



CHAPTER 2

Installation and Initial Configuration

This chapter describes how to initially install and configure your Cisco 2700 or 2710 Series Location Appliance.

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Note

For configuration details beyond initial installation, refer to the following documentation:

- *Cisco Location Appliance Configuration Guide*
- *Cisco Wireless Control System Configuration Guide*

This documentation can be found at the following links:

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

http://www.cisco.com/en/US/products/ps6305/products_installation_and_configuration_guides_list.html

Collecting Required Tools and Information

This section lists the tools and information you need to install and configure the location appliance.

Location Appliance Hardware

You need this location appliance hardware:

- A location appliance
- Network cables
- One rack unit (RU) in a EIA-standard rack

CLI Console Requirements

You need this equipment to connect to the location appliance console:

- VT-100 terminal emulator on CLI console laptop, desktop, or palmtop
- Null modem serial cable to connect CLI console and location appliance DB-9 console port

Cisco WCS Server

You need a built-in Cisco WCS 3.0 or later FTP server required for location appliance software updates.



Note

Cisco WCS uses an integral FTP server. Third-party FTP servers cannot run on the same workstation as WCS because they use the same communication port.



Note

Please refer to the location appliance release notes for WCS and location appliance compatibility updates at http://www.cisco.com/en/US/products/ps6386/prod_release_notes_list.html.

System Configuration Parameters

Obtain these environmental parameters from your network administrator:

- A host name for the location appliance
- A broadcast address for the location appliance
- An IP address for the Ethernet-0 (eth0) port (location appliance back panel)
- A net mask for the eth0 port
- An IP address for the eth0 port gateway
- An IP address for the Ethernet-1 (eth1) port (location appliance back panel) (installation optional)
- A net mask for the eth1 port (only required if eth1 is installed)
- A IP address for the eth1 port gateway (only required if e1 is installed)

**Note**

Either the Ethernet 0 or Ethernet 1 port can be used to transmit location updates to WCS. However, Ethernet 0 is generally configured to communicate with WCS and Ethernet 1 port is generally used for out-of-band management. Both ports are configured as part of the installation script described in the “[Configuring the Location Appliance](#)” section on page 2-6.

Choosing a Physical Location

The location appliance can be installed almost anywhere, but security and reliability concerns can be addressed by installing the location appliance in a secure equipment room or wiring closet.

For maximum reliability, mount the location appliance using the following guidelines:

- Install the location appliance in a EIA-standard rack. Verify that one rack unit (RU) is required for each location appliance.
- Ensure that there is sufficient room at the back of the location appliance for all cables and connectors.
- Ensure you can reach the location appliance and all cables.
- Ensure that water or excessive moisture cannot get into the location appliance.
- Ensure that airflow through the location appliance is not obstructed. Leave at least 4 inches clear on the front, right, and back sides of the location appliance chassis.
- Verify that the ambient temperature remains between 0 and 40° C (32 and 104° F).
- Ensure the location appliance is within 328 ft. (100 m) equivalent distance to any equipment connected to the 10/100/1000BASE-T ports.
- Ensure that the power cord can reach a 110 or 220 VAC grounded electrical outlet.

Installing the Chassis

**Warning**

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

The location appliance is shipped with integral rack-mounting ears ([Figure 2-1](#)). Mount the location appliance as follows:

- When you are mounting the location appliance in an EIA-standard rack (one rack unit required), attach the integral mounting ears to the equipment rack using the factory-supplied screws.

