



Release Notes for Cisco Aironet Access Points and Bridges for Cisco IOS Release 15.3(3)JA3

First Published: February 23, 2015

These release notes describe features, enhancements, and caveats for Cisco IOS Release 15.3(3)JA3. This release supports these Cisco Aironet autonomous access points:

- AP 702I
- AP 700W
- AP 802
- AP 1040
- AP 1140
- AP 1260
- AP 1530
- AP 1550 (128 MB only supported)
- AP 1600
- AP 1700
- AP 2600
- AP 2700
- AP 3500
- AP 3600 (AIR-RM3000AC-x-K9 802.11ac module is not supported)
- AP 3700



Contents

These release notes contain these sections:

- [Introduction, page 2](#)
- [System Requirements, page 2](#)
- [New Features and Platforms in this Release, page 6](#)
- [Important Notes, page 10](#)
- [Caveats, page 8](#)
- [Troubleshooting, page 18](#)
- [Obtaining Documentation, Obtaining Support, and Security Guidelines, page 18](#)

Introduction

The Cisco Aironet Access Point is a wireless LAN transceiver that acts as the connection point between wireless and wired networks or as the center point of a standalone wireless network. In large installations, the roaming functionality provided by multiple access points enables wireless users to move freely throughout the facility while maintaining uninterrupted access to the network.

System Requirements

You can install the 32 MB Cisco IOS Release 15.2(4)JB3a on all 802, 1040, 1140, 1260, 1550, 1600, 2600, 3500, and 3600 series access points. New APs 702 and 1530 support 128 MB minimum flash and AP 3700 supports 64 MB minimum flash.

Finding the Cisco IOS Software Release

To find the version of Cisco IOS software that is running on your access point, use a Telnet session to log into the access point, and enter the **show version EXEC** command. This example shows command output from an access point that is running Cisco IOS Release 15.3(3)JA3:

```
ap1260AG> show version
Cisco IOS Software, C1260 Software (AP3G1-K9W7-M), Version 15.3(3)JA3
Copyright (c) 1986-2010 by Cisco Systems, Inc.
```

On access points running Cisco IOS software, you can also find the software release on the System Software Version page in the access point's web-browser interface. If your access point does not run Cisco IOS software, the software release appears at the top left of most pages in the web-browser interface.

Upgrading to a New Software Release

To upgrade your access point or bridge software, follow these steps:

-
- Step 1** Follow this link to the Cisco home page:

<http://www.cisco.com>

- Step 2** Click **Support**. The Support and Documentation page appears.
- Step 3** Under the Select a Product Name, click **Wireless**. The Product/Technology Support page appears.
- Step 4** Under the Make a Selection to Continue section, click **Access Point**. Products and Access Point are highlighted.
- Step 5** Select the access point model for which you need the information. For example, click the **Cisco Aironet 1260 series**. A list of documents appears.
- Step 6** Click **Configure**. A list of configuration documents appears.
- Step 7** Click **Cisco IOS Software Configuration Guide for Cisco Aironet Access Points, 15.3(3)JA3**.
- Step 8** Navigate to the Managing Firmware and Software chapter.

For information on Cisco IOS software, click this link to browse to the Cisco IOS Software Center on Cisco.com:

<http://www.cisco.com/cisco/software/navigator.html>

The new Cisco IOS software is supported only in these versions of 1550 series:

Version	First VID with 128 MB
1552E	VID 04
1552EU	VID 01 (all)
1552I	VID 03
1552H	VID 04
1552S	VID 01 (all)



Note

AP 1550 does not support 64 MB Cisco IOS Release starting from 15.2(4)JA1 in autonomous mode.

Converting a Lightweight Access Point Back to Autonomous Mode

You can convert an access point from lightweight mode back to autonomous mode by loading a Cisco IOS Release that supports autonomous mode. If the access point is associated with a controller, you can use the controller to load the Cisco IOS release. If the access point is not associated with a controller, you can load the Cisco IOS release using TFTP. The image files and their supported access points are listed in [Table 1](#).



Note

Conversions from an 8.0 Wireless LAN Controller unified release AP image to autonomous 15.3(3) k9w7 image will get aborted with a message "AP image integrity check failed." To overcome this, load any previous autonomous k9w7 image and then upgrade to the 15.3(3) JAB k9w7 images.

