

## Voice over WLAN Solutions Using Cisco Unified Wireless Network Software Releases 4.1 and 4.2

### Background



Infonetics' long-term forecast for Wi-Fi phone units is US\$32.9 million by CY2009, a 5-year CAGR of 203 percent. And Wi-Fi phone revenue is projected to reach \$3.7 billion by CY2009, a 5-year CAGR of 134 percent. This indicates healthy growth for voice over wireless LAN (VoWLAN).

The fundamental driver for the growth of Wi-Fi phones is the simultaneous proliferation of

- Pervasive business WLANs
- Public access to WLAN infrastructures (also called hotspots)
- Voice over IP (VoIP) systems
- Maturity of Wi-Fi phones and availability of 802.11a/b/g dual-band phones

This growth enables companies to take advantage of always-on connectivity for mobile devices, improving productivity and reducing operational expenditures (OpEx).

### Solution Overview

When considering voice over Wi-Fi, customers should seek a solution that supports:

- **An enhanced end-user experience:** This directly increases the use of Wi-Fi phones, allowing companies to reduce cell phone bills and positively impact employee responsiveness.
- **Integration with the existing VoIP infrastructure:** This facilitates rapid adoption of Wi-Fi phones, as users only need minimum training and can take advantage of the same features wirelessly as is available on fixed phones.
- **Simplified management:** This facilitates the deployment of new devices, eases troubleshooting, and provides network assessment tools to evaluate readiness of the network deployment for VoWLAN.

### Feature Description

The following new features are available with Cisco Unified Wireless Network Software Releases 4.2 and 4.1.

### Enhanced End-User Experience

Cisco Unified Wireless Network Releases 4.1 and 4.2 support the latest IEEE 802.11e standard, Wi-Fi Multimedia (WMM), to prioritize delay-sensitive traffic such as voice and video and provide uninterrupted service.

Cisco Unified Wireless Network Releases 4.1 and 4.2 offer fast secure roaming, which minimizes the degradation that can occur as a result of reconnecting devices while roaming from one access point to another at the subnet level and across different subnets. Avoiding latency and jitter is achieved by locating the authentication decision closer to the device at the access point level instead of a distant central location in the network.

Cisco Unified Wireless Network Releases 4.1 and 4.2 include Call Admission Control to factor the dynamic changes of the radio environment (such as co-channel interference) to only accept clients whose quality of service (QoS) demand can be satisfied.

### Integration with Existing VoIP Infrastructure

Cisco Unified Wireless Network Releases 4.1 and 4.2 support both the prestandard proprietary and the newer WMM QoS, allowing mixed environments that enable customers to smoothly transition to a full standards-based system (Figure 1).

**Figure 1.** Mixed Environment

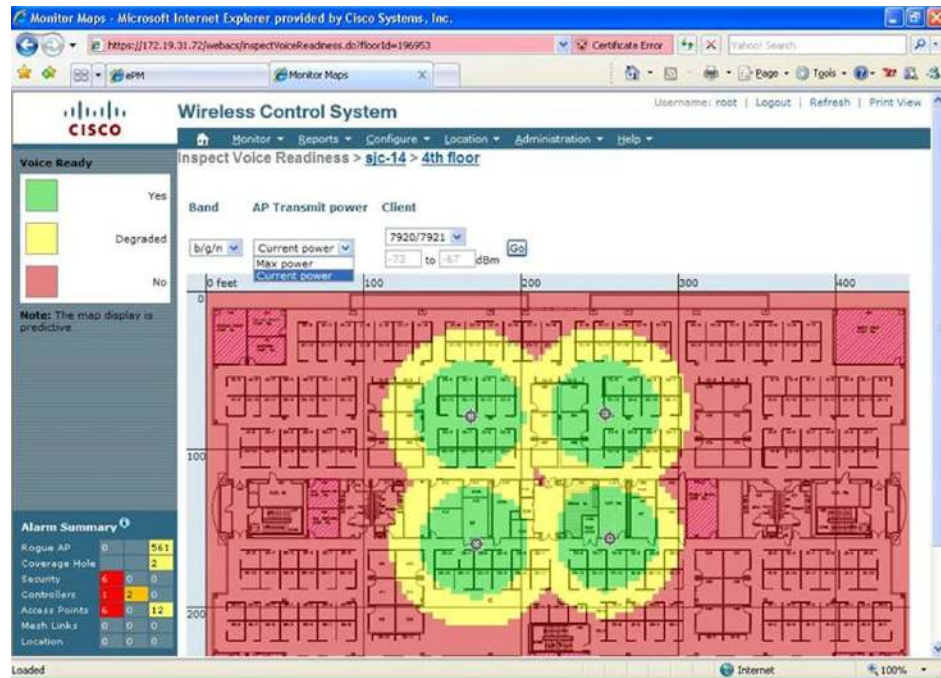


### Simplified Management

A VoWLAN solution requires stringent radio signal strength and coverage. Cisco Unified Wireless Network Releases 4.1 and 4.2 support a Radio Resource Management (RRM) coverage target that enables IT managers to set the radio signal level across the entire wireless network in one click. Traffic stream metrics such as packet latency, packet jitter, packet loss, and roaming time can be regularly collected to facilitate troubleshooting of voice quality problems and help maintain good network QoS.

Finally the Cisco Unified Wireless Network's Voice Readiness Tool provides through the Wireless Control System a visual indication of the network's radio coverage and an assessment of the readiness of the deployment for VoWLAN (Figure 2).

**Figure 2.** Cisco Unified Wireless Network Voice Readiness Tool



## Benefits

Cisco Unified Wireless Network Software Releases 4.1 and 4.2 provide easy and intuitive configuration, troubleshooting, and optimization tools, enabling IT managers to deploy voice over WLAN in minimum time. In addition, the level of control in tuning the network QoS has significantly increased, for greater availability and scalability.

Cisco Unified Wireless Network Software Releases 4.1 and 4.2 enable a gradual and smooth migration from proprietary QoS to WMM, since both types of devices can be simultaneously supported on the same network.

With the investment protection and business continuity these features provide, Cisco Unified Wireless Network Software Releases 4.1 and 4.2 accelerate the return on investment of the VoWLAN solution.

## Summary

The Cisco Unified Wireless Network Software Releases 4.1 and 4.2 facilitate the rapid deployment of VoWLAN in a reliable and scalable way. The software includes features that provide an enhanced end-user experience for VoWLAN and that help IT administrators deploy, monitor, and troubleshoot VoWLAN.

## Solution Components:

- Cisco Unified Wireless Network
  - Cisco Aironet Access Points
  - Cisco Wireless LAN controllers
  - Wireless Control System
- A VoIP system such as Cisco Unified Communications Manager
- Wi-Fi phones such as Cisco Wireless IP Phone 7921



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