



Product Bulletin No. 3050

Cisco Unified Wireless Network Software Release 3.1

Cisco Systems® announces the availability of Cisco Unified Wireless Network Software Release 3.1. This release contains new features, as well as support for the features delivered in Cisco Unified Wireless Network Software Release 3.0. This software release provides support for the following new features: 802.11h support, enhanced support for the Cisco Wireless IP Phone 7920, enhanced integration with Cisco Secure Access Control Server (ACS), Network Admission Control (NAC) support, location services enhancements, regulatory domain updates, Lightweight Access Point Protocol (LWAPP) support for the Cisco Aironet 1130AG, 1200, 1230AG and 1240AG Series access points, and support for the Cisco Aironet 1500 Series lightweight outdoor mesh access point.

NEW FEATURES

The following new features are included in Cisco Unified Wireless Network Software Release 3.1. These features are supported by Cisco Aironet® lightweight access points, Cisco wireless LAN controllers, Cisco 2700 Series Wireless Location Appliances, and Cisco Wireless Control System (WCS).

802.11h Support

The International Telecommunication Union (ITU) Recommendation M1652 defines the mechanisms that allow WLANs to share the 5-GHz spectrum with primary-use devices such as military radar systems. These mechanisms are dynamic frequency selection (DFS) and transmit power control (TPC). DFS detects other devices using the same radio channel, and switches WLAN operation to another channel if necessary. DFS is responsible for avoiding interference with other devices, such as radar systems and other WLAN segments, and for uniform utilization of channels. TPC is intended to reduce interference from WLANs to satellite services by reducing the radio transmit power that WLAN devices use. TPC also can be used to manage the power consumption of wireless devices and the range between access points and wireless devices. These requirements have been adopted by the US, Europe and many other countries worldwide and have become part of national regulations, e.g. the U-NII Report&Order in the US.

Benefits of support and compliance with M1652 include:

- Widespread deployment of 802.11a wireless networks
- DFS and TPC can be used to improve the management, deployment, and operation of WLANs

Wireless LAN Controllers Supported: Cisco 2000, 4100, and 4400 Series

Access Points Supported: Cisco Aironet 1000, 1130AG, 1200, 1230AG and 1240AG Series lightweight access points; not supported on bridge links provided on Cisco Aironet 1030 Series lightweight access points or Cisco Aironet 1500 Series lightweight outdoor mesh access point.

Enhanced Support for the Cisco Wireless IP Phone 7920

Two new capabilities provide enhanced support for the Cisco Wireless IP Phone 7920:

- **Dynamic Transmit Power Control (DTPC) Information Element**—The DTPC is a new beacon and probe information element that allows the access point to broadcast its transmit power. Clients can use this information to automatically configure themselves to that power while associated with that access point. In this manner, both devices are transmitting at the same level. The Cisco Wireless IP Phone 7920 will automatically adjust its transmit power to the same level as the access point to which it is associated.
- **QoS Basis Service Set (QBSS) Information Element**—The QBSS is a beacon and probe information element that enables the access point to communicate its channel utilization to wireless devices. Because access points with high channel utilization might not be able to handle real-time traffic effectively, clients use the QBSS value to determine if they should associate with another access point. The QBSS information element was first supported in Cisco Centralized Wireless LAN Software Release 3.0 with two different formats available—the pre-standard (Draft 6) QBSS information element and the WMM standard (Draft 13) QBSS information element. In this release, a new custom QBSS information element has been added for the Cisco Wireless IP Phone 7920—the Voice Services Information Element (VSIE). The Cisco Wireless IP Phone 7920 will start using this new information element later this year.

Benefits of enhanced support for the Cisco Wireless IP Phone 7920 include:

- Better roaming decisions by the phone improves overall voice quality
- Optimization of transmit power improves phone battery life and reduces RF pollution

Wireless LAN Controllers Supported: Cisco 2000, 4100, and 4400 Series

Access Points Supported: Cisco Aironet 1000, 1130AG, 1200, 1230AG, 1240AG Series lightweight access points and Cisco Aironet 1500 Series lightweight outdoor mesh access point

Enhanced Integration with Cisco Secure ACS

Cisco wireless LANs using lightweight access points have an identity-based networking feature that uses authentication, authorization, and accounting (AAA) override. When the following vendor-specific attributes are present in the RADIUS access accept message, the values override those present in the WLAN profile:

- QoS level
- 802.1p value
- VLAN interface name
- Access control list (ACL) name

In this release, support is being added for the AAA server to return the VLAN number or name using the standard “RADIUS assigned VLAN name/number” feature defined in IETF RFC 2868 (RADIUS Attributes for Tunnel Protocol Support). To assign a wireless client to a particular VLAN, the AAA server sends the following attributes to the controller in the access accept message:

- IETF 64 (Tunnel Type): VLAN
- IETF 65 (Tunnel Medium Type): 802
- IETF 81 (Tunnel Private Group ID): VLAN # or VLAN Name String

This enables Cisco Secure ACS to communicate a VLAN change that may be a result of a posture analysis.

