Considerations when adding Spectralink 84-Series and PIVOT handsets to Avaya and Spectralink-branded 80-Series handsets

This document covers high-level considerations when migrating current Avaya handset models 3641/3645/6120/6140 and Spectralink handset models 8020/8030 to add new Spectralink 84-Series handsets and/or PIVOT handsets to your existing Wi-Fi network. For the purpose of this document we will refer to any existing handsets as "current handsets" and future additional handsets as "new handsets". The current handsets can be kept in use and additional new handsets can be added as necessary. Following either of the migration paths below will allow you to transition over time from your current handsets to additional new handsets. The transition to additional new handsets can be done at your convenience and at a schedule that makes sense to you.

There are a number of considerations that will need to be addressed when adding new handsets to a Wi-Fi network with current handsets. The current handsets and the additional new handsets have a couple of significant differences that need to be considered. There are also implications to the existing call control/PBX infrastructure and the WLAN infrastructure. These differences and considerations will be covered in the sections below. Before the handset and infrastructure differences are reviewed, we will show a couple of different networks as they could look today as a starting point.

Current Network

Diagram 1 shows a possible current network that is based on a legacy analog or digital PBX and handsets that use the Spectralink Radio Protocol (SRP) communication protocol and Spectralink Voice Priority (SVP) Quality of Service (QoS).

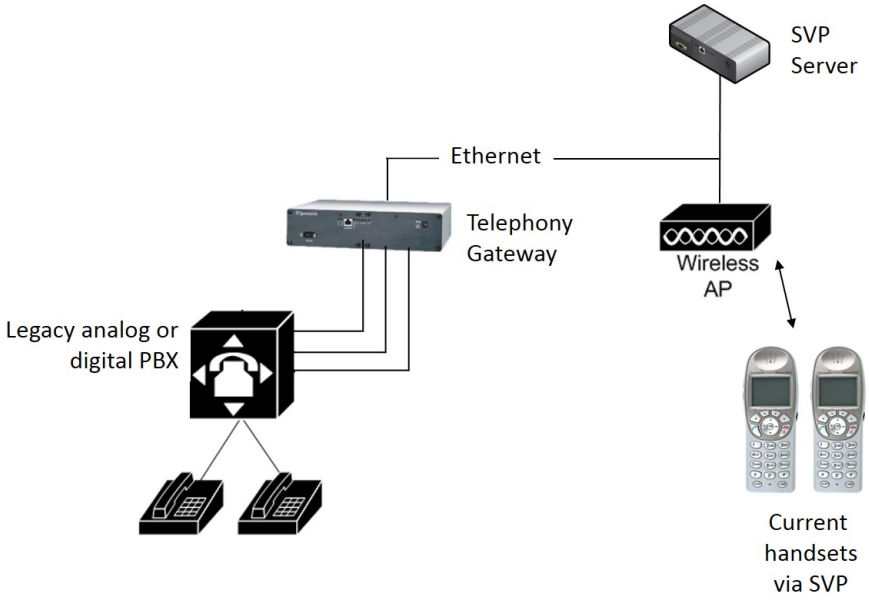

DIAGRAM 1

Diagram 2 shows an alternative current network that consists of an IP PBX and handsets that use SVP QoS.

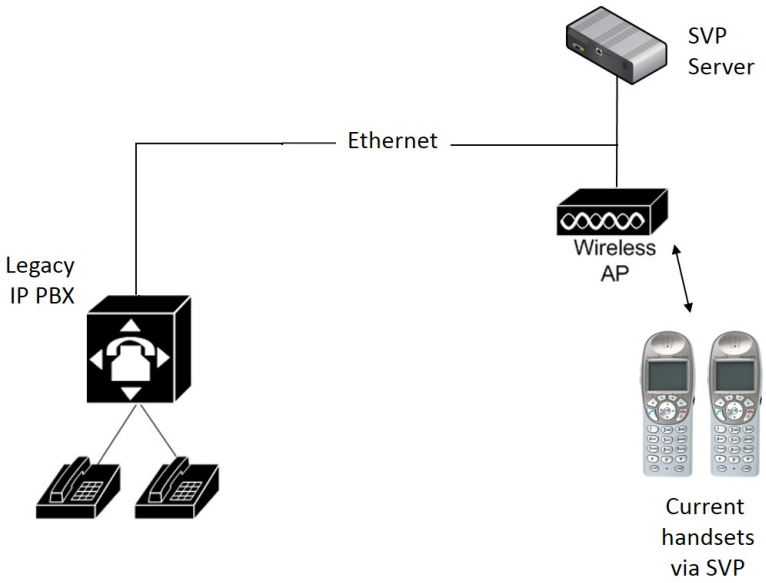

DIAGRAM 2

Handset Communication Protocol

The current handsets can use the SRP protocol or they may use a propriety Avaya protocol like CCMS or Unistim. The handset protocol is supported in the telephony gateway or in the legacy PBX. If the current handsets are relatively new they may already use SIP. The additional new handsets only use SIP. Depending on which migration path you follow, the current handsets can be used as they are today or they may need to be updated with newer software. Information about upgrading the handsets is shown below in the section that covers the possible migration paths.

