agent is guaranteed.

User-defined rules

User-defined rules are all the rules created by the user using the **Rule Editor**. The **Rule Editor** allows you to configure rules based on contact/address, number of attempts, or channel, or last attempt completion code, or frequency. You can create either campaign specific rules or global rules that are applied across multiple campaigns. You can apply rules based on earlier completion codes, or nuisance frequency, and also identify attempts that are restricted due to such rules with

custom completion codes. You can enable or disable a rule at runtime. For more information on creating user-defined rules, refer *Administering Avaya Proactive Outreach Manager*.

72Hours Nuisance rule

Scenario

The following table provides the details of the contact and multiple phones associated with each contact:

Contact	Phone 1	Phone 2	Phone 3
X	1111	2222	3333
Y	1111	2222	4444
Z	1111	8888	7777

Common address restriction

If there is a nuisance call on 2222 of contact X, then the **72Hours NUISANCE** rule restricts any repeat calls. The following table explains the detail status of repeat calls restriction for each phone number of each contact:

Contact	Phone Number	Restricted
X	1111, 2222 and 3333	Yes
Y	1111 and 2222	Yes
Y	4444	No
Z	1111	Yes
Z	7777 and 8888	No

Nuisance call window extensions

If there is a nuisance call on 2222 of contact X on April 1, 2017 at 10:20:00 and a nuisance call on 4444 of contact Y on April 1, 2017 at 14:20:00, then the **72Hours NUISANCE** rule restricts any repeat calls. The following table explains the detail status of repeat calls restriction for each phone number of each contact:

Contact	Phone Number	Restricted
X	3333	Yes till 4th April 2017 10:20:00.
X	1111 and 2222	Yes till 4th April 2017 14:20:00

Rule execution

Before attempting any contact, campaign manager performs a series of validations that include:

- Address validation
- Address length check
- Strategy validation
- Rules validation
- Callback expiration

- Guard time check
- DNC check

The campaign manager attempts a contact only after validating all checks and executing all rules in the above specified order.

You can create multiple rules using the **Rule Editor**. Each rule is associated with one or more campaigns for a specific zone. Campaign Manager consults the rule engine before attempting a contact. The rule engine fetches all the global and individual campaign specific rules for a zone from the database and then executes them in following order:

1. Execute all the global system and user defined rules that are enabled.
2. Execute the campaign specific rules in the order defined.

Each rule returns either yes or no. If a rule step returns yes, then the rule engine executes subsequent rules as per above order. If any of the rules returns no, the rule engine stops the execution and sends response back to the campaign manager accordingly. The campaign manager then updates the completion code as per the rule definition. If rule returns yes, the campaign manager proceeds with attempting the contact.

You can create an “Attempt frequency” rule, a “Attempt completion code” rule, a “Nuisance frequency” rule, or a “Custom” rule from **Rule Editor**. For example, you can set a rule to attempt a contact for maximum 3 times in last 24 hours, or do not attempt a contact if it is “BUSY” in last 10 hours.

Note:

If you upgrade POM and enable the system rule, rule becomes applicable with immediate effect. After upgrade, when you configure and enable rules, the rule engine, while executing the rules, considers and restricts only attempts made by upgraded POM version, and does not consider the attempts made by the system prior upgrade.

Rule execution scenarios

The rule execution varies based on the types of campaigns. In predictive, preview, and progressive type of campaigns, the rule evaluation is performed on the default phone number configured in the campaign strategy. For callback, the rule evaluation takes place on the callback number specified. It could be an external number or a phone number associated with the contact record.

In previous release, rules were not evaluated for contacts dialed using Agent Desktop. In current release, the rules are evaluated for contacts that are dialed using Agent Desktop. You can dial a contact through desktop using one of the following options:

- Preview-Dial
- Redial
- External consult

Note:

To ensure backward compatibility, you can exclude the rules for Redial, or External Consult. For more information, refer *Administering Avaya Proactive Outreach Manager*.

The following table shows how rules are evaluated while dialing a contact through desktop:

Operation	Number dialed (Default/Non-default number)	Number dialed (External number)
Preview-Dial	All the rules that are applicable to the contact: Global + Campaign level for a particular zone.	• All the rules that are applicable to the contact: Global + Campaign level. • All the rules are configured on **External Number** attribute of the contact.
Redial	All the rules that are applicable to the contact: Global + Campaign level for a particular zone.	• All the rules that are applicable to the contact: Global + Campaign level. • All the rules are configured on **External Number** attribute of the contact.
Consult External Agents Number from Agent Address book	NA	NA
Consult External Free Form Number	NA	All the rules are configured on **External Number** attribute of the contact. All other rules configured for the contact will not be evaluated.
Transfer/Conference	NA	NA

Note:

- POM considers the system time zone as the time zone for the external number of the contact.
- POM creates a new attempt in following scenarios:
  - For Redial type of attempt.
  - For Preview type of attempt, if the “NewAttemptCreationOnNonDefaultPreviewNumber” flag is set to true, and if the agent dials a non-default number, then POM creates a new attempt.

Rule engine failover

The rule engine maintains a heartbeat connection with the active and dormant servers to monitor its health. Both active and dormant servers update the database with the status if there is an issue with the heartbeat. In case of a failover, the dormant server marks the active server as dormant and promotes itself as active. During the rule engine failover, the campaign manager receives a broken socket connection and polls the database to identify the new master server to communicate. Once the campaign manager identifies the master server, it makes the socket connection to the new rule engine server. During the rule engine failover process, dialing is stopped. For more information, see *Proactive Outreach Manager High Availability*.

Agent and license allocation

After calculating agent requirement for each job, POM ensures efficient utilization of agents while attaching agents to jobs. The agent allocation algorithm performs following checks before attaching an agent to a job:

- Searches jobs with skills that match the skills of an agent.
- Calculates the agents requirement for each job.
- Checks the skill level of agents.
- Checks the priority of the job.
- Checks the job ID.
- Checks the action ID.

POM does not reserve agents for jobs and allows setting the minimum agents to 0. So, the agents are released when they are not required for a job ensuring efficient agent utilization when jobs are snoozed.

At the time of releasing agents from a job and assigning it to another job, POM considers the skills and proficiency of the agents. For example, if there are 2 agents in a job, and if the agent manager needs to release one agent, then the agent manager releases the least proficient agent. However, this behavior is not guaranteed in the system.

Also, the agent allocation algorithm gives preference to the priority of the job before attaching an agent to it. The job cannot acquire a license unless an agent is attached to it. For example, 2 jobs are started, job1 has priority 8 and job2 has priority 2. Each job has set a minimum of 1 agent and maximum of 30 agents as the default criteria. Agent allocation algorithm assigns the agents first. The agent allocation will be 8 agents for job1 and 2 agents for job2 as shown in the following table:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job1	**Preview**	8	1	30	8	8
Job2	**Predictive**	2	1	30	2	2

License allocation

POM allocates licenses to the job only when the agents are logged in and are attached to a job, and releases the licenses from the job whenever the agents are detached from the job. When the job snoozes, POM releases all the agents immediately along with the licenses. The license goes back to the license pool.

Job Snoozing behavior

If a job is inactive for the configured time, then the agent allocation algorithm releases all the agents attached to that job. POM triggers the job snoozing event when there are no more contacts left to attempt. The system waits for 60 seconds for availability of new contacts. If no contacts are added within 60 seconds, then POM releases all the agents associated with the job without considering the minimum number of agents. For example, consider that 20 **Preview** and 20 **Predictive** licenses are configured in the system and 10 agents having same skill are currently logged in the system. Consider a job, job1, having priority 8, is started. Job1 has set minimum of 3

agents and maximum of 30 agents as default criteria. The Agent allocation algorithm allocates 10 agents and assigns 10 licenses for job1 as shown in the following table:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job1	**Preview**	8	3	30	10	10

Once the job is snoozed, POM releases all the agents and licenses from the job as shown in the following table:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job1	**Preview**	8	3	30	0	0

As all the agents are released, the agent utilization is higher, because the released agents are allocated another running job.

Note:

Minimum job attachment period configured on Global configurations page is not applicable for snoozed jobs. POM will release all the agents from the snoozed jobs without considering the attachment time.

Agent balancing

Agent balancing algorithm rebalances the agents based on job priority and minimum agents set for the job. For example, consider a job, job1, having priority 2 is started. Job1 has set a minimum of 1 agents and maximum of 30 agents as the default criteria.

Agent allocation algorithm assigns the agents first and then assigns licenses. The algorithm allocates 10 agents and assigns 10 licenses for job1 as shown in the following table:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job1	**Predictive**	2	1	30	10	10

After some time, another job, job2 of type **Preview** and having priority 8, is started. The agent balancing algorithm allocates 8 agents and assigns 2 licenses as shown in the following table:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job2	**Preview**	8	1	30	8	8
Job1	**Predictive**	2	1	30	2	2

The algorithm assigns agents to higher priority job than to lower priority job.

While balancing agents, the algorithm considers the “minimum job attachment period” configured on Global Configurations page before releasing the agents. For example, minimum job attachment period is set to 15 minutes. The agent A is attached to job A, and spent 12 minutes on the job. Suppose a new job, Job B, is started and agent balancing algorithm decides to move agent A to job B, then the agent cannot be moved as the attached duration of agent is less than the configured value that is 15 minutes.

Note:

The agents marked for release are detached from the job after completing the current call, or after handling the next call. If the agent is in “ready-idle” state and have not received any call because there are no more contacts left to dial, then the agent is released after job snooze event or job end event.

Preview and Predictive license behavior

The allocation algorithm distributes agents according to the priority of the job and not based on licenses. So, if a **Preview** type of job has high priority, then it can use license of a **Predictive** type of job. For example, consider a job, job1 of **Preview** type, having priority 8,starts. Job1 has set a minimum of 1 agent and a maximum of 30 agents as the default criteria.

Agent allocation algorithm assigns 10 agents, 5 **Preview**, and 5 **Predictive** type of licenses for job1. So, job1 has a total of 10 licenses as shown in the following table:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job1	**Preview**	8	1	30	10	10

After some time, job2 of **Predictive** type is started. Agent allocation algorithm rebalances the agents based on the job priority and the agents are allocated as shown in the following table:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job1	**Preview**	8	1	30	8	8
Job2	**Predictive**	2	1	30	2	2

In this example. we have 5 **Preview** and 5 **Predictive** licenses configured in the system and 10 agents are currently logged in, each having same skill, say skill 21. Consider a job, job1 of **Preview** type, having priority 8, starts. Job1 has set minimum of 1 agents and maximum of 30 agents as default criteria. The agent allocation algorithm assigns 10 agents and 10 licenses to job1 as follows:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job1	**Preview**	8	1	30	10	10

In this example, 5 more agents of skill 22 login. Now, after some time, job2 of **Predictive** type, having skill 22 starts. The agents are allocated as follows:

Campaign Name	Type	Priority	Min	Max	Licenses	Assigned Agents
Job1	**Preview**	8	1	30	8	8
Job2	**Predictive**	2	1	30	2	2

As shown in the table, the allocation algorithm does not remove the agents from Job1 since licenses are not redistributed. So, only 2 agents of skill 22 get attached to Job2 and remaining 3 agents remain idle.

Manual Agent Movement

When supervisor/admin moves the agent from one job to another, the system releases the license from the source job while detaching the agent, and assigns it to the destination job when the agent is attached to the job. However, if the source is a preview job, and the destination is a predictive job, and if the predictive licenses are not available, then the system does not move the agent to the destination predictive job.

The manually moved agent remains on the job and is not considered for balancing until the job is ended, snoozed, or paused. The agent is considered for manual movement after the manual thrashing time interval. You can set the manual thrashing interval by mentioning the value in **Thrash Interval (in MINUTES)** on the agent movement page of Supervisor Dashboard or POM Monitor.

Agent snoozing and agent assignment behavior in case of the preferred agent selection

Agent is only assigned to a job with matching agent attributes. If the job does not have contacts matching with agent attribute, agent is not assigned to that job.

If all the contacts are finished for the agent on a job, agent waits for the snoozing interval (60 seconds) and then get detached from the campaign. Agent is then available to be assigned to any other matching job.

For an agent, if only temporary restricted contacts are present, the agent gets detached from the job. The agent is attached to the job when the temporary restricted contact is rechecked for dialing. To avoid frequent agent attachment/detachment to and from the job, you must set the recheck interval in the strategy to 15 minutes or more.

Similarly, for retry, if for an agent only retry contacts are present , agent gets detached from the job and is attached to the job when retry time finishes.

Note:

For runtime filtering and sorting from the monitor, if the filtering and sorting takes more time than the snoozing interval, agent is removed from the job.

For the reserved license type of the campaign, if the contacts are finished, the agent is not detached from the campaign. The Agent remains attached to the campaign and if the record is not available till configured time is passed, an alarm is raised.

The agent balancing/assignment may get delayed in load as compared to the non-preferred agent selection campaigns.

Supervisor

POM introduces a new role “POM Supervisor” in Avaya Experience Portal. For this, POM adds the supervisor role during installation or while upgrading to POM. By default, a user with a supervisor role has access to Supervisor Dashboard and POM Monitor only. The supervisors are able to see and manage only the agents that are assigned to them. The supervisors can also see and

manage the campaigns of the organization to which they belong. Users with “Administrator” role can see all agents. User with “Org Administrator” role can see all agents belonging to that org.

POM provides a global configuration **Agent and supervisor configuration** for applying the agent and supervisor configurations. If this parameter is disabled, then the supervisor will see the agents and campaigns as per the earlier releases.

Using the new agent supervisor configurations, you can perform the following actions:

- Import agents.
- Add or delete agents.
- Assign agents to organization.
- Add, edit, or delete agent groups.
- Assign agents to agent groups.
- Assign agent groups to supervisor user.