Table 1 **Image File Names**

Image File	Supported Access Point
Ap3g2	1700I, 2700I/2700E, 2600I/2600E, 3600I/3600E, 3700I/3700E
Ap3g1	3500I/3500E, 1260I/1260E
Ap1g1	702I, 702W
Ap1g3	1530I/1530E
Ap1g2	1600I/1600E
1520	1552E, 1552EU, 1552S, 1552I, 1552H, 1552C, 1552 CU
1140	1040 and c1140

Disabling Radios to Prevent Unexpected Reboots When Upgrading the System Software

If your access point runs Cisco IOS Release 12.2(11)JA, 12.2(11)JA1, or 12.2(11)JA2, your access point might unexpectedly reboot after you upgrade to a later Cisco IOS release. However, after the access point reboots, the upgrade is complete and the access point operates normally. It is recommended to disable the radio interfaces before upgrading the software to prevent the access point from rebooting unexpectedly.

To disable the radio interfaces using the access point's web-browser interface, which you can access through the access point's Ethernet port, follow these steps:

-
- Step 1** Browse to the Network Interfaces: Radio Settings page. [Figure 1](#) shows the top portion of the Network Interfaces: Radio Settings page.

Figure 1 Network Interfaces: Radio Settings Page

The screenshot displays the configuration page for a Cisco Aironet 1260 Series Access Point. The main title is "Cisco Aironet 1260 Series Access Point". The page is divided into several sections:

- Navigation Menu:** Includes HOME, EXPRESS SET-UP, EXPRESS SECURITY, NETWORK MAP, ASSOCIATION, NETWORK INTERFACES, IP Address, GigabitEthernet, Radio0-802.11N^{2.4GHz}, Radio1-802.11N^{5GHz}, SECURITY, SERVICES, WIRELESS SERVICES, SYSTEM SOFTWARE, and EVENT LOG.
- Radio0-802.11N^{2.4GHz} Settings:**
 - Operating Mode:** Mixed
 - Enable Radio:** Enable, Disable
 - Current Status (Software/Hardware):** Enabled ↑, Up ↑
 - Role in Radio Network:**
 - Access Point
 - Access Point (Fallback to Radio Shutdown)
 - Access Point (Fallback to Repeater)
 - Repeater
 - Root Bridge
 - Non-Root Bridge
 - Root Bridge with Wireless Clients
 - Non-Root Bridge with Wireless Clients
 - Workgroup Bridge
 - Universal Workgroup Bridge Client MAC: (HHHH.HHHH.HHHH)
 - Scanner
 - Data Rates:**
 - 1.0Mb/sec: Require, Enable, Disable
 - 2.0Mb/sec: Require, Enable, Disable
 - 5.5Mb/sec: Require, Enable, Disable

- Step 2** Choose **Disable** to disable the radio.
- Step 3** Click **Apply** at the bottom of the page.
- Step 4** If your access point has two radios, repeat these steps for the second radio.

Beginning in privileged EXEC mode, follow these steps to disable the access point radios using the access point CLI:

	Command	Purpose
Step 1	configure terminal	Enters global configuration mode.
Step 2	interface dot11radio {0 1}	Enters interface configuration mode for the radio interface. The 2.4-GHz radio is radio 0, and the 5-GHz radio is radio 1.
Step 3	shutdown	Disables the radio port.
Step 4	end	Returns to privileged EXEC mode.
Step 5	copy running-config startup-config	(Optional) Saves your entries in the configuration file.

If your access point has two radios, repeat these steps for the second radio. Use the **no** form of the **shutdown** command to enable the radio.

Supported Browsers

These browsers are supported:

- Internet Explorer 8.x and later
- Firefox 3.x and later

New Features and Platforms in this Release

This section lists the new features and supported platforms in Cisco IOS Release 15.3(3)JA3.

