# Cisco Unified Wireless Network Software Release 7.0

PB598204

## Overview

Cisco® Unified Wireless Network Software Release 7.0 delivers new hardware and software features that raise the standard for business mobility. With this release, Cisco enhances its industry-leading WLAN platform through the introduction of Cisco Aironet® 3500 Series Access Points and Cisco CleanAir technology.

CleanAir is a systemwide capability of the Cisco Unified Wireless Network that uses silicon-level intelligence to create a self-healing, self-optimizing wireless network. CleanAir has the unique ability to detect radio interference that other systems can't see, identify the source, locate it on a map, and then take remedial action. Capabilities include performance optimization, historic interference information for back-in-time analysis, radio frequency security, and policy enforcement. Delivering performance protection for 802.11n networks, CleanAir delivers the reliability wireless networks need to support mission-critical applications by automatically mitigating the impact of radio frequency interference. This simplifies operations and reduces the total cost of ownership.

In addition, this release introduces features that enhance the delivery of business-quality video, increase system scalability, and simplify network management and deployment. Important features of this release include:

- New Cisco Aironet 3500 Series Access Points with CleanAir technology. Together the 3500 Series and CleanAir deliver:
  - Automatic interference mitigation for better reliability and performance
  - Remote troubleshooting for fast problem resolution and less downtime
  - Robust security with the industry's first access point to provide non-Wi-Fi detection for off-channel rogues
  - Policy enforcement with customizable alerts to prohibit devices that interfere with the network
- Simplified management and scalability of Cisco wireless networks, with streamlined support of up to 500 access points with a single Cisco 5500 Series Wireless Controller
- Enhanced video collaboration with Cisco VideoStream technology, enabling the reliability and consistent delivery of business-quality video over the wireless network
- Improved efficiency of wireless LAN management and operations through new Cisco Wireless Control System (WCS) features that support the importing and exporting of maps to third-party tools and the ability to forward alarms and alerts to receivers such as IBM Tivoli Netcool.

## New Features

The following new features are included in Cisco Unified Wireless Network Software Release 7.0. These features are supported by the following devices:

- Cisco Aironet access points running Lightweight Access Point Protocol (LWAPP)
- Cisco 2100, 4400 and 5500 Series Wireless LAN Controllers
- Cisco Catalyst® 6500 Series and Cisco 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

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- Cisco 3300 Series Mobility Services Engine (MSE)
- Cisco Wireless Control System (WCS)
- Wireless Mesh Aironet 1520 Series Access Points

### Cisco Aironet Access Points: New Features

Relase 7.0 introduces the Cisco Aironet 3500 and 1260 Series Wireless Access Points. These enterprise-class access points provide reliable and predictable 802.11n wireless coverage for indoor environments and deliver up to nine times the throughput of 802.11a/g networks for rich-media applications.

The new Cisco Aironet 3500 Series Access Points with CleanAir technology deliver the industry's first systemwide solution that improves air quality with silicon-level intelligence to create a self-healing, self-optimizing wireless network that mitigates the impact of wireless interference and offers performance protection for 802.11n networks. Table 1 presents the features available for the Cisco Aironet 3500 Series Access Points with Cisco Unified Wireless Network Software Release 7.0.

**Table 1.** Cisco Aironet 3500 Series Access Point Features

| Feature | Description | Benefit |
|---|---|---|
| **Cisco Aironet 3500 Series Access Points** | **The Cisco Aironet 3500 Series offers many new features, including:**<br>• CleanAir technology, a systemwide feature of the Cisco Unified Wireless Network that streamlines operations and improves wireless performance by providing complete visibility into the wireless spectrum<br>• Nine times the throughput of existing 802.11a/g networks<br>• 802.11n performance from standard 802.3af Power over Ethernet<br>• 3500i model with internal antennas for typical office deployments<br>• 3500e model with external antenna connectors and an extended operating temperature for challenging environments<br>• Easily retrofit to existing Cisco Aironet 1130 and 1240 Series mounting brackets to simplify 802.11n migration<br>• Full operation under standard 802.3af Power over Ethernet | Organizations can deliver the high-performance of 802.11n with the systemwide features of Cisco CleanAir technology to create a self-healing, self-optimizing wireless network that mitigates the impact of wireless interference and offers performance protection for 802.11n networks. |

