



Cisco Smart+Connected Remote Management Console Administration Guide

Release 1.1

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Preface

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 an RSS feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service. Cisco currently supports RSS Version 2.0.

Related Documentation

For more information about the Cisco Smart+Connected Residential products, see the following documents and websites:

Subject / Document Title	Location
General	
Product Information and Home Page	www.cisco.com/go/smartconnectedresidential
Data Sheets	http://www.cisco.com/en/US/products/ps12445/products_feature_guides_list.html
Cisco 1-Year Limited Hardware Warranty Terms	www.cisco.com/go/smartconnectedresidential/warranty
Regulatory Compliance and Safety Information for Cisco Smart+Connected Residential Products	www.cisco.com/go/smartconnectedresidential/docs
Cisco Support	www.cisco.com/cisco/web/support/
ReleaseNotes	
Release Notes for the Cisco Smart+Connected Residential Solution	www.cisco.com/go/smartconnectedresidential/docs
Installation and Configuration	
Cisco Smart+Connected Residential Installation and Configuration Guide	www.cisco.com/go/smartconnectedresidential/docs
Cisco RMS Installation and Administration	

Cisco Smart+Connected Remote Management Console Administration Guide	www.cisco.com/go/smartconnectedresidential/docs
Cisco Smart+Connected Remote Management Server Installation Guide	
Hardware Reference Guides	
Cisco Smart+Connected Controller 200 Reference Guide	www.cisco.com/go/smartconnectedresidential/docs
Cisco Smart+Connected Controller 250 Reference Guide	
Cisco Smart+Connected Controller 800 Reference Guide	
Cisco Smart+Connected 7" In-wall Display Reference Guide	
Cisco Smart+Connected Portable Tablet Reference Guide	
Cisco Smart+Connected I/O Extender Reference Guide	
Cisco Smart+Connected Universal Remote 150 Reference Guide	
Cisco Smart+Connected Universal Remote 250 Reference Guide	
Cisco Smart+Connected Video Door Station Reference Guide	
Accounts and Licensing	
Cisco Smart+Connected Residential Licensing Guide	See your Cisco representative or partner for more information.
Other	
Smart Device Compatibility and other information:	www.cisco.com/go/smartconnectedresidential
Cisco Smart+Connected Smart Device License for Real Estate Developers	
Composer Pro User Guide	http://www.control4.com/documentation/Composer_Pro_User_Guide/index.htm

**Note**

For information about third-party hardware and software, see the manufacturer's product documentation and/or website.



CHAPTER 1

Overview

The Cisco Smart+Connected Remote Management Solution (Cisco RMS) allows you to remotely deploy and monitor multiple Cisco Controllers and associated residential automation devices in a Cisco Smart+Connected Residential Solution.

Refer to the following topics for more information.

Contents

- [Requirements, page 1-2](#)
- [Summary Steps, page 1-3](#)
- [Feature Summary, page 1-4](#)
- [Logging into the Cisco RMS Console, page 1-7](#)
- [Console Overview, page 1-8](#)
- [Managing Users, Roles and Organizations, page 1-9](#)
- [Managing Systems, page 1-13](#)
- [Understanding Tests and Tasks, page 1-19](#)
- [Using Search, page 1-24](#)

Requirements

Before adding, deploying, or monitoring Cisco Controllers, verify that the following requirements are met.

Table 1-1 **Requirements**

Requirements	Description	More Information	Requirement Complete? (✓)
Install and configure at least one Cisco RMS Server and one Cisco RMS Locator service.	The Cisco RMS Server hosts the Cisco RMS Console browser-based administration tool, and performs the tests and tasks included in Commissioning and Diagnostics profiles. The Cisco RMS Locator is a separate Web Service that directs Controllers to the correct Cisco RMS Server.	Cisco Smart+Connected Remote Management Server Installation Guide	☐
Gather your Cisco RMS username and password	See your system administrator for your credentials. The default credentials are: Username— admin@control4.com Password— p@ssw0rd	Logging into the Cisco RMS Console, page 1-7	☐
Create the Cisco Controller configuration template	Controller templates allow you to apply the same basic Composer Pro configuration to multiple devices.	Creating Controller Templates, page 2-3	☐
One or more Cisco Controllers.	A Cisco Controller is required to test a sample deployment. Additional Controllers can then be deployed and monitored.	• Cisco Smart+Connected Residential Installation and Configuration Guide • Device Reference Guides: www.cisco.com/go/smartconnectedresidential/docs	☐

Summary Steps

Complete the following steps to deploy and manage the Cisco Controllers and related equipment.

