Release Notes for Cisco Wireless Controllers and Lightweight Access Points, Cisco Wireless Release 8.2.121.0 (Deferred) and 8.2.130.0

First Published: July 31, 2016

This release notes document describes what is new in Cisco Wireless Release 8.2.x, instructions to upgrade to this release, and open and resolved caveats for this release. Unless otherwise noted, in this document, all Cisco Wireless Controllers are referred to as *Cisco WLCs*, and all Cisco lightweight access points are referred to as *access points* or *Cisco APs*.

Note For Cisco wireless solution software compatibility information, see the *Cisco Wireless Solutions Software Compatibility Matrix* at http://www.cisco.com/c/en/us/td/docs/wireless/compatibility/matrix/compatibility-matrix.html.

Note For information specific to the Cisco Mobility Express solution, see "Cisco Mobility Express Solution Release Notes" section on page 46.

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Revision History

Table 1 Revision History

Modification Date	Modification Details
January 29, 2018	• Features Not Supported on Cisco Virtual WLCs, page 20 – Modified information about FlexConnect central switching.
October 16, 2017	• Features Not Supported on Cisco Aironet 1810 OEAP, 1810W, 1830, 1850, 2800, and 3800 Series APs, page 22 – Added SIP snooping with FlexConnect in local switching mode
October 10, 2017	• Features Not Supported on Cisco Virtual WLCs, page 20 – Added Wired Guest and FlexConnect central switching.
November 22, 2016	• Features Not Supported on Cisco 2504 WLC, page 18 – Added: EoGRE • Features Not Supported on Cisco Virtual WLCs, page 20 – Added: EoGRE (Supported in only local switching mode)
October 13, 2016	• Features Not Supported on Cisco Aironet 1810 OEAP, 1810W, 1830, 1850, 2800, and 3800 Series APs, page 22 – Added: Telnet
September 26, 2016	• Added What's New in Release 8.2.130.0, page 4 • Added Caveats for 8.2.130.0 – Caveats, page 24
September 22, 2016	• Features Not Supported on Cisco Aironet 1810 OEAP, 1810W, 1830, 1850, 2800, and 3800 Series APs, page 22 – Removed: Enhanced Local Mode (ELM)
September 13, 2016	• Features Not Supported on Cisco Access Point Platforms, page 20 – Added: Features Not Supported on Cisco Aironet 1810 OEAP, 1810W, 1830, 1850, 2800, and 3800 Series APs – Added: Features Not Supported on Cisco Aironet 1810 OEAP and 1810W Series APs – Added: Features Not Supported on Cisco Aironet 1830 and 1850 Series APs

Cisco Wireless Controller and Cisco Lightweight Access Point Platforms

The section contains the following subsections:

Supported Cisco Wireless Controller Platforms

The following Cisco WLC platforms are supported in this release:

- Cisco 2500 Series Wireless Controllers (Cisco 2504 Wireless Controller)
- Cisco 5500 Series Wireless Controllers (5508 and 5520 Wireless Controllers)
- Cisco Flex 7500 Series Wireless Controllers (Cisco Flex 7510 Wireless Controller)
- Cisco 8500 Series Wireless Controllers (8510 and 8540 Wireless Controllers)
- Cisco Virtual Wireless Controllers on the Cisco Services-Ready Engine (Cisco SRE) or the Cisco Wireless LAN Controller Module for Cisco Integrated Services Routers G2 (UCS-E)

Note Kernel-based virtual machine (KVM) is supported in Cisco Wireless Release 8.1 and later releases.

After KVM is deployed, we recommend that you do not downgrade to a Cisco Wireless release that is earlier than Release 8.1.

- Cisco Wireless Controllers for High Availability for Cisco 2504 WLC, Cisco 5508 WLC, Cisco 5520 WLC, Cisco Wireless Services Module 2 (Cisco WiSM2), Cisco Flex 7510 WLC, Cisco 8510 WLC, and Cisco 8540 WLC.

Note AP Stateful switchover (SSO) is not supported on Cisco 2504 WLCs.

- Cisco WiSM2 for Catalyst 6500 Series Switches
- Cisco Mobility Express Solution

For information about features that are not supported on the Cisco WLC platforms, see "Features Not Supported on Cisco WLC Platforms" section on page 17.

Supported Access Point Platforms

The following access point platforms are supported in this release:

- Cisco Aironet 1040 Series Access Points
- Cisco Aironet 1140 Series Access Points
- Cisco Aironet 1260 Series Access Points
- Cisco Aironet 1600 Series Access Points
- Cisco Aironet 1700 Series Access Points
- Cisco Aironet 1810 Series OfficeExtend Access Points
- Cisco Aironet 1810W Series Access Points
- Cisco Aironet 1830 Series Access Points
- Cisco Aironet 1850 Series Access Points
- Cisco Aironet 2600 Series Access Points
- Cisco Aironet 2700 Series Access Points

- Cisco Aironet 2800 Series Access Points
- Cisco Aironet 3500 Series Access Points
- Cisco Aironet 3600 Series Access Points
- Cisco Aironet 3700 Series Access Points
- Cisco Aironet 3800 Series Access Points
- Cisco Aironet 600 Series OfficeExtend Access Points
- Cisco Aironet 700 Series Access Points
- Cisco Aironet 700W Series Access Points
- Cisco AP802 Integrated Access Point
- Cisco AP803 Integrated Access Point
- Cisco ASA 5506W-AP702
- Cisco Aironet 1530 Series Access Points
- Cisco Aironet 1550 Series Access Points
- Cisco Aironet 1570 Series Access Points
- Cisco Industrial Wireless 3700 Series Access Points

Note The Cisco 1040 Series, 1140 Series, and 1260 Series access points have feature parity with Cisco Wireless Release 8.0. Features introduced in Cisco Wireless Release 8.1 and later are not supported on these access points.

Note Cisco AP802 and AP803 are integrated access points on the Cisco 800 Series Integrated Services Routers (ISRs). For more information about the stock-keeping units (SKUs) for the AP802s and AP803s Cisco ISRs, see http://www.cisco.com/c/en/us/products/routers/800-series-routers/brochure-listing.html. Before you use a Cisco AP802 series lightweight access point with Cisco Wireless Release 8.2.121.0, you must upgrade the software in the Cisco 800 Series ISRs to Cisco IOS 15.1(4)M or later releases.

Note For information about features that are not supported on some access point platforms, see the Features Not Supported on Cisco Access Point Platforms, page 20.

Note For information about Cisco Wireless software releases that support specific Cisco access point modules, see the Software Release Support for Specific Access Point Modules section in the *Cisco Wireless Solutions Software Compatibility Matrix* document.

What's New in Release 8.2.130.0

Release 8.2.130.0 is a repost of Release 8.2.121.0 to address certain caveats. There are no other updates in this release. See Caveats, page 24.

What's New in Release 8.2.121.0 (Deferred Release)

There are no new features introduced in this release. For more information about updates in this release, see the "Caveats" section on page 24.

Software Release Types and Recommendations

Table 2 Release Types

Release Type	Description	Benefit
Maintenance Deployment (MD) releases	Software releases that provide bug-fix support and ongoing software maintenance. These releases are categorized as Maintenance Deployment (MD) and may be part of the AssureWave program.[1] These are releases with long life and ongoing software maintenance.	Provides you with a software release that offers stability and long support duration with periodic maintenance releases (MRs).
Early Deployment (ED) releases	Software releases that provide new features and new hardware platform support in addition to bug fixes. These releases are categorized as Early Deployment (ED). These are short-lived releases.	Allows you to deploy the latest features and new hardware platforms or modules.

1. AssureWave is a Cisco program that focuses on satisfying customer quality requirements in key industry segments in the mobility space. This program links and expands on product testing conducted within development engineering, regression testing, and system test groups within Cisco. The AssureWave program has established partnerships with major device and application vendors to help ensure broader interoperability with our new release. The AssureWave certification marks the successful completion of extensive wireless LAN controller and access point testing in real-world use cases with a variety of mobile client devices applicable in a specific industry.

For detailed release recommendations, see the software release bulletin:

http://www.cisco.com/c/en/us/products/collateral/wireless/8500-series-wireless-controllers/bulletin-c25-730741.html

For more information about the Cisco Wireless solution compatibility matrix, see http://www.cisco.com/c/en/us/td/docs/wireless/compatibility/matrix/compatibility-matrix.html.

Upgrading to Cisco WLC Software Release 8.2.x

Guidelines and Limitations

- When you change the WLAN profile name, then FlexConnect APs (using AP-specific VLAN mapping) will become WLAN-specific. If FlexConnect Groups are properly configured, the VLAN mapping will become Group-specific.

- After upgrading to Release 8.2, the Cisco WLC might lose all IPv4 connectivity. The Cisco WLC can no longer service incoming SSH/Web sessions and is unable to ping other IPv4 stations. However, the default router is able to ping the Cisco WLC's management interface.

  Every 10 seconds, a message similar to the following is sent to the msglog:

  ```
  *dtlArpTask: Jan 06 23:50:37.312: %OSAPI-4-GW_ADD_FAILED: osapi_net.c:1032 Unable to
  add the gateway 192.168.145.1. System command returned failure. Errorcode:256
  ```

  This occurs in the following conditions:

  a. LAG is not configured.

  b. The management interface is untagged and is mapped to one physical port.

  c. When an untagged dynamic interface is added and mapped to port 2, the default route for the management interface is lost.

  The workaround is to configure all interfaces with VLANs.

  You can track this issue via CSCux75436.

- Effective with Release 8.2.100.0, you cannot download some of the older configurations from the Cisco WLC because of the Multicast and IP address validations introduced in this release. The platform support for global multicast and multicast mode are listed in the following table.

Table 3 Platform Support for Global Multicast and Multicast Mode

Platform	Global Multicast	Multicast Mode	Support
Cisco 5520, 8510, and 8540 WLCs	Enabled	Unicast	No
	Enabled	Multicast	Yes
	Disabled	Unicast	Yes
	Disabled	Multicast	No
Cisco Flex 7510 WLC	Multicast is not supported.		
Cisco 5508 WLC	Enabled	Unicast	Yes
	Enabled	Multicast	Yes
	Disabled	Unicast	Yes
	Disabled	Multicast	No
Cisco 2504 WLC	Only multicast mode is supported.		
Cisco vWLC	Multicast is not supported.		

- In Release 8.2, the **reload** command is not recognized by Cisco Aironet 3600 Series APs. The workaround is to use the **debug capwap console cli** command.
- Cisco WLC Release 7.3.112.0, which is configured for new mobility, might revert to old mobility after upgrading to Release 7.6, even though Release 7.6 supports new mobility. This issue occurs when new mobility, which is compatible with the Cisco 5760 Wireless LAN Controller and the Cisco Catalyst 3850 Series Switch, are in use. However, old mobility is not affected.

  The workaround is as follows:

  a. Enter the following commands:

  ```
  config boot backup
  show boot
  ```

```
Primary Boot Image.................. 7.6.100.0
Backup Boot Image................... 7.3.112.0 (default) (active)
```

b. After the reboot, press **Esc** on the console, and use the boot menu to select **Release 7.6**.

c. After booting on Release 7.6, set back the primary boot, and save the configuration by entering the following command:

config boot primary

Note The epings are not available in the Cisco 5500 Series WLC when New Mobility is enabled.

Note If you downgrade from a Cisco WLC release that supports new mobility to a Cisco WLC release that does not support new mobility, for example, Cisco Wireless Release 7.6 to Release 7.3.x and you download the 7.6 configuration file with new mobility in enabled state, the release that does not support new mobility will have the new mobility feature in enabled state.

- If you downgrade from Release 8.2.121.0 to a 7.x release, the trap configuration is lost and must be reconfigured.
- If you upgrade from Release 8.0.110.0 to a later release, the **config redundancy mobilitymac** *mac-addr* command's setting is removed. You must manually reconfigure the mobility MAC address after the upgrade.
- If you have ACL configurations in a Cisco WLC, and downgrade from a 7.4 or later release to a 7.3 or earlier release, you might experience XML errors on rebooting the Cisco WLC. However, these errors do not have any impact on any of the functionalities or configurations.
- If you are upgrading from a 7.4.x or earlier release to a release later than 7.4, the Called Station ID type information is mapped to the RADIUS Accounting Called Station ID type; which, by default, is set to apradio-mac-ssid. You can configure the RADIUS Authentication Called Station ID type information by using the **config radius auth callStationIdType** command.
- When FlexConnect APs (known as H-REAP APs in the 7.0.x releases) that are associated with a Cisco WLC that has all the 7.0.x software releases prior to Release 7.0.240.0, upgrade to Release 8.2.121.0, the APs lose the enabled VLAN support configuration. The VLAN mappings revert to the default values of the VLAN of the associated interface. The workaround is to upgrade from Release 7.0.240.0 and later 7.0.x releases to Release 8.2.121.0.