Designed specifically for challenging environments, the Cisco Aironet 1260 Series Access Points support external antennas, a broad operating-temperature range, and full operation under standard 802.3af Power over Ethernet. Table 2 describes the features available for the Cisco Aironet 1260 Series Access Points with Cisco Unified Wireless Network Software Release 7.0.

**Table 2.** Cisco Aironet 1260 Series Access Point Features

| Feature | Description | Benefit |
|---|---|---|
| **Cisco Aironet 1260 Series Access Points** | **The Cisco Aironet 1260 Series offers many new features, including:**<br>• Nine times the throughput of existing 802.11a/g networks<br>• Standard 802.3af Power over Ethernet<br>• Extended operating temperature and rugged components for deployment in extreme environmental conditions<br>• UL 2043 plenum-rated for above ceiling installation options or suspension from drop ceilings<br>• Mounting hardware that easily retrofits to existing 1130 and 1240 Series mounting brackets to simplify 802.11n migration | These enterprise-class wireless access points deliver a sleek design with rugged metal housing and durable components. |

### Cisco Wireless LAN Controllers

Table 3 describes the Release 7.0 features of Cisco Wireless LAN Controller when used in conjunction with the new Cisco Aironet 3500 Series Access Points and CleanAir technology.

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**Table 3.** New Features of the Cisco Wireless LAN Controller in Conjunction with CleanAir Technology

| CleanAir Feature | Description | Benefits |
|---|---|---|
| **Interference Detection and Classification** | CleanAir can classify over 20 different types of interference within 5 to 30 seconds. | Only Cisco has invested in creating a custom chipset optimized to allow detection of non-Wi-Fi wireless transmissions while simultaneously serving network traffic. Because the detection and classification takes place on inline silicon, rather than in software that consumes processing power, the 3500 Series produces interference visualizations that are much more detailed and precise than those produced by competing systems. This enables more intelligent decisions and policies, for automatic remedial action and faster troubleshooting. |
| **Per Interference Severity Impact** | An Air Quality Index provides a snapshot of the performance and impact of interference on the wireless network. | CleanAir provides full visibility into the performance and security of the wireless network with an easy to read Air Quality Index that identifies problem areas and locates them in the context of access point, floor, building, and campus. Network administrators can set alerts so that they are notified when air quality falls below a desired threshold. The system can also be configured to automatically enforce security or management policies. Cisco CleanAir generates reports to help network administrators prioritize interference issues that require immediate attention and easily drill down into the details for further network analysis. |
| **Air Quality by Access Point** | Provides an Air Quality rating on a per- radio basis to help administrators gauge the impact of interference on the network. | This feature provides advanced troubleshooting capabilities that allow organizations to view and use real-time interference data from individual CleanAir access points through the WLAN controller GUI or CLI. Administrators can quickly understand the severity and impact of non-Wi-Fi interference on network performance. This enables more intelligent decisions and policies, for automatic remedial action and faster troubleshooting. |
| **Air Quality Index Alarm Threshold** | Air Quality thresholds generate alerts, are user-configurable and can be used by any SNMP trap receiver for simple integration into existing network management infrastructure. | This feature provides 24 x 7, on-demand network monitoring. It automatically sends alerts when user-defined thresholds are exceeded for enhanced visibility and control. |
| **Rapid Update Mode** | Real-time Air Quality charts show interferers per CleanAir access point. Power and channel utilization is updated at 30-second intervals. | Organizations can use these charts to quickly view the impact of interference in near real-time and on a per-radio, per-channel basis. |
| **Spectrum Expert Connect Mode** | Any CleanAir access point can be configured as a network-connected sensor**.** | Administrators can instantaneously access any network location covered by a CleanAir access point using the Spectrum Expert configuration. This improves response time and eliminates the need for travel to analyze Interference data. |
| **Interference Alarms Sent as SNMP Messages** | Each time an interference device is classified by a CleanAir access point, details about the device type and severity of impact are transmitted via Simple Network Management Protocol (SNMP) messages. | This feature allows the use of industry-standard SNMP interfaces to monitor the presence and severity of non-Wi-Fi interference on many network management platforms. |
| **Spectrum Management Information Base (MIB)** | Industry-standard spectrum MIB created to support third-party products in integrating with CleanAir technology. | This feature allows organizations and integrators to create their own suite of network monitoring applications using CleanAir data. |
| **Event-Driven Radio Resource Management** | Interference data from Wi-Fi and non-Wi-Fi devices is detected and classified by CleanAir access points and then integrated into radio resource management (RRM) technology for automatic interference mitigation. | RRM intelligently and automatically adjusts network settings and channels to avoid RF interference and optimize network performance. This feature increases network reliability and reduces false positives associated with measurements based on Wi-Fi only. |
| **Persistent Device Avoidance** | CleanAir access points remember intermittent yet destructive interference and avoid the channels with the interference. | CleanAir can determine if interference is persistent from a stationary source, even an intermittent device such as a microwave oven, video camera, or network bridge link. The access points within range of the interference will change channels and will remember to avoid the impacted channels in the future. |

