Migrate to the Cisco Unified Wireless Network

At-A-Glance

Why Migrate to the Cisco Unified Wireless Network?

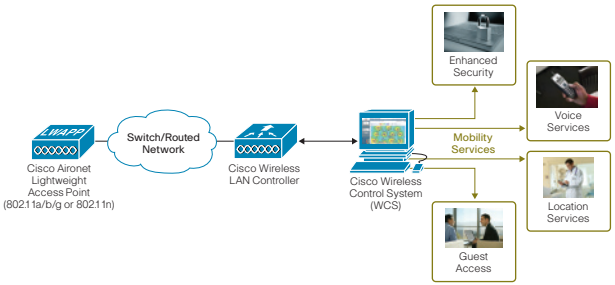
The Cisco® Unified Wireless Network delivers cost-effective, secure wireless access for business-critical mobility anytime, anywhere. This industry-leading solution uses Cisco Aironet® lightweight access points in conjunction with a Cisco Wireless LAN Controller and the Cisco Wireless Control System (WCS) to provide secure, high-performance wireless LANs (WLANs) with a low total cost of ownership.

Discover why now is the right time to migrate to the Cisco Unified Wireless Network to experience the same level of security, scalability, reliability, ease of deployment, and management for your wireless LAN that you expect from your wired LAN.

Who Should Migrate to the Cisco Unified Wireless Network?

Organizations that are currently using legacy wireless networks, Cisco Aironet standalone (autonomous) access points, or a CiscoWorks Wireless LAN Solution Engine (WLSE) are encouraged to migrate to the Cisco Unified Wireless Network (Figure 1).

Figure 1. Cisco Unified Wireless Network Architecture

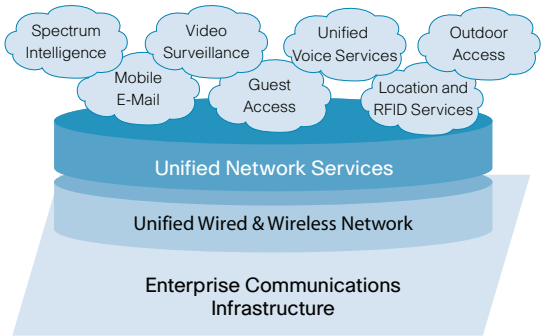


What Are the Benefits of Migrating to the Cisco Unified Wireless Network?

Organizations that migrate to the Cisco Unified Wireless Network will experience the following benefits:

- Lowered total cost of ownership from centralized management and control
- Decreased operations and staff training costs because the network management interface is simplified and easy to use
- Improved network security from real-time detection, location, and containment of unauthorized access points and client devices
- Robust coverage with 802.11a/b/g or greater performance with 5x the throughput and unprecedented reliability using 802.11n
- Extended network connectivity to hard-to-wire locations through enterprise wireless mesh for indoor and outdoor wireless deployments
- Improved network performance with spectrum intelligence that detects local and remote non-Wi-Fi interference
- Acceleration of business collaboration and productivity through mobility services that support innovative business applications

Figure 2. Unified Wired and Wireless Network



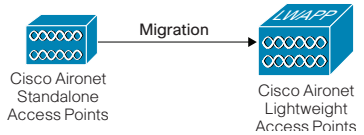
What Are the Steps to Migrate to the Cisco Unified Wireless Network?

Migrating to the Cisco Unified Wireless Network is easy. Just follow these five simple steps.

Step 1: Lightweight Access Points

Migrate your existing Cisco Aironet standalone access points to the unified architecture or add Cisco Aironet lightweight access points to your existing network (Figure 3)

Figure 3. Migrate to Cisco Aironet Lightweight Access Points



Customers have four options when migrating from Cisco Aironet standalone access points to Cisco Aironet lightweight access points.

Option 1: Use the free software upgrade tool to upgrade existing 802.11a/b/g standalone access points to operate as 802.11a/b/g lightweight access points. The free "Autonomous to Lightweight Mode Upgrade Tool" is available at http://www.cisco.com/go/software. A list of the Cisco Aironet access point models that can be migrated using this software upgrade is located in the Cisco Aironet Access Point Support for Lightweight Access Point Protocol Product Bulletin.

Option 2: Cisco Aironet access points that cannot be migrated using the free software upgrade can be traded out for new Cisco Aironet 802.11a/b/g lightweight access points as part of a normal or accelerated access point refresh cycle. A variety of single- and dual-band lightweight access points for indoor office environments, challenging RF environments, and the outdoors are available from Cisco at http://www.cisco.com/go/aironet.

