



# Release Notes for Cisco 3300 Series Mobility Services Engine, Release 7.0.201.0

---

**First Published: April 14, 2011**  
**OL-24938-01**

These release notes describe open and resolved caveats for Release 7.0.201.0 of the Cisco 3300, 3350, and 3355 Mobility Services Engines and its two services:

- Context Aware Service (CAS)
- Adaptive Wireless Intrusion Protection System (wIPS).



**Note**

---

Before installing this software, see the [“System Requirements” section on page 4](#) for details on compatibility with Cisco wireless LAN controllers and Cisco Wireless Control Systems (WCS).

---



**Note**

---

You must purchase licenses from Cisco to retrieve information on tags and clients from access points. See the [“Ordering CAS Client and Tag Licenses for the Mobility Services Engine” section on page 9](#) for more information. You must purchase licenses from Cisco to support wIPS monitor mode access points. See the [“Ordering Adaptive wIPS Licenses for the Mobility Services Engine” section on page 10](#).

---

## Contents

These release notes contain the following sections:

- [Introduction, page 2](#)
- [Software and Aeroscout CLE Compatibility Matrix, page 3](#)
- [System Requirements, page 4](#)
- [Upgrading to This Release, page 5](#)
- [Important Notes, page 11](#)
- [New Feature Support, page 18](#)
- [Caveats, page 20](#)



---

**Americas Headquarters:**  
**Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA**

- [If You Need More Information, page 22](#)
- [Troubleshooting, page 22](#)
- [Related Documentation, page 22](#)
- [Obtaining Documentation and Submitting a Service Request, page 23](#)

## Introduction

This section introduces the Cisco 3300 series Mobility Services Engine (MSE) and its various services that it supports.

### Cisco 3300 Series Mobility Services Engine and Services

The Cisco 3300 Series Mobility Services Engine supports various services within the overall Cisco Unified Wireless Network (CUWN).

The Cisco 3300 Series Mobility Services Engine currently supports the following services in release 7.0.201.0:

- **Context Aware Service (CAS)**—Allows a mobility services engine to simultaneously track thousands of mobile assets and clients by retrieving contextual information such as location, temperature, and availability.

CAS relies on two engines for processing the contextual information it receives. The Context Aware Engine for Clients processes data received from Wi-Fi clients and the Context Aware Engine for Tags processes data received from Wi-Fi tags. Both of these engines can be deployed together or separately depending on the business need. This service was introduced in release 5.1.




---

**Note** You must purchase licenses from Cisco to retrieve contextual information on tags and clients. See the [“Ordering CAS Client and Tag Licenses for the Mobility Services Engine” section on page 9.](#)

---

- **Wireless Intrusion Protection Service (wIPS)**—Provides wireless-specific network threat detection and mitigation against malicious attacks, security vulnerabilities, and sources of performance disruption within the CUWN infrastructure. wIPS visualizes, analyzes, and identifies wireless threats, and centrally manages mitigation and resolution of security and performance issues using Cisco monitor mode access points. Proactive threat prevention is also supported to create a hardened wireless network core that is impenetrable by most wireless attacks.




---

**Note** You must purchase licenses from Cisco to support wIPS. See the [“Ordering Adaptive wIPS Licenses for the Mobility Services Engine” section on page 10.](#)

---



**Note**

---

Evaluation licenses for 100 clients, 100 tags, and 20 access points (wIPS) come standard on each mobility services engine installed with release 6.0 and later. Evaluation licenses are good for 60 days.

---



**Note**

---

CAS and wIPS can operate simultaneously on the Cisco 3350, 3355, and 3310 mobility services engines.

---

**Note**

See the online version of the *Cisco Context-Aware Software Configuration Guide, Release 7.0*, for details on configuring and monitoring CAS on the mobility services engine at the following URL:  
[http://www.cisco.com/en/US/docs/wireless/mse/3350/7.0/CAS/configuration/guide/CAS\\_70.html](http://www.cisco.com/en/US/docs/wireless/mse/3350/7.0/CAS/configuration/guide/CAS_70.html)

**Note**

See the online version of the *Cisco Wireless Intrusion Prevention System Configuration Guide, Release 7.0* for details on configuring and monitoring wIPS on the mobility services engine at the following URL:  
[http://www.cisco.com/en/US/docs/wireless/mse/3350/7.0/wIPS/configuration/guide/wips\\_70.html](http://www.cisco.com/en/US/docs/wireless/mse/3350/7.0/wIPS/configuration/guide/wips_70.html)

**Note**

See the online versions of the *Cisco 3350 and 3310 Mobility Services Engine Getting Started Guides* for details on the physical installation and initial configuration of the mobility services engines at the following URL:  
[http://www.cisco.com/en/US/products/ps9742/prod\\_installation\\_guides\\_list.html](http://www.cisco.com/en/US/products/ps9742/prod_installation_guides_list.html)

## Software and Aeroscout CLE Compatibility Matrix

**Table 1** lists the compatibility matrix for the various releases of WCS, Controllers, 2710 Location Based Services, MSE 3300 Series, and Aeroscout CLE.