Table 4 describes the new features specific to the Cisco Wireless LAN Controller with Cisco Unified Wireless Network Software Release 7.0.

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**Table 4.** New Cisco Wireless LAN Controller Features

| Feature | Description | Benefit |
|---|---|---|
| **Support of 500 Access Points per Cisco 5500 Series Wireless Controller** | Organizations can support up to 500 Cisco Aironet Access Points with a single Cisco 5500 Series Wireless Controller. | Streamlines network management with fewer controllers, reducing operational costs and simplifying the ability to scale and support larger deployments |
| **Cisco VideoStream Technology** | A new systemwide set of features of the Cisco Unified Wireless Network that enables the reliable and consistent delivery of multicast streaming video over the WLAN. | Enhances the video collaboration experience for end users by ensuring the traffic prioritization, protection, monitoring, and adaptability required to deliver business-quality video over WLAN. |
| **Additive Licensing for Cisco 5500 Series Wireless Controller** | Adder licenses in increments of 25, 50, 100, and 250 access points can be added to any Cisco 5500 Series Wireless Controller base license to support a maximum of 500 Cisco Aironet access points. | Provides simplified licensing model that allows customers to scale their networks as their mobility requirements grow |
| **Enhanced Functionality for Wireless Controller Base Licenses** | Cisco OfficeExtend, Enterprise Wireless Mesh and Control and Provisioning of Wireless Access Points (CAPWAP) data encryption advanced features are now included in the wireless controller base license. | Allows organizations to cost effectively streamline the delivery of secure, enterprise wireless mesh and mobile teleworker deployments using a base license |
| **Passive Client Support** | Passive client support establishes TCP/IP communication with wireless clients configured with static IP addresses without any manual configuration changes on the client.<br>With this feature, the controller supports clients that associate with the network and go into sleep mode without requiring re-authentication. | Enables efficient network access by authenticated wireless devices that move between passive and active modes |
| **Enhanced Access Point Update and Joining Capability** | The controller can handle up to 500 simultaneous access point joins and access point image downloads. | Increases availability of the network by significantly reducing the network downtime |
| **Voice-over-WLAN Troubleshooting Enhancements** | The Cisco Voice Troubleshooting tool enhances voice connectivity from the device to the controller for roaming clients.<br>The tool provides voice troubleshooting to debug call sessions between two endpoints. The tool also monitors call activity on a per access point, per multiple access points, or per controller. | Simplifies and accelerates voice troubleshooting with centralized access to diagnostic features that help identify and resolve client device and voice call issues more easily<br>Voice-related diagnostic data such as calls accepted or rejected, call duration, call events/errors, QoS, or roaming can be reported and accessed through the WLC CLI or WCS to monitor and quickly respond to issues. |
| **FIPS Support** | **Federal Information Processing**<br>Standard (FIPS) 140-2 certification supports the following controllers and access points: the Cisco 5508 Wireless Controller; the Cisco Wireless Services Module; the Cisco Aironet 4400, 3750G, 3500i or 3500e, 1262, 1142, 1252, 1524, 1522, 1131, or 1242 Access Points. | Enables organizations to be compliant to U.S. federal acquisition policy |
| **SIP Call Admission Control** | Bandwidth reservation for Session Initiation Protocol (SIP)-based voice calls | Organizations can deliver high- performance support of SIP-based calls.<br>Historically, bandwidth is reserved via Traffic Specification (TSpec) but most SIP clients don't support TSpec, which prevents bandwidth reservation.<br>This feature enables the WLC to provision the bandwidth requirement for SIP calls and allocate or reserve bandwidth on per-usage or per-call basis. |

