



PBX Assessment

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1 Introduction

This report analyzes the Avaya Communication Manager PBX configuration and evaluates various aspects regarding the ability to migrate them into Microsoft Phone System™.

The report contains the following:

1. Executive Summary
 - a. Extensions & Devices
 - b. Feature Parity Analysis with Microsoft Phone System
2. Detailed Feature Parity Analysis with Microsoft Phone System
 - a. Extensions Based Features
 - b. System Based Features
3. Detailed Devices Mapping

This document was auto generated from the PBX configuration using Univonix's PBX Assessment system.

1.1 About Source PBX: Avaya

Avaya Aura® Communication Manager (CM) delivers voice, video, messaging, and customer contact applications converge on a single network, to spread intelligent and flexible communications throughout the organization. Avaya's CM data model consists of several main entities and flexible configuration options:

1. Station (e.g. phone) – A device e.g. hardware phone that can be of type analog, IP, attendant console or proprietary, a software-based phone or a virtual device. A station can be configured with one extension or more.
2. Extension – assigned to a station or be shared (i.e. bridged appearance) between station for boss/admin scenario.
3. Coverage Paths – A list of destinations for configuring common call forwarding scenarios. The same coverage path can be assigned to multiple stations.

Consequently, the PBX administrators could choose different way to achieve similar functionalities.

1.2 About Target PBX: Skype for Business Phone System™

Microsoft Skype for Business is a cloud based real-time communications solution that provides enterprise instant messaging, presence, VoIP, ad hoc and structured conferences (audio, video and web conferencing) and PSTN connectivity.

Skype for Business has a different data model and entities vs the source PBX:

1. Active Directory User – can be configured with a single extension. A user can be logged in concurrently on multiple clients (software, hardware or mobile).

2. Common Area Phones – can be configured with a single extension.
3. Extension – can be configured to one user or one common area phone only.

Part of the migration effort there is a need to convert the legacy PBX's data model into Microsoft Skype for Business' data model. Some of the data can be easily converted whereas other can have several options for resolutions.

2 Configuration Resources

The following table lists the files used for generating this report.

2.1 Files

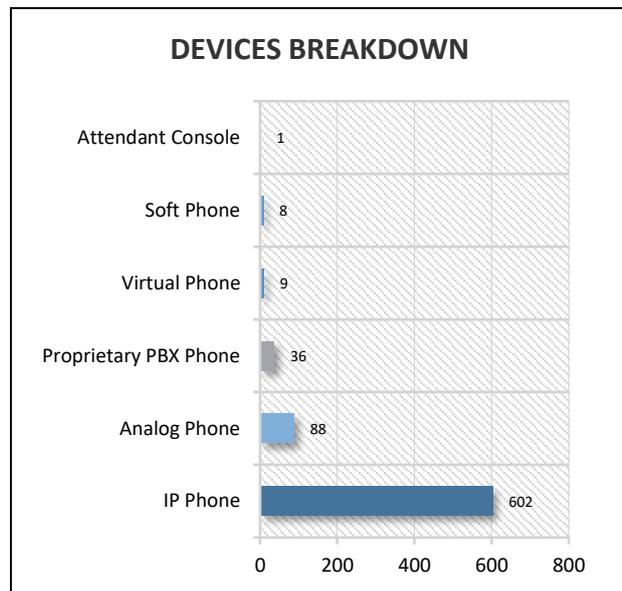
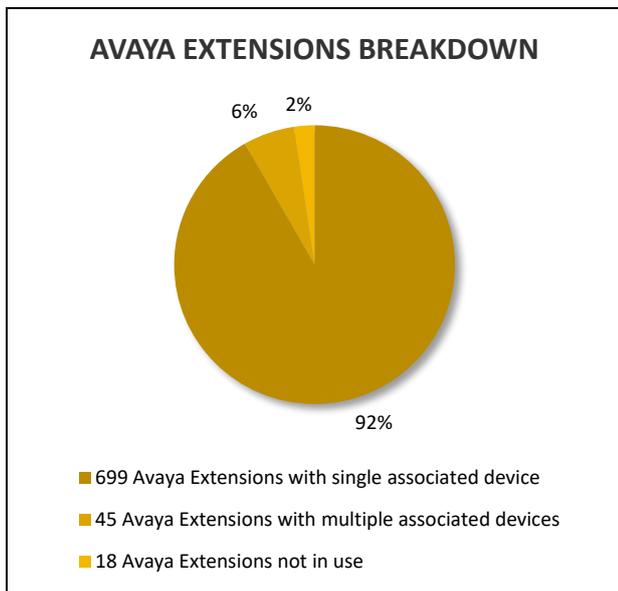
File Name	File Type	Process Date
R016x.03.0.141.0	Avaya CM 6.3.12	5-Sep-2018