Support for New Access Point Platforms

This release supports the following new access point platforms:

- Support for Cisco Aironet 700W Series access point:
 - This 802.11n dual band access point is built on 2x2:2(2.4GHz), 2x2:2(5GHz) MIMO technology, The access point is designed to be wall plate-mounted in indoor environments, and has internal antennas.
 - This access point has one 10/100/1000BASE-T PoE Uplink/WAN port and four 10/100/1000BASE-T RJ-45 local Ethernet ports for wired device connectivity. The fourth port functions as a PoE-Out port when the AP is powered by 802.3at Ethernet switch, Cisco power injector AIR-PWRJ4=, or Cisco Power Supply.
 - By default, all four local Ethernet ports are disabled. You can enable them when required.
 - The LED status display is disabled by default. You can enable it using the CLI command, **no led display off**
 - You can also configure the local Ethernet ports to a VLAN ID using the interface configuration command, **vlan** *vlan-id*.
- Support for Cisco Aironet 3700 Series access point
 - This access point is built on 4x4:3(2.4GHz), 4x4:3(5GHz) MIMO technology, with integrated and external antenna options, and supports 802.11a,b,g,n,ac.
 - Supported models are 3700E and 3700I
- Support for Cisco Aironet 2700 Series access point
 - This access point is built on 3x4:3(2.4GHz), 4x4:3(5GHz) MIMO technology, with integrated and external antenna options, and supports 802.11a,b,g,n,ac. This access point has both primary and secondary gigabit Ethernet ports. The primary port is gigabit Ethernet 0 and is the backhaul port. The primary port can be set as trunk port. The secondary port is gigabit Ethernet 1, and is the access port. You can configure the secondary port to a VLAN ID using the interface configuration command **bridge multiple-port client-vlan** *vlan-id*
 - Supported models are 2700E and 2700I
- Support for Cisco Aironet 1700 Series access point
 - This access point is built on 3x3:2(2.4GHz), 3x3:2(5GHz) MIMO technology, and comes with integrated antennas, and supports 802.11a,b,g,n,ac. This access point has both primary and secondary gigabit Ethernet ports. The primary port is gigabit Ethernet 0 and is the backhaul

port. The primary port can be set as trunk port. The secondary port is gigabit Ethernet 1, and is the access port. You can configure the secondary port to a VLAN ID using the interface configuration command **bridge multiple-port client-vlan** *vlan-id*

- Supported model is 1700I

New Features

Support for Cisco Aironet Universal Access Points

Cisco Aironet Universal Access Points address the worldwide regulatory compliance requirements for APs, by dynamically setting their regulatory domain and country configurations based on their geographical location. A universal access point, hence, allows the user to reconfigure its regulatory domain whenever required by the user. Cisco Aironet Universal Access Points are unlike the current Cisco Aironet Access Point models which have a fixed regulatory domain – such as -A, -E, etc – and are shipped with a permanent preconfigured regulatory compliance configuration. The regulatory domain and country configurations for AP models with a fixed regulatory domain cannot be modified.

The regulatory domain and country configuration for a universal access point can be set either manually using the Cisco AirProvision smartphone application, or automatically using Cisco Neighbor Discovery Protocol (NDP) message propagation. For more details see the *Cisco Aironet Universal AP Priming and Cisco AirProvision User Guide* at the following URL:

http://www.cisco.com/c/en/us/td/docs/wireless/access_point/ux-ap/guide/uxap-mobapp-g.html

Multiple Port Support for Cisco Aironet 1550 Series Outdoor Access Points

The 1550 series has four Ethernet ports – PoE-In port, PoE-Out port, Auxiliary port, and SFP Port. All four ports are supported in the current release. This series also has an internal cable modem in the 1552C and 1552CU models. The cable modem connects to the Auxiliary port.

You can set the PoE-In port, SFP port, or the Auxiliary port as the primary Ethernet port. You can set the primary Ethernet port using the configuration command:

dot11 primary-ethernet-port *port-number-0to3*

You can set the primary Ethernet port as a trunk and handle multiple VLANs, but the secondary ports can be set as access ports only. To configure the *vlan-id* in secondary ports, use the interface configuration command **bridge multiple-port client-vlan** *vlan-id*

Support for L2TPv3

Layer 2 Tunneling Protocol (L2TPv3), is a tunneling protocol that enables tunneling of Layer 2 packets over IP core networks.

Autoconfig

The autoconfig feature allows an AP to download configuration periodically from an SCP server.

If this feature is enabled, AP downloads a configuration file from a SCP server at a pre determined time and applies this configuration on AP and schedules next configuration download. The username, password, server-name, configuration filename are preconfigured on AP.

Caveats

This section lists [Open Caveats](#) and [Resolved Caveats](#) for access points and bridges in Cisco IOS Release 15.3(3)JA3.

