Configuration Note

Avaya AP-6, AP-7, AP-8 Access Points

This document details the specifications for configuring the Avaya AP-6, AP-7 and AP-8 access points with the Avaya Wireless Telephone.

Summary

Manufacturer	Avaya
Approved product(s)	AP-6, AP-7, AP-8
RF technology	Spread Spectrum, Direct Sequence (DS), 2.4 GHz
AP software version †	Firmware version 2.4.11 or later
Telephone calls per access point (maximum) *	12
Access point configuration parameters	See *Access Point Configuration* below
Indoor range (typical)	See vendor specifications for AP
Required network topology	Switched Ethernet
Network constraints	Dedicated segment for wireless, single subnet
WEP capability*	Yes
Auto Learn function*	Yes

† If the AVPP is not being used in the system, the maximum calls per AP is seven. Without the SVP Server the Wireless Telephones will not operate at 5.5 Mb/s or 11 Mb/s.

** Telephone calls per AP must be configured in the system per documentation provided by Avaya. WEP and Automatic Learn are programmed into each Wireless Telephone in addition to being configured in the AP.*

The Avaya Wireless Telephone

The Avaya Wireless Telephone uses voice over IP technology on IEEE 802.11 compliant wireless local area networks (WLANs). Access points (APs) utilize radio frequencies to transmit signals to and from the Avaya Wireless Telephones.

Access Point Capacity and Positioning

Each site is unique in its AP requirements. Please take the following points into account when determining how many APs are needed and where they should be placed in the facility:

- Wireless Telephone range: There must be wireless LAN coverage wherever the Avaya Wireless Telephones will be used. The typical range for a Avaya Wireless Telephone is comparable to that of a laptop computer utilizing a wireless LAN PC card. However, Avaya Wireless Telephones are likely to be used in areas where data devices are not typically used, such as stairwells and outdoor areas. Avaya Wireless Telephones have a Site Survey mode that displays dBm levels to determine adequate WLAN coverage. Refer to the *Wireless Telephone Setup and Maintenance* document for details about this feature.

- Number of Wireless Telephones per access point: Estimate the number of Avaya Wireless Telephones and their anticipated call volume per AP area to ensure that the maximum number of calls per AP will not be exceeded. In this estimate, consider the data rates at which the handsets will operate. Higher data rates can only be sustained while well within the range of the AP. If the Avaya Wireless Telephones will be operating near the limits of the RF coverage from the AP, they will automatically drop to 1 Mb/s operation. Avaya Wireless Telephones require approximately 15% of the available bandwidth per call for 1 Mb/s operation, approximately 10% of the available bandwidth per call for 2 Mb/s operation, approximately 7% of the available bandwidth for 5.5 Mb/s operation, and 5% of available bandwidth for 11Mb/s operation.

  Note: if a AVPP is not being used in the system, the Avaya Wireless Telephones will not operate at the 5.5 Mb/s and 11 Mb/s data rates.

  Note: the maximum number of telephone calls per AP quoted in the Summary table above is based on 11 Mb/s operation, and will be reduced if some or all Avaya Wireless Telephones are operating at 1, 2, or 5.5 Mb/s.

- LAN bandwidth: Estimate anticipated peak call volume to ensure that the LAN has enough bandwidth available to handle the network traffic generated by all of the wireless devices. Network traffic can be monitored/analyzed using a network sniffer or a simple network management protocol (SNMP) workstation.

- Number of other wireless devices per access point: The Avaya Wireless Telephones share bandwidth with other wireless devices. To ensure adequate RF bandwidth availability, consider the number of wireless data devices in use per AP.

The AP must support SpectraLink Voice Priority (SVP). Contact your AP vendor if you need to upgrade the AP software.

VLAN Support

The Avaya AP-6, AP-7 and AP-8 access points have the ability to manage different VLANs, each with a unique ESSID. Many times customers will choose to place voice devices on a separate VLAN from data devices or they may choose to segment their network based on security policies.

When VLANs are enabled, the AP uses 802.1Q tags on traffic entering the wired network. These tags must be removed by a VLAN-capable switch before the packets reach the Avaya Telephony Gateway or AVPP. On Cisco switches, the switch port to which the Avaya Telephony Gateway or AVPP is connected must be configured as a non-trunked, or access port dedicated to the voice VLAN. If the port is set to trunked, the Avaya equipment will not recognize the packet.