	Location	Task	Related Documentation	Task Complete? (✓)
Step 1	Lab	Complete the <i>Requirements</i> checklist.	Requirements, page 1-2	☐
Step 2	Lab	Create the Composer Pro template(s).	• Creating Controller Templates, page 2-3 • Cisco Smart+Connected Residential Installation and Configuration Guide	☐
Step 3	Lab	Log in to the Cisco RMS Console.	Logging into the Cisco RMS Console, page 1-7	☐
Step 4	Lab	Create additional Cisco RMS users, if necessary.	Managing Users, Roles and Organizations, page 1-9	☐
Step 5	Lab	Create Commissioning and Diagnostics Profiles	Creating Commissioning Profiles, page 2-4 Creating Diagnostic Profiles, page 4-1	☐
Step 6	Lab	Deploy the Cisco Controllers.	Commissioning Controllers, page 2-1	☐
Step 7	Dwelling / Lab	Perform the post-deployment tasks.	Completing the In-Dwelling Tasks, page 3-1	☐
Step 8	Lab	Perform or schedule additional tests and tasks.	Diagnostic Tests, Profiles, and Reports, page 4-1	☐
Step 9	Dwelling / Lab	Perform additional configuration tasks, if additional customization is required.	Cisco Smart+Connected Residential Installation and Configuration Guide	☐

Feature Summary

- [Features, page 1-4](#)
- [Components, page 1-6](#)
- [Flexible, Expandable and Secure Architecture, page 1-6](#)

Features

The Cisco Smart+Connected Remote Management Solution (Cisco RMS) is a centralized management system that allows for mass deployment, ease of provisioning, and simplified maintenance of a large community of Cisco Smart+Connected residences.

Cisco RMS allows real estate developers, property managers, and support partners to remotely deploy, monitor, and manage Cisco Smart+Connected Residential Controllers and related residential control and management equipment in multi-dwelling-unit developments. Cisco Controllers can be automatically discovered by Cisco RMS when added to the network, allowing administrators to remotely apply configuration templates. Once added, Cisco RMS can be configured to auto-recover, helping to ensure that problems are resolved through automatic diagnostic checks and resolution tasks whenever possible.

Cisco RMS is essential in projects with more than 50 residential units, but highly recommended for all installations.

[Table 1-2](#) lists the features and benefits.

Table 1-2 *Cisco RMS Features and Benefits*

Feature	Benefit
Large-scale deployment and provisioning	Simplifies deployment and provisioning to large numbers of dwellings and reduces deployment costs by automating configuration, updates, and activation
Secured administration	Ensures that only authorized controllers and administrators can participate in remote management. For example: • Update the Controller software. • Execute diagnostic tests. • Perform backups. • Install device patches. • Test configurations.
Remote operation	Allows diagnostics and remediation to be performed without a site visit. Cisco RMS includes over 150 pre-defined tests and tasks that can identify and resolve common device and system issues. For example: • Alert administrators of potential problems (such as low batteries, offline devices, etc.) • Report snapshots and trends over time. • Automatically issue resolution <i>tasks</i> for failed tests.

Table 1-2 *Cisco RMS Features and Benefits (continued)*

Feature	Benefit
Built-in tools	Allows administrators to perform tasks such as restarting or updating devices, gathering diagnostic data.
Auto-recovery	Can be programmed to automatically perform a set of tests at regular intervals to discover device and system issues when they occur, and automatically correct the problems

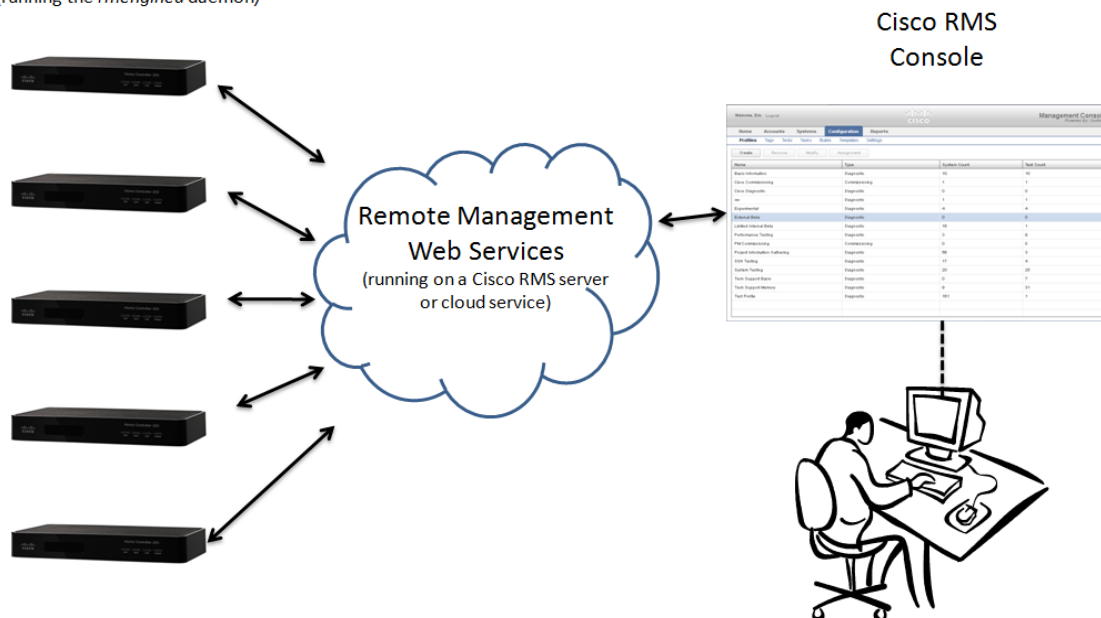
Components

Cisco RMS is enabled by three components (Figure 1-1):

- Cisco RMS *Web Services* running on a local server or in the Cloud.
- The *RMEngine* daemon running on each *primary* Cisco Controller.
- The Cisco RMS Console running on PC web browser for user administration and monitoring tasks.