Import Agents

To assign agents to an organization or a supervisor, POM must have list of agents available before the agent logs in. You can import agent lists from Communication Manager or Avaya Aura® Contact Center depending on POM installation mode, or from a CSV file. When you import agents, by default, the agents are assigned to the default organization.

Note:

Before importing agents, ensure that the Avaya Aura® Call Center Elite and monAvaya Aura® Contact Center configurations are correct.

After the import is completed, the last import details are displayed with agent ID and the import status indicating whether the import was successful or failed. For failed imports, an error message is displayed.

For more information on importing agents, see *Administering Avaya Proactive Outreach Manager*.

Agent to Organization Association

You can associate or disassociate an agent to or from one or more organizations. When you assign an agent to multiple organizations, the agent can log in using only one organization at a time. Agents are assigned the campaigns belonging to the logged in organization only. If an agent is logged in, then you cannot disassociate the agent from the logged in organization. The agent has to log out, after which you can disassociate him from the organization.

For more information on assigning agents to an organization, see *Administering Avaya Proactive Outreach Manager*.

Note:

If the new supervisor configuration is enabled, for old Agent Desktops, if an agent is assigned to only one organization, then the agent does not have to specify the organization while logging in. But if the agent is assigned to multiple organizations, the old desktops will not work and the agent must specify the organization while logging in.

Agents to agent group association

You can create agent groups for an organization. One organization can have multiple agent groups. You can assign agents that belong to an organization to an agent group. You can assign a maximum of 500 agents to an agent group. You can create a maximum of 500 agent groups.

Agent Group assignment to Supervisor

POM fetches a list of organizations from Avaya Experience Portal. After selecting a specific organization, POM displays list of users with supervisor role. After selecting a specific user, POM lists agent groups which are assigned to the user along with available agent group list. After assigning agent group to a supervisor, the supervisor will be able to see agents assigned to the agent groups only.

Note:

Users with Administrator and Org Administrator role will not be displayed in the **User** drop-down.

For more information on supervisor configuration, see *Administering Avaya Proactive Outreach Manager*.

Background call classification

During call classification, if an answering machine is detected, then the system performs either of the following operations based on the settings configured on campaign strategy:

- Disconnect the call and update the completion code as **Answering Machine**.
- Leave a Voicemail.
- Continue the call with the live agent connected.

You can configure the background call classification actions using the **CCA Parameters** in a campaign strategy. To know more about the **CCA Parameters**, see *Administering Avaya Proactive Outreach Manager*.

Background AMD

When you set the **Enhanced CCA** property to ON and the Call pacing type is either Cruise Control, Expert Call Ratio, or Progressive, then you can set the **Background AMD** property to ON.

The POM driver and Nailer application performs the following sequence of steps when the **Background AMD** property is turned ON:

1. The Driver application places an outbound call to the customer.
2. On receiving the **off-hook** event, the Driver application initiates a request to the agent manager to find the best agent and waits for the duration set in the **Live Voice Timeout** field on campaign creation wizard, before playing the nuisance application.
3. If the agent is identified, then the agent manager requests the nailer application to initiate the **INVITE/REPLACE** for customer call.
4. If the **off-hook** duration is less than the **Live Voice Timeout**, then the nailer application initiates the **INVITE/REPLACE** to the customer call and starts the call classification. If the

duration is more than the **Live Voice Timeout**, then the nailer application will notify agent manager to clear the agent state by sending the AGTCallFailed event with appropriate failure reason.

5. If a live voice is detected, then the system updates the completion code with **Answer_Human** and the agent continues to talk to the customer.
6. If a recorded message is detected, then there are following three possibilities depending on the **Action on AMD** specified in the strategy:
    a. **Disconnect the call** – When POM detects the answering machine, it waits for the Answering machine message to end and then disconnect the call. This disconnect event takes some time to reach the service provider network depending on the network delay which leads to a blank message to the customer phone. After disconnecting the call, POM updates the completion code as **Answer_Machine**. The router sends a new notification to the agent manager so that the agent does not go into wrapup state on desktop and is ready to take the next call immediately.
    b. **Leave a VoiceMail** – POM is configured to leave a recorded message on the answering machine or voicemail. The agent has to wait till he hears the answer machine beep from the far end. Once the beep is received, the system leaves a recorded message on the answering machine and drops the call, updating the answer machine completion code. The router sends a new notification to the agent manager so that the agent does not go into wrapup state on desktop and is ready to take the next call directly.
    c. System lets the agent dispose the call. The agent can leave a voice message and dispose the call in wrap-up.
7. As call classification is started only after a customer is connected to an agent, the **CCA OnProgress** setting is not considered for agent based campaigns. Also, the CCA efficiency may be impacted if there is a delay in call patching by few seconds. So, call queuing must be disabled on background AMD.

Measure call disconnection

Measure calls disconnected and calls hung up

POM measures the calls disconnected by the customer and the calls hung up by the system before the agent-customer interaction. The POM Driver CCXML application is responsible for making an outreach attempt, detecting call disconnection events, and marking the completion code. A new completion code is introduced to distinguish the calls disconnected by the customer and by the system in agent based and agentless outreach attempts.

Reports like Campaign Detail report, Completion Code Summary report, and Completion Code Trend report display the **Disconnected_By_User** and **Disconnected_By_System** completion codes, along with the number and percentage of calls disconnected by the user or the system.

If the disconnect event is received while playing the nuisance application, the nuisance calls are also disposed as either **Disconnected_By_User_NuisanceApp** or by **Disconnected_By_System_NuisanceApp**. However, the nuisance calls are measured by the **Nuisance** flag only. An administrator can export the outreach attempts data for calls disposed as **Disconnected_By_User_NuisanceApp** or **Disconnected_By_System_NuisanceApp**.

Calls disconnected by a user

A user might disconnect a call during call classification or while playing a nuisance application. Typically, the platform raises the `far end disconnect` event in the following cases:

- When the customer hangs up the call.
- Network error occurs on the customer leg in the PSTN network.
- Gateway drops the customer calls due to resource constraint, or network failures, which, in turn sends a BYE to MPP.

On receiving the “far end disconnect” event message before agent-customer interaction, POM Driver application classifies the call as “Disconnected by the User”. The POM Driver application then updates the completion code for that contact with the **Disconnected_By_User** code in database. POM will continue to classify customer hung-ups before a notification is played to the customer in agentless campaigns as **Disconnected_By_User**.

Calls disconnected by the system

The system might disconnect a call during call classification or while playing nuisance application. The platform raises the `near end disconnect` event in the following cases:

- Call disconnection from the MPP, due to resource constraints or network failures after the call connects.
- CCXML invoking the **disconnect** element for the customer call, which in turn raises **connection.disconnect** event with the “near end disconnect” reason.

On receiving the “near end disconnect” event message before agent-customer interaction, the POM Driver application classifies the call as `Disconnected by the System`. The POM Nailer application then updates the completion code for that contact with the **Disconnected_By_System** code in database.

The notification campaigns have an additional disposition **Disconnected_By_System** to capture calls hung up by the system before notification is played to the customer.

External transfer

A POM agent can transfer a call to an external party during a consult, or a conference, while placing a customer on hold. The agent who originates the consult, or transfer, or conference can exit the call after transferring it. External transfer at telephony level generates “Refer with Replaces” SIP request for the external party, or the agent. The agent endpoint or gateway in between must handle the “Refer with Replaces” request and generate an “Invite with Replaces” request for the customer call log. In the enterprise network, Avaya Aura® Communication Manager (CM), or the gateway interfacing the external agent has to handle it. For more information on external transfer, see *Administering Avaya Proactive Outreach Manager*.

Integration with voice call Recorder

Call recording is an integral feature of any outbound offering and is a critical feature to have as POM supports agent-based campaigns. POM supports integration with voice call recorder such as Avaya Contact Recorder (ACR) or any other third party recording application for call recording capabilities.

POM integrates with Avaya ACR using a switch side recording approach and records calls to meet compliance needs and for bulk recordings. While integrating and extending the recording capabilities, Avaya ACR controls the way the calls are recorded. The recordings are driven by Avaya ACR, and POM does not drive the recordings. POM integrates with Avaya ACR with the help of socket-based messages sent from POM to Avaya ACR. POM connects with the recorder using TCP or secured TLS based connection. The default port used for communication is 7999. Select the **Enable Recorder** check box on the Global Configurations page when you set up POM. For more information about enabling Recorder, see *Administering Avaya Proactive Outreach Manager*.

POM and Recorder connection

An agent, after logging into Avaya Aura® Communication Manager, needs to login to POM by using a desktop in order to perform outreach attempts using POM. POM then provides the details of the agent operations in the form of XML based recording events to the integrated recorder application.

Note:

POM provides recording events to the recorder application only on successful connection and answer human detection between the agent and the customer. Also, POM does not perform the streaming of media, whereas it provides agent events in the form of XML messages over a TCP/TLS based socket connection.

For multi POM server integration with recorder, the recorder must establish a connection with each POM server, such that events are sent from both servers as per the recorder configuration.

TCP/TLS based connection

TCP connection

A recorder can connect with POM over a TCP socket connection. POM opens a *ServerSocket* on the configured port, 7999 for unsecured connection by default, and waits to receive connection requests from the recording application. On receiving the request, a TCP based socket connection is established between the POM server and the recording application. The port for establishing secured connection is 7998.

On successful socket creation, the recording application sends a login request to the POM server with required metadata in the form of *LoginRequest* XML message. POM, in response authenticates and authorizes the recording application using the Experience Portal's **`EPSecurity`** library, followed by a *LoginResponse* event.

Note:

As a best practice, the recorder must establish a connection with every individual POM server in a multi POM server deployment.

TLS based secured connection

POM provides an option to establish a secure TLS based connection with the recorder. You can enable or disable the TLS based connection using the Global Configurations page in POM. The handshake between the POM server and recording client is a one way handshake, and POM utilizes the server certificate for this handshake. POM does not accept any certificate from the recording client for this handshake.

POM makes the certificate available to the client by providing an option to export the certificate from the POM Servers page for each listed primary and auxiliary POM server. The exported certificate is required for a handshake between POM server and the recording client. You must manually update the trust store of the recording client with this exported certificate for establishing a secure connection.

For multiple server deployment of recording client, the client ensures that the exported POM server certificate is made available to all recording clients. Similarly, in case of multiple POM server deployment, the server certificate of every POM server is copied to the trust store of every recording client. So, in the event of POM failover, agent events are sent to the recording client without failure.

On a successful handshake, recording client sends the login credentials for registration with the POM server. Once authorized, the agent events are sent by POM server over this channel.

For more information on enabling secured connection with the recorder, refer *Administering Avaya Proactive Outreach Manager*.

Agent Blending

Blending in POM for voice calls helps you to manage the inbound and outbound capabilities and allow the agents to move between inbound and outbound calling activities. POM uses dedicated outbound agents and a pool of blended inbound-outbound agents such that the blended agents are available to the inbound channel if inbound service levels are not being met.

The inbound mission and outbound mission are mutually exclusive. Agents working on inbound calls cannot take outbound calls simultaneously.

Agents move automatically between the inbound mission and the outbound mission based on business priorities and agent availability. The blender acquires or releases agents based on the traffic on a specific inbound skill. When the traffic is high or low or as indicated by certain parameters, blender accordingly acquires agents back or releases agents from outbound campaigns. The skill that you configure on the CC Elite configurations page is monitored by the blender for the specific zone.

Based on the inputs received from the RT_Socket package on Call Management System (CMS), the blender acquires the agents from inbound or releases agents to inbound according to the traffic on the inbound skill.

Note:

The blender does not consider an outbound agent who is in “NOT READY” state (on break), or in “IDLE” state for blending. So, the blender does not release agents from outbound to inbound.

The blender considers the following two scenarios while blending an agent:

- The agent state changes to “NOT READY” or “IDLE” before the blender starts blending the same agent to inbound. In this case, the blender cancels the blend request for that agent and finds another agent in the next release interval.
- The blender starts agent movement to inbound and at the same time agent initiates a “NOT READY” request. In this case, the agent moves to inbound and POM sends the “AGTBlendedToInbound” notification to the Agent Desktop mentioning the agent movement to inbound.

POM provides a global configuration for this blending behavior. For more information, see *Administering Avaya Proactive Outreach Manager*.

You can use the **Process pending callbacks before moving to Inbound** option in the global configurations to specify whether upon receiving a request to move a blend agent to inbound, POM should move the blend agent to inbound immediately or only after the agent completes all pending callbacks from the call queue of the agent.

PAM also supports manual blending of an agent. You can select an outbound agent on the Supervisor Dashboard or POM Monitor to send to inbound for specific time. The blender will not acquire the agent for the specified time duration even if the traffic is low.

Based on the agent’s zone, the PAM server managing the zone initiates an action on the agent, both for inbound and outbound.

You can perform agent blending using the parameters such as Queue Length, Avg. Speed of Answer (ASA), Expected Wait Time (EWT), and Service Level (SL). For more information about the parameters, see *Avaya Aura® Communication Manager* documentation.

The ASA, EWT, and SL impact the blending in some cases like:

- In case of ASA, the system updates the value only after an inbound agent takes a call and completes the call. So if you have no agents for the inbound skill, the system will not update the ASA value irrespective of the number of calls in a queue for the inbound skill. In this scenario, the blending might not happen as per expectation.
- If you have no agents matching the inbound skills, the EWT might be high. This might impact the blending as the system might move the agents to inbound to handle the wait period.
- You must define acceptable values for service level and service level increments for all the skills on the Call Management System. For more information about Split or Skill Call Profile setup, see *Call Management System* documentation.