**Table 1** *Software and Aeroscout CLE Compatibility Matrix*

Release Date	WLC	WCS	2710 LBS	MSE 3300	Aeroscout CLE
22nd June 2007	4.1.171.0	4.1.83.0	3.0.37.0		
13th August 2007	4.1.185.0	4.1.91.0	3.0.42.0		
26th Oct 2007	4.2.61	4.2.62.0	3.1.35.0		
28th Jan 2008	-	4.2.62.11	-		
14th March 2008	4.2.112.0	4.2.81.0	3.1.36.0		
27th May 2008	4.2.130	4.2.97.0	3.1.38.0		
29th Sep 2008	4.2.176.0	4.2.110.0	3.1.42.0		
14th Feb 2008	5.0.148.0	5.0.56.0	4.0.32.0		
15th April 2008	-	-	4.0.33.0		
1st August 2008	5.0.148.2	5.0.72.0	4.0.38.0		
21st July 2008	4.2.130	5.1.64.0	5.1.30.0	5.1.30.0	2.1 (4.0.10.5)
9th Jan 2009	5.1.163.0	5.1.65.4	5.1.35.0	5.1.35.0	2.1 (4.0.10.5)
24th Nov 2008	5.2.157.0	5.2.110.0	5.2.91.0	5.2.91.0	2.2.1 (4.0.13-18)
10th Feb 2009	5.2.178.0	5.2.130.0	5.2.91.0	5.2.91.0	2.2.1 (4.0.13-18)
25th June 2009	5.2.193.0	5.2.148.0	5.2.100	5.2.100	2.2.1 (4.0.13-18)
11th June 2009	6.0.182.0	6.0.132.0	6.0.85.0	6.0.85.0	3.2.1 (4.0.15.12) or 3.2 (4.0.14.14)

**Table 1** *Software and Aeroscout CLE Compatibility Matrix*

Release Date	WLC	WCS	2710 LBS	MSE 3300	Aeroscout CLE
9th Nov 2009	6.0.188.0	6.0.170.0	6.0.97.0	6.0.97.0	3.2.1 (4.0.15.12) or 3.2 (4.0.14.14)
17th Feb 2010	6.0.196.0	6.0.181.0	6.0.101.0	6.0.103.0	3.2.1 (4.0.15.12)
30th August 2010	6.0.199.4	6.0.196.0	6.0.102.0	6.0.105.0	4.2.4.4
4th April 2011	6.0.202.0	6.0.202.0	6.0.202.0	6.0.202.0	4.2.4.4
6th June 2010	7.0.98.0	7.0.164.0	-	7.0.105.0	4.2.3.5
14th April 2011	7.0.116.0	7.0.172.0	-	7.0.201.0	4.2.3.5

## System Requirements

The following minimum releases are required to configure and monitor CAS on the Cisco 3300 Mobility Services Engine, WCS, and Wireless LAN Controller. (See [Table 2](#)).

**Table 2** *Minimum Software Requirements*

Service	System	Minimum Software Release
Context-Aware Software and Wireless Intrusion Prevention System <sup>1</sup>	Mobility services engine	7.0.201.0 7.0.105.0 6.0.103.0 (or later)
	Controller	7.0.116.0 7.0.98.0 6.0.188.0 (or later) 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)
	Cisco WCS	7.0.172.0 7.0.164.0 6.0.132.0 (or later)
	Cisco WCS Navigator	1.6.172.0 1.6.164.0 1.5.132.0 (or later)

1. Release 5.2 is the minimum software requirement for the controller, WCS, and mobility services engine to support the Cisco Adaptive Wireless Intrusion Prevention System.

# Upgrading to This Release

For instructions on automatically downloading the software using WCS or for manually downloading the software using a local or remote connection, see the “Updating Mobility Services Engine Software” section in Chapter 2 of the *Cisco 3350 Mobility Services Engine Getting Started Guide* and *Cisco 3310 Mobility Services Engine Getting Started Guide*.

You can find these documents at the following URL:

[http://www.cisco.com/en/US/products/ps9742/prod\\_installation\\_guides\\_list.html](http://www.cisco.com/en/US/products/ps9742/prod_installation_guides_list.html)

This section consists of the following topics:

- [Upgrade Scenarios, page 5](#)
- [Compressed Software Image, page 8](#)
- [Updated Software Version Shown in WCS After Polling, page 9](#)
- [CAS and wIPS License Requirements, page 9](#)
- [Ordering CAS Client and Tag Licenses for the Mobility Services Engine, page 9](#)
- [Ordering Adaptive wIPS Licenses for the Mobility Services Engine, page 10](#)

## Upgrade Scenarios

Starting from Release 7.0.201.0, you will not be able to restore databases from older releases 5.x, 6.x and 7.0.105.0 and 7.0.112.0 to 7.0.201.0 using the WCS. There is a defined procedure to do so. Oracle has been introduced as the database vendor for MSE. Solid db will be discontinued starting 7.0.201.0 onwards.

