



Release Notes for Cisco Aironet 1410 Bridges for Cisco IOS Release 12.2(15)JA

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These release notes describe open and resolved caveats for Cisco IOS Release 12.2(15)JA. They also provide important information about the Cisco Aironet 1410 Bridge (hereafter called *bridge*). This release only resolves caveats for 1400 series bridges and does not introduce new features.

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Introduction

The Cisco Aironet 1400 Series Bridge is a wireless device designed for building-to-building wireless connectivity. Operating in the 5.8-GHz UNII 3 band (5725 to 5825 MHz), derived from the 802.11a standard, the bridge delivers 6 to 54 Mbps data rates without the need for a license. The bridge is a self-contained unit designed for outdoor installations, providing differing antenna gains as well as coverage patterns and supports both point-to-point and point-to-multipoint configurations.

The bridge uses a browser-based management system, but you can also configure the bridge using the command-line interface (CLI) through a Telnet session, Cisco IOS commands, or Simple Network Management Protocol (SNMP).

System Requirements

You can install Cisco IOS Release 12.2(15)JA on all 1400 series bridges.

Finding the Software Version

To find the version of Cisco IOS software running on your bridge, use a Telnet session to log into the bridge and enter the **show version EXEC** command. This example shows command output from a bridge running Cisco IOS Release 12.2(13)JA2:

```
bridge> show version
Cisco Internetwork Operating System Software
IOS (tm) C1410 Software (C1410-K9W7-M), Version 12.2(13)JA2
Copyright (c) 1986-2003 by Cisco Systems, Inc.
```

You can also find the software version on the System Software Version page in the bridge's web-browser interface.

Upgrading to a New Software Release

For instructions on installing bridge software:

1. Click this link to go to the Product/Technology Support page:

<http://www.cisco.com/cisco/web/psa/default.html>

Choose **Wireless > Outdoor Wireless > Cisco Aironet 1400 Series**, scroll down and click **Configure Guides**.

2. Click this link to browse to the Cisco IOS Software Center on Cisco.com:

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

On the Web page, log in to access the Feature Navigator or the Cisco IOS Upgrade Planner, or click **Wireless Software** to go to the Wireless LAN Software page.

New Features

This section lists new features in Cisco IOS Release 12.2(15)JA.

Wi-Fi Protected Access

Wi-Fi Protected Access (WPA) is now supported on Cisco Aironet access points and wireless bridges. WPA is the Wi-Fi Alliance specification for interoperable wireless LAN security. It supports IEEE 802.1X authentication using extensible authentication protocol (EAP) authentication types and temporal key integrity protocol (TKIP) encryption.

Installation Notes

This section contains important information to keep in mind when installing your bridge.

Bridge Installation

The bridge is available in two configurations:

- Integrated antenna bridge (with 22.5-dBi directional antenna)
- External antenna bridge (with antenna connector for use with an external antenna)

**Note**

To meet regulatory restrictions, the external antenna bridge configuration and the external antenna must be professionally installed.

**Note**

When installing the dual-coax cable, it is acceptable to unzip or pull the two cables apart at the ends if more separation is needed between the male F connectors.

Personnel installing the bridge must understand wireless bridging techniques, antenna alignment and adjustment, and grounding methods. The integrated antenna configuration can be installed by an experienced IT professional.

Stacking Bridges

You can double the throughput or create a standby link by stacking two bridges. A stacked installation consists of two bridge systems installed at the same physical location. For detailed mounting instructions refer to the *Cisco Aironet 1400 Series Wireless Bridge Mounting Instructions* that shipped with your bridge.

**Note**

The bridge antennas must be separated by a minimum of 6.56 ft (2 m) from each other and from other co-located antennas.

Important Notes

This section describes important information about the 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 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 99 km to 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 switchover takes at least 30 seconds, which is too slow to maintain TCP sessions from one port to another.

WPA Supported Only with Concatenation Disabled

Wi-Fi Protected Access (WPA) is now supported on Cisco Aironet wireless bridges. However, WPA is supported on bridges only when you disable packet concatenation. Use the **no concatenation** configuration interface command to disable concatenation on the bridge radio.

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 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 may become 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 then the Ethernet LED starts to blink green.
7. The Ethernet, Status, and Radio LEDs blink amber twice to indicate 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 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 indicate 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 non-root bridge to associate, the Install LED blinks green.
12. When the root bridge has a non-root 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 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.

New Express Security Page Simplifies Security Setup

The new Express Security page in the access point web-browser interface makes it easier to create SSIDs and assign security settings to them. [Figure 1](#) shows the Express Security page.