Figure 1-1 Cisco RMS Components

Primary Cisco Controller
In each residential unit
(running the *rmengine* daemon)



Flexible, Expandable and Secure Architecture

Cisco RMS is a highly scalable and secure platform that enables the following:

- **Expandability**—Manage and monitor supported 3rd party devices that are part of the Composer project.

Built-in tools allow you to perform tasks such as restarting or updating devices, gathering diagnostic data.

- **Security**—The secure platform allows only authorized controllers and administrators to access remote management services.

Logging into the Cisco RMS Console

Procedure

- Step 1** Launch a web browser on your PC.
- Step 2** Enter the IP address or hostname of the Cisco RMS Console supplied by your system administrator.
- Step 3** Enter your username and password.
- The default credentials are:
- Username—**admin@control4.com**
 - Password—**p@ssw0rd**
- Step 4** Click **Login**.
-

Changing Your Password

We recommend that you change your password the first time you log in to the Cisco RMS Console, and periodically to ensure your account credentials remain private.

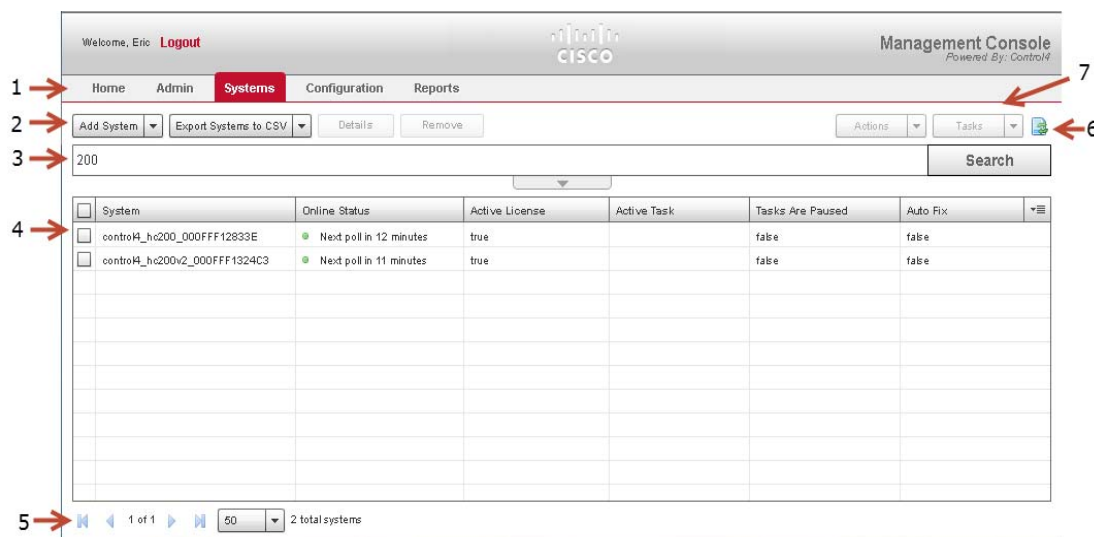
Procedure

- Step 1** Log in to the Cisco RMS Console.
- Step 2** Click **Admin**.
- Step 3** Select your account *Name*.
- Step 4** Click **Modify**.
- Step 5** Enter (and re-enter) your new password.
- Step 6** Click **Save**  .
-

Console Overview

Figure 1-2 provides an overview of the main menus and features visible when you first log in to the Cisco RMS Console. These menus allow you to manage system users, add and manage Controllers and related devices, configure the Profiles used to configure and monitor systems, and view reports on the tests and tasks performed by Cisco RMS over time.

Figure 1-2 Cisco RMS Overview



1	Main menu: • Home—The default screen with information about Cisco RMS, including system usage and license. • Admin—Used to manage user accounts and access permissions for Cisco RMS features. See the “Managing Users, Roles and Organizations” section on page 1-9. • Systems—Displays the primary Cisco Controllers and allows you to add new Controllers, assign tests and tasks, or perform actions. See the “Managing Systems” section on page 1-13. • Configuration—Defines the tests, tasks, tags, templates, and other attributes used in Cisco RMS. See the “Using the Configuration Page” section on page 1-17. • Reports—Use Reports to view test results for one or more Controllers, and to generate results for a time span, for specific device types, or for tests that passed, failed or were blocked. See the “Use Reports To View Test Results” section on page 4-5.
2	Actions and features available for the selected screen or selected items.
3	Search field for narrowing the results of the displayed items.
4	The items available for selection or further action, based on the selected filters or search criteria. For example, Controllers, Tests, Profiles, Users, etc.
5	Page navigation and display options.
6	Click the refresh icon  to update the list.
7	Tasks and Actions available for the selected items.

Managing Users, Roles and Organizations

User access permissions are defined by the following:

- *Roles* are created to define access permissions to Cisco RMS features and functions.
- *Users* are assigned to one or more Roles and gain the combined access permissions for those Roles.
- *Organizations* are assigned to both Roles and Systems. Users can access systems and functions based on their assigned Roles.