There are three scenarios to upgrade MSE to 7.0.201.0 from 5.x, 6.x, 7.0.105.0 and 7.0.112.0:

- [Upgrading MSE to 7.0.201.0 from older releases 5.x 6.x 7.0.105.0 and 7.0.112.0 without data migration, page 5](#)
- [Upgrading MSE to 7.0.201.0 from older releases 5.x 6.x 7.0.105.0 7.0.112.0 with data migration, page 6](#)
- [Restoring an old database from 5.x 6.x 7.0.105.0 7.0.112.0 to 7.0.201.0, page 8](#)

## Upgrading MSE to 7.0.201.0 from older releases 5.x 6.x 7.0.105.0 and 7.0.112.0 without data migration

To upgrade from 5.x, 6.x, 7.0.105.0 and 7.0.112.0 to 7.0.201.0 without data migration, follow these steps:

- 
- Step 1** Take a backup of the existing database using WCS. Always recommended.  
All data existing on the system will be lost and a fresh blank database will be created.
- Step 2** Transfer the five files for 7.0.201.0 to the MSE box.
- ```
database_installer_part1of4.zip
database_installer_part2of4.zip
database_installer_part3of4.zip
database_installer_part4of4.zip
CISCO-MSE-L-K9-7-x-x-x-64bit.bin
```
- Step 3** Place all the files under /opt/installers folder. You should manually FTP these files to the box.




---

**Note** Use binary mode to transfer. Make sure that the downloaded file sizes are same as that on cisco.com.

---

**Step 4** Uninstall the existing MSE software. Choose deletion of database when prompted.

**Step 5** Invoke the MSE installer.

This will install the new database using the four zip files for database along with the MSE software.

First time install of the database can take a long time (~ 20 minutes). Do not cancel the installer midway.

Once installed, follow the regular procedure to start or stop or add MSE to WCS.

## Upgrading MSE to 7.0.201.0 from older releases 5.x 6.x 7.0.105.0 7.0.112.0 with data migration

To upgrade MSE from 5.x, 6.x and 7.0.105.0 and 7.0.112.0 to 7.0.201.0 with data migration, follow these steps:

---

**Step 1** Take a backup of the existing database using WCS.

This is always recommended.

All data existing on the system will be lost and a fresh blank database will be created.

**Step 2** Transfer the 5 files for JMR to the MSE box.

```
database_installer_part1of4.zip
database_installer_part2of4.zip
database_installer_part3of4.zip
database_installer_part4of4.zip
CISCO-MSE-L-K9-7-x-x-x-64bit.bin
```

**Step 3** Place all the files under /opt/installers folder.

You can manually FTP or SCP these files to the box.




---

**Note** Use binary mode when using FTP. Make sure that the downloaded file sizes are same as that on cisco.com.

---




---

**Note** DO NOT uninstall the existing MSE software on the box. In other words, if you have 5.x, 6.x or 7.0.x installed with data you want to preserve across upgrade to 7.0.201.0, do not uninstall it.

---

**Step 4** Invoke the installer ./CISCO-MSE-L-K9-7-0-201-0-64bit.bin and answer the questions when prompted.

The installer will automatically detect if there is an old database present and ask relevant questions.

### Sample of the Upgrade Questions

```
Installation Check
```

```
-----
```

```
The system appears to have a Cisco Mobility Services Engine already installed. If you
choose "Continue", all the currently installed components will be removed permanently
(Only database and license files will be preserved
```

```
->1 - Exit
```

```
2 - Continue
```

ENTER THE NUMBER OF THE DESIRED CHOICE, OR PRESS <ENTER> TO ACCEPT THE DEFAULT: 2

-----  
 -----

Data Migration Check

-----

The currently installed version of the MSE database is not directly compatible with the new version. The system will now migrate the database from existing database to the new system. Choose an appropriate option below -

- >1 - Proceed to migrate data from previous release
- 2 - Abort Installation

ENTER THE NUMBER OF THE DESIRED CHOICE, OR PRESS <ENTER> TO ACCEPT THE DEFAULT: 1

-----  
 -----

Do you wish to migrate history data too? It can take a long time if history data is large in size (Y/N): y

Exporting data from currently installed database.

This may take a while .....

Data migration successfully completed. Will now proceed with installation of new image.

Installing...

-----  
 -----  
 -----  
 -----  
 -----  
 -----

Database Installation

-----

The installer will now install the database. This may take a long time (- 15 minutes). Do not cancel the installer.

PRESS <ENTER> TO CONTINUE:

-----  
 -----

!!!!!! IMPORTANT NOTE !!!! :

-----

The system is minimally configured right now. It is strongly recommended that you run the setup script under /opt/mse/setup/setup.sh to configure all appliance related parameters immediately after installation is complete. The hostname must be set correctly on the system. The Cisco MSE platform will NOT start if it is configured incorrectly or not configured at all. Additionally, it is strongly recommended that the Cisco MSE is

configured to use the same NTP servers as the controllers with which it will be synchronized. This is essential to the correct operation of the Cisco Mobility Services Engine. Both these parameters may be configured as part of the setup script.

PRESS <ENTER> TO CONTINUE:

-----  
-----

Importing Data

-----

Loading data into newly installed database. This may take a while .....

PRESS <ENTER> TO CONTINUE:

## Restoring an old database from 5.x 6.x 7.0.105.0 7.0.112.0 to 7.0.201.0

To restore an old database onto MSE 7.x.x.x, follow these steps:



**Note**

The regular Restore option on WCS cannot be used to restore an older database of older releases such as 5.x, 6.x, 7.0.105.0, or 7.0.112.0 onto 7.0.201.0.