Figure 2-1 Cisco 2700 and 2710 Front Panel

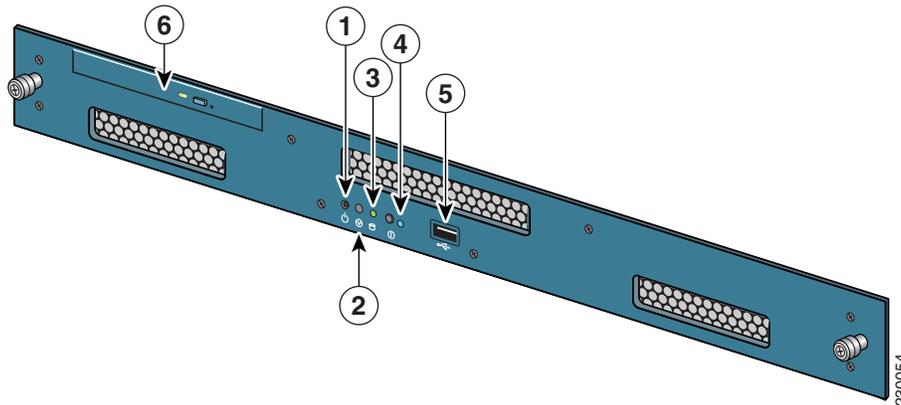


Table 2-1 Front Panel Components

Item No.	Description
1	Power switch. Press to turn system on or off. To power off, press and hold power switch for 4 seconds.
2	Reserved.
3	Hard drive indicator.
4	System LED. See Table 2-2 for details.
5	USB port (Reserved). Do not use as console port.
6	DVD tray (Reserved).

Table 2-2 System LED

Color	System Status
Blinking Amber	Indicates an event has occurred such as open system lid, incorrect fan speed, temperature or power supply tolerance exceeded.
Blinking Blue	Blinks on front and rear panel when the (I) button on the front panel is pressed and there are no outstanding events. Back panel blue light is designed to identify the unit within a rack mount.

Connecting and Using the CLI Console

For initial system configuration, use the command-line interface (CLI) console. The CLI console connects to the location appliance back-panel DB9 console port. [Figure 2-2](#) shows the console port on the back panel of the location appliance. Back panel components are described in [Table 2-3](#). Console port pinouts are shown in [Table 2-4](#).

Use these terminal emulator settings for the CLI console session:

- 9600 baud
- 8 data bits
- no flow control
- 1 stop bit
- no parity

Figure 2-2 Cisco 2700 and 2710 Back Panel

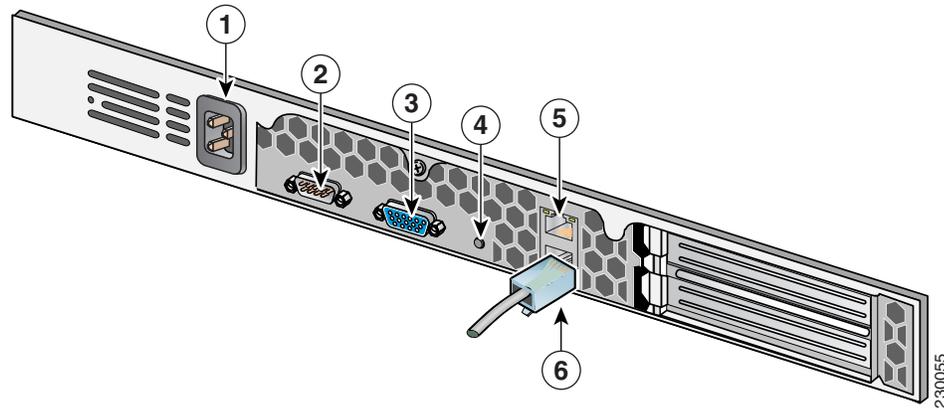


Table 2-3 Back Panel Components

Item No.	Description
1	AC power receptacle.
2	Console/serial DB-9 port.
3	Video output (Reserved).
4	Reserved.
5	Ethernet 0 connector.
6	Ethernet 1 connector.

Table 2-4 Pin Assignments for DB9 Pinout

Pin	Assignments	Description
1	DCD	Data Carrier Detect
2	RD	Receive Data
3	TD	Transmit Data

Table 2-4 Pin Assignments for DB9 Pinout (continued)

Pin	Assignments	Description
4	DTR	Data Terminal Ready
5	SG	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	Ring	Ring Indicator

Powering On the Location Appliance

When you apply AC power to a location appliance, the bootup script initializes the operating system and its stored configurations. You are also prompted to enter a user ID and password and enter key configuration details.