Limitations of the Express Security page include:

- You cannot edit the SSID. However, you can delete the SSID and re-create it.
- You cannot configure multiple authentication servers. To configure multiple authentication servers, use the Security Server Manager page.
- You cannot configure multiple WEP keys. To configure multiple WEP keys, use the Security Encryption Manager page.
- You cannot assign the SSID to a VLAN that is already configured on the bridge. To assign the SSID to an existing VLAN, use the Security SSID Manager page.
- You cannot configure combinations of authentication types on the same SSID. To configure combinations of authentication types, use the Security SSID Manager page.

For complete instructions on using the Express Security page, see the “Configuring Basic Security Settings” section in the *Cisco Aironet 1400 Series Wireless Bridge Software Configuration Guide*.

Figure 1 Express Security Page

Hostname Mal-BR1410-R Mal-BR1410-R uptime is 3 days, 21 hours, 50 minutes

Express Security Set-Up

SSID Configuration

1. SSID Broadcast SSID in Beacon

2. VLAN

No VLAN Enable VLAN ID: (1-4095) Native VLAN

3. Security

No Security

Static WEP Key

Key 1 128 bit

EAP Authentication

RADIUS Server: (Hostname or IP Address)

RADIUS Server Secret:

WPA

RADIUS Server: (Hostname or IP Address)

RADIUS Server Secret:

SSID Table

Delete	SSID	VLAN	Encryption	Authentication	Key Management	Native VLAN	Broadcast SSID
<input checked="" type="radio"/>	Mal-BR1	none	ciphers tkip	open+EAP , network EAP	wpa		✓

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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 freeze or hang. However, this behavior is expected because the bridge gives top priority to data traffic and a lower priority to Telnet traffic.

Caveats

This section lists open and resolved caveats in Cisco IOS Release 12.2(15)JA for the bridge.

Open Caveats

These caveats are open in Cisco IOS Release 12.2(15)JA for the bridge:

- CSCec78900—High CPU use sometimes slows throughput on bridges.
- CSCed46039—After a reboot, the bridge's CCA noise floor setting sometimes is changed from 62, which is the default setting, to 0, which can cause connectivity problems.

Workaround: Use this command to set the CCA noise floor setting to a value other than 0 or 62 (which is the default):

```
bridge(config-if)# cca 60
```

Resolved Caveats

These caveats are resolved in Cisco IOS Release 12.2(15)JA:

- CSCec16481

A Cisco device running Cisco Internetwork Operating System (IOS) and enabled for the Open Shortest Path First (OSPF) Protocol is vulnerable to a Denial of Service (DoS) attack from a malformed OSPF packet. The OSPF protocol is not enabled by default.

The vulnerability is only present in Cisco IOS release trains based on 12.0S, 12.2, and 12.3. Releases based on 12.0, 12.1 mainlines and all Cisco IOS images prior to 12.0 are not affected. Refer to the Security Advisory for a complete list of affected release trains.

Further details and the workarounds to mitigate the effects are explained in the Security Advisory which is available at the following URL:

<http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20040818-ospf>.

- CSCdz32659—Memory allocation failure (MALLOCFAIL) messages no longer occur for Cisco Discovery Protocol (CDP) processes.
- CSCed40563—Problems with the CDP protocol have been resolved.
- CSCin57580—MAC address filtering now correctly stops traffic from filtered addresses.

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**.

Documentation Updates

The *Cisco Aironet 1400 Series Wireless Bridge Mounting Instructions* provides detailed instructions for installing and mounting the bridge.

Stacking Bridges Section Changes

The separation distance between the two stacked bridge antennas is a minimum of 6.56 ft (2 m).

Related Documentation

These documents describe the installation and configuration of the bridge:

- *Quick Start Guide: Cisco Aironet 1400 Series Wireless Bridge*
- *Cisco Aironet 1400 Series Wireless Bridge Software Configuration Guide*
- *Cisco Aironet 1400 Series Wireless Bridge Hardware Installation Guide*
- *Cisco IOS Command Reference for Access Points and Bridges*
- *Cisco Aironet 1400 Series Wireless Bridge Mounting Instructions*
- *Cisco Aironet 1400 Series Wireless Bridge 9-dBi Omnidirectional Antenna*
- *Cisco Aironet 1400 Series Wireless Bridge 10-dBi Sector Antenna*
- *Cisco Aironet 1400 Series Wireless Bridge 28-dBi Dish Antenna*
- *Cisco Aironet 1400 Series Wireless Bridge Roof Mount Assembly Instructions*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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