3 Executive Summary

3.1 Avaya Extensions & Devices Analysis

The analyzed configuration includes:

1. 762 Avaya Extensions, 699 of which are associated with a single device, 45 are associated with multiple devices (e.g. bridged appearance) and 18 extensions are not in use.
2. 744 Avaya Devices with extensions, 655 of which are stations (IP Phones, soft phones, proprietary PBX phones and virtual phones), 88 analog stations and 1 attendant console.



User Type	Count
Extensions with single associated device	699
Extensions with multiple associated devices	45
Extensions not in use	18
Total	762

Device Type	Count	Description
IP Phone	602	Desk IP Phone
Soft Phone	8	PC/Mobile Software Client
Virtual Phone	9	Virtual Device
Analog Phone	88	Analog Phone
Proprietary PBX Phone	36	Proprietary PBX Phone
Attendant Console	1	Attendant Console
Total	744	

3.2 Feature Parity Analysis with Microsoft Phone System™

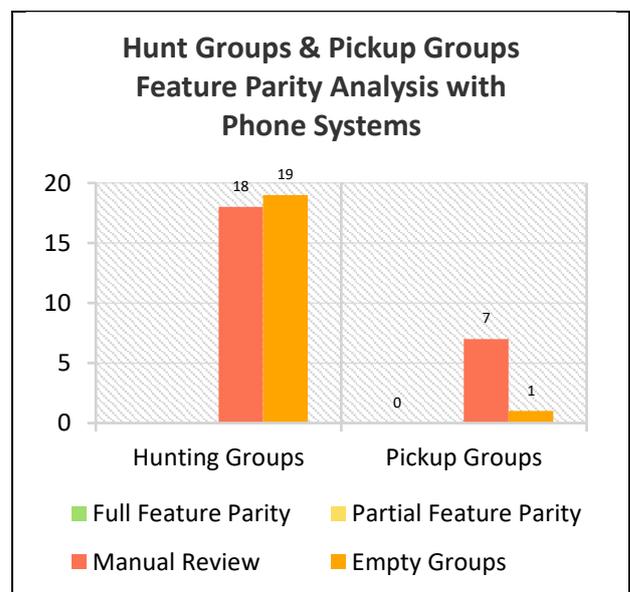
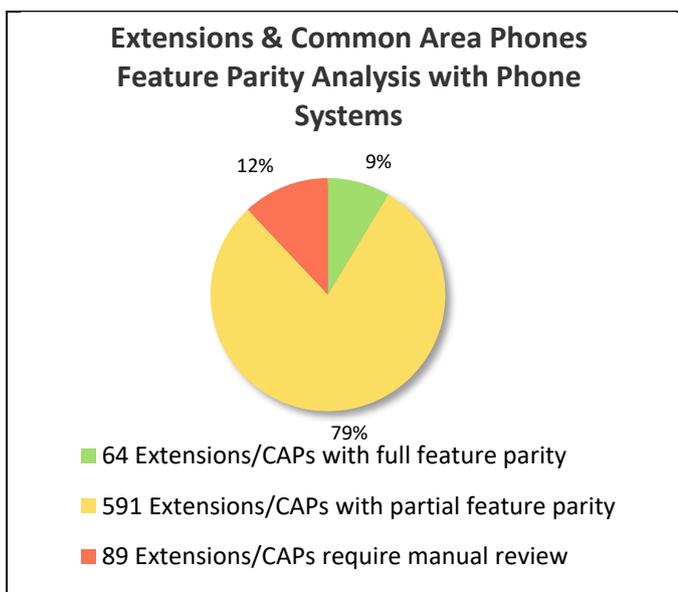
The feature parity analysis is based on a total of 762 analyzed extensions:

1. All extensions are associated with the following subsets: 655 Avaya stations, 88 analog stations, 1 attendant console, 37 Hunt Groups and 8 Pickup Groups.
2. There are 91 Coverage Paths, 31 used and 60 unused. Out of the 31 used:
 - i) Can be converted to Phone System: 12 forward calls to voice mail or station or PSTN (used by 519 stations), 8 forward to hunt groups (each used by 1 station)
 - ii) Cannot be converted to Phone System: 11 forwards to hunt groups with external PSTN lines or analog stations (each used by 1 station)

Note that extensions can belong to more than one subset.

The feature parity analysis includes the following categories:

1. Green – extensions that can be migrated to Microsoft Phone System™ without losing any functionality
2. Yellow – extensions that can be migrated to Microsoft Phone System™ but functionalities may be lost
3. Red – extensions that cannot be migrated to Microsoft Phone System™ prior to manual review and resolution. Extensions with multiple issues (e.g. yellow & red) are marked as red in the executive summary, while the yellow issues are listed on the detailed feature parity analysis (section 4).
4. Orange – Hunt Group / Pickup Group configured in the system, without any associated extensions. This suggests that the Hunt Group / Pickup Group is not being used.



Summary of extensions with features that require manual review (marked as red):

Subset	Count	Description
Coverage Path	11	Forwards to hunt groups that include external PSTN lines or analog stations
Analog Devices	88	An Analog Telephone device that is connected to a remote gateway (e.g. connector to Analog Phone, Fax, Intercom, Alarm etc.).
Hunt Groups	2	Hunt Groups with Analog Members
	19	Empty Hunt Groups
	16	Hunt Group with longest idle distribution algorithm
Pickup Group	6	Call Pickup Groups
	1	Call Pickup Groups with analog members

4 Detailed Feature Parity Analysis with Microsoft Phone System™

The following section lists the features currently used in the PBX.

The count indicates the number of users using this feature; Individual users can use more than one feature.

For Hunt Groups & Pickup Groups, the count indicates the number of groups configured in the PBX.

Status	Description
✓	Indicates that the extension / hunt group / pickup group can migrate to Phone Systems™ and get the same functionality.
⚠	Indicates that the feature is currently not fully supported by Phone Systems™. Extensions configured with this feature can be migrated but might lose some functionality. In some cases, 3rd party solutions can close the gap.
✗	Indicates an issue that needs to be manually reviewed prior to migration to Phone Systems™. Extensions / Hunt Groups / Pickup Groups will not be able to migrate to Phone Systems™ unless issues resolved.

#	Status	Feature	Count	Legacy PBX Feature Description	Microsoft Phone System™ Parity
1	✗	Call Pick Up Groups	6	A Call Pickup Group is a list of individual phone extensions. Everyone in the group would be able to answer phone calls ringing on another phone in the group	Phone System does not support Group Call Pickup.
2	✗	Empty Call Pick Up Groups	1	Call Pickup Groups configured, without any associated extensions.	Phone System does not support Group Call Pickup.
3	✗	Call Pick Up Groups with Analog Members	1	Call Pickup Groups configured, with extensions connected to Analog stations	Phone System does not support Group Call Pickup.
4	✗	Hunt Groups with Analog Members	2	A Hunt Group is the method of distributing phone calls from a single telephone number to a group of stations. These groups include analog stations.	Phone System supports call queues that gives similar functionality. However, only users are supported (i.e. not analog phones).
5	✗	Empty Hunt Groups	19	Hunt Groups configured, without any associated extensions.	Phone System supports call queues, however, as no extensions are configured, the call queue is not useable.
6	✗	Hunt Group with longest idle distribution algorithm	16	Hunt Groups configured with EAD-MIA - The system hunts for the available agent who has the the longest idle time since the last call.	Phone System supports call queues; however, the distribution algorithm is not supported.
7	✓	Forward No Answer	530	Automatically forward incoming calls when there is no answer.	Phone System supports Forward No Answer.