Follow these steps to power up the location appliance:

-
- Step 1** Plug an AC power cord into the back of the location appliance ([Figure 2-2](#), Item 1), and connect the other end to a grounded 100 to 240 VAC 50/60 Hz electrical outlet. The end of the power cord that plugs into the location appliance conforms with the IEC 320 standard.
- Step 2** Use the front-panel ON/OFF switch to turn the location appliance on ([Figure 2-1](#), Item 1).
- Step 3** At the login prompt, enter the location appliance operating user ID and password. The default user ID is *root* and the default password is *password*. The user ID and password are case sensitive.
- You are now logged into the location appliance operating system.
- Continue to the [“Configuring the Location Appliance” section on page 2-6](#).
-

Configuring the Location Appliance

Minimal configuration is done for the location appliance as part of installation using the console. All configuration beyond the initial installation can be done with WCS.

Both an automatic and manual installation script are available depending on the software version.

- For all releases after 2.1.x, an automatic installation script appears after the system has powered up and the user ID and password are entered. Details are provided in the [“Automatic Installation Script” section on page 2-7](#).

- For all releases prior to 2.1.x, manual entry of the installation instructions using the console port is required. Details on the manual installation script is provided in the [“Manual Installation Script” section on page 2-10](#).

**Note**

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

- For releases 2.1.x and later, you are prompted to change the password during the automatic setup script.
- You can also change the password using the Linux command, “passwd.”

Automatic Installation Script

Follow these steps to configure the location appliance using the automatic script (available for releases 2.1.x and later):

Script displays the following to the screen:

localhost.localdomain login:

- Enter the login *root*.

Password:

- Enter the password *setup*.

Setup parameters via Setup Wizard (yes/no) [yes]:

Enter **yes** if you want to use the setup wizard or **No** if you want to manually set the parameters. Only experienced Linux system administrators should opt to configure the system using the setup script. The option in square brackets is the default. You can press Enter to choose that default.

Current hostname=[localhost]

Configure hostname? (Y)es/(S)kip/(U)se default [Yes]:

The host name is a unique name that can identify the device on the network.

Enter a host name [localhost]:

The host name should start with a letter, end with a letter or number, and contain only letters, numbers, and dashes.

Current domain=[localdomain]

Configure domain name? (Y)es/(S)kip/(U)se default [Yes]:

A domain name specifies to which network domain this device belongs.

Enter a domain name [localdomain]:

The domain name should start with a letter, end with a valid domain name suffix (such as .com), and contain only letters, numbers, dashes, and dots.

Configure root password? (Y)es/(S)kip/(U)se default [Yes]:

Press **Enter** to choose **Yes**.

Enter root password:

Confirm root password:

Enter a password for the superuser and confirm it by typing it again. Your typing is not visible.

Remote root login is currently disabled.

Configure remote root access? (Y)es/(S)kip/(U)se default [Yes]:

To enable root login over secure shell for this machine, choose **Yes**. This allows a *root* login both from the console and using secure shell (SSH) version 2 (v2). Otherwise, choose **Skip**. If you choose to leave remote root login disabled, then a *root* login can only occur from the console.

Enable remote root login (yes/no) [no]

Choose **Yes** to allow remote login through SSH v2 in addition to console login. Choose no to allow *root* login only from the console.

Current IP address=[]

Current eth0 netmask=[]

Current gateway address=[]

Configure eth0 interface parameters? (Y)es/(S)kip/(U)se default [Yes]:

Choose **Yes** to begin setup for the main ethernet interface.

Enter eth0 IP address:

Enter an IP address for the main ethernet interface of this machine.

Enter network mask [255.255.0.0]:

Enter the network mask for the IP address you provided.

Enter default gateway address:

Provide the default gateway that must be reachable from the main ethernet (eth0) interface.

The second ethernet interface is currently disabled for this machine.

Configure eth1 interface parameters? (Y)es/(S)kip/(U)se default [Yes]:

Choose **Yes** if you want to provide information for a second ethernet (eth1) interface.