- Step 1** Stop the running MSE 7.0.201.0.
- Step 2** Uninstall the software. Choose to delete database.
- Step 3** Based on the backed up data that you wish to restore follow the matrix in [Table 3](#) to install a relevant version of MSE.

**Table 3** Release Matrix

| Version of Database to be restored | New version that should be installed |
|------------------------------------|--------------------------------------|
| 5.2.x                              | 5.2, 6.x, 7.x                        |
| 6.x                                | 6.x, 7.x                             |

- Step 4** Once you have installed the software, restore the desired database backup onto this using the regular procedure from WCS.
- Step 5** To migrate data to 7.x.x.x, follow steps under [“Upgrading MSE to 7.0.201.0 from older releases 5.x 6.x 7.0.105.0 7.0.112.0 with data migration”](#) section on page 6.

## Compressed Software Image

If you download the mobility services engine image \*.gz file using WCS, the mobility services engine 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 Software Version Shown in WCS After Polling

After a software update, the new mobility services engine software version does not immediately appear in mobility services engine queries on WCS. Up to 5 minutes is required for the new version to appear. WCS, by default, queries the mobility services engine for status every 5 minutes.

## CAS and wIPS License Requirements

Client and wIPS licenses are installed from WCS (Administration > License Center). See, Chapter 2: “Adding and Deleting Mobility Services Engines and Licenses” in the *Cisco Context-Aware Service Configuration Guide, Release 7.0*, and *Cisco Adaptive Wireless Intrusion Prevention System, Release 7.0*, respectively.

Tag licenses are installed using the *AeroScout System Manager*. See the “Installing Tag Licenses” section in Chapter 2: “Adding and Deleting Mobility Services Engines and Licenses in the *Cisco Context-Aware Service Configuration Guide, Release 7.0*.”

For complete details on ordering and downloading licenses, see the *Cisco 3300 Series Mobility Services Engine Licensing and Ordering Guide for Context-Aware Mobility Software, and Adaptive wIPS, Release 7.0*, at the following URL:

[http://www.cisco.com/en/US/prod/collateral/wireless/ps9733/ps9742/data\\_sheet\\_c07-473865.html](http://www.cisco.com/en/US/prod/collateral/wireless/ps9733/ps9742/data_sheet_c07-473865.html)

## Ordering CAS Client and Tag Licenses for the Mobility Services Engine

CAS software licenses are based on the number of Wi-Fi client and Wi-Fi tag devices tracked. The Cisco 3350 Mobility Services Engine allows for the tracking of up to 18,000 devices (combined count of Wi-Fi clients and Wi-Fi tags) and the 3310 Mobility Services Engine allows for the tracking of up to 2000 devices (combined count of Wi-Fi clients and Wi-Fi tags).

Licenses for Cisco Compatible Extensions (CX) tags (version 1 or later) and clients are offered independently. The client license also includes tracking of rogue clients and rogue access points.

Licenses for tags and clients are offered in quantities ranging from 1000 to 12,000 units and can be combined to meet the location tracking requirements of a CAS deployment. For example, combining the AIR-CAS-3KC-K9, AIR-CAS-12KC-K9, and AIR-CAS-1KT-K9 licenses provide, tracking of 15,000 Wi-Fi clients and 1000 Wi-Fi tags on a Cisco 3350 mobility services engine (see [Table 4](#)).

## CAS License Ordering Summary

Order numbers for client and tag licenses are summarized in [Table 4](#).

**Table 4 Order Numbers for Client and Tag Licenses**

| Order Number                       | Licenses                                    |
|------------------------------------|---------------------------------------------|
| <b>Client Licenses<sup>1</sup></b> |                                             |
| AIR-CAS-1KC-K9                     | License for tracking 1000 client devices.   |
| AIR-CAS-3KC-K9                     | License for tracking 3000 client devices.   |
| AIR-CAS-6KC-K9                     | License for tracking 6000 client devices.   |
| AIR-CAS-12KC-K9                    | License for tracking 12,000 client devices. |
| <b>Tag Licenses</b>                |                                             |
| AIR-CAS-1KT-K9                     | License for tracking 1000 tag devices.      |
| AIR-CAS-3KT-K9                     | License for tracking 3000 tag devices.      |
| AIR-CAS-6KT-K9                     | License for tracking 6000 tag devices.      |
| AIR-CAS-12KT-K9                    | License for tracking 12,000 tag devices.    |

1. All client licenses include tracking of rogue clients and rogue access points.

## Ordering Adaptive wIPS Licenses for the Mobility Services Engine

Adaptive wIPS software licenses are based on the number of full-time monitoring access points (often referred to as *monitor mode access points*) that are deployed in the network. The licenses may be combined to arrive at the number of monitor mode access points required to run the Adaptive wIPS deployment. For example, combining AIR-WIPS-AP-5, AIR-WIPS-AP-25, and AIR-WIPS-AP-500 licenses provides support for 530 monitor mode access points.

### Adaptive wIPS License Ordering Summary

Order numbers for Adaptive wIPS licenses are summarized in [Table 5](#).

