Release Notes for Cisco Aironet Access Points and Bridges for Cisco IOS Release 12.4(21a)JY

April 2010

These release notes describe caveats and features for Cisco IOS Release 12.4(21a)JY. This maintenance release supports 32+Mb Cisco autonomous access points, including Cisco Aironet 1130, 1140, 1240, and 1250 series access points, and 1300 and 1400 series access points/bridges.

Cisco Aironet 1100, 1200, and 1230 series 16-Mb autonomous access points require the companion maintenance release, Cisco IOS Release 12.3(8)JED1.

Note A device that runs Cisco IOS software whose supplicant is configured to perform certificate-based authentication of its network connection may be unable to connect to the network unless it is configured to acquire the time from an NTP server. Follow the steps in the X section to make sure all the wireless devices on your network can perform certificate-based authentication.

Contents

These release notes contain the following sections:

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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.

You can configure and monitor 1130, 1140, 1240, 1250 series access points, and 1300 and 1400 series access points/bridges by using the command-line interface (CLI), the web-browser interface, or Simple Network Management Protocol (SNMP).

System Requirements

You can install Cisco IOS Release 12.4(21a)JY on all 1130, 1140, 1240, 1250 series access points, 1300 series outdoor access point/bridges, and 1400 series bridges.

Finding the Cisco IOS Software Release

To find the version of Cisco IOS software 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 running Cisco IOS Release 12.4(21a)JY :

```
ap1240AG> show version
Cisco Internetwork Operating System Software
IOS (tm) C1240 Software (C1240-K9W7-M), Version 12.4(21a)JY
Copyright (c) 1986-2009 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

For instructions on installing access point software for your access point:

Step 1 Follow this link to the Cisco home page:

http://www.cisco.com

Step 2 Click **Product & Services**. A drop-down menu appears.

Step 3 Click **Wireless**. The Wireless Introduction page appears.

Step 4 Scroll down to the Product Portfolio section.

Step 5 In the Access Point section, select the access point model for which you need the information. The Introduction page for the model you selected appears.

Step 6 Under the Support section, click **Configure**. A list of configuration documents appears.

Step 7 Click **Configuration Guides**. The Configuration Guides page appears.

Step 8 Click **Cisco IOS Software Configuration Guide for Cisco Aironet Access Points**.

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

New Features

This maintenance release does not introduce new features.

Installation Notes

This section contains information that you should keep in mind when installing 1130, 1140, 1240, 1250 series access points, and 1300 and 1400 series access points/bridges.

Access Points

This section contains installation notes for access points.

Installation in Environmental Air Space

Cisco Aironet 1130, 1140, 1240, and 1250 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.

Power Considerations

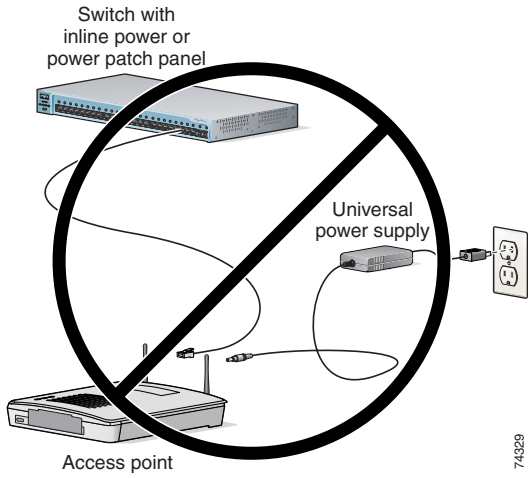
This section describes issues that you should consider before applying power to an access point.

Caution Cisco Aironet power injectors are designed for use only with Cisco Aironet access points and bridges. Do not use the power injector with any other Ethernet-ready device. Using the power injector with other Ethernet-ready devices can damage the equipment.

Use Only One Power Option

You cannot provide redundant power to 1130 series access points with both DC power to its power port and inline power from a patch panel or powered switch to the access point Ethernet port. If you apply power to the access point from both sources, the switch or power patch panel might shut down the port to which the access point is connected. Figure 1 shows the power configuration that can shut down the port on the patch panel or powered switch.

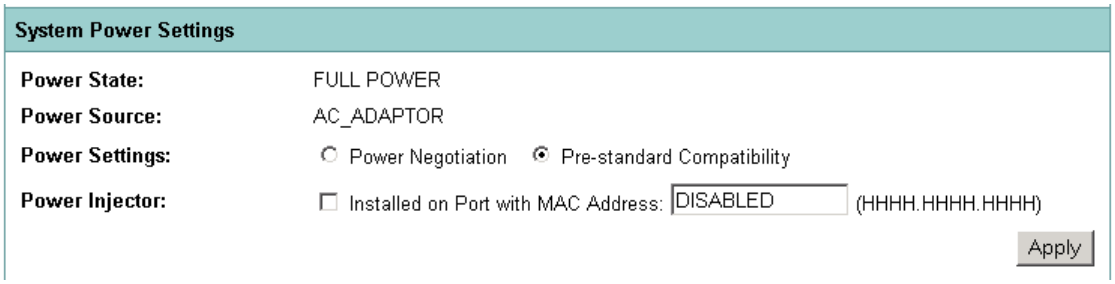
Figure 1 Improper Power Configuration Using Two Power Sources



Configuring Power for 1130, 1140, 1240, and 1250 Series Access Points

