Avaya Proactive Outreach Manager Overview and Specification

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Contents

Chapter 1: Introduction

Purpose

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

Intended Audience

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

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Chapter 2: New in this release

New features

The following new features are introduced in POM 3.1:

- Integration with Oceana: POM 3.1 supports integration with Avaya Oceana™ Solution to provide outbound capabilities using Avaya Oceana™ Solution workspace. POM provides a new install mode as Oceana to enable this integration.
- Context Store Configuration: POM 3.1 supports integration with Context Store to provide a customer journey with in Avaya Oceana™ Solution. POM feeds the outbound activity into Context Store as an touch-point information. This information is then rendered within the Avaya Oceana customer journey, thus providing a unified view of inbound/outbound activity for the customer. Context Store integration is available in all the POM installation modes.
- REST based web-services: Existing SOAP based web-services are now also available via REST interface to provide seamless integration with clients such as Engagement Designer. Integration can choose to implement either REST or SOAP web services based on the business need.
- Java SDK for Agent API: Like .NET SDK for agent API, POM 3.1 now provides similar SDK based on Java. You can now develop a custom desktop using Java SDK Agent API's to provide custom integration as per business need. All functions of .NET API are available in Java SDK with same API signature except few.
- Preferred Agent Dialing: POM 3.1 provides ability to deliver contacts within a campaign to a group of agents matching the required attribute profile. The agent profile is defined through additional agent attributes provided by Avaya Oceana™ Solution or additional ACD skill assignment in case of CC Elite. The agent profile is then matched with the contact attributes to decide which contact can be assigned to the agent. This feature is not available for the AACC mode and is applicable only for the Preview and Progressive type of the campaigns.
- Personal Agenda: This feature is similar to preferred agent selection except that it uses AgentID instead of using additional attributes of contact or agent for match criteria with the contact record. This feature is available for all modes and is applicable only for Preview and Progressive campaigns
- Callback Manager: POM 3.1 provides ability to persist the callback on the job termination or completion. Further to this, a new Callback Management web administration page is provided to view or modify the existing callbacks. Using this page, an administrator can:
  - Extend the expiry time of callbacks.
  - Re-schedule the expired callback.
  - Delete callbacks.

In POM 3.1, the following behavior has been enhanced:

- Contact List enhancement: Prior to POM 3.1, if the data value of an attribute contains comma or pipe then POM treat them as contact list delimiter and import the data incorrectly or fails to import them. From this release, POM allows importing such data provided they are enclosed in double quotes. POM does not treat them as field delimiter and while importing ensures that correct field value is read.
- Nuisance rate calculation: POM 3.1 is enhanced to include false negative count in the nuisance rate calculation. A new option Answer Machine by agent is introduced while configuring completion code for the calls which are answered by an answering machine, but are falsely routed to an agent. Calls which are marked with such completion codes are considered in false negative rate calculation and the nuisance rate is adjusted accordingly.
- Security Enhancements: POM 3.1 support TLS 1.2. Further all interaction with external components including Experience Portal Manager, Application Enablement Services, Avaya Aura® Contact Center and Avaya Oceana™ Solution will now require configuring respective server certificates on POM. A new administration page is provided for installing the 3rd party certificates and is mandatory step.

Chapter 3: Avaya Proactive Outreach Manager overview

Avaya Proactive Outreach Manager (POM) is a managed application of Avaya Aura® Experience Portal, linking the capabilities within the platform more 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), or email, or voice.

POM integrates with Avaya Aura® Contact Center and Avaya Aura® Call Center Elite to offer agent functionality such as agent blending, pacing, callbacks, conference, and transfer.

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

POM supports Oracle and PostgreSQL, and MS-SQL Server databases. To create the POM schema on an Oracle or MS-SQL Server database, you must install the Oracle or MS-SQL Server database on an external server. Ensure you backup the database manually.

You can install the POM database either on a local server or on an external database server.

Note:

In production environment, do not install POM database schema on local PostgreSQL. You must install PostgreSQL, Oracle, or Microsoft SQL Server database only on an external server. When you install the POM database schema on a local or external database, the administration and support of this local or external database is the responsibility of the customer.

The core POM components are:

Campaign Director

Campaign Director is a Linux service responsible for triggering campaigns and data imports at 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 dormant state. Campaign Director is responsible for assigning the jobs to be processed across campaign managers. At a given time, only one job will be processed by one campaign manager. In the event of campaign manager failure, Campaign Director is responsible for redistribution of 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.

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 POM servers. When a campaign is executed, a job is created for the campaign, and the campaign director assigns that job to one of the campaign managers for contact processing.

Rule Engine

Rule Engine is a Linux service responsible for execution of rules. You can create rules using the **Rule Editor**. Rules can be based on

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

Before attempting a contact, Campaign Manager refers 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:

- Manages agent allocation and state for agents.
- Manage agents in a blended job. Only CC Elite configuration supports this module. For more information about different configurations, see POM server configuration options on page 13.
- Update the POM database with current agent related information for reporting and HA related functionality.
- Distribute the 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 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 certain decisions in the application flow.

Nailer CCXML application

To speed-up the process of connecting to customer call with agents, POM keeps the agent on a continuous call. This continuous call is known as nailing. This application takes care of the agent call control flow. An available agent is nailed at the beginning of the call session when the agent gets attached to a job.

POM helps to enhance the agent performance by delaying the un-nailing of an agent. When the system detaches the agent from a job, the system does not terminate the agent nailing. The next job also uses the same nailing session. In some cases, as a result of agent optimization, the system can nail the agent by a different application assigned to the job.

POM does not support multiline appearance on agent phones and does not check the agent phone status for off-hook/on-hook before launching the nail-up call.

POM does not support hold on nailed calls. It does not check the agent phone status for hold/un-hold during the nail-up. The agent must ensure that the nailed call is not put on hold to avoid nuisance, silent, or abandoned calls to customers.

Driver CCXML application

The Driver CCXML application is responsible for making an outbound attempt to the customer phone number, and takes care of the customer call control flow. Various telephony events raised by the platform are processed by this application for appropriate call processing, so that further call treatments can be provided to the customer.

Agent Scripts

When a contact is presented to the agent, agent script is loaded on the desktop, which can assist the agent to handle the customer call efficiently.

The agent script can be either Native or URL based. You can create, delete, or modify the Native scripts using a built-in editor. To use agent scripts, you must associate the agent script with a campaign strategy for agent-based campaigns. For more information about agent scripts, see *Using Proactive Outreach Manager*.

Active MQ

Active MQ is a messaging component used for inter process message communication between POM components. For instance, values that are modified at runtime on POM Dashboard are sent to corresponding POM processes using ActiveMQ.

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

Tomcat (on EPMS)

All POM web services and Experience Portal’s AppInterfaceService are apache axis web services which run in Tomcat. The default installation on POM server has a maximum of 500 tomcat threads and the maximum Java virtual machine memory reserved for Tomcat is 1536 MB.

Each web service call increases load on Tomcat. For example, POM initiates only one web service call for AvayaPOMNotifier sample application. However, if you are using a Avaya Aura® Orchestration Designer application using various POM PDC nodes in a single call flow, POM initiates a new web service call for each node. Due to this, the load on Tomcat increases.

Media Processing Platform

Media Processing Platform is a critical component for Voice Campaigns as the Out call Web Server resides here. The POM driver and Nailer applications which are CCXML applications run on MPP. If a standalone MPP can support 1000 inbound calls on HP DL 360 G7 server, Quad Core, 12 GB RAM then the MPP can support up to 750 outbound calls.

POM EPMS plug-in

POM integrates with the EPM to provide common administration and management tasks like Single Sign On, user management, logs, alarms and license management. You can install POM EPMS plug-in only on the primary EPM. When you install the EPMS plug-in, the plug-in registers POM as a managed application with Avaya Aura® Experience Portal, deploys the POM Web application on the Tomcat server, and initializes POM related configurations.

Related links

POM server configuration options on page 13

POM server configuration options

You can install POM software either on a single system or on multiple systems, based on your outbound notification requirements.

You can use a single POM server for smaller campaigns, and multiple POM servers for larger campaigns. For information on server failover scenarios, see *Proactive Outreach Manager High Availability*.

Single server configuration

The configuration includes a single system running the Experience Portal Manager (EPM), Media Processing Platform (MPP), POM software with the database, and the application server. You can use local Postgres database only where you install EPM, MPP, and POM server on a single system.

➕ **Tip:**

In production environment, do not install POM database schema on local PostgreSQL.