**Table 5 Order Numbers for Adaptive wIPS Licenses**

| Order Number                            | Licenses                                                                                                                                                                |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AIR-WIPS-AP-5                           | License for 5 monitor mode Cisco access points.                                                                                                                         |
| AIR-WIPS-AP-25                          | License for 25 monitor mode Cisco access points.                                                                                                                        |
| AIR-WIPS-AP-100                         | License for 100 monitor mode Cisco access points.                                                                                                                       |
| AIR-WIPS-AP-500                         | License for 500 monitor mode Cisco access points.                                                                                                                       |
| AIR-WIPS-AP-UNL1<br>or AIR-WIPS-AP-2000 | License for 2000 monitor mode Cisco access points.<br><b>Note</b> Cannot be combined with other wIPS licenses.                                                          |
| AIR-WIPS-AP-UNL2                        | License for 3000 monitor mode Cisco access points<br><b>Note</b> The Cisco 3350 mobility services engine supports a maximum of 3000 Monitor Mode access point licenses. |
| AIR-LM-WIPS-5                           | ELM License for 5 local mode Cisco access points.                                                                                                                       |
| AIR-LM-WIPS-25                          | ELM License for 25 local mode Cisco access points.                                                                                                                      |

**Table 5**      **Order Numbers for Adaptive wIPS Licenses**

| Order Number     | Licenses                                             |
|------------------|------------------------------------------------------|
| AIR-LM-WIPS-100  | ELM License for 100 local mode Cisco access points.  |
| AIR-LM-WIPS-500  | ELM License for 500 local mode Cisco access points.  |
| AIR-LM-WIPS-2000 | ELM License for 2000 local mode Cisco access points. |

**Note**

- From Release 7.0.105.0 and later, the evaluation license for wIPS monitor mode access points is 10.
- From Release 7.0.200.x and later, the wIPS monitor mode license also includes local mode access points. In other words, the Monitor Mode SKUs can be used by Monitor Mode as well as Local Mode access points, whereas Local Mode SKUs can only be used by licensed Local Mode APs.

## Important Notes

This section describes important information about the operational notes and navigation changes for CAS, wIPS, and the mobility services engine for release 6.0.103.0 and later releases.

Features and operational notes are summarized separately for the mobility services engine, CAS, and wIPS.

This section consists of the following topics:

- [Operational Notes for a Mobility Services Engine, page 11](#)
- [Operational Notes for CAS, page 14](#)
- [Operational Notes for wIPS, page 18](#)
- [WCS Screen and Navigation Changes, page 18](#)

## Operational Notes for a Mobility Services Engine

This section lists the operational notes for an mobility services engine and consists of the following topics:

- [Automatic Installation Script for Initial Setup, page 12](#)
- [Parameter Changes During Upgrade from 5.0.x to 6.0.x or 7.0.x, page 12](#)
- [Controller and Associated Mobility Services Engine Must be Mapped to the Same NTP and WCS Server, page 12](#)
- [Mandatory Default Root Password Change, page 12](#)
- [Root Password Configuration, page 13](#)
- [Configuring WCS Communication Username and password using MSE setup.sh, page 13](#)
- [Revoking MSE License Using MSE CLI, page 13](#)
- [Networks with Large Access Point Deployments Might Experience Slower Location Updates, page 14](#)
- [Configuration Changes for Greater Location Accuracy, page 14](#)

## Automatic Installation Script for Initial Setup

An automatic setup wizard is available to help you initially set up the mobility services engine.

An example of the complete automatic setup script is provided in the *Cisco 3350 Mobility Services Engine Getting Started Guide* and *Cisco 3310 Mobility Services Engine Getting Started Guide*.

You can find these documents online at the following URL:

[http://www.cisco.com/en/US/products/ps9742/prod\\_installation\\_guides\\_list.html](http://www.cisco.com/en/US/products/ps9742/prod_installation_guides_list.html)

## Parameter Changes During Upgrade from 5.0.x to 6.0.x or 7.0.x

You will notice a change in the tracking limits when you:

1. Configure tracking limits in 5.0.x.
2. Upgrade to 6.0.x or 7.0.x.

If limits are greater than licensed counts, limits are removed and licensed counts are enforced instead.

(CSCtd57386).

## Controller and Associated Mobility Services Engine Must be Mapped to the Same NTP and WCS Server

Communications between the mobility services engine, WCS, and the controller are in universal time code (UTC). Configuring the network time protocol (NTP) on each system provides devices with the UTC time. An NTP server is required to automatically synchronize time between the controller, WCS, and the mobility services engine.

The mobility services engine and its associated controllers must be mapped to the same NTP server and the same WCS server.

Local time zones can be configured on a mobility services engine to assist network operations center personnel in locating events within logs.

**Note**

You can configure NTP server settings during the automatic installation script. See the *Cisco 3350 Mobility Services Engine Getting Started Guide* or *Cisco 3310 Mobility Services Engine Getting Started Guide* for details on the automatic installation script. You can find these documents online at the following URL:

[http://www.cisco.com/en/US/products/ps9742/prod\\_installation\\_guides\\_list.html](http://www.cisco.com/en/US/products/ps9742/prod_installation_guides_list.html)

## Mandatory Default Root Password Change

You must change the default root password of the mobility services engine during the automatic installation script to ensure optimum network security.

You can also change the password using the Linux command, **passwd**.

**Note**

During first time login, even if you choose Skip (S), you will be prompted to enter the password. This is because it is mandatory to change root password during first time login.

