

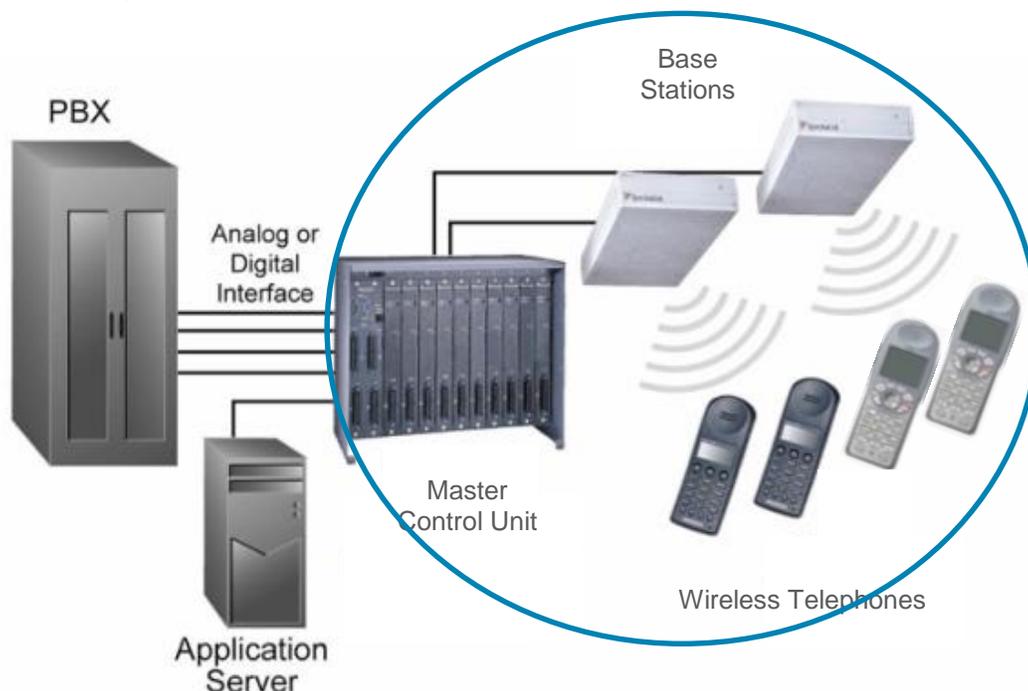
Migrating from a Spectralink 6000 (900 MHz) Solution to a Spectralink 8000 (Wi-Fi) Solution

Overview:

This document covers the technical aspects that need to be considered when migrating from a 900 MHz voice platform to a Wi-Fi network that supports both voice and data. A Wi-Fi network uses an entirely different radio technology so the transition will involve replacing the majority of the existing equipment that is currently in use in the 900 MHz voice system today. In the diagram below the 900 MHz items that need to be replaced are circled.

- Radios – 900 MHz base stations need to be replaced with Wi-Fi access points (APs)
- Handsets – 900 MHz handsets need to be replaced with Wi-Fi handsets
- PBX integration – there are two options available, as described below
 - Gateway – gateway can be added between the existing PBX and the WLAN
 - PBX replacement – existing PBX can be replaced with a new call control platform

Typical 900 MHz system:



Radio infrastructure:

Most 900 MHz customers will migrate voice to an existing Wi-Fi network, but not all installed Wi-Fi networks are designed to carry both voice and data. Voice over Wi-Fi requires a more robust wireless LAN and optimal performance of Voice over Wi-Fi requires careful upfront planning of the wireless network. Spectralink's Professional Services organization can perform a site survey to assess the voice readiness of your current Wi-Fi network and our WLAN Design Services provide guidance on specific changes and optimization that may be needed to support voice. Spectralink can also provide training and installation services to support your migration to voice over Wi-Fi.

Certified access points (APs) are needed to ensure optimal voice quality over a Wi-Fi network. Wi-Fi networks are commonly designed to support data in which case delays and missed packets are quite acceptable. When voice is placed on a Wi-Fi network, these delays and missed packets can cause the voice quality to drop to unacceptable levels. For this reason, Spectralink has put together an AP certification program called VIEW (Voice Interoperability over Enterprise Wireless) and this program ensures that APs and controllers used in conjunction with our Wi-Fi handsets will deliver excellent voice quality. The list of certified APs and controllers can be found [here](#). When upgrading to voice over Wi-Fi it is imperative that VIEW-certified APs, controllers and software are used in the Wi-Fi network. If VIEW-certified APs are not used, then the WLAN may not be fully supported. Each certified AP has its own interoperability guide that shows how to set up the AP to deliver optimal voice quality.