Usage Notes

- Users can be assigned to multiple Roles, and gain the access permissions for all assigned Roles.
- Roles can be assigned to multiple Organizations, and gain access to all systems in those Organizations.
- Systems are automatically assigned to the root location, and can be accessed by any user Role.

Summary Steps

1. Create one or more *users*.
2. Create an “Operator” *Role* that allows users to manage systems, but not create new users.
3. Add users to the Role.
4. Create an Organization “Bangalore Campus 1”. Add the Role to the Organization. Users in that Role will only be able to access systems assigned to the same Organization.
5. Open the **System** configuration and associate systems with the Organization.

Procedure

To add users and define Roles, Organizations, and system access, do the following:

- Step 1** Click **Admin**.
- Step 2** Add Cisco RMS Console *Users* (Figure 1-3).

Figure 1-3 *Users*

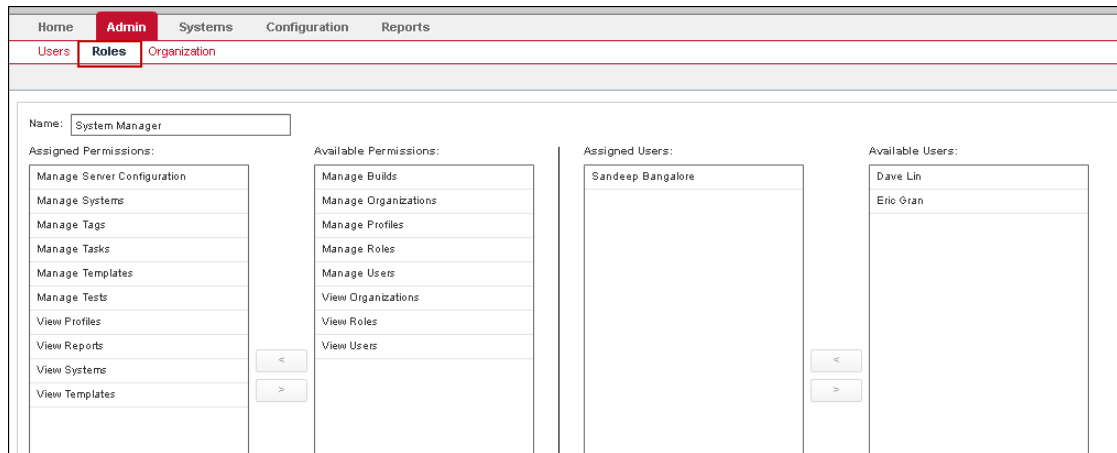
Home Admin Systems Configuration Reports			
Users Roles Organization			
First Name	Rifqi	Assigned Roles: System Manager	Available Roles: Operators RMSAdmin
Last Name	Indrani		
Email	sample1@cisco.com		
Password	*****		
Confirm Password	*****		

- a. Select **Users**.

- b. Click **Add**, or select an existing entry and click **Modify**.
- c. Enter the user's first name, last name, email address and password.
- d. (Optional) Select one or more **Available Roles**, and click the arrow to move the role to the **Assigned Roles** box.
- e. Click Save .

Step 3 Create one or more *Roles* to define sets of access permissions (Figure 1-4).

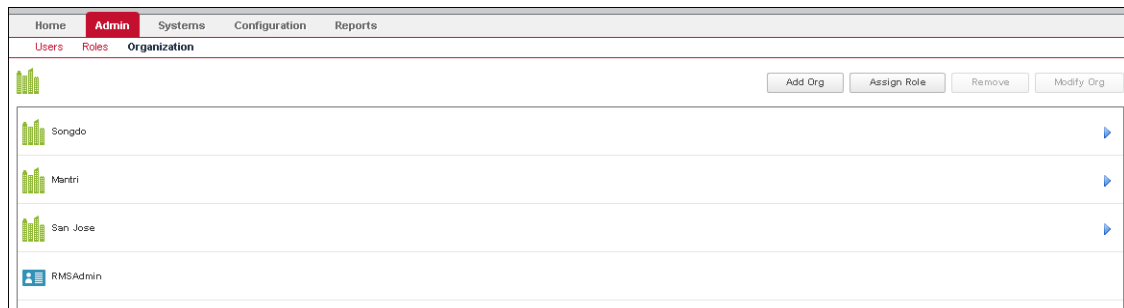
Figure 1-4 *Roles*



- a. Select **Roles**.
- b. Click **Add**, or select an existing entry and click **Modify**.
- c. Select one or more **Available Permissions**, and click the arrow to move the role to the **Assigned Permissions** box (Figure 1-4).
- d. (Optional) Assign users to the role by selecting one or more **Available Users** and clicking the arrow to move the role to the **Assigned Users** box.
- e. Click Save .

Step 4 Create one or more *Organizations* and assign Roles to the Organization (Figure 1-5).

Figure 1-5 *Organizations*

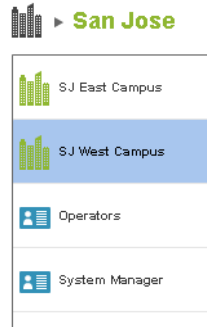


- a. Create the Organization:
 - Select **Organization**.
 - Click **Add Org**, or select an existing entry and click **Modify Org**.