## Root Password Configuration

During ISO image load on MSE and during setup script run, the skip selection option provided for configuring root password is not taken even if selected. This is because the first time login and setup script invocation enforces the default credential change. So this prompts you to change the password (CSCsz44105).

## Password Expiry and SSH Authentication for a Root User

- There is no expiry of password for a root user. So this is not a configurable option through MSE setup.sh
- Root users will be allowed to login through Console. SSH will no longer be used for root user logins. For a root user, you can configure this option using the MSE setup.sh script file. When you configure this option, the SSH daemons will be stopped in MSE.

This is applicable for 3350 Series MSEs from 7.0.200.x release and above.  
(CSCti83419).

## Configuring WCS Communication Username and password using MSE setup.sh

You can configure the WCS Communication username and password using the MSE setup.sh script file. Scenarios which you might encounter while configuring the WCS Username and password:

- If you configure a new WCS username and password, the password provided is applicable for the new WCS username created.
- If you only configure WCS username without configuring WCS password, then the default password admin is applied to the configured username.
- If you only configure WCS password without configuring the WCS username, then the password for the admin user is changed.
- If you configure an existing user name for the WCS username and also configure the password, then the password for that existing user is changed.



### Note

---

These users are API users, and they do not have corresponding OS users on MSE appliance.

---

(CSCtj39741).

## Revoking MSE License Using MSE CLI

You can also revoke an MSE license from MSE CLI manually without using WCS.

To revoke an MSE license:

- 
- Step 1** Login to an MSE using CLI.
  - Step 2** Navigate to /opt/mse/licensing/
  - Step 3** Delete the license file by running this command:
 

```
rm /opt/mse/licensing/license file name.lic
```

 where *license file name* is the name of the license file.

- Step 4** Restart the MSE process.
- ```
/etc/init.d/mseed restart
```
- The MSE license is revoked.
- 

## Networks with Large Access Point Deployments Might Experience Slower Location Updates

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

## Large Burst of Notifications Might Cause Drop of Notifications

A mobility services engine 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.

See CSCsu43201 in the Open Caveats section for workaround.

## 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 mobility services engine (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



**Caution**

Please contact TAC for assistance in modifying these parameters.

---

## Operational Notes for CAS

This section lists the operational notes for a mobility services engine and consists of the following topics:

- [Synchronization Required When Upgrading to Release 7.0.201.0 or Importing CAD Floor Images, page 15](#)
- [Floor Change or Minimum Distance Required for Location Transitions to Post to the History Log, page 15](#)
- [Release 4.1 of AeroScout MobileView Required for Northbound Notifications, page 15](#)
- [Issues with the Aeroscout Tag Engine version 4.0.14.14 bundled with MSE release, page 15](#)
- [Separate Partner Engine Software Install Not Required for Tag Contextual Information, page 16](#)
- [WCS Online Help Outlines Incorrect Software Download Procedure, page 16](#)

- [Non-Cisco Compatible Extensions Tags Not Supported](#), page 16
- [Cisco Compatible Extensions, Version 1 Tags Required at a Minimum](#), page 16
- [Monitoring Information Varies for Clients and Tags](#), page 17
- [Calibration Models and Data Apply Only to Clients](#), page 17
- [Advanced Location Parameters Apply Only to Clients](#), page 17
- [Location History Time stamps Match Browser's Location](#), page 17
- [PDAs with Limited Probe Requests Might Affect Location](#), page 17
- [Mandatory Setting Required on Intel 802.11n and 802.11 b/g/n Client Cards for Accurate Calibration](#), page 17

## Synchronization Required When Upgrading to Release 7.0.201.0 or Importing CAD Floor Images

When upgrading to release 7.0.201.0 from release 6.x (and earlier) you must synchronize after the software upgrade and also when CAD-generated floor images are imported into WCS.

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

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

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

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

## Release 4.1 of AeroScout MobileView Required for Northbound Notifications

If a release of *AeroScout MobileView* earlier than 4.1 is in use, incorrect responses are sent to those northbound notifications received from the mobility services engine. Northbound notifications are then sent again by the mobility services engine, overloading the notification queue and resulting in reports of dropped notifications.

The workaround for this is to upgrade to Mobile View version 4.1(CSCsx56618).

## Issues with the Aeroscout Tag Engine version 4.0.14.14 bundled with MSE release

Tag Location accuracy is greatly reduced if placing APs on floor after MSE synchronization (CSCtd84383).

Post Restore, Aeroscout Engine is not sometimes not able to stay registered (CSCtf91050).

To avoid these issues Aeroscout Tag Engine needs to be upgraded using the following steps:

- 
- Step 1** After your product registration has been verified, go to AeroScout Support Portal and download the appropriate CLE (Context-Aware Engine for Tags + System Manager).
- Step 2** Install a new CLE version following the steps below:
- a. Upload the new CLE installation file, for example: aeroscout-engine-4.2.3.5.x86\_64.tar.gz to MSE under /opt/mse/locserver/partner-engine/ through an SFTP session.