Note In case of FlexConnect VLAN mapping deployment, we recommend that the deployment be done using FlexConnect groups. This allows you to recover VLAN mapping after an AP rejoins the Cisco WLC without having to manually reassign the VLAN mappings.

- When a client sends an HTTP request, the Cisco WLC intercepts it for redirection to the login page. If the HTTP GET request that is intercepted by the Cisco WLC is longer than 2000 bytes, the Cisco WLC drops the packet. Track CSCuy81133 for a possible enhancement to address this restriction.
- We recommend that you install Release 1.9.0.0 of Cisco Wireless LAN Controller Field Upgrade Software (FUS), which is a special AES package that contains several system-related component upgrades. These include the bootloader, field recovery image, and FPGA/MCU firmware. Installing the FUS image requires special attention because it installs some critical firmware. The FUS image is independent of the runtime image. For more information, see http://www.cisco.com/c/en/us/td/docs/wireless/controller/release/notes/fus_rn_OL-31390-01.html.

Note The FUS image installation process reboots the Cisco WLC several times and reboots the runtime image. The entire process takes approximately 30 minutes. We recommend that you install the FUS image in a planned outage window.

Note If you are using a Cisco 2500 Series controller and you intend to use the Application Visibility and Control (AVC) and NetFlow protocol features, you must install Release 1.9.0.0 of Cisco Wireless LAN Controller FUS. This is not required if you are using other controller hardware models.

- After you upgrade to Release 7.4, networks that were not affected by the existing preauthentication access control lists might not work because the rules are now enforced. That is, networks with clients configured with static DNS servers might not work unless the static server is defined in the preauthentication ACL.
- On the Cisco Flex 7500 Series WLCs, if FIPS is enabled, the reduced boot options are displayed only after a bootloader upgrade.

Note Bootloader upgrade is not required if FIPS is disabled.

- If you have to downgrade from one release to another, you might lose the configuration from your current release. The workaround is to reload the previous Cisco WLC configuration files saved on the backup server, or to reconfigure the Cisco WLC.
- It is not possible to directly upgrade to Release 8.2.121.0 release from a release that is earlier than Release 7.0.98.0.
- You can upgrade or downgrade the Cisco WLC software only between certain releases. In some instances, you must first install an intermediate release prior to upgrading to Release 8.2.121.0. Table 4 shows the upgrade path that you must follow before downloading Release 8.2.121.0.

Caution If you upgrade directly to 7.6.x or a later release from a release that is earlier than 7.5, the predownload functionality on Cisco Aironet 2600 and 3600 APs fails. The predownload functionality failure is only a one-time failure. After the upgrade to 7.6.x or a later release, the new image is loaded on the said Cisco APs, and the predownload functionality works as expected.

Table 4 Upgrade Path to Cisco WLC Software Release 8.2.x

Current Software Release	Upgrade Path to 8.2.x Software
7.6.x	You can upgrade directly to 8.2.x.
8.0.x	You can upgrade directly to 8.2.x.
8.2.x	You can upgrade directly to 8.2.130.0.

- When you upgrade the Cisco WLC to an intermediate software release, you must wait until all of the access points that are associated with the Cisco WLC are upgraded to the intermediate release before you install the latest Cisco WLC software. In large networks, it can take some time to download the software on each access point.

- You can upgrade to a new release of the Cisco WLC software or downgrade to an earlier release even if Federal Information Processing Standard (FIPS) is enabled.
- When you upgrade to the latest software release, the software on the access points associated with the Cisco WLC is also automatically upgraded. When an access point is loading software, each of its LEDs blinks in succession.
- We recommend that you access the Cisco WLC GUI using Microsoft Internet Explorer 10 or a later version or Mozilla Firefox 32 or a later version.

Note Microsoft Internet Explorer 8 might fail to connect over HTTPS because of compatibility issues. In such cases, you can explicitly enable SSLv3 by entering the **config network secureweb sslv3 enable** command.

- Cisco WLCs support standard SNMP MIB files. MIBs can be downloaded from the Software Center on Cisco.com.
- The Cisco WLC software is factory installed on your Cisco WLC and is automatically downloaded to the access points after a release upgrade and whenever an access point joins a Cisco WLC. We recommend that you install the latest software version available for maximum operational benefit.
- Ensure that you have a TFTP, FTP, or SFTP server available for the software upgrade. Follow these guidelines when setting up a server:
  - Ensure that your TFTP server supports files that are larger than the size of Cisco WLC software Release 8.2.121.0. Some TFTP servers that support files of this size are tftpd32 and the TFTP server within the Prime Infrastructure. If you attempt to download the 8.2.121.0 Cisco WLC software and your TFTP server does not support files of this size, the following error message appears:

    ```
    TFTP failure while storing in flash.
    ```

  - If you are upgrading through the distribution system network port, the TFTP or FTP server can be on the same subnet or a different subnet because the distribution system port is routable.
- When you plug a Cisco WLC into an AC power source, the bootup script and power-on self test is run to initialize the system. During this time, press **Esc** to display the bootloader Boot Options menu. The menu options for the Cisco 5500 Series WLC differ from the menu options for the other Cisco WLC platforms.

  Bootloader menu for Cisco 5500 Series WLC:

  ```
     Boot Options
  Please choose an option from below:
   1. Run primary image
   2. Run backup image
   3. Change active boot image
   4. Clear Configuration
   5. Format FLASH Drive
  6. Manually update images
  Please enter your choice:
  ```

  Bootloader menu for other Cisco WLC platforms:

  ```
     Boot Options
  Please choose an option from below:
   1. Run primary image
   2. Run backup image
   3. Manually update images
   4. Change active boot image
   5. Clear Configuration
  ```

```
Please enter your choice:
```

Enter **1** to run the current software, enter **2** to run the previous software, enter **4** (on Cisco 5500 Series WLC), or enter **5** (on Cisco WLC platforms other than 5500 series) to run the current software and set the Cisco WLC configuration to factory defaults. Do not choose the other options unless directed to do so.

Note See the Installation Guide or the Quick Start Guide pertaining to your Cisco WLC platform for more details on running the bootup script and power-on self test.

- The Cisco WLC bootloader stores a copy of the active primary image and the backup image. If the primary image becomes corrupted, you can use the bootloader to boot with the backup image.

  With the backup image stored before rebooting, choose **Option 2: Run Backup Image** from the boot menu to boot from the backup image. Then, upgrade with a known working image and reboot the Cisco WLC.

- You can control the addresses that are sent in the Control and Provisioning of Wireless Access Points (CAPWAP) discovery responses when NAT is enabled on the Management Interface using the following command:

  config network ap-discovery nat-ip-only {**enable** | **disable**}

  Here:

  - **enable**—Enables use of NAT IP only in a discovery response. This is the default. Use this command if all the APs are outside the NAT gateway.
  - **disable**—Enables use of both NAT IP and non-NAT IP in a discovery response. Use this command if APs are on the inside and outside the NAT gateway, for example, Local Mode and OfficeExtend APs are on the same Cisco WLC.

Note To avoid stranding of APs, you must disable AP link latency (if enabled) before you use the disable option for the **config network ap-discovery nat-ip-only** command. To disable AP link latency, use the **config ap link-latency disable all** command.

- You can configure 802.1p tagging by using the **config qos dot1p-tag** {**bronze** | **silver** | **gold** | **platinum**} command. For Release 7.2.103.0 and later releases, if you tag 802.1p packets, the tagging has an impact on only wired packets. Wireless packets are impacted only by the maximum priority level set for QoS.
- You can reduce the network downtime using the following options:
  - You can predownload the AP image.
  - For FlexConnect access points, use the FlexConnect AP upgrade feature to reduce traffic between the Cisco WLC and the AP (main site and the branch). For more information about the FlexConnect AP upgrade feature, see the *Cisco Wireless Controller Configuration Guide*.

Note Predownloading Release 8.2.121.0 on a Cisco Aironet 1240 access point is not supported when upgrading from a previous Cisco WLC release. If predownloading is attempted on a Cisco Aironet 1240 access point, an AP disconnect will occur momentarily.

- Do not power down the Cisco WLC or any access point during the upgrade process; otherwise, you might corrupt the software image. Upgrading a Cisco WLC with a large number of access points can take as long as 30 minutes, depending on the size of your network. However, with the increased number of concurrent access point upgrades supported, the upgrade time should be significantly reduced. The access points must remain powered, and the Cisco WLC must not be reset during this time.
- To downgrade from Release 8.2.121.0 to Release 6.0 or an earlier release, perform either of these tasks:
  - Delete all the WLANs that are mapped to interface groups, and create new ones.
  - Ensure that all the WLANs are mapped to interfaces rather than interface groups.
- After you perform the following functions on the Cisco WLC, reboot the Cisco WLC for the changes to take effect:
  - Enable or disable link aggregation (LAG)
  - Enable a feature that is dependent on certificates (such as HTTPS and web authentication)
  - Add a new license or modify an existing license
  - Increase the priority of a license
  - Enable HA
  - Install the SSL certificate
  - Configure the database size
  - Install the vendor-device certificate
  - Download the CA certificate
  - Upload the configuration file
  - Install the Web Authentication certificate
  - Make changes to the management interface or the virtual interface
  - Make changes to TCP MSS settings

Upgrading to Cisco WLC Software Release 8.2.x(GUI)

Step 1 Upload your Cisco WLC configuration files to a server to back up the configuration files.

Note We highly recommend that you back up your Cisco WLC configuration files prior to upgrading the Cisco WLC software.

Step 2 Follow these steps to obtain Cisco Wireless Release 8.2.121.0 software:

a. Click this URL to go to the Software Center:

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

b. Choose **Wireless** from the center selection window.

c. Click **Wireless LAN Controllers**.

The following options are displayed. Depending on your Cisco WLC platform, select either of these options:

- Integrated Controllers and Controller Modules
- Standalone Controllers

d. Select the Cisco WLC model number or name.

The **Download Software** page is displayed.

e. The software releases are labeled as follows to help you determine which release to download. Click a Cisco WLC software release number:

- **Early Deployment (ED)**—These software releases provide new features and new hardware platform support as well as bug fixes.
- **Maintenance Deployment (MD)**—These software releases provide bug fixes and ongoing software maintenance.
- **Deferred (DF)**—These software releases have been deferred. We recommend that you migrate to an upgraded release.

f. Click the filename (*filename*.aes).

g. Click **Download**.

h. Read the Cisco End User Software License Agreement and click **Agree**.

i. Save the file to your hard drive.

j. Repeat steps a. through i. to download the remaining file.

Step 3 Copy the Cisco WLC software file (*filename*.aes) to the default directory on your TFTP, FTP, or SFTP server.

Step 4 (Optional) Disable the Cisco WLC 802.11a/n and 802.11b/g/n networks.

Note For busy networks, Cisco WLCs on high utilization, and small Cisco WLC platforms, we recommend that you disable the 802.11a/n and 802.11b/g/n networks as a precautionary measure.

Step 5 Choose **Commands** > **Download File** to open the Download File to Controller page.

Step 6 From the **File Type** drop-down list, choose **Code**.

Step 7 From the **Transfer Mode** drop-down list, choose **TFTP**, **FTP**, or **SFTP**.

Step 8 In the **IP Address** text box, enter the IP address of the TFTP, FTP, or SFTP server.

Step 9 If you are using a TFTP server, the default value of 10 retries for the **Maximum Retries** text field, and 6 seconds for the Timeout text field should work correctly without any adjustment. However, you can change these values, if desired. To do so, enter the maximum number of times that the TFTP server attempts to download the software in the Maximum Retries text box and the amount of time (in seconds) for which the TFTP server attempts to download the software, in the **Timeout** text box.

Step 10 In the **File Path** text box, enter the directory path of the software.

Step 11 In the **File Name** text box, enter the name of the software file (*filename*.aes).

Step 12 If you are using an FTP server, perform these steps:

a. In the **Server Login Username** text box, enter the username with which to log on to the FTP server.

b. In the **Server Login Password** text box, enter the password with which to log on to the FTP server.

c. In the **Server Port Number** text box, enter the port number on the FTP server through which the download occurs. The default value is 21.

Step 13 Click **Download** to download the software to the Cisco WLC.

A message appears indicating the status of the download.

Step 14 After the download is complete, click **Reboot**.

Step 15 If you are prompted to save your changes, click **Save and Reboot**.

Step 16 Click **OK** to confirm your decision to reboot the Cisco WLC.

Step 17 For Cisco WiSM2 on the Catalyst switch, check the port channel and re-enable the port channel if necessary.

Step 18 If you have disabled the 802.11a/n and 802.11b/g/n networks in Step 4, re-enable them.

Step 19 To verify that the 8.2.121.0 Cisco WLC software is installed on your Cisco WLC, click **Monitor** on the Cisco WLC GUI and view the Software Version field under Controller Summary.

