



Release Notes for Cisco 2700 and 2710 Location Appliances for Software Release 6.0.85.0

August 2009

These release notes describe caveats and important notes for maintenance software release 6.0.85.0 for Cisco Location Appliances. This release of location appliance software supports both Cisco 2700 and 2710 location appliances.



Note

Location appliances are identified as *location servers* on the Cisco WCS interface and in supporting documentation.



Note

For details on compatibility with Cisco Wireless LAN Controllers and Cisco Wireless Control Systems (WCS), refer to the “[System Requirements](#)” section on page 2 prior to installing this software.



Note

Refer to the online version of the *Cisco 2700 Series Location Appliance Getting Started Guide* for details on the physical installation and initial configuration of the location appliance at: http://www.cisco.com/en/US/products/ps6386/prod_installation_guides_list.html

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Introduction

Location appliances compute, collect, and store historical location data using Cisco wireless LAN controllers and access points to track the physical location of wireless devices. The collected location data can be viewed in GUI format in Cisco WCS.

System Requirements

You can install this software release on any 2700 or 2710 location appliance.

[Table 1](#) summarizes the minimum software release requirements for the Cisco WCS and controller to interoperate with release 6.0.x of the location appliance.

Table 1 Minimum Software Requirements

System	Minimum Software Release
Controller	6.0.182.0, 5.2.157.0 and 5.2.178.0, 5.1.151.0 and 5.1.163.0 4.2.130 (or later). Note Controller release 5.0.x is not compatible with location appliance release 5.1.x.
Cisco WCS	6.0.132.0 (or later).
Cisco WCS Navigator	Release 1.5.132.0 or later.



Note

The 2700 Series Location Appliance does not support 3500 series access points.

Backwards Compatibility of Location Appliance Software

Location appliance software is backwards compatible with the previous two location appliance releases. Therefore, you can only upgrade two releases forward. For example, you can directly upgrade from release 4.0 and 5.1 to 6.0 but you cannot directly upgrade to release 6.0 from releases earlier than 4.0.

Upgrading to this Software Release

For instructions for using either Cisco WCS or for manually downloading this software to location appliances, refer to the “Updating Location Appliance Software” section in the “Installation and Configuration” chapter of the *Cisco 2700 Series Installation and Configuration Guide (78-17180-03 and later)*. You can find this document at this URL:

http://www.cisco.com/en/US/products/ps6386/prod_installation_guides_list.html

Backup of Software Cannot be Restored on Earlier Releases

A backup of location appliance software release 6.0 cannot be restored on any location appliance running an earlier software release. Before you upgrade a location appliance to 6.0, Cisco recommends that you create a backup of the earlier release and archive it. This enables you to convert an upgraded system to an earlier release, if necessary.

Location Appliance Image is Compressed

If you download the server image *.gz file using Cisco WCS, the location appliance automatically decompresses (unzips) it, and you can proceed with the installation as before.

If you manually download the compressed *.gz file using FTP, you must decompress the files before running the installer. These files are compressed under the LINUX operating system and must be decompressed using the *gunzip* utility program. The unzip method you use is defined by the filename you are trying to unzip.

To make the bin file executable, use the following command:

```
chmod +x filename.bin
```

Updated Location Appliance Software Version Shown in Cisco WCS after Polling

After a software update, the new location appliance software version does not immediately appear in location appliance queries on Cisco WCS. Up to five minutes is required for the new version to appear. Cisco WCS, by default, queries the location appliance every five minutes for status.

Important Notes

This section describes important information about new features and operational notes for software release 6.0.85.0 for location appliances.

Operational Notes

The following operational notes are relevant to this release.

Automatic Installation Script for Initial Setup

An automatic setup wizard is available to step you through the initial setup of the location appliance.

An example of the complete automatic setup script (and manual setup process) is provided in the *Cisco 2700 Series Getting Started Guide*. You can find this document online at:

http://www.cisco.com/en/US/products/ps6386/prod_installation_guides_list.html

Mandatory Default Root Password Change

You must change the default root password during initial configuration of the location appliance to ensure optimum network security.

- You are prompted to change the password during the setup script.
- You can also change the password using the Linux command, **passwd**.

Synchronization Required When Upgrading to Release 6.0 or Importing CAD Floor Images

When upgrading to release 6.0 from release 5.x (and earlier), you must synchronize after the software upgrade and also when CAD generated floor images are imported into Cisco WCS.

Controller and Associated Location Appliances Must be Mapped to the Same NTP and WCS Server

Communications between the location appliance, Cisco WCS, and the controller are in universal time code (UTC). Configuring NTP on each system provides devices with the UTC time. An NTP server is required to automatically synchronize time between the controller, Cisco WCS and the location appliance.