Note A network administrator can provide you with the IP address, network mask and default gateway address for the following prompts.

Note Entry of a second ethernet interface (eth1) can be skipped by entering **none**, and the next prompt you would see is for DNS setup.

Enter eth1 IP address [none]:

Enter an IP address for the second ethernet interface (eth1) on this machine.

Enter network mask [255.0.0.0]:

Enter the network mask for the IP address you specified.

Note Because you entered an IP address and mask for the second interface (eth1) of this machine, you are given the opportunity to define up to two static routing entries for that interface.

Note If you do not want to configure any static routes, enter **none** at the network address prompt seen below. You will not be prompted for the network mask and gateway address.

Note If you want to configure only one route, you can enter **none** when you are prompted for the second network address. You will not be prompted for the network mask and gateway address for the second route.

Enter network [none]:

Enter the network address to define a static route for eth1.

Enter network mask [255.0.0.0]:

Enter the network mask for the network address you entered above.

Enter gateway address:

Enter a gateway address for the network address and network mask you provided.

Domain Name Service (DNS) Setup

DNS is currently enabled.

No DNS servers currently defined

Configure DNS related parameters? (Y)es/(S)kip/(U)se default [Yes]:

You can enter up to three DNS servers, but you can also leave it disabled. No servers have been defined.

Enable DNS (yes/no) [yes]:

Choose **Yes** to enable DNS.

Enter primary DNS server IP address:

Enter the IP address for this DNS server.

Enter backup DNS server IP address (or none) [none]:

Enter the backup IP address. If you enter a second DNS server, you are prompted for an optional third server.

Configure timezone? (Y)es/(S)kip/(U)se default [Yes]:

Choose **Yes** to configure the timezone.

Please identify a location so that time zone rules can be set correctly.

Please select a continent or ocean.

- 1) Africa
- 2) Americas
- 3) Antarctica
- 4) Arctic Ocean
- 5) Asia
- 6) Atlantic Ocean
- 7) Australia
- 8) Europe
- 9) Indian Ocean
- 10) Pacific Ocean
- 11) UTC - I want to use Coordinated Universal Time.
- 12) Return to previous setup step (^).

You need to select a location so that time zone rules can be set correctly. Choose the number for the appropriate continent or ocean.

Please select a country.

You are given a choice of countries based on the continent or ocean you selected. Choose the appropriate number.

Please select one of the following time zone regions.

Enter the number for the desired time zone region based on the country you selected.

The timezone information you chose is given.

Is the above information OK?

- 1) Yes
- 2) No

Choose **Yes** to verify if the information is correct. If No, you will be taken through the series of prompts again.

NTP is currently disabled.

Configure NTP related parameters? (Y)es/(S)kip/(U)se default [Yes]:

If you choose to enable network time protocol (NTP), the system is configured from the NTP servers you select. If you choose Skip, you are prompted to enter the current date and time.

Enable NTP (yes/no) [no]:

If you choose Yes, you will be required to enter an NTP server name or address.

Enter NTP server name or address:

Enter another NTP server IP address (or none) [none]:

All of your selections are shown. You are then asked to verify all the setup information you provided. You can enter Yes to proceed with the configuration, No to make more changes, or ^ to go back to the previous step.

Is the above information correct (yes, no, or ^):

If yes, the configuration information will be applied. Cisco recommends that you reboot the system when prompted to ensure that changes occur.

**Note**

The message "***Configuration successful***" appears on the screen when complete.

The next time you log in using *root*, you will only get the Linux shell prompt and not the setup script. You can rerun the setup script at any time to change settings by logging in using *root* and running `/opt/locserver/setup/setup.sh`.

The setup script generates a log file that can be found at `/opt/locserver/logs/setup.log`.