Cisco Wireless LAN Controller features are supported by Cisco 2100, 4400 and 5500 Series Wireless LAN Controllers; Cisco Catalyst 6500 Series and 7600 Router Series WiSM; Cisco WLCM and WLCM-E for integrated services routers; and the Cisco Catalyst 3750G Integrated Wireless LAN Controllers.

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/kobayashi/sw-center/sw-wireless.shtml (login required).

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### Cisco Wireless Control System

Table 5 presents the new Cisco WCS features that support Cisco CleanAir technology. Tables 6 and 7 introduce new Cisco WCS management features and enhancements that deliver improved operational efficiency with Cisco Unified Wireless Network Software Release 7.0.

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.** Cisco WCS Features that Support Cisco CleanAir Technology

| Feature | Description | Benefit |
|---|---|---|
| **Cisco CleanAir Dashboard** | Cisco WCS includes a customizable Cisco CleanAir dashboard that displays current and historical business-critical information about wireless air quality, RF interference events, and security alerts. Information available from the Cisco CleanAir dashboard includes:<br>• Air Quality summary<br>• Network areas with the worst RF conditions<br>• Recent security risk interferers<br>• Threshold alarms<br>• Interferer counts | Organizations have an easy-to-use Cisco CleanAir dashboard to assist with viewing, prioritizing, and managing RF interference issues that occur anywhere on the wireless network. |
| **Cisco CleanAir Enhancements to Cisco WCS Security Dashboard** | The Cisco WCS security dashboard is enhanced to include Cisco CleanAir information about RF interferers that are potential security risks.<br>These enhancements deliver the industry's only integrated security solution to provide immediate visibility of security issues at both the logical and physical layer of the network. | Organizations have a robust, systemwide view of wireless security that far exceeds the capabilities of traditional wireless security with intrusion prevention systems (wIPS). Cisco's unified security solution integrates alerts, alarms, adaptive wIPS, and Cisco CleanAir, making it unprecedented in the industry. |
| **Cisco CleanAir Enhancements to Cisco WCS Radio Resource Management Dashboard** | The Cisco WCS Radio Resource Management (RRM) dashboard is enhanced to include information about Cisco CleanAir RF interference alerts and mitigation. This feature aids in tracking RF interference events and correlating Cisco RRM adjustments that were made over the last 24 hours and for up to 7 days. | Organizations can review the current and historical actions taken by Cisco RRM in support of RF interference alerts generated by Cisco CleanAir. This facilitates the rapid understanding of why, where, and when Cisco RRM adjustments were made to the wireless network. |
| **Cisco CleanAir Enhancements to Cisco WCS Client Troubleshooting Tool** | The Cisco WCS client troubleshooting tool can show the Air Quality at the access point and identify the RF interferers that are affecting the client device. | Organizations can use the built-in Cisco WCS client troubleshooting tool to identify interferers that may be affecting client devices anywhere on the wireless network. |
| **Cisco CleanAir Enhancements to Cisco WCS Advanced Search** | The Cisco WCS advanced search tool includes options to search for interferers across the entire wireless network. A variety of search options are available to support searches for specific types of interferers and for specific severity, duty cycle, location, and other characteristics. | Organizations can quickly and easily search for RF interferers across the entire wireless network. |
| **Cisco CleanAir Display Tools and Heat Maps** | Cisco WCS includes new Air Quality tools, heat map options, and device detail information including:<br>• Options to display real-time network air quality by access point, floor, building, or campus<br>• Adjustable Cisco WCS heat map display of the average and minimum air quality for each location on the wireless network<br>• Mouse-over details about each interferer, including type of interferer, active or inactive status, detected and reported dates, and zone of impact from the floor map | Organizations can more easily visualize, evaluate, and understand the impact of Wi-Fi and non-Wi-Fi interference across all local and global locations in the wireless network. This supports the quick assessment of the air quality for each location. |