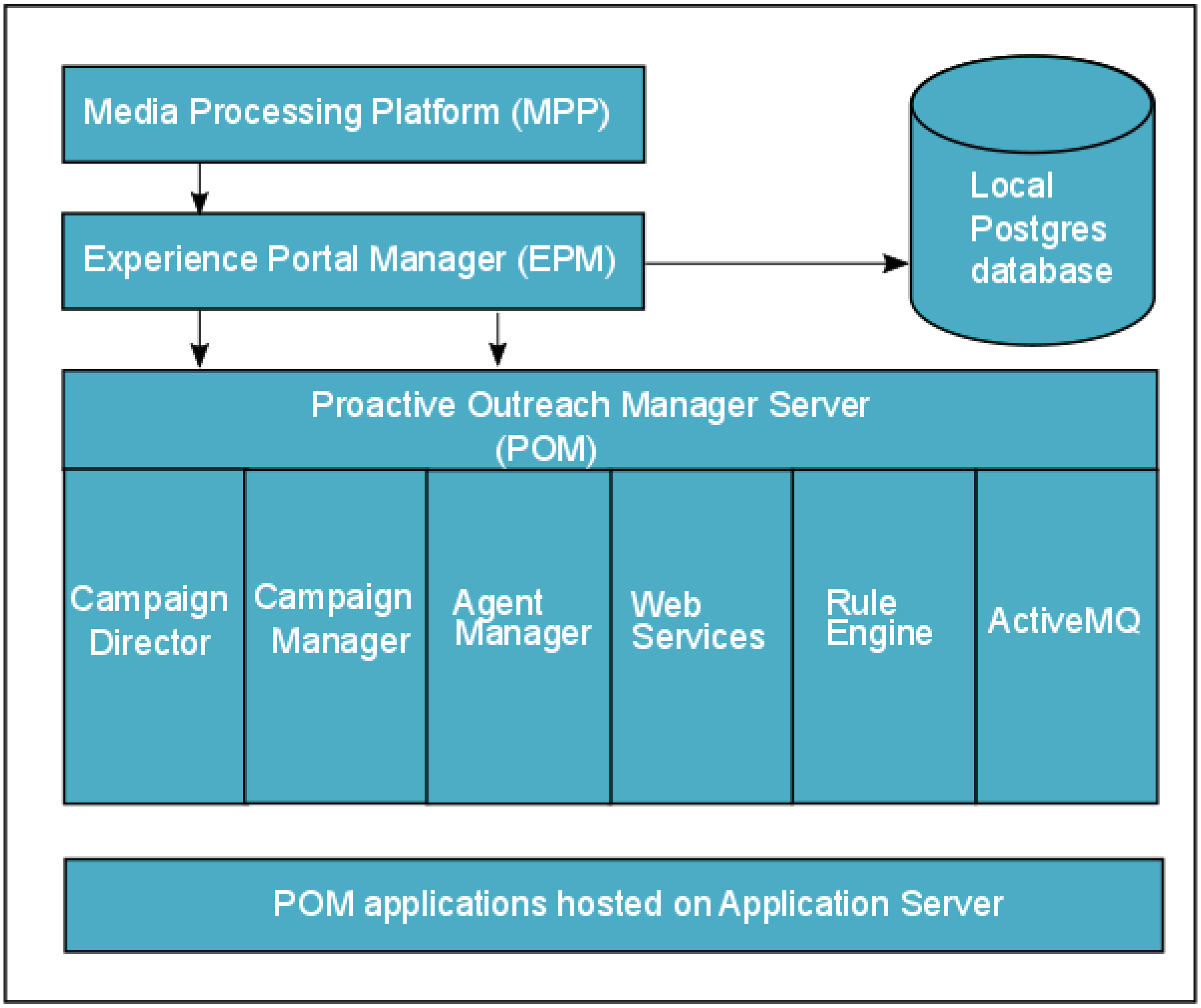
Media Processing Platform (MPP)
Experience Portal Manager (EPM)
Local Postgres database
Proactive Outreach Manager Server (POM)
Campaign Director
Campaign Manager
Agent Manager
Web Services
Rule Engine
ActiveMQ
POM applications hosted on Application Server

Figure 1: Single POM server configuration

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, POM server on another system, you can use an external Postgres database, external Oracle database, or external MS-SQL Server database for the systems.

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 have installed POM as a multiple server configuration, then one of the online POM servers controls the failover and load balancing.

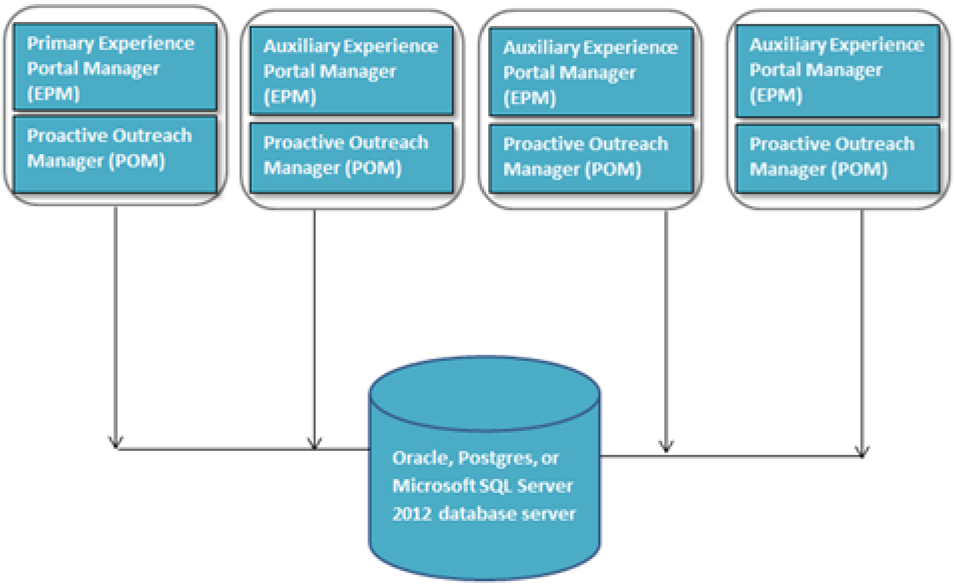
Primary Experience Portal Manager (EPM)
Proactive Outreach Manager (POM)
Auxiliary Experience Portal Manager (EPM)
Proactive Outreach Manager (POM)
Auxiliary Experience Portal Manager (EPM)
Proactive Outreach Manager (POM)
Auxiliary Experience Portal Manager (EPM)
Proactive Outreach Manager (POM)
Oracle, Postgres, or Microsoft SQL Server 2012 database server

Figure 2: Multiple POM server configuration

Integration with Avaya Aura®Call Center Elite and Avaya Aura® Contact Center

POM integrates with Avaya Aura®Call Center Elite and Avaya Aura® Contact Center for agent-based campaigns. The MPP is used for standard call classification and outbound dialing. POM provides APIs to integrate with third party agent desktops. For more information, see *Proactive Outreach Manager Integration* guide. In POM 3.x, you can configure only one Automatic Call Distributor (ACD). For more information about API's, see *Developer Guide for Proactive Outreach Manager*.

You can use MPP for standard call classification and outbound dialing. POM connects with the Avaya Aura®Agent Desktop (AAAD) to manage the agents for both inbound and outbound calls.

Note:

You can configure a single AACC server to communicate with a single POM setup having 1 primary POM server and multiple auxiliary POM servers. The AACC server cannot communicate simultaneously with such 2 different POM setups. For more information, see *Proactive Outreach Manager Integration*.

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Related links

Avaya Proactive Outreach Manager overview on page 10

Chapter 4: Feature description

Campaign management

A campaign delivers a specific message to all customers in the database through selected channels such as e-mail, SMS, and voice.

POM provides a Web-based wizard to create campaigns. A campaign typically has a name, a campaign strategy, and one or more contact lists. You can have either a finite campaign or an infinite campaign. You can set filter criteria on the contact lists. If you specify a filter criterion, 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 need some user input.

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

- Goal-based campaign: A goal-based campaign terminates after receiving an expected number of responses from customers.
- Time-based campaign: A time-based campaign terminates after running for a specific time duration. For example, you can terminate a campaign after 12 hours.
- Completion code-based campaign: A completion code-based campaign terminates after achieving a specific completion code condition. For example, you can terminate a blood donation campaign after you receive 50 accepted responses.

Note:

For campaigns having agents with completion code based finish criteria, if system completion codes are used as completion criteria for a campaign, then the campaign might not finish execution after meeting the criteria. Because completion codes are overwritten based on completion codes given by an agent.

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.

In addition to creating voice, SMS, e-mail campaigns, you can also create 2 way SMS and e-mail campaigns. These campaigns help you to send 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 2 way SMS and e-mail campaigns. POM uses Web services to enable the 2 way communication. POM provides stock applications for both SMS and e-mail. The applications receive SMS and e-mail responses and update the attribute value and completion code for the specific POM contact. For more information about 2 way SMS and e-mail campaigns, see *Using Proactive Outreach Manager*.

Contact list management

Campaigns need phone numbers for making voice calls and sending SMSs and email addresses for sending email messages. A contact list is a collection of customer records. You can set up any number of 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 tenants. Typically this customer data resides outside POM in a contact management system, and based on your campaign requirements, you must import relevant customer records into POM at regular time intervals.

You can set up any number of contact lists and define any number of attributes. Using POM, you can import customer records into a contact list from various external data sources such as flat files, external database and use various Web service methods to create, read, and update customer records.

You can add contacts in 2 ways, either through user interface or through web services. For more information on the web services, see *Proactive Outreach Manager Developer Guide*.

You can delete a contact from user interface or through *DeleteContactFromList* web service. You can delete unattempted as well as processed contacts from a running campaign. When a contact is deleted 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, then the Campaign manager removes the contact from the list of filtered records. If the contact is already dialed through the campaign, then the count of **Un-attempted** contacts is not decreased. When you delete a contact that is not attempted through the job, then the system decreases the count of **Filtered** and **Un-attempted** contacts on the real time monitor screen. You cannot delete the contacts that are “in progress”. Contact are “in progress” if they meet any of the following conditions:

- Contacts are picked up for attempt, but not yet attempted.
- Contacts are attempted, but result processing is not done on the contact attempt yet.
- 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 **POM Individual Import Details** report.

Related links

Association of contacts to running campaigns on page 18

Association of contacts to running campaigns

You can add contacts to a contact list at real time by using a web service or from 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 will be checked against both, the filter and the sort criteria of the associated campaigns. If the contact satisfies both these criteria, then the contact is automatically selected for dialing in the running campaign jobs that have this contact list associated. 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 using the AddContactListToJob web service. When you add a contact to a contact list, then POM moves the newly added contact for dialing, provided the contact satisfies the filter criteria specified for the job. An event is sent to campaign manager whenever new contacts are added to a contact list. Based on this notification, the campaign manager adds the contacts to the dialing queue if the contacts satisfy the filter criteria. The contact is dialed as per the sort criteria specified for the job.

Important:

When you modify a contact, for example, if you change the attribute value, and if the contact matches the filter criteria, then it will be available in the job of the associated campaign. However, if the attribute value of an already filtered contact in a campaign job is changed, and now, if the contact does not match the filter criteria, then it will not be removed from the job. In such a case, you must use the restriction 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 dialing 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 will not adhere to the filter criteria specified. However, the sort criteria specified will be applicable to the added contact.

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

To add uploaded contacts with dialing priorities in running campaigns through user interface, use the Upload Contacts page. In a running campaign, you can upload contacts with only one priority at one time. The contacts are dialed in the descending order of the priority. You can specify 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:

Suppose you associate contacts with **LOW** priority. The contact list gets added with value 1. If you associate the contacts with **BOTTOM** priority, the contact list gets added with value 0. Now if you add another contact list to the same campaign job with **BOTTOM** priority, all contacts will be added with priority “-1”.