In cases where POM integrates with Avaya Aura® Contact Center (AACC), AACC takes care of blending. POM gets the blended agents from AACC. For more information, see *Avaya Aura® Contact Center-Proactive Outreach Manager Integration*.

Blending parameters

POM provides blending and skill based pacing features by monitoring four parameters received from CMS. These parameters are **Queue Length**, **Expected Wait Time**, **Avg. Speed of Answer**, and **Service Level**.

For the skill type inbound and parameters **Queue Length**, **Expected Wait Time** and, **Avg. Speed of Answer**, the **agent release threshold value** is always greater than the **agent acquire threshold value**. For example, if the **agent acquire threshold value** is 0, then the **agent release threshold value** must be 1 or more. For the parameter **% answered within service levels**, the **agent release threshold value** is less than the **agent acquire threshold value**.

You can configure either **High**, **Med**, **Low**, or a combination of these values of **EWT Level** property for a skill based campaign. POM considers the maximum value of the selected EWT levels for agent blending. If the maximum of obtained values of selected EWT levels is more than or equal to the **agent release threshold value** that you configured, then POM releases the agent from the outbound queue. If the maximum of obtained values of selected EWT levels is less than or equal to the **agent acquire threshold value** that you configured, then POM acquires the agent for the outbound queue.

On Create POM Skills page of **Configurations** > **CC Elite Configurations**, when you save the inbound skill with **Expected Wait Time** value for blending parameter, the EWT level information is saved in the database along with the existing information of the skill.

Note:

If you upgrade POM from previous version to current version, and if EWT was used as a parameter for either blending or pacing, then after upgrade, the EWT value will be defaulted to **EWT high(default)** to ensure backward compatibility.

Manual agent blending

The manual agent blending feature provides agents with an option to switch manually between handling outbound and inbound voice calls. Agents can move between inbound and outbound calls with or without notification. When working in outbound calls, an agent can select the Switch to Inbound option in the Outbound Connector widget to move to inbound calls. POM releases the agent to inbound if the agent is in Idle state or after the active outbound call is completed. The acquired call is dropped in such a case.

Similarly, when working in inbound calls, the agent can select the Switch to Outbound button to move to outbound voice calls. POM acquires the agent again if the agent is in Idle state or after the active inbound call is disconnected. The acquired call is established again.

Zone management

POM supports zones. Zoning is the capacity of partitioning a system into multiple zones. The advantages of zoning are better control and distribution of resources, increased performance and scalability.

Note:

POM supports zoning within the same datacenter and does not support zoning across datacenter or across geographic deployment.

Zone architecture

Zones are extended POM systems. All zones have a common central database. The POM Zone manager is installed on the primary EPM. If you do not create and assign zones, all the resources belong to the default zone.

The different components are:

- Common Campaign Director (CCD): The CCD is responsible for all the common tasks across zones such as scheduling, filtering campaign data, creating historical data, and exporting campaign data. The master campaign director is the CCD.
- Campaign Director (CD): A single CD can handle multiple zones. You can assign multiple zones to campaign director and each zone will have a zone director within the CD. You must manually assign the CD and the agent manager for every zone. You can also have multiple CDs in a local site.
- Campaign Manager (CM): The CM is responsible for running the campaigns.
- Agent Manager (AM): The AM is responsible for managing outbound agents. Every zone will have one active AM.
- Active MQ: The active MQ is responsible for receiving messages from the user interface and then passing the messages to the current zones through the active CD and AM.

POM elements impacted by zoning

- Campaigns: You can run a single campaign in different zones. While creating campaigns, you can select contact lists from different zones and assign the contact list to the specific campaign.
- Contact lists: You can create contact lists for different zones. While creating the contact lists, you must assign a zone for the contact list. If you do not assign any zone, the contact list belongs to the default zone. You can edit the contact lists to change the zone association.

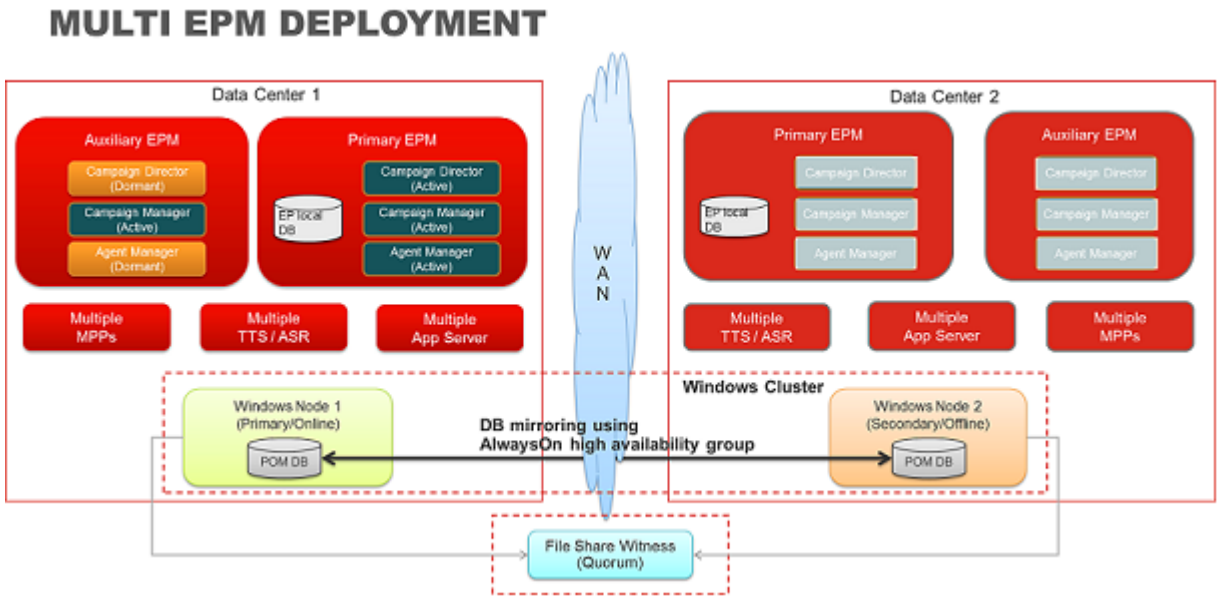
  Note:

  You can edit only those contact lists which are not associated with any active data import or active campaign.
- Licenses: You can assign licenses for different zones that you create. The total licenses across zones cannot exceed the total POM licenses. POM distributes the licenses assigned to a zone to different organizations belonging to the same zone. For example, if <zone1> has 100 licenses, and there are 4 organizations belonging to <zone1>, POM distributes the 100 licenses between 4 organizations.
- Configurations: You can assign a CD and an AM to a specific zone using the zone configurations tab. At any point, all the zones must have one CD and one AM allocated.

Geo Redundancy

POM provides Geo Redundancy support by using MSSQL high availability feature. The solution has an Avaya Experience Portal (EP) system deployed in each data center only for elite mode in an active - active configuration. In an active - active configuration, both the EP systems are running and can share the load of inbound calls. POM components are installed on both the data

centers but only one POM system makes outreach attempts at any given time, while the other POM components remain in the standby state. POM database is replicated across data centers by leveraging MSSQL “AlwaysOn” High Availability (HA) architecture as shown in the following diagram:



The diagram displays two configured Data Centers (DCs) where each data center is using an independent instance of Experience Portal. Each data center has MPPs, Application servers, and Speech servers configured. POM is deployed in each data center with database clustered so that POM configuration is shared across DCs.

In MSSQL “AlwaysOn” HA configuration. only one database is ACTIVE and rest of the databases are in the STANDBY mode. MSSQL provides “AlwaysOn” Failover group listener configuration that hides the access to active database from the clients. You must configure POM with “AlwaysOn” Failover group listener during installation so that MSSQL JDBC driver can connect to an ACTIVE database. POM systems are deployed in “hot standby” mode which means the POM processes are operational and the manual switch over is instantaneous. The solution assumes rest of the network elements are configured as per relevant supported DC configuration like CM in DC1 with ESS in DC2. In the CC Elite mode, an administrator must configure both the CMs in POM with only 1 ACTIVE CM. Post failover, administrator must manually change the ESS CM mode as ACTIVE by using POM CC Elite Configurations page.

Note:

In a dual data center configuration, if Email / SMS based campaigns are required, then administrator must ensure that only one Email / SMS connection is kept active in the currently active data center.

POM uses the web services of Experience Portal to send email and SMS messages and Experience Portal in return invokes POM application once an Email / SMS notification or messages are received. If both the data centers are configured with same Email / SMS connections, then there are chances that email message and their subsequent responses might get mixed up, thereby causing failure in POM operation. So, the administrator has to ensure that only one Email / SMS connection in DC1 is made active and keep another Email / SMS

connections in DC2 disabled. On failover, an administrator can enable the Email / SMS connection in DC2 manually to start Email / SMS campaign processing.

Data Center failover

The Data Center (DC) failover is a manual process and the administrator must activate POM systems in another DC to start outbound dialing. POM systems are deployed in “hot standby” state, so they become operational instantaneously and can start dialing (assuming agents are ready and nailed again). On DC failover, agents must log out from the client and log in using POM system from DC2.

After the failover, the campaigns might not finish automatically because the contacts which were in progress when the failover occurred might not finish. Or, might have inconsistent state in database causing campaigns to get stuck. The administrator has to stop those campaigns from web console after all the records are dialed. Such contacts will have completion code marked as “DESKTOP_ERROR” and can be identified from reports and attempted by using a separate campaign in POM.

POM dialing is impacted when database is accessed over WAN. To access the database locally rather than over WAN, the administrator must ensure the following:

- In the event of a database failover, the POM system is moved to standby state explicitly from the GUI.
- Activate another POM system in DC where the database is currently active.

Multitenancy

Multitenancy in Proactive Outreach Manager is based on multitenancy in Avaya Experience Portal. To use multitenancy in POM, you must enable multitenancy in Avaya Experience Portal and create organizations and users in POM. Depending on the organization to that the user belongs to, or depending on the basic configuration settings in POM, you can restrict the user’s access to campaigns, reports, custom attributes, and data sources.

A root user or global user does not belong to any organization and performs the role of POM administrator and POM campaign manager. An organizational user or Org user belongs to an organization created in Avaya Experience Portal, and has the Org POM campaign manager role. For more information about multitenancy, see *Administering Avaya Experience Portal*..

Web service management and Pluggable Data Connector nodes

You can gain access to POM features using the VP_POMAgentAPIService Web service methods.

You can use the VP_POMCmpMgmtService Web service for campaign management and custom call pacing.

You can use the Pluggable Data Connector (PDC), a plug-in, to perform POM specific operations using Avaya Orchestration Designer application. For details on the Web services and PDC nodes and methods, see the *Developer's Guide for Proactive Outreach Manager*.

You can use the REST APIs along with the support of JSON data format, to perform POM specific operations using Avaya Engagement Designer snap-in and the third party applications. For more information on the REST, SOAP Web services, and PDC nodes, see *Developer Guide for Proactive Outreach Manager*.

Display time zone

Display time zone is a feature of Avaya Experience Portal for generating reports for a user in a specified time zone.

Note:

POM displays this page only if you have created more than one zone. Use this page to select the zone and the time zone.

POM uses the Display time zone feature after you select a time zone on the Zone Filter page.

Reports and report filters display the date and time fields after you select a time zone.

POM Reports

You can generate POM reports through the Experience Portal web console.

You can generate standard reports and custom reports. You can also schedule reports to be generated at a later date.

For more information about reports, see *Using Avaya Proactive Outreach Manager Reports*.

Related links

Separate database for POM Reports on page 113

Separate database for POM Reports

With this feature, POM can be configured to retrieve reports from a replicated database. This reduces the load on the primary database, since POM can fetch reports from the replicated database.

The replicated database is of the same type as the POM database and has the same information as the POM database. The replicated database is of the same version of the POM database and has the same schema.

Using a separate database for POM reports is optional. You can configure a separate database for reports from the Global Configurations page (refer the topic Reporting Settings in the Global Configurations page field descriptions in the *POM Administering guide*) as well as through the

installDB tool (refer the topic Configuring separate database for POM Reports in the *POM Implementing guide*).

By default, the reports are fetched from the database to which POM is currently connected.

Related links

POM Reports on page 113

SIP Code to Completion Code Mapping

When POM receives a telephony event through MPP or EP, the telephony event contains a SIP code or event. This SIP code or event is mapped to a system completion code, which is then used to dispose the record.

With this feature, a user can change this default mapping and map a custom completion code to a SIP code or event. The mapped completion code is then used to dispose the record.

User can configure POM to override the completion codes mapped to the SIP codes.

Only an administrator user can perform operations such as adding or modifying SIP code event to completion code mapping. A user with a SipCode Event Completion Code Mappings role can view the mappings, but cannot add or modify a mapping.

The SIP Code to completion code mapping is a system-wide/global configuration, and common for all organizations. A new category of SIP type of completion codes is now introduced. This new SIP type of completion codes are used for mapping with SIP codes.

Only an administrator user can see, add, edit, or delete SIP type of completion codes.

Example of how POM overrides the default SIP code to completion code mapping

If a customer does not answer the call and if POM receives `UA_TemporarilyUnavailable` (480), then by default POM disposes the record with the completion code `Ring_No_Answer`.

However, if you map the SIP code, `UA_TemporarilyUnavailable` (480) to a custom SIP type completion code, for example, `CC_temp_unavailable`, then upon receiving the SIP code `UA_TemporarilyUnavailable` (480), POM disposes the record with the completion code `CC_temp_unavailable` instead of `Ring_No_Answer`.