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| Feature | Description | Benefit |
|---|---|---|
| **Cisco CleanAir Reporting** | Cisco WCS can monitor, collect, and store Cisco CleanAir information for up to 30 days.<br>Customized reports can be generated based on current or stored information about RF interference and air quality.<br>Cisco CleanAir reports can assist with tracking of Wi-Fi and non Wi-Fi devices, network trends, and security policy effectiveness and enforcement.<br>Cisco CleanAir reports are available for:<br>• Air Quality over time<br>• Security risk interferers<br>• Worst air quality access points<br>• Worst interferers | Organizations have a built-in method to view and report on air quality data. This facilitates better visualization of the impact of RF interference on network performance and capacity. Baseline network behavior and trends that may affect network performance can be more easily established. |
| **Ten Most Severe RF Interference Devices** | A mouse-over option in the Cisco WCS floor map view displays the ten devices that are causing the most severe RF interference for each Cisco CleanAir access point. | Organizations can rapidly browse and assess the Wi-Fi and non-Wi-Fi devices that are causing the most severe RF interference on the wireless network. |
| **Cisco CleanAir Enhancements to Cisco Mobility Services Engine** | When Cisco Mobility Services Engine (MSE) is used in conjunction with Cisco WCS and Cisco CleanAir, the following additional features are available:<br>• Cisco CleanAir dashboard listing of the top RF interferers by severity<br>• Correlation of RF interference information across multiple access points<br>• Reports with historical tracking of devices generating RF interference<br>• Location mapping and zone of impact information for each interferer | Organizations have increased flexibility for managing RF interference, improving WLAN reliability, and enforcing security and network policies. |