If you are using a switch that is not capable of removing these 802.1Q tags, the Avaya Wireless Telephones must reside on the Native (or management) VLAN.

Access Point Configuration (Up to Version 2.4.11)

If you encounter difficulties or have questions regarding the configuration process, please contact our Avaya Technical Support at 1 800 242-2121 (USA only) or your local authorized Avaya dealer.

1. Connect to the AP via Netscape or Internet Explorer by navigating to the URL http://<IP_Addr> (where <IP_Addr> is the IP address of the AP). Note: these configuration steps can also be accomplished using the SNMP-based Avaya ScanTool program.
2. From the main page, click on the **Configure** link.
3. To configure WEP settings, obtain the key values from the local network administrator and use the Avaya AP-6, AP-7 or AP-8 User Guide for guidance in programming the encryption settings. The WEP configuration screen is reached from the main menu by clicking on **Configure**, followed by **Security**, followed by **Encryption & Auth**.

   Note that the Wireless Telephones must each be configured manually with the identical WEP settings.
4. Click **Configure**, then click the **Interfaces** link and choose the appropriate radio (Slot A or Slot B) to configure.
5. From the **Interfaces** tab confirm that the **RTS/CTS Medium Reservation Threshold** is greater than 600 or disabled.
6. In the **Transmit Rate** field, verify that **2Mb/s** (default) is selected. If there is a AVPP in your network, this setting can be set to **11Mb/s**
7. From the **Filtering** tab, select the **Advanced** tab. Enable the **Proxy ARP** function and disable **IP/ARP Filtering.**
8. SVP (SpectraLink Voice Priority) is disabled by default in the ORiNOCO AP600/AP4000 access point and must be enabled through the Command Line Interface (CLI). The CLI is available through both the Serial Port interface and over the Ethernet interface using a Telnet session.

   Once in the CLI, the following commands are used to enable SVP:

   To check to see if SVP is enabled:
   Type **show spectralink**, then press enter, it will display enabled or disabled.

   To enable SVP:
   Type **set speclinkstatus enable**, then press enter.

   If you are not using an AVPP and intend to use 802.11b/g mode, you must also enter the command:
   Type **set speclinklegacysupport**
9. Restart the AP.

The AP is now ready for use with the Avaya Wireless Telephones.

Access Point Configuration (Version 2.52 or later)

1. Connect to the AP via Netscape or Internet Explorer by navigating to the URL http://<IP_Addr> (where <IP_Addr> is the IP address of the AP).
2. From the main page, click on the **Configure** link.
3. To configure WEP settings, obtain the key values from the local network administrator and use the Avaya AP-6, AP-7 or AP-8 User Guide for guidance in programming the encryption settings. The WEP configuration screen is reached from the main menu by clicking on **Configure**, followed by **SSID/VLAN/Security**, followed by **Security Profile**

   Note that the Wireless Telephones must each be configured manually with the identical WEP settings.
4. Click **Configure**, then click the **Interfaces** link and choose the appropriate radio (Slot A or Slot B) to configure.
5. From the **Interfaces** tab confirm that the **RTS/CTS Medium Reservation Threshold** is greater than 600 or disabled.
6. In the **Transmit Rate** field, verify that **2Mb/s** (default) is selected. If there is an AVPP in your network, this setting can be set to **11Mb/s**
7. From the **Filtering** tab, select the **Advanced** tab. Enable the **Proxy ARP** function and disable **IP/ARP Filtering.**
8. SVP (SpectraLink Voice Prioritization) is disabled by default in the Avaya AP-6, AP-7 and AP-8 access points. To enable SVP, select the **QoS** tab. Check the box beside **Enable Quality of Service** to enable SVP.
9. **If you are not using an AVPP and intend to use 802.11b/g mode,** it is necessary to use the Command Line Interface (CLI). The CLI is available through both the Serial Port interface and over the Ethernet interface using a Telnet session.
   Once in the CLI, enter
   set speclinklegacysupport enable

   To ensure that legacy support is enabled, enter
   show speclinklegacysupport

   A line should come back indicating
   speclinklegacysupport
   enable
10. Restart the AP.

The AP is now ready for use with the Avaya Wireless Telephones.