Special Notes for Licensed Data Payload Encryption on Cisco Wireless LAN Controllers

Datagram Transport Layer Security (DTLS) is required for all Cisco 600 Series OfficeExtend Access Point deployments to encrypt data plane traffic between the APs and the Cisco WLC. You can purchase Cisco Wireless LAN Controllers with either DTLS that is enabled (non-LDPE) or disabled (LDPE). If DTLS is disabled, you must install a DTLS license to enable DTLS encryption. The DTLS license is available for download on Cisco.com.

Important Note for Customers in Russia

If you plan to install a Cisco Wireless LAN Controller in Russia, you must get a Paper PAK, and not download the license from Cisco.com. The DTLS Paper PAK license is for customers who purchase a Cisco WLC with DTLS that is disabled due to import restrictions, but have authorization from local regulators to add DTLS support after the initial purchase. Refer to your local government regulations to ensure that DTLS encryption is permitted.

Note Paper PAKs and electronic licenses that are available are outlined in the respective Cisco WLC platform data sheets.

Downloading and Installing a DTLS License for an LDPE Cisco WLC

Step 1 To download the Cisco DTLS license:

a. Go to the Cisco Software Center at this URL:

https://tools.cisco.com/SWIFT/LicensingUI/Home

b. From the Product License Registration page from the **Get Other Licenses** drop-down list, click **IPS, Crypto, Other ...**.

c. In the **Wireless** section, click **Cisco Wireless Controllers (2500/5500/7500/WiSM2) DTLS License** and click **Next**.

d. Follow the on-screen instructions to generate the license file. The license file information will be sent to you in an e-mail.

Step 2 Copy the license file to your TFTP server.

Step 3 Install the DTLS license either by using the Cisco WLC web GUI interface or the CLI:

- To install the license using the WLC web GUI, choose:

  Management > Software Activation > Commands > Action: **Install License**

- To install the license using the CLI, enter this command:

  license install tftp:*//ipaddress /path /extracted-file*

  After the installation of the DTLS license, reboot the system. Ensure that the DTLS license that is installed is active.

Upgrading from an LDPE to a Non-LDPE Cisco WLC

Step 1 Download the non-LDPE software release:

a. Go to the Cisco Software Center at:

   http://www.cisco.com/cisco/software/navigator.html?mdfid=282585015&i=rm

b. Choose the Cisco WLC model.

c. Click **Wireless LAN Controller Software**.

d. In the left navigation pane, click the software release number for which you want to install the non-LDPE software.

e. Choose the non-LDPE software release: AIR-X-K9-X-X.X.aes

f. Click **Download**.

g. Read the Cisco End User Software License Agreement and then click **Agree**.

h. Save the file to your hard drive.

Step 2 Copy the Cisco WLC software file (*filename*.aes) to the default directory on your TFTP server or FTP server.

Step 3 Upgrade the Cisco WLC with this version by performing Step 3 through Step 19 detailed in the "Upgrading to Cisco WLC Software Release 8.2.x" section on page 5.

Interoperability with Other Clients

This section describes the interoperability of Cisco WLC Software, Release 8.2.121.0 with other client devices.

Table 5 describes the configuration used for testing the client devices.

Table 5 Test Bed Configuration for Interoperability

Hardware/Software Parameter	Hardware/Software Configuration Type
Release	8.2.121.0
Cisco WLC	Cisco 55xx Series Controller

Table 5 Test Bed Configuration for Interoperability (continued)

Access points	3802, 3502, 3602, 1602, 2602, 1702, 2702, 3702, 702, 702W, 1852
Radio	802.11ac, 802.11a, 802.11g, 802.11n2, 802.11n5
Security	Open, WEP, PSK (WPA and WPA2), 802.1X (WPA-TKIP and WPA2-AES) (LEAP, PEAP, EAP-FAST, EAP-TLS)
RADIUS	ACS 5.2, ISE 1.4
Types of tests	Connectivity, traffic, and roaming between two access points

The following tables list the client types on which the tests were conducted. The clients included laptops, hand-held devices, phones, and printers.

- Laptop: Table 6 lists the laptop client types on which the tests were conducted.

Table 6 Laptop Client Type List

Client Type and Name	Version
Intel 5100/5300	v14.3.2.1
Intel 6200	15.15.0.1
Intel 6300	15.16.0.2
Intel 6205	15.16.0.2
Intel 1000/1030	v14.3.0.6
Intel 3160	18.40.0.9
Intel 7260	18.40.0.9
Intel 7265	18.40.0.9
Intel 8260	18.40.0.9
Broadcom 4360	6.30.163.2005
Linksys AE6000 (USB)	5.1.2.0
Netgear A6200 (USB)	6.30.145.30
Netgear A6210(USB)	5.1.18.0
D-Link DWA-182 (USB)	6.30.145.30
Engenius EUB 1200AC(USB)	1026.5.1118.2013
Asus AC56(USB)	1027.515.2015
Dell 1395/1397/Broadcom 4312HMG(L)	5.30.21.0
Dell 1501 (Broadcom BCM4313)	v5.60.48.35/v5.60.350.11
Dell 1505/1510/Broadcom 4321MCAG/4322HM	5.60.18.8
Dell 1515(Atheros)	8.0.0.239
Dell 1520/Broadcom 43224HMS	5.60.48.18
Dell 1530 (Broadcom BCM4359)	5.100.235.12
Dell 1540	6.30.223.215
Dell 1560	6.30.223.262
Cisco CB21	1.3.0.532

Table 6 Laptop Client Type List

Client Type and Name	Version
Atheros HB92/HB97	8.0.0.320
Atheros HB95	7.7.0.358
MacBook Pro	OSX 10.11.4
MacBook Air old	OSX 10.11.4
MacBook Air new	OSX 10.11.4
Macbook Pro with Retina Display	OSX 10.11.4
Macbook New 2015	OSX 10.11.4

- Tablet: Table 7 lists the tablet client types on which the tests were conducted.

Table 7 Tablet Client Type List

Client Type and Name	Version
Apple iPad2	iOS 9.3.1(13E238)
Apple iPad3	iOS 9.3.1(13E238)
Apple iPad mini with Retina display	iOS 9.3.1(13E238)
Apple iPad Air	iOS 9.3.1(13E238)
Apple iPad Air 2	iOS 9.3.1(13E238)
Apple iPad Pro	iOS 9.3.1(13E238)
Samsung Galaxy Tab Pro SM-T320	Android 4.4.2
Samsung Galaxy Tab 10.1- 2014 SM-P600	Android 4.4.2
Samsung Galaxy Note 3 – SM-N900	Android 5.0
Microsoft Surface Pro 3	Windows 8.1 Driver: 15.68.3093.197
Microsoft Surface Pro 2	Windows 8.1 Driver: 14.69.24039.134
Google Nexus 9	Android 6.0.1
Google Nexus 7 2nd Gen	Android 5.0
Intermec CK70	Windows Mobile 6.5 / 2.01.06.0355
Intermec CN50	Windows Mobile 6.1 / 2.01.06.0333
Symbol MC5590	Windows Mobile 6.5 / 3.00.0.0.051R
Symbol MC75	Windows Mobile 6.5 / 3.00.2.0.006R

- Phones: Table 8 lists the phone client types on which the tests were conducted.

Table 8 Phone Client Type List

Client Type and Name	Version
Cisco 7921G	1.4.5.3.LOADS
Cisco 7925G	1.4.5.3.LOADS
Cisco 8861	Sip88xx.10-2-1-16
Apple iPhone 4S	iOS 9.3.1(13E238)
Apple iPhone 5	iOS 9.3.1(13E238)
Apple iPhone 5s	iOS 9.3.1(13E238)
Apple iPhone 5c	iOS 9.3.1(13E238)
Apple iPhone 6	iOS 9.3.1(13E238)
Apple iPhone 6 Plus	iOS 9.3.1(13E238)
HTC One	Android 5.0
OnePlusOne	Android 4.3
Samsung Galaxy S4 – GT-I9500	Android 5.0.1
Sony Xperia Z Ultra	Android 4.4.2
Nokia Lumia 1520	Windows Phone 8.1
Google Nexus 5	Android 5.1
Google Nexus 5X	Android 6.0.1
Google Nexus 6	Android 5.1.1
Samsung Galaxy S5-SM-G900A	Android 4.4.2
Huawei Ascend P7	Android 4.4.2
Samsung Galaxy S III	Android 4.3
Samsung Galaxy Nexus GTI9200	Android 4.4.2
Samsung Galaxy Mega SM900	Android 4.4.2
Samsung Galaxy S6	Android 6.0.1
Samsung Galaxy S7	Android 6.0.1
Xiaomi Mi 4c	Android 5.1.1
Xiaomi Mi 4i	Android 5.1.1

Features Not Supported on Cisco WLC Platforms

This section lists the features that are not supported on the different Cisco WLC platforms:

- Features Not Supported on Cisco 2504 WLC, page 18
- Features Not Supported on Cisco WiSM2 and Cisco 5508 WLC, page 18
- Features Not Supported on Cisco Flex 7510 WLCs, page 19

- Features Not Supported on Cisco 5520, 8510, and 8540 WLCs, page 20
- Features Not Supported on Cisco Virtual WLCs, page 20
- Features Not Supported on Mesh Networks, page 23

Note In a converged access environment that has Cisco WLCs running AireOS code, High Availability Client SSO and native IPv6 are not supported.

Features Not Supported on Cisco 2504 WLC

- Autoinstall
- Cisco WLC integration with Lync SDN API
- Application Visibility and Control (AVC) for FlexConnect local switched access points

Note However, AVC for local mode APs is supported.

- Bandwidth Contract
- Service Port
- AppleTalk Bridging
- Right-to-Use Licensing
- Smart Licensing
- PMIPv6
- EoGRE
- AP Stateful Switchover (SSO) and client SSO
- Multicast-to-Unicast
- Cisco Smart Software Licensing

Note The features that are not supported on Cisco WiSM2 and Cisco 5508 WLC are not supported on Cisco 2504 WLCs too.

Note Directly connected APs are supported only in the local mode.

Features Not Supported on Cisco WiSM2 and Cisco 5508 WLC

- Spanning Tree Protocol (STP)
- Port Mirroring
- VPN Termination (such as IPsec and L2TP)
- VPN Passthrough Option

Note You can replicate this functionality on a Cisco 5500 Series WLC by creating an open WLAN using an ACL.

- Configuration of 802.3 bridging, AppleTalk, and Point-to-Point Protocol over Ethernet (PPPoE)
- Fragmented pings on any interface
- Right-to-Use Licensing
- Cisco 5508 WLC cannot function as mobility controller (MC). However, Cisco 5508 WLC can function as guest anchor in a New Mobility environment.
- Smart Licensing

Features Not Supported on Cisco Flex 7510 WLCs

- Static AP-manager interface

Note For Cisco Flex 7500 Series WLCs, it is not necessary to configure an AP-manager interface. The management interface acts as an AP-manager interface by default, and the access points can join on this interface.

- TrustSec SXP
- IPv6 and Dual Stack client visibility

Note IPv6 client bridging and Router Advertisement Guard are supported.

- Internal DHCP server
- Access points in local mode

Note An AP associated with the Cisco WLC in the local mode should be converted to the FlexConnect mode or monitor mode, either manually or by enabling the autoconvert feature. On the Cisco Flex 7500 WLC CLI, enable the autoconvert feature by entering the **config ap autoconvert enable** command.

- Mesh (use Flex + Bridge mode for mesh-enabled FlexConnect deployments)
- Spanning Tree Protocol (STP)
- Cisco Flex 7500 Series WLC cannot be configured as a guest anchor Cisco WLC. However, it can be configured as a foreign Cisco WLC to tunnel guest traffic to a guest anchor Cisco WLC in a DMZ.
- Multicast

Note FlexConnect local-switched multicast traffic is bridged transparently for both wired and wireless on the same VLAN. FlexConnect access points do not limit traffic based on Internet Group Management Protocol (IGMP) or MLD snooping.

- PMIPv6

- Smart Licensing

Features Not Supported on Cisco 5520, 8510, and 8540 WLCs

- Internal DHCP Server
- Mobility controller functionality in converged access mode

Note Smart Licensing is not supported on Cisco 8510 WLC.

Features Not Supported on Cisco Virtual WLCs

- Cisco Aironet 1850 and 1830 Series APs
- Internal DHCP server
- TrustSec SXP
- Access points in local mode
- Mobility/Guest Anchor
- Wired Guest
- Multicast

Note FlexConnect local-switched multicast traffic is bridged transparently for both wired and wireless on the same VLAN. FlexConnect access points do not limit traffic based on IGMP or MLD snooping.

- FlexConnect central switching in large-scale deployments

Note FlexConnect central switching is supported in only small-scale deployments, wherein the total traffic on Cisco WLC ports is not more than 500 Mbps.

FlexConnect local switching is supported.

