



Performing System Tasks

This chapter describes how to use WCS to perform system-level tasks. It contains these sections:

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Adding System Components to the WCS Database

This section describes how to add a controller and a location appliance to the WCS database.

Adding a Controller to the WCS Database

Follow these steps to add a controller to the WCS database.

**Note**

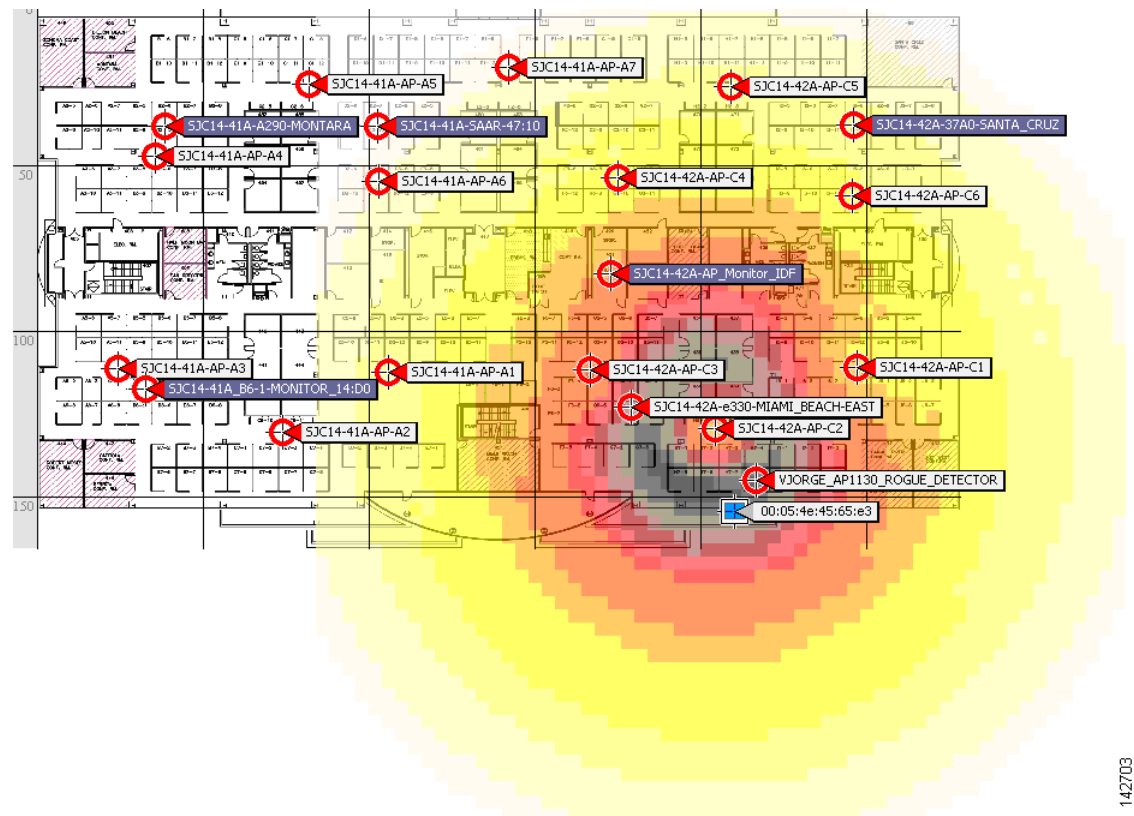
Cisco recommends that you manage controllers through the controller dedicated service port for improved security. However, when you manage controllers that do not have a service port (such as 2000 and 2100 series controllers) or for which the service port is disabled, you must manage those controllers through the controller management interface.

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- Step 1** Log into the WCS user interface.
- Step 2** Click **Configure > Controllers** to display the All Controllers page.
- Step 3** From the Select a command drop-down menu, choose **Add Controller** and click **GO**.
- Step 4** On the Add Controller page, enter the controller IP address, network mask, and required SNMP settings.
- Step 5** Click **OK**. WCS displays a Please Wait dialog box while it contacts the controller and adds the current controller configuration to the WCS database. It then returns you to the Add Controller page.
- Step 6** If WCS does not find a controller at the IP address that you entered for the controller, the Discovery Status dialog displays this message:
- No response from device, check SNMP.
- Check these settings to correct the problem:
- The controller service port IP address might be set incorrectly. Check the service port setting on the controller.
 - WCS might not have been able to contact the controller. Make sure that you can ping the controller from the WCS server.
 - The SNMP settings on the controller might not match the SNMP settings that you entered in WCS. Make sure that the SNMP settings configured on the controller match the settings that you entered in WCS.
- Step 7** Add additional controllers if desired.
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Adding a Location Appliance to the WCS Database

To add a location appliance to the WCS database, follow the instructions in Chapter 2 of the *Cisco Location Appliance Configuration Guide*. WCS without the use of the location appliance supports on-demand or query-based location. This version visually displays a single device's location at a time, placing each single device on the floor map associated with the floor it is on. Location determination using this version of WCS with location is captured in [Figure 4-1](#) where the blue icon is the only visual presented of a Wi-Fi client device.