Similarly, suppose you associate contacts with **HIGH** priority. The contact list gets added with value 10. If you associate contacts with **TOP** priority, the contact list gets added with value 11. Now if you add another contact list to the same campaign job with **TOP** priority, all contacts will be added with priority “12”.

Contacts with all other priorities are dialed as per their respective fixed values.

When you upload the contacts through user interface, POM first adds the contacts to a contact list, then adds the newly added contacts to running campaigns with priority specified on Upload Contacts page. For more information on uploading contacts through user interface, refer *Using Proactive Outreach Manager* guide.

Related links

Contact list management on page 17

Contact attribute management

Attributes are properties of customer data. POM supports various attributes which are common and typically required for processing the customer data. You can filter the customer data based on the attributes.

Based on your campaign needs, you might need custom attributes such as Amount Due, Due Date, and Blood Type. Using POM you can set up custom attributes, and import data to these attributes. A typical custom attribute has a name, data type, read only flag for agents, masked for agents flag, and privacy flag.

If you enable the read only for agents flag, the agent is unable to edit the values of the attribute through the agent desktop. If you enable the masked for agents flag, the agent is unable to see the attribute value through the agent desktop. For example, the 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 63.

Oceana Integration

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

POM to serve as a outbound channel for Avaya Oceana™ Solution: POM provides JAVA SDK for the POM agent be able to login to the Avaya Oceana™ Solution workspace so that Avaya Oceana™ Solution 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, the POM certificate must be configured in the client API while connecting it to POM.

Note:

Custom completion code name and completion code ID in POM and Avaya Oceana™ Solution must be same to allow workspace to dispose call.

POM provides a new install mode as Oceana in the POM installer. When POM is installed 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 node. POM invokes the REST service exposed by Outbound Provider to fetch all the agent attributes configured in the Avaya Oceana™ Solution. You must select agent the attributes configured on the Avaya Oceana™ Solution for outbound as an outbound skill in the strategy configuration. Agents login in to POM using Oceana workspace with assigned attributes get attached to the jobs as per the configured attributes.

Note:

If POM is installed with Oceana mode, skill based pacing is not applicable. POM restricts the campaign having skill based pacing.

Context Store Integration: POM provides outbound attempt information to the Context Store server for Customer Journey completeness. You can push 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 work request ID for the context record. POM persists 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. Contact browser is enhanced to capture this configuration. POM provides the groupID 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 Browser page. The following are the retrieval mode configurations:

Retrieval mode	Description
Always	Select when POM does not have a customer ID or administrator choose to use the customer ID from the customer management snap in. POM fetches Customer ID from Customer Management snap-in. The selected attribute value and the attempt address are as an input to fetch Customer ID. POM uses the

Table continues…

Retrieval mode	Description
	same network address as that of the configured Context Storeserver 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 Customer ID from the Customer Management snap-in, else POM uses the attribute value as Customer ID.

Note:

POM REST web services: The existing SOAP web services are converted in to equivalent REST web services. New REST web services can be consumed by engagement designer call flow within Avaya Oceana™ Solution to modify entities related to POM outbound campaign. For more details on POM REST web services, see *Developer Guide for Proactive Outreach Manager*.

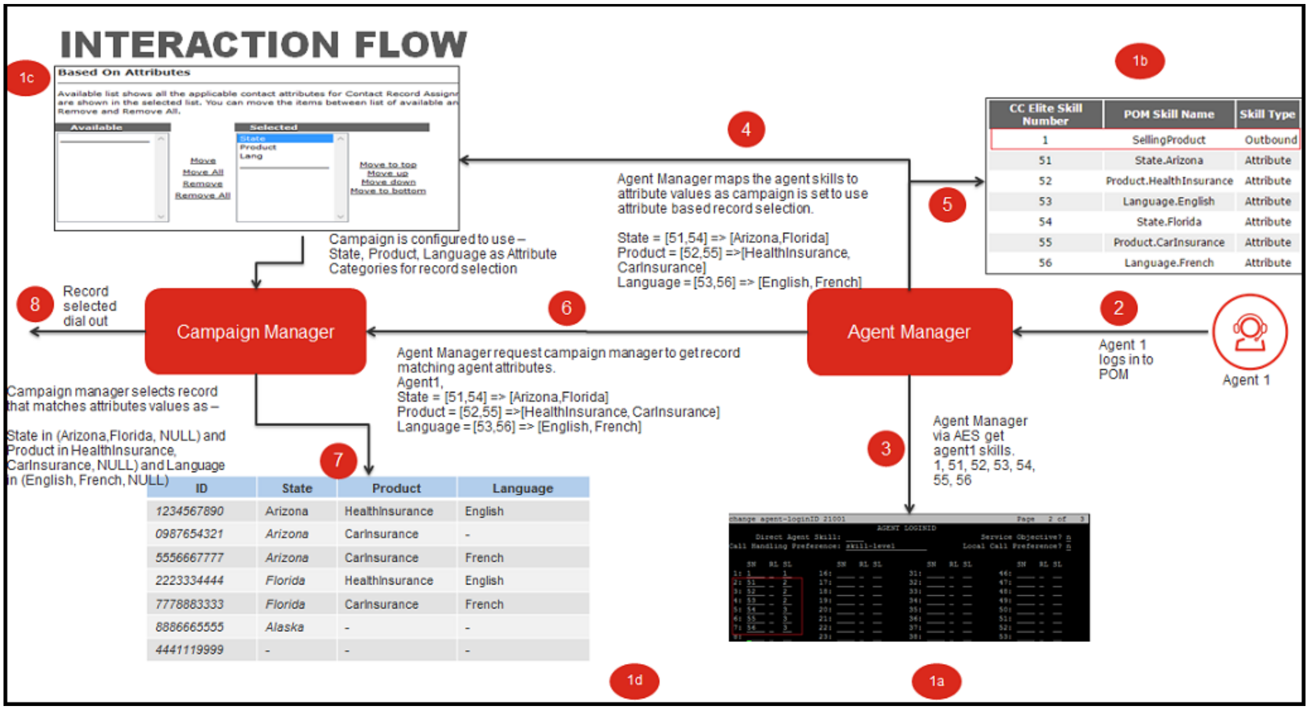
Preferred Agent Selection

Record assignment based on attributes

Overview

You can create an attribute based campaign. If the agent has a set of attributes defined, then POM selects the contact records that matches with the agent attributes and present that record to the agent. The Attribute based selection are applicable only for the progressive or preview type of the campaign. Attribute 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 attribute based record selection is not applicable for the predictive type of campaigns.

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



Campaign is configured to use – State, Product, Language as Attribute Categories for record selection

Agent Manager maps the agent skills to attribute values as campaign is set to use attribute based record selection.

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

CC Elite Skill Number	POM Skill Name	Skill Type
1	SellingProduct	Outbound
51	State.Arizona	Attribute
52	Product.HealthInsurance	Attribute
53	Language.English	Attribute
54	State.Florida	Attribute
55	Product.CarInsurance	Attribute
56	Language.French	Attribute

Record selected dial out

Agent Manager request campaign manager to get record matching agent attributes.
Agent1,
State = [51,54] => [Arizona,Florida]
Product = [52,55] =>[HealthInsurance, CarInsurance]
Language = [53,56] => [English, French]

Agent 1 logs in to POM

Campaign manager selects record that matches attributes values as –

State in (Arizona,Florida, NULL) and Product in HealthInsurance, CarInsurance, NULL) and Language in (English, French, NULL)

ID	State	Product	Language
1234567890	Arizona	HealthInsurance	English
0987654321	*Arizona*	CarInsurance	-
5556667777	*Arizona*	CarInsurance	French
2223334444	*Florida*	HealthInsurance	English
7778883333	*Florida*	CarInsurance	French
8886665555	*Alaska*	-	-
4441119999	-	-	-

Agent Manager via AES get agent1 skills. 1, 51, 52, 53, 54, 55, 56

```
change agent-loginID 21001                                     Page   2 of   3
                                 AGENT LOGINID
     Direct Agent Skill: ____                              Service Objective? n
Call Handling Preference: skill-level                    Local Call Preference? n

    SN   RL SL         SN   RL SL         SN   RL SL         SN   RL SL
 1: 1    _  1     16: ____ _ __      31: ____ _ __      46: ____ _ __
 2: 51   _  2     17: ____ _ __      32: ____ _ __      47: ____ _ __
 3: 52   _  2     18: ____ _ __      33: ____ _ __      48: ____ _ __
 4: 53   _  2     19: ____ _ __      34: ____ _ __      49: ____ _ __
 5: 54   _  3     20: ____ _ __      35: ____ _ __      50: ____ _ __
 6: 55   _  3     21: ____ _ __      36: ____ _ __      51: ____ _ __
 7: 56   _  3     22: ____ _ __      37: ____ _ __      52: ____ _ __
 8: ____ _ __     23: ____ _ __      38: ____ _ __      53: ____ _ __
```

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 Ocena mode, attributes are provided to POM in agent login API.
1c	For a record selection, 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 *Using Proactive Outreach Manager*.
2	Agent logs in to POM.
3	POM fetches the skill information from Communication Manager via 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 record from the contact list based on the provided attributes.
8	Campaign Manager dials out the fetched record. If more than one record is found ,selection is done as per the sort criteria defined in the campaign.