For more information about default SIP code, MPP code, and POM completion code mappings, refer the topic, SIP code, MPP code, and POM completion code mapping in the *POM Implementing guide*

For information about how to add a mapping for a SIP code to completion code or to override the default mapping, refer the topic, SIP Codes in the *Administering Avaya Proactive Outreach Manager*

Enhanced Rules to reduce evaluation of number of rules

This enhancement to the rule engine enables a user to select a new option "Current Address" while defining the rule for address attributes. With that the current number that POM dials will be checked regardless of the phone attribute it is part of.

With this enhancement, you can:

- Avoid the need to create multiple rules for multiple phone or call attributes.
- Improve operating performance by reducing the number of rules that POM evaluates at the time of dialing.

This is the default option for all new rules.

For example, if a campaign has 3 to 4 different phone attributes, user can restrict dialing the same number by selecting the new option "Current Address", without creating rules for all 3 to 4 phone attributes. This is helpful as a phone number can be a part of any of the phone attributes.

Export contact list to a text file

With this feature, POM exports the contacts to a text file such as a `.csv` file. Users have a choice to select the attributes to export and also have an option to specify a delimiter of their choice. The file can then be downloaded from the web browser.

Users also have a choice to export from a different database which is of the same version, type as the database to which POM is currently connected, and also has the same schema.

To export contacts, the user must have the Export Contacts role.

For information about the procedure on how to export contacts, refer the following topics in the *Administering Avaya Proactive Outreach Manager guide*

- Exporting Contacts from a Contact List
- Export Contacts

Enhanced Health Monitor that displays adherence to POM System Limits

POM Health Monitor page now displays the **POM System Limits** tab.

The POM System Limits tab displays the supported limits for:

- Total number of Contacts per contact list
- Total number of Contacts per campaign
- Total number of Callbacks per campaign

- Total number of Contacts in the POM database
- Total number of records in the Contact Attempts History table
- Total number of callbacks in the POM database

POM System Limits page also displays system adherence to the supported limits for the above mentioned categories.

For more information about POM System Limits, refer the topic POM Health Monitor page field descriptions in the *Administering Avaya Proactive Outreach Manager* guide

The POM System Limits tab displays the supported limits for:

- The total number of campaigns that exceeds the supported system limit for callbacks.
- The total number of campaigns that exceeds the threshold percentage for callbacks.
- The total number of callbacks in the POM database that exceeds the supported system limit.
- The total number of callbacks in the POM database that exceeds the threshold percentage.
- The total number of organizations that exceeds the supported system limit for callbacks.
- The total number of organizations that exceeds the threshold percentage for callbacks.

Smart Notification Widget on POM Home Page

The POM Home page displays the **System Notifications** widget when POM detects that the supported system limits or the threshold for system limits are exceeded. POM does not display the widget when the system is within the supported limits for specific categories. With this feature, a user can ensure that the system is well under the supported limits for specific categories before it starts impacting system performance.

For more information about when POM displays the **System Notifications** widget, see the topic POM Home page field descriptions in *Administrating Avaya Proactive Outreach Manager* guide

Agent Preferred Campaigns

This feature enables an agent or supervisor to select one or more campaigns where the agent wants to join and attend calls.

With this enhancement, agents have an option to select one or more preferred campaigns. New Agent APIs allow agents to select and view their preferred campaigns. POM attaches the agent to one of their preferred campaigns based on the existing agent assignment logic.

New REST APIs are provided for the supervisor to view and change the agent’s preferred campaigns. This provides greater control to the supervisors for configuring the agents to join specific campaigns.

Supervisor Dashboard provides a real-time view to the supervisors to see the preferred campaigns of the agents. Supervisors can also add or change the preferred campaigns of the agents in real-time from supervisor dashboard without restarting any service.

The AGT API includes commands to display and select jobs. The **AGTListJobs** command displays the list of applicable jobs for an agent. The agent can select a preferred job from the displayed list using the **AGTSetPreferredJobList** command.

For more information on Agent API and REST API, see *Avaya Proactive Outreach Manager Agent API and SDKs* and *Avaya Proactive Outreach Manager Developer Guide*.

After an agent selects the preferred campaigns, they can attach to only one of those campaigns. The campaign to which the agent gets attached is automatically selected from the given list of preferred campaigns.

If preferred campaigns are not running, or paused, or all contacts are dialed out, the agent remains idle. Supervisors can clear the preferred campaign list of an agent through the supervisor dashboard or using REST API without restarting any services. Alternatively, an agent can log out and log back in to clear their preferred campaign list, enabling POM to automatically assign them to available campaigns.

An agent can select a maximum of 20 preferred campaigns. Agent balancing is strictly within the preferred campaigns selected by the agent. If an agent selects multiple preferred campaigns, POM automatically manages the assignment within that list.

This feature provides more flexibility for agents and supervisors, enabling better control of campaign assignments to agents within POM.

For example, if four campaigns are running (CMP1, CMP2, CMP3, and CMP4) and an agent selects two campaigns (CMP1 and CMP2) as preferred, the following scenarios are possible:

- The agent gets attached to either of its preferred campaigns that is, CMP1 or CMP2, based on availability.
- If the agent gets assigned to CMP1 and all contacts from CMP1 are dialed out or CMP1 pauses or stops, POM automatically reassigns the agent to CMP2.
- If neither CMP1 nor CMP2 is running, and only non-preferred campaigns are active, the agent remains idle.
- If a callback from a non-preferred campaign gets routed to an agent, the agent temporarily switches to handle the callback. After the callback completes, POM attaches the agent to any of the available preferred campaigns based on the existing agent assignment and balancing logic. It is not necessary that the agent returns to the same preferred campaign after the callback completes.
- In an inbound call scenario, if an incoming call gets routed to an agent while the agent is already working on CMP1, the agent switches to handle the inbound call. After the call completes, POM attaches the agent to any of the available preferred campaigns based on the existing agent assignment and balancing logic. It is not necessary that the agent returns to the same preferred campaign after the call completes.
- For linked campaigns, if an agent is attached to a preferred campaign CMP1 and a linked job becomes available, the linked job does not automatically get added to the preferred

campaign list of that agent. The agent or supervisor must manually update the preferred campaign list to include the linked job.

Chapter 4: Interoperability

Product compatibility

The latest, accurate compatibility information is available at http://support.avaya.com/CompatibilityMatrix/Index.aspx.

Chapter 5: Licensing

Licensing requirements

POM is a managed application on Avaya Experience Portal. The license requirement and the availability of POM depends on Avaya Experience Portal.

Experience Portal Manager (EPM) contacts Avaya WebLM server to determine the number of licenses that are authorized for your POM application. After receiving information about the authorized licenses, EPM allocates the available licenses among the Media Processing Platform (MPP) servers in the system. For security reasons, ensure that the license server runs WebLM version 4.4 or later, and install a valid Avaya Experience Portal license on the license server.

Avaya Experience Portal requires licenses for the following components:

Experience Portal

Component	Description
Telephony ports	The number of telephony connections or ports. You can use one connection or port for voice activities with each license. An Avaya Experience Portal system supports up to 10,000 telephony ports. For agent-based campaigns, you need a telephony port each for: • enabling an agent nail-up connection • dialing out a customer • bridging the agent nailed-up call with the customer call. The third port is used for bridging the connection and then released. **Note:** To configure an authorized telephony port on the Avaya Experience Portal system, you must establish an H.323 or SIP connection. For agent-based campaigns, you must have a SIP connection.
Automatic Speech Recognition (ASR) connections	The number of ASR connections or ports. You can use one connection or port for speech recognition activities with each license. If you do not purchase any ASR licenses, you cannot configure ASR servers on your system. You need one ASR license for each call that requires ASR resources. The license becomes available again after the call is complete.

Table continues…

Component	Description
Text-to-Speech (TTS) connections	The number of TTS connections or ports. You can use one connection or port for speech recognition activities with each license. If you did not purchase any TTS licenses, you cannot configure TTS servers on your system. You need one TTS license while a call is using TTS resources. When the call stops using TTS resources, the license becomes available to other calls.
SMS licenses	The number of SMS licenses. You must configure adequate number of SMS licenses to run SMS campaigns. For more information about SMS licenses, see *Avaya Experience Portal* documentation.
Email licenses	The number of Email licenses. You must configure adequate number of email licenses to run email campaigns. For more information about email licenses, see *Avaya Experience Portal* documentation.

Proactive Outreach Manager

POM uses separate licenses for Outbound ports, Manual agents, Preview agents, Predictive agents, and Agent Web API Service. You can allocate licenses to different zones and then to different organizations under each zone. If you do not have zones, all licenses are assigned to the default zone and default organization.

Component	Description
Maximum Outbound Ports	Displays the number of ports configured for Outbound calls for Agentless Notification campaigns. **Important:** Configure outbound ports equal to or less than the telephony ports configured in Avaya Experience Portal.
Manual Agents	Displays the number of Manual agent licenses configured for Manual campaigns.
Predictive Agents	Displays the number of Predictive agent licenses configured for Predictive campaigns.
Preview Agents	Displays the number of Preview agent licenses configured for Preview campaigns.
Agent Web API Service	Displays the number of licenses for Agent Web API service. Use this when integrating an Agent Desktop with POM.
SMS Channels	Displays a boolean license. If you have SMS licenses, the value is non-zero else the value is zero. The presence of this license allows POM to utilize the Avaya Experience Portal Email capability.
EMAIL Channels	Displays a boolean license. If you have email licenses, the value is non-zero else the value is zero. The presence of this license allows POM to utilize the Avaya Experience Portal Email capability.
Version	Displays the current major version of POM.
Last Successful Poll	Displays the time stamp of the last successful instance of POM polling.
Last Changed	Displays the time stamp of the last changes.
icon	Use the icon to edit the license information.

Note:

License allocation can be either reserved or dynamic as specified in the Campaign Strategy.

Reserved licenses

The licenses which are not reallocated to other jobs or task unless recalculation occurs are called reserved licenses.

In case of reserved licenses, the campaign job or task does not release the licenses though the campaign job or task might not need the licenses.

The licenses allocated to the reserved job or task will be retained till the recalculation happens. Jobs or tasks with reserved licenses cannot trigger the recalculation.

The license recalculation can occur when:

- A new job starts.
- A job is stopped.
- A job is paused.
- A job is resumed.
- If you change the priority, minimum port, or maximum ports value through the Supervisor Dashboard or POM Monitor.
- A dynamic job is not using the allocated quota, and there are other jobs in the system who need more licenses.

  In case of dynamic jobs with outbound or notification licenses, if the job does not make call attempt for a duration of 1 minute then it is considered that the dynamic job does not need more licenses.

Whenever license recalculation is triggered, the license quota for all jobs is recalculated irrespective of their allocation type.

Dynamic licenses behavior for agentless campaigns

Proactive Outreach Manager helps in allocation and license management with the help of dynamic licensing. Dynamic licensing is useful for a job or a task that does not require all allocated licenses. There are other jobs or tasks that require more licenses than the allocated licenses, simultaneously. With the help of dynamic licensing, the system can release some licenses and assign the licenses to the other jobs or tasks.

You can choose to use reserved licensing or dynamic licensing. If you choose dynamic licensing, you must remember that:

- Only dynamic jobs or the tasks can donate the additional or excess licenses
- Any job or the task can borrow the additional or excess licenses
- No job or the task can use more licenses than the maximum value specified in the campaign strategy
- Dynamic jobs or the tasks always reserve minimum licenses specified the campaign strategy although the job or task might not need the licenses.
- Dynamic jobs or the tasks start donating licenses. Only the current job or the task does not request for a license and the other jobs need more licenses.

- After donating licenses, dynamic jobs or the tasks get the license back only when the dynamic job or the task needs the licenses.
- The system allocates the licenses that are released by dynamic job to other jobs according to their priorities, and the minimum and the maximum values.

Dynamic licensing behavior for agent based campaigns

POM allocates licenses to the job only when the agents are logged in and are attached to a job, and releases the licenses from the job whenever the agents are detached from the job. When the job snoozes, POM releases all the agents immediately along with the licenses. The license goes back to the license pool. During manual movement of agents, POM moves the licenses too, along with the agents.

Licensing hierarchy

Manual campaigns can work if the customer has Manual, Preview, or Predictive licenses. Manual license is added to the existing agent licenses - Preview and Predictive. The hierarchy of licenses are as follows:

License type	Manual campaign	Preview campaign	Predictive campaign
Predictive	Yes	Yes	Yes
Preview	Yes	Yes	No
Manual	Yes	No	No

- Predictive license: Can be used for Predictive, Preview, and Manual campaigns
- Preview license: Can be used for Preview and Manual campaigns.
- Manual license: Can be used only for Manual campaigns.

Chapter 6: Capacity and Scalability

Connection Pool and Database Sizing

The connection pool is configured as shown below in `$POM_HOME/config/PIMHibernate.cfg`.xml file.

```
<property name="hikari_PIMCD_Active">100</property>
<property name="hikari_PIMCM">100</property>
<property name="hikari_PIMADMIN">100</property>
<property name="hikari_PIMAGT_Active">100</property>
```

The default value of the connection pool is 100.

Connection Pool size in POM has to be set by considering following parameters:

- Total number of POM outbound ports
- Number of concurrent campaigns

In POM for every 20 outbound ports, one campaign worker thread is created for every POM server and minimum two threads are created for each job. So for 30 jobs, the default value of 100 is sufficient for a same operation. For more than 30 jobs, you are required to set the connection pool to a higher value.

The following table provides information about what minimum pool size one must set for different campaigns and how many corresponding database connections/sessions it opens on the POM database.