Cisco Bug Search Tool

The Bug Search Tool (BST), which is the online successor to Bug Toolkit, is designed to improve the effectiveness in network risk management and device troubleshooting. The BST allows partners and customers to search for software bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. The tool has a provision to filter bugs based on credentials to provide external and internal bug views for the search input.

To view the details of a caveat listed in this document:

1. Access the BST (use your Cisco user ID and password) at <https://tools.cisco.com/bugsearch/>.
2. Enter the bug ID in the **Search For:** field.



Note

To have a Cisco User ID and password, you need to be a registered cisco.com user, To become a registered cisco.com user, go to the following website:
<https://tools.cisco.com/RPF/register/register.do>

Open Caveats

[Table 2](#) lists caveats that are open in Cisco IOS Release 15.3(3)JA3.

Table 2 *Open Caveats*

Identifier	Headline
CSCud51131	CLI is required to configure IPv6 SNTP server addresses.
CSCue53185	The allowed frequencies are repeated in show controllers dot111 command for Japan regdomain.
CSCuf85579	Multicast downstream fails on a WLAN client with security wpa2-tkip when broadcast key rotation is enabled.
CSCup71031	The AP crashes d on selecting shut or no shut option on ethernet i/f of connected switch.
CSCup96204	AP1142 running 15.2(4)JB5 sends an Association Response which has Failure code in it even when there is no explicit association request.
CSCup07723	The wireless bridge does not pass traffic if vlan 1 is tagged.
CSCuo24202	AP deauthorizes wgb on every session timeout on cckm-dot1x-aes.

Table 2 **Open Caveats**

Identifier	Headline
CSCup82743	1142 running 15.2(4)JB5 crashes when using a PEAP ssid to connect to the root AP.
CSCul07738	Access Point reloads due to Ethernet interface receive failure.

Resolved Caveats

[Table 3](#) lists caveats that are resolved in Cisco IOS Release 15.3(3)JA3.

Table 3 **Resolved Caveats**

Identifier	Headline
CSCuq53889	aIOS: upgrade from CCO 8.0 w8 to w7 or w7 to w8 failing
CSCur27399	ap702w lan port wired client traffic gets disturbed
CSCum53355	When encryption security is enabled on native vlan and non-native vlan, downstream multicast fails on native VLAN with encryption on AP 3700.
CSCum82207	Station-role non-root is allowed on both interface.
CSCum95430	Crash and traceback is seen on wgb when best parent is enabled.
CSCun86609	Unable to apply IPv6 addresses on the ACL filter page (GUI configuration).
CSCuo16191	Station role non -root bridge wireless-client is not available in AP 1550.
CSCuo19020	IPv6 ACL is shown as IPv4 in the GUI configuration page.
CSCue46069	AP 1520 in autonomous mode does not recognize the cable modem.
CSCuj62328	Apple client does not associate with the autonomous AP with 11r SSID.
CSCun97105	Station role is shown as unknown in autonomous AP user interface when the role in radio network for any interface is changed to spectrum mode.
CSCuo89800	In the autonomous AP GUI TxPower Displays error.
CSCuj14654	ERP protection enabled as rts-cts but sends with cts-to-self.
CSCul91975	WGB may disconnect permanently after maximum retries of 802.11 probe.
CSCuo69578	AP1532E/I bridge throughput is very low on 802.11n.
CSCuo11799	Radius using the new CLI is not listed on Server-Based Security table.
CSCun52837	When WGB is in universal mode, the bridge 1 aging-time resets 120 seconds.
CSCun27768	Clients behind 3rd party WGB and 3rd party WGB fail DHCP process since AP do not forward DHCP offer to the air.
CSCup87850	When a PMF STA is associated to the autonomous AP and an authorization request is spoofed by a packet injector, at the next data frame sent by the PMF STA, the AP will Deauth the PMF STA.
CSCus35411	3702P access points has only 36, 40 two channels available in 15.3JA1 release

Installation Notes

This section contains information that you should keep in mind when installing 702, 802, 1040, 1140, 1260, 1530, 1550, 1600, 2600, 3500, 3600, and 3700 series access points.

Access Points

This section contains installation notes for access points.

Installation in Environmental Air Space

Cisco Aironet 1040, 1140, 1250, 1260, and 2600 series access points provide adequate fire resistance and low smoke-producing characteristics suitable for operation in a building's environmental air space, such as above suspended ceilings, in accordance with Section 300-22(C) of the *National Electrical Code* (NEC) and Sections 2-128, 12-010(3) and 12-100 of the *Canadian Electrical Code*, Part 1, C22.1.