- AP and Client SSO in High Availability
- PMIPv6
- EoGRE (Supported in only local switching mode)
- Workgroup Bridges
- Client downstream rate limiting for central switching
- SHA2 certificates
- Cisco OfficeExtend Access Points

Features Not Supported on Cisco Access Point Platforms

- Features Not Supported on Cisco Aironet 1550 APs (with 64-MB Memory), page 21

Features Not Supported on Cisco Aironet 1550 APs (with 64-MB Memory)

- PPPoE
- PMIPv6

Note To see the amount of memory in a Cisco Aironet 1550 AP, enter the following command:

```
(Cisco Controller) >show mesh ap summary
```

Features Not Supported on Cisco Aironet 1810 OEAP, 1810W, 1830, 1850, 2800, and 3800 Series APs

Table 9 Features Not Supported on Cisco Aironet 1810 OEAP, 1810W, 1830, 1850, 2800 and 3800 Series APs

Operational Modes	• Spectrum Expert Connect • Workgroup Bridge (WGB) mode as a part of Cisco Mobility Express • Mesh mode • Flex plus Mesh • 802.1x supplicant for AP authentication on the wired port
Protocols	• 802.11u • Full Cisco Compatible Extensions (CCX) support • Rogue Location Discovery Protocol (RLDP) • Native IPv6 • Telnet
Security	• Encryption – Temporal Key Integrity Protocol (TKIP) • Locally Significant Certificate (LSC) • TrustSec SXP • CKIP, CMIC, and LEAP with Dynamic WEP • Static WEP key for TKIP or CKIP [1]
Quality of Service	• Cisco Air Time Fairness (ATF)
Spectrum Utilization	• Wi-Fi Tag • Aggressive Load Balancing
Packet Forwarding	• Split tunnels • PPPoE • NAT

Table 9 Features Not Supported on Cisco Aironet 1810 OEAP, 1810W, 1830, 1850, 2800 and 3800 Series APs (continued)

Location Services	• Data RSSI (Fast Locate)
FlexConnect Features	• Per Client AAA (QoS Override) • Bidirectional rate-limiting • Split Tunneling • EoGRE • Multicast to Unicast (MC2UC) • Traffic Specification (TSpec) – Cisco Compatible Extensions (CCX) – Call Admission Control (CAC) • DHCP Option 60 • NAT/PAT support • VSA/Realm Match Authentication • Proxy ARP • SIP snooping with FlexConnect in local switching mode

1. For more details, see the Wi-Fi Alliance Technical Note TKIP document in the Wi-Fi Organization's website.

Note For Cisco Aironet1850 Series AP technical specifications with details on currently supported features, see the *Cisco Aironet 1850 Series Access Points Data Sheet*.

Features Not Supported on Cisco Aironet 1810 OEAP and 1810W Series APs

Table 10 Features Not Supported on Cisco Aironet 1810 OEAP and 1810W Series APs

Operational Modes	• Monitor Mode • Multiple client on wired ports

Features Not Supported on Cisco Aironet 1830 and 1850 Series APs

Table 11 Features Not Supported on Cisco Aironet 1830 OEAP and 1850 Series APs

Operational Modes	• Monitor Mode

Features Not Supported on Mesh Networks

- Load-based call admission control (CAC). Mesh networks support only bandwidth-based CAC or static CAC
- High availability (fast heartbeat and primary discovery join timer)

- AP acting as supplicant with EAP-FASTv1 and 802.1X authentication
- Access point join priority (mesh access points have a fixed priority)
- Location-based services

Caveats

Caveats describe unexpected behavior in a product. The Open Caveats section lists open caveats that apply to the current release and may apply to previous releases. A caveat that is open for a prior release and is still unresolved applies to all future releases until it is resolved.

To view the details of the software bugs pertaining to your product, perform the following task:

Click the Caveat ID/Bug ID number in the table.

The corresponding Bug Search Tool page is displayed with details of the Caveat ID/Bug ID.

The Bug Search Tool (BST), which is the online successor to the 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 whose ID you do not have, perform the following procedure:

1. Access the BST using your Cisco user ID and password:

   https://tools.cisco.com/bugsearch/

2. In the Bug Search window that is displayed, enter the necessary information in the corresponding fields.

For more information about how to use the Cisco Bug Search Tool effectively, including how to set email alerts for bugs and to save bugs and searches, see the Bug Search Tool Help & FAQ page.

Open Caveats for 8.2.130.0

Table 12 Open Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCur68316	Cisco 802 and 891 APs in FlexConnect mode are losing VLAN mapping after power cycle
CSCuu63964	Apple clients cannot reconnect to Cisco 1850i APs on forceful deauthentication
CSCuv61089	AP is duplicating packets to wireless clients and WLC
CSCuw41092	AP is not sending traffic indication in beacon for power-save client after FT
CSCuw43910	Cisco 8.2 release: local-switching and local-authentication drop clients when latency is introduced
CSCuw84036	LWAP Flex mode generates traffic blackholing upon WGB pmk-cache timeout

Table 12 Open Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCuw95402	SNMP not returning correct information for roaming client
CSCuw97966	10G link down after reboot on Cisco 8510 WLC on Cisco Nexus 5k
CSCux06806	ATF Enforcement Configuration for network radio is not pushed to uploaded configuration
CSCux15561	Cisco 3500 and 1260 AP gets into “ap:” mode after power cycle
CSCux21803	Client not receiving broadcast ARP request after AP failover
CSCux23710	Cisco IW3702 AP LED status observed behavior inconsistent with CCO user guide
CSCux28505	Cisco 8510 WLC reloads unexpectedly with “fp_main_task” in the 8_2_1_124 image
CSCux56652	Local Profile shows wrong statistics and percentage information
CSCux59359	Cisco 8510 WLC behind NAT on New mobility and client stuck in DHCP_REQD state
CSCux78581	Multiple clients are not supported on LAN ports of Cisco 1810 APs
CSCuy05898	WIPs: Cisco 1850 AP is not showing some of the alarms
CSCuy21335	Filters are not working for table view in client performance
CSCuy57271	WLAN users are unable to edit WLAN Guest User association to any WLAN
CSCuy77629	Wireless clients getting disconnected after Smart Roam not triggered
CSCuy79069	Cisco 1852 AP always joins the backup secondary although primary is present
CSCuz08300	Cisco 600 and 1850 OEAP: RLAN slot2 info shown in “show advanced 802.11b summary”
CSCuz11374	WLC: selects wrong DHCP relay even though configured on interface
CSCuz17680	Cisco 7510 WLC reloads unexpectedly after enabling the enhanced client traps
CSCuz18554	Cisco 3600 AP and 802.11ac module gives tracebacks while changing from monitor mode
CSCuz18799	Cisco 2800, 3800 APs send VHT SGI frames to STA that does not support SGI
CSCuz18869	WLC picking up the unicast DHCP for unknown destination
CSCuz27736	Cisco 3800 AP on Flex- AP sends deauthentication after FT roam (Freq-3-4%)
CSCuz29774	Cisco 1852 APs losing connectivity to ME controller with AVC enabled
CSCuz33090	Cisco 3802 AP - antennas supported is always 4 in VHT Capabilities IE
CSCuz38911	Cisco 2800, 3800 APs proxim 802.11n client can not connect to Cisco 2800, 3800 AP
CSCuz38954	Cisco 3800 AP Flex: U-APSD- More and EOSP data bits not set correctly
CSCuz45296	WLC sends acct-update multiple times in the same millisecond

Table 12 Open Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCuz45986	Cisco Central Web Authentication (CWA) not working on CIsco 8500 WLC as guest anchor with accounting enabled
CSCuz46892	Cisco Mobility Express external AP rebooted bec detected another ME controller
CSCuz48887	Cisco 3800 AP false radar detection with dual 5GHz 160MHz channel
CSCuz49685	Cisco 1810 OEAP SNMP: not seeing error when try to disable port 3
CSCuz51052	Cisco 2800, 3800 APs are not using 2 SS rates with Samsung S7 client
CSCuz52457	clMeshLtResultsTable is empty for Cisco IW3700 AP
CSCuz59379	MUMIMO: SU/MU sounding does not happen for TCP frames size 64-256
CSCuz61598	A-MSDU cannot be enabled on VO
CSCuz65017	Cisco 3800 AP not updating HT Op Mode bits in presence of legacy AP
CSCuz65175	Cisco 1852 ME: HTTP profiling causes CPU spikes and degraded performance
CSCuz68479	Cisco 3800 AP not reassembling wireless fragmented frames
CSCuz74051	Cisco ME: WGB associate failed with IOS AP
CSCuz78490	DHCP: usage indicator will not show 100% usage even if all IPs are in use
CSCuz92910	Beacon stuck on ap re-join after controller reloads
CSCva00087	Cisco WLC reloads unexpectedly on apfVerifyCountryString spamApTask2
CSCva00354	Cisco 2800, 3800 APs kernel panic - PC is at unix_detach_fds+0x24/0x4c
CSCva03376	Cisco UX-AP3702i after primed carrier set 5-GHz only allowing four UNII3 ch
CSCva04984	WebUI displays wrong WLAN ID under AP for Flex AVC mappings at flexgroup
CSCva07307	Voice tagged frames drop at AP radio after upgrade to Cisco 8.2 and later release
CSCva09616	Cisco 2800, 3800 APs ES image- Samsung S5 client not able to connect to 802.1x WLAN
CSCva11186	Cisco 1852 AP - wcpd invoked oom-killer
CSCva11919	Loaded EoGRE pulls CAPWAP traffic under slow path
CSCva12055	Link down after reboot on Cisco 5520 and 8540 WLC
CSCva12999	No operational mode notification bit in Ext. Cap. IE in association Resp
CSCva16449	Cisco 1552 AP not showing temprature on WLC running 8.2 release
CSCva21300	OEAP: MAC filter does not work
CSCva22440	Cisco 3800 AP: QBSS STA count keeps incrementing with STA associating again
CSCva25999	Rate limit not followed as per QoS role defined for Guest user
CSCva26117	NAT translation output for locally switched traffic not observed in AP
CSCva27276	Cisco 2802 AP local profiling detects windows client as “Microsoft-Workstation”

Table 12 Open Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCva27419	Channel changed trap with unknown radio type on dual band radio
CSCva27809	Cisco 1850 AP reboot when joining the WLC from standalone mode (VAP start failure)
CSCva27977	Cisco 2800, 3800 APs: On Flex mode multicast not working for fresh WLANs
CSCva29111	Cisco 2800, 3800 APs: not saving channel across reboot in sniffer mode
CSCva29463	Cisco 2800, 3800 APs: WLAN client fails >=1500 bytes ICMP traffic in standalone mode
CSCva29554	ClickOS: FlexConnect AAA overridden ACL is not plumbed in the WLC
CSCva30302	Cisco 8.1 release running on Cisco Mesh APs reload unexpectedly when you add allowed VLANs to the MAP
CSCva31890	MIB table bsnMobileStationPerRadioPerVapTable has no data
CSCva35886	Cisco 2800, 3800 APs: QoS prioritization on air for voice over BE rate limited
CSCva36161	Cisco 1600 series AP reloads unexpectedly after client trying to connect to disabled SSID
CSCva38941	Clients are redirected to internal LWA URL instead of CMX cloud URL
CSCva40580	Cisco 8.3: BulkSync on active WLC never completes and is stuck in “in-progress’
CSCva42271	Cisco 2800, 3800 AP entry removed from WLC with exception stack message
CSCva42290	No QoS map set or WNM Notification bit in Ext. Cap. IE in Assoc Resp
CSCva42582	XOR radio administrator status is disabled when ap mode changed to sniffer
CSCva43211	ME: Unable to import config file as other AP is becoming Master
CSCva45543	SNMP null was returned for class com.cisco.server.managedobjects
CSCva48216	Unable to add rf-group member in Cisco 1850 AP
CSCva48737	Cisco 8.2MR2 release: AP console flooding with ‘WTP Message Send Failed’ prints
CSCva51719	Mismatch QoS profile priority in Cisco 1850 APs
CSCva52289	Cisco WLC CLI sniffer mode AP channel mismatch
CSCva52938	Cisco 2800, 3800 APs reporting incorrect CDP info to the Switch
CSCva53807	Cisco 2800, 3800 APs: unique name for Secondary and Tertiary WLC config check on WLC
CSCva53899	Cisco 1850 GUI not showing “802.11a” radio option
CSCva53980	Issue in clean air when client serving band is 5-GHz
CSCva54154	Cisco 1850 Tx power mismatch in Spain (ES) country
CSCva54323	Cisco AP not removing when country of a specific AP is removed from Controller
CSCva55165	IPv6 MLD from PMIPv6 client show client MAC on layer 2 and 3 switch