Number of Ports	Number of concurrent jobs	Campaign Manager Threads	Connection Pool Size on POM	Connections needed on Database server for				
				Single POM Server	Two POM Servers	Three POM Servers	Four POM Servers	Five POM Servers
100	1	5	100	400	800	NA	NA	NA
100	5	15	100	400	800	NA	NA	NA
200	5	15	100	400	800	NA	NA	NA
200	10	30	100	400	800	NA	NA	NA
1000	5	50	100	400	800	1200	NA	NA
1000	10	50	100	400	800	1200	NA	NA

Table continues…

Number of Ports	Number of concurrent jobs	Campaign Manager Threads	Connection Pool Size on POM	Connections needed on Database server for				
				Single POM Server	Two POM Servers	Three POM Servers	Four POM Servers	Five POM Servers
2000	10	50	100	NA	800	1200	NA	NA
2000	20	100	100	NA	800	1200	NA	NA
5000	10	250	100	NA	NA	NA	NA	2000
5000	20	250	100	NA	NA	NA	NA	2000
5000	50	250	150	NA	NA	NA	NA	2200

Note:

Set the hibernate.hikari.maximumPoolSize to more than the minimum required value for the same operation.

POM service restart is required after making changes to the `$POM_HOME/config/PIMHibernate.cfg.xml` file.

If you have co-located Avaya Experience Portal Report Database on the POM database, then you must have a few more database connections.

Similarly, for an agent based job, POM creates a state worker thread for every 5 agent licenses allocated to the job. So, for 100 agents and one concurrent job, the number of campaign manager threads must be 20. For 20 concurrent jobs and 100 agents, number of campaign manager threads is 20. For agent based jobs, number of campaign manager threads does not depend on number of jobs.

Transactions per second (TPS) and Input/Output Operations per second (IOPS) values

The following table indicates the Transactions per second (TPS) and Input/Output Operations per second (IOPS) values measured during the performance runs in the lab conditions:

Note:

These numbers may vary depending on the type of hard disk, network bandwidth, and type of database.

Agents	DB Type	Transactions per second (TPS)	Input/Output Operations per second (IOPS)
Up to 500	POM DB	1600	75000
Up to 500	Ops DB	250	75000
Up to 1000	POM DB	1600	150000
Up to 1000	Ops DB	500	150000

POM system capacity

This section lists POM system function limits. The limits described are based on performance test results in a lab. The performance of a production POM system may vary due to factors beyond product code such as deployment, environment, and integrations.

POM is dependent on multiple environments and solution elements for the peak performance of Busy Hour Call Attempts (BHCA) and other list and campaign management operations. The following are some factors that can influence the performance of POM operations:

- POM deployment
- POM system performance (CPU, memory, Disk I/O) – bare-metal hardware or VMWare
- Network latency between POM components deployed on multiple hosts (multi-POM setup)
- Network latency between POM and other solution components such as MPP, Application server, Database, and Widget server
- Database response time
- MPP response time
- Application Server response time
- Customizations

Therefore, when you review the performance of production operations, be aware of these factors to ensure you meet the pre-requisite operating performance level for POM to function normally and optimally.

The following table displays the maximum operating limit of POM Campaign and Agent functions:

Description	Capacity	Notes
Maximum BHCA per POM system	Up to 500,000	For more information on the tuning parameters and tested scenarios, see Tunable parameters for performance and example deployment scenarios on page 132.
Maximum total contact records that can be imported per hour from the file data source.	500,000	Import speed may reduce if advanced options such as DNC check, Duplicate contact - update existing check, Automatic update of time zone, are enabled. An increase in the number of parallel jobs can also impact import speed.
Maximum total contact records that can be imported per hour from database data source.	400,000	Import speed may reduce if advanced options such as DNC check, Duplicate contact - update existing check, Automatic update of time zone, are enabled.
Maximum number of agents	2,000	The maximum number of agents supported per zone is 1000. Therefore, a minimum of two zones are required for 2000 agents.

Table continues…

Description	Capacity	Notes
Maximum number of Rules for the system	50	-
Maximum number of Rules that can be associated per campaign	10	Each rule that you associate with a campaign can impact the performance. Factors such as type of rules, validation conditions in the rule, and complexity of the database queries can impact the run-time performance, that is, time taken for the rule evaluation. This in turn can impact POM dialing performance.
Maximum number of Records per contact list	200,000	Number of records in a Contact list can impact speed of import, speed of filtering, and speed of dialing. Hence, Avaya recommends the use of a contact list no longer than the size of 200,000.
Maximum number of contacts per campaign	200,000	Customer must ensure that the total number of contacts getting filtered for each campaign always remain below the maximum supported value. Otherwise, there can be a major impact on system performance.
Maximum number of contact attempts in the database	30,000,000	Customer must configure the POM purge schedule such that the total number of records in the pim_contact_attempts_history table in the POM database always remain below the maximum supported value. Otherwise, there can be major impact on system performance. POM does not monitor growth to this database table. Customer DBA must monitor and determine average daily growth rates and configure retention period such that the number of records in this table does not grow beyond the supported limit. Growth of this table beyond the supported limit can impact POM dialing performance. Customer DBA must perform regular database maintenance and reindex for optimal performance.

Table continues…

Description	Capacity	Notes
Maximum number of Records in contact table	5,000,000	Number of records in a contact table can impact the speed of import, speed of filtering, speed of dialing, and speed of the Show all contact feature on the contact list page. Hence, Avaya recommends cleaning up the contact table if it has reached the maximum capacity.

The following table displays the maximum operating limit of the Contact parameters of POM:

Parameter	Maximum limit
Attributes that can be created in the POM system	900 (including the system attributes)
Attributes in a contact list	150
Phone numbers in a contact list	10
Attributes in a contact import file on any contact import data source	150
File size allowed to upload using the web interface	50 MB
File size for SFTP/Local file-based data source import	1 GB

The following table displays the maximum operating limit of the DNC parameters of POM:

Parameter	Maximum limit
DNC lists in system	200 DNC lists allowed for system
DNC groups in system	200 DNC groups allowed for system
DNC groups per campaign	10 DNC groups are allowed during campaign creation
DNC lists per DNC group	10 DNC lists are allowed per DNC group

The following table displays the maximum operating limit of the Campaign parameters of POM:

Parameter	Maximum limit
Simultaneous campaign jobs	200 (if using only 1 handler per Campaign job) For a multi-handler campaign, each handler is counted as a separate campaign for this limit.
Agents	2000 per POM setup across multiple zones Maximum 1000 per zone
Agents per Agent Manager	1000 Only 1 Agent Manager per zone
Number of scheduled activities per minute, such as import job and campaign job	100
Supervisor: Maximum agent groups	500

Table continues…

Parameter	Maximum limit
Supervisor: Maximum agent per group	500
Email attachment size	25 MB
Scheduled jobs per minute such as import job, campaign job, and so on.	100
Schedules per campaign	50

Contact list import without load

You can have a maximum of 900 attributes (including system and custom attributes) in the POM system.

For the following tests, the number of custom attributes created in the system is 150. The test was performed by importing files with a varying number of records and a constant record size from the local file data sources. Each record had attributes of type Integer, Long, Short, Char, Float, Boolean, String, Phone, Email, Date, Time, and Timestamp. The size of each record was 1.296 KB, with 100 attributes per record, including 13 system attributes, 5 phones attributes, and 32 other custom attributes. The default contact import batch size was used.

The Contact Import was performed using the parallel import feature. The feature can be enabled by clearing the **Maintain insertion order during contact import** check box on the Global Configuration screen. Also, the feature to store the import status of successful records in the POM database was disabled by clearing the **Record successful import** check box on the Global Configuration screen. Log level was configured with **Info** level.

When the Contact import runs, no other campaign or export runs on the POM server.

The following table depicts the different import tests performed:

Table 1: Time required for contact list import without load

Import Run	Number of Records	Total Attributes (system + Custom)	Approximate Time Required for import
Run 1	10,000	100	51 seconds
Run 2	50,000	100	3 minutes and 34 seconds
Run 3	100,000	100	7 minutes 2 seconds
Run 4	500,000	100	34 minutes and 28 seconds
Run 5	1,000,000	100	1 hour, 8 minutes, and 48 seconds

The data in the table is for a file-based import from a local data source when the POM database is on an external MS SQL server. The POM server and POM database are configured on Model – Dell Inc. VxFlex-R640, 40-GB memory, and 28 CPU – Intel(R) Xeon(R) Gold 6248 CPU @ 3.00 GHz with 10-GBPS network speed.

For testing the data source in POM, select the following advanced import options:

- **Automatically update time zone for phone numbers**
- **Check phone numbers for reject patterns**
- **Check phone numbers for phone formats rule**

You may experience more time for import if you select additional options for the data source.

Note:

You can configure multiple data sources for the same contact list and run those concurrently to improve the import speed. A contact list importing 10,000 records using a single data source takes more time than the same contact list importing the same number of records divided into three or more data sources.

Example

To import 10,000 records in a contact list, you can configure 3 data sources. Each data source fetches distinct records.

Datasource1 imports the first 3000 records. Similarly, datasource2 imports the next 3000 records, and datasource3 imports the remaining 4000 records.

Recommendations

- The records are not sorted in the POM database. Using filter and sort conditions in campaigns can address this issue.
- Do not select the **Empty Contact List before Import** option for these data sources. You might need to empty the contact list manually before starting the multiple data sources.
- Divide the records between 3 to 6 data sources.

Contact list import with load

A load of 200 jobs and 1000 agents runs while the contact list import test is performed. The POM server is configured on Model – Dell Inc. VxFlex-R640 with 40-GB memory and 24 CPU. The MS SQL server is configured with 28 CPU and 40-GB RAM – Intel(R) Xeon(R) Gold 6248 CPU @ 3.00 GHz with 10-GBPS network speed. The **Finest** log level is enabled.

The following table depicts the different import tests performed:

Table 2: Time required for contact list import with load

Import run	Number of records	Total attributes (System + Custom)	Approximate time required for import
Run 1	10,000	100	3 minutes and 42 seconds
Run 2	50,000	100	18 minutes and 37 seconds
Run 3	100,000	100	36 minutes and 43 seconds

For testing the data source in POM, select the following advanced import options:

- **Automatically update time zone for phone numbers**
- **Check phone numbers for reject patterns**
- **Check phone numbers for phone formats rule**

You may experience more time for import if any or all such options are selected for the data source.

Bulk contact list import using REST API

This is a new feature in POM 4.0.2 which allows a customer to import contact list data using REST API. Customer data must be mentioned in JSON body format.

The test was performed by importing files with a varying number of records and a constant record size from the local file data sources. Each record had attributes of type Integer, Long, Short, Char, Float, Boolean, String, Phone, Email, Date, Time, and Timestamp. The size of each record was 1.296 KB, with 26 attributes per record, including 8 system attributes, 2 phone attributes, and 10 other custom attributes. The default contact import batch size was used.

The Bulk Contact Import by REST API was performed using the parallel import feature. The feature can be enabled by clearing the **Maintain insertion order during contact import** check box on the Global Configuration screen. Also, the feature to store the import status of successful records in the POM database was disabled by clearing the **Record successful import** check box on the Global Configuration screen. Log level was configured with **Info** level.

When the Bulk Contact import runs, no other campaign or export runs on the POM server.

The following table depicts the different import tests performed:

Table 3: Bulk contact list import using REST API

Import run	Number of records	Total attributes (System + Custom)	Approximate time required for import
Run 1	10,000	20	18 seconds
Run 2	50,000	20	1 minute and 27 seconds
Run 3	100,000	20	3 minutes and 9 seconds

The data in the table is for a file-based import from a local data source when the POM database is on an external MS SQL server. The POM server and POM database are configured on Model Dell Inc. VxFlex-R640, 40-GB memory, and 28 CPU – Intel(R) Xeon(R) Gold 6248 CPU @ 3.00 GHz with 10-GBPS network speed.

For testing the data source in POM, select the following advanced import options:

- **Automatically update time zone for phone numbers**
- **Check phone numbers for reject patterns**
- **Check phone numbers for phone formats rule**

You may experience more time for import if you select additional options for the data source.

Bulk contact import with load

A load of 200 jobs and 1000 agents runs while the contact list import test is performed. The POM server is configured on Model – Dell Inc. VxFlex-R640 with 40-GB memory and 24 CPU. The MS SQL server is configured with 28 CPU and 40-GB RAM – Intel(R) Xeon(R) Gold 6248 CPU @ 3.00 GHz with 10- GBPS network speed. The **Finest** log level is enabled.

The following table depicts the different import tests performed:

Table 4: Bulk contact list import with load

Import run	Number of records	Total attributes (System + Custom)	Approximate time required for import
Run 1	10,000	20	30 seconds

Table continues…

Import run	Number of records	Total attributes (System + Custom)	Approximate time required for import
Run 2	50,000	20	2 minutes and 28 seconds
Run 3	100,000	20	5 minutes and 18 seconds

For testing the data source in POM, select the following advanced import options:

- **Automatically update time zone for phone numbers**
- **Check phone numbers for reject patterns**
- **Check phone numbers for phone formats rule**

You may experience more time for import if any or all such options are selected for the data source.

Tunable parameters for performance and example deployment scenarios

POM is installed with default values for all parameters. Depending on your requirement, you can update the values some or all of these parameters to get better performance. Recommended values for peak performance are mentioned in the following tables:

Table 5: EPM and MPP configurations

Component	File	Configuration	Default value	Recommended value
EPM	/opt/Tomcat/tomcat/lib/config/voiceportal.properties	mppCcxmlJsiRuntimes	2	4
EPM		mppVxmlJsiRuntimes	2	4
MPP	opt/Avaya/ExperiencePortal/MPP/config/mppconfig.xml	ccxml.jsi.runtimesize	None	*33554432
MPP		ccxml.jsi.contextsize	None	*262144

*Add these parameters to the existing list.