- Enter the Organization name and click **OK**.
- (Optional) To create sub-organizations, double click the location name (or click ►) and create additional locations.

For example, in [Figure 1-6](#), the San Jose location includes two sub-organizations for the east campus and west campus. Roles at the San Jose root level will have access to all systems in the San Jose organization and to all the sub-organization systems. Roles assigned to the sub-organizations will have access to systems at that sub-organization only.

Figure 1-6 Sub-Organizations



b. Assign a Role to the Organization:

- Double-click the Organization name to select the Organization or sub-organization where the Role will be assigned.

For example, in [Figure 1-6](#), roles will be added to the San Jose organization. Double-click a sub-organization to add Roles to the sub-organization only. Double-click the building icon to navigate up the Organization hierarchy.

- Click **Assign Role**.
- Select one or more Roles and click **OK**.



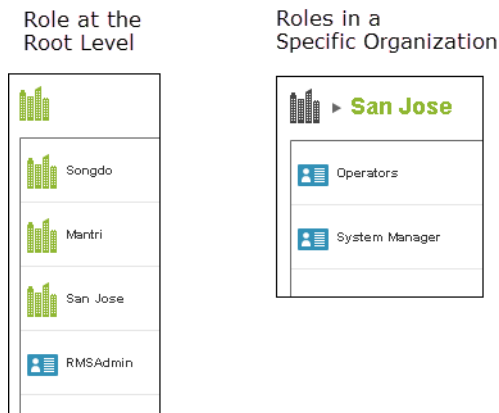
Note

Members of all selected Roles will be able to access the systems assigned to the organization. Use **Shift-Click** or **Ctrl-Click** to select multiple Roles.



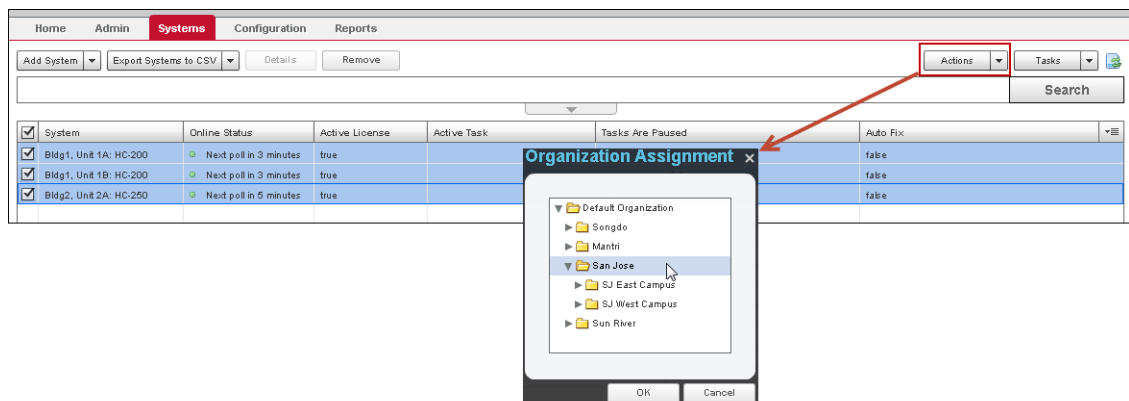
Tip

Roles at the root level have access to all Organizations ([Figure 1-7](#)).

Figure 1-7 Roles at the Root and Organizational Level

c. Click Save .

Step 5 Assign systems to an Organization (Figure 1-8).

Figure 1-8 Assigning Systems to an Organization

- Select **Systems**.
- Use the Search field to narrow the displayed systems. See the [“Using Search”](#) section on page 1-24.
- Select one or more systems (or click the box at the top of the list to select all systems in the list).
- Select **Actions > Organization Assignment**.
- Select an Organization from the pop-up window and click **OK** (Figure 1-8).

**Note**

Systems can only be assigned to one organization. Assign systems to the root level to give all Roles access to the system. Assign systems to an Organization or Sub-Organization to limit access to Roles assigned to that location (or Roles assigned to a higher level in the Organization hierarchy).

Managing Systems

A system includes a Cisco primary Controller and all associated devices. A system also includes the configurations, tests and tasks associated with the system devices.

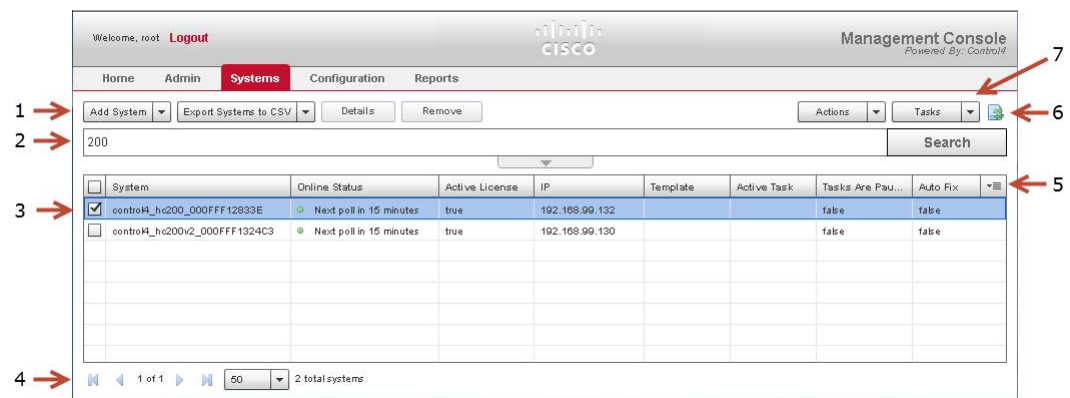
Systems are represented by the primary Controller for each dwelling, and can be viewed and modified using the **Systems** tab (Figure 1-9).