Table 12 Open Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCva63310	Unable to enable mode trunk on Mesh mode AP running WLC 8.2 code
CSCva66176	AP drop off from network due to large set of Mobility groups in down/down
CSCva66489	802.11r sess timeout after reassociation causing deauthentication of 17 mismatch FTIE
CSCva76982	Need a command to disable DFS Blacklist Time Doubling
CSCva83393	Cisco 2800, 3800 APs: Flex - AP reloads unexpectedly and console goes into hung state
CSCva91308	Client traffic being dropped under high load on AP
CSCva91922	Cisco 2800, 3800 APs: - POE status on WLC shows Power injector when powered via POE
CSCvb03776	Cisco 2800, 3800 APs: need to enable radio coredump command
CSCvb05067	Local EAP fails after wrong username login
CSCvb18565	Cisco 3800 AP: delay forwarding packets from radio to LAN
CSCvb22856	Cisco 1810W AP kernel panic and reloads unexpectrdly with no cores
CSCvb25999	Cisco 1800, 2800, 3800 RRM does not work if RF group name has a space
CSCvb31857	WLC rejects client association with 802.11k assisted roaming Cisco 2800 AP dual 5G
CSCvb32684	SSH server CBC mode ciphers cannot be disabled as it is a security vulnerability
CSCvb35173	Cisco 2800, 3800 AP radios reloads unexpectedly
CSCvb35815	High CPU in Cisco 2504 AP with directly connected AP on upgrade to Cisc 8.2 or 8.3 release
CSCvb36432	SSIDs vanishes from standalone AP after reboot
CSCvb40216	EDCA Cisco 2800, 3800 AP parameters values mismatch after AP reloads and WLC reloads
CSCvb43169	Radio reset due to beacon stuck
CSCvb43933	Cisco AP reloads unexpectedly on [Dot11 driver] with lrad_bc1665137e30.crash

Resolved Caveats for 8.2.130.0

Table 13 Resolved Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCus83638	Cisco AP on 5-GHz radio is beaconing but not accepting client association
CSCux21150	8.2 release- The GUI message does not match the CLI
CSCux28916	Override VLAN is not working when VLAN is pushed from the AAA VLAN-ACL
CSCuy02853	DNS ACL allowing more URLs than the ones defined

Table 13 Resolved Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCuz66684	Cisco 2800, 3800 APs: channel or power should not allow to change when XOR band is set to auto
CSCuz70648	QCA 2468119 AP1800: Radio core dump @ 0x009A395F
CSCuz71587	Not able to push the Cisco FlexConnect template from Cisco Prime to Cisco WLC
CSCuz95527	Cisco 1852 Mobility Express Controller sends trap log with 41472 as destination port
CSCva33663	Cisco 8510 WLC reloads unexpectedly with task:emweb on changing Radio
CSCva34071	802.11 extended capabilities missing when returning to Connected Mode
CSCva43142	Cisco 2800, 3800 APs: Cmd-timeout due to Rx-hang
CSCva46486	Cisco 5520 controller reloads unexpectedly with no core or crash file written
CSCva47891	Cisco WLC reloads unexpectedly at task ‘EAP_Framework_0’
CSCva47999	Cisco 2800 AP: spectrum management bit is off in beacon
CSCva49651	Flex Data DTLS enabled, WLC to flush old data DTLS sessions on WAN flap
CSCva50196	Memory corruption EAP for Mesh
CSCva51478	Cisco 3802 AP reloads unexpectedly on core-watchdogd
CSCva53005	Cisco 1810W AP port sending association response with status denied rates when RF profile is added to a AP group
CSCva55011	Task Name redXmlTransferMain reloads unexpectedly with HA SSO
CSCva57323	Make Cisco IW3702 AP UX product be primed in Pakistan
CSCva60471	DRA enhancements for Cisco 2800, 3800 APs Multi-user MIMO (MU-MIMO)
CSCva66339	Cisco Flex AP’s in standalone mode deauthenticate client during EAPoL exchange
CSCva66468	Cisco 2800, 3800 APs: FW EU hang detect not working
CSCva66496	Cisco 3802 AP reloads unexpectedly during watchdog reset on CAPWAPd
CSCva67443	Local Mode Multicast traffic fails on Cisco 2800, 3800 APs with EAP broadcast key expiry
CSCva68994	TACACS+ to WLC admin access fails when MSOpen is enabled
CSCva70440	Cisco 801 AP is rebooting continuously
CSCva70708	Cisco 3802 AP running 8.3.102.0 release: radio reloads unexpectedly due to beacon stuck for 120 sec
CSCva74500	RxSOP when set to custom goes to default when CAPWAP restarts
CSCva76601	802.11b/n client (light clock) not able to connect to Cisco 3800 AP
CSCva77918	Offchannel_state_1 beacon stuck
CSCva78193	Cisco 2800, 3800 APs: client trace filter does not bundle debugs
CSCva78358	Cisco 1810W RLAN VLAN local switch LAN mappings not applied on N+1 failover

Table 13 Resolved Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCva81215	Cisco 3800 AP change in RF Profile settings resets RxSOP threshold value to Auto
CSCva81217	Edit of RF Profile settings via GUI resets RxSOP threshold value to Auto
CSCva82324	AP sends incorrect option 60 value in DHCP discover
CSCva82369	Cisco WLC running Cisco 8.3.102.0 release reloads unexpectedly on applying custom rogue rule using GUI
CSCva86328	Cisco 1830, 1850 APs: failed client association on inter AP roam (SSID change)
CSCva86353	Cisco 5508 WLC reloads unexpectedly on ‘apfMsConnTask_7’ running 8.0.132.0 release.
CSCva86976	Cisco 1850, 2800, 3800 APs not capturing Ack packets in sniffer mode
CSCva88923	Cisco 2802 AP is going off channel and it is not acknowledging packets
CSCva89698	Cisco WLC is leaking packets from virtual IP onto LAN
CSCva90259	Cisco 1800, 2800, 3800 APs Flex - Roaming may cause clients to be stuck in 802.1x
CSCva90690	Cisco 1810W LAN Port allows unauthenticated device traffic in local switching
CSCva91152	Cisco 2800 and 3800 APs - Ability to disable offchannel scan
CSCva92615	Access Point antenna gain changes to 0 dBi randomly
CSCva93401	WLC system reloads unexpectedly (spamApTask) immediately after upgrade to 8.2.121.0 release
CSCva94183	Cisco 2800, 3800 -E domain APs only advertise EU country code no matter what
CSCva96879	Cisco 1810 AP stops client association every 24-36 hrs
CSCva96899	Cisco 8510 WLC reloads unexpectedly on task “tplusTransportThread” when upgraded to 8.2MR2
CSCva98592	Unexpected reload: fatal condition at broffu_fp_dapi_cmd.c
CSCva98597	Emweb task stuck at 100% CPU usage
CSCva99357	Cisco 2800, 3800 APs: spinlock lockup suspected on CPU#1, iwpriv/22008
CSCvb00327	Cisco WiSM2_5508 reloads unexpectedly in Process Bonjour_Process_Task
CSCvb03975	AP client trace filter default settings should be to authenticate, associate, eap
CSCvb10005	Cisco 3800 AP: disable global flag for clients when MAC based debugging enabled
CSCvb10106	Radio reloads unexpectedly due to beacon stuck issue
CSCvb10579	Override VLAN is not working when VLAN is pushed from the AAA VLAN-ACL
CSCvb18155	Cisco 1562, 2800, 3800 APs: 802.11h pwrconstr (8BE0): Operation not supported console msg
CSCvb19115	WLC mDNS Service group MAC address count does not decrease

Table 13 Resolved Caveats for 8.2.130.0

Caveat ID Number	Headline
CSCvb20104	Radio reloads unexpectedly due to beacon stuck (TBTT Mask is disabled)
CSCvb20109	Microsoft Windows 10 (Intel 7260) client unable to join after DFS CAC expiry
CSCvb20513	AP Trace: 'EAP Request and Response' messages are not seen in trace logs
CSCvb21304	Optional PMF OUI removed from beacon, probe responses
CSCvb28734	Kernel panic in extStaDb_RemoveAllNon11hStns()
CSCvb29729	Client is stuck in DHCP_REQD state
CSCvb33401	Cisco 2800, 3800 APs: unexpected reload due to kernel panic in Cisco 8.2.x release
CSCvb39131	Cisco 2800, 3800 APs: client connect failed when channel width set to 40-MHz from 20-MHz

Open Caveats for 8.2.121.0

Table 14 Open Caveats for 8.2.121.0

Caveat ID Number	Headline
CSCur68316	Cisco 802AP-891 in FlexConnect mode are losing VLAN mapping after a power cycle
CSCuu63964	Apple clients cannot reconnect Cisco 1850i AP on forceful deauthentication
CSCuv61089	AP is duplicating packets to wireless clients and WLC
CSCuw41092	AP not sending traffic indication in beacon for power-save client after FT
CSCuw43910	Cisco 8.2 release: local-switching or local-authentication drops clients when latency is introduced
CSCuw84036	LWAP Flex mode generates traffic blackholing upon WGB pmk-cache timeout
CSCuw95402	SNMP not returning correct information for roaming client
CSCuw97966	10G Link down after reboot on Cisco 8510 WLC on Nexus 5k
CSCux06806	ATF EnforcementConfig for network radio is not pushed to uploaded configuration
CSCux15311	Cisco WLC does not send all accounting messages to TACACS+ server
CSCux15561	Cisco 3500, 1260 APs gets into “ap:” mode after power cycle
CSCux21150	Cisco 8.2 release - GUI message does not match CLI
CSCux21803	Client not receiving broadcast ARP request after AP failover
CSCux23710	Cisco IW3702 AP LED status observed behaviour inconsistent with CCO user guide
CSCux23944	Mobility Express: DNS lookup failed for NTP server after Cisco 1850 AP reboots
CSCux26911	Cisco WLC reloads unexpectedly on CLI configuration FlexConnect arp-caching
CSCux28505	Cisco 8510 WLC reloads unexpectedly on “”fp_main_task”” in the 8_2_1_124 image
CSCux28916	Override VLAN is not working when VLAN is pushed from the AAA VLAN-ACL
CSCux56652	Local profile shows wrong statistics and percentage information
CSCux59359	Cisco 8510 WLC behind NAT on New mobility and client stuck in DHCP_REQD state
CSCux66480	Cisco 1850 AP: CAC timer is not starting when DFS channel is set
CSCux78581	Multiple clients are not supported on LAN ports of Cisco 1810 APs
CSCuy05898	WIPs: Cisco 1850 AP is not showing some of the alarms
CSCuy21335	Filters are not working for table view in client performance
CSCuy61074	Cisco 1850 AP: Client SSO error after controller HA redundancy switchover
CSCuy77629	Wireless clients getting disconnected after smart roam not triggered
CSCuy79069	Cisco 1852 AP: always joins backup secondary although primary is present

Table 14 Open Caveats for 8.2.121.0

Caveat ID Number	Headline
CSCuz11374	WLC: Selects wrong DHCP relay even though configured on interface
CSCuz17680	Cisco 7510 WLC reloads unexpectedly after enabling the enhanced client traps
CSCuz18554	Cisco 3600 AP with 802.11ac module gives tracebacks while changing from monitor mode
CSCuz18869	WLC picking up the unicast DHCP for unknown destination
CSCuz27736	Cisco 3800 AP on Flex- AP sends deauthenticate after FT roam (Freq- 3-4%)
CSCuz29774	Cisco 1852 APs losing connectivity to ME controller with AVC enabled
CSCuz38954	Cisco 3800 AP Flex: U-APSD- More and EOSP data bits not set correctly
CSCuz45986	Central Web Authentication (CWA) not working on Cisco 8500 WLC as guest anchor with accounting enabled
CSCuz46892	ME: external AP rebooted bec; detected another ME controller
CSCuz48887	Cisco 3800 AP: false radar detection with dual 5-GHz 160MHz channel
CSCuz49685	Cisco 1810 OEAP SNMP: Not seeing error when try to disable Port 3
CSCuz52056	Flex: IOS AP losses static IPv6 after 12h uptime
CSCuz52457	Cisco IW3700 AP: clMeshLtResultsTable is empty
CSCuz57169	Cisco 3700 AP: Radio reset due to “No DFS Msmts” when debug is enabled
CSCuz61598	Aggregated MAC Service Data Unit (A-MSDU) cannot be enabled on voice (VO)
CSCuz65017	Cisco 3800 AP not updating HT Op Mode bits in presence of legacy AP
CSCuz65175	Cisco 1852 ME: HTTP profiling causes CPU spikes and degraded performance
CSCuz66684	Cisco 2800, 3800 Series APs: channel and power should not be allowed to change when XOR band is set to auto
CSCuz68479	Cisco 3800 AP not reassembling wireless fragmented frames
CSCuz78490	DHCP: usage indicator will not show 100% usage even if all IP’s are in use
CSCuz95527	Cisco 1852 Mobility Express Controller sends trap log with destination port 41472
CSCuz96946	Cisco AP2800, 3800 Series APs does not beacon WLAN with WPA+WPA2/AES+TKIP security
CSCva00087	Cisco WLC reloads unexpectesdly on apfVerifyCountryString spamApTask2
CSCva00354	Cisco AP2800, 3800 Series APs Kernel Panic - PC is at unix_detach_fds+0x24/0x4c
CSCva01636	Cisco 3802 (3k Flex) AP: priority is always 0 in 802.1q tag (all metal policy)
CSCva03376	Cisco AP3702i -UX: after primed carrier set 5-GHz only allowing four UNII3 channel
CSCva04984	WebUI displays wrong WLAN ID under AP for Flex AVC mappings at flexgroup
CSCva07307	Cisco 3700 APs: intermittent packet drop