Manual Installation Script

Follow these steps to manually configure the location appliance (required for releases earlier than 2.1.x):

-
- Step 1** Verify that the location appliance application software is loaded on the hard drive.
- In the location appliance CLI interface, go to the application directory, enter **ls** to list the directory contents, and verify that the script file `locserverd` is in the `/etc/init.d` directory.
 - If the `/etc/init.d` application directory does not contain the location appliance software, load the location appliance software as described in [“Downloading Software Using a Console Port” section on page 2-17](#).
- Step 2** Change the location appliance environment variables for your network. Use the System Configuration Parameter information collected and referenced in the [“Collecting Required Tools and Information” section on page 2-2](#) and follow these steps:
- Verify that the location appliance application is not running:


```
# /opt/locserver/bin/getserverinfo
-- OR --
# /etc/init.d/locserverd status
com.aes.common.util.AesException: Failed to connect to server: http://localhost: 8001
    at com.aes.client.AesClient.connect(AesClient.java:183)
    at com.aes.location.test.AesAbstractTest.init(AesAbstractTest.java:179)
    at com.aes.location.test.admin.AesTestGetServerInfo.main(AesTestGetServerInfo.java:75)
    at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
    at sun.reflect.NativeMethodAccessorImpl.invoke(Unknown Source)
    at sun.reflect.DelegatingMethodAccessorImpl.invoke(Unknown Source)
    at java.lang.reflect.Method.invoke(Unknown Source)
    at com.zerog.lax.LAX.launch(DashoA8113)
    at com.zerog.lax.LAX.main(DashoA8113)
#
```
 - If the result in Step a shows that the location appliance is running, stop the location appliance application:


```
# /etc/init.d/locserverd stop
Shutting down locserverd: Request server shutdown now...
Waiting for server...2 secs
Waiting for server...4 secs
Server shutdown complete.
#
```
 - (Optional) If necessary, use the **vi** editor to change the following line in the `/etc/hosts` file to name the location appliance:


```
# Do not remove the following line, or various programs
# that require network functionality will fail.
127.0.0.1          <Location Appliance hostname> localhost.localdomain localhost
```

- d. Use the **vi** editor to change the following lines in the `/etc/sysconfig/network` file to create the location appliance hostname and gateway:

```
NETWORKING=yes
HOSTNAME=<Location Appliance hostname>
GATEWAY=<Gateway IP Address>
```



Note When the location appliance is a dual-home machine, this gateway is used for both ports.

- e. Use the **vi** editor to change the following lines in the `/etc/sysconfig/network-scripts/ifcfg-eth0` file to create the location appliance broadcast address, IP address, netmask, network, and gateway for back-panel Ethernet Port 0:

```
Intel Corp. |82547GI Gigabit Ethernet Controller
DEVICE=eth0
BOOTPROTO=none
BROADCAST=<Broadcast Address>
IPADDR=<Ethernet-0 IP Address>
NETMASK=<Ethernet-0 Netmask>
NETWORK=<Network IP Address>
ONBOOT=yes
TYPE=Ethernet
USERCTL=no
PEERDNS=yes
GATEWAY=<Gateway-0 IP Address>
```

- f. (Optional) If you need to use the second Ethernet port, use the **vi** editor to change the following lines in the `/etc/sysconfig/network-scripts/ifcfg-eth1` file to create the location appliance broadcast address, IP address, netmask, network, and gateway for back-panel Ethernet Port 1.

```
Intel Corp. |82547GI Gigabit Ethernet Controller
DEVICE=eth1
BOOTPROTO=none
BROADCAST=<Broadcast Address>
IPADDR=<Ethernet-1 IP Address>
NETMASK=<Ethernet-1 Netmask>
NETWORK=<Network IP Address>
ONBOOT=yes
TYPE=Ethernet
USERCTL=no
PEERDNS=yes
GATEWAY=<Gateway-1 IP Address>
```



Note For best results, configure only one gateway for the location appliance.

- g. To restart the location appliance network interface values, enter **service network restart** and select **OK** to reboot the location appliance.
- h. To change the location appliance date and time, enter:

```
# /bin/date -s "11/20/2005 12:48:00"
# /sbin/hwclock --utc --systohc
```



Note After the appliance is started, you must stop it before you can change the date, time, or timezone.