Note:

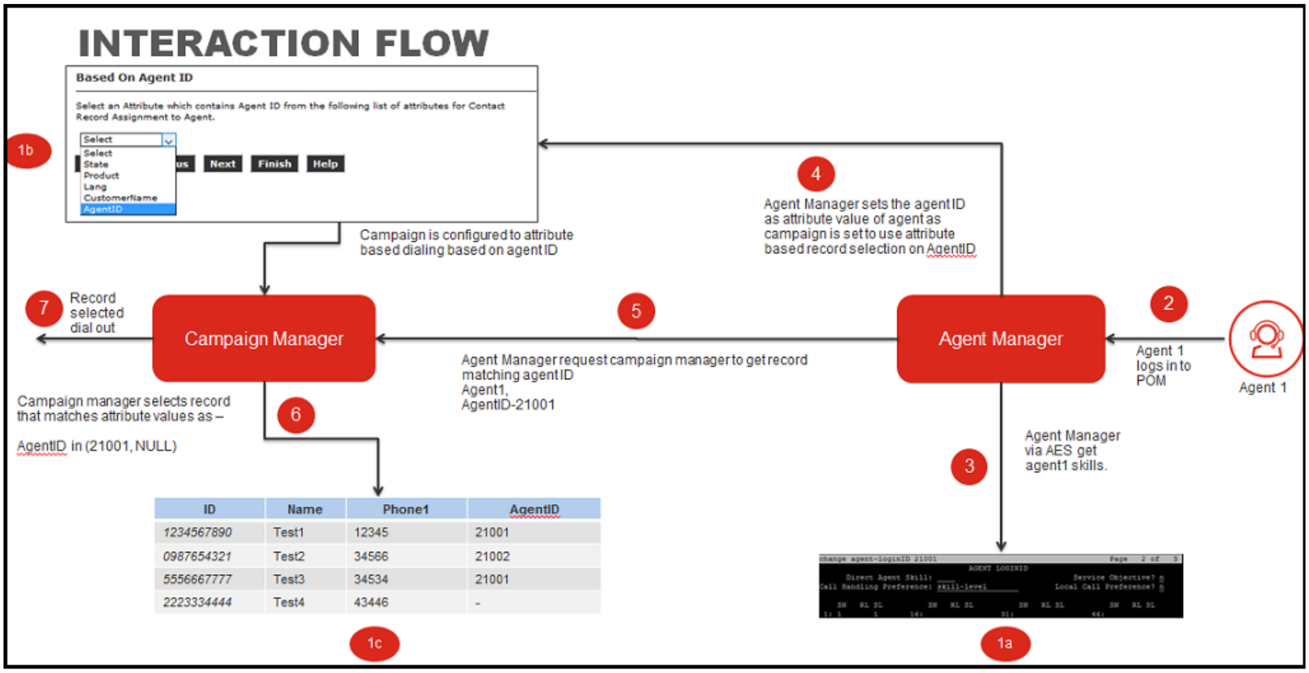
POM does not display Attribute type of skills in the strategy configuration.

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

Record assignment based on the Agent ID

Record 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 record. 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 attribute based record selection is not applicable for the predictive type of campaigns.

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



Select an Attribute which contains Agent ID from the following list of attributes for Contact Record Assignment to Agent.

4 Agent Manager sets the agent ID as attribute value of agent as campaign is set to use attribute based record selection on AgentID

Campaign is configured to attribute based dialing based on agent ID

7 Record selected dial out

5 Agent Manager request campaign manager to get record matching agent ID Agent1, AgentID-21001

2 Agent 1 logs in to POM

6 Campaign manager selects record that matches attribute values as –

AgentID in (21001, NULL)

3 Agent Manager via AES get agent1 skills.

ID	Name	Phone1	AgentID
1234567890	Test1	12345	21001
0987654321	Test2	34566	21002
5556667777	Test3	34534	21001
2223334444	Test4	43446	-

```
change agent-loginID 21001                                     Page   2 of   3
                              AGENT LOGINID
     Direct Agent Skill: ___                          Service Objective? n
Call Handling Preference: skill-level                 Local Call Preference? n

    SN   RL SL          SN   RL SL          SN   RL SL          SN   RL SL
 1: 1       1       16:                 31:                 46:
```

Legend	Description
1a	Create a 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 the skill 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 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, only the Record assignment based on the Agent ID is supported.

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 has matching 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	51 – Healthinsurance	51 – English
51 – Florida	51 – Carinsurance	51 – French
51 – Alaska	-	-

Now, let us assume that the following agents have listed 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=Florida}, {Product=CarInsurance}, Language={French}]

The system searches multiple records for the attributes of an agent; the record which has maximum matching attributes is selected for dialing. If no record matches for an agent then 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 is matched only with Agent 210002, so the record gets assigned go Agent 210002.
- For ID 2223334444 record, state attribute matches with Agent 210000 and Agent 21002. Now the product attribute matches with Agent 21000 and Agent 21001, so the record gets assigned to Agent 21000. See the table above for more examples.

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, then POM uses sort criteria defined for the campaign to select best amongst the set of records. The following scenario explains the attribute based record selection order. The following table displays the various attributes:

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

Let us assume that 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}].

Now, 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:

In case of a conflict, where two records have the same number of matching attributes, record assignment is done as per the sorting criteria

Record selection based on Agent ID

For personal agenda based campaign, the records are selected based on `AgentID`. If the record selected has an `AgentID` specified then that record can only be handled by the agent specified. If the record doesn't have `AgentID` specified that is the attribute value is blank or null. Then, that record can be assigned to any available agent.

Now, consider a following scenario to understand how the contact is selected based on the `AgentID`. Consider two agents 21001 and 21002; and also a sample contact list with `AgentID` as an attribute. Now, agent 21001 is eligible for the Record ID 1234567890 as the `AgentID` value matches with ID 21001. Similarly, agent 21002 is eligible for the Record ID 5556667777. Both agents are eligible for the Record ID 0987654321 as shown in the table below:

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 different call back types

Standard / Campaign Callback

These callbacks follow the attribute based matching. When the callback time matures, callback is launched and POM finds the agent whose attributes matches with the contact record attributes. If no such agent is available, the callback is postponed.

Agent Callback

In case of the agent callback, preference is given to the assigned agent instead of attribute matching for a callback. If the assigned agent is not available, then POM searches another agent matching with contact attributes .

For example: Contact A is handled by Agent A as per record assignment based on agent id. If callback is created on Contact A for Agent B. The callback will be handled by Agent B as the preference is given to callback assigned agent. If Agent B is not available then POM searches other agents with matching attributes.

Contact data sources

With contact data sources, you can define source from which you can import customer records in 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 POM server or the File Transfer Protocol (FTP) server. With the database-based data source, you can import customer records from an external database. You can run 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 3.x supports new features for the phone numbers and depending on the settings you configure, 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 about phone formats, reject patterns, dialing rules, and guard times, see *Using 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 Aura® Experience Portal to send/receive SMSs 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 SMSs.

Email channel

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

Voice and video channel

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

Campaign strategy management

Use campaign strategies to define the process of interacting with customer during a campaign 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 for contacting the customer, such as timing restrictions and number of retries
- Applications to be used
- Personalized notifications texts

Campaign restrictions

You can define restrictions which are applicable to all campaigns globally on the campaign restrictions page. You can override the campaign restrictions at the individual campaign level while defining the campaign strategies. For example, if you have set a campaign restriction to not call a customer registered in the Do Not Call (DNC) list, you can override the restriction for an individual campaign.

Campaign pacing

Use pacing to control the distribution of number of calls, SMSs, or emails you want the POM system to make or send depending upon availability of the resource like ports, licenses and agents. POM supports time-based and skill-based pacing for call, SMS and email.

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

Time-based pacing for automated voice campaigns

Use the time-based pacing to control the number of calls the 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 the time-based pacing for SMS to monitor and control the number of SMS the 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 the time-based pacing for email to monitor and control the number of emails the 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 Call Center Elite or with Avaya Aura ® Contact Center (AACC). Skills are monitored using Call Management System (CMS) for Call Center Elite. 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 Call Center Elite are monitored and are used to control the rate of outbound calls or SMS or emails. You must map the skills from the CMS to the skills created in POM and then 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 Call Center Elite, you must configure RT Socket on the CMS server. While configuring the RT Socket to send CMS real time data to POM server, ensure you use the *tvi1* report format.

You can use the skill based pacing to control the rate of the outbound calls, SMS, or emails based on certain inbound parameters. The parameters are queue length, expected wait time, average speed of answer, and % 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. For cases where 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 desired level, then the pacing will be decreased, else the pacing will be increased.

If the queue length, or the average speed of answer, or the maximum value of the selected EWTLevel is higher than the desired value, then the pacing is decreased, else the pacing is increased. However, if the service level parameter value is higher than the desired value, then the pacing is increased, else the pacing is decreased. Consider the following example to understand 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 configurations, POM will start pacing with initial pace 1 per minute and control 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**. POM considers the **Pacing Variation (%)** value for increasing or decreasing the pace. To increase the current pace, the 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.

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

Table 1: Pacing behavior for parameter Queue length

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.
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	5

Table continues…

Queue length received from AACC/CMS	Current Pace (per min)	Pacing behavior	Updated Pace (per min)
		value, but the current pace is also equal to the max pace value. So, POM does not change the pace.	
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

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

Table 2: Pacing behavior for parameter Expected Wait Time (EWT)

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 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, the 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.

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

Table 3: Pacing behavior for parameter Expected Wait Time (EWT) with EWT Level value Med

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.
5	3	The EWTLevel value is greater than the desired value, and the current	3 - 1.5 = 1.5. Considering the floor value, updated pace is 2.

Table continues…

EWT Level Med Value received from CMS RTS Socket	Current Pace (per min)	Pacing behavior	Updated Pace (per min)
		pace is greater than the min pace value. So, POM decreases the pace.	
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

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 shown below:

Table 4: Pacing behavior for parameter Expected Wait Time (EWT)

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, the 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.

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

Table 5: Pacing behavior for parameter Expected Wait Time (EWT) with EWT Level value Low, Med

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,	5

Table continues…

EWT Level Values received from CMS RTS Socket		Current Pace (per min)	Pacing behavior	Updated Pace (per min)
			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.	
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.
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

Table continues…

EWT Level Values received from CMS RTS Socket		Current Pace (per min)	Pacing behavior	Updated Pace (per min)
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 can use a Predictive Expert Calling Ratio campaign, and set its parameters such as **ECR update probability**, **Expert Call Ratio Type**, **Minimum Hit Rate** manually, to obtain efficient agent utilization and better calling speed. 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 if you want 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.

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.

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).