Table 14 Open Caveats for 8.2.121.0

Caveat ID Number	Headline
CSCva09616	Cisco 2800, 3800 Series APs: ES image- Samsung S5 client not able to connect to 802.11 WLAN
CSCva11186	Cisco 1852 AP - wcpd invoked oom-killer
CSCva11919	Loaded EoGRE pulls CAPWAP traffic under slow path brings down performance
CSCva12055	Link down after reboot on Cisco 8540 and 5520 WLCs
CSCva12429	Cisco 2800, 3800 Series APs: STA - reloads unexpectedly with PC at _raw_spin_unlock_irqrestore
CSCva12999	No operational mode notification bit in extended capabilities IE for an association response
CSCva16449	Cisco 1552 AP not showing temperature on WLC running 8.2 release
CSCva18718	Cisco 1832 AP rebooting while converting from local to Flex mode
CSCva21300	Cisco 1810 OEAP: MAC filter does not work
CSCva22440	Cisco 3800 AP: QBSS STA Count keeps incrementing with STA associating again
CSCva25999	Rate limit not followed as per QoS role defined for guest user
CSCva27276	Cisco 2802 AP: local profiling detects windows client “Microsoft-Workstation”
CSCva27419	Channel changed trap with unknown radio type on dual band radio
CSCva27809	Cisco 1850 AP reboots when joining the WLC from standalone mode (VAP start failure)
CSCva27977	Cisco 2800, 3800 Series APs: On Flex mode multicast not working for fresh WLANs
CSCva29111	Cisco 2800, 3800 Series APs: Not saving channel across reboot in sniffer mode
CSCva29463	Cisco 2800, 3800 Series APs: WLAN client fails >=1500 bytes Internet Control Message Protocol (ICMP) traffic in standalone mode
CSCva29554	ClickOS: FlexConnect AAA overridden ACL is not plumbed in the WLC
CSCva31890	MIB table bsnMobileStationPerRadioPerVapTable has no data
CSCva33663	Cisco 8510 WLC reloads unexpectedly with task:emweb on changing Radio
CSCva35886	Cisco 2800, 3800 Series APs: QoS prioritization on air for voice over BE rate limited
CSCva38508	ME on 8.3release: No NMSP response, when Cisco 1850 AP is in half duplex mode
CSCva38941	Clients are redirected to internal Local Web Authentication (LWA) URL instead of Cisco CMX cloud URL
CSCva40580	Cisco 8.3 release: BulkSync on active WLC never completes and is stuck in ‘in-progress’
CSCva42290	No QoS map set or WNM Notification bit in extended capabilities IE for an association response

Table 14 Open Caveats for 8.2.121.0

Caveat ID Number	Headline
CSCva42582	XOR radio administrator status is disabled when AP mode changed to sniffer
CSCva43211	ME: Unable to import configuration file as other AP is becoming the Master
CSCva43331	Some ATF client statistics missing on an AP after multiple roams
CSCva45543	SNMP Null was returned for class com.cisco.server.managedobjects
CSCva46149	Cisco 2800, 3800 Series APs: failing to change channel in sniffer mode
CSCva47643	ClickOS: FlexConnect wired interface ACL is not taking effect
CSCva47999	Cisco 2800 AP: spectrum management bit is off in beacon
CSCva48216	Unable to add RF-group member in Cisco 1850-ME
CSCva48694	ClickOS: Policies should be removed while moving from primary WLC to secondary WLC
CSCva48737	8.2MR2 release: AP console flooding with ‘WTP Message Send Failed’ prints
CSCva49651	Flex Data DTLS is enabled; WLC to flush old data DTLS sessions on WAN flap
CSCva50196	Memory corruption EAP for Mesh
CSCva51478	Cisco 2800, 3800 Series APs: AP reloads unexpectedly on watchdogd
CSCva51719	Mismatch QoS profile priority in Cisco 1850 AP on ME
CSCva52289	Cisco WLC CLI sniffer mode AP channel mismatch
CSCva52825	Cisco 2800, 3800 Series APs: does not do PMTU discovery during join or image download
CSCva52938	Cisco 2800, 3800 Series APs: reporting incorrect CDP info to the Cisco switch
CSCva53807	Cisco 2800, 3800 Series APs: Data DTLS enable is inconsistent between GUI and CLI
CSCva53899	Cisco 1850 AP on ME: GUI not showing “”a”” radio option
CSCva53980	Issue in Cisco CleanAir when client serving band is 5-GHz
CSCva54154	Cisco 1850Ap on ME: Tx Power mismatch in Spain (ES) country
CSCva54323	AP not removed when country of a specific AP is removed from Cisco WLC
CSCva55011	Task Name redXmlTransferMain reloads unexpectedly with HA SSO
CSCva55165	IPv6 MLD from PMIPv6 client show client mac on layer3/2 switch
CSCva58287	Kernel panic: PC is at deactivate_slab+0x104/0x3c8
CSCva59736	Cisco 2800, 3800 Series APs: buf leak: during roaming and performance test
CSCva63310	Unable to enable mode Trunk on Mesh mode AP with WLC 8.2 release
CSCva66176	AP drop off from network due to large set of Mobility groups in down/down
CSCva66496	Cisco 3802 AP reloads unexpectedly on Watchdog reset on CAPWAPd
CSCva74500	RxSOP when set to custom goes to default when CAPWAP restarts
CSCva78358	Cisco 1810W RLAN VLAN local switch LAN mappings not applied on N+1 failover

Resolved Caveats for 8.2.121.0

Table 15 Resolved Caveats for 8.2.121.0

Caveat ID Number	Headline
CSCug98522	PMIPv6: MAG delivering multiple DNS servers to clients
CSCuq05475	Controller GUI shows AP's NAT IP instead of private
CSCuq86263	False DFS detection on Cisco 1600 APs
CSCur53809	Cisco 2702 AP sometimes unable to receive packets or ACK from STA with 20MHz wide
CSCut42406	Cisco 5508 WLC reloads unexpectedly while disabling Mobility oracle
CSCut45909	MARCH 2015 OpenSSL Vulnerabilities
CSCuu91943	Cisco 8510 WLC reloads unexpectedly while accessing the controller crash file info through GUI
CSCuv87839	Wired clients in Cisco 702w AP getting put in management VLAN
CSCuw18522	APF-3-WLAN_OUT_OF_RANGE errors filling up msglog on WLC
CSCuw28141	Reaper Reset: Task \SNMPTask\ missed software watchdog
CSCuw29564	RxSOP APs show 0 neighbors on 5GHz and client 802.11 packets are ignored
CSCuw30129	Debugging logging quickly falls behind real-time
CSCuw36069	Threshold MIBs incorrectly set for WSSI modules.
CSCuw65706	Cisco 1530 AP WGB Drops Tx used with other Cisco 1530 AP WGB in same MAC address range
CSCuw89229	Mesh instability with fast-convergence when RF link is unstable
CSCux22620	Cisco 8510 WLC reloads unexpectedly in radiusTransportThread system task
CSCux23003	8dBm max power for -Z, -T domain APs in channels 36 through 64
CSCux28775	WLC per-WLAN client traffic statistics accuracy enhancements
CSCux29207	Issue with SNMP GetBulk request - cLAPGroupsHyperlocationEnable
CSCux32328	Token Bucket leak with QoS Roles and with WebAuth on 8.0.120.2 release
CSCux34439	802.11ac clients can not connect to Cisco 3600 AP Radio slot2 -- 802.11ac module
CSCux37498	CoA with Cisco 8.1.131.0 release on WLC shows error message on ISE server
CSCux38644	Cisco 3700, 1600, 1532 autonomous AP decreases power after reboot
CSCux41577	WLC and AP out of SYNC for Client Exclusion List
CSCux44685	Disallow configuration of WLAN Local and RADIUS Client Profiling
CSCux45077	Cisco 3500 AP reloads unexpectedly due to "LWAPP CLIENT" process
CSCux47470	Cisco WLC on 8.0.110.14 release reloads unexpectedly at openssl_cert_hash_algo_check_callback
CSCux51484	Memory leak observed in EOGRE SNMP task
CSCux55307	Cisco 5520 WLC reloads unexpectedly in dtlArpTask

Table 15 Resolved Caveats for 8.2.121.0 (continued)

Caveat ID Number	Headline
CSCux57488	Cisco Mesh 1552S AP, WU and Cisco IW3702, AP803H fail to join WLC with PSK 2.4G mesh
CSCux60012	New Mobility - Mobility members do not survive reload
CSCux60873	RADIUS interface overwrite does not work when choosing “ap group” interface
CSCux63218	Upgrade to 8.0 moved APs to EAP-MD5 authentication on wired 802.11x
CSCux63449	Cisco WLC running 8.0.120.0 release reloads unexpectedly on TransferMsgPeerSend
CSCux65158	Cisco Air Time Fairness : Globally configured mode not applied to newly joined APs
CSCux66190	No.of interim update sent field is not flushing
CSCux69928	Cisco WiSM2 reloads unexpectedly on PMALLOC_DOUBLE_FREE on running 8.0.122.18 release
CSCux74970	Mobile Access Gateway (MAG) with PMIPv6 does not assign secondary DNS to clients via DHCP
CSCux75330	Mismatch AP count and unable to add more APs to WLC
CSCux78464	Cisco WLC reloads unexpectedly in Process Bonjour_Process_Task
CSCux81598	Memory allocation issue with Cisco1602 AP
CSCux82102	Cisco 3600 AP + 802.11ac module reloads unexpectedly on memory corruption for 8.2 release
CSCux83260	“lbs-ssc” and “sha256-lbs-ssc” missing in WLC web UI
CSCux83635	FATAL: Could not send message out prints on Cisco 5500 and 7500 Series WLC standby console
CSCux86834	Cisco 1850 AP - 802.11ac 80MHz 512 packet size IPv6 DL - 12% throughput degradation
CSCux90031	Intermittent multiple packet and ping drop between RAP and Cisco Mesh 1572 AP
CSCux91996	Rogue containment not starting if no client info on best RSSI AP
CSCux92251	Cisco 2702 AP on WLC 8.2 release does not allow HTTPS client access
CSCux93468	Anomalous fan speed and temp reading for Cisco 8540 WLC
CSCux94240	Interoperability- 802.11v DMS fails with Cisco 3600 AP + 802.11ac module
CSCux95607	User allowed to configure Air Time Fairness on Cisco 1600 AP unsupported platform
CSCux99806	WGB on Cisco 2602 AP goes for a sleep and end up not responding for 100ms
CSCuy04186	Interoperability- 802.11k failure in Flex mode as no RM IE in reassociation response
CSCuy08305	AP de-authenticates the client when consecutive reassociation retry received within 50msec
CSCuy11382	bsnAPAuthHashKey does not return hashkey for authtype ‘sha256-lbs-ssc’

Table 15 Resolved Caveats for 8.2.121.0 (continued)

Caveat ID Number	Headline
CSCuy11885	Cisco 3500 AP reloads unexpectedly on Pid 128: Process “CAPWAP CLIENT”
CSCuy13549	Flex group push eap-md5 supplicant configuration to APs
CSCuy13829	Cisco 2602I AP reloads unexpectedly on dot11_pmkid_timeout
CSCuy14547	HA configuration sync failed
CSCuy18768	Halo module does not work with RxSOP after image upgrade or downgrade
CSCuy19485	Client detail table view miss alignment for a single client in bar graph
CSCuy21224	Support of 3G and 4G module on Cisco 3600E and 3700E APs
CSCuy23295	Interface NASID given priority over WLAN NASID in default AP group
CSCuy33247	AP send disassociation frames twice and Optimized roaming go wrong
CSCuy33972	Cisco WLC SSH host-key generate command not having an effect
CSCuy37694	Cisco WLC reloads unexpectedly running 8.0.120.0 at task apfRogueTask_1
CSCuy43365	Cisco 5520, 8540 WLC running 8.2.100.0 release reloads unexpectedly in Reaper Reset: Task “apfReceiveTask”
CSCuy45485	Containment to choose AP based on rogue client detected as well as RSSI
CSCuy45955	DFS scan causes beacon transmission to be stuck on AP
CSCuy46033	MAP fails to rejoin the RAP after it loses connection on 8.0.121.0 release
CSCuy47407	Client leak at anchor controller
CSCuy51343	Telnet and SSH configuration for AP is not retaining after configuration upload or download
CSCuy52607	Data Plane reloads unexpectedly on cvmcs_StaToDS
CSCuy63094	Cisco 1572 Mesh AP not sending Option60
CSCuy63742	Accounting commands send inconsistently to TACACS+ server for rapid commands
CSCuy67885	Cisco 5520 or 8540 WLC may have no Manufacturing Installed Certificates
CSCuy73622	Time sync failure for mmMsg_HandoffComplete on Mobility Controller not printed on debugs
CSCuy75993	SNMP returns 802.11ac module present for 802.11ac APs like Cisco 3700/IW3700 APs
CSCuy76410	Unwanted logs are coming in debug aaa events/all and MSK gets printed.
CSCuy87151	Unsupported modes shown for Cisco 3800 AP
CSCuy92423	Central Web Authentication is broken in beta 8.0.122.50 release
CSCuy94534	Cisco 2700 and 3700 on DFS dont see 3700/2700 as neighbor when RxSOP High/Med/Low
CSCuy95327	802.1x frames are not marked with DSCP CS4
CSCuy99803	WiSM2 running 8.3 release reloads unexpectedly on emweb when executing show-atf-stats-cmd
CSCuz01093	Traceback apf_site_override.c:2888 Invalid value 0 for WLAN