**Caution**

The power injector does not provide fire resistance and low smoke-producing characteristics and is not intended for use in extremely high or low temperatures or in environmental air spaces such as above suspended ceilings.

Antenna Installation

For instructions on the proper installation and grounding of external antennas for 1550, 1260, 1600E, 2600, E3500E, and 3600E access points, refer to the National Fire Protection Association's *NFPA 70, National Electrical Code*, Article 810, and the Canadian Standards Association's *Canadian Electrical Code*, Section 54.

**Warning**

Do not install the antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, as they may cause serious injury or death.

Important Notes

This section describes important information about access points and bridges.

Use FTP or TFTP File Transfer to Upgrade to Cisco IOS Release 15.3(3)JA3

You cannot use HTTPS file transfer to upgrade to Cisco IOS Release 15.3(3)JA3 from previous releases. Because of the image size for this release, you must use FTP or TFTP file transfer for the upgrade. Refer to the upgrade instructions at this URL:

http://www.cisco.com/en/US/docs/wireless/access_point/12.4_10b_JA/configuration/guide/scg12410b-chap20-firmware.html#wp1035507

Cisco 1040/1140 series Access Points May Record "watchdog timer expired" as Last Reset Reason

This error message sometimes appears as the last reset reason when the access points are power cycled:

```
Watchdog timer expired
```

This symptom is observed only in the Cisco 1040/1140 series access point and does not have any impact on functionality. Ignore the “watchdog timer expired” reason after an access point has been power cycled. You can also overwrite the reset reason to “reload” by rebooting with command operation.

Regulatory Update for Japan

This release supports the U regulatory domain for the W52 frequency set (channels 36, 40, 44, and 48) in Japan for the Cisco Aironet 1230 series. This support was added for the Cisco Aironet 1130 series in Cisco IOS Software Release 12.4(3G)JA, which shipped previously. Cisco access points specified for this new domain ship with a U domain radio. Installed J domain access points are automatically upgraded to the U domain status with this release.

For the latest Cisco WLAN compliance status, visit this URL:

http://www.cisco.com/en/US/prod/collateral/wireless/ps5679/ps5861/product_data_sheet0900aecd80537b6a_ps430_Products_Data_Sheet.html.

Point-to-Point and Point-to-Multipoint Bridging Support for 802.11n Platforms

The point-to-point and point-to-multipoint bridging is supported on the Cisco Aironet 1040, 1140, 1260, 1600, 2600, 3500 and 3600 series access points (802.11n platforms). The 5-GHz bands support 20 and 40-MHz channel widths, and the 2.4-GHz bands support only a 20-MHz channel width.

The following items are supported for AP1040, AP1140, AP1260, AP1600, AP2600, AP3500, and AP3600 bridging:

- MIMO, short-range bridging (on campus or inter-building bridge deployments), with dipole and MIMO antennas (line of sight and short range) under 1 km.
- 20-MHz and 40-MHz 802.11n support.
- Workgroup bridge (WGB) short-range support.
- SISO (single-in, single-out), MCS 0-7 and legacy bridge rates (802.11 a/b/g and 802.11n) using one outdoor antenna.



Note

This is only supported using short range links and is not a replacement for the AP-1300/1400 or other bridge products.

The following items are not supported for AP 702, AP1040, AP1140, AP1260, AP1600, AP2600, AP3500 and AP3600 bridging:

- The distance CLI command: long-range links over 1 km currently are not supported; therefore, the distance command is not supported.

- Outdoor MIMO bridging using external antennas has not been fully tested and is not fully supported with this release.

Low Throughput Seen on Access Points with 16 BSSIDs Configured

If your network uses 16 BSSIDs with 1 and 2-Mbps data rates, access points might experience very low throughput due to high management traffic.

802.11n HT Rates Apply Only to No Encryption or WPA2/AES Encryption

As per the 802.11n amendment, the 802.11n HT rates apply only to no encryption or WPA2/AES encryption. They do not apply to WEP or WPA encryption. If WEP or TKIP encryption is used, the access point and any 802.11n clients will not transmit at HT rates. Legacy rates (802.11a/b/g) will be used for any clients using WEP or TKIP encryption.