- b. Open a Secure Shell (SSH) session using the IP address of the MSE appliance.
  - c. Stop the MSE using the following command:  

```
/etc/init.d/msed stop.
```
  - d. Entering the following command to change directory to `/opt/mse/locserver/partner-engine/` by :  

```
cd /opt/mse/locserver/partner-engine/.
```
  - e. Enter the following command to remove the AeroScout directory:  

```
rm -Rf aeroscout.
```
  - f. Enter the following commands to install the new CLE:  

```
tar -xf 4.2.3.5.x86_64.tar.gz
```
  - g. Enter the following command to start the MSE:  

```
/etc/init.d/msed start.
```

For more details, see *AeroScout Context-Aware Engine for Tags, for Cisco Mobility Services Engine Upgrade Guide*.
- Step 3** Install AeroScout System Manager on another machine. See the *AeroScout Context-Aware Engine for Tag User Guide*.
- Step 4** Install AeroScout License for Context Aware Engine. See the *AeroScout Context-Aware Engine for Tag Quick Start Guide*.
- 

## Separate Partner Engine Software Install Not Required for Tag Contextual Information

In release 5.2 and later, the partner software that supports tag contextual information (temperature, availability, and location calculations) is bundled into the mobility services engine software. No separate download of partner engine software is required as it was in release 5.1.

## WCS Online Help Outlines Incorrect Software Download Procedure

In WCS online help (OLH), the steps in the “Downloading Software to a Mobility Services Engine Using WCS” section mistakenly notes commands for downloading an *aeroscout-engine*. The *aeroscout-engine* is now bundled within the mobility services engine software. See Chapter 9 of the *Cisco Context-Aware Service Configuration Guide, Release 7.0*, for the correct download steps.

## Non-Cisco Compatible Extensions Tags Not Supported

The mobility services engine does not support non-Cisco CX Wi-Fi tags. Additionally, these noncompliant tags are not used in location calculations or shown on 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 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 (Received Signal Strength Indication) 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.

See Chapter 7, “Context-Aware Planning and Verification” in the *Cisco Context-Aware Software Configuration Guide, Release 7.0* for more details on client calibration.

See 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.

See the “Editing Advanced Location Parameters” section in Chapter 7 of the *Cisco Context-Aware Software Configuration Guide, Release 7.0*.

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

## Location History Time stamps Match Browser’s Location

The WCS time stamp is based on the browser’s location and not on the mobility services engine settings. Changing the time zone on WCS or on the mobility services engine does not change the time stamp for the location history.

## PDA’s with Limited Probe Requests Might Affect Location

Many PDA’s do not continuously send out probe requests after an initial association to the CUWN. Therefore, calculating the location accuracy of such PDA’s using RSSI readings is not always 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 (CSCsI40623).

## Operational Notes for wIPS

This section lists the operational notes for a mobility services engine.

### Mobility Services Engine with wIPS Service Enabled Mistakenly Allows a Controller to Be Assigned to Multiple MSEs

When wIPS is configured on the mobility services engine, a controller can be assigned to more than one mobility services engine in error. By design, a controller can only be assigned to one mobility services engine and an error appears in the WCS page when you synchronize a mobility services engine and a controller (CSCsx38955).

## WCS Screen and Navigation Changes

- *Services* replaces *Mobility* in the navigation bar of WCS.
- A centralized license center to install and view license status is available (Administration > License Center).
- A Switches tab is a new synchronize option to support the new wired Catalyst switch and wired client feature (Services > Synchronize Services).

## New Feature Support

The new features for the mobility services engine, CAS, and wIPS are summarized under separate headings.

This section consists of the following topics:

- [Common CAS and wIPS Features, page 18](#)
- [Context-Aware Software Features, page 19](#)
- [Adaptive Wireless Intrusion Prevention Software Features, page 19](#)

## Common CAS and wIPS Features

Both the CAS and wIPS services can operate on the Cisco 3350, 3355, and 3310 mobility services engines simultaneously. CAS and wIPS can now be deployed with the Cisco 3350, 3355 or 3310 platforms.

These platforms support services separately or concurrently as needed.

For information about the coexistence and scalability of services, see the *Cisco 3300 Series Mobility Services Engine Licensing and Ordering Guide*.

The MSE 3300 Series platform offers the advantage of centralizing support of mobility services within the Cisco WLAN infrastructure and enables third-party application integration through a common API.

## Context-Aware Software Features

This section summarizes the features for Context-Aware Software and consists of the following topics:

- [S60 Enhancement, page 19](#)
- [Cisco Tag Engine, page 19](#)

### S60 Enhancement

Currently client probes are used to extract RSSI information that enables location tracking of these clients. CCXv4 specification included a mandatory S60 component which was later made optional in CCXv5. At the time of this writing, the only 802.11a/b/g Wireless CardBus Adapter which supported the optional S60 features in compliance to CCXv5 is the Cisco AIR-CB21AG-A-K9 (Kitty Hawk). Therefore, all S60 features related testing will be tested with the AIR-CB21AG-A-K9. S60 feature creates a Pathloss Measurement (PLM) Request by an AP to be sent to the client which then causes the clients to send bursts of Pathloss Measurement frames at regular intervals back to the AP. The packets contain information about the channel and the tx power information. These help sort out the issues as detailed below:

- Off channel readings pollute the location calculation. It is not possible determine with certainty off channel probes.
- Once a client associates, the probes are sent less frequently thus there is less information to calculate location more frequently. As well, some clients by design send few or no probe requests, and probe requests on channels subject to DFS rules are initially prohibited.
- Some specific client information such as tx power is missing from probes.