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 two Web services for custom pacing. SetMaxAttemptsCountForTask and GetActiveJobTaskIdForTask. For more information about the Web services, see *Developer Guide for Proactive Outreach Manager.*

Related links

Agent utilization on page 71

Do Not Call list management

Do Not Call (DNC) lists have the 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 customers listed in the DNC list for campaigns if DNC is set in the campaign strategy.

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.

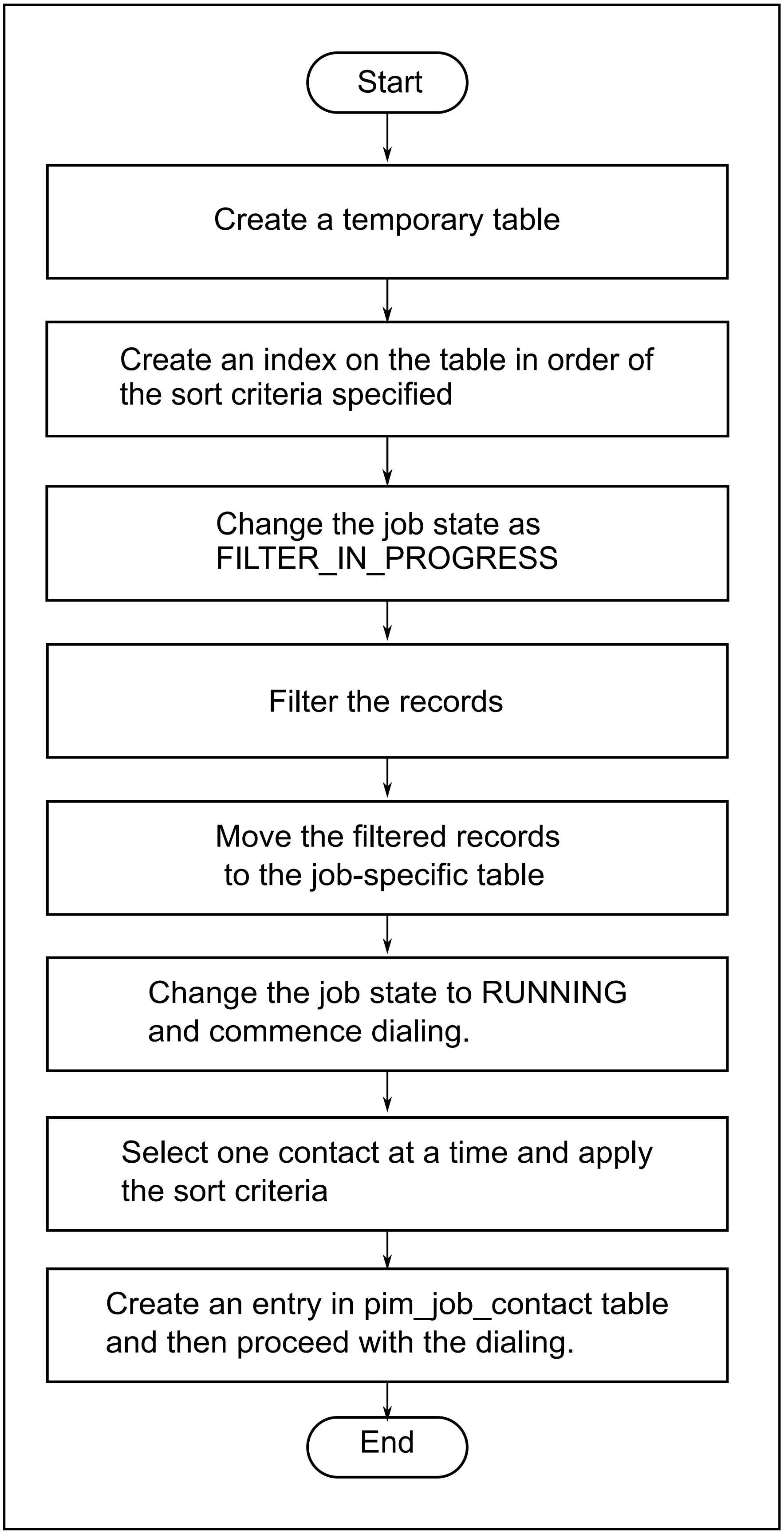
Dynamic Filtering process

In addition to the regular POM database, POM needs an additional database schema that acts as an “operational database” 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 of operational database is not required. When the operational database reaches it 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 completes. 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. But, if user wants to start dialing immediately without waiting for filtering to complete, then the administrator has to disable the flag **Wait Till Record Selection Finish** flag in campaign creation wizard (CCW).

Note:

During filtering process, POM just filters the records and moves them to operational 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 **Wait Till Record Selection Finish** option is disabled, then POM applies the sort condition on the set of records which are moved to operational table at that instant and starts dialing the records parallely. To apply sort on all filtered records, the administrator must enable the **Wait Till Record Selection Finish** option on the CCW page.

Related links

Change the filter and sort criteria using POM Monitor on page 40

Contact dialing order on page 41

Change the filter and sort criteria using POM Monitor

You can change the filter criteria or sort criteria at real-time for a running job. You can use the POM Monitor to

- Change a job's filter criteria.
- Change a job's sort criteria.
- Add contact list with priority.
- Remove contact list.

On applying any of the above changes, the campaign manager discards the existing contacts from the dialing table except contacts which are in “in-progress” state. Contact are “in progress” if they meet any of the following conditions:

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

For more information on changing the filter/sort criteria at runtime, refer *Using Proactive Manager* guide.

Related links

Dynamic Filtering and Sorting on page 37

Contact dialing order

POM dials the contacts based on the dialing order that you specify in the campaign creation wizard (CCW). If you do not specify any dialing order in the CCW, then POM dials the contacts in the ascending order of their system contact IDs. System contact ID is an auto generated number which is assigned to the contact while adding the contact to the system.

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 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, then 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.

If you have multi-action nodes within a handler and you have enabled with pacing, POM dials the contacts based on the speed of the slowest action defined in the strategy. The campaign manager processes the contact in sequence for all actions defined before moving to 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 will give them highest priority and will be dialed immediately thus report will show 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 report and will have their 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, then 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 report as the first attempt itself failed.
- Retry: If there are any retries for any contact, POM will dial such contacts immediately after processing one or two records which are locked for dialing. Such contacts will appear out of order and will have their attempt type set to Retry.

Related links

Dynamic Filtering and Sorting on page 37

Excluded Contacts

You can exclude contact records from filtered dialing list 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, then 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. If you want to attempt these 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. Now, if you exclude all the contacts in this contact list, then 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. Now, when the Callback or Retry time for the contacts mature, campaign manager checks if these contacts are marked excluded. If they are excluded, then it does not pick these contacts for dialing.

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

For more information on excluding contacts, refer *Using Proactive Outreach Manager* guide.

Callback management

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

- Agent Desktop
- Web Services

Note:

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

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

POM supports the following 3 callback types:

- Agent
- Campaign
- Standard

While starting a campaign, the Campaign Manager (CM) process checks for callbacks in the `Waiting for Job` state and associates all such callbacks with the new job and change the callback state to `Active Attached to Job`. The callbacks associated with the new job, are processed on their scheduled time. At the callback schedule time, if the callback is successfully presented to the agent, it is marked as `Completed` and is not processed again.

If the running campaign having one or more non-completed callbacks is manually stopped, then depending on the global configuration parameter settings, the system takes one of the following action:

- On the Global configuration page, if the `Allow StoppedCallback Job State` check box is selected, the campaign state is changed to `StoppedCallback`.
- On the Global configuration page, if the `Allow StoppedCallback Job State` check box is cleared, the campaign state is changed to the `Completed` state and the non completed callbacks of that campaign are moved to the `Waiting for Job` state.

Agent callback

Agent callback is an agent scheduled callback for self or to any other agent. When an agent selects Agent callback, the system displays all outbound agents which are not in `NOT_READY`, `LOG_OUT`, `UNKNOWN` or `INBOUND_WORK` states. The system displays the list to the agents who are working or anticipating the work. When the callback time arrives, the system searches for the agent for whom the callback is set. If such agent has not logged in for outbound activity or not in the `Ready` state, agent manager searches for an agent with same skill as of the job in callback state. If no such agent is available, then the callback is postponed. The system retries the callback after the Retry Interval configured in the global configurations.

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

- If the callback Expiry time has arrived, the CM process marks the callback status as `Expired` and do not present it to the agent.
- If the callback Expiry time has not arrived, the CM process hand-overs the callback to PAM 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 on the Global Configurations as per requirement. For more information on the setting see, Manage Global configuration page field descriptions.

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

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.

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

- If the selected campaign have a running job, the callback is get associated with that job and callback state is set to `Active Attached to Job`.
- If the selected campaign doesn't have a running job, then the callback state is set to `Waiting for Job`.
- When a callback Schedule time arrives, the CM checks the expiry time of the callback which is set at the time of creating a callback:
  - If the callback Expiry time has arrived, the CM process marks the callback status as Expired and do not present it to the agent.
  - If the callback Expiry time has not arrived, the CM process hand-overs 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 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 `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 callback schedule starts, agent manager searches for an agent with same skill as of the job in callback state. The agent manager prepares an agent list and assigns the callback to the best agent.

when callback time arrives, the system checks for the any Idle agent associated with the action for which the callback is set, if no such idle agent is found then system checks for another agent with same skill as that of the action working in another job.

Rule Editor

Rules are restrictions that you can configure for outreach attempts based on contact/address, number of attempts, channel, last attempt completion code, or nuisance frequency. For example, you can create a rule to allow maximum 3 attempts in 24 hours. POM provides a **Rule Editor** that allows you to configure rules. The Rule service must be running while performing any action in **Rule Editor**. Otherwise, the system displays an error message.

Rule Editor does not support multi tenancy.

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.

POM captures the rule configuration changes in audit logs.