Layer 3 Not Supported with NAC for MBSSID

Layer 3 is not supported with NAC for MBSSID in this release.

Change to Default IP Address Behavior

Cisco IOS Release 12.3(2)JA and later releases change the default behavior of access points that request an IP address from a DHCP server

When you connect a 1040, 1130, 1140, 1250, or 1260 series access point or a 1300 series outdoor access point/bridge with a default configuration to a LAN, the access point requests an IP address from a DHCP server and, if it does not receive an address, continues to send requests indefinitely.

Changes to the Default Configuration—Radios Disabled and No Default SSID

The radio or radios are disabled by default, and there is no default SSID. You must create an SSID and enable the radio or radios before the access point allows wireless associations from other devices. These changes to the default configuration improve the security of newly installed access points.

Clients Using WPA/WPA2 and Power Save May Fail to Authenticate

Certain clients using WPA/WPA2 key management and power save can take many attempts to authenticate or, in some cases, fail to authenticate. Any SSID that is defined to use authentication key-management WPA, together with clients using power save mode and authenticating using WPA/WPA2, can experience this problem.

A hidden configure level command, **dot11 wpa handshake timeout**, can be used to increase the timeout between sending the WPA key packets from the default value (100 ms) to a value between 101 and 2000 ms. The command stores its value in the configuration across device reloads.

Default Username and Password Are *Cisco*

When you open the access point interface, you must enter a username and a password. The default username for administrator login is *Cisco*, and the default password is *Cisco*. Both the username and password are case sensitive.

Some Client Devices Cannot Associate When QoS Is Configured

Some wireless client devices, including Dell Axim handhelds and Hewlett-Packard iPaq HX4700 handhelds, cannot associate to an access point when the access point is configured for QoS. To allow these clients to associate, disable QoS on the access point. You can use the QoS Policies page on the access point GUI to disable QoS or enter this command on the CLI:

```
ap(config-if)# no dot11 qos mode
```

Some Devices Disassociate When Multiple BSSIDs Are Added or Deleted

Devices on your wireless LAN that are configured to associate to a specific access point based on the access point MAC address (such as client devices, repeaters, hot standby units, or workgroup bridges) might lose their association when you add or delete multiple BSSIDs. When you add or delete multiple BSSIDs, check the association status of devices that are configured to associate to a specific access point. If necessary, reconfigure the disassociated device to use the BSSID new MAC address.

Enabling MBSSIDs Without VLANs Disables Radio Interface

If you use the **mbssid** configuration interface command to enable multiple BSSIDs on a specific radio interface but VLANs are not configured on the access point, the access point disables the radio interface. To re-enable the radio, you must shut down the radio, disable multiple BSSIDs, and re-enable the radio.

This example shows how to re-enable the radio:

```
AP1260AG(config)# interface d1
AP1260AG(config-if)# shut
AP1260AG(config-if)# no mbssid
AP1260AG(config-if)# no shut
```

After you re-enable the radio, you can enable VLANs on the access point and enable multiple BSSIDs.

Cannot Set Channel on DFS-Enabled Radios in Some Regulatory Domains

Access points with 5-GHz radios configured at the factory for use in Europe, Singapore, Korea, Japan, Taiwan, and Israel now comply with regulations that require radio devices to use Dynamic Frequency Selection (DFS) to detect radar signals and to avoid interfering with them. You cannot manually set the channel on DFS-enabled radios that are configured for these regulatory domains.

TACACS+ and DHCP IP Address Sometimes Locks Out Administrators

When you configure an access point for TACACS+ administration and you request for an IP address from the DHCP server, you might be locked out of the access point after it reboots if you do not have a local username and password configured on the access point. This issue does not affect access points that are configured with a static IP address. If you have been locked out, you must regain access by resetting the unit to default settings.

Access Points Do Not Support Loopback Interface

You must not configure a loopback interface on the access point.



Configuring a loopback interface might generate an IAPP GENINFO storm on your network and disrupt network traffic.

Throughput Option for 802.11g Radio Blocks Association by 802.11b Clients

When you configure the 802.11g access point radio for **best throughput**, the access point sets all data rates to basic (required). This setting blocks association from 802.11b client devices. The **best throughput** option appears on the web-browser interface Express Setup and Radio Settings pages and in the **speed** CLI configuration interface command.