Tip

Controllers can be automatically discovered when they are added to the network, or manually added to Cisco RMS. See the “[Commissioning Controllers](#)” section on page 2-1 for more information.

Figure 1-9 Systems: Primary Controllers



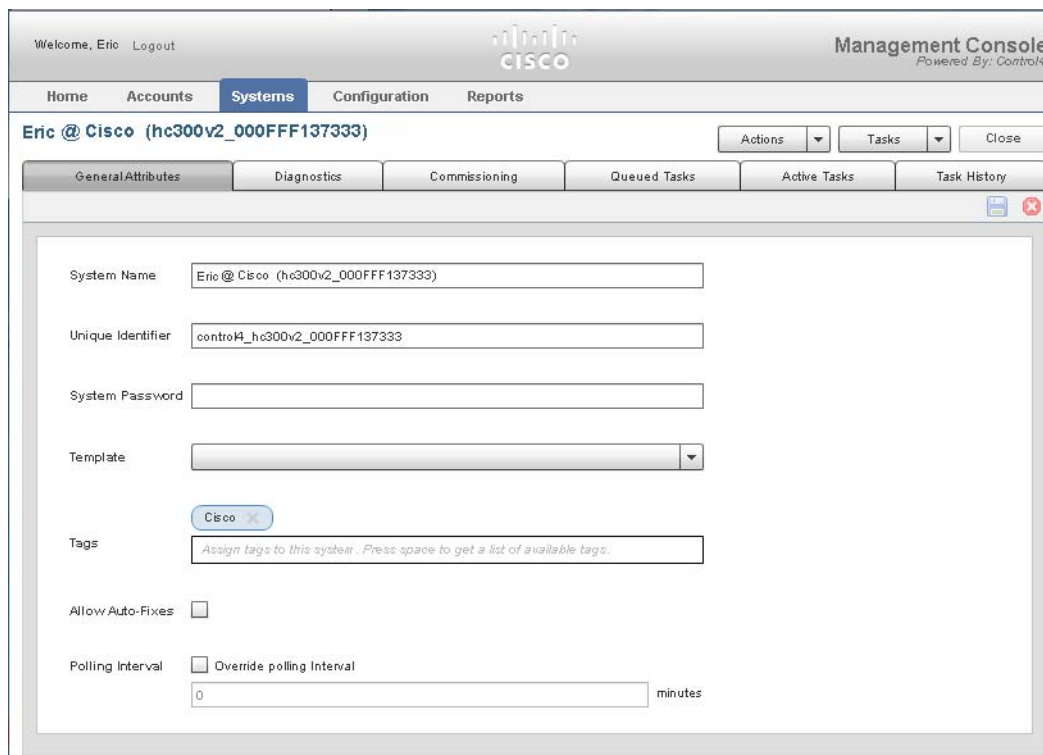
- 1 Actions**—Manually add Controllers, view details, or remove a Controller from Cisco RMS. See the “[Commissioning Controllers](#)” section on page 2-1.
- 2 Search**—narrow the list of Controllers based on the assigned tags. Click the down arrow to use the Advanced Search fields.
- 3 Primary Controller list.** Each Controller represents a System, which may include additional Controllers and other residential automation devices (such as displays and light switches). Select one or more Controllers to perform an Action or Task, or double-click an entry to view detailed information or to perform diagnostics, commissioning, and other tasks. See the [Understanding System Details](#), page 1-14 for more information:
- 4 Page navigation and display options.**

5	Column Selector. Click the  icon to display or hide the columns that appear on the page.
6	Click the refresh icon  to update the list.
7	Actions and Tasks that can be performed on the selected systems. Use these options to configure multiple systems or perform tasks on multiple systems. • Actions—assign organizations, profiles, tags or templates. Enable or disable auto-fix. Manage tasks or override the polling interval. See the Understanding Tests and Tasks, page 1-19. • Tasks—update system software, set the timezone or NTP server, load templates, backup and restore system data, and other tasks. See the “Actions” section on page 1-23. Tip Select multiple systems to perform the Action or Task for groups of systems, such as all systems in an organization.

Understanding System Details

Double-click a system entry (or highlight the entry and click **Details**) to view additional details about the system ([Figure 1-10](#)).