The location appliance and its associated controllers must be mapped to the same NTP server and the same Cisco WCS server.

Local time zones can be configured on a location appliance to assist network operations center (NOC) personnel in locating events within logs.



Note

You can configure NTP server settings during the automatic installation script. Refer to the *Cisco 2700 Series Location Appliance Getting Started Guide* for details on the automatic installation script. You can find this document online at:

http://www.cisco.com/en/US/products/ps6386/prod_installation_guides_list.html

Networks with Large Access Point Deployments Might Experience Slower Location Updates

In networks with a large number of access points (approximately 2000 or more), location appliances might experience a slow down in location calculation and heatmap updates for clients, tags, and access points (CSCsk18810).

Large Burst of Notifications Might Cause Drop of Notifications

A location appliance might fail to send notifications if it receives a large burst of notifications. The dropped notification count appears on the Services > Context Aware Notifications window.

Refer to CSCsu43201 in the Open Caveats section for workaround.

If a release of AeroScout MobileView *earlier than 4.1* is in use, incorrect responses are sent to those northbound notifications received from the location appliance. Northbound notifications are then resent by the location appliance, overloading the notification queue and resulting in reports of dropped notifications (CSCsx56618).

Configuration Changes for Greater Location Accuracy

In some RF environments, where location accuracy is around 60 to 70%, or where incorrect client or tag floor location map placements occur, you might need to modify the moment RSSI thresholds in the *aes-config.xml* file in the *opt/locserver/conf/* directory of the location server (CSCsw17583).

The RSSI parameters that might need modification are:

- locp-individual-rssi-change-threshold
- locp-aggregated-rssi-change-threshold
- locp-many-new-rssi-threshold-in-percent
- locp-many-missing-rssi-threshold-in-percent

Floor Change or Minimum Distance Required for Location Transitions to Post to History Log

When history logging is enabled for any or all elements (client stations, asset tags, and rogue clients and rogue access points), a location transition for an element is only posted if it changes floors or the element's new location is at least 30 feet or 10 meters from its original location.

Cisco Path: Services > Mobility Services > Device Name > Context Aware Service > Administration > History Parameters.

Logs can be viewed at Services > Mobility Services > Device Name > Systems > Log.

Location History Timestamps Match Browser's Location

The Cisco WCS timestamp is based on the browser's location and not on the location appliance settings. Changing the time zone of the Cisco WCS or on the location appliance does not change the timestamp for the location history.

PDA's with Limited Probe Requests Might Affect Location

Many PDA's do not continuously send out probe requests after initial association to the Cisco Unified Wireless Network (CUWN). Therefore, calculating the location accuracy of such PDA's using RSSI readings might not always be optimal.

Mandatory Setting Required on Intel 802.11n and 802.11 b/g/n Client Cards for Accurate Calibration

The Cisco CX RM option within Intel's Enterprise Security Profile must be enabled to ensure adequate calibration data points are collected for Intel 802.11n and 802.11 b/g/n client cards.

You can use the Intel Client Software PROSET package to enable the Cisco CX RM option in the Enterprise Security Profile (CSCsl40623).

Non-Cisco Compatible Extensions Tags Not Supported

The location appliance does not support non-Cisco CX Wi-Fi tags. Additionally, these non-compliant tags are not used in location calculations or shown on Cisco WCS maps.

Cisco Compatible Extensions, Version 1 Tags Required at a Minimum

Only Cisco CX version 1 tags (or later) are used in location calculations and mapped in Cisco WCS.

Monitoring Information Varies for Clients and Tags

On the Monitor > Clients page (when Location Debug is enabled), you can view information on the last heard access point and its corresponding RSSI reading. This information is not available on the Monitor > Tags page.

Calibration Models and Data Apply Only to Clients

Calibration models and data apply only to clients. Calibration for tags is done using the AeroScout System Manager.

Refer to Chapter 7, “Context-Aware Planning and Verification” in the *Cisco Location Appliance Configuration Guide, Release 6.0* for more details on client calibration.

Refer to the *AeroScout Context-Aware Engine for Tags, for Cisco Mobility Services Engine User’s Guide* at the following link:

<http://support.aeroscout.com>

Advanced Location Parameters Apply Only to Clients

Settings for advanced location parameters related to RSSI, chokepoint usage, location smoothing, and assignment of outside walls on floors, are not applicable to tags.

Refer to the “Editing Advanced Location Parameters” section in Chapter 7 of the *Cisco Context-Aware Software Configuration Guide, Release 6.0*.