Quality of Service (QoS)

The current handsets can use SVP QoS or they may use WMM QoS if they are newer. The additional new handsets only use WMM. Depending on which migration path you follow the current handsets can be used as they are today or they can be upgraded with new software and switched over to WMM. Information about upgrading the handsets is shown below in the section that covers the possible migration paths. If the current handsets already use WMM then the QoS does not need to be changed.

WLAN Infrastructure

The wireless LAN (WLAN) infrastructure is a critical element to the successful migration from current handsets to additional new handsets. When following any of the migration paths below it is necessary to ensure that Voice Interoperability for Enterprise Wireless (VIEW) certified access points (APs) are used. VIEW-certified APs are needed to ensure optimal voice quality over a Wi-Fi network. If the chosen migration path requires a separate SSID (more detail on this below) then the AP must be capable of supporting different QoS settings on each radio band. The list of VIEW-certified APs and controllers can be found here. If VIEW-certified APs are not used, then the WLAN may not be fully supported. Each certified AP has its own interop guide that shows how to set up the AP to deliver optimal voice quality.

Call Control Platform and Infrastructure

The call control platform and infrastructure that is currently in place will have an impact on what is needed in order to support the migration paths. The current call control platform/PBX can be used in support of the migration paths shown below. The other infrastructure that support SVP (if in use) or SRP (if in use) can either be kept in the network or they can be removed depending on which migration path is followed. There will be more details on specifically what this means for each of the migration paths in the next part of this document.

Migration Paths

There are two migration paths that can be followed. Migration path 1 allows the continued use of the current handsets as they are setup today and the additional new handsets are added via a parallel network that uses a separate SSID. Migration path 2 removes some of the existing infrastructure and upgrades the current handsets so they will operate on the same network as the additional new handsets. Both migration paths require the addition of a SIP gateway. The SIP gateway essentially translates the handsets SIP protocol into another protocol that the legacy PBX understands.

MIGRATION PATH 1

This migration path is shown in Diagram 3 and it keeps the current handsets as they are today and adds new handsets via a parallel network on a separate SSID. This path entails creating a separate SSID for the additional new handsets via a different radio band and VLAN (a, b/g or n) than the current handsets use. This migration path assumes that the APs can support different QoS settings on each radio. This path requires the addition of a SIP gateway and the SIP gateway allows the new handsets (which only use SIP) to communicate with the legacy PBX which supports a different protocol. The SIP gateway* can either be a gateway or it could be a SIP PBX like Avaya IP Office.

