Cisco Unified Wireless Network Software Release 4.1.190.5 (Mesh Release 1)

PB428279

Overview

Cisco® announces the availability of Cisco Unified Wireless Network Software Release 4.1.190.5. This release is the first in a series of software releases separate from the main release sequence or "train" for the Cisco Unified Wireless Network. Extended wireless mesh functionality is delivered in this series, and will only be available in this release series until the features are merged back into the main train at a future date. Although customers operating both a wireless mesh network and a network of standard access points will need at least one wireless LAN controller for each release, they will continue to enjoy the benefits of the Cisco Unified Wireless Network. A single network design and policy set can be deployed across the network access points, while clients continue to roam seamlessly between access points based on 4.1.x.x, regardless of whether the access point is a standard access point or a mesh access point. Moreover, customers can manage all of their access points with a single instance of Cisco Wireless Control System, regardless of which controller the access point is connected to.

Access Points

Cisco Unified Wireless Network Software Release 4.1.190.5 supports the following mesh access points:

- Cisco Aironet® 1505 Lightweight Outdoor Mesh Access Point
- Cisco Aironet 1510 Lightweight Outdoor Mesh Access Point
- Cisco Aironet 1522 Lightweight Outdoor Mesh Access Point

It does not support other Cisco lightweight access points, such as:

- Cisco Aironet 1000 Series
- Cisco Aironet 1100 Series
- Cisco Aironet 1130 Series
- Cisco Aironet 1200 Series
- Cisco Aironet 1230 Series
- Cisco Aironet 1240 Series
- Cisco Aironet 1300 Series

For lightweight access points not supported with this release, please use a separate wireless LAN controller with Release 4.1.185.0 or another release that supports your access points.

Wireless LAN Controllers

Cisco Unified Wireless Network Software Release 4.1.190.5 is supported on the following controllers:

- Cisco 2100 Series Wireless LAN Controller

- Cisco 4400 Series Wireless LAN Controller

- Cisco Catalyst 6500 Series Wireless Service Module

The Cisco Unified Wireless Network Software Release 4.1.190.5 supports wireless mesh functionality for Cisco IOS® Software-based platforms in addition to platforms based on VxWorks. For VxWorks-based platforms, Release 4.1.190.5 builds upon the features available to mesh access points in Release 4.1.185.0. For Cisco IOS Software-based platforms, Release 4.1.190.5 provides many of the features available to VxWorks-based platforms in Release 4.1.185.0, although some features will not be delivered until a later release.

Please refer to documentation for Release 4.1.185.0 for information about features supported by the Cisco Unified Wireless Network.

Note that Cisco Wireless Control System Release 4.1.91 manages controllers using version 4.1.185.0 and 4.1.190.5. You do not need a separate instance of WCS to manage each controller.

Software Images

The following table lists the file name for the images associated with this release.

Table 1.   Software Images List

Products	4.1.190.5 and Related Software Images		
AP		Image	Boot Image
	1505 1510 1520	VxWorks VxWorks c1520-k9w9-tar.124-3g.JMA1	VxWorks VxWorks 1520-boot-m.124-3g.JMA1
WLC-4400	AIR-WLC4400-K9-4-1-190-5.aes		
WLC-2100	AIR-WLC2100-K9-4-1-190-5.aes		
WiSM	SWISMK9-4-1-190-5.aes		
WCS	WCS-STANDARD-K9-4.1.91.0.bin or WCS-STANDARD-K9-4.1.91.0.exe		
WCS Navigator	NAVIGATOR-K9-1.0.91.0.bin or NAVIGATOR-K9-1.0.91.0.exe		

Mesh Software Image Selection Guideline

Refer to these guidelines to determine which release is best for you.

Indoor, non-mesh APs only

Follow the Controller Main Line Release Train (e.g. 4.1.185.0, 4.2). See Mesh Software Image Roadmap Diagram below.

Do NOT upgrade your APs to release 4.2 if you intend to use your indoor APs in mesh mode as Enterprise Wireless Mesh APs when this feature is available in the Fall 2007 mesh release (this is

referred to as Mesh Release 2, and follows on to Mesh Release 1—4.1.190.5). Instead, use release 4.1.185.0, and migrate to this follow on release.

Outdoor and indoor APs

- Europe, Singapore, and other countries needing DFS functionality

  Use release 4.0.217.203. Migrate to Mesh Release 2 when available in Fall 2007 (Mesh Release 2 is on the Mesh Train and follows Mesh Release 1—4.1.190.5).