#	Status	Feature	Count	Legacy PBX Feature Description	Microsoft Phone System™ Parity
8	✓	Simultaneous Ring	150	Provides users with the ability to be reached via a single enterprise phone number that rings on both their desk phone and their cellular phone (remote destination) simultaneously	Phone System supports Simultaneous Ring.
9	✓	Forward All	5	Automatically forward all calls.	Phone System supports Forward All.
10	✓	Forward DND/SAC/Goto Cover	531	On Demand forward all calls to a predefined hunt group	Activating forward all calls can be done from Skype for Business Client
11	⚠	Forward On Busy	530	Automatically forward all calls when the line is busy.	Forward on busy is not natively supported by Phone System.
12	⚠	Temporarily direct all incoming calls to coverage	479	Allows users to temporarily direct all incoming calls to coverage regardless of the assigned call-coverage redirection criteria.	Temporarily direct all incoming calls to coverage is not natively supported by Phone System.
13	⚠	Priority Call	50	Allows a user to place priority calls or change an existing call to a priority call. Priority Call: place an internal call with a distinctive ring (usually a 3-burst ring) to indicate your call needs immediate attention.	Priority call is not natively supported by Phone System.
14	⚠	Special Character for Abbreviated Dial	50	Allows users to enter an associated special character [~, ~m (mark), ~p (pause), ~s (suppress), ~w (wait for dial tone), or ~W (wait forever)] when programming	Special Character for Abbreviated Dial is not natively supported by Phone System.
16	⚠	Auto answer internal calls	49	Internal Automatic Answer: causes any hybrid or digital station to automatically answer incoming internal calls.	Auto answer internal calls is not natively supported by Phone System.
17	⚠	Page to group	19	Allows users to make announcements to groups of stations by automatically turning on their speakerphones.	Page to group is not natively supported by Phone System.
18	⚠	Queue threshold alarm	8	The Calls-in-Queue Alarm Threshold is the number of calls (1-99) allowed in the queue before calling group supervisors and members are notified that too many calls are waiting for attention.	Queue threshold alarm is not natively supported by Phone System.
19	⚠	Automatic Intercom	6	A button set to this function makes an auto answered call to another extension.	Intercom is not natively supported by Phone System.
20	⚠	Dial Intercom Group	1	Accesses the intercom group assigned to the button.	Dial Intercom Group is not natively supported by Phone System.

#	Status	Feature	Count	Legacy PBX Feature Description	Microsoft Phone System™ Parity
21	✓	Message Waiting Activation	1	Lights a message waiting lamp on an associated station.	Phone System supports message waiting notification
22	⚠	Attendant Queue Overloaded	1	Tracks the number of calls in the attendant group's queue and displays the queue status. Useful for a user who is the backup of attendant.	Attendant Queue Calls is not natively supported by Phone System.
23	⚠	Light MWI on remote phone	1	Manual Message Waiting: allows a multi appearance telephone user to press a button on their telephone in order to light the Manual Message Waiting button at another telephone.	Light MWI on remote phone is not natively supported by Phone System.
24	⚠	Night Service	1	Toggles the system in or out of Night Service mode.	Night Service is not supported by Phone System. However, you can set business hours.
25	✓	Bridged Appearance	45	A bridged appearance button shows the state of one of another user's call appearance buttons. It can be used for Boss/Admin scenarios	Phone System supports delegation.
26	✓	Coverage Path to voice mail or regular station	519	Forward calls to voice mail or station or PSTN number	Phone System supports call forward no answer to voice mail or PSTN number.
27	✓	Coverage Path to hunt groups	6	Forward calls to hunt groups	Phone System supports call forward to call queues
28	✗	Coverage Path to hunt groups with PSTN/analog	11	Forward calls to hunt groups with external PSTN lines or analog stations	Phone System supports call forward to call queues, however, only users are supported (e.g. not external PSTN or analog).
29	✗	Vector	72	A vector is a call center feature that can be used to direct calls to a relevant extension based on digit collection (IVR), skill sets, time of day etc. A vector can also be used to create a meet-me conference.	Phone System does not support call center functionalities, however there are 3 rd party solutions for that.
30	✗	VDN	98	A VDN is used to give an extension to a vector. A VDN can point only to one Vector but multiple VDNs can point to the same vector.	Phone System does not support call center functionalities, however there are 3 rd party solutions for that.
31	✗	Analog Phone	88	Analog telephone device that is connected to a remote gateway (e.g. connector to Fax, Intercom, Alarm etc.).	Phone System does not support analog phones.