Figure 4-1 Location Determination



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Additional Functionality with Location Appliance

Cisco 2700 series location appliances operate within the Cisco Wireless LAN Solution infrastructure. 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.

Up to 2,500 laptop clients, palmtop clients, VoIP telephone clients, active Radio Frequency Identifier (RFID) asset tags, rogue access points and clients can be tracked.

Selectable filters enable you to search collected data and display specific elements on a map. For example, a biomedical user may want to display only active RFID tags that are tracking key medical equipment rather than access points or clients for a given floor.

Using WCS to Update System Software

Follow these steps to update controller (and access point) software using WCS.

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- Step 1** Enter **ping ip-address** to be sure that the WCS server can contact the controller. If you use an external TFTP server, enter **ping ip-address** to be sure that the WCS server can contact the TFTP server.



Note When you are downloading through a controller distribution system (DS) network port, the TFTP server can be on the same or a different subnet because the DS port is routable.

- Step 2** Click the **Configure > Controllers** to navigate to the All Controllers page.
- Step 3** Check the check box of the desired controller, choose **Download Software** from the Select a command drop-down menu, and click **GO**. WCS displays the Download Software to Controller page.
- Step 4** If you use the built-in WCS TFTP server, check the **TFTP Server on WCS System** check box. If you use an external TFTP server, uncheck this check box and add the external TFTP server IP address.
- Step 5** Click **Browse** and navigate to the software update file (for example, AS_2000_release.aes for 2000 series controllers). The files are uploaded to the root directory which was configured for use by the TFTP server. You can change to a different directory.



Note Be sure that you have the correct software file for your controller.

- Step 6** Click **Download**. WCS downloads the software to the controller, and the controller writes the code to flash RAM. As WCS performs this function, it displays its progress in the Status field.
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Using WCS to Enable Long Preambles for SpectraLink NetLink Phones

A radio preamble (sometimes called a *header*) is a section of data at the head of a packet. It contains information that wireless devices need when sending and receiving packets. Short preambles improve throughput performance, so they are enabled by default. However, some wireless devices, such as SpectraLink NetLink phones, require long preambles.

To optimize the operation of SpectraLink NetLink phones on your wireless LAN, follow these steps to use WCS to enable long preambles.

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- Step 1** Log into the WCS user interface.
- Step 2** Click **Configure > Controllers** to navigate to the All Controllers page.
- Step 3** Click the IP address of the desired controller.
- Step 4** In the sidebar, click **802.11b/g > Parameters**.
- Step 5** If the *IP Address > 802.11b/g Parameters* page shows that short preambles are enabled, continue to the next step. However, if short preambles are disabled, which means that long preambles are enabled, the controller is already optimized for SpectraLink NetLink phones, and you do not need to continue this procedure.

- Step 6** Enable long preambles by unchecking the **Short Preamble** check box.
- Step 7** Click **Save** to update the controller configuration.
- Step 8** To save the controller configuration, click **System > Commands** in the sidebar, **Save Config To Flash** from the Administrative Commands drop-down menu, and **GO**.
- Step 9** To reboot the controller, click **Reboot** from the Administrative Commands drop-down menu and **GO**.
- Step 10** Click **OK** when the following message appears:

Please save configuration by clicking "Save Config to flash". Do you want to continue rebooting anyways?

The controller reboots. This process may take some time, during which WCS loses its connection to the controller.



Note You can use a CLI session to view the controller reboot process.

Creating an RF Calibration Model

If you would like to further refine WCS Location tracking of client and rogue access points across one or more floors of a building, you have the option of creating an RF calibration model that uses physically collected RF measurements to fine-tune the location algorithm. When you have multiple floors in a building with the same physical layout as the calibrated floor, you can save time calibrating the remaining floors by using the same RF calibration model for the remaining floors.

The calibration models are used as RF overlays with measured RF signal characteristics that can be applied to different floor areas. This allows the Cisco WLAN Solution installation team to lay out one floor in a multi-floor area, use the RF calibration tool to measure and save the RF characteristics of that floor as a new calibration model, and apply that calibration model to all the other floors with the same physical layout. See Chapter 5 for calibration instructions.