It is possible that some of the existing cabling that is used for the 900 MHz base stations can be used with the Wi-Fi access points. If the existing cabling is Cat-5 and if it is physically located in the correct spots, some or all of it might be reusable.

Handsets:

The 900 MHz handsets will need to be replaced with [84-Series handsets](#) and/or [PIVOT \(87-Series\) handsets](#). Spectralink Wi-Fi handsets provide a much wider array of features compared to the 900 MHz handsets. The Wi-Fi handsets support features such as messaging, push-to-talk, man down notifications, and web applications. The Wi-Fi handsets also offer much larger screens, color, longer battery life, and the PIVOT handset has an instantly familiar touch screen.

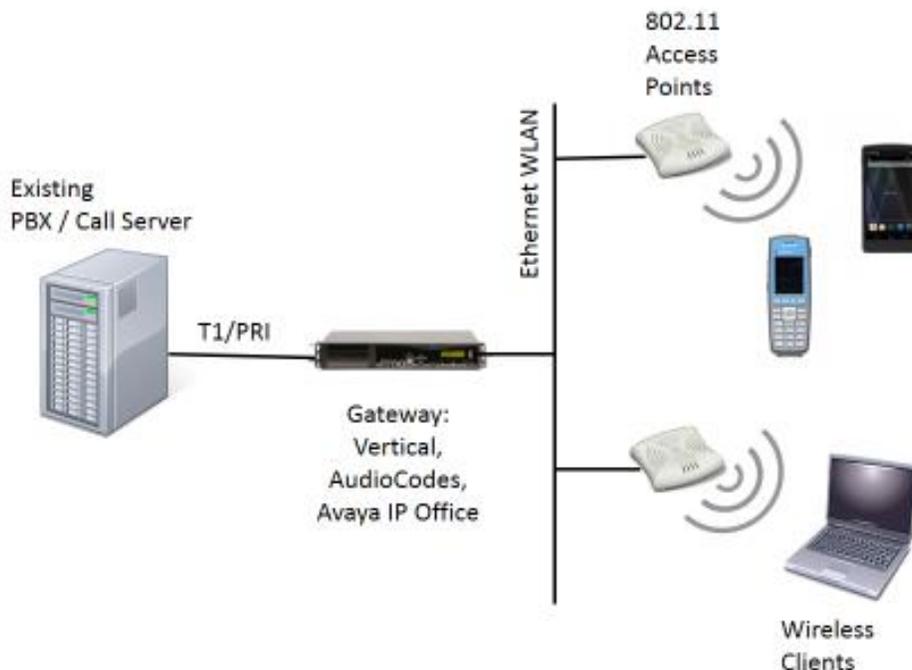
Keep in mind that this migration will also necessitate that all of the accessories for the 900 MHz handsets (batteries, chargers, cases) will have to be changed as the Wi-Fi handsets do not use the same accessories.

PBX Integration:

There are two options to choose from when upgrading from a 900 MHz network – adding a gateway to an existing PBX or connecting to a new PBX or UC System. The key difference between the two options centers on if the current call control platform will be retained and used as part of the voice over Wi-Fi solution. The PBX/call servers that are certified to interoperate with the 900 MHz system are typically old (some are beyond vendor support life) and these older call servers are not certified for use with Spectralink's 8000 Wi-Fi handsets (84-Series) and PIVOT (87-Series) which operate on SIP.

1. The first option will allow you to keep your current call server/PBX. This is accomplished by placing a “gateway” between the existing call control platform and the Ethernet LAN network (see diagram below). The gateway essentially replaces the MCU in the 900 MHz system.

Wi-Fi network that utilizes an existing PBX and a new gateway:



There are a number of gateway manufacturers including Vertical (Wave IP 500/2500) and AudioCodes (Mediant 1000) that can support this transition. If you have an Avaya PBX, you could also use Avaya IP Office as a

gateway which may be the preferred approach if going through an Avaya VAR. The connection between the existing call control platform and the gateway will be done via a T1/PRI connection.