**Table 6.** New Cisco WCS Features

| Feature | Description | Benefit |
|---|---|---|
| **Maps Import and Export for Cisco WCS Servers and Third-Party Tools** | Cisco WCS is significantly enhanced to support exporting and importing of Cisco WCS maps, hierarchies, map-related data, and network designs between one or more Cisco WCS servers.<br>Information from leading third-party site survey tools can be easily imported and integrated into Cisco WCS to aid in WLAN design and deployment. | Organizations can streamline day-to-day operations by re-purposing Cisco WCS mapping information and network designs across one or more Cisco WCS servers. RF data from third-party site survey tools can be easily imported into Cisco WCS to facilitate more detailed wireless LAN designs.<br>Organizations with numerous branch offices or distributed deployments will find the maps' import and export features especially helpful. |
| **Northbound Alarms and Events API** | Cisco WCS can forward alarms and events to third- party, northbound receivers and applications that have fault, configuration, accounting, performance, and security (FCAPS) capability, such as HP OpenView or IBM Tivoli Netcool.<br>Events and alarms notifications are sent via SNMP. Notifications are customizable within Cisco WCS by category and severity. | Organizations can view and manage Cisco WCS events and alarms from Cisco WCS or a centralized third-party, northbound receiver of their choice. |
| **Enhanced Auto-Provisioning Feature Suite for Wireless LAN Controllers** | Cisco WCS simplifies WLAN deployments with support for auto-provisioning of the following Cisco wireless LAN controller parameters: dynamic interface, country regulatory domain, and mobility groups. | Organizations with multiple controllers or large-scale WLANs can reduce deployment time, minimize configuration errors, and experience more consistent wireless implementations with enhancements to Cisco WCS auto-provisioning feature suite, which supports zero-touch deployments. |
| **Scheduled Wireless LAN Controller Image Upgrades** | Cisco WCS makes it easier to schedule wireless LAN controller firmware upgrades and access point pre-image downloads.<br>IT managers can schedule wireless LAN controller and access point firmware upgrades to occur at the date and time of their choice. FTP or TFTP are supported. A reboot scheduling option is available. | Organizations have greater flexibility and control in scheduling wireless LAN controller and access point image upgrades to occur during change windows of their choice. |
| **Scheduled Migration of Standalone (Autonomous) Access Points** | Cisco WCS templates support user-defined scheduled migration of Cisco Aironet standalone (autonomous) access points running Cisco IOS® Software to operate as lightweight access points running CAPWAP protocol.<br>Cisco self-signed certificate (SSC) entries on Cisco Aironet standalone access points can be saved in a CSV file for future reference. | Organizations can be more efficient by scheduling large-scale Cisco Aironet standalone access point migrations to the Cisco Unified Wireless Network to occur at a day and time of their choice—without manual intervention. |

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| Feature | Description | Benefit |
|---|---|---|
| **Serviceability Program** | The Cisco WCS Serviceability Program gives organizations the opportunity to provide anonymous usage statistics and wireless operational information to Cisco.<br>This voluntary "opt-in" program gathers anonymous statistics from Cisco WCS and the network. No confidential data is collected.<br>Learn more about this program by reading the Wireless Product Improvement Program policy. | Organizations have the opportunity aid in enhancing and improving Cisco WCS and other Cisco wireless products. |
| **TAC Attachment Tool** | Cisco WCS supports the "opt-in" collection of diagnostic data about Cisco Wireless LAN Controllers and Cisco Aironet access points to assist with Cisco Technical Assistance Center (TAC) cases. | Organizations can experience faster resolution of wireless LAN Cisco TAC cases. |
| **Enhanced Web Browser Support** | Cisco WCS supports Microsoft Internet Explorer 8.0 and Mozilla Firefox 3.5. | Organizations can manage Cisco WCS using Microsoft Internet Explorer 8.0 and Mozilla Firefox 3.5 or earlier versions. |
| **Cisco Secure Access Control Server 5.1** | Cisco WCS supports Cisco Secure Access Control Server (ACS) 5.1 for enhanced client troubleshooting. | Organizations can use Cisco WCS in conjunction with Cisco Secure ACS version 5.1 or earlier to assist with client troubleshooting. |

**Table 7.** New Cisco WCS Enhancements

| | | |
|---|---|---|
| **Ease-of-Use** | Cisco WCS ease-of-use is improved by enhancements to the following areas:<br>• The edit view option Access Point Details > Current Associated Client can now be customized to show additional columns such as Received Signal Strength Indicator (RSSI) and display protocol and uptime.<br>• The edit view option Clients Details Page > Association History can now be customized so that you can display the columns you are interested in.<br>• Support for multiple MAC address format<br>• Redesign of radio resource management (RRM) dynamic channel assignment (DCA) template<br>The following advanced search enhancements are available:<br>• Search by access point model and location<br>• Templates search by access point IP address range, name, and MAC address | Organizations can save time and improve day-to-day operations by using new Cisco WCS ease-of-use enhancements. |
| **Reporting** | Cisco WCS includes the following reporting enhancements:<br>• Reports can be built based on the previous calendar-month's reporting information.<br>• Data can be displayed by the device name for selected reports and charts.<br>• The Export Now reporting feature allows reports to be immediately exported without the need to run the report. | Organizations have enhanced flexibility in creating reports to meet their individual requirements. |
| **Rogue Device Management** | The following enhancements for rogue device management are available in Cisco WCS:<br>• Improved refresh of rogue device attributes such as channel and Service Set Identifier (SSID) as they change over time in the network<br>• Details about rogue devices that are seen by multiple controllers can be displayed by each individual controller.<br>• Several display terms on the rogue device report have been renamed to simplify operations. (For example, "Map Location" is renamed to "Location of Detecting AP.") | Organizations can improve WLAN security and more easily detect, monitor, and mitigate rogue devices found on their network. |
| **Voice Audit Tool** | The Voice Audit Tool best-practices configuration settings have been updated for the aggressive load balancing rule that is now audited per Voice-over-WLAN. | Organizations have additional options for configuring the delivery of business-class voice over wireless. |