Use Auto for Ethernet Duplex and Speed Settings

We recommend that you use **auto**, the default setting, for both the speed and duplex settings on the access point Ethernet port. When your access point receives inline power from a switch, any change in the speed or duplex settings that resets the Ethernet link reboots the access point. If the switch port to which the access point is connected is not set to **auto**, you can change the access point port to **half** or **full** to correct a duplex mismatch, and the Ethernet link is not reset. However, if you change from **half** or **full** back to **auto**, the link is reset, and, if your access point receives inline power from a switch, the access point reboots.



Note The speed and duplex settings on the access point Ethernet port must match the Ethernet settings on the port to which the access point is connected. If you change the settings on the port to which the access point is connected, change the settings on the access point Ethernet port to match.

Using the force-reload Option with archive download-sw Command

When you upgrade an access point or bridge system software by entering the **archive download-sw** command on the CLI, you must use the **force-reload** option. If the access point or bridge does not reload the flash memory after the upgrade, the pages in the web-browser interface might not reflect the upgrade. This example shows how to upgrade the system software by using the **archive download-sw** command:

```
AP# archive download-sw /force-reload /overwrite tftp://10.0.0.1/image-name
```

Radio MAC Address Appears in Access Point Event Log

When a client device roams from an access point (such as access point *alpha*) to another access point (access point *bravo*), a message appears in the event log on access point alpha stating that the client roamed to access point bravo. The MAC address that appears in the event message is the MAC address for the radio in access point bravo. The MAC address for the access point Ethernet port is on the label on the back of the access point.

Mask Field on IP Filters Page Behaves the Same As in CLI

In Cisco IOS Release 12.2(8)JA and later releases, the mask that you enter in the Mask field on the IP Filters page in the access point GUI behaves the same way as a mask that you enter in the CLI. If you enter 255.255.255.255 as the mask, the access point accepts any IP address. If you enter 0.0.0.0, the access point looks for an exact match with the IP address that you entered in the IP Address field.

Repeater Access Points Cannot Be Configured as WDS Access Points

Repeater access points can participate in WDS, but they cannot provide WDS. You cannot configure a repeater access point as a main WDS access point, and if a root access point becomes a repeater in fallback mode, it cannot provide WDS.

Cannot Perform Link Tests on Non-Cisco Aironet Client Devices and on Cisco Aironet 802.11g Client Devices

The link test feature on the web-browser interface does not support non-Cisco Aironet client devices.

Corrupt EAP Packet Sometimes Causes an Error Message

During client authentication, the access point sometimes receives a corrupt EAP packet and displays this error message:

```
Oct 1 09:00:51.642 R: %SYS-2-GETBUF: Bad getbuffer, bytes= 28165
-Process= "Dot11 Dot1x process", ipl= 0, pid= 32
-Traceback= A2F98 3C441C 3C7184 3C604C 3C5E14 3C5430 124DDC
```

You can ignore this message.

Removal of WPA/TKIP configuration

Wi-Fi certified access points no longer support a WPA/TKIP configuration. TKIP is only allowed in combination with WPA2/AES for backward compatibility to allow older TKIP-only devices to associate.

Authentication key-management WPA version 1 will be changed to authentication key-management WPA. The following message will be displayed:

```
Warning: WPA Version 1 no longer permitted by itself - WPA2 has been enabled
```

WPA version 1 option has been removed from the authentication key-management wpa cli and configuring TKIP only under this interface is not supported. It will be changed to aes-ccm tkip to work on mixed mode with the following message on the ap console:

Warning: TKIP encryption no longer permitted by itself - AES-CCM has been enabled

Cisco CKM Supports SpectraLink Phones

Cisco CKM (CCKM) key management is designed to support voice clients that require minimal roaming times. Voice clients must support Cisco Compatible Extensions to benefit from this feature, for the voice client security mode you selected, please refer to the following URL for the list of CCX versions and supported clients: http://www.cisco.com/web/partners/pr46/pr147/partners_pgm_concept_home.html

Non-Cisco Aironet Clients Sometimes Fail 802.1X Authentication

Some non-Cisco Aironet client adapters do not perform 802.1X authentication to the access point unless you configure Open authentication with EAP. To allow both Cisco Aironet clients using LEAP and non-Cisco Aironet clients using LEAP to associate using the same SSID, you might need to configure the SSID for both Network EAP authentication and Open authentication with EAP.