- i. To change the location appliance timezone, copy the appropriate timezone file to `/etc/localtime`:

```
# cp /usr/share/zoneinfo/<your country>/<your timezone> /etc/localtime
```

Verify that the file `/etc/sysconfig/clock` is defined as the following without any ZONE specified:

```
UTC=true
ARC=false
```

Configuring an NTP Server

You can configure NTP servers to set up the time and date of the 2700 and 2710 location appliances.



Note

You are automatically prompted to enable NTP and enter NTP server IP addresses as part of the automatic installation script. For more details on the automatic installation script, refer to the *Cisco 2700 Series Wireless Location Appliance Installation and Configuration Guide* at the following link: http://www.cisco.com/en/US/products/ps6386/prod_installation_guides_list.html

The `/etc/ntp.conf` file is the main configuration file in which you place the IP addresses or DNS names of the NTP servers you want to use (see the following example).

```
server ntp.mydomain.com # my corporate NTP
server 192.168.2.5 # my second NTP
```

To get NTP configured to start at bootup, enter the following:

```
[root@loc-server1]# chkconfig ntpd on
```

To start, stop, and restart NTP after booting, follow these examples:

```
[root@loc-server1]# service ntpd start
[root@loc-server1]# service ntpd stop
[root@loc-server1]# service ntpd restart
```

After configuring and starting NTP, make sure it is working properly. To test whether the NTP process is running, use the following command:

```
[root@loc-server1]# pgrep ntpd
```

You should get a response of plain old process ID numbers.

Enter the `ntpdate -u<serverIP>` command to force your server to become instantly synchronized with its NTP servers before starting the NTP daemon for the first time (see the following example).

```
[root@loc-server1]# service ntpd stop
[root@loc-server1] ntpdate -u 192.168.1.100
Looking for host 192.168.1.100 and service ntp
host found: ntpl.my-site.com
12 Aug 08:03:38 ntpdate[2472]: step time server 192.168.1.100 offset 28993.084943 sec
[root@smallfry tmp]# service ntpd start
```



Note

For more information on the NTP configuration, consult the Linux configuration guides.

Launching the Location Appliance

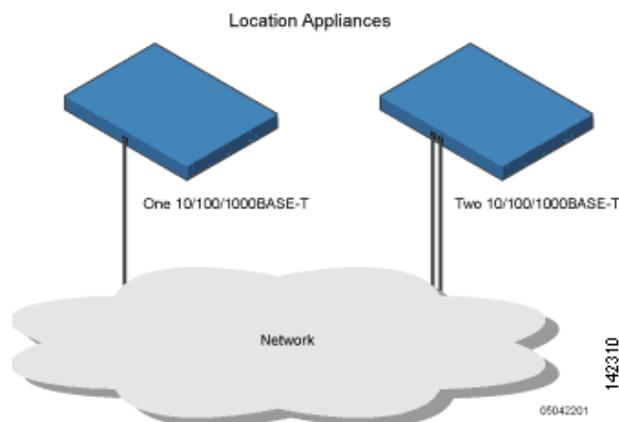
The location appliance automatically launches its application software upon reboot.

To start the application manually, enter `/etc/init.d/locserverd start`.

Connecting to the Network

Figure 2-3 shows two possible connections from the network to the location appliance. Use Ethernet Category-5 or higher Ethernet cables to connect the location appliance to your network equipment.

Figure 2-3 Network Connections to the Location Appliance



Verifying the Location Appliance Software State

You can verify the location appliance software state at any time. In the location appliance CLI interface, enter `/opt/locserver/bin/getserverinfo`. If the location appliance is running, the command output looks like this example:

```

-----
Server Config
-----
Product name: Cisco Wireless Location Appliance
Version: 2.1.39.0
Use HTTPS: false
Port: 8001
Log Modules: 4036
Log Level: TRACE
Days to keep events: 2
Keep absent data in mins: 1440
Session timeout in mins: 30
DB backup in days: 0
-----
Server Monitor
-----
Start time: Tue May 03 10:30:45 PDT 2006
Server current time: Wed May 04 12:10:44 PDT 2006
Server timezone: America/Los_Angeles