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| | | |
|---|---|---|
| **Serviceability** | Cisco WCS serviceability is enhanced in the following areas for the wireless network:<br>• Critical exceptions logging<br>• Startup process logging<br>• Diagnostics<br>• Usage data collection<br>• CLI templates error handling | Organizations have the opportunity to aid Cisco in enhancing and improving Cisco wireless products by supporting the reporting of anonymous logging, diagnostics, data, and error information. |

### Cisco Mesh Access Points

Table 8 describes enhancements to the Cisco Aironet mesh access points available with Cisco Unified Wireless Network Software Release 7.0.

**Table 8.** New Cisco Aironet Mesh Access Point Features

| Feature | Description | Benefit |
|---|---|---|
| **Expanded Regional support** | The Cisco Aironet 1524SB (Serial Backhaul) Lightweight Outdoor Mesh Access Point is now available in additional regions worldwide.<br>The new part numbers introduced with Release 7.0 are:<br>• AIR-LAP1524SB-E-K9—ETSI configuration<br>• AIR-LAP1524SB-M-K9—Middle East configuration<br>• AIR-LAP1524SB-K-K9—Korea configuration<br>• AIR-LAP1524SB-S-K9—Singapore configuration<br>• AIR-LAP1524SB-T-K9—Taiwan configuration | Expands flexibility for outdoor wireless mesh deployment options to customers in additional global regions.<br>Organizations in these regions can now take advantage of the Cisco Aironet 1524SB Outdoor Mesh Access Point, which 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. |

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### Mobility Services

Table 9 describes the Release 7.0 mobility services features when used in conjunction with the Mobility Services Engine and CleanAir technology.

Table 10 describes the new features specific to the Cisco Mobility Services Engine with Cisco Unified Wireless Network Software Release 7.0.

**Table 9.** New Features of Context-Aware Mobility Software with CleanAir Technology

| Description | Description | Benefits |
|---|---|---|
| **Reporting Capability for Interferers** | Provides reporting capability for the top 10 worst interference devices. Further filtering can be done by band and ordered by severity.<br>These tables provide instant visibility into the 10 worst interference incidents currently being reported to the system. Interferers are classified by band (802.11b/g/n or 802.11a/n). | Administrators can use workflow links to efficiently view interference reports in the context of location or drill down to the radio level to perform troubleshooting and analysis.<br>This feature allows administrators to perform very granular analysis and enables a better understanding of the impact that devices causing interference have on the network. |
| **Correlation of Interference Devices across Multiple Wireless LAN Controllers** | Multiple access points will hear the same interference event. The MSE correlates and aggregates interference events that span more than one WLC It will identify and clarify that a source of interference is coming from a single interference device. | This feature not only provides visibility into the source of interference but identifies that it is the same interference that may be causing problems across larger network coverage areas. This feature indicates when only a single source of interference needs to be resolved, so that IT does not waste time looking for multiple sources. |
| **Interference History Tracking and Playback** | The MSE collects and stores location tracking information on reported interference devices and provides details for forensics and analysis.<br>Visual playback capability shows the exact movement and impact as the interferer moves within the network for the selected time of playback. | Historical interference tracking information and detailed playback allows administrators to correlate problems and quickly troubleshoot network issues.<br>This information also allows regular long- term tracking of organizational trends and provides visibility for monitoring non-Wi-Fi device usage and for policy enforcement.<br>The report launch pad interface allows highly customizable views of all reported interference devices so that IT administrators get the information the visibility they need. |
| **Location of Interferers Including Zone of Impact** | This feature provides detailed location and information about the visibility of an interference device, including the zone impacted, from a Wireless Control System floor map. | This feature saves valuable time in finding an interference source so that it can be permanently mitigated or policy can be changed.<br>The level of detailed visibility also provides valuable information on the impact not only to networks but to specific clients within the zone of impact, saving time in troubleshooting and reducing the cost for IT support. |