Figure 1-10 **System Details**



The screenshot shows the Cisco Management Console interface. At the top, there's a header with 'Welcome, Eric Logout', the Cisco logo, and 'Management Console Powered By: Control4'. Below this is a navigation bar with 'Home', 'Accounts', 'Systems' (selected), 'Configuration', and 'Reports'. The main content area is titled 'Eric @ Cisco (hc300v2_000FFF137333)' and includes buttons for 'Actions', 'Tasks', and 'Close'. Below the title bar are tabs for 'General Attributes', 'Diagnostics', 'Commissioning', 'Queued Tasks', 'Active Tasks', and 'Task History'. The 'General Attributes' tab is active, showing a form with the following fields:

- System Name: Eric @ Cisco (hc300v2_000FFF137333)
- Unique Identifier: contro4_hc300v2_000FFF137333
- System Password: (empty field)
- Template: (dropdown menu)
- Tags: Cisco (with a tag icon and a text input field containing 'Assign tags to this system. Press space to get a list of available tags.')
- Allow Auto-Fixes: ☐
- Polling Interval: ☐ Override polling Interval, 0 minutes

Table 1-3 describes the tabs in the system details options.

Table 1-3 System Details

Tab	Description
General Attributes	Displays basic system settings such as name, unique ID and template. See the “Defining General Attributes” section on page 1-16 for more information.
Diagnostics	Displays the Diagnostic <i>Profiles</i> assigned to the system. Diagnostic <i>Profiles</i> are sets of tests that gather information about the system and run on a recurring schedule (such as once a day). Diagnostic tests can also perform tasks based on the test results. See the “Creating Diagnostic Profiles” section on page 4-1 for more information.
Commissioning	The Commissioning <i>Profile</i> is a set of tasks that can be used to automate the initial setup of a system. For more information, see the following: • Creating Commissioning Profiles, page 2-4 • Adding Controllers to Cisco RMS, page 2-7
Queued Tasks	Displays the tasks that are pending execution. For example, tasks included in a Commissioning Profile, or tasks that are manually selected from the Tasks menu. The items in the list are removed when execution begins and moved to the Active Tasks list. Tip Click the refresh icon  to update the list. Note Diagnostic tests do not appear under Queued Tasks since they run on a recurring schedule. See the “View Pending or Completed Tasks” section on page 1-22.
Active Tasks	Tasks that are currently in process. See the “View Pending or Completed Tasks” section on page 1-22.
Task History	The tasks performed on the system. Highlight a task to view the steps performed by that task (Selected Task Log). See the “View Pending or Completed Tasks” section on page 1-22.

Defining General Attributes

Table 1-4 describes the General Attributes for the system *primary* Controller.

**Tip**

You can apply the settings for Template, Tags, Allow Auto-Fixes, and Polling Interval to multiple systems using the **Actions** menu. See the [“Actions” section on page 1-23](#).

Table 1-4 **General System Attributes**

Field	Description
System Name	The name shown in the Cisco RMS Console. The default name includes the Controller hardware ID, but you can change this to a meaningful name, if necessary.
Unique Identifier	The hardware identifier for the primary Controller. For example: <code>control4_hc250_000FFF12833E</code>  Caution If this entry is changed the Cisco RMS Console will not be able to connect to the Controller. Change this entry only if you want to use the same settings for a different physical Controller and know the unique ID for that device.
System Password	The Controller <i>root</i> password for commands issued on the device. Note We highly recommend that you do not change this value unless you have a plan to track the new root passwords on each device. Enter a new <i>root</i> password for the command that will be issued on the primary Controller. In most situations, this field should be left blank since the default password is automatically configured. Entering a new password will cause the password to be changed on the device and in the Cisco RMS Console. Note The default <i>root</i> password for all Cisco Smart+Connected Residential devices is <code>t0talc0ntr014!</code> (use zeros “0” instead of the letter “o”).
Template	The configuration template used for the system. See the “Creating Controller Templates” section on page 2-3 for more information.
Tags	The tags assigned to the system to help locate systems using the search function.

Table 1-4 **General System Attributes (continued)**

Allow Auto-Fixes	Defines if tasks should automatically be applied when a test is performed.
Polling Interval	The number of minutes between Controller connections to Cisco RMS. Any pending tests, tasks or other scheduled actions are performed at that time. Tip Click Override polling interval and enter a new value, if necessary. For example, when testing the affects of a scheduled test or tasks, enter a low number, such as 1 minute to have the Controller check in frequently to apply updates. When the system is stable, you can change this setting to a higher number, such as 60 minutes (1 hour).

Using the Configuration Page

Use the Configuration page to define the tests, tasks, tags, templates, and other attributes used in Cisco RMS (Figure 1-11).

Figure 1-11 **System General Attributes**

The screenshot shows the Cisco Management Console interface. At the top, there's a header with 'Welcome, root Logout', the Cisco logo, and 'Management Console Powered By: Control4'. Below this is a navigation bar with tabs: Home, Admin, Systems, Configuration (selected), and Reports. Under Configuration, there are sub-tabs: Profiles, Tags, Tests, Tasks (selected), Builds, Templates, and Settings. Below the sub-tabs are three buttons: Create, Remove, and Modify. The main content area is a table with two columns: Name and Version. The table lists various system tasks, with 'Change Version' highlighted in blue.