The 1130, 1140, 1240, and 1250 series access points disable the radio interfaces when the connected power source does not provide enough power. Depending on your power source, you might need to enter the power source type in the access point configuration. Use the System Software: System Configuration page on the web-browser interface to select a power option. Figure 2 shows the System Power Settings section of the System Configuration page.

Figure 2 Power Options on the System Software: System Configuration Page



The PoE power status can also be found in the PoE Status section on the network interfaces>network status page on the access point GUI. The status statements can include any of the following:

- Normal (full power)
- Low (radio disabled)
- Lower than 15.4 W

- Lower than 16.8 W

Using the AC Power Adapter

If you use the AC power adapter to provide power to the access point, you do not need to adjust the access point configuration.

Using a Switch Capable of IEEE 802.3af Power Negotiation

If you use a switch to provide PoE to the access point and the switch supports the IEEE 802.3af power negotiation standard, select **Power Negotiation** on the System Software: System Configuration page.

Using a Switch That Does Not Support IEEE 802.3af Power Negotiation

If you use a switch to provide Power over Ethernet (PoE) to the access point and the switch does not support the IEEE 802.3af power negotiation standard, select **Pre-Standard Compatibility** on the System Software: System Configuration page.

Using a Power Injector

If you use a power injector to provide power to the access point, select **Power Injector** on the System Software: System Configuration page, and enter the MAC address of the switch port to which the access point is connected.

1250 Series Power Modes

The 1250 series access point can be powered by either inline power or by an optional AC/DC power adapter. Certain radio configurations may require more power than can be provided by the inline power source. When insufficient inline power is available, you can select several options (based upon your access point radio configuration) as shown in the following table:

Radio Band	Data Rate	Number of Transmitters	Cyclic Shift Diversity (CSD)	Maximum Transmit Power (dBm)[1]		
				802.3af Mode (15.4W)	Enhanced PoE Power Optimized Mode (16.8 W)	Enhanced PoE Mode (20 W)
2.4-GHz	802.11b	1	N/A	20	20	20
	802.11g	1	N/A	17	17	17
	802.11n (MCS 0-7)	1 2	Disabled Enabled (default)	17 Disabled	17 14 (11 per Tx)[2]	17 20 (17 per Tx)
	802.11n (MCS 8-15)	2	N/A	Disabled	14 (11 per Tx)	20 (17 per Tx)
5-GHz	802.11a	1	N/A	17	17	17
	802.11n (MCS 0-7)	1 2	Disabled Enabled (default)	17 Disabled	17 20 (17 per Tx)	17 20 (17 per Tx)
	802.11n (MCS 8-15)	2	N/A	Disabled	20 (17 per Tx)	20 (17 per Tx)

1. Maximum transmit power will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.
2. Tx—Transmitter

Antenna Installation

For instructions on the proper installation and grounding of external antennas for 1240 series 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.**

1400 Series Bridge

This section contains installation information for the 1400 series bridge.

Default SSID and Distance Settings Change When You Change Role in Radio Network

If the bridge's SSID has not been changed from the default setting and you select **Install Automatic Mode** as the bridge's role in radio network setting, the SSID automatically changes from *tsunami* to *autoinstall*. When you change the role in radio network from Install Automatic Mode to Root or Non-Root, the SSID changes automatically from *autoinstall* back to *tsunami*. However, if you change the SSID from its default setting, changing the role in radio network setting does not change the SSID.

In Install Automatic Mode, the default distance setting is 61.5 mi. (99 km). When you change the role in radio network from Install Automatic Mode to Root or Non-Root, the distance setting changes automatically from 61.5 mi. (99 km) to 0 mi. (0 km).

Default Encryption Key 2 Is Set by Bridge

The encryption key in slot 2 is the transmit key by default. If you enable WEP with MIC, use the same WEP key as the transmit key in the same key slot on both root and non root bridges.

Limitation to PAgP Redundancy on Switches Connected by Bridge Links