Table 6: Update the following POM parameters stored in PIM_Config table:

Parameter Name	Description	Default Value	Recommended Value
AgentsToCMWorkerRatio	The number of worker thread campaigns that spawns based on the number of attached agents.	5	1

Table continues…

Parameter Name	Description	Default Value	Recommended Value
AgentWorkerThreads	The number of Agent manager worker threads for processing commands received from the desktop and response provided back to the desktop.	20	200
CONTACT_DIAL_BATCH_SIZE	The number of contacts to fetch in batch from Job table for dialing by State Handler thread.	1	40
MaxAttemptTimeIntervalInCaseDuplicateFound	The parameter ensures that all the duplicate entries for contact id is moved to temporary restricted state. The default value is set to be 1 min. The second parameters added as `DeleteStuckedContactFromMapTimeInterval` decides how long the contact can present in the map. The default value is 5 min.	1	2
MaxCMWorkers	The maximum number of worker threads Campaign Manager can spawn.	100	200
MaxCMWorkersPerJob	The maximum Campaign Manager Worker thread for per job.	100	200
ParallelDialingEnabled	Indicates whether POM is to attempt parallel dialing.	False	True
SDK_SOCKET_SEND_TIMEOUT_SEC	The Retry time to send data from the server to Agent SDK if Agent SDK is not able to consume data or there is a network delay. The timeout is specified in seconds.	3	7
SendParallelRuleRequest	Indicates whether to send Parallel Rule Request for sending a request to rules.	False	True

The following configuration parameter values have default values set for better performance. If these values are changed for specific functionality, performance might be impacted:

Do not update the following POM parameters stored in the PIM_Config table:

Parameter Name	Description	Default Value	Recommended Value
CreateContactAttributeHistory	Indicates whether to create contact attribute history.	False	False

Table continues…

Parameter Name	Description	Default Value	Recommended Value
DeleteStuckedContactFromMapTimeInterval	The interval to delete in-progress (stuck) contacts from the pacer. The intervals are specified in minutes.	5	5
DisabledPenetrationSaturationCalculation	Indicates whether to populate data for dialing in each list.	False	False
MaxAgentWorkerThreads	The maximum agent worker threads to spawn for processing agents.	400	400
RetryAddressLoopTraversalOnce	Indicates whether traverses all the addresses for retry node. After the last address of the “Retry Node” is reached, strategy flow exits from the retry node.	False	False
SkipAddressOnEmpty	Indicates whether to skip address without creating an attempt if the address is empty.	True	True

The following tables depict deployment scenarios and the associated configurations used for achieving different BHCA:

Table 7: BHCA with recommended deployment

Number of agents	Maximum BHCA	Recommended deployment
100	17,000	Deployment 1 - Single server
500	80,000	Deployment 2 - 500 agents
1000	150,000	Deployment 3 - 1000 agents
300	300,000	Deployment 4 - 300 agents, 3 POM servers
300	500,000	Deployment 5 - 300 agents, 4 POM servers

Table 8: Deployment 1: Single server

Parameter	Value	System configuration
Number of POM servers (Includes local MPP, Application Server, and postgres database)	1	24 CPU, 24 GB RAM
Maximum Port	300	-
No. of Zones	1	-
Campaign Director Memory	1 GB	-
Campaign Manager Memory	1 GB	-
Agent Manager Memory	1 GB	-
Max # of Agents	100	-

Table continues…

Parameter	Value	System configuration
Hit rate	60%	Contact List Attribute - 173 (1 Phone)
Talk time & Wrapped time	40 seconds	-
Ring timeout for No Answer	20-25 seconds	-
Agent utilization	80%	-
Maximum BHCA	Up to 15,000	System retry settings - None Time zone validation - None DNC Validation - None Rules Validation - None No. Of Contact Filter - None No. Of Call back - None No. Of Campaigns - 10 (10 Agent-based campaigns) Maximum Contact List records - 10,000 Contact Import - No contact import performed during dialing

Table 9: Deployment 2: 500 Agents

Parameter	Value	System configuration
Number of POM servers	2	24 CPU, 32 GB RAM
Number of MPP	3	12 CPU, 16 GB RAM
Maximum Port	1,500	-
No. of Application server	1	12 CPU, 16 GB RAM
Database server	1	24 CPU, 40 GB RAM (MS SQL Server)
Campaign Director Memory	3 GB	-
Campaign Manager Memory	3 GB	-
Agent Manager Memory	3 GB	-
Max # of Agents	500	-
Hit rate	60%	Contact List Attribute - 173 (1 Phone)
Talk time & Wrapped time	40 seconds	-
Agent utilization	85%	-

Table continues…

Parameter	Value	System configuration
Maximum BHCA	Up to 80,000	System retry settings - None Time zone validation - None DNC Validation - None Rules Validation - None No. Of Contact Filter - None No. Of Call back - None No. Of Campaigns - 85 (80 Agent-based campaigns, 5 Agentless campaigns) Maximum Contact List records - 10,000 per list Contact Import - No contact import performed during dialing

Table 10: Deployment 3: 1000 Agents

Parameter	Value	System configuration
Number of POM servers	2	24 CPU, 40 GB RAM
Number of MPP	6	12 CPU, 16 GB RAM
Maximum Port	3,000	-
No. of Application servers	1	12 CPU, 16 GB RAM
Database servers	1	24 CPU, 40 GB RAM (MS SQL Server)
No. of Zone	1	-
Campaign Director Memory	3 GB	-
Campaign Manager Memory	3 GB	-
Agent Manager Memory	3 GB	-
Max # of Agents	1,000	-
Hit rate	60%	Contact List Attribute - 173 (1 Phone)
Talk time & Wrapped time	40 seconds	-
Ring timeout for No Answer	20-25 seconds	-
Agent utilization	86%	-

Table continues…

Parameter	Value	System configuration
Maximum BHCA	Up to 150,000	System retry settings - None Time zone validation - None DNC Validation - None Rules Validation - None No. Of Contact Filter - None No. Of Call back - None No. Of Campaigns - 174 (164 Agent-based campaigns, 10 Agentless campaigns) Maximum Contact List records - 10,000 per list Contact Import - No contact import performed during dialing

Table 11: Deployment 4: 300 Agents with 3 POM servers

Parameter	Value	System configuration
Number of POM servers	3	24 CPU, 38 GB RAM
Number of MPP	9	16 CPU, 12 GB RAM
Maximum Port	5,000	-
No. of Application servers	2	20 CPU, 26 GB RAM
Database servers	1	24 CPU, 32 GB RAM (MS SQL Server)
No. of Zone	1	-
Campaign Director Memory	3 GB	-
Campaign Manager Memory	3 GB	-
Agent Manager Memory	3 GB	-
Max # of Agents	300	-
Hit rate	5%	Contact List Attribute - 50 (14 Phone)
Talk time & Wrapped time	60-90 seconds	-
Ring timeout for No Answer	10-15 seconds	-
Agent utilization	60%	-

Table continues…

Parameter	Value	System configuration
Maximum BHCA	Up to 300,000	System retry settings - Configured 14 retries Time zone validation - Configured in Strategy DNC Validation - - 300,000 Rules Validation - None Number of Contact Filters - Each campaign with 1 Filter (condition is between 15-20) No. Of Call back - None No. Of Campaigns - 22 (12 Agent-based campaigns, 10 Agent-less campaigns) Maximum Contact List records - 150,000 per list Contact Import - No contact import performed during dialing

Table 12: Deployment 5: 300 Agents with 4 POM servers

Parameter	Value	System configuration
Number of POM servers	4	24 CPU, 32 GB RAM
Number of MPP	18	16 CPU, 12 GB RAM
Maximum Port	4,500	-
No. of Application servers	2	12 CPU, 12 GB RAM
Database servers	1	24 CPU, 32 GB RAM (MS SQL Server)
No. of Zones	2	-
Campaign Director Memory	7 GB	-
Campaign Manager Memory	7 GB	-
Agent Manager Memory	7 GB	-
Max # of Agents	300	-
Hit rate	1%	Contact List Attribute - 50 (14 Phone)
Talk time & Wrapped time	20-30 seconds	-
Ring timeout for No Answer	10-15 seconds	-
Agent utilization	56%	-

Table continues…

Parameter	Value	System configuration
Maximum BHCA	Up to 500,000	System retry settings - Configured 14 retries Time zone validation - Configured in Campaign Strategy DNC Validation - 300,000 Rules Validation - None No. Of Contact Filter - Each campaign with 1 Filter (condition is between 15-20) No. of Call back - None No. Of Campaigns - 22 (12 Agent-based campaigns, 10 Agent-less campaigns) Maximum Contact List records - 150,000 per list Contact Import - No contact import performed during dialing

Agent utilization

Agent utilization for Cruise Control, ECR, Preview, and Predictive Campaigns

The test was performed to find out the agent utilization and service level achieved for the Cruise Control, ECR, Preview, and Predictive algorithm. During the test, the customer hit rate used as 60% call answer with agent count changed from 100 to 1000. The agent utilization and service level were measured for the entire test run and graphs were plotted. For 1000 agents, 200 campaigns (ECR - 20, Cruise Control - 20, Preview - 60, Progressive - 60, Voice Notification - 10, Email - 15, and SMS - 15) were used. For 10 agents, 10 ECR campaigns were used. The POM Server and database for 1000 agents were configured on VMWare ESXI.

For more information about 100 and 1000 agent profiles, see POM server specifications on page 149.

Hit Rate	Agent Utilization			Actual Service Level			Agent	Number of Jobs	Desired Service Level	Total Nuisance Calls	Total Dialed Calls per Hour
	Avg	Min	Max	Avg	Min	Max					
60%	87	15	97	100	100	100	100	10	99.99	380	17000
60%	85	14	97	100	100	100	500	160	99.99	950	80000
60%	86	20	98	100	100	100	1000	160	99.99	1800	150000

Agent API Request and Response

The test was performed while a load of 200 concurrent campaigns and 1000 agents was running on the system. An in-house agent simulator was used in proxy mode to log in 1000 agents and perform agent actions from the agent desktops. Different agent APIs requests/responses were captured from the agent manager logs when the log level was set to FINEST level. A load of 200 jobs and 1000 agents was running while the test was performed.

For more information about 1000 agent profiles, see POM server specifications on page 149.

Agent APIs Name	Reponses Time(mSec)
AGTGetCustomerDetails	450
AGTWrapupContact	100
AGTGetCompletionCode	20
AGTPreviewDial	20
AGTLogon	424
AGTStateChange	50
AGTAvailableforNailup	15
AGTRefreshAgentNotes	30
AGTReleaseLine	334
AGTRefreshAgentNotes	5
AGTHoldCall	110
AGTUnholdCall	140
AGTGetConsultDestsForType	100
AGTGetConsultTypes	10
AGTGetCallbackTypes	150
AGTGetCallbackDestsForType	60
AGTCreateCallback	100
AGTConsultCall	100
AGTStartConf	200
AGTConfChangeOwnership	200
AGTEndConf	960
AGTCancelConsult	330
AGTRedial	30
AGTCompleteTransfer	1300
AGTSendDTMF	200

Web services performance

You can access POM features and functionality programmatically by using web services. Apache JMeter was used to load test the various web services available in POM by creating different number of concurrent threads to know the performance of different web services methods.

The test was performed while a load of 200 concurrent campaigns and 1000 agents was running on the system. Each web service was run one after the other and not concurrently. An in-house agent simulator was used in proxy mode to log in 1000 agents and perform agent actions from the agent desktops.

For more information about 1000 agent profiles, see POM server specifications on page 149.

The following table represents the throughput and successful web services request per <*unit of time*>. This test was on a multi-POM setup consisting of one primary POM and one auxiliary POM system.