**Table 10.** New Mobility Services Features

| Feature | Description | Benefit |
|---|---|---|
| **Context-Aware Mobility Software** | | |
| **Troubleshooting and Notification Enhancements** | New troubleshooting and configuration enhancements have been implemented including:<br>• Mobility Services Engine support of up to 300 notifications per second per destination<br>• Enhanced NMSP troubleshooting GUI<br>• Improved error logging<br>• Better visibility into northbound notifications<br>• Enhanced synchronization history | Enhanced notificatication capabilities allow customers to receive a great number of real-time notifications in a timely manner.<br>Improved error logging and enhanced troubleshooting provide visibility/information when data is not being updated properly, allowing administrators to troubleshoot where the problems may exist– essentially providing a way to trace the path of data and drill down to the exact problem. |
| **Granular Synchronization** | This feature enables location tracking of all Wi-Fi and interference devices across the WLAN with synchronization on a per-floor and per- building level. | This feature increases efficiency for tracking Wi-Fi devices or interference devices on a per-floor or per-building basis across large campus or distributed deployments. |
| **Performance /Accuracy Enhancements** | Post calculation enhancements, history bounding, notification statistics, detailed view of the number of destinations configured with status and type of each destination | With these performance improvements accuracy is now improved to the average of 5m and CFD of 7m 90% of the time. |
| **Adaptive Wireless Intrusion Prevention Software** | | |
| **SNMP Traps** | Cisco Adaptive wIPS security alarms and events can now be forwarded to software applications via the management interface. | Having the capability to forward wIPS events and alarms provides flexibility for customers to integrate the security intelligence into applications suited for their specific needs and into various management platforms. |

## Limited Lifetime Hardware Warranty

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Cisco Aironet® 1260 and 3500 Series Access Points come with a Limited Lifetime Warranty that provides 10-day advance hardware replacement and ensures that software media is defect-free for 90 days. For comprehensive support that can help maximize network performance and efficiency, we offer a range of services from which you can choose support capabilities that meet your needs including direct, anytime access to Cisco engineers, flexible device-by-device coverage, and premium OS software updates. For more information, visit: www.cisco.com/go/warranty

## Service and Support

Services from Cisco and our partners can help you assess, design, tune and operate your wireless LAN to seamlessly integrate mobility services and take advantage of the systemwide capabilities of the Cisco Unified Wireless Network.

Our professional services help you align your interference management, performance, and security needs with your technical requirements to better utilize the self-healing, self-optimizing features built into the silicon-level intelligence of CleanAir technology and the increased performance of the 802.11n standard. These services can enhance deployment and operational efficiencies to reduce the cost and complexities of transitioning to new technologies.

Our technical support services help you maintain network availability and reduce risk. Optimization services provide ongoing assistance with performance, secure access, and maintaining a strong foundation for business evolution and innovation.

For more information about plan, build, and run services for **Cisco CleanAir technology**, Cisco 802.11n, and the Cisco Unified Wireless Network visit: Cisco Technical Support Services or Cisco Professional Services.

## For More Information

- For more information about Cisco wireless products, visit: http://www.cisco.com/go/wireless
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Printed in USA C25-598204-00 04/10

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