When two switches configured for Port Aggregation Protocol (PAgP) are connected by redundant wireless bridge links, the PAgP change-over takes at least 30 seconds, which is too slow to maintain TCP sessions from one port to another.

CLI Command power client n Is Not Supported

The bridge does not support the **power client n** configuration interface command in the web-browser or CLI interfaces. The bridge does not perform any action when you enter this command.

Default Infrastructure SSID

When a VLAN is enabled, the WEP encryption mode and the WEP key are applicable only to a native VLAN. Any SSID configured should have the Infrastructure-SSID parameter enabled for that SSID. With the Infrastructure-SSID parameter enabled, the bridge ensures that a non-native VLAN cannot be assigned to that SSID.

ARP Table Is Corrupted When Multiple BVIs Are Configured

The bridge supports only one bridge virtual interface (BVI). Multiple BVIs should not be configured because the ARP table can be corrupted.

Bridge Power Up LED Colors

During power up, the bridge LEDs display the following color sequences:

1. The Install LED is initially turned off.
2. The Install LED turns amber.
3. The Status LED turns amber during the boot loader process.
4. The Ethernet, Status, and Radio LEDs turn green during the loading of the operating system.
5. The Ethernet, Status, and Radio LEDs turn amber during the loop-back test.
6. The Status LED starts to blink green, and then the Ethernet LED starts to blink green.
7. The Ethernet, Status, and Radio LEDs blink amber twice to show that the auto-install process has started.
8. During the auto-install process, the Ethernet, Status, and Radio LEDs turn off for a short time period, and then go through a blinking sequence twice. Each LED sequentially blinks at the following rates before becoming continuously amber:
   a. Slow blinking rate of 1 blink per second.
   b. Medium blinking rate of 2 blinks per second.
   c. Fast blinking rate of 4 blinks per second.
9. The Install LED starts to blink amber to show that the bridge is searching for a root bridge.
10. When the bridge associates to a root bridge, the Install LED turns amber.
11. When the bridge becomes a root bridge and is waiting for a nonroot bridge to associate, the Install LED blinks green.
12. When the root bridge has a nonroot bridge associated, the Install LED turns green.

Bridge Cannot Detect Simultaneous Image Downloads

Do not attempt to load software images into the bridge from both a Telnet session and a console session simultaneously. The bridge cannot detect that two images are being loaded at the same time. For best results, use the **archive download** command in the CLI.

Bridge Cannot Detect Invalid Software When Using copy Command

The bridge sometimes cannot detect invalid software images when you load software using the copy command. For best results, use the **archive download** command in the CLI to load new software.

Telnet Session Sometimes Hangs or Will Not Start During Heavy Traffic

When the bridge is transmitting and receiving heavy traffic, you sometimes cannot start a Telnet session and some existing Telnet sessions halt. However, this behavior is expected because the bridge gives top priority to data traffic and a lower priority to Telnet traffic.

Important Notes

This section describes important information about access points and bridges.

Synchronize IOS Supplicant Clocks and Save Time Setting to NVRAM

An IOS device whose supplicant is configured to perform certificate-based authentication of its network connection may be unable to connect to the network unless you take the following steps.

To make sure that the device supplicant, after a reload but before it has connected to the network, knows approximately what time it is so it can validate the server's certificate, you must configure the supplicant to learn the time from an NTP server, and to write the time to its NVRAM. This is a requirement for any system that runs Cisco IOS release 12.4(21a)JY.

Complete these steps:

Step 1 Configure the supplicant to synchronize its time to a known good NTP server, to which the supplicant has network access, and to store its time in its NVRAM.

Example configuration on a system with SNTP, and without a hardware calendar:

```
Supp(config)#sntp server 10.0.47.1
Supp(config)#clock save interval 8
Supp(config)#end
Supp#write memory
```

Example on a system with NTP, and with a hardware calendar:

```
Supp(config)#ntp server 10.0.47.1 iburst
Supp(config)#ntp update-calendar
Supp(config)#end
Supp#write memory
```

Step 2 Make sure that the supplicant has network connectivity to the NTP server, and has synchronized its time.

Example:

```
Supp#show sntp
SNTP server     Stratum   Version    Last Receive
10.0.47.1          3         1        00:00:09     Synced
```

Example:

```
Supp#show ntp status
Clock is synchronized, stratum 4, reference is 10.95.42.129
[ ... ]
```

Step 3 Make sure that the correct time is saved to the supplicant's hardware calendar (if it has one), or to NVRAM (if it does not).

On a system with no hardware calendar:

- Reload the Supplicant, to make sure that the time is saved to NVRAM. After it reloads, verify that the time is approximately correct, even when the NTP server is unavailable:

```
Supp#show clock detail
*08:24:30.103 -0700 Thu Apr 15 2010
No time source
```

On a system with hardware calendar:

- Write the current, correct time to the hardware calendar:

```
Supp#clock update-calendar
```

- Verify that the calendar is correct:

```
Supp#show calendar
```

Access Point Creates File When Radar is Detected on a DFS Channel

When an access point detects a radar on a DFS channel, the access point creates a file in its flash memory. The file is based on the 802.11a radio serial number and contains the channel numbers on which the radar is detected. This is an expected behavior and you should not remove this file.

Access Points Send Multicast and Management Frames at Highest Basic Rate

Access points running recent Cisco IOS versions are transmitting multicast and management frames at the highest configured basic rate, and is a situation that could causes reliability problems.

Access points running LWAPP or autonomous IOS should transmit multicast and management frames at the lowest configured basic rate. This is necessary in order to provide for good coverage at the cell's edge, especially for unacknowledged multicast transmissions where multicast wireless transmissions may fail to be received.

Since multicast frames are not retransmitted at the MAC layer, stations at the edge of the cell may fail to receive them successfully. If reliable reception is a goal, then multicasts should be transmitted at a low data rate. If support for high data rate multicasts is required, then it may be useful to shrink the cell size and to disable all lower data rates.

Depending on your specific requirements, you can take the following action:

- If you need to transmit the multicast data with the greatest reliability and if there is no need for great multicast bandwidth, then configure a single basic rate, one that is low enough to reach the edges of the wireless cells.
- If you need to transmit the multicast data at a certain data rate in order to achieve a certain throughput, then configure that rate as the highest basic rate. You can also set a lower basic rate for coverage of non-multicast clients.

LWAPP to Autonomous Conversion Requires Two Reboots

When you convert an 1142 access point from LWAPP mode to autonomous mode, you might need to reboot the unit twice to complete the conversion.

Interpreting the Show Controller Dot11Radio Active Power Level Output

A portion of the output of the **show controller dot11radio** CLI command displays the active power levels by rate as shown in the example below:

```
1.0 to 11.0  , 20  dBm, changed due to regulatory maximum
6.0 to m15.  , 17  dBm, changed due to regulatory maximum
m0.-4 to m15.-4, 14  dBm, changed due to regulatory maximum
```

The -4 in the third line indicates 40-MHz.

Enabling a Crash File for 1250 Series Access Points

A 1250 series access point that is running a Cisco IOS Release prior to (insert Krypton release number here) does not generate a crash log when it crashes. The crash log is disabled so that a crash does not corrupt the flash file system.

New 1250 series access points shipped from the factory contain a new bootloader image that fixes the flash file system after it is corrupted during a crash (without losing files). This new bootloader automatically sets a new CRASH_LOG environment variable to "yes," which enables a crash log to be generated following a crash. Therefore, no user configuration is needed to enable a crash log on new 1250 series access points shipped from the factory.

To enable 1250 series access points in the field to generate a crash log following a crash, install Cisco IOS Release 12.4(10b)JA or later and enter this case-sensitive bootloader CLI command on the access point: **set CRASH_LOG yes**. When you set this CLI, the access point does not immediately generate a crash log. The log is generated after a crash occurs. After the crash log is generated, enter this command to disable the CRASH_LOG environment variable to minimize the risk of corrupting the flash file system: **set CRASH_LOG no**.

Low Throughput Seen on 1140 and 1250 Series Access Points with 16 BSSIDs Configured

If your network uses 16 BSSIDs with 1- and 2-Mbps data rates, 1140 and 1250 series 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

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, 1140 and 1250 series access points and any 802.11n Draft 2.0 clients will not transmit at the 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 Releases 12.3(2)JA and later change the default behavior of access points requesting an IP address from a DHCP server:

When you connect a 1130 or 1240 series access point or a 1300 series outdoor access point/bridge with a default configuration to your LAN, the access point requests an IP address from your 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

In this release, 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 defined to use authentication key-management WPA, coupled 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 a multiple BSSID. When you add or delete a multiple BSSID, check the association status of devices 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 the commands that you use to re-enable the radio:

```
AP1242AG(config)# interface d1
AP1242AG(config-if)# shut
AP1242AG(config-if)# no mbssid
AP1242AG(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 configured for these regulatory domains.

Cisco 7920 Phones Require Firmware Version 1.09 or Later When Multiple BSSIDs Are Enabled

When multiple BSSIDs are configured on the access point, Cisco 7920 wireless IP phones must run firmware version 1.09 or later.

TKIP and Cisco 7920 IP Phones

When a 7920 phone is associated to a 1250 series access point using Temporal Key Integrity Protocol (TKIP) encryption, the access point might report “TKIP TSC replay detected” and discard the packets transmitted by the phone (CSCsj35039). To work around this issue, perform one of the following:

- Use static or dynamic WEP with 802.1X key management for the 7920 SSID.
- Disable long preambles.

GRE Tunnelling Through WLSM Sometimes Requires MTU Setting Adjustments

If client devices on your wireless LAN cannot use certain network applications or cannot browse to Internet sites, you might need to adjust the MTU setting on the client devices or other network devices. For more information, refer to the Tech Note at this URL:

http://www.cisco.com/en/US/tech/tk827/tk369/technologies_tech_note09186a0080093f1f.shtml

TACACS+ and DHCP IP Address Sometimes Locks Out Administrators

When you configure an access point for TACACS+ administration and to receive an IP address from the DHCP server, administrators might be locked out of the access point after it reboots if the administrator does not have a local username and password configured on the access point. This issue does not affect access points configured with a static IP address. Administrators who have been locked out 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.