Method name	Total requests	Average latency[1] (msec)	Throughput[2]
POM REST APIs			
Contact List			
Create Contact List	3500	58	16 requests per second
Edit Contact List	3500	49	19 requests per second
Get List of Contact Lists	10000	23472	25 requests per minute
Get Contact Batch from Contact List	10000	228965	2 requests per minutes
Fetch Contact List ID	10000	8	724 requests per second
Search and Sort List of Contact Lists	300	6	268 requests per second
Get System Contact ID of Contact	10000	11	734 requests per second
Get Attributes Associated with Contact List	300	1969	5 requests per second
Get Contact from List	10000	39	236 requests per second
Save Contact to List	5000	127	7 requests per second
Update Contact Attribute Value to List	10000	148	6 requests per second
Delete Contact from List	5000	4159	14 requests per minute
Delete Contact List[3]	2	2945	20 requests per minute
Empty Contact List	10	1563	38 requests per minute
Get Contact List Empty Status	10	33	21 requests per second

Table continues…

Method name	Total requests	Average latency[1] (msec)	Throughput[2]
Get Contact Attribute Value from List	10000	22	366 requests per second
Create Contact Attribute	17	2557	23 requests per second
Get Import Job Status	50	18	48 requests per second
Create Contact Attributes in Bulk	4	67122	53 requests per hour
Get All Attributes	200	55	106 requests per second
Search Contact Attribute	2000	54	161 requests per second
Edit Contact Attribute	100	143	6 requests per second
Delete Contact Attribute	100	1533	39 requests per minute
Get Contact Attribute Details	10000	5	1419 requests per second
Create Data Source	7000	164	6 requests per second
Edit Data Source	3500	390	2 requests per second
Create Data Source - Exclude Contact List	7000	74	13 requests per second
Edit Data Source - Exclude Contact List	3500	34	28 requests per second
Get Details of Data Source	5000	88	105 requests per second
Delete Data Source	7000	103	9 requests per second
Run Data Source	100	359	2 requests per second
Get Data Source ID From Name	7000	17	49 requests per second
Pause Import Job	50	250	4 requests per second
Resume Paused Import Job	50	215	4 requests per second
Stop Import Job	50	130	7 requests per second
Check Data Source	5000	18	473 requests per second
Schedule Data Source	100	25	37 requests per second
Get All Data Sources for List	5000	28	288 requests per second
Get Details of Data Source	5000	11	752 requests per second
Get Datasource ID From Name	7000	9	98 requests per second
Is Callable	10000	62	151 requests per second

Table continues…

Method name	Total requests	Average latency[1] (msec)	Throughput[2]
Mark Callable	10000	134	7 requests per second
Mark UnCallable	10000	131	7 requests per second
Mark Contact List UnCallable	1	1257	47 requests per minute
Get List of All DNC Lists	50	16	51 request per second
Campaigns			
Create Campaign	200	14219	4 requests per minute
Edit Campaign	200	12024	5 requests per minute
Clone Campaign	200	238	4 requests per second
Edit Linked Campaign	200	142	7 requests per second
Get Campaign Details	2500	75	125 requests per second
Delete Campaign	200	489	2 requests per second
Search Campaign	200	162	45 requests per second
Schedule Campaign	100	96	10 requests per second
Schedule Recurring Campaign	100	89	11 requests per second
Run Campaign	200	194	11 requests per minute
Get Campaign ID	10000	7	833 requests per second
Get All List of Campaign Strategies	3000	133	72 requests per second
Get List of Campaign Strategy Templates	3000	19	381 requests per second
Get Campaign Strategy XML	2500	5	766 requests per second
Delete Campaign Strategy by Name	200	79	12 requests per second
Delete Campaign Strategy By ID	200	80	12 requests per second
Clone Campaign Strategy by Name	200	81	11 requests per second
Clone Campaign Strategy By ID	200	110	8 requests per second
Holiday Association to Campaign	200	31	31 requests per second
Remove Holiday Association from Campaign	200	42	21 requests per second
Set Ignore All Holiday to True/False for Campaign	200	24	38 requests per second
Get Contact List Name for Campaign	200	11	164 requests per second
Get Contact List Filter Template Associations for Campaign	1000	15	59 requests per second

Table continues…

Method name	Total requests	Average latency[1] (msec)	Throughput[2]
Update Contact List Filter Template Associations for Campaign	200	1020	58 requests per minute
Get Campaign Attributes List	200	8	178 requests per second
Update Campaign Attribute	200	82	11 requests per second
Add Campaign Strategy Using Template	100	153	6 requests per second
Get Active Campaign Director for a zone	10	23	42 requests per second
List Campaign	100	107	49 requests per second
Jobs			
Pause Campaign Job	200	52	18 requests per minute
Resume Paused Campaign Job	200	12	78 requests per second
Stop Campaign Job	200	27	35 requests per second
Get Job Status	200	7	129 requests per second
Get Dialing Order for Job	200	7	833 requests per second
Update Dialing Order for Job	200	71	13 requests per second
Is Contact Exists in Active Job	10000	716	13 requests per second
Add Contact from Contact List to Job	10000	674	1 request per second
Get Campaign Job Details	200	86	81 requests per second
Get Campaign Jobs	200	15	140 requests per second
Get Active Campaign Jobs and Tasks	200	24	161 requests per second
Get Jobs List	200	12	175 requests per minute
Get Completion Code detail	200	36	27 requests per second
Get Completion Code Trend	200	95	10 request per second
Get Agent State Summary	200	18	51 requests per second
Get Agents List	200	14	66 requests per second
Get Available Jobs for Agent	200	170	5 requests per second
Get Agent Statistics View for Active Job	200	43	22 requests per second
Get Stats for Job and attached Contact Lists	200	93	10 requests per second

Table continues…

Method name	Total requests	Average latency[1] (msec)	Throughput[2]
Get Completion Code details for the Job and attached Contact lists	200	20	47 requests per second
Get the RPC-Success-Closure counts for the Job and attached Contact lists	200	47	20 requests per second
Get the nuisance call info for the Job and attached Contact lists	200	25	38 requests per second
Get the completion code details for the Agent at Contact List level	1000	37	26 requests per second
Get the RPC-Success-Closure counts for the Agent at Contact List level	1000	41	23 requests per second
Get Contact List Filter Template Associations for Job	200	14	67 requests per second
Update Contact List Filter Template Associations for Job	200	1033	58 requests per minute
Get Filtered Contact Count for Contact List and Filter Template Association	200	25	37 requests per second
Get Filtered Contact Records for Contact List and Filter Template Association	200	78	9 requests per second
Remove Contact from Job	10000	84	11 requests per second
Callback			
Schedule Callback	3000	2593	23 requests per minute
Get Callback Details	10000	43	195 requests per second
Extend Active Callback	3000	1599	37 requests per minute
Reschedule Expired Callback	3000	3089	19 requests per second
Get All Callbacks	10000	38	242 requests per second
Edit Callback	3000	1318	45 requests per minute
Bulk Edit Callback	3000	647	1 request per second
Delete Callback	3000	378	2 requests per second
Terminate Callback	3000	3844	15 requests per minute
Filter Template			
Add Filter Template	50	71	13 requests per second
Edit Filter Template	50	132	4 requests per second

Table continues…

Method name	Total requests	Average latency[1] (msec)	Throughput[2]
Get Filter Template Details	100	6	96 requests per second
Get Filter Template List	100	11	87 requests per second
Clone Filter Template	100	64	15 requests per second
Delete Filter Template	100	43	22 requests per second
Add Filter Template	50	71	13 requests per second
File Splitter			
Create File Splitter	100	162	6 requests per second
Edit File Splitter	100	231	4 requests per second
Get List Of File Splitters	100	762	8 requests per second
Get Details Of File Splitter	100	93	63 requests per second
Delete File Splitter	100	111	8 requests per second
Get List Of Schedules For File Splitter	100	85	62 requests per second
Schedule File Splitter	100	225	4 requests per second
Schedule Recurring File Splitter	100	250	3 requests per second
Delete File Splitter Schedule	100	224	4 requests per second
Run File Splitter	50	140	7 requests per second
Schedule File Splitter	100	225	4 requests per second
Schedule Recurring File Splitter	100	250	3 requests per second
Delete File Splitter Schedule	100	224	4 requests per second
Run File Splitter	50	140	7 requests per second
Agent			
Get Agent Attributes List	10000	7	992 requests per second
Get Available Jobs for Agent	200	484	2 requests per second
Get Agents By Search Sort Page	1000	103	88 requests per second
Get Agents	1000	831	11 requests per second
Get Agent By ID	1000	11	82 requests per second
Get Import Agents Status	1000	3	787 requests per second
Get List of Agents assigned to the Supervisor	1000	7	502 requests per second
Get Import Details	1000	5	713 requests per second
Move Agent to another Job	1000	1081	55 requests per minute
Add Agent Group	50	112	8 requests per second

Table continues…

Method name	Total requests	Average latency[1] (msec)	Throughput[2]
Add Agents to Group Association	50	260	3 requests per second
Add Agent	500	150	6 requests per second
Delete Agent	20	387	2 requests per second
Delete Agents	20	25233	2 requests per minute
Stop Import	1	190	5 requests per second
Set Agent Not Ready	1000	2008	29 requests per minute
Force Agent Logout	1000	1644	36 requests per minute
Release agent from Outbound	1000	2162	27 requests per minute
Get Address Book List	10000	12	581 requests per second
Generic			
Get Health Status Of Services	10	112	8 requests per second
Get Application List	10	11	87 requests per second
Get Type Definition	100	11	80 requests per second

[1]JMeter measures the latency from just before sending the request to just after the first response is received. Thus, the time includes all the processing needed to assemble the request as well as assemble the first part of the response, which in general is longer than one byte.

[2]Throughput is calculated as requests/unit of time. The time is calculated from the start of the first sample to the end of the last sample. This includes any intervals between samples, as it is supposed to represent the load on the server.

The following is the formula for calculating throughput:

Throughput = (number of requests) / (total time)

[3]Throughput represents the number of requests processed by the server per time unit and does not include the time required to complete the request.

Email and SMS capacity

For Email, the delivery receipt from the email server is considered as an incoming Email. So, if you are running an Email campaign with Delivery enabled then for each outbound Email there will be 1 incoming Email. For SMS, each notification is considered an incoming SMS and each delivery receipt is also considered as an incoming SMS. If a customer is running an SMS campaign with Delivery and Notification enabled, then for each outbound SMS there will be two incoming SMS.

The following table shows the maximum supported numbers in 2 different server configurations:

	Primary EPM capacity (Emails/Messages per hour)	Auxiliary EPM capacity (Emails/Messages per hour)
Outbound only	Up to 18,000	Up to 29,000
Outbound with notification and delivery enabled	Up to 4,500	Up to 7,250
Inbound and Outbound together (without notification and delivery enabled)	Up to 9,000	Up to 14,500

Call classification analysis recommended settings and detection percentage

Depending on the settings you configure for call classification analysis (CCA), you might get different detection percentage.

Recommended settings on MPP Server

Threshold	
Voice	0.5
Tone	0.95
Periodicity	0.97
Ring count	4
Cut through	
Initial	1100
Long	1100
Short	700
Max voice	
Initial	1700
Long	1700
Short	1700

Compliance timer settings in Campaign Creation Wizard on POM Server

Table 13: POM Compliance timer settings in CCW

Compliance timer ON
CCA timeout (milliseconds): 7500 (On Connect)
CCA timeout (milliseconds): 24000 (On Progress)
Start of voice timeout (milliseconds): 2000
Live voice timeout (milliseconds): 1800

Detection percentage for CCA with Background AMD enabled

Table 14: Agent-based campaigns

CCA start	Sample type	Detection percentage
On Connect	Live Voice	95.33%
On Connect	Answer Machine	92.72%
On Progress	Live Voice	95.66%
On Progress	Answer Machine	93.81%

Detection percentage for CCA with Background AMD disabled

Table 15: Notification campaigns

CCA start	Sample type	Detection percentage
On Connect	Live Voice	96.33%
On Connect	Answer Machine	80%
On Progress	Live Voice	96%
On Progress	Answer Machine	84%

Table 16: Agent-based campaigns

CCA start	Sample type	Detection percentage
On Connect	Live Voice	98%
On Connect	Answer Machine	68%
On Progress	Live Voice	97%
On Progress	Answer Machine	74%

POM server specifications

The following tables list the minimum configuration requirement for POM specific to agent profiles and the number of simultaneous jobs.

This includes the following servers:

- Primary EPM with POM
- Auxiliary EPM with POM
- External database server for POM
- Application server for POM
- MPP for POM

Note:

The MPP configuration can be different when you use Experience Portal with POM for additional inbound functionality as compared to when you use Experience Portal with POM for outbound only. Therefore, use the following tables for POM even though Experience Portal can support lower specifications for MPP.

All the servers in the following agent profiles are hyper-threading enabled.

1 to 100 agents (Predictive/Preview/Manual) or outbound ports per notification - single server

Number of simultaneous jobs**	Servers	CPUs	RAM	Storage	Bare Metal Processor	VMWare Reservation
10	One EPM/POM server Local MPP server with 300 ports* Local Postgres database server Local application server	24	24 GB	500 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 57600 MHz Memory: 24 GB

1 to 100 agents (Predictive/Preview/Manual) or outbound ports per notification - with external MPP

Number of simultaneous jobs**	Servers	CPUs	RAM	Storage	Bare Metal Processor	VMWare Reservation
10	One EPM/POM server Local Postgres database server Local application server	12	24 GB	500 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 28800 MHz Memory: 24 GB
	One MPP server with 300 ports*	8	4 GB	300 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 19200 MHz Memory: 4 GB

101 to 500 agents (Predictive/Preview/Manual) or outbound ports per notification

Number of simultaneous jobs**	Servers	CPUs	RAM	Storage	Bare Metal Processor	VMWare Reservation
85	One EPM/ POM server	24	32 GB	500 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 57600 MHz Memory: 32 GB
	Three MPP servers with 500 ports*	12	16 GB	300 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 28800 MHz Memory: 16 GB
	One database server	24	40 GB	500 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 57600 MHz Memory: 32 GB
	One application server**	12	16 GB	300 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 28800 MHz Memory: 16 GB

501 to 1000 agents (Predictive/Preview/Manual) or outbound ports per notification

Number of simultaneous jobs**	Servers***	CPUs	RAM	Storage	Bare Metal Processor	VMWare Reservation
174	Two EPM/POM servers	24	40 GB	500 GB	Avaya Solutions Platform (also known as Avaya Converged Platform (ACP)) 110 DELL SRVR P5 EQX SNR. Profile #5 - Core 2.6 GHz	Processor: 62400 MHz Memory: 40 GB
	Six MPP servers with 500 ports*	12	16 GB	300 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 28800 MHz Memory: 16 GB
	One database server	28	40 GB	500 GB	Avaya Solutions Platform 110 DELL SRVR P5 EQX SNR. Profile #5 - Core 2.6 GHz	Processor: 72800 MHz Memory: 40 GB

Table continues…

Number of simultaneous jobs**	Servers***	CPUs	RAM	Storage	Bare Metal Processor	VMWare Reservation
	Two application servers**	12	16 GB	300 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 28800 MHz Memory: 16 GB

1001 to 2000 agents (Predictive/Preview/Manual) or outbound ports per notification

Number of simultaneous jobs	Servers***	CPUs	RAM	Storage	Bare Metal Processor	VMWare Reservation
200	Four EPM/POM servers	24	40 GB	500 GB	Avaya Solutions Platform 110 DELL SRVR P5 EQX SNR. Profile #5 - Core 2.6 GHz	Processor: 62400 MHz Memory: 40 GB
	Twelve MPP servers with 500 ports*	12	16 GB	300 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 28800 MHz Memory: 16 GB
	One database server	28	40 GB	500 GB	Avaya Solutions Platform 110 DELL SRVR P5 EQX SNR. Profile #5 - Core 2.6 GHz	Processor: 72800 MHz Memory: 40 GB
	Four application servers**	12	16 GB	300 GB	HP Gen9 Hexa Core 2.4 GHz	Processor: 28800 MHz Memory: 16 GB

* MPP server is not required for of POM in non-telephony mode.