Pings and Link Tests Sometimes Fail to Clients with Both Wired and Wireless Network Connections

When you ping or run a link test from an access point to a client device installed in a PC running Microsoft Windows, the ping or link test sometimes fails when the client has both wired and wireless connections to the LAN. Microsoft does not recommend this configuration. For more information, refer to Microsoft Knowledge Base article 157025 at this URL:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;157025&Product=win2000>

Layer 3 Mobility Not Supported on Repeaters and Workgroup Bridges

Repeater access points and workgroup bridges cannot associate to an SSID that is configured for Layer 3 mobility. Layer 3 mobility is not supported on repeaters and workgroup bridges.

Hardware Limitation in Cisco Aironet 1250 and 1140 Series Access Points

The beacons on the Cisco Aironet 1250 and 1140 access points can only have output at intervals that are multiples of 17 milliseconds. When these access points are configured for a 100-millisecond beacon interval, they transmit beacons every 102 milliseconds. Similarly, when the beacon interval is configured for 20 milliseconds, these access points transmit beacons every 17 milliseconds.

Potential RFC 3748 Violation

When the following command is configured under the SSID settings (for LEAP authentication):

```
authentication client username <WORD> password [0 | 7] <LINE>
```


if the first access-challenge returned by the RADIUS server after the access-request from the access point is not for the LEAP method but for EAP-MD5, the access point violates RFC 3748.

Instead of sending an EAP NAK requesting LEAP authentication, the access point sends the user's credentials with EAP-MD5 and drops the derived keys, since it cannot read the EAP-MD5 from the access-accept.

This violates RFC 3748.

The workaround for this is to use the commands `dot1x credentials` and `dot1x eap profile` for LEAP authentication.

For configuration procedures, see the *Cisco IOS Software Configuration Guide for Cisco Aironet Access Points*.

Autonomous AP Will Treat The Sub-interface Tied To Bridge-group1 As The Native Vlan

When using a configuration on an autonomous AP where there is no native VLAN defined, each interface is being dot1q tagged, communication will fail after upgrading to release 15.3(3)JA3 or later. It appears that the configuration is still correct after the upgrade, but the AP sends the untagged frames for bridge-group 1, even though the encapsulation is not defined as native. The autonomous AP will treat the sub-interface tied to bridge-group 1 as the native VLAN, even if it is not defined with the native keyword: "encapsulation dot1 <vlan> native". The VLAN associated with bridge-group 1 must be set to native on the connecting switchport configuration.

The workaround for this is to configure VLAN 100 as the native VLAN on the connected switchport trunk, even though the encapsulation is not specified as native on the AP.

DHCP Failure When Access Point Renewal Time Is Greater Than Rebind Time

An access point is unable to obtain IP through the same IOS DHCP server when the access point is running on 15.2x. The problem occurs because the Renewal (T1) time dhcp option 58 is larger than Rebinding (T2) time dhcp option 59.

Configuring the radius server using the old cli

This cli command was used in the previous releases to configure radius servers:

```
radius-server host {hostname | ip-address} [auth-port port-number] [acct-port port-number]
[timeout seconds] [retransmit retries] [key string]
```

Though this command can still be used, we recommend that you use this new command:

```
radius server {server-name} [auth-port port-number] [acct-port port-number] [timeout seconds]
[retransmit retries] [key string]
```

Upgrade from IOS 12.4 to IOS 15 breaks access point L3 Connectivity

The following table shows the behavior change:

Release Name	IP Routing Enabled	Action to be Taken Before Upgrade to Cisco IOS Release 15.3(3)JA3
Till Cisco IOS Release 15.2(2)JA	Not Applicable	No issue in upgrade.
Cisco IOS Release 15.2(2)JB	No	
Cisco IOS Release 15.2(4)JA	Yes	IP routing and configured routes should be removed and default gateway should be configured if required.

Troubleshooting

For the most up-to-date, detailed troubleshooting information, refer to the Cisco TAC website at <http://www.cisco.com/cisco/web/support/index.html>. Click **Technology Support**, choose **Wireless** from the menu on the left, and click **Wireless LAN**.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Any Internet Protocol (IP) addresses used in this document are not intended to be actual addresses. Any examples, command display output, and figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.

Copyright © 2015 Cisco Systems, Inc. All rights reserved.