In rule editor, you can:

- Configure rules that can be applied either to specific campaigns, or system wide.
- Exclude rules for callbacks, redial, external consult, or preview type of campaigns.
- Apply rules against Voice, SMS, Email, or custom type of channel.
- Apply rules for contact address or a contact record. A contact record is identified based on a contact ID that you give while importing a 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 of execution of the system and user defined rules at campaign level for a specific zone.
- Edit a rule at runtime in a running campaign.
- Delete a rule. POM also allows deletion of rule associated with a running campaign. On deletion of rule, its association with a campaign and job is also removed.
- Create custom rules using custom java class. For more information on creating a custom class for custom rules, refer *Developer Guide for Proactive Outreach Manager*.

Note:

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

POM allows you to configure strategy restrictions, global restrictions and rules, such that the restrictions in a strategy are always given high precedence, followed by global restrictions, and then the rules. Based on the completion code specified in the rule that restricted the contact, you can decide the further course of action by creating a handler node in campaign strategy. For example, before making an attempt, the campaign manager checks if the rule engine has restricted any calls by the **24Hour AMD** rule. If the campaign manager finds that the contact is restricted by the AMD rule, then it will switch to preview mode.

Limitations

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

- The rules are applied at zone level, but the rule engine counts the attempts across all zones for a contact. Also, the rules are not specific to any particular organization.

Related links

System and User defined rules on page 47
72Hours Nuisance rule on page 48
Rule execution on page 49
Rule execution scenarios on page 50
Rule engine failover on page 51

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 *Using Proactive Outreach Manager* guide.

Related links

Rule Editor on page 46

72Hours Nuisance rule on page 48

72Hours Nuisance rule

Scenario

The following table provides the details of the contact and multiple phones associated with the 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 the 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 at 1 st April, 2017 10:20:00 and a nuisance call on 4444 of contact Y at 1 st April, 2017 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 the 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

Related links

Rule Editor on page 46

Rule execution

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

- Address validation
- Address length check
- Strategy validation
- Callback expiration
- Guard time check
- DNC check

A campaign manager executes a rule in the end, after all the above validations are executed. The campaign manager attempts a contact only after validating all checks and executing all rules.

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 to 3.0.4, and enable the system rule, then rule will be 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 the POM 3.0.4 system, and does not consider the attempts made by the system prior upgrade.

Related links

Rule Editor on page 46

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:

In current release, to ensure backward compatibility, you can exclude the rules for Redial, or External Consult. For more information, refer *Using 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 that 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 that configured on **External Number** attribute of the contact.

Table continues…

Operation	Number dialed (Default/Non-default number)	Number dialed (External number)
Consult External Agents Number from Agent Address book	NA	NA
Consult External Free Form Number	NA	All the rules that 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.

Related links

Rule Editor on page 46

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 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*.

Related links

Rule Editor on page 46

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 minimum of 1 agent and max of 30 agents as 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.

Related links

Job Snoozing behavior on page 53

Agent balancing on page 53

Preview and Predictive license behavior on page 54

Manual Agent Movement on page 55

Agent snoozing and agent assignment behavior in case of the preferred agent selection on page 56

Job Snoozing behavior on page 53

Agent balancing on page 53

Preview and Predictive license behavior on page 54
Manual Agent Movement on page 55

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 will be higher, because the released agents will be allocated to other 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.

Related links

Agent and license allocation on page 52
Agent and license allocation on page 52

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 minimum of 1 agents and max of 30 agents as 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

Now, 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

Thus, 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 hasn’t 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.

Related links

Agent and license allocation on page 52

Agent and license allocation on page 52

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 minimum of 1 agents and maximum of 30 agents as default criteria.

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

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

Now, after some time, job2 of **Predictive** type is started. Agent allocation algorithm rebalances the agents based on the job priority and thus, 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

Let us consider another example. Suppose 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 shown below:

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

Suppose 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.

Related links

Agent and license allocation on page 52
Agent and license allocation on page 52

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 or 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 POM monitor.

Related links

Agent and license allocation on page 52
Agent and license allocation on page 52

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 secs) 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, agent gets detached from the job. Agent is attached to job, when the temporary restricted contact is rechecked for dialing. In order to avoid frequent agent attachment/detachment to and from the job, you must set the recheck interval in the strategy as 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 job when retry time matures.

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, the alarm is raised.

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

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**, refer *Using Proactive Outreach Manager* guide.

Background AMD

When you set the **Enhanced CCA** property to “ON” and the Call pacing type is either Cruise Control, or 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 does not do anything and lets the agent dispose the call. The agent can leave a voice message by himself and dispose the call in wrap-up.
7. As call classification is started only after 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, responsible for making an outreach attempt, detects the call disconnection events and marks the completion code accordingly.

A new completion code is introduced to distinguish the calls disconnected by the customer and by the system in agent based and agent less 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 code, 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 will be 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 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 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 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 now have an additional disposition **Disconnected_By_System** to capture calls hung up by the system before notification being 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 leg. 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 *Using 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 3.x 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 *Using Proactive Outreach Manager*.

POM and Recorder connection

An agent, after logging into Avaya Aura® Communication Manager, needs to login to POM via 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 being sent from both servers as per the recorder configuration.

Related links

TCP/TLS based connection on page 59

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 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 *Using Proactive Outreach Manager* guide.

Related links

Integration with voice call Recorder on page 59

About 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 at the same time.

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 particular inbound skill. When the traffic is low or high 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.

PAM also supports manual blending of an agent. You can select an outbound agent on the 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 Spilt 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 POM 3.0.4, 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.

Zone management

POM 3.x 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 executing 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.

Multitenancy

Multitenancy in POM is based on Avaya Aura® Experience Portal. To use the multitenancy in POM, you need to enable multitenancy in Avaya Aura® Experience Portal, and create organizations and users. Depending on the organization to which the user belongs, or depending on the basic configuration settings, you can restrict the 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 Aura® Experience Portal, and has the Org POM Campaign Manager role. For more information about multitenancy, see *Administering Avaya Aura® 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 Aura® 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 user specific feature for generating reports in a specific time zone. When you select a time zone on the Zone Filter page, POM uses the Display time zone feature of the Avaya Aura® Experience Portal. Reports and report filters display the date and time fields based on the selected time zone.

POM reports

You can generate various POM reports using the EPM interface.

You can generate standard reports or custom reports. You can also schedule reports to be generated at a later date.

You can generate and view reports for different types of campaigns. For finite campaigns, you can generate and view the reports after successful completion of the first job instance.

For infinite campaigns, you can generate and view the report after the first archival interval. For more information about reports, see *Using Proactive Outreach Manager*.

Chapter 5: Interoperability

Product compatibility

For product compatibility and interoperability details, see the interop matrix on the Avaya Support web site at http://www.avaya.com/support.

Third-party connectivity

Avaya Proactive Outreach Manager (POM) 3.x supports Oracle, PostgreSQL, and MS-SQLServer databases. POM supports Inisoft synTelate Desktop.

Note:

When you install POM database schema on a local or external database, the administration and support of this local or external database is the responsibility of the customer.

In production environment, do not install POM database schema on local PostgreSQL. You must install PostgreSQL, Oracle, or Microsoft SQL Server database only on an external server.

Operating system compatibility

Avaya Proactive Outreach Manager is compatible with:

- Red Hat Enterprise Linux 6.4 and above, 64 bit
- Avaya Enterprise Linux for Avaya Aura® Experience Portal 7.2.

Browser compatibility

Avaya Proactive Outreach Manager is compatible with Internet Explorer 11 and Mozilla Firefox 32, 33, 34,41, 45, and 50.

Chapter 6: Licensing requirements

POM is a managed application on Avaya Aura® Experience Portal. Hence the license requirement and the availability depends on Avaya Aura® Experience Portal.

The Experience Portal Manager (EPM) contacts an Avaya WebLM server regularly to determine the number of licenses that are authorized for your system. For security reasons, ensure that the license server runs WebLM version 4.4 or later, and install a valid Avaya Aura® Experience Portal 7.0, or 7.0.2, or Avaya Aura® Experience Portal 7.1 license on the license server.

After receiving information about authorized licenses, EPM allocates the available licenses among the Media Processing Platform (MPP) servers in the system. Avaya Aura® Experience Portal requires a license for:

Component	Description
Telephony ports	You can use one connection or port for voice activities with each license. A Avaya Aura® Experience Portal system supports up to 10,000 telephony ports. For agent-based campaigns, you need 1 telephony port for agent nail up connection, 1 telephony port for dialing out a customer, and 1 telephony port as a bridge the agent nailed-up call and the customer call. The third port is used for this bridging and then released. **Note:** To configure an authorized telephony port on the Avaya Aura® 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	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 does not become available again until the call is complete.
Text-to-Speech (TTS) connections	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	You must configure adequate number of SMS licenses to run SMS campaigns. For more information about SMS licenses, see *Avaya Aura® Experience Portal* documentation.

Table continues…

Component	Description
Email licenses	You must configure adequate number of email licenses to run email campaigns. For more information about SMS licenses, see *Avaya Aura® Experience Portal* documentation.

POM has separate licenses for Outbound ports, Preview Agents, and Predictive Agents. 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. For more information on licenses, refer *POM ports and licenses* section of *Using Proactive Outreach Manager*.

Note:

License allocation can be either reserved or dynamic.

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 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

POM 3.x helps in better 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. Also, during manual movement of agents, POM moves the licenses too, along with the agents.

Related links

Agent and license allocation on page 52
Job Snoozing behavior on page 53
Agent balancing on page 53
Preview and Predictive license behavior on page 54
Manual Agent Movement on page 55

Chapter 7: Capacity and Scalability

Contact lists and import

You can have a maximum of 900 attributes (including system and the custom attributes) in the POM system.

The number of custom attributes created in system was 200. The test was performed by importing files from local file data source with varying the number of records and keeping record size constant. Each record was having attributes of type Integer, Long, Short, Char, Float, Boolean, String, Phone, Email, Date, Time and Timestamp. The size of each record was 1.296 KBytes, with 173 attributes per records, including system and custom attributes. The default contact import batch size was used. When the Contact import was running, no other campaign or export was running on the POM server.