  Do NOT use any release from 4.0.219.0 through 4.1.190.5, or 4.2. If you require functionality provided in one of these releases for your indoor APs, you will need to use a separate Controller; but note that your clients will not be able to seamlessly roam between indoor and outdoor APs. You can merge back into a single Controller with Mesh Release 2, or you can continue on the Controller Main Line Release Train for indoor-non-mesh APs with a separate Controller. (Again, your clients will not be able to roam seamlessly between indoor and outdoor APs if they are on release derived from different major releases [i.e. 4.1 vs. 4.2].)

- US and other countries not needing DFS functionality[1]

  Use release 4.1.190.5 for your outdoor-mesh APs, and use a separate Controller for your indoor-non-mesh APs. Migrate to Mesh Release 2 available in Fall 2007. Mesh Release 2 will support all unified APs—outdoor-mesh APs, indoor Enterprise Wireless Mesh APs, and indoor-non-mesh APs.

  If you require functionality for your indoor APs provided in the Controller Main Line Release Train (such as in release 4.2), you will need to use a separate Controller; but note that your clients will not be able to roam seamlessly between indoor and outdoor APs.

Mesh Software Roadmap Diagram

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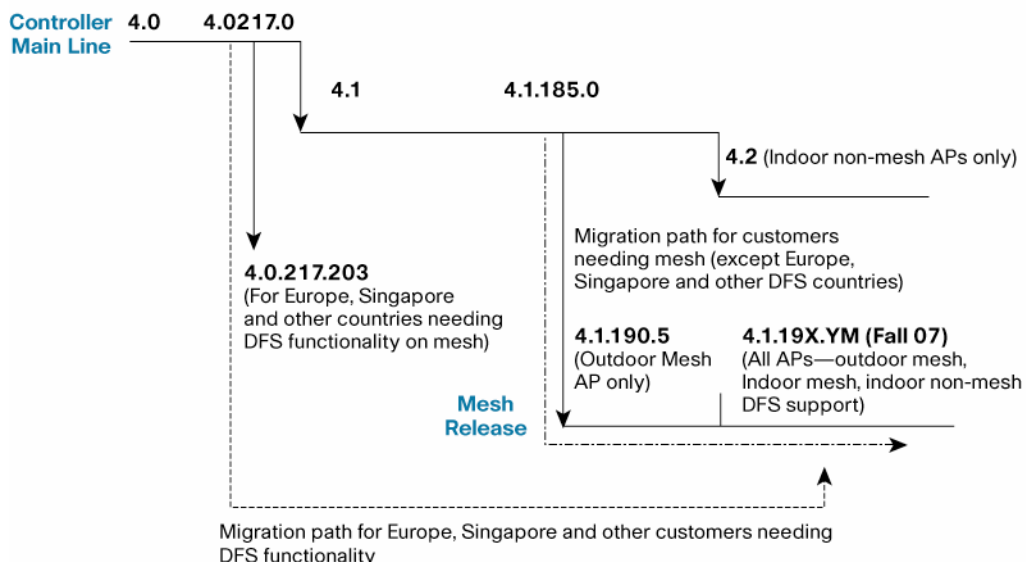
[1] Note that for US customers, DFS functionality is not needed for the 1505 and 1510. For the 1520, DFS functionality is not needed in 4.1.190.5, as only non-DFS channels are enabled.

The Features Supported by Different Cisco Aironet Access Points

The features available to you in Cisco Unified Wireless Network Software Release 4.1.190.5 will depend on which access point you are using. Table 2 provides a summary.

The Cisco Aironet 1505 access point uses the VxWorks operating system. It is a single band access point, which uses its 802.11b/g radio to provide access to clients as well as backhaul traffic between mesh nodes.

The Cisco Aironet 1510 access point uses the VxWorks operating system. It is a dual- band access point, using the 802.11b/g radio to provide access to clients, and the 802.11a radio to backhaul traffic between mesh nodes.

The Cisco Aironet 1522 access point uses Cisco IOS operating system. It is a dual-band access point, using the 802.11b/g radio to provide access to clients, and using the 802.11a radio to backhaul traffic between mesh nodes. The Cisco Aironet 1522 access point optionally supports a DOCSIS 2.0 cable modem or fiber module to connect to the wired network.