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

Non-Cisco Aironet 802.11g Clients Might Require Firmware Upgrade

Some non-Cisco Aironet 802.11g client devices require a firmware upgrade before they can associate to the 802.11g radio in the access point. If your non-Cisco Aironet 802.11g client device does not associate to the access point, download and install the latest client firmware from the manufacturer's website.

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.

Use force-reload Option with archive download-sw Command

When you upgrade 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 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 ACU

When a Cisco Aironet client device associates to an access point running IOS software, the access point MAC address that appears on the Status page in the Aironet Client Utility (ACU) is the MAC address for the access point radio. The MAC address for the access point Ethernet port is printed on the label on the back of the access point.

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, 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 nor Cisco Aironet 802.11g client devices.

Corrupt EAP Packet Sometimes Causes 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.

When Cipher Is TKIP Only, Key Management Must Be Enabled

When you configure TKIP-only cipher encryption (not TKIP + WEP 128 or TKIP + WEP 40) on any radio interface or VLAN, every SSID on that radio or VLAN must be set to use WPA or CCKM key management. If you configure TKIP on a radio or VLAN but you do not configure key management on the SSIDs, client authentication fails on the SSIDs.

Cisco CKM Supports Spectralink Phones

Cisco CKM (CCKM) key management is designed to support voice clients that require minimal roaming times. CCKM supports only Spectralink and Cisco 7920 Version 2.0 Wireless Phones. Other voice clients are not supported.

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 2000, 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 configured for Layer 3 mobility. Layer 3 mobility is not supported on repeaters and workgroup bridges.

WLSM Required for Layer 3 Mobility

You must use a Wireless LAN Services Module (WLSM) as your WDS device in order to properly configure Layer 3 mobility. If you enable Layer 3 mobility for an SSID and your WDS device does not support Layer 3 mobility, client devices cannot associate using that SSID.

Caveats

The following sections lists Open Caveats and Resolved Caveats in Cisco IOS Release 12.4(21a)JY. For your convenience in locating caveats in Cisco's Bug Toolkit, the caveat titles listed in this section are drawn directly from the Bug Toolkit database. These caveat titles are not intended to be read as complete sentences because the title field length is limited. In the caveat titles, some truncation of wording or punctuation might be necessary to provide the most complete and concise description. The only modifications made to these titles are as follows:

- Commands are in **boldface** type.
- Product names and acronyms may be standardized.
- Spelling errors and typos may be corrected.

Note If you are a registered cisco.com user, view Bug Toolkit on cisco.com at the following website:

http://tools.cisco.com/Support/BugToolKit/

To become a registered cisco.com user, go to the following website:

http://tools.cisco.com/RPF/register/register.do

Open Caveats

Table 1 lists caveats that are open in Cisco IOS Release 12.4(21a)JY.

Table 1 Open Caveats

ID Number	Caveat Title
CSCte08161	Cannot get IP address from server if key-management is "wpa optional"
CSCtg09159	Radio may get stuck in RESET or DOWN state
CSCte49042	AP GUI, "admin access" "local user list" issues
CSCte54696	WGB is failed to associate in mixed mode
CSCte63393	Initial 3-4 seconds voice loss observed between Wireless to wired phones

Table 1 Open Caveats (continued)

ID Number	Caveat Title
CSCte65572	crash observed on CAC enabled AP in a random fashion.
CSCte72006	WPA clients attributes not listed in WDS
CSCte77238	AES-CCMP TSC replays observed in alpha AP's
CSCte77921	Supplicant fails to send/recv traffic when wpa-optional+wep+tkip
CSCte78434	TKIP-replay observed in accesspoint with CCKM+TKIP
CSCtf11449	Changing encryption abruptly cause infra-AP to crash.
CSCtf33528	wpaV2 PMK caching not working in WGB.
CSCtf36740	Directed Broadcasts do not go out Radio without subscriber-loop-control
CSCtf39031	BVI address is not set though it was configured via console
CSCtf45734	C1140 Traceback observed on wgb while roaming to infra-ap.
CSCtf55495	AP may crash during rate shift operation
CSCtf72094	AP1250 d1 go into be reset status suddenly or immediately after reboot
CSCtg03203	1142/1252 APs recognize 802.11n HT enabled clients as legacy ones
CSCtg03918	CCKM fastroaming failed in 5 GHz radio
CSCtg25046	WGB: EAP frame dropped due to delay on dot1x initi
CSCtg35493	Packets wedge in radio interface input queue on 1250 AP
CSCtg43290	BR1310 "Station-role root bridge wireless-clients" causes tx lock up