Cisco WCS Path: Services > Mobility Services > Device Name > Context Aware Service > Advanced > Location Parameters.

WCS Screen Changes

- *Services* replaces *Mobility* in the navigation bar of Cisco WCS.

Common Vulnerabilities Exposure Notes

This section lists the notes for common vulnerabilities exposure:

- The CVE-2009-0591 and CVE-2009-0789 are not applicable for Red Hat Enterprise Linux 3. So it is not applicable for location appliance.
- Both Red Hat Enterprise Linux 3 and location server does not use the vulnerable API, and so CVE-2009-0590 is not applicable for location appliance.

**Note**

The Location Appliance OS is based on Redhat Enterprise Linux 3

New Features

This release does not introduce new features.

Caveats

This section lists [Open Caveats](#) and [Resolved Caveats](#) in location appliance release 6.0.85.0.

Open Caveats

The following caveats are open (unresolved) in this release:

- CSCsk18810—In networks with a large number of access points (approximately 2000 or more), location appliances might experience a slow down in location calculation and heatmap updates for clients, tags, and access points.

Workaround: None.

- CSCsk74074—In some cases, when you attempt to synchronize all location appliances and one or more location appliances that are added to Cisco WCS are unreachable, then synchronization and synchronization history windows will open very slowly (Cisco WCS Path: Services > Mobility Services > Device and then select Synchronize Servers from drop-down menu).

Workaround: To restore the normal loading time for the synchronization and synchronization history windows, remove the unreachable location appliances from Cisco WCS.

From the Services > Mobility Services window, check the check box next to each unreachable location appliance and then select Delete Services from the drop-down menu. Click **Go**.

- CSCsl40623—Fewer data points are collected with Intel 802.11n and 802.11 b/g/n client cards during calibration when the Cisco Compatible Client Extension (CX) RM option within the Enterprise Security Profile is not enabled.

Workaround: Use the Intel Client Software PROSET package to ensure that the Enterprise Security Profile is selected and that the Cisco Compatible CX RM option in this profile is enabled.

- CSCsr41614—WCS requires that MAC addresses be entered in one of the following formats (see related caveat CSCsy85829):

```
a1:b2:c3:d4:e5:f6 (lowercase)
A1:B2:C3:D4:E5:F6 (uppercase)
```

Workaround: None.

- CSCsu43201—A location appliance fails to send notifications if it receives a large burst of notifications. The dropped notification count appears on the Services > Context Aware Notifications window. When notifications drop, the following message might be seen in the MSE log:

```
2/05/09 16:38:18 TRACE[async] [59] DROP MSG: com.aes.datamodel.track.AesDestDefn@4
<NorthboundNotificationEvent>...</NorthboundNotificationEvent> , Current queue size =
500
```

A burst of events might occur at startup when the location appliance retrieves elements (clients, tags, access points) from the controller all at once and generates events for each of these retrievals (if applicable). It might also occur when the location appliance is tracking tags which are beaconing in the order of seconds. Tags beacon at a constant rate when stationary but might beacon more often when moving. If the tag traffic is very high, this too causes a burst in notifications. The condition is more likely to occur when Northbound Notifications are enabled for tags (Services > Mobility Services > Device Name > Context Aware Service > Advanced > Notification Parameters).

Workaround: Do one or more of the following steps to ensure all notifications are sent:

- 1) Disable notifications at startup and enable after startup is complete.
- 2) Ensure that the event listener is never down.
- 3) If using *AeroScout MobileView*, verify that version 4.1 or later is installed.
- 4) Increase the size of the queue limit at the Services > Mobility Services Engine > Device Name > Context Aware Service > Advanced > Notification Parameters window. You can increase this to 10,000 for the location appliance (and 18,000 for the mobility services engine).
- 5) Ensure tags are beaconing in the order of minutes, not seconds. Even in cases of movement, a tag should beacon no more frequently than 30 seconds.

- CSCsv34781—A controller that is synchronized to a location appliance with one system name cannot later be synchronized to the same location appliance with a different system name.

Workaround: Unassign and the reassign the controller.

- CSCsx44787—When a controller is operating with release 4.1 or earlier and is communicating with controllers installed with release 4.2 or later and a location server or mobility services engine (supported in release 5.1 and later) is in the network, clients might bounce between association and disassociation states. Additionally, location calculations might stop.

Workaround: Upgrade controllers to release 4.2 or later.

- CSCsx57710—The database is mistakenly deleted during the software uninstall process if you select *Option 2-No* when prompted with the “Do you want to remove the database?” question.

Workaround: None.

- CSCsy27746—In rare circumstances, duplicate ARPs are generated every five seconds for the IP address, 192.168.0.1.