### Cisco Tag Engine

From 7.0.x release onwards, MSE provides the option of using Cisco Tag Engine as an alternative to Aeroscout Tag Engine for all RFID RSSI-based location calculations. You can select any of the engines when adding MSE to the WCS. This selection could be changed at a later point of time using WCS.

You do not require additional licenses for using the Cisco Tag Engine.

For example, if you have purchased a 12000 client license from Cisco, then you can continue to use the same license even for Cisco Tag Engine. The total device count will now include RFID tags too.

## Adaptive Wireless Intrusion Prevention Software Features

This section summarizes the features for the wIPS (Adaptive Wireless Intrusion Prevention Software) and consists of the following topics:

- [Supported on Cisco 3350 3355 and 3310 Mobility Service Engine, page 20](#)
- [wIPS ELM, page 20](#)

## Supported on Cisco 3350 3355 and 3310 Mobility Service Engine

wIPS is supported on Cisco 3350, 3355, and 3310 mobility services engines in release 6.0.x and 7.0.x. Previously, wIPS was supported only on the 3310 mobility services engine in release 5.2.

## wIPS ELM

Broadly, wireless intrusion detection software is a collection of alarms designed to detect an array of attacks on customer networks and equipment. To achieve this goal, a subset of the capabilities of the AirMagnet monitor mode WIPs alarms are being ported to the local mode APs. This allows customers to use their deployed APs to provide protection without needing a separate overlay network.

## Caveats

The following sections list [Open Caveats](#) and [Resolved Caveats](#) in Release 7.0.201.0 for Windows and Linux. For your convenience in locating caveats in Cisco's Bug Toolkit, the caveat titles listed in this section are taken directly from the Bug Toolkit database. These caveat titles are not intended to be read as complete sentences because the title field length is limited. In the caveat titles, some truncation of wording or punctuation might be necessary to provide the most complete and concise description. The only modifications made to these titles are as follows:

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

If you are a registered cisco.com user, view Bug Toolkit on cisco.com at the following website: <http://tools.cisco.com/Support/BugToolKit/>.

To become a registered cisco.com user, go to the following website: <http://tools.cisco.com/RPF/register/register.do>

This section consists of the following topics:

- [Open Caveats, page 21](#)
- [Resolved Caveats, page 21](#)

## Open Caveats

Table 7 lists the open caveats in this release.

**Table 6**      **Resolved Caveats**

ID Number	Caveat Title
<a href="#">CSCtn40852</a>	The images do not appear correctly in accuracy report. Symptom: When an accuracy test is run and the report is generated, error heatmap image and the mac images in the report do not show the floor map correctly. Floormap shows in the corner of the generated image. Condition: This happens only in windows system. Workaround: None.
<a href="#">CSCto53644</a>	The Location History reports show wrong client status. Symptom: When Location history report is generated for a specific client MAC address, the generated report shows wrong client status. Condition: This happens in all 3350 Mobility Services Engine. Workaround: None.

## Resolved Caveats

Table 7 lists the Release 7.0.x caveats resolved in Release 7.0.201.0.

**Table 7**      **Resolved Caveats**

ID Number	Caveat Title
<a href="#">CSCtg42616</a>	The View Only Notification privilege also allows modification to the track definitions.
<a href="#">CSCtg79058</a>	The WiFi TDoA receivers and Chokepoint list page returns empty results.
<a href="#">CSCtg34826</a>	Delete a controller from WCS, synchronize and check the NMSP connection status. The deleted controller does appear in the NMSP connection status.
<a href="#">CSCtg50685</a>	The location accuracy claim of 10 meters, 90% is changed to 7meters, 90% from 7.0.x release onwards. However, the note in the Inspect Location Readiness page still shows 10 meters, 90%.
<a href="#">CSCtj88308</a>	MSE restarts on CertMgmt.sh import failure.
<a href="#">CSCtk09159</a>	ConcurrentModificationException seen in logs.
<a href="#">CSCtk08905</a>	Inconsistency in subject lines for SMTP notifications
<a href="#">CSCtk09237</a>	Exclude probing clients flag excludes associated clients above limit.
<a href="#">CSCtj93339</a>	Devices tracked by MSE showing up with higher quantity on WCS page.

## 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://tools.cisco.com/Support/BugToolKit/>

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

## Troubleshooting

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

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

Click **Troubleshooting**, choose your product, 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 the mobility services engine:

- *Cisco Context-Aware Software Configuration Guide, Release 7.0*  
[http://www.cisco.com/en/US/products/ps9742/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/ps9742/tsd_products_support_series_home.html)
- *Cisco Adaptive Wireless Intrusion Prevention System Configuration Guide, Release 7.0*  
[http://www.cisco.com/en/US/products/ps9817/products\\_installation\\_and\\_configuration\\_guides\\_list.html](http://www.cisco.com/en/US/products/ps9817/products_installation_and_configuration_guides_list.html)
- The WCS Online Help available with the WCS product.

# Obtaining Documentation and Submitting a Service Request

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

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

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

---

Cisco and the Cisco Logo are trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1005R)

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

© 2011 Cisco Systems, Inc. All rights reserved.