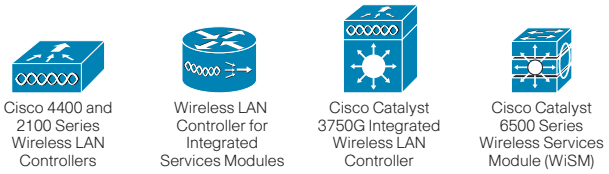
Option 3: Existing Cisco Aironet 802.11a/b/g standalone access points can be replaced with the Cisco Aironet 1250 Series access point to enjoy the enhanced reliability, throughput, and predictability of 802.11n. This access point offers combined data rates of up to 600 Mbps to meet the most rigorous bandwidth requirements.

Option 4: Software upgrade selected Cisco Aironet 802.11a/b/g standalone access points to operate as indoor enterprise wireless mesh access points. Enterprise wireless mesh provides connectivity to indoor areas that are difficult or hard-to-wire. This solution extends wireless connectivity to areas of an enterprise facility or structure where running Ethernet cable would be too difficult, aesthetically undesirable, or simply impossible.

Step 2: Cisco Wireless LAN Controllers

Add one or more Cisco wireless LAN controllers to your network (Figure 4).

Figure 4. Cisco Wireless LAN Controller Family



Cisco wireless LAN controllers deliver systemwide wireless LAN services such as security policies, intrusion prevention, radio frequency (RF) management, quality of service (QoS), and mobility. Cisco wireless LAN controllers work in conjunction with Cisco Aironet lightweight access points and Cisco WCS to deliver real-time mobility and network access to endpoint devices and users.

All Cisco wireless LAN controllers deliver the same features and benefits:

- For 802.11 a/b/g deployments, select the wireless LAN controllers for your network based on the number of access points that you will support and the controller format—standalone, integrated, or modular—that best fits your network design.
- For 802.11n deployments, discuss your network capacity requirements with your Cisco account manager to determine the best wireless LAN controller model(s) for your network.

Step 3: Cisco Wireless Control System

Transition your wireless LAN management system to the unified architecture by adding the Cisco Wireless Control System (WCS) (Figure 5).

Figure 5. Cisco Wireless Control System

Cisco WCS provides a powerful foundation that allows network managers to design, control, and monitor the wireless network from a centralized location. Cisco WCS includes a robust, easy to use GUI that supports centralized RF prediction, policy provisioning, troubleshooting, user tracking, security monitoring, and wireless LAN systems management. Cisco WCS makes wireless LAN deployment and operations simple and cost-effective.

Cisco WCS also supports real-time spectrum intelligence to detect, classify, and locate devices that are causing RF interference. Quick detection of interfering devices improves network performance, coverage and security.

Organizations that have deployed a CiscoWorks Wireless LAN Solution Engine (WLSE) can migrate their existing CiscoWorks WLSE to operate as a Cisco WCS through a software upgrade. Simply order the CiscoWorks WLSE to Cisco WCS licensing package from Cisco.com and then follow the instructions in the Cisco Wireless Control System (WCS) Licensing and Ordering Guide. (Figure 6).

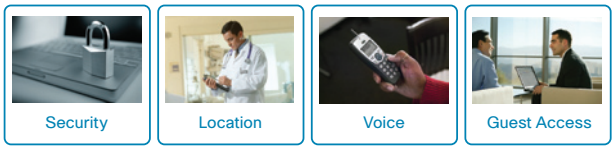
Figure 6. Migrate CiscoWorks WLSE to Cisco WCS

Large-scale deployments can also add the Cisco WCS Navigator for enhanced scalability, manageability, and visibility of large-scale implementations of the Cisco Unified Wireless Network.

Step 4: Mobility Services

Cisco Mobility Services are integrated into the Cisco Unified Wireless Network. Cisco Mobility Services enable innovative applications to streamline business operations and improve productivity. Companies have the flexibility to deploy Cisco Mobility Services in a time frame that meets their business requirements (Figure 7).

Figure 7. Cisco Mobility Services



Cisco Mobility Services build on the existing mobile data capabilities inherent in any pervasive wireless deployment. These comprehensive services deliver business value by reducing costs, increasing revenue generation, and helping businesses sustain a competitive advantage. Each mobility service solves different business needs.

Security: Cisco enhanced security services unify wired and wireless security to control and contain wireless threats, enforce security policy compliance, and safeguard information.

Location: Cisco location services are the industry's first to bring cost-effective, real-time visibility to the wireless network for asset tracking, network management, security, and context-based applications. Third party chokepoints can be added for areas requiring very high fidelity, deterministic location.