** Application server is not required if POM system is in non-telephony mode and email campaigns are not used.

MPP running a server specification of 24 x 2900 MHz CPU and 32 GB RAM can support up to 750 Outbound ports. The minimum total number of ports required for supporting an agent profile is 2.5 times the number of agents.

If you configure MPP server with 1500 ports, you can use maximum 1000 ports.

***Application servers need to be in the Load balance mode using the Experience Portal URL. POM does not support the use of an external Load Balancer for application URL.

For more information on Profile #5, see Avaya Solutions Platform documentation.

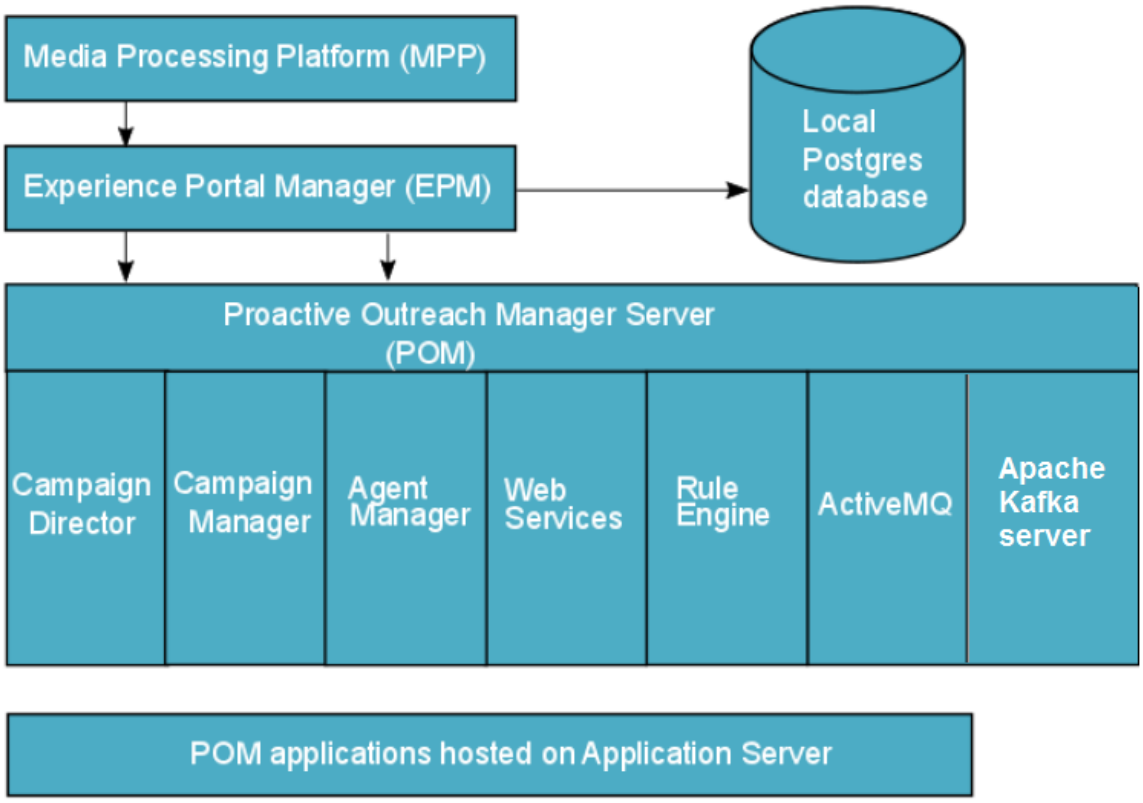
POM server configuration options

Based on your outbound notification requirements, you can install POM either on a single server or on multiple servers.

You can use a single POM server for smaller deployments and multiple POM servers for larger deployments. For information on server failover scenarios, see *Avaya Proactive Outreach Manager High Availability*. For information on Geo-Redundancy, see *Implementing Avaya Proactive Outreach Manager*.

Single server configuration

This configuration includes a single server running the Experience Portal Manager (EPM), Media Processing Platform (MPP), POM software with the Postgres database, and the Tomcat application server. You can use a local Postgres database only where you install EPM, MPP, and POM server on a single system.



Tip:

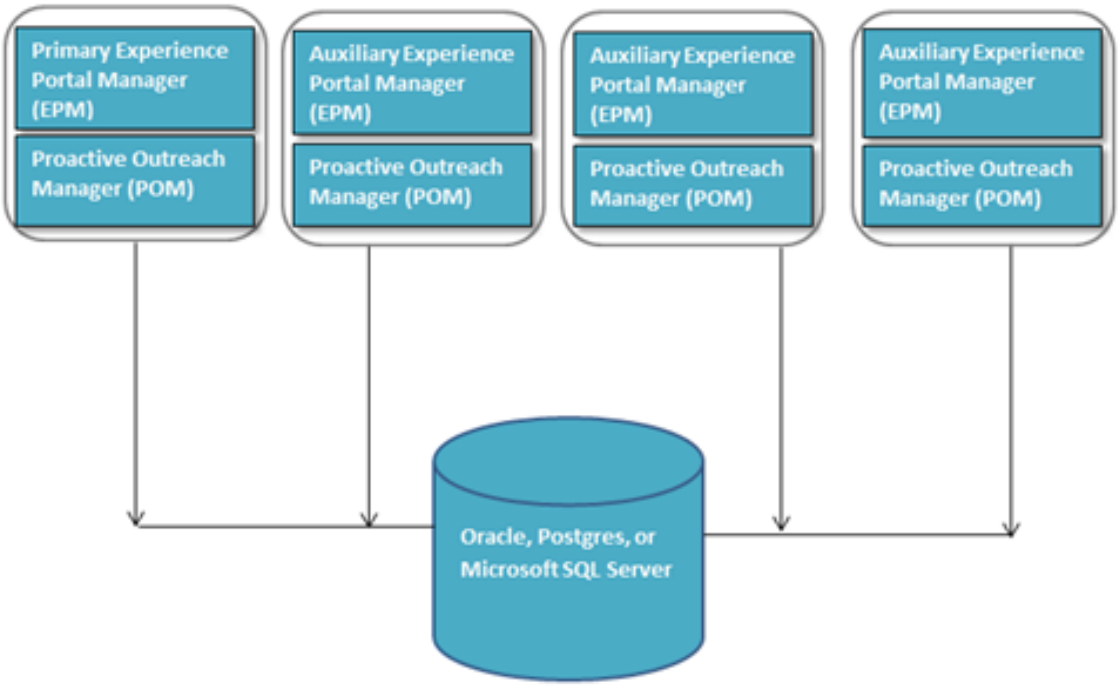
Install the database server and the application server on a separate system for better performance. If you install the database server on one system, and EPM, MPP, and POM server on another system, you can use an external Postgres database, external Oracle database, or external MS-SQL Server database.

Multiple POM server configuration

The multiple server configuration includes one or more POM servers, installed on the primary EPM and auxiliary EPM. The EPMS plug-in resides only on the primary EPM.

Install the EPMS plug-in and POM server on the primary EPM system and the desired number of POM servers on the auxiliary EPM systems.

If you installed POM as a multiple server configuration, one of the online POM servers controls the failover and load balancing.



Integration with Avaya Aura®Avaya Experience Platform™ On-Prem and Avaya Aura® Contact Center

For agent-based campaigns, POM integrates with Avaya Aura®Avaya Experience Platform™ On-Prem and Avaya Aura® Contact Center. The MPP is used for standard call classification and outbound dialing. POM provides APIs to integrate with the desktops of third party agents. In POM, you can configure only one Automatic Call Distributor (ACD). For more information about APIs, see *Agent API Guide*.

You can use MPP for standard call classification and outbound dialing. POM connects with an agent desktop to manage the agents for both inbound and outbound calls.

Note:

You can configure a single Avaya Aura® Contact Center server to communicate with a single POM setup having one primary POM server and multiple auxiliary POM servers. The Avaya Aura® Contact Center server cannot communicate simultaneously with two different POM setups. For more information, see *Avaya Aura® Contact Center and Proactive Outreach Manager Integration*.

Chapter 7: Resources

Documentation

For information on feature administration, interactions, considerations, and security, see the following POM documents available on the Avaya Support site at http://www.avaya.com/support:

Important:

You must install Avaya Experience Portal before you install POM.

Title	Description	Audience
Overview		
Avaya Proactive Outreach Manager Overview and Specification	Provides a high-level understanding of the product features, functionality, capacities, and limitations within the context of solutions and reference configurations.	Users
Implementing		
Implementing Avaya Proactive Outreach Manager	Provides information about installing and configuring Proactive Outreach Manager.	Implementation engineers
Upgrading Avaya Proactive Outreach Manager	Provides information about upgrading and migrating Proactive Outreach Manager.	Implementation engineers
Developer Guide for Proactive Outreach Manager	Provides information about the methods and properties used for the Web interface of Proactive Outreach Manager, and various custom classes and application files.	System administrators Implementation engineers Users
Avaya Proactive Outreach Manager Integration	Provides information on Proactive Outreach Manager integration with Avaya Oceana® Solution, Avaya IX™ Workspaces for Elite, Avaya Aura® Communication Manager, Avaya Experience Portal, Call Management System, Avaya Contact Recorder, Avaya Control Manager, and Avaya Aura® System Manager.	System administrators
Proactive Outreach Manager Agent API	Provides information about the methods and properties used for the Web interface.	System administrators Implementation engineers Users

Table continues…

Title	Description	Audience
Avaya Aura® Contact Center and Proactive Outreach Manager Integration	Provides conceptual and procedural information about the integration between Avaya Aura® Contact Center (AACC) and Proactive Outreach Manager (POM). Describes the tasks required for AACC and POM integration.	System administrators
Avaya Proactive Outreach Manager High Availability	Provides information for implementing high available POM system in a single data center, and also explains POM behavior in case of failure and high availability.	Users System administrators Implementation engineers
Oracle Database Dictionary for Proactive Outreach Manager	Provides information for reporting tables in Oracle database, and provides detailed description about Proactive Outreach Manager reporting tables which you will enable to develop custom reports.	System administrators Implementation engineers
PostgreSQL Database Dictionary for Proactive Outreach Manager	Provides information for reporting tables in PostgreSQL database, and provides detailed description about Proactive Outreach Manager reporting tables which you will enable to develop custom reports.	System administrators Implementation engineers
MS-SQL Database Dictionary for Proactive Outreach Manager	Provides information for reporting tables in MS-SQL database, and provides detailed description about Proactive Outreach Manager reporting tables which you will enable to develop custom reports.	System administrators Implementation engineers
Proactive Outreach Manager and Recorder Integration	Provides details of design and APIs provided by Proactive Outreach Manager for integration with any third party voice call recorder.	System administrators Implementation engineers Users
Using and Administering		
Administering Avaya Proactive Outreach Manager	Provides general information about field descriptions and procedures for using Proactive Outreach Manager.	Users System administrators
Using Avaya Proactive Outreach Manager Reports	Provides information about reports in Proactive Outreach Manager.	Users System administrators
Using Avaya Workspaces for Avaya Proactive Outreach Manager	Provides instructions on using Avaya Workspaces for Proactive Outreach Manager.	Agents
Using Avaya Proactive Outreach Manager Supervisor Dashboard	Provides instructions on using Proactive Outreach Manager Supervisor Dashboard.	Supervisors
Maintaining and Troubleshooting		

Table continues…

Title	Description	Audience
Troubleshooting Avaya Proactive Outreach Manager	Provides general information about troubleshooting and resolving system problems, and detailed information about and procedures for finding and resolving specific problems.	System administrators Implementation engineers Users

Finding documents on the Avaya Support website

Procedure

1. Go to https://support.avaya.com.
2. To log in, click **Sign In** at the top of the screen and then enter your login credentials when prompted.
3. Click **Product Support** > **Documents**.
4. In **Search Product**, start typing the product name and then select the appropriate product from the list displayed.
5. In **Select Release**, select the appropriate release number.

   This field is not available if there is only one release for the product.
6. **(Optional)** In **Enter Keyword**, type keywords for your search.
7. From the **Select Content Type** list, select one or more content types.

   For example, if you only want to see user guides, click **User Guides** in the **Select Content Type** list.
8. Click to display the search results.

Support

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

Glossary

ECR	Use Expert Calling Ratio for any type of outbound job when optimizing the use of agents during the job is important.
EPM	Experience Portal Manager is the Web interface used to access the functionality of Avaya Experience Portal.
Hit rate	The contact lists have customer numbers which POM dials. POM dials only the valid numbers or active numbers. For example, if out of hundred contacts, seventy contacts pick up the call or are valid numbers then the hit rate is 70%.
TCP	Transmission Control Protocol is one of the core protocols of Internet Protocol Suite, the set of network protocols used for the Internet.
UDP	User Datagram Protocol is one of the core members of the Internet Protocol Suite, the set of network protocols used for the Internet.

Index

Numerics

A

B

C

D

E

F

G

H

I

J

L

M

N

O

P

R

S

T

U

V

W

Z