



Q&A

Cisco Unified Wireless Network

OVERVIEW

Q. What is the Cisco® Unified Wireless Network?

A. The Cisco Unified Wireless Network is the industry's only unified wired and wireless solution to cost-effectively address the wireless LAN (WLAN) security, deployment, management, and control issues facing enterprises. This powerful solution combines the best elements of wireless and wired networking to deliver scalable, manageable, and secure WLANs with a low total cost of ownership (TCO). It includes innovative RF capabilities that enable real-time access to core business applications and provides proven enterprise-class secure connectivity. 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.

Q. What network layers does the Cisco Unified Wireless Network support?

A. The Cisco Unified Wireless Network is an integrated end-to-end solution that addresses all layers of the WLAN, from client devices and access points to the network infrastructure, network management, and the delivery of wireless mobility services integration, as well as worldwide, 24-hour product support. It delivers the industry's best wireless LAN security, innovation, and investment protection. It is the only solution to integrate innovative access point technology with an award-winning, centralized management system, intelligent control, real-time location services, and a wide array of interoperable Cisco Compatible client devices.

Q. How does the Cisco Unified Wireless Network support investment protection?

A. Cisco Systems® will help to ensure customer investment protection for Cisco Unified Wireless Network products through field firmware upgrades, software upgrades, and careful attention to future hardware requirements. Cisco will continue to make enhancements in the areas of mobility services, deployment options, scalability features, security capabilities, hardware advancements, and wired and wireless integration. Customers can feel confident that with Cisco, their WLAN investments are protected both today and tomorrow. Cisco also offers the Cisco® Technology Migration Program (Cisco TMP), which gives customers a way to address their current networking needs with the assurance that they can also take full advantage of their existing investments by using them towards future Cisco purchases. Talk with your Cisco representative about Cisco TMP.

Q. What are the future plans for the Cisco Unified Wireless Network?

A. As the worldwide WLAN technology leader and innovator, Cisco offers the industry's most comprehensive product line for enterprise WLANs. Cisco will continue to lead the acceleration and evolution of WLAN technology into the next generation of enterprise networking. Cisco will evolve the Cisco Unified Wireless Network to continue to support new business applications, WLAN technology developments, and enterprise-class network demands. Cisco's technology innovation will help ensure a secure, mobile, interactive workplace and deliver a unified architecture for organizations deploying WLANs.

COMPONENTS AND PRODUCTS

Q. What are the components of the Cisco Unified Wireless Network?

A. The Cisco Unified Wireless Network is composed of five interconnected elements that work together to deliver a unified, enterprise-class wireless solution. The five interconnected elements are client devices, access points, network unification, world-class network management, and mobility services. Beginning with a base of client devices, each element adds capabilities as network needs evolve and grow, interconnecting with the elements above and below it to create a comprehensive, secure WLAN solution. Here's what the five interconnected elements deliver:

- **Client Devices**—“Out-of-the-box” wireless security and mobility features through Cisco client devices or Cisco Compatible third-party client devices.
- **Access Points**—Ubiquitous network access in all environments and enhanced productivity through “plug-and-play” architecture. “Out-of-the-box” wireless security. A proven WLAN platform with a large installed base.
- **Network Unification**—Integration into all major Cisco switching and routing platforms through secure, innovative WLAN controllers.
- **Network Management**—Delivery of the same level of security, scalability, reliability, ease of deployment, and management for wireless LANs as available for wired LANs.
- **Mobility Services**—Support for unified cellular and voice over WLAN services, as well as advanced threat detection, identity networking, location-based security, asset tracking, and guest access.

Q. What products are included in the Cisco Unified Wireless Network?

A. Cisco offers a wide range of WLAN products to support the five interconnecting elements of the Cisco Unified Wireless Network. Products for the five interconnected elements include:

- **Client Devices**—[Cisco Compatible Extensions](#) client devices and [Cisco Aironet®](#) client devices.
- **Access Points**—Cisco Aironet access points, including the Cisco Aironet [1500](#), [1300](#), [1240AG](#), [1230AG](#), [1130AG](#), and [1000](#) Series. Cisco Aironet wireless LAN bridges, including the Cisco Aironet [1400](#) and [1300](#) Series. [Cisco Secure Services Client](#) is also recommended.
- **Network Unification**—Cisco [4400](#) and [2000](#) Series Wireless LAN Controllers, the [Cisco Catalyst® 6500 Series Wireless Services Module \(WiSM\)](#), [Cisco Catalyst 3750 Series Integrated Wireless LAN Controllers](#), and the [Cisco Wireless LAN Controller Module \(WLCM\)](#) for Integrated Services Routers.
- **Network Management**—[Cisco Wireless Control System \(WCS\)](#).
- **Mobility Services**—[Cisco Wireless Location Appliance](#), [Cisco WCS](#), Cisco Self-Defending Network, [Network Admission Control \(NAC\)](#), and Wi-Fi phones including the [Cisco Unified Wireless IP Phone 7920](#).

FEATURES AND BENEFITS

Q. What are the features of the Cisco Unified Wireless Network?

A. The Cisco Unified Wireless Network enables enterprises to deploy wireless with confidence. This innovative solution supports the following business-critical features to help companies maintain agility and differentiation:

- **Security**—A fundamental best practice of wireless LAN security is the ability to secure and control the RF environment. Cisco leads the industry in delivering enterprise-class RF security and WLAN security policy monitoring.
- **Management**—Cisco simplifies WLAN management by providing clear visibility and control of the RF environment. This increases network scalability, improves troubleshooting, and enhances productivity for network administrators, resulting in lower operational expenditures.
- **Performance**—WLAN coverage must be reliable and RF bandwidth must be optimized to help ensure maximum WLAN performance. Cisco achieves this through solid quality of service (QoS) for voice, real-time capacity management, support for high-capacity deployments, and self healing WLANs for high availability.
- **Mobility**—End users need uninterrupted network access when roaming across access points (within and between subnets). Cisco’s WLAN solution delivers fast, secure, and scalable roaming in 802.11i environments and wireless services without boundaries both indoors and outdoors.

- **Scalability**—A wireless network must scale to meet current and future business requirements. Cisco provides support for WLAN deployment of several, hundreds, or thousands of central or remotely located access points on the campus and in branch offices, remote sites, and outdoor locations.
- **Integration**—End-to-end wired and wireless network integration minimizes TCO. By supporting a unified wireless and wired infrastructure, Cisco minimizes total cost of WLAN ownership.
- **Services/Applications**—An enterprise-class WLAN must support numerous services and applications that use the unique attributes of mobility. Cisco includes support for voice services, high-resolution location tracking, guest access, and application-specific devices (ASDs), such as those used in retail or manufacturing environments.

Q. What are the benefits of the Cisco Unified Wireless Network?

- A.** The business benefits of the Cisco Unified Wireless Network are real and tangible. These benefits are achieved while maintaining enterprise-class security levels. The benefits include:
- **Reduced TCO**—The Cisco Unified Wireless Network reduces TCO through minimizing the operational and capital costs associated with managing and deploying the wireless network. The solution also includes built-in support for mobility services that are ready for immediate implementation or deployment over time via a phased integration.
 - **Enhanced WLAN visibility and control**—Cisco provides enhanced visibility and control of the wireless LAN, helping to ensure that wireless applications are delivered securely and reliably throughout an entire enterprise, and that they are managed centrally for greater scalability and ease of use. With the Cisco Unified Wireless Network, thousands of authorized and unauthorized active Wi-Fi devices can be tracked simultaneously to within a few meters from directly within the WLAN infrastructure.
 - **Dynamic RF management**—Cisco is a leader in RF innovation, creating intelligent WLAN solutions that capitalize on the unique attributes of radio technology. The Cisco Unified Wireless Network delivers an intelligent RF control plane for self-configuration, self-healing, and self optimization.
 - **Advanced WLAN security and network protection**—An integrated WLAN Intrusion Prevention System (IPS) protects the network from security breaches and unsecured WLAN connections that put the entire network at risk. The Cisco Self-Defending Network and Cisco NAC limit damage from emerging security threats such as viruses, worms, and spyware.
 - **Unified wired and wireless networks**—Cisco is the only vendor that delivers a complete, end-to-end solution that is unified and innovative, and that provides solid investment protection to ensure a secure, mobile, interactive workplace for the wired and wireless network. The Cisco Unified Wireless Network solution includes a solid migration path through integration with selected Cisco routers and switches.
 - **Mobility for the enterprise**—Mobility becomes an intrinsic component of the enterprise, with Cisco helping IT managers to easily and securely deploy mission-critical WLANs that complement investments in the existing networking infrastructure, both indoors and outdoors.
 - **Enhanced productivity, collaboration, and responsiveness**—Cisco technology helps an organization’s employees accomplish more in every meeting, make faster decisions, and use every minute more effectively, whether in the office or on the road. The Cisco Unified Wireless Network is deployable in a variety of industries and institutions, including healthcare, education, finance, government, manufacturing, retail, public access, and business.

Q. Where can I learn more about the TCO benefits of the Cisco Unified Wireless Network?

- A.** Please read the white papers entitled [Cisco Unified Wireless Network: Reducing Large-Scale Enterprise Wireless LAN Total Cost of Ownership](#) and [Cisco Unified Wireless Network: Reducing SMB and Branch Office Wireless LAN TCO](#) to learn how an integrated approach using the Cisco Catalyst 6500 Series WiSM and the Cisco WLCM can provide significant cost savings in ongoing operations, support, and lost productivity over a five-year period.

Q. Where can I learn more about the benefits of the Cisco Unified Wireless Network?

- A.** Learn more about the benefits of the Cisco Unified Wireless Network by reading the white papers entitled [The Benefits of Centralization in Wireless LANs](#) and the brochure entitled The [Cisco Unified Wireless Network Components and Benefits Overview](#). These documents address the benefits of 802.11 wireless LAN centralization through the Cisco Unified Wireless Network. They discuss how centralization of WLANs delivers advanced features and benefits that are easy to deploy, scale, and manage. These benefits include ease of deployment, ease of upgrades, reliable connectivity through dynamic RF management, optimized per-user performance through user load balancing, guest networking, Layer 3 roaming, an embedded wireless Intrusion Detection System (IDS) and Intrusion Prevention System (IPS), location services, voice over WLAN, lowered TCO, and wired and wireless unification.

MOBILITY SERVICES

Q. What mobility services are supported by the Cisco Unified Wireless Network?

- A.** Support for new mobility applications, emerging Wi-Fi technologies, and advanced threat detection and prevention capabilities is built into Cisco's end-to-end solution; it is not an afterthought. This support is cost-effective and easy to deploy and implement. The Cisco Unified Wireless Network supports the following industry-leading, innovative mobility services:
- **Voice Services**—Voice over WLAN (VoWLAN) allows organizations to provide cost-effective, real-time voice services using their existing wireless infrastructure. The power of VoWLAN is delivered to the enterprise by the comprehensive voice communications capabilities of the [Cisco Unified Wireless IP Phone 7920](#).
 - **Location Services**—Real-time location services support critical applications such as high-value asset tracking, IT management, location-based security, and business policy enforcement. Thousands of authorized and unauthorized active Wi-Fi devices and RFID tags can be tracked simultaneously to within a few meters from directly within the WLAN infrastructure with the [Cisco 2700 Series Wireless Location Appliance](#). Cisco customers and partners can also interface with the Cisco Wireless Location Appliance API to create customized location applications and solutions. The API is available for free through the [Location Appliance API Program](#).
 - **Enhanced Security**—Cisco enhanced security services unify wired and wireless security to control and contain wireless threats, enforce security policy compliance, and safeguard information. Cisco enhanced security services include:
 - A robust wireless LAN Intrusion Prevention System (IPS) with rogue device detection that interfaces with the Cisco Self-Defending Network to help organizations identify, prevent, and adapt to both known and unknown security threats
 - Unified wired and wireless client device admission control that interfaces with NAC to limit damage from emerging security threats such as viruses, worms, and spyware
 - [Cisco Secure Services Client](#) that delivers a single authentication framework across multiple device types to protect network endpoint devices and enforce security policies across the wired and wireless network
 - An integrated wired and wireless Intrusion Detection System (IDS)
 - Alerts, reporting, and management capabilities to monitor and maintain network security
 - **Guest Access**—Guest access allows customers to keep their wireless networks secure while providing customers, vendors, and partners with controlled access to their WLANs. Guest access increases company productivity, facilitates real-time collaboration, and helps companies be more competitive in today's anywhere, anytime business climate. Organizations can use the Guest Access Lobby Ambassador feature on a Cisco wireless LAN controller to customize guest access configurations.
- Q. Are Cisco wireless mobility services part of the Cisco Service-Oriented Network Architecture?**
- A.** Yes. Cisco wireless mobility services are enabled by the Cisco Unified Wireless Network as part of the [Cisco Service-Oriented Network Architecture \(SONA\)](#).

Q. What wireless LAN mobility services should an organization deploy?

A. Organizations can selectively deploy the wireless LAN mobility services and applications they need based on their individual requirements. The Cisco Unified Wireless Network's mobility services are ready for immediate implementation or deployment through a phased integration.