Table 2. Features Supported by Different Access Points

Feature Description	Cisco Aironet 1505	Cisco Aironet 1510	Cisco Aironet 1522
Mesh Networks			
Passive Scanning: Access point looks for better alternative parent on its current backhaul channel.	Yes	Yes	Yes (New with this release)
Background Scanning: Access point looks for better alternative parent on any possible backhaul channel.	Yes	Yes	Future
Optimal Parent Selection: Access point joins to best available parent.	Yes	Yes	Yes (New with this release)
Exclusion Listing: Access point avoids selecting as parent access points where a pattern has been established.	Yes	Yes	Yes (New with this release)
Radar-Free Coordinated Sector: Access point notifies parent when radar detected on channel so an alternative channel can be employed by the sector.	Yes	Yes	Future
Synchronized Channel Change: Parent advises children of intended channel change.	Yes	Yes	Future
Reliable Link Layer, Extended Retries: Unsuccessful transmissions are retried for an extended attempt to improve reliability.	Yes	Yes	Future
Reliable Link Layer, Secondary Backhaul Radio: A secondary backhaul radio is utilized (when available) to transmit packets that have been unsuccessful across the primary backhaul radio.	N/A	Yes	Future
Passive Beaconing: Log messages from an access point that can't connect are relayed through other access points to the controller.	Yes	Yes	Future
Network Services			
Ethernet Bridging: Bridges traffic from hosts connected to wired port.	Yes	Yes	Yes (New with this release)
Containment of Bridged Multicast Traffic: Multicast traffic from mesh access point Ethernet port is contained to the RAP Ethernet network.	Yes	Yes	Yes
Universal Access: Radio used for backhaul traffic offers access for wireless clients.	Yes	Yes	Future

Feature Description	Cisco Aironet 1505	Cisco Aironet 1510	Cisco Aironet 1522
Support for Workgroup Bridges: Allows multiple wired hosts to connect to the wireless network through a WGB.	Yes	Yes	Future
Multiple Queues for Backhaul Traffic: Extends client traffic prioritization to the backhaul link.	Yes	Yes	Yes (New with this release)
Static CAC: Ensures sufficient bandwidth is available in a mesh sector before serving new TSpec client call request.	No	Yes	Future
Mesh Security			
EAP Authentication: Restricts mesh node access to approved, authenticated access points. Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST) provides secure authentication and encryption key management.	Yes	Yes	Yes (New with this release)
Platform Support			
2.4-GHz Band	Yes	Yes	Yes (New with this release)
4.9-GHz Band	N/A	Yes	Yes (New with this release)
5.47-GHz Band	N/A	Yes	Future
5.8-GHz Band	N/A	Yes	Yes (New with this release)
Dynamic Frequency Selection: Selects alternative channel when radar is detected in regulated bands.	N/A	Yes	Future
DOCSIS 2.0 Cable Modem	N/A	N/A	Yes (New with this release)
Fiber Module	N/A	N/A	Yes (New with this release)
External Battery Status	Yes	Yes	Future
Internal Battery Status	N/A	N/A	Yes (New with this release)
LED Status Indicator(s)	Yes (With LED accessory)	Yes (With LED accessory)	Yes (New with this release)
Applications			
High-Speed Roaming: Supports Cisco Compatible Extensions Version 4 or greater clients with roaming speeds up to 70 miles per hour.	No	Yes	Future
Location: Clients are identified by which access point they are nearest to.	Yes	Yes	Future

Mesh Access Point Interoperability

With software Release 4.1.190.5, the Cisco Aironet 1522 access point can be a rooftop access point (RAP) to a Cisco Aironet 1522 or 1510 mesh access point (MAP). The Cisco Aironet 1510, however, can only be a RAP to a Cisco Aironet 1510 MAP. Table 3 shows access point interoperability.

Table 3.   Access Point Interoperability

	Cisco Aironet 1505 MAP	Cisco Aironet 1510 MAP	Cisco Aironet 1522 MAP
Cisco Aironet 1505 RAP	Yes	No	No
Cisco Aironet 1505 MAP	Yes	No	No
Cisco Aironet 1510 RAP	No	Yes	No
Cisco Aironet 1510 MAP	No	Yes	No
Cisco Aironet 1522 RAP	No	Yes	Yes
Cisco Aironet 1522 MAP	No	No	Yes

Downloading the New Software for This Release

Download Cisco Unified Wireless Network Software Release 4.1.190.5 from the Cisco Wireless Software Center at http://www.cisco.com/kobayashi/sw-center/sw-wireless3.shtml.

For More Information

For more information about Cisco Outdoor Wireless Network, visit:
http://www.cisco.com/go/outdoorwireless

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