Workaround: None.

- CSCsz24853—Searching for a location appliance or mobility services engine (by name, IP address or MAC address) using the Cisco WCS Navigator always lists *location server* as the Item Type in the search results even when results for a mobility services engine are returned. Search results are found by clicking the link under the Items Matched column.

Workaround: None.

- CSCsz44105—When the automatic install script is running during initial setup for the location appliance, an option to skip the root password is listed. This is an error. You are not allowed to skip this step and the skip option should not be seen. Entering an *S* to skip this step is ignored.

Example display:

```
Configure root password? (Y)es/(S)kip/(U)se default [Yes]: s
Changing password for user root.
You can now choose the new password.
```

Workaround: None.

- CSCsz44750—When the telemetry option is enabled for a tag search, context-aware notifications are not updated.
Workaround: Disable the telemetry option during tag searches and stop and then start the location appliance to restart context-aware notifications.
To manually stop the location appliance, login as root and enter:
/etc/init.d/locserverd stop
To start the location appliance, enter:
/etc/init.d/locserverd start
- CSCsz48609—The MAC address format used in the wired client search field is case sensitive. Additionally, if a space is added in front of the MAC address, the search fails. Wired client searches are done at the Service > Mobility Services > Device Name > Context Aware Service > Wired > Wired Clients window.
Workaround: Enter the MAC address in lowercase (xx:xx:xx:xx:xx:xx) in the wired clients search field and do not insert any blank spaces.
- CSCsz54353—When a client is associated to a local controller, its IP address does not appear in the Controller Name column on the Monitor > Clients window when the option *Clients detected by MSEs* is selected from the Show drop-down menu.
Workaround: Click Client User Name to view the Controller IP address on the Clients Details window.
- CSCsz78329—Online help is not reachable from the Help menu on the Tools > Location Accuracy Tool > *On Demand Accuracy Test* window and the Tools > Location Accuracy Tool > *Scheduled Accuracy Test* window.
Workaround: Click Help > Online Help at the Tools > Location Accuracy Tool window.

Resolved Caveats

The following caveats are resolved in this release:

- CSCsy70790—Users could not successfully query the location server with the `getTagHistoryList`, `getStationHistoryList`, `getRogueClientHistoryList`, and `getRogueAPHistoryList` APIs. Instead, they were required to extract all the MAC addresses using the present APIs (for example, `getTagList`) and subsequently invoke the history APIs (for example, `getTagHistory`) for the specific MAC addresses. The `getTagHistoryList`, `getStationHistoryList`, `getRogueClientHistoryList`, and `getRogueAPHistoryList` APIs have been deprecated and replaced with new APIs (`getTagHistoryListByArgs`, `getStationHistoryListByArgs`, `getRogueClientHistoryListByArgs`, and `getRogueAPHistoryListByArgs`) that show the corresponding History information.
- CSCsy85829—Some of the API queries were not responding when the MAC address was configured using uppercase letters. The APIs required the queried MAC address to be in lowercase format.
- CSCsz01574—In an anchor-foreign controller deployment with guest tunneling, WCS showed the clients detected by the MSE as authenticated but did not show the username or authentication method. This behavior has been corrected to show the client as authenticated only when the anchor controller actually authenticates it and to report the authentication state with a corresponding username.

- CSCsz44750—Context-Aware notifications are now updated when you search for tags in WCS with the Telemetry option enabled.
- CSCta76375—Northbound notifications are now sent correctly by the MSE to external applications.

If You Need More Information

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

http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl

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

Troubleshooting

For the most up-to-date, detailed troubleshooting information, refer to the Cisco TAC website at:

<http://www.cisco.com/tac>

Click **Troubleshooting**. Then choose your product (Wireless >Unified Wireless LAN Management > Cisco Wireless Location Appliance) and then select the **Troubleshoot and Alerts** heading on the product page to find information on the problem you are experiencing and other service advisories.

Related Documentation

The following documents are related to location appliances:

- *Cisco 2700 Series Location Appliance Getting Started Guide*
- *Cisco Location Appliance Configuration Guide, Release 6.0*
- *Cisco Wireless Control System Configuration Guide, Release 6.0*
- *Cisco Wireless LAN Controller Configuration Guide, Release 6.0*



Note

You can see the latest online versions of these documents by selecting the Wireless category and then the appropriate product from the Wireless LAN Controller and Wireless LAN Management > Unified Wireless LAN Management sub-category panels at the following link:

http://www.cisco.com/web/psa/products/tsd_products_support_configure.html

Obtaining Documentation, Support, and Security Guidelines

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

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

This document is to be used in conjunction with the documents listed in the Related Documents section.

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