Table 15 Resolved Caveats for 8.2.121.0 (continued)

Caveat ID Number	Headline
CSCuz02871	Web authentication ACL is not pushed from flexgroup when a new WLAN is added to the AP
CSCuz05318	SNMP walk on 'ifHCInOctets' incorrect due to wrong WLC Rx port counters
CSCuz13257	Cisco 2800, 3800 Series AP: Enhance WLC discovery messages
CSCuz14559	Unable to open UI of Cisco 600 AP in 8.3.15.123 release
CSCuz15475	CAPWAP DNS discovery not picking domain-name string
CSCuz15763	Flex Data DTLS enabled AP gets stranded with WAN link flap
CSCuz20714	WLC reloads unexpectedly on emWeb with Reaper reset
CSCuz22237	Mobility express Cisco 185 AP client not authenticated from 802.1x,WEP
CSCuz22985	Broadcast Queue full is causing clients to stay Multicast-direct Pending status
CSCuz23501	WiMAX Register changes for Ch 153 for issues with Broadcom and QCA Client
CSCuz23758	Local profiling not sorting correctly, not corrected on 8.0.132 release
CSCuz24467	Device reloads unexpectedly due to memory corruption on GUI related to hreap AVC group page
CSCuz29885	Flex AP automatically switching to non DCA channels
CSCuz32677	Slow file transfer speeds on Cisco 8540 and 5520 WLC
CSCuz33896	DSCP marking not obeyed as per upstream SSID policy
CSCuz38059	Anchor WLC does not free Client Sessions - client entries stale
CSCuz39100	Air Time Fairness configuration not applied when no AP joins the controller
CSCuz40509	Cisco Air Time Fairness: all configuration command needs to have override column
CSCuz40764	Cisco 2800, 3800 Series AP: Incorrect spelling in help string for "config boot…"
CSCuz40857	Cisco 2800, 3800 Series AP: "reload cancel" fails to cancel scheduled reload
CSCuz46264	Flood of "%SOCKET_TASK-7-DATA_PROCESSING_FAILED" error messages
CSCuz46465	NDP transmission fails to happen with max. power
CSCuz46762	Cisco 2800, 3800 Series APs reboots saying kernel panic without actual panic log
CSCuz47863	SHA256 self-signed certificate for WLC web administration
CSCuz48289	FT-PSK PMF-Optional, EAPoL M2 MIC error on change to local auth-flex
CSCuz49482	FlexConnect: WLAN configuration stays in ap-specific on moving from 1 ap group to another group
CSCuz49616	WLAN-VLAN mapping incorrect when AP moves across AP-Groups of different WLANs
CSCuz52435	Evaluation of WLC for OpenSSL May 2016

Table 15 Resolved Caveats for 8.2.121.0 (continued)

Caveat ID Number	Headline
CSCuz52725	Cisco 2800, 3800 Series AP- Macbook is sometimes using 2SS rate on uplink
CSCuz53530	Cisco 2800, 3800 Series AP, not able to change the AP name from AP
CSCuz54125	Cisco 5500 Series WLC: SSHpmCert Memory Corruption (overrun) on Pmalloc/Pfree buffers
CSCuz56009	Client reassociation not happening when central DHCP is enabled
CSCuz56181	Cisco 2800, 3800 Series AP: Missing “clear capwap ap ip” commands on CLI
CSCuz56190	Cisco 2800, 3800 Series AP: “capwap ap erase” configuration not cleared and bogus configuration is added
CSCuz56372	Cisco ME-3800 AP reloads unexpectedly with kernel panic
CSCuz56598	Enabling radio after disable or enable admin status, if no channels available
CSCuz57198	Cisco 2800, 3800 Series AP: Cisco CleanAir on XOR radio is not functioning properly
CSCuz57392	Cisco 3800 AP SNMP: Need errors for channel settings
CSCuz58657	Cisco 3800 AP: client not joining with link-encryption enabled
CSCuz58908	Cisco 3800 AP: FRA configurations not retained in HA setup
CSCuz60033	Cisco WLC is dropping data packets in Hybrid VoWiFi setup
CSCuz62398	Cisco 1800 AP CAPWAP local broadcast discovery stops working on upgrade to 8.2.102.125 release
CSCuz63274	mDNS snooping drops IPv6 mDNS traffic
CSCuz66026	Client disjoining on Standalone mode after WLAN session timeout
CSCuz66689	Cisco 2800, 3800 Series AP marking CAPWAP Control packets with BE priority instead of EF
CSCuz67766	Cisco WLC reloads unexpectedly due to software watchdog for apfMsConnTask_0
CSCuz68446	NOS: bsnAPIfTable has NULL entries
CSCuz69239	Flex local authentication: 802.11n clients showing as 802.11ac
CSCuz69917	Iapp traceback errors on 8.2MR1 beta release
CSCuz70444	Cisco 2800, 3800 Series AP: XOR Microcell stuck on max power
CSCuz70999	Cisco 2800, 3800 Series AP: WLC reloads unexpectedly while executing XOR radio commands
CSCuz71197	Cisco 8500 WLC reloads unexpectedly when starting 802.11v dms on sim clients
CSCuz71646	PoE values with CDP and LLDP for Cisco 2800, 3800 Series AP are not same
CSCuz71914	Issues in XOR radio [Monitor Mode] when AP mode moved to Sniffer
CSCuz72522	Cisco 2800, 3800 Series AP: FRA COF Metrics shows stale value for disabled Radios

Table 15 Resolved Caveats for 8.2.121.0 (continued)

Caveat ID Number	Headline
CSCuz72563	Smart Image Upgrade: Slave payload sent to local mode Cisco 3802 AP
CSCuz72594	Cisco 3802 AP excludes clients with reason 802.1X failure
CSCuz72620	Cisco Air Time Fairness: Clear ATF command does not clear AP override to disabled
CSCuz72682	Cisco 1810 AP: hardware watchdog reset
CSCuz72940	Client association unstable in multiclient testbed, getting deauthenticated by the AP
CSCuz72994	FT clients reassociation denied leading to full association
CSCuz73422	Cisco 1852 AP EAP-TLS client authentication fails
CSCuz73502	WLC GUI: 2.4-GHz data not shown for AP-Ch.Util,AP-Dist by SS,AP-Model distribution
CSCuz74057	Multicast traffic fails on Flex mode with AP moved from C-S-C
CSCuz74209	Cisco 3800 AP: client network preference default is not default
CSCuz74422	Failed to clear stats for radio 0/1: 3802
CSCuz74612	Local LAN ports 1 and 2 go down when Cisco 1810 OEAP is in standalone mode
CSCuz74637	Cisco WLC login banner does not show up on GUI. When using CLI it works fine.
CSCuz74989	Cisco 2800, 3800 Series AP: issue setting channel for XOR radio in sniffer mode
CSCuz77060	SNMP: Radio Mode Trap generated when administrator status is changed for XOR
CSCuz79051	WiSM2 on 8.1.131.0 release reloads unexpectedly in ewaFormServe_multicast_detail
CSCuz79869	Cisco 8510 WLC reloads unexpectedly
CSCuz80766	Cisco ME 3800 AP running on 8.3 release not able to connect 802.11r clients
CSCuz81074	Cisco ME 3800 AP: Upgrade failure from 8.2 mr1 release to 8.3 release
CSCuz81176	Cisco 3800 AP: Beacons stuck seen in radio 0 and 1
CSCuz81177	Cisco 2800 and 3800 APs: Cmd timeout, Rx hanging noticed
CSCuz81415	1msec delay in processing IGMP packets causing broadcast queue to remain full
CSCuz82790	Cisco 2800, 3800 Series AP: kernel Panic soft lockup
CSCuz84096	RRM does not change channel for mesh APs in 8.1 and 8.2 release
CSCuz84305	Cisco 1560, 2800, 3800 Series APs not seen as neighbors by other APs
CSCuz85521	ME:RSSI value of the nearby AP is showing positive values
CSCuz86679	WLC reloads unexpectedly on SNMPTask
CSCuz87680	WLC reloads unexpectedly on task: emweb on changing WLAN configuration
CSCuz88260	Unable to handle Kernel NULL ptr dereference at virtual addr 00000004

Table 15 Resolved Caveats for 8.2.121.0 (continued)

Caveat ID Number	Headline
CSCuz89491	Bridge Group Virtual Interface (BVI) interface is down on the latest recovery image
CSCuz89662	Cisco 1852 AP rejects clients association due to “suppRates statusCode is 18”
CSCuz94683	BZ1310: Cisco 2800, 3800 APs: NSS API failures during overnight run
CSCuz94972	Add Proxy ARP for FlexConnect Local Switching WLANs
CSCuz96571	Ap-list new mobility packets flooding between Cisco AirOS and Cisco WLC
CSCuz97117	AP 3802 CCO image “show inventory” displays incorrect SN & VID format
CSCva02030	Cisco 1810 Series AP: reloads unexpectedly; Reason unknown
CSCva03344	GUI: Client capabilities shown as 160-MHz even when client is not 160-MHz
CSCva03888	Cisco 3802 AP: DSCP marked as 0 in CAPWAP header with CAC configuration
CSCva04367	Cisco 2800, 3800 Series AP: CPU stall followed by Cmd-Timeout
CSCva05514	Cisco 3802 AP - cannot allocate 2880 bytes buffer for pool #16 in NSS mode
CSCva05657	Cisco 3802 AP - cmd_to off channel stuck Tx FSM is not Idle & TCQ Verify zero
CSCva05836	Implicit BF Broken
CSCva06132	ME: Cisco 1852 AP SW reloads unexpectedly on process ctrl_rx_task
CSCva06192	Kernel panic: PC is at select_task_rq_fair+0x70/0x65c
CSCva07520	Cisco 2800 and 3800 DP ERR>22>mv_dp_msg_check_rx:1747>FW Failure Status for opcode:7…
CSCva07530	ScatterAssert No memory left in FW LRAM
CSCva07806	AP-OS APs not showing correct bandwidth of neighboring APs
CSCva08910	GUI: Unable to view the client details by clicking on connection rate
CSCva09536	Cisco controller reloads unexpectedly when TACACS+ authentication is configured
CSCva09603	Cisco 2800, 3800 Series AP: 160 Mhz throws SNMP error
CSCva09609	Cisco 2800, 3800 Series AP: Multiple packets getting dropped in FW
CSCva11172	No NetFlow records exported for anchored client in Auto Anchor Scenario
CSCva12198	SNMP get on device for table cld11nMcsTable returns only 24 indices
CSCva12610	Clients are deauthenticating with EAPOL broadcast interval expiry
CSCva12984	Cisco 3802 AP - DHCP_OPTION_43 functionality broken
CSCva13591	Cisco 3802 AP fails to join the WLC after CAPWAP restart
CSCva14252	NOS: bsnAPIfTable has NULL entries
CSCva14511	DHCP_OPTION_43 messages not seen on AP console
CSCva15498	ClickOS: local authentication should not activate slow bridging
CSCva16181	Cisco 2800, 3800 Series AP: sniffer mode set on XOR band fails

Table 15 Resolved Caveats for 8.2.121.0 (continued)