Resolved Caveats

Table 2 lists caveats resolved in Cisco IOS Release 12.4(21a)JY.

Table 2 Resolved Caveats

ID Number	Caveat Title
CSCso95257	AP sends EAPol messages at highest data rate, main impact PSK auth
CSCsz38828	AMAC radio core dumps:transmitter seems to have stopped
CSCsz75186	tcp crash by watchdog timeout due to tcp options
CSCta29484	Radio stops beaconing for 10-second period
CSCtb12031	1142 / 1252 inconsistently ACKs Vocera (gen1) badge.
CSCtb20125	CCMP errors on key rotation
CSCtb83470	AP 1252 intermittently only sends 2 buffered multicast pkts per DTIM
CSCtc06925	1250-WGB fails to scan for the uplink when it goes out of wifi zone
CSCtc12426	IAPP type 0x3281 packets wedge radio interface input queue
CSCtc15346	AP1252 fails to retransmit missing AMPDU packet in response to block ack
CSCtc23789	AP1140/1250 radio down - interface stuck in reset
CSCtc52054	AP1130 crash in HAL_A50X driver

Table 2 Resolved Caveats (continued)

ID Number	Caveat Title
CSCtc52233	Spectralink seeing high retries on autonomous
CSCtc54572	Crash on 1240 in CDP processing, AP on third-party switch
CSCtc73779	AMAC's radio mac address, first byte appears to be hard coded to 00:
CSCtc78925	PPTP not connecting through IOS based AP
CSCtc94776	ap801 upgraded to 12.4(21a)JA01 breaks the ap801 GUI interface
CSCtd16413	Voice loss happens when CP7921 roams between APs
CSCtd32790	the AP keep the mac entry from the Gi0 interface and not timeout
CSCtd72539	AP801 radio power back-off missing in Lithium/12.4(21a)JA1
CSCtd80584	Multicast fails on 12.4(21a)JA1WGB with aes-ccm tkip encryption
CSCte15176	One way audio observed between 7921 while roaming
CSCte50486	WGB not getting DHCP with encryption "AES+TKIP"
CSCte69555	EAP-TLS Multual Authentication Security Issue
CSCte84991	Beacon drops while Radio Monitoring is running in 12.4(21a) train
CSCte89125	auth flood may lead to high CPU or complete availability impact
CSCtf10831	Re-enable DFS Channels on ap801embedded
CSCtf17009	WGB CCKM roaming not working for the key management as wpa v2 cckm
CSCtf35311	EAP_TLS on WGB got crashed after enable debug.
CSCtf39372	Running radio scan cause transmitter to be stopped on AP
CSCtf63030	Radio may get stuck in RESET or DOWN state

If You Need More Information

If you need information about a specific caveat that does not appear in these release notes, you can use the Cisco Bug Toolkit to find select caveats of any severity. Click this URL to browse to the Bug Toolkit:

http://tools.cisco.com/Support/BugToolKit/

(If you request a defect that cannot be displayed, the defect number might not exist, the defect might not yet have a customer-visible description, or the defect might be marked Cisco Confidential.)

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. If you are a registered user, click **Registered users click here** to access the entire technical support site. If you are not a registered user, the public public portion of the technical support site displays. Choose a task or information and proceed.

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/en/US/docs/general/whatsnew/whatsnew.html