Voice: Cisco voice services extend the seamless mobility of the Cisco Unified Wireless Network to enable real-time mobile voice communications using single or dual-mode VoWi-Fi communication devices.

Guest: Cisco guest access makes companies more competitive in today's anywhere, anytime business climate by providing real-time wireless access to guests, vendors, and partners.

Learn more about Cisco Mobility Services by visiting http://www.cisco.com/go/mobilityservices or reading Wireless LAN Mobility Services At-A-Glance.

Step 5. Unified Wired and Wireless Security

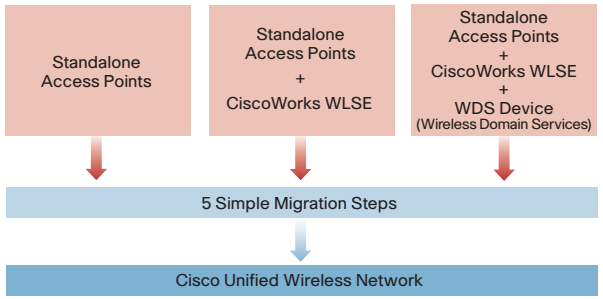
Organizations are encouraged to implement the Cisco Secure Wireless Solution in conjunction with their migration. This solution integrates the security capabilities of the Cisco Unified Wireless Network with relevant wired security solutions, including the Cisco Self-Defending Network, Cisco Network Admission Control (NAC), the Cisco ASA 5500 Series Firewall with Cisco Intrusion Protection System (IPS) software, and the Cisco Security Agent.

This comprehensive security framework supports confidential communications for information in transit, policy control for a variety of users and deployment scenarios, and delivers a robust threat defense capability to protect information and systems from wireless threats.

Which Cisco Aironet Deployment Scenarios Can Be Migrated to the Unified Architecture?

All Cisco Aironet deployment scenarios can be migrated to the Cisco Unified Wireless Network (Figure 8).

Figure 8. Cisco Aironet Deployment Scenarios



Whichever Cisco Aironet deployment scenario you have—standalone access points only; standalone access points plus CiscoWorks WLSE; or standalone access points plus CiscoWorks WLSE plus a Cisco Wireless Domain Services (WDS) device—your deployment scenario can be migrated to the Cisco Unified Wireless Network.

Simply follow the five steps outlined in this document to migrate your legacy WLAN to the Cisco Unified Wireless Network.

What Incentives and Promotions Are Available?

Incentives and promotions for access points, WDS devices, wireless LAN controllers, and other components may be available to assist you in transitioning to the Cisco Unified Wireless Network. Ask your Cisco account representative.

Why Cisco?

The Cisco Unified Wireless Network is the industry's only unified wired and wireless solution to deliver cost-effective wireless networks for business-critical mobility. This innovative solution brings mobility to endpoint devices and users, providing them with anytime, anywhere network access. This award-winning solution delivers industry-leading mobility services that enable innovative applications to streamline business operations and improve productivity.

Organizations that migrate to the Cisco Unified Wireless Network will be implementing a wireless network that delivers:

- Enterprise-class security with a built-in intrusion prevention system (IPS) and intrusion detection system (IDS)
- Centralized network management of campus, branch office, and remote locations from a single management console
- Simplified wireless LAN deployment with zero-touch access point configuration
- Real-time RF monitoring and management that is self-configuring, self-optimizing, and self-healing
- Built-in WLAN planning and troubleshooting tools
- Support for up to 600 Mbps of bandwidth with 802.1 1n to meet the most rigorous wireless networking requirements.
- Interoperable Cisco Compatible client devices
- Integrated mobility services for security, voice services, guest access, and location services
- Unified wired and wireless LAN architecture

The Cisco Unified Wireless Network helps reduce overall operational expenses by simplifying network deployment, operations, and management. With this solution, you can manage several, hundreds, or thousands of central or remotely located access points from a centralized management console. The flexibility of the Cisco Unified Wireless Network allows network managers to design networks to meet their specific needs, whether implementing highly integrated network designs or simple overlay networks.

The Cisco Unified Wireless Network delivers the same level of security, scalability, reliability, ease of deployment, and management for wireless LANs that organizations expect from their wired LANs. Learn more by visiting http://www.cisco.com/go/unifiedwireless

To Get More Information About Migrating to the Cisco Unified Wireless Network

Read these white papers for more information about migrating to the Cisco Unified Wireless Network.

- Why Migrate to the Cisco Unified Wireless Network?
- Guidelines and Tools for Migrating to the Cisco Unified Wireless Network