```

```

Restarts: 0
Used Memory: 7849768
Allocated Memory: 17477632
Max Memory: 530907136
DB virtual memory: 14501
DB disk memory: 81952768
Active Sessions: 3
-----
Active Sessions
-----
Session ID: 25994
Session User ID: 1
Session IP Address: 127.0.0.1
Session start time: Wed May 04 12:10:44 PDT 2006
Session last access time: Wed May 04 12:10:44 PDT 2006
Session ID: 5693
Session User ID: 1
Session IP Address: 1.100.52.13
Session start time: Tue May 03 10:31:15 PDT 2006
Session last access time: Wed May 04 12:06:19 PDT 2006
Session ID: 16228
Session User ID: 1
Session IP Address: 1.100.52.11
Session start time: Tue May 03 10:39:22 PDT 2006
Session last access time: Wed May 04 12:09:59 PDT 2006
#

```

If the location appliance is not running, the command output looks like this example:

```

com.aes.common.util.AesException: Failed to connect to server: http://localhost:8001
    at com.aes.client.AesClient.connect(AesClient.java:218)
    at com.aes.location.test.AesAbstractTest.init(AesAbstractTest.java:181)
    at
com.aes.location.test.admin.AesTestGetServerInfo.main(AesTestGetServerInfo.java:75)
    at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
    at sun.reflect.NativeMethodAccessorImpl.invoke(Unknown Source)
    at sun.reflect.DelegatingMethodAccessorImpl.invoke(Unknown Source)
    at java.lang.reflect.Method.invoke(Unknown Source)
    at com.zerog.lax.LAX.launch(DashoA8113)
    at com.zerog.lax.LAX.main(DashoA8113)
#

```

Manually Stopping Location Appliance Software

The location appliance software automatically runs after initial configuration and each reboot. To manually stop the software, enter `/etc/init.d/locserverd stop`.

Updating Location Appliance Software

You can update the location appliance using the WCS server or manually download the software using a console port connected to the location appliance.

**Note**

For the latest WCS and location appliance compatibility and installation notes, refer to the appropriate location release note at http://www.cisco.com/en/US/products/ps6386/prod_release_notes_list.html.

Before downloading and updating software on the location appliance, note the following:

- The location appliance (server) image is compressed.
 - If upgrading a location appliance installed with a pre-2.0 version, you must first download and decompress the file (`gzip -d imageFilename`) **before** installing the image. After decompressing the file, run the resulting *.bin installer file.

Enter the following command after the file download to make the file executable:

```
chmod + x. *.bin
```

- If upgrading a location appliance installed with 2.0 or later version of the location server image already installed, the software image automatically decompresses during its download from WCS.
- A backup of location appliance software releases 2.0.x and later cannot be restored on any location appliance running an earlier software release.
 - Before you upgrade a location appliance to 2.0.x release or later, Cisco recommends that you create a backup of the earlier release and archive it. This will enable you to convert an upgraded system to an earlier release, if necessary.
- SSH version 1 (v1) is no longer supported in releases 2.1.x and later due to known security issues; however, SSH v2 is supported
 - If you are installing release 2.1.x or later, you must reboot the location appliance after software installation to remove support of SSH v1.

- If you are installing release 2.0.x or earlier, you must edit the `sshd_config` file to remove support for SSH v1 by adding **Protocol 2** to the end of the script as noted below.

```
#override default of no subsystems
Subsystem sftp /usr/libexec/openssh/sftp-server
Protocol 2
```

With this addition, the script will match that of releases 2.1.x and later.

A restart is required to reread the config file after the edit is made.

- Approximately 5 minutes is required for the newly loaded location appliance software version to appear on the WCS Location > Location Server screen.

**Note**

WCS queries for location appliance connectivity and database updates every 5 minutes by default.