5 Detailed Devices Mapping

The following table gives a breakdown of all 655 devices according to types:

Device Type	Description
IP Phone	Desk IP Phone
Wireless IP Phone	Wireless Desk IP Phone
Video Phone	Video Enabled Desk IP Phone
Audio Conference Phone	Audio Conference Desk Phone
Software Client	PC Software Client
Analog Adapter	Analog Telephone Adapter (e.g. connector to Fax, Intercom, Alarm etc.)
Analog Phone	Analog phone connected to remote gateway
CTI Port	CTI Port

Device Type	Model	End of Life	Count
IP Phone	Avaya 4612	8/1/2016	21
	Avaya 4620	8/1/2016	2
	Avaya 4624	8/1/2016	23
	Avaya 9620	11/9/2012	149
	Avaya 9630SIP	9/1/2012	1
	Avaya 9650SIP	12/1/2018	1
	Total		

Device Type	Model	End of Life	Count
Soft Phone	Avaya H.323	N/A	8
Total			8

Device Type	Model	End of Life	Count
Avaya Virtual	Avaya Virtual	N/A	9
Total			9

Device Type	Model	End of Life	Count
Analog Phone	Analog Phone	N/A	88
Total			88

Device Type	Model	End of Life	Count
Proprietary PBX Phone	Avaya 2410	7/27/2019	7
	Avaya 2420	7/27/2019	5
	Avaya 6402D	7/2/2010	12
	Avaya 6408D+	7/2/2010	10
	Avaya 6424D+	9/10/2010	1
	Avaya 8410D	4/5/2007	1
Total			36

Device Type	Model	End of Life	Count
Attendant Console	Avaya 302	8/31/2018	1
Total			1

6 Glossary of Terms

The terms and definitions are related to their usage in the PBX Assessment report.

Term	Definition
Analog Adapter	An Analog Telephone Adapter device (e.g. connector to Fax, Intercom, Alarm etc.).
Analog Phone	An Analog Telephone device that is connected to a remote gateway (e.g. connector to Fax, Intercom, Alarm etc.).
Audio Conference Phone	An Audio Conference desk phone device.
Common Area Phone	A device that is not associated with a user. Also referred to as Stand Alone Device.
Device Profile	A device profile comprises the set of attributes (services and/or features), e.g. line number, forwarding, that will appear on the phone when the associated user logs in.
Devices	Hardware or software telephony clients configured in the legacy PBX. Devices can be associated to one or multiple lines.
Feature Parity Requires Manual Review	Indicates an issue that needs to be manually reviewed prior to migration to Phone System™. Users will not be able to migrate to Phone System™ unless issues of this type are resolved.
Full Feature Parity	Indicates that the user can migrate to Phone System™ and get the same functionality.
Group	A typical group can correlate to a site, a physical location or other criteria defined.
Group – Other	Any other lines that do not belong to the other of the groups.
Group – Pattern	Group criteria to filter the assessment on all the lines that match a certain pattern.
Group - Range	Group criteria to filter the assessment on all the lines within a given range.
Hunt Group	A Hunt Group is the method of distributing phone calls from a single telephone number to a group of several phone lines.
IP Phone	A desktop phone also referred to as handset device.
Legacy PBX	The telephony system which is being assessed and reported in this document.
Line	A telephone number configured on the legacy PBX.
Partial Feature Parity	Indicates that the feature is currently not fully supported by Phone System™. Users configured with this feature can be migrated but might lose some functionality. In some cases, 3rd party solutions can close the gap.
Software Client	An Android / iOS / PC Software client device.
Stand Alone Device	A device that is not associated with a user. Also referred to as Common Area Phone in Phone System™.
TelePresence	An Advanced Video Conferencing device.
Users	End users that are configured on the legacy PBX. Users can be associated to multiple devices and device profiles.
Video Phone	A handset device with video capabilities.
Wireless IP Phone	A wireless handset device.