The following table depicts the different import tests performed:

Table 6: Time required for contact list import

Import Run	Number of Records	Total Attributes (system + Custom)	Approximate Time Required for import
Run1	10K	173	9 minutes
Run2	50K	173	45 minutes
Run3	0.1 Million	173	1 hour 30 minutes
Run4	1 Million	173	15 hours

The above data is for file based import from local data source and POM database was on external PostgreSQL server. POM Server & database was configured on, HP Gen7, 12GB memory and 16CPU Quad Core server, Intel(R) Xeon(R) CPU E5620 @ 2.40GHz with 1 GBPS network speed.

None of the advanced import options namely automatically update time zone for phone numbers, Check phone numbers for reject patterns, Check phone numbers for phone formats rule and Check phone numbers / E-mails for DNC, Empty Contact List before import and On Duplicate Records found were selected for the data source under test in POM. You may experience more time for import if any or all such options are selected for 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 would take more time than the same contact list importing the same number of records which are 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 will fetch distinct records.

Datasource1 will import first 3000 records. Similarly datasource2 will import the next 3000 and datasource3 will import the remaining 4000 records.

Recommendations

- The records are not in a sorted order 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 datasources.
- Divide the records between 3–6 data sources.

Exclude / Unexclude Records

The test was performed by excluding different numbers of records in a given contact lists to mark them as not callable. Each record was having attributes of type Integer, Long, Short, Char, and Float, Boolean, String, Phone, Email, Date, Time and Timestamp. The POM Server & database was configured on, HP Gen7, 12GB memory and 16CPU Quad Core server, Intel(R) Xeon(R) CPU E5620 @ 2.40GHz with 1 GBPS network speed. A load of 50 jobs and 500 agents was running while the test was performed.

The following table depicts the test observations during the test runs:

Table 7: Test observations for excluded records

Test Run	Number of Records	Total Attributes (system + Custom)	Approximate Time Required for exclude (in min:sec)
Run1	10K	173	00:09
Run2	0.1 Million	173	01:44
Run3	1 Million	173	51:46

Another test was performed to un-exclude the records in a given contact list to mark records as a callable. Each record was having attributes of type Integer, Long, Short, Char, and Float, Boolean, String, Phone, Email, Date, Time and Timestamp. The POM Server & database was configured on, HP Gen7, 12GB memory and 16CPU Quad Core server, Intel(R) Xeon(R) CPU E5620 @ 2.40GHz with 1 GBPS network speed. A load of 50 jobs and 500 agents was running while the test was performed.

Table 8: Test observations for unexcluded records

Test Run	Number of Records	Total Attributes (system + Custom)	Approximate Time Required for exclude (in min:sec)
Run1	10K	173	00:08
Run2	0.1 Million	173	01:19
Run3	1 Million	173	14:01

Agent utilization

Agent utilization for Cruise Control Campaigns

The test was performed to find out agent utilization and service level achieved for the cruise control algorithm. During the test customer hit rate was varied as 40%, 50%, 70% and 90% with agent count changed from 25 to 100. The agent utilization and service level was measured for entire test run and graphs were plotted. The POM Server & database was configured on, HP Gen7, 12GB memory and 16CPU Quad Core server, Intel(R) Xeon(R) CPU E5620 @ 2.40GHz with 1 GBPS network speed. The following table shows the test results:

Hit rate	**Agent Utilization**			**Actual Service Level**			**Agent**	**Number of Jobs**	**Desired Service Level**	**Total Nuisance Calls**	**Total Dialed Calls**
	Avg.	Min	Max	Avg.	Min	Max					
40%	62.97	5.09	72.06	100.00	100.00	100	25	1	99.99	0	5000
50%	72.15	4.06	73.81	100.00	100.00	100	100	1	99.99	0	5000
70%	78.80	0.45	88.58	99.33	94.34	100	100	1	99.99	6	5000
90%	87.53	3.18	88.95	100.00	99.98	100	100	1	99.99	1	5000

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 login 1000 agents and perform agent actions from the agent desktops. Different agent APIs requests / responses were captured from the agent manager logs when log level set to FINEST level. The POM Server and database was configured on, HP Gen9, 32GB memory and 24CPU Quad Core server, @ 2.40GHz with 1 GBPS network speed. A load of 200 jobs and 1000 agents was running while the test was performed.

Agent APIs Name	**Reponses Time(mSec)**
AGTGetCustomerDetails	450
AGTWrapupContact	100
AGTGetCompletionCode	20
AGTPreviewDial	20
AGTLogon	424
AGTStateChange	50

Table continues…

Agent APIs Name	Reponses Time(mSec)
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 method. POM Server & Oracle 12 c database was configured on, HP Gen7, 12GB memory and 16CPU Quad Core server, Intel(R) Xeon(R) CPU E5620 @ 2.40GHz with 1 GBPS network speed.

The following table represents the throughput and successful web services request per second. This test was on a single box POM installation and 100 ports concurrent outbound calls were running while performing the test.

Method name	Total requests	Average latency (msec)	Throughput (per min)
Campaign Management Web Service			
AddContactFromListToJob	5000	160.00	2000
AddToDNCList	5000	160.00	3000

Table continues…

Method name	Total requests	Average latency (msec)	Throughput (per min)
GetAgentAttributesList	5000	103.00	3000
GetAllCompletionCodesForCampaign	5000	101.00	3000
GetAttributesList	2000	205.00	1500
GetCampaignAttributesList	5000	99.00	3000
GetContactAttributeValueFromList	5000	116.00	2500
GetContactDataFromList	5000	112.00	2500
GetContactListEmptyStatus	5000	105.00	2500
GetPhoneNumber	5000	124.00	2500
IsContactCallable	5000	101.00	3000
IsDNC	5000	98.00	3000
MarkContactsAsCallable	5000	124.00	2500
MarkContactsAsUnCallable	5000	132.00	2500
RemoveFromDNCList	5000	115.00	2500
SaveContactToList	1000	264.00	1200
ScheduleCallBack	1000	136.00	2000
UpdateAgentAttributeValue	10000	108.00	3000
UpdateCampaignAttributeValue	10000	110.00	3000
UpdateCompletionCode	10000	104.00	3000
UpdateContactAttributeValueToList	5000	125.00	2500
Agent API Web Service			
GetActiveJobs	5000	113.00	2500
GetActiveJobTaskIdForTask	5000	123.00	2500
GetActiveJobTaskIds	5000	111.00	2500
GetCampaignDetails	5000	120.00	2500
GetCampaignJobs	5000	115.00	2500
GetContactListNames	5000	110.00	2500
GetImportJobStatus	5000	118.00	2500

Email and SMS capacity

For Email, only the delivery 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. So in case customer is running an SMS campaign with Delivery and Notification enabled, then for each outbound SMS there will be 2 incoming SMS's.

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	2000
Long	2000
Short	2000

Compliance timer settings in Campaign Creation Wizard on POM Server

Table 9: 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 10: Notification campaigns

CCA start	Sample type	Detection percentage
On Connect	Live Voice	95%
On Connect	Answer Machine	92%
On Progress	Live Voice	95%
On Progress	Answer Machine	95%

Table 11: Agent-based campaigns

CCA start	Sample type	Detection percentage
On Connect	Live Voice	96%
On Connect	Answer Machine	89%
On Progress	Live Voice	92%
On Progress	Answer Machine	89%

Detection percentage for CCA with Background AMD disabled

Table 12: Notification campaigns

CCA start	Sample type	Detection percentage
On Connect	Live Voice	96%
On Connect	Answer Machine	94%
On Progress	Live Voice	96%
On Progress	Answer Machine	94%

Table 13: Agent-based campaigns

CCA start	Sample type	Detection percentage
On Connect	Live Voice	95%
On Connect	Answer Machine	44.36%

Table continues…

CCA start	Sample type	Detection percentage
On Progress	Live Voice	92%
On Progress	Answer Machine	47%

Lab set up

Server configurations
Bare Metal Setup

- HP ProLiant Gen 9 Servers were used for all POM servers & database servers. These are 24 CPU, Hexa-Core, 500 GB Hard Disc, 2.4 GHz and 32 GB RAM.
- HP Gen 7 Servers were used for MPP servers and application servers. These are 16 CPU, Quad Core, 300 GB Hard Disc, 2.4 GHz and 12 GB RAM.

VMware Host Setup

- Dell 2 R620s servers were used for all POM virtual servers. These are 12 CPU, Hexa-Core, 500 GB Hard Disc, 2.9 GHz and 64 GB RAM.
- Dell PowerEdge R910 servers were used for POM Database servers. These are 32 CPU, Octa-Core,
- 500 GB Hard Disc, 2 GHz CPU and 245 GB RAM.
- HP Gen 7 Servers were used for MPP servers and application servers. These are 16 CPU, Quad Core, 300GB Hard Disc, 2.4 GHz and 12 GB RAM.
- MPP Servers were configured on bare metal hardware. HP Gen 7 Servers were used for MPP servers and application servers. These are 16 CPU, Quad Core, 300 GB Hard Disc, 2.4 GHz and 12 GB RAM.

VM Instance Setup

POM Servers were configured with 24vCPU (30,000MHz Reserved), 12 GB RAM (Reserved). Database server was configured with 24vCPU(30,000MHz Reserved), 12 GB RAM (Reserved).

Database Server

- MSSQL 2014 R2 Enterprise edition server was used as a POM database server.
- Oracle 12 C enterprise edition server was used as a POM database server.
- Postgres 9.2 server was used as a POM database server.

Operating System

- Red Hat Enterprise Linux 6.5 / 6.6 / 6.7 64 bit
- AVL for EP 7.1

End-point Configurations

- Spark Emulators, One-X Communicator, One-X agents and other Experience Portal stations were used to simulate the customer and agent phones.
- In-house agent simulators were used to simulate the agent actions performed from the desktops in non-proxy / proxy mode to login multiple agents.

- 4-5 manual agents were logged in using third-party Inisoft desktops for CC-Elite mode and AAAD desktop for AACC mode.
- In-house SMS simulator was used to simulate the SMS gateway (SMSC).
- Microsoft Exchange server was used as an Email Server.
- Sip Proxy – Session Manager.
- Speech server – Nuance ASR and TTS server, NSS release 6.0

Network configuration

All POM components mentioned in the architecture should be configured on the same LAN switch with network speed of 1 GBps.