Downloading Software Using the WCS Server

Follow these steps to download software to a location appliance using WCS:

-
- Step 1** Verify that you can ping the location appliance from the Cisco WCS Server or an external FTP server, whichever you are going to use for the application code download.
 - Step 2** In Cisco WCS, choose **Location > Location Servers**.
 - Step 3** Click the name of the server that is to receive the software download.
 - Step 4** Click **Maintenance** (left).
 - Step 5** Click **Download Software**.
 - Step 6** To download software, do one of the following:

- To download software listed in the WCS directory, select **Select from uploaded images to transfer into the Location Server**. Then, choose a binary image from the drop-down menu.

Cisco WCS downloads the binary images listed in the drop-down menu into the FTP server directory you have specified during the Cisco WCS installation.



Note If upgrading a location server installed with a pre-2.0 version, you must first download and decompress the file (`gzip -d imageFilename`) **before** installing the image. After decompressing the file, run the resulting *.bin installer file.



Note If you have a 2.0 or later version of the location server image already installed, the software image automatically decompresses during its download from WCS.

- To use downloaded software available locally or over the network, select the **Browse a new software image to transfer into the Location Server** and click **Browse**. Locate the file and click **Open**.

- Step 7** Enter the time in seconds (between 1 and 999) after which software download times out.
- Step 8** Click **Download** to send the software to the /opt/installers directory on the location server.



Note After the image has been transferred to the location appliance, follow the instructions on the screen. Log in to the location appliance's CLI, stop the server, and run the installer image from the /opt/installers directory.

Downloading Software Using a Console Port

If you do not want to update the location appliance software using WCS, follow these steps to upgrade the software manually using CLI and a console:

- Step 1** Transfer the new location appliance code onto the hard drive.
- Log in as root, and use the binary setting to send the application code (for example, *AIR-LOC2700-L-K9-1-2-17-0.bin*; 1-2-17-0 is the release number and changes with each release) from an external FTP server root directory. Your entries should look like this example:



Note The default login name for the FTP server is *ftp-user*.

```
# cd /opt/installers
# ftp <FTP Server IP address>
Name: <login>
Password: <password>
binary
get AIR-LOC2700-L-K9-1-2-17-0.bin
<CTRL-Z>
#
```

- Verify that the application code (*AIR-LOC2700-L-K9-x-x-x-x.bin*) is in the location appliance `/opt/installers` directory.
 - Make sure that the *AIR-LOC2700-L-K9-x-x-x-x.bin* file has execute permissions for the root user. If not, enter **chmod 755** *AIR-LOC2700-L-K9-x-x-x-x.bin*.
- Step 2** Manually stop the old location appliance application.
- Log in as root and enter **/etc/init.d/locserverd stop**.

- Step 3** Enter **/opt/installers/AIR-LOC2700-L-K9-x-x-x-x.bin** to install the new location appliance application files.

- Step 4** Start the new location appliance application by entering the following command:

```
/etc/init.d/locserverd start
```



Caution Only complete the next step that uninstalls the application files, if the system instructs you to do so. Removing the application files unnecessarily erases your historical data.

- Step 5** Enter **/opt/locserver/uninstall/uninstall** to uninstall the location appliance application files.

Operational Notes

Recovering a Lost Root Password

If you lose or forget the root password for the location appliance, do the following:

-
- Step 1** When the GRUB screen comes up, press **Esc** to enter the boot menu.
 - Step 2** Press **e** to edit.
 - Step 3** Navigate to the line beginning with "kernel," and press **e**.
At the end of the line enter a space and the number one (**1**). Press **Enter** to save this change.
 - Step 4** Press **b** to begin boot sequence.
At the end of the boot sequence, a shell prompt appears.
 - Step 5** You can change the root password by entering the **passwd** command.
 - Step 6** Enter and confirm the new password.
 - Step 7** Restart the machine.

Using HTTPS or Non-Default Ports

When you have a non-default port or HTTPS turned on, you must pass the correct information along with the command. For example, *getserverinfo* must include `-port <<port>> -protocol <<HTTP/HTTPS>>`. Similarly, for stopping the server, *stoplocserver* - `port <<port>> -protocol <HTTP/HTTPS>>`