Caveat ID Number	Headline
CSCva17231	HA failure, Active WLC RF group stuck on 'HA Standby' & RRM stopped
CSCva18887	ME: IOS AP flash corruption issue
CSCva18981	Cisco WLC reloads unexpectedly running 8.2.100 release
CSCva19392	ERROR: receiveWlanMsg(): mgmt subtype:0xf len:1423 - dropped event
CSCva20303	Cisco 5520 WLC: "Mem Leak %APF-3-LIST_ERR": avc_api.c No entry available in table
CSCva21076	Cisco 2800, 3800 Series AP: Rx hang detection resulting in multiple radio resets and reboots
CSCva21474	Cisco 2800, 3800 Series AP reset with msg "Function called by unexpected cpu#2131011124"
CSCva21709	Cisco 1850 Series AP: reloads unexpectedly on apsw_watchdog about to reboot with reason: CAPWAPd
CSCva22100	Login is unsuccessful after downgrading image from 8.3 release
CSCva22630	Cisco 3800 Series AP: client upstream data traffic stalls after roam
CSCva22748	Cisco 2800, 3800 Series AP: failing to change channel in sniffer mode
CSCva22826	Cisco 3800 ME: click fragmentation/reassembly code double freeing buffer
CSCva23178	Antenna gain for Cisco 1810W APs not returned correct
CSCva23304	Kernel Panic: PC is at wlRecv+0x150/0x964 [ap8x]
CSCva23345	Cisco 3802 AP - Radio reloaded unexpectedly on sensord off-channel stuck
CSCva25338	AP-OS - show ap summary displays wrong IP for static IP configuration
CSCva25679	Cisco 1850, 2800, 3800 Series AP: TLV-DEC-PROC: info missing for Cisco 910 router error flood AP console
CSCva25810	ClickOS: Flex AVC profile is not removed from the Cisco 3802 AP
CSCva25878	Cisco 2800, 3800 Series AP is not clearing the evenlogs on Cisco WLC
CSCva26525	Cisco 8510 WLC on 8.3 release: ATF reloads unexpectedly on task-iappSocketTask iappProcessAtfClientStats+245
CSCva28061	Cisco WLC reloads unexpectedly on "emWeb" task when adding flex AP to a customized ap-group
CSCva29450	DHCP option 60 shows shared_printenv error
CSCva29540	ClickOS: DHCP option 60 shows as an error message if not defined
CSCva30541	Cisco 2800, 3800 Series AP XOR radio not reporting noise when in monitor role
CSCva30755	Cisco 2800, 3800 Series AP: Sensord dying after radio reset
CSCva32183	Issue in Cisco CleanAir when moved from monitor to client serving
CSCva32509	Layer 3 client roam fails on controller running 8.0.134.26 release
CSCva32819	AP 2800, 3800 APs: reloads unexpectedly due to Kernel panic - Out of memory: panic_on_oom
CSCva34774	Cisco WLC reloads unexpectedly at apfReceiveTask

Table 15 Resolved Caveats for 8.2.121.0 (continued)

Caveat ID Number	Headline
CSCva34776	Cisco 3800 AP: when channel is global, moving band throws generic snmp exception
CSCva34869	Cisco 2800, 3800 Series AP support for configuring AP beacons all-antennas disable < Ap name >
CSCva37393	Cisco 3800 AP: beacon stuck - off channel stuck
CSCva37881	Cisco 2800 and 3800 AP: does not forward mDNS packets not on native VLAN
CSCva38615	Cisco 2800, 3800 Series AP: accounting record stuck on APs running 8.2.111.26 release
CSCva38926	XOR no noise/interference/rogues/neighbors in FlexConnect mode
CSCva39041	Cisco 2800, 3800 Series AP: RRM wrongly trying to set AP1142 to UNII-2 extended channels
CSCva40348	Ciscp 2800 AP: radio reloads unexpectedly with bad_vector_pc points to halspd_data
CSCva41168	After few hours operation, client will get wrong IPv6 subnetwork
CSCva41270	After SSO, clients on Cisco 1810,1830 APs have no data path
CSCva43051	Substantial degradation of unicast video performance past 15 clients
CSCva46620	Beacon stuck issue on 3802AP, off-channel 01
CSCva47003	8.2MR2: Kernel Panic on Cisco 2800, 3800 APs; PC is at do_bad_area+0x34/0x88
CSCva47557	Profile: wrong Group ID reported by Cisco 2800, 3800 APs cause RF Group failures
CSCva48566	Lost more than 90 APs (611 - > 519) while upgrading
CSCva48770	Cisco 2800, 3800 Series AP: any DCA event during radio reset is causing cmd-timeout
CSCva49188	8.2MR2: AAA VLAN override failing on Cisco 2800, 3800 AP on 8.2.111.30 release
CSCva51051	Cisco 2800, 3800 Series AP: memory leak leading to NSS buffer allocation to fail
CSCva51528	AP BEACON configuration value is always shown disabled in WLC after AP reboot
CSCva52545	Unknown reboot seen on Cisco APs running 8.2.111.31 and 8.3.90.54 release
CSCva55049	Cisco 2800, 3800 Series AP: Limit ‘best’ DCA to 80 MHz instead of 160 MHz
CSCva56327	Cisco 3700 AP fails to join controller running 8.3.90.59 release
CSCva57295	Unable to convert Cisco 1850, 2800, 3800 Series AP’s to ME capable mode
CSCva62427	Cisco 2800, 3800 Series APs: Tracebacks seen on WLC after bootup
CSCva62940	NDP Rx handling error for mvl radios
CSCva66820	Slow file transfer speeds with Cisco 5520 and 8540 WLCs

Cisco Mobility Express Solution Release Notes

Note The Cisco Mobility Express wireless network solution is available starting from Cisco Wireless Release 8.1.122.0.

The Cisco Mobility Express wireless network solution provides a wireless LAN controller functionality bundled into, the Cisco Aironet 1850 and 1830 Series APs currently. This functionality provides a simplified Wi-Fi architecture with limited enterprise-level WLAN capability to small and medium deployments.

In the Cisco Mobility Express wireless network solution, one AP, which runs the Cisco Mobility Express wireless LAN controller, is designated as the Master AP. Other access points, referred to as Subordinate APs, associate to this Master AP.

The Master AP operates as a wireless LAN controller, to manage and control the subordinate APs. It also operates as an AP to serve clients. The subordinate APs behave as normal lightweight APs to serve clients.

For more information about the solution, including setup and configuration, see the *Cisco Mobility Express User Guide for Release 8.2*, at:

http://www.cisco.com/c/en/us/td/docs/wireless/access_point/mob_exp/82/user_guide/b_ME_User_Guide_82.html

Supported Cisco Aironet Access Points

APs Supported as Master (Support Integrated Wireless Controller Capability)	APs Supported as Subordinate
Cisco Aironet 1850 Series Cisco Aironet 1830 Series	In addition to the following, all the APs that are supported as Master APs are also supported as subordinate APs. Cisco Aironet 700i Series Cisco Aironet 700w Series Cisco Aironet 1600 Series Cisco Aironet 1700 Series Cisco Aironet 2600 Series Cisco Aironet 2700 Series Cisco Aironet 3500 Series Cisco Aironet 3600 Series Cisco Aironet 3700 Series

Mobility Express Features

The following features and functionalities are present in this release:

- CLI-based Initial configuration wizard
- Up to three Network Time Protocol (NTP) servers, with support for FQDN names.
- Simple Network Management Protocol (SNMP) version 3 polling, supported via CLI only.
- IEEE 802.11r with support for Over-the-Air Fast BSS transition method, Over-the-DS Fast BSS transition method, and Fast Transition PSK authentication. Fast BSS transition methods are supported via CLI only.
- CCKM, supported via CLI only.
- Client ping test
- Changing the country code on the controller and APs on the network, via the controller GUI.
- Syslog messaging towards external server
- Software image download using HTTP for networks containing only AP 1850, AP 1830, or both kinds of access points.

The following are existing features, with continued support in the current release:

Note Even if the Cisco AP is 802.3ad (LACP)-compliant, link aggregation groups (LAG) are not supported on the AP while it has a Cisco Mobility Express software image.

- Scalability:
  - Up to 25 APs
  - Up to 500 clients
  - Up to 16 WLANs
  - Up to 100 rogue APs
  - Up to 1000 rogue clients
- License—Does not require any licenses (Cisco Right-To-Use License or Swift) for APs.
- Operation— The Master AP can concurrently function as controller (to manage APs) and as an AP (to serve clients).
- Initial configuration wizard.
- Priming at distribution site.
- Default Service Set Identifier (SSID), set from factory. Available for initial provisioning only.
- Management—Through a web interface Monitoring Dashboard.
- Cisco Wireless Controller Best Practices.
- Quality of Service (QoS).
- Multicast with default settings.
- Application Visibility and Control (AVC)—Limited HTTP, with only Application Visibility and not Control. Deep Packet inspection with 1,500+ signatures.
- WLAN access control lists (ACLs).

- Roaming—Layer 2 roaming without mobility groups.
- IPv6—For client bridging only.
- High Density Experience (HDX)—Supported when managing APs that support HDX.
- Radio Resource Management (RRM)—Supported within AP group only.

Note Cisco 2800 and 3800 APs may experience issues forming RF neighborhood when NDP encryption is turned on in a mix deployment environment.

- WPA2 Security.
- WLAN-VLAN mapping.
- Guest WLAN login with Web Authorization.
- Local EAP Authentication (local RADIUS server).
- Local profile.
- Network Time Protocol (NTP) Server.
- Cisco Discovery Protocol (CDP) and Link Layer Discovery Protocol (LLDP).
- Clean Air.
- Simple Network Management Protocol (SNMP).
- Management—SSH, Telnet, Admin users.
- Reset to factory defaults.
- Serviceability—Core file and core options, Logging and syslog.
- Cisco Prime Infrastructure.
- Cisco CMX 10.x—Only CMX Presence is supported. CMX Connect, Location and Analytics are not supported.
- BYOD—Onboarding only.
- UX regulatory domain.
- Authentication, Authorization, Accounting (AAA) Override.
- IEEE 802.11k
- IEEE 802.11r
  - Supported—Over-the-Air Fast BSS transition method
  - Not Supported—Over-the-DS Fast BSS transition and Fast Transition PSK authentication
- Passive Client
- Voice with Call Admission Control (CAC), with Traffic Specification (TSpec)
- Fast SSID
- Terminal Access Controller Access Control System (TACACS)
- Management over wireless
- High Availability and Redundancy—Built-in redundancy mechanism to self-select a Master AP and to select a new AP as Master in case of a failure. Supported using VRRP.
- Software upgrade with preimage download
- Migration to controller-based deployment.

New Features and Functionalities

The following new features and functionalities have been introduced in this release.

- Updates to the Client View page in the Monitoring Dashboard.
- Client ping test and packet capture.
- Changing the country code on the controller and APs on the network.
- NTP servers for automatically setting the date and time.
- Software update using HTTP.
- CCKM support.

Compatibility with Other Cisco Wireless Solutions

See the *Cisco Wireless Solutions Software Compatibility Matrix*, at:

http://www.cisco.com/c/en/us/td/docs/wireless/compatibility/matrix/compatibility-matrix.html

Software Release Information

Cisco Mobility Express software for Cisco Wireless Release 8.2.121.0, is as follows:

Software Pype and purpose	For AP 1850	For AP 1830
Software to be used only for conversion from Unified Wireless Network Lightweight APs software to Cisco Mobility Express software.	AIR-AP1850-K9-8.2.121.0.tar	AIR-AP1830-K9-8.2.121.0.tar
AP software image bundle, to be used for software update, or supported access points images, or both.	AIR-AP1850-K9-ME-8-2-100-0.zip	AIR-AP1830-K9-ME-8-2-100-0.zip

Installing Mobility Express Software

See the "Getting Started" section in the *Mobility Express User Guide* at the following URL:

http://www.cisco.com/c/en/us/td/docs/wireless/access_point/mob_exp/82/user_guide/b_ME_User_Guide_82.html

Caveats

The open caveats applicable to the Cisco Mobility Express solution are listed under the "Caveats" section on page 24. All caveats associated with the Cisco Mobility Express solution have *Cisco Mobility Express* specified in the headline.

Related Documentation

- Cisco Mobility Express User Guide

http://www.cisco.com/c/en/us/td/docs/wireless/access_point/mob_exp/82/user_guide/b_ME_User_Guide_82.html

- Cisco Aironet Universal AP Priming and Cisco AirProvision User Guide

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

Service and Support

For all Support related information, see http://www.cisco.com/c/en/us/support/index.html.

Related Documentation

Cisco Wireless Controller

For more information about the Cisco WLCs, lightweight access points, and mesh access points, see these documents:

- The quick start guide or installation guide for your particular Cisco WLC or access point
- *Cisco Wireless Solutions Software Compatibility Matrix*
- *Cisco Wireless Controller Configuration Guide*
- *Cisco Wireless Controller Command Reference*
- *Cisco Wireless Controller System Message Guide*

For all Cisco WLC software related documentation, see http://www.cisco.com/c/en/us/support/wireless/wireless-lan-controller-software/tsd-products-support-series-home.html

Cisco Mobility Express

- *Cisco Mobility Express User Guide*

  http://www.cisco.com/c/en/us/td/docs/wireless/access_point/mob_exp/83/user_guide/b_ME_User_Guide_83.html
- *Cisco Aironet Universal AP Priming and Cisco AirProvision User Guide*

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

Wireless Products Comparison

Use this tool to compare the specifications of Cisco wireless access points and controllers:

http://www.cisco.com/c/dam/assets/prod/wireless/cisco-wireless-products-comparison-tool/index.html

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html.

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