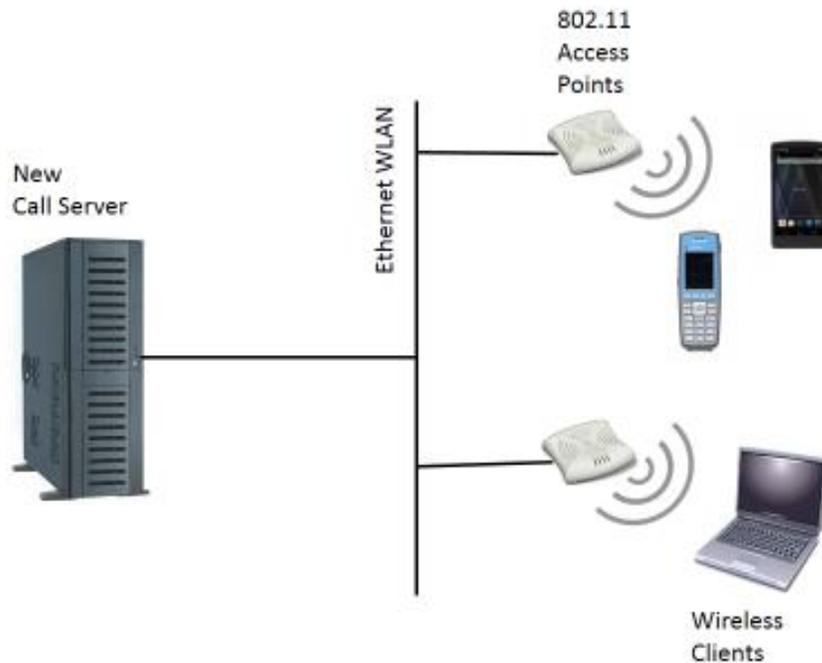
There can be challenges in transferring all of the existing call features over to a new Wi-Fi handset. If you keep your old PBX and add a gateway then you will have to re-configure the old PBX to make it to work properly with the gateway. A resource with knowledge of the old PBX will be needed to make any necessary changes to the old PBX. The gateway will also need to be correctly provisioned in conjunction with the PBX reconfiguration to maintain as many features as possible. The configuration of the PBX and gateway together will drive how many features are maintained. This connection point between the old and the new network is where customer satisfaction lies.

Many of the features should be retained, but it is unlikely that every feature will be brought forward. The number of features that can be retained 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 an old PBX can be challenging to implement, but this must be done in order to retain as many features as possible so they can be utilized by the new Wi-Fi handsets. This level of consultation and service should be within the skillset of the 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.

Here is a list of features that can typically be retained with the gateway approach after the gateway is configured and the old PBX is re-configured to work with the gateway:

- Hold / hold resume
 - Blind / supervised transfer
 - Redial
 - Conference
 - Park / park pick up
 - Speed dial
 - 3,4,5 digit dialing
 - PSTN caller ID
 - Voicemail with message waiting indicator
2. The second option entails replacing the current call server/PBX with one that is certified for use with either the 84-Series or the PIVOT (87-Series) Wi-Fi handsets. See diagram below. Upgrading the PBX can be a considerable expense, but if you are already considering making this investment, then switching wireless voice over to your Wi-Fi network can take advantage of this upgrade.

Wi-Fi network that utilizes a new call server:



Spectralink's Wi-Fi handsets are tested and certified with most of the industry leading PBXs and call servers. 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 interoperability guide that shows how to set up the platform and what call control features are supported by the Spectralink handsets. Spectralink will continue to certify against the latest software releases for these call control platforms when they become available. New call control platforms may be added and certified in the future as dictated by the business environment.

There is an alternative approach that can be taken if a new call server is installed. The existing 900 MHz system can stay in place and still be used for as long as needed. A Wi-Fi network utilizing the new call server can be installed in parallel with the existing 900 MHz network (diagram below). With this approach the existing 900 MHz handsets can still be utilized, but they can be slowly replaced with Wi-Fi handsets as users are migrated over to the Wi-Fi network. This approach allows a transition over a number of years instead of replacing the entire 900 MHz network all at once.

Wi-Fi network that utilizes a new call server and retains legacy PBX:

