# Cisco Unified Wireless Network Software Release 6.0

PB530367

## Overview

Cisco® Unified Wireless Network Software Release 6.0 delivers critical features for next-generation wireless networks. This release is now supported on the Cisco 5500 Series Wireless Controller, a new hardware platform that delivers maximum performance and scalability. A new flexible licensing structure, Cisco WirelessPLUS software, and enhancements to Cisco Aironet® Lightweight Access Points and the Cisco WCS offer the infrastructure features necessary to deliver secure mobility using the network as a platform.

Some of the important features included in Cisco Unified Wireless Network Software Release 6.0 include:

- Cisco ClientLink technology simplifies the move to 802.11n networks by extending the useful life of existing 802.11a/g devices in mixed-client networks.
- The Cisco OfficeExtend solution provides secure, simple, cost-effective wireless teleworking by extending the corporate network using a wireless access point and controller.
- Enterprise Wireless Mesh provides wireless connectivity for areas that are difficult or impossible to wire.
- Cisco WCS enhancements deliver a flexible and easy-to-use interface that supports greater simplicity in managing enterprise-class WLANs.

## New Features

Cisco Unified Wireless Network Software Release 6.0 is supported by the following devices:

- Cisco Aironet access points running Lightweight Access Point Protocol (LWAPP)
- Cisco 2100, 4400, and 5500 Series Wireless Controllers
- Cisco Aironet 1524 Outdoor Mesh Access Point
- Cisco Catalyst® 6500 Series/7600 Series Wireless Services Module (WiSM)
- Cisco Wireless LAN Controller Module (WLCM) and Cisco Wireless LAN Controller Module Enhanced (WLCM-E) for integrated services routers
- Cisco Catalyst 3750G Integrated Wireless LAN Controller
- Cisco 3300 Series Mobility Services Engine
- Cisco 2700 Series Wireless Location Appliance
- Cisco WCS and Cisco WCS Navigator

The following sections outline the new features in each of these critical components.

## Cisco Aironet Access Points: New Features

Table 1 describes the new Cisco Aironet access point features available with Cisco Unified Wireless Network Software Release 6.0.

**Table 1.**     New Cisco Aironet Access Point Features

| Feature | Description | Benefit |
|---|---|---|
| **Cisco Aironet Access Points** | | |
| **Cisco ClientLink Technology** | Cisco ClientLink is an intelligent beamforming technology that directs the RF signal to 802.11a/g devices to improve performance and coverage by up to 40 percent. | Cisco ClientLink helps extend the useful life of existing 802.11a/g devices in mixed-client networks. It is beneficial for organizations that move to 802.11n and want to ensure that all clients on the network, regardless of type, are guaranteed the bandwidth and throughput they need. |
| **Localized RF Neighborhoods** | The Localized RF Neighborhood feature provides faster convergence for networkwide radio resource management calculations and the ability to make locally optimized channel and power settings. It allows radio resource management to evaluate channel and power settings for localized access point neighborhoods as opposed to single access points. Localized RF neighborhoods are optimized taking into account how sparsely or densely access points are spaced. | Large wireless networks gain performance improvements from faster network channel and power plan convergence times. Power settings are optimized for access point neighborhoods with a variety of access point deployment densities. |
| **Cisco Aironet 1250 Series Radio Configuration for Power** | Organizations may purchase a dual-radio Cisco Aironet 1250 Series Access Point and use software to disable one of the radios. This allows full functionality under 802.3af on one radio while the other radio is disabled. In the future if a customer upgrades to a powering solution that provides 20W of power to the access point, the second radio may be configured so that both radios are fully functional with 2x3 multiple input multiple output (MIMO) technology. | The ability to use software to configure radios on the Cisco Aironet 1250 Series offers flexibility and investment protection. The Cisco Aironet 1250 Series requires 20W of power for optimum performance of 802.11n on both the 2.4- and 5-GHz bands. This feature allows organizations to purchase dual-band access points now, and offers the flexibility to configure one radio to operate using 802.3af. In the future, the radios may be reconfigured for dual-band support once the powering capabilities of the infrastructure can support 20W of power. |
| **Dual back-haul for the Cisco Aironet 1524SB Lightweight Outdoor Mesh Access Points** | The Cisco Aironet 1524SB Outdoor Mesh Access Point supports two 5 GHz radios for backhaul traffic and a 2.4 GHz radio for client access. Each backhaul radio serves as a dedicated link to the mesh access point parent or children. | Adding an additional backhaul radio significantly improves the performance of mesh access points located furthest from the root access point. With two backhaul radios, each dedicated to transmitting data either upstream or downstream, mesh access points achieve greater throughput and lower latency for traffic traveling to and from these outer hop access points. |

## Cisco Wireless LAN Controllers: New Features

This release introduces the Cisco 5500 Series Wireless Controller, a highly scalable and flexible platform that enables systemwide services for mission-critical wireless in medium-sized to large enterprises and campus environments. Table 2 describes the new Cisco Wireless LAN Controller features available with this release. These features are supported by Cisco 2100, 4400 and 5500 Series Wireless LAN Controllers; Cisco Catalyst 6500 Series WiSM and 7600 Series Router; Cisco WLCM and WLCM-E for integrated services routers; and the Cisco Catalyst 3750G Integrated Wireless LAN Controllers. Cisco WirelessPLUS software is available only on the Cisco 5500 Series Wireless Controllers. See the **Cisco 5500 Series Licensing and Ordering Guide** for additional details.

Cisco Wireless LAN Controller software is downloadable from the Cisco Software Center. Display tables for each Cisco Wireless LAN Controller model are located at: http://www.cisco.com/public/sw-center/sw-wireless.shtml (login required).

**Table 2.**    New Cisco Wireless Controller Features

| Feature | Description | Benefit |
|---|---|---|
| **Cisco Wireless Controller** | | |
| **Cisco 5500 Series Wireless Controller** | The Cisco 5500 Series Wireless Controller offers maximum performance and scalability. With support for 802.11n, it offers up to nine times the performance of 802.11a/b/g wireless networks. | The Cisco 5500 Series Controller offers many new features, including:<br>• Support for up to 250 access points and 7000 clients<br>• Nine times the performance of 802.11a/g networks<br>• Larger mobility domain for more simultaneous client associations<br>• Uninterrupted network access when roaming<br>• Consistent streaming video and reliable toll-quality voice |
| **Cisco Unified Wireless Network Licensing** | Flexible licensing allows customers to easily add access point support. | Base access point licensing offers flexibility to add additional access points as business needs grow. |
| **Cisco WirelessPLUS Licensing** | Optional Wireless PLUS software supports the Cisco OfficeExtend solution and enterprise wireless mesh. | Flexible licensing allows customers to easily add access point support, and teleworker and wireless mesh functionality. |

## Mobility Services Engine: New Features

Table 3 displays the new and enhanced features of the new Mobility Services Engine available with Cisco Unified Wireless Network Software Release 6.0.

**Table 3.**    New Cisco Mobility Services Products and Features

| Feature | Description | Benefit |
|---|---|---|
| **Mobility Services Engine** | | |
| **Mobility Service Coexistence** | The Cisco 3300 Series Mobility Services Engine (MSE) now supports coexistence of multiple mobility services on the same appliance. The 3350 MSE can support adaptive wireless intrusion prevention system (wIPS) and context-aware services on the same appliance while the Cisco 3310 MSE can support adaptive wireless IPS and context- aware services on the same appliance. | Organizations now have the flexibility to deploy multiple mobility services on the same hardware platform |
| **Evaluation License Support** | The Cisco 3300 Series Mobility Services Engine now supports a 60-day mobility services evaluation license. Evaluation licenses include 100 Clients/Tags, 20 monitor mode access points for adaptive wireless IPS, and 10 dual mode clients. | Customers that have deployed one or more mobility service may evaluate additional mobility services for 60 days with no additional cost. |

## Mobility Services: New Features

Table 4 presents the new services available with Cisco Unified Wireless Network Software Release 6.0.

**Table 4.**    Mobility Services Features

| Feature | Description | Benefit |
|---|---|---|
| **Adaptive Wireless Intrusion Prevention Software** | | |
| **Adaptive Wireless Intrusion Prevention Service** | Cisco Adaptive Wireless IPS is now supported on the 3350 Mobility Services Engine with support for up to 3000 wIPS monitor mode access points. In addition, adaptive wIPS can coexist with other mobility services on both the 3310 and 3350 MSE appliances. | Customers can now deploy Cisco Adaptive Wireless IPS Software at increased scale by leveraging the power of the 3350 Mobility Services Engine. In addition, customers get improved flexibility with support for both adaptive wIPS and other mobility services on the same appliance. |

| Feature | Description | Benefit |
|---------|-------------|---------|
| Historical Reporting | New reports include:<br><br>**DoS incident report** - reports on DoS-related alarms. Fields include station/AP where alarm triggered, targeted AP or client device (if known), SSID, specific alarm triggered, location, first time seen, last time seen, event severity, WLAN, alarm state, and any admin action on alarm.<br><br>**Attempted penetration incident report** - reports on penetration-related alarms, such as authentication and crypto cracking tools detected. Fields include station/AP where alarm triggered, targeted AP or client device (if known), SSID, specific alarm triggered, location, first time seen, last time seen, event severity, WLAN, alarm state and any admin action on alarm. | Improved reporting of data for both organizational and regulatory compliance. |
| **Context-Aware Mobility Service** | | |
| Wired Location | The Context-Aware Mobility Service has been enhanced to support Cisco wired infrastructure switches to provide real-time tracking of desktops, laptops, phones and any other wired device that connects to the Cisco infrastructure. The Cisco wired infrastructure also provides the ability to push Civic location information to devices that support LLDP-MED enabling those devices to learn their physical location from the Cisco infrastructure. By extending Context-Aware Mobility Service to the wired infrastructure, the Cisco Context-Aware Mobility Service can provide network location services to location-aware systems and devices regardless of whether they are wired or wirelessly connected to the Cisco infrastructure. | Location tracking allows organizations to more easily find equipment within a data center environment and make business decisions more quickly. Now the MSE platform integrates wired and wireless information so that businesses can make decisions based on both wired and wireless business assets. |

## Cisco Wireless Control System: New Features

Table 5 presents the new Cisco WCS ease-of-use and wireless LAN life-cycle enhancements and features available with Cisco Unified Wireless Network Software Release 6.0.

Cisco WCS software is available for download from the Cisco Software Center. The Cisco WCS software display table is located at http://www.cisco.com/cgi-bin/tablebuild.pl/Wireless_Control_System_Software (login required).

**Table 5.**      New Cisco WCS Ease-of-Use and Wireless LAN Life-Cycle Enhancements and Features

| Feature | Description | Benefit |
|---------|-------------|---------|
| **Ease-of-Use Enhancements** | Cisco WCS has been significantly enhanced to deliver a flexible, fully configurable interface that is easy-to-use and highly scalable. Enhancements include:<br><br>• Streamlined workflows and unified tab designs that reduce the number of clicks required to complete operational tasks.<br><br>• Consistent cross-links that support quick access to actionable and relevant information.<br><br>• Customized displays based on user-defined parameters that support easy filtering, adding, sorting, editing, and removal of displayed information.<br><br>• Breadcrumb trail that retraces the user's navigation path forward and backward through a variety of Cisco WCS screens. | Organizations have greater flexibility in structuring and displaying information to meet their individual requirements. Access to critical data and performance of operational activities is faster and more streamlined. |

| Feature | Description | Benefit |
|---|---|---|
| **Monitoring Enhancements** | The following areas have been enhanced to support, flexible and simplified WLAN monitoring:<br><br>● Dashboard - Users can easily edit tab categories and content to meet their specific requirements. Preconfigured and customizable tab categories are supported. Content can be edited to display user-specified criteria.<br><br>● Floor maps - New floor map tool icons and interface support faster customization of displayed components and quicker visualization of network status and alarms.<br><br>● Alarm and network summary - Network status and alarms summary is now ever-present in the top-right corner of Cisco WCS. A WLAN health status is now included in the summary.<br><br>● Search tool - The Cisco WCS search tool is now ever-present at the top of the Cisco WCS interface to support simple and advanced searches. Advanced searches support cross-network searches by a variety of categories. Search results can be sorted and filtered for easy viewing of trends and status of selected components.<br><br>● Streamlined mapping functionality - All WLAN campuses, buildings, and floors are hierarchically listed in a new collapsible and expandable mapping tree facilitating quick visualization of network locations. | Productivity of organizations is improved and operational costs are reduced through Cisco WCS monitoring enhancements that deliver the following benefits:<br><br>● Easy and flexible customization of the dashboard to meet each user's individual needs.<br><br>● Faster visualization of WLAN status from the easy-to-read floor map display screen.<br><br>● Ever-ready access to critical WLAN summary information from any screen within Cisco WCS.<br><br>● Quick access to and execution of simple and advanced searches from any screen within Cisco WCS.<br><br>● Scalable hierarchical visualization of all locations for any size WLAN, from single floor buildings to multiple campuses spanning local, national or international locations. |
| **Streamlined Configuration Templates** | Building of configuration templates for WLAN controllers and access points is streamlined and simplified with the template launch pad. New features include:<br><br>● Mouse-over feature that provides a quick description of each template, enabling users to quickly find the template that will meet their requirements without launching the template.<br><br>● Quick creation and scheduling of templates through an enhanced user interface.<br><br>● For controllers, over 60 configuration templates are quickly viewable from the Controller Template Launch Pad on topics including system, WLAN, Hybrid Remote Edge Access Point (H-REAP), security, 802.11a/n, 802.11b/g/n, mesh, management, command-line interface (CLI), and location.<br><br>● For access points, configuration templates are quickly customizable based on a variety of access point parameters that can be applied to custom-selected 802.11a/b/g/n lightweight, autonomous (standalone), or mesh access points. | Organizations have an easy-to-use interface for creating, selecting and managing WLAN controller and access point templates to help reduce the time required to implement configuration specifications. |
| **Dynamic Troubleshooting - Access Points** | Access point troubleshooting is simplified and increased visibility into the wireless infrastructure is provided by new features including:<br><br>● Storage of an access point's wired and wireless connection information.<br><br>● Listing of client association and disassociation occurrences on the access point summary page. | Organizations have access to additional information to assist them with troubleshooting access point connectivity issues and assessing resultant client issues. |
| **Dynamic Troubleshooting - Clients** | Client monitoring has been enhanced to support quicker access to critical client information and tools across the wired and wireless network. New features include:<br><br>● Client details screen with new information and an aggregation of existing information into an easy-to-read format.<br><br>● Streamlined access to the client troubleshooting tool and its step-by-step processes from anywhere in Cisco WCS.<br><br>● Access to client mobility information including how and why a client roamed across the wired and wireless network.<br><br>● Quicker access to common tools from the client monitoring screen. | New easy-to-read display of client information gives organizations more data to assist with client monitoring, management, and troubleshooting. With quick access to the client troubleshooting tool from anywhere within the WCS, organizations can respond more quickly and efficiently to client trouble calls. |

| Feature | Description | Benefit |
|---|---|---|
| **Expanded Flexible Reporting** | The new Cisco WCS Report Launch Pad delivers robust, fully customizable reporting that includes:<br>• Flexible user-defined report parameters for, configuration, scheduling, sending, and saving.<br>• Mouse-over feature that provides a quick description of each report enabling users to quickly find the report that will meet their requirements prior to running the report.<br>• Over 40+ customizable reports on topics including access points, clients, controllers, inventory, compliance, guests, mesh, performance, security, and the RF environment. | Organizations can quickly generate on- demand or scheduled reports, reducing or eliminating the need to manually gather critical WLAN information. Operational productivity is improved because preconfigured and customized reports are available to meet immediate or planned network reporting requirements. |

## Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, visit Cisco Technical Support Services or Cisco Advanced Services.

## Cisco Wireless LAN Services

Cisco and our Cisco Advanced Wireless LAN Specialized Partners offer a broad portfolio of end-to-end services based on proven methodologies for planning, designing, implementing, operating, and optimizing the performance of a variety of secure voice and data wireless network solutions, technologies, and strategies. Cisco Advanced Wireless LAN Specialized Partners bring application expertise to help deliver a secure enterprise mobility solution with a low total cost of ownership. For more information about Cisco services, refer to Cisco Technical Support Services or Cisco Advanced Services.

## Download the New Software for This Release

Download Cisco Unified Wireless Network Software Release 6.0 from the Cisco Wireless Software Display Tables (login required). Separate software release files are available for Cisco Wireless LAN Controllers, Cisco WCS, Cisco WCS Navigator, and the Cisco Wireless Location Appliance.

## For More Information

- For more information about Cisco wireless products, visit: http://www.cisco.com/go/wireless.

- For more information about the Cisco Unified Wireless Network, visit: http://www.cisco.com/go/unifiedwireless.