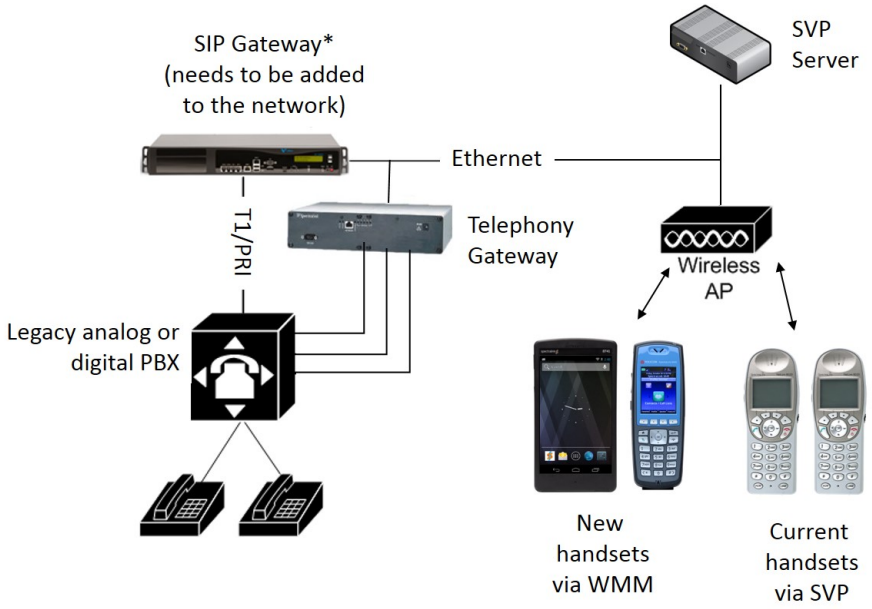

DIAGRAM 3

MIGRATION PATH 2

This migration path is shown in Diagram 4 and it upgrades the current handsets so they can operate on the same network as the additional new handsets. This migration path also requires the addition of a SIP gateway. The SIP gateway allows the additional new handsets (which only use SIP) to communicate with the legacy PBX which supports a different protocol. The SIP gateway* can either be a gateway or it could be a SIP PBX like Avaya IP Office. To upgrade the current handsets (Spectralink and Avaya branded) to WMM you will have to download the new version of the Handset Administration Tool (HAT). Using HAT and the programming cradle you can set the QoS to WMM on the current handsets. If you have current Spectralink branded handsets they will also need to be updated to SIP and this can be done via HAT and the programming cradle or it can be done via the handset keypad. If the current handsets are Avaya branded there is no need to change the handset protocol if the SIP gateway that is used is an Avaya IP Office or Session Manager. In this migration path the SVP server and the telephony gateway are both removed as they are no longer needed.

There can be challenges in transferring all of the existing call features over to a handset when a SIP gateway is used. You will have to re-configure the legacy PBX to make it to work properly with the SIP gateway. A resource with knowledge of the legacy PBX will be needed to make any necessary changes to the Legacy PBX. The SIP gateway will also need to be correctly provisioned in conjunction with the legacy PBX reconfiguration to maintain as many features as possible.

Many of the features should be maintained, but it is unlikely that every feature will be brought forward. The number of features that can be brought forward relies very heavily on which call control platform is being used, how it is configured and what features were being used. Every PBX installation is a little different so it is not possible to issue a universal statement that definitively states which features will or will not be maintained. Successfully making configuration changes on a legacy PBX can be challenging to implement, but this must be done in order to bring forward as many features as possible. This level of consultation and service should be within the skillset of the SIP gateway vendor and should be part of the end-user buying criteria. Due to the unique nature of this domain experience, Spectralink will not be providing these services.

A slight alternative to this migration path is to replace the legacy PBX with one that directly supports SIP. If a new SIP PBX is installed then it would replace the legacy PBX and the SIP gateway in diagram 4. If you follow this path you will need to make sure you choose a call control platform/PBX that is certified for use with the 84-Series and PIVOT handsets. The list of certified call control options for the 84-Series handsets is here and the list of certified call control options for PIVOT (87-Series) handsets is here. Each certified call control platform has an interop guide that shows how to set up the platform and what call control features are supported with the Spectralink handsets.

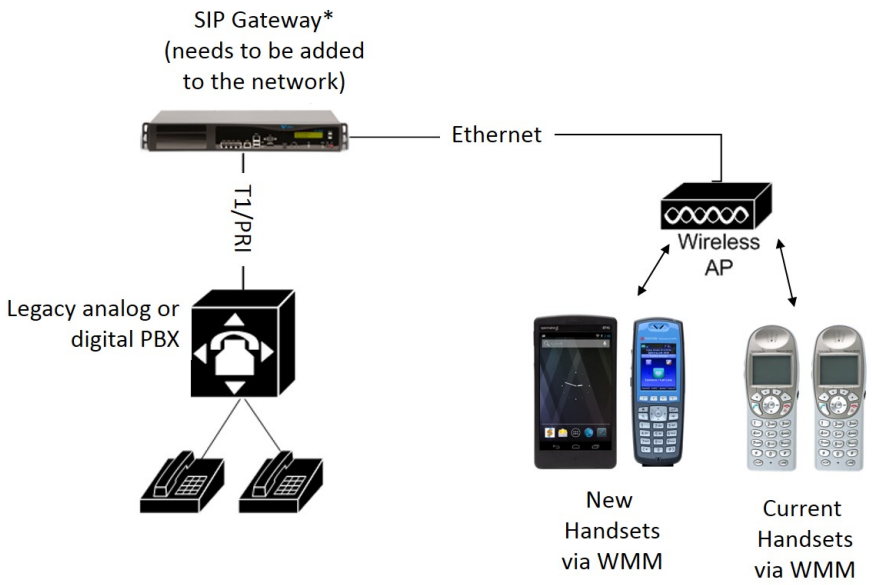

DIAGRAM 4

Conclusion

There are multiple migration paths that can be followed when adding Spectralink 84-Series and/or PIVOT handsets to current Avaya or Spectralink branded 80-Series handsets. When following these migration paths the following items need to be considered:

- Handset communication protocol
- Wireless quality of service
- WLAN infrastructure
- Call control platform and infrastructure