Q. What is NAC?

A. NAC stands for Network Admission Control. It is a set of technologies and solutions built on an industry initiative led by Cisco Systems. Cisco WLANs support NAC by using the network infrastructure to enforce security policy compliance on all wireless devices seeking to access network computing resources, thereby limiting damage from emerging security threats, such as viruses, worms, and spyware. Cisco WLANs support both the Cisco [NAC Appliance](#) (formerly Cisco Clean Access) and the Cisco [NAC Framework](#). Read more about NAC for WLANs by visiting:

http://www.cisco.com/en/US/prod/collateral/wireless/ps5678/ps6521/prod_brochure0900aecd80355b2f.html

Q. What is the Cisco Self-Defending Network?

A. The Cisco Self-Defending Network is Cisco's strategy for integrated network security. It helps organizations identify, prevent, and adapt to both known and unknown security threats. Cisco WLANs integrate with the Cisco Self-Defending Network to provide end-to-end network security and identity-based networking.

DEPLOYMENT

Q. Is the Cisco Unified Wireless Network deployable today?

A. Yes. All components of the Cisco Unified Wireless Network are deployable today. Learn more about each element by visiting: <http://www.cisco.com/en/US/products/hw/wireless/index.html>

Q. Where is the Cisco Unified Wireless Network deployable?

A. The Cisco Unified Wireless Network is deployable in corporate offices, hospitals, retail stores, manufacturing floors, warehouse environments, educational institutions, financial institutions, local and national government organizations, and other locations worldwide. It supports Wi-Fi enabled business applications for a variety of uses, including mobile healthcare, inventory management, retail point-of-sale, video surveillance, real-time data access, asset tracking, and network visibility.

Q. How is the Cisco Unified Wireless Network deployable to support mobile users?

A. The Cisco Unified Wireless Network can be deployed to enable on-the-road access from venues such as public hotspots, hotels, convention centers, and airports for mobile users and traveling executives. It is also deployable in a variety of business environments to deliver real-time, secure mobility and guest access for campus and branch offices.

Q. What type of access points are recommended for Cisco Unified Wireless Network deployments?

A. Customers are encouraged to deploy Cisco Aironet lightweight access points with a Cisco wireless LAN controller to experience the rich features, benefits, and mobility services of the Cisco Unified Wireless Network.

Q. Can Cisco Aironet autonomous access points be used with a Cisco wireless LAN controller?

A. Yes. Selected Cisco Aironet autonomous access points may be field upgraded to operate in lightweight mode and run Lightweight Access Point Protocol (LWAPP) to operate with a Cisco wireless LAN controller. Read more in the product bulletin entitled [Cisco Aironet Access Point Support for Lightweight Access Point Protocol](#) and white paper entitled [Guidelines and Tools for Migrating to the Cisco Unified Wireless Network](#).

Q. Does CiscoWorks Wireless LAN Solution Engine (WLSE) support lightweight access points?

A. Yes. [Cisco Unified Wireless Network Software Release 4.0](#) provides support for software conversion of an existing CiscoWorks WLSE (Models 1130-19 and 1133) into a server that runs Cisco WCS. This allows CiscoWorks WLSE customers to migrate to the Cisco Unified Wireless Network architecture using their existing CiscoWorks WLSE platform.

Q. Where can I learn more about the advantages of migrating from Cisco Aironet autonomous access points and CiscoWorks WLSE to the unified architecture?

A. The Cisco Unified Wireless Network delivers advanced features and benefits that are easy to deploy, scale, and manage. By migrating to the Cisco Unified Wireless Network and deploying Cisco Aironet lightweight access points with a Cisco wireless LAN controller, organizations can experience a variety of features and benefits. Learn more about these advantages by reading the white paper entitled [Why Migrate to the Cisco Unified Wireless Network?](#)

Q. Where can I learn more about LWAPP and Radio Resource Management (RRM)?

A. Learn more about LWAPP by reading the white paper entitled [Understanding the Lightweight Access Point Protocol \(LWAPP\)](#). Learn more about RRM by reading the white paper entitled [Using Radio Resource Management to Deliver Secure and Reliable WLAN Services](#).

Q. Where can I learn more about location-tracking services?

A. Learn more about location-tracking services by reading the white paper [Wi-Fi Based Real-Time Location Tracking: Solutions and Technology](#).

Q. Where can I learn more about mobility and the Cisco Unified Wireless Network?

A. Learn more about mobility and the Cisco Unified Wireless Network by reading the white paper entitled [Building the Mobile Business with a Unified Wireless Network](#).

FOR MORE INFORMATION

For more information, contact your local account representative or visit one of the following Websites:

- For more information about the Cisco Unified Wireless Network, visit: <http://www.cisco.com/go/unifiedwireless>
- For a summarized overview of the Cisco Unified Wireless Network, visit: http://www.cisco.com/en/US/prod/collateral/wireless/ps5678/ps6521/prod_brochure0900aecd80473008.pdf
- For more information about Cisco WLAN products, visit: <http://www.cisco.com/go/aironet>



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