Benefits of integration with Cisco Secure ACS include:

- Integration with Cisco Secure ACS reduces installation and setup time
- Cisco Secure ACS operates smoothly across both wired and wireless networks

Wireless LAN Controllers Supported: Cisco 2000, 4100, and 4400 Series

Access Points Supported: Cisco Aironet 1000, 1130AG, 1200, 1230AG, 1240AG Series lightweight access points and Cisco Aironet 1500 Series lightweight outdoor mesh access point

Network Admission Control (NAC) Support

Networks must be protected from security threats, such as viruses, worms, and spyware. These security threats disrupt business, causing downtime and continual patching. Endpoint visibility and control is needed to help ensure that all wired and wireless devices attempting to access a network meet corporate security policies. Infected or vulnerable endpoints need to be automatically detected, isolated, and cleaned.

Cisco NAC has been designed specifically to ensure that all wired and wireless endpoint devices (such as PCs, laptops, servers, and PDAs) accessing network resources are adequately protected from security threats. Cisco NAC allows organizations to analyze and control all devices coming into the network. By ensuring that every endpoint device complies with corporate security policy and is running the latest and most relevant security protections, organizations can significantly reduce or eliminate endpoint devices as a common source of infection or network compromise.

Network Admission Control (NAC) L2 IEEE 802.1x extends Cisco NAC support to layer 2 switches, wireless access points, and wireless controllers. Combining NAC with 802.1x provides a unified authentication and posture validation mechanism at the layer 2 network edge. Performing posture validation at the edge maximizes the portion of the network which is protected.

If the controller is configured to support EAP authentication of clients and VLAN override is configured on the RADIUS server, no additional configuration of the controller is required to support NAC.

Wireless LAN Controllers Supported: Cisco 2000, 4100 and 4400 Series

Access Points Supported: Cisco Aironet 1000, 1130AG, 1200, 1230AG, 1240AG Series lightweight access points and Cisco Aironet 1500 Series lightweight outdoor mesh access point

Location Services Enhancements

Two new capabilities that enhance the location services capabilities of the Cisco wireless LANs using lightweight access points are now available:

- Enhanced location calibration via a best model selection process for improved location accuracy
- Availability of external antenna patterns for the Cisco Aironet 1130AG, 1200, 1230AG and 1240AG Series access points running LWAPP. Location support for the following external antennas is now available when used with Cisco Aironet 1130AG, 1200, 1230AG and 1240AG Series access points:
 - 2.4-GHz antenna support
 - AIR-ANT-4941
 - AIR-ANT-1728
 - AIR-ANT-5959
 - AIR-ANT-2509
 - AIR-ANT-3549
 - 5-GHz antenna support
 - AIR-ANT-5135D-R
 - AIR-ANT-5145V
 - AIR-ANT-5160

Benefits of these new location services enhancements include:

- Improved location accuracy
- Availability of location capability for Cisco Aironet 1130AG, 1200, 1230AG and 1240AG Series access points running LWAPP when they are using specific external antennas

Wireless LAN Controllers Supported: Cisco 2000, 4100, and 4400 Series

Access Points Supported: Cisco Aironet 1000, 1130AG, 1200, 1230AG and 1240AG Series lightweight access points

Regulatory Domain Updates

International regulatory requirements are in a constant state of flux. To stay up to date on these changes, the following regulatory domain updates are included in this release:

- Addition of China to the list of configurable Country Codes on the Wireless LAN controller
- Support for the new –R regulatory domain (2.4 GHz only), for use in Indonesia and Thailand (Cisco Aironet 1000 Series lightweight access points only)

Benefits of these regulatory domain updates include:

- Ability to utilize the Cisco WLANs using lightweight access points in China, Indonesia, and Thailand

Wireless LAN Controllers Supported: Cisco 2000, 4100, and 4400 Series

Access Points Supported: Cisco Aironet 1000, 1130AG, 1200, 1230AG, 1240AG Series lightweight access points and Cisco Aironet 1500 Series lightweight outdoor mesh access point. The –R regulatory domain will only be available for the Cisco Aironet 1000 Series lightweight access points.

New Hardware Platform Support

The following new hardware platforms are supported in this release:

- Support for the Cisco Aironet 1500 Series lightweight outdoor mesh access point. For more information, refer to <http://www.cisco.com/go/wirelessmesh>.
- Support for the Cisco Aironet 1130AG, 1200, 1230AG and 1240AG Series access points running LWAPP. For more information, refer to http://www.cisco.com/en/US/products/hw/wireless/ps430/prod_bulletins_list.html.

DOWNLOAD THE NEW SOFTWARE FOR THIS RELEASE

Download Cisco Integrated Wireless Network Software Release 3.1 from the [Cisco Wireless Software Display Tables](#).

RELATED INFORMATION

For more information about Cisco wireless LAN products, visit <http://www.cisco.com/go/securewireless>.

For more information about the Cisco Integrated Wireless Network, visit <http://www.cisco.com/go/integratedwireless>.

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

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