Bare Metal and VMware configurations

Bare metal and VMware configurations

Bare Metal Configuration

The following table lists the number of agents and available ports on a HP Gen 9 server (24 CPU, Hexa Core, 32 GB RAM) in POM SV lab environment. Hence actual results may differ depending upon the actual environment.

Hardware Server requirement: **Number of CPUs: 24** **Memory Required: 32 GB**					
Number of agents, Predictive/Preview	**Setup type**	**No. of servers**	**Components**	**Ports availability**	**Maximum simultaneous campaigns ****
1-500 (Predictive/ Preview)	Multi Box with Single POM	5	1 EPM/POM Server 2 MPP Servers 1 DB server 1 Application Server	1200(750 X 2 MPP Servers) ports	100
501-1000 (Predictive/ Preview)	Multi Box with 2 POM	8	2 EPM/POM Servers 4 MPP Servers	2400 (750 X 4MPP Servers) ports	200

Table continues…

Hardware Server requirement: **Number of CPUs: 24** **Memory Required: 32 GB**					
Number of agents, Predictive/Preview	**Setup type**	**No. of servers**	**Components**	**Ports availability**	**Maximum simultaneous campaigns ****
			1 DB server 1 Application Server		

** The following configurations were used for soak testing:

- Total contact attributes: 173 (system + custom).
- Total completion codes: 150, out of which 50 were used in the running campaigns.
- Agent addresses in agent address book: 70, out of which 50 were used in the running campaigns.
- Total agent count: 1000, skills per agent were 5, blend agents were 750.
- 25 agent and campaign attributes.
- Inbound load: 40K BHCC.
- Outbound campaigns: 30% Preview, 30% Progressive, 10% Cruise Control, 10% ECR, 10% Skill Based Pacing and 10% notification. 10% infinite type of campaigns, and 90% finite type of campaigns.
- 3 records per minute were added through web service to running campaigns, 1 callback per minute was scheduled through web service.
- Notification campaigns call duration: 20 seconds.
- Agent based campaigns: call duration: 40 seconds (talk time 20 seconds and wrap time 20 seconds).
- Generated Outbound load: 60K BHCC. To get 60K BHCC outbound attempts with maximum 2K attempts for agent less campaigns, maximum 5K attempts for Email campaigns, maximum 5K attempts for SMS campaigns and maximum 48K for agent based campaigns.

You can configure the **Maximum concurrent jobs** from **POM Home > Configurations > Global Configurations** page. The default value of **Maximum concurrent jobs** is 50.

VMware configurations

VMware Configuration

Server requirement: **Number of CPUs: 24 (57600Mhz reserved)** **Memory Required: 32 GB (32 GB reservation)**					
Number of agents, Predictive/Preview	**Setup type**	**No. of servers**	**Components**	**Ports availability**	**Maximum simultaneous campaigns ****
1-500 (Predictive/ Preview)	Multi Box with Single POM	5	1 EPM/POM Server 2 MPP Servers 1 DB server 1 Application Server	1200(750 X 2 MPP Servers) ports	100
501-1000 (Predictive/ Preview)	Multi Box with 2 POM	8	2 EPM/POM Servers 4 MPP Servers 1 DB server 1 Application Server	2400 (750 X 4MPP Servers) ports	200

** The following configurations were used for soak testing:

- Total contact attributes: 173 (system + custom).
- Total completion codes: 150, out of which 50 were used in the running campaigns.
- Agent addresses in agent address book: 70, out of which 50 were used in the running campaigns.
- Total agent count: 1000, skills per agent were 5, blend agents were 750.
- 25 agent and campaign attributes.
- Inbound load: 40K BHCC.
- Outbound campaigns: 30% Preview, 30% Progressive, 10% Cruise Control, 10% ECR, 10% Skill Based Pacing and 10% notification. 10% infinite type of campaigns, and 90% finite type of campaigns.
- 3 records per minute were added through web service to running campaigns, 1 callback per minute was scheduled through web service.
- Notification campaigns call duration: 20 seconds.

- Agent based campaigns: call duration: 40 seconds (talk time 20 seconds and wrap time 20 seconds).
- Generated Outbound load: 60K BHCC. To get 60K BHCC outbound attempts with maximum 2K attempts for agent less campaigns, maximum 5K attempts for Email campaigns, maximum 5K attempts for SMS campaigns and maximum 48K for agent based campaigns.

Chapter 8: Related resources

Related 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:

Title	Description	Audience	Document location
Implementing Proactive Outreach Manager	Provides information about installing and configuring Proactive Outreach Manager.	Implementation engineers	The latest PDF is available on the Avaya Support site at Implementing Proactive Outreach Manager.
Upgrading Proactive Outreach Manager	Provides information about upgrading Proactive Outreach Manager.	Implementation engineers	The latest PDF is available on the Avaya Support site at Upgrading Proactive Outreach Manager.
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	The latest PDF is available on the Avaya Support site at Developer Guide for Proactive Outreach Manager.
Using Proactive Outreach Manager	Provides general information about field descriptions and procedures for using Proactive Outreach Manager.	Users	The latest PDF is available on the Avaya Support site at Using Proactive Outreach Manager.
Troubleshooting Proactive Outreach Manager	Provides general information about troubleshooting and resolving system problems, and detailed information	System administrators	The latest PDF is available on the Avaya Support site

Table continues…

Title	Description	Audience	Document location
	about and procedures for finding and resolving specific problems.	Implementation engineers Users	at Troubleshooting Proactive Outreach Manager.
Proactive Outreach Manager Agent API	Provides information about the methods and properties used for the Web interface.	System administrators Implementation engineers Users	The latest PDF is available on the Avaya Support site at Proactive Outreach Manager Agent API.
Avaya Aura® Contact Center — 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.	Users	The latest PDF is available on the Avaya Support site at Avaya Aura® Contact Center — Proactive Outreach Manager integration
Proactive Outreach Manager High Availability	Provides information about 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	The latest PDF is available on the Avaya Support site at Proactive Outreach Manager High Availability.
Using Proactive Outreach Manager Reports	Provides information about reports in Proactive Outreach Manager.	Users System administrators	The latest PDF is available on the Avaya Support site at Using Proactive Outreach Manager Reports.
Oracle Database Dictionary for Proactive Outreach Manager	This document is 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	The latest PDF is available on the Avaya Support site at Oracle Database Dictionary for Proactive Outreach Manager.
PostgreSQL Database Dictionary for Proactive Outreach Manager	This document is 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	The latest PDF is available on the Avaya Support site at PostgreSQL Database Dictionary for Proactive Outreach Manager.

Table continues…

Title	Description	Audience	Document location
MS-SQL Database Dictionary for Proactive Outreach Manager	This document is 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	The latest PDF is available on the Avaya Support site at MS-SQL Database Dictionary for Proactive Outreach Manager.
Proactive Outreach Manager and Recorder Integration	This document gives details of design and APIs provided by Proactive Outreach Manager for integration with any third party voice call recorder.	System administrators Implementation engineers Users	The latest PDF is available on the Avaya Support site at Proactive Outreach Manager and Recorder Integration.

You must install Avaya Aura® Experience Portal before you install POM.

Related links

Finding documents on the Avaya Support website on page 83

Finding documents on the Avaya Support website

About this task

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

Procedure

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

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

Related links

Documentation on page 81

Training

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

To earn the 3309 ACSS — Avaya Aura® Experience Portal with Avaya Proactive Outreach Manager Implementation and Maintenance credential, take these courses and exam:

Note:

Earning the certification is not mandatory. You can take the courses to gain knowledge about the product and need not take the exam.

Course code	Course title
Virtual campus path: Implementation, Maintenance, Troubleshooting and Administration course:	
5C00040E	Knowledge Access: ACSS — Avaya Aura® Experience Portal with Avaya Proactive Outreach Manager
The following administration course content is included in the 5C00040E. For administration only courses take the following:	
5C00020E	Knowledge Access: Avaya Aura® Experience Portal Administration
5C00050E	Knowledge Access: Avaya Proactive Outreach Manager Administration and Configuration
Traditional Training Path: Implementation, Maintenance and Troubleshooting courses and exam: Avaya Aura® Experience Portal with Avaya Proactive Outreach Manager- Choose 5C00092I/V OR take the 4C00100I/V and 5C00090I/V courses:	
5C00092I	Avaya Aura® Experience Portal, Avaya Aura® Orchestration Designer, Avaya Proactive Outreach Manager Installation, Maintenance and Troubleshooting Essentials
5C00092V	Avaya Aura® Experience Portal, Avaya Aura® Orchestration Designer, Avaya Proactive Outreach Manager Installation, Maintenance and Troubleshooting Essentials
4C00100I	Avaya Aura® Experience Portal Implementation
4C00100V	Avaya Aura® Experience Portal Implementation
Implementation, Maintenance and Troubleshooting courses and exam:	
5C00090I	Avaya Aura® Experience Portal, Avaya Aura® Orchestration Designer, Avaya Proactive Outreach Manager Maintenance and Troubleshooting
5C00090V	Avaya Aura® Experience Portal, Avaya Aura® Orchestration Designer, Avaya Proactive Outreach Manager Maintenance and Troubleshooting
Administration courses:	
4C00101W	Avaya Aura® Experience Portal Administration

Table continues…

Course code	Course title
4C00074W	Avaya Proactive Outreach Manager (POM) Administration and Configuration
To earn the 3309 ACSS —Avaya Aura® Experience Portal with Avaya Proactive Outreach Manager Implementation and Maintenance credential, take these courses and exam: **Note:** Earning the certification is not mandatory. You can take the courses to gain knowledge about the product and need not take the exam.	
3309	Avaya Aura® Experience Portal with POM Implementation and Maintenance Exam

Avaya Mentor videos

Avaya Mentor is an Avaya-run channel on YouTube that includes technical content on how to install, configure, and troubleshoot Avaya products.

Visit http://www.youtube.com/AvayaMentor.

To search for a specific product or topic, enter a key word or words in the Search Channel dialog box. To scroll though the posted videos, click the name of an item on Playlists.

Support

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

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 Aura® 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