Name	Version
Cancel Pending Updates	1.0.0
Change System Password	1.0.0
Change Version	1.0.8
Change ZigBee Channel	1.0.0
Load Template Project	1.0.10.0
Project Backup	1.0.0.0
Project Restore	1.0.0.0
Reboot all devices	1.0.0.1
Refresh Navigators	1.0.0
Restart All Navigators	1.0.0
Set NTP Server List	1.0.0.1
Set Theme	1.0.0.0

Table 1-5 describes the Configuration settings.

Table 1-5 Configuration

Tab	Description
Profiles	Profiles are sets of tests that can be run when the Controller is first added to Cisco RMS, or run on a recurring schedule. The following Profile types can be assigned to a Controller. – Diagnostic—recurring tests performed on a schedule to validate the health of the Controller and associated device. – Commissioning—one-time tests performed the first time a Controller comes online. Note Tests can also trigger actions, such as updating the Controller software build. See the “Creating Commissioning Profiles” section on page 2-4 for more information.
Tags	Tags are keywords that can be assigned to a Controller to narrow the results when searching or performing other tasks, such as Reports. See the “Using Search” section on page 1-24 for more information.
Tests	Tests are diagnostic scripts that gather information from systems and can trigger tasks based on the test results. Tests can be automatically triggered by added them to Commissioning and Diagnostic Profiles (which are then assigned to Systems). Use Reports to view a summary of the tests performed on multiple systems. See the following for more information: • Understanding Tests and Tasks, page 1-19. • Use Reports To View Test Results, page 4-5
Tasks	Tasks are actions performed on a system that can be manually triggered from the System page, or included in tests assigned to Diagnostic and Commissioning Profiles. See the for more information. • Understanding Tests and Tasks, page 1-19.
Builds	The Controller software builds loaded into Cisco RMS. Click Add to add a new build and the URL of the directory containing the build files. Builds can be used by tests and tasks to update the Controller software.

Table 1-5 Configuration (continued)

Tab	Description
Templates	The Controller configuration project files that can be deployed to multiple systems. To create a template, configure a sample Controller using Composer Pro, backup the configuration file, and add the file to Cisco RMS. The template can be used to deploy multiple Controllers that use the same basic hardware and software configuration. Note The project template deletes the zigbee security layer (PAN = Personal Area Network) that is unique to each project. After the template is applied to each system, a new Zigbee mesh must be created, and each zigbee device must be <i>Identified</i> to establish communication with the dwelling Controller. See the following documentation to re-apply the ZigBee configuration in each dwelling. To create and apply project templates, complete the following instructions: • Creating Controller Templates, page 2-3 • Commissioning Controllers, page 2-1 • Completing the In-Dwelling Tasks, page 3-1
Settings	The settings that define Cisco RMS system attributes, including the location of template, backup, and software update files.

Understanding Tests and Tasks

Tests and Tasks are scripts that can be executed automatically as part of a Diagnostic or Commissioning Profile. Tests and tasks can also be manually triggered using the Cisco RMS Console.

- Tests are diagnostic actions that gather information about a system's devices, configuration, and operating state.
- Tasks can change the system configuration or initiate an action. Tasks can be included in tests to remediate issues discovered by the test. For example, a *System Software Version* test can also include a *task* that automatically updates the device software.

To automatically perform test (and associated tasks), add the tests to a Commissioning or Diagnostic Profile.

- *Commissioning Profile* tests are performed once on each system to automate the initial setup. See the [“Creating Commissioning Profiles” section on page 2-4](#) for more information.
- *Diagnostic Profile* tests run on a recurring schedule, based on the test *iteration* (how often the test should run). See the [“Creating Diagnostic Profiles” section on page 4-1](#) for more information.

Refer to the following topics for more information:

- [Common Tests and Tasks Used in Profiles, page 1-20](#)
- [Triggering Tests and Viewing Test History, page 1-21](#)
- [Manually Triggering Tasks and Viewing Task History, page 1-22](#)



Tip

In addition, *Actions* can be used to assign Profiles, templates and tags, pause or cancel tasks, override the polling interval, or enable and disable Quick Fix. See the [“Actions” section on page 1-23](#).

Common Tests and Tasks Used in Profiles

Cisco RMS includes approximately 150 tests and tasks to perform basic commissioning and diagnostic functions.


Tip

To view the available tests and tasks, select **Configuration** and click **Tests** or **Tasks**. Roll over each test to view a short description (tasks do not display a description).

Table 1-6 *Common Tests & Tasks Used in Profiles*

Purpose	Test Assigned to Profile	Task Included in the Test
Apply software updates.	Director Version	Software Update Note Updating a Controller also updates the associated devices.
Apply configuration (project) templates.	Project version	Load Template Project
Backup the Controller project and data.	Backup Project Age (Checks the age of the last backup, and can run a new backup if the file is more that 24 hours old)	Project Backup
Verify that the ZigBee server is running	Sysman Status—Zserver2	None.
Reboot the devices	None.	Reboot All Devices. Use this task in a test, or manually trigger it (see the “Manually Triggering Tasks” section on page 1-22).
Refresh or restart the touchscreen Navigators.	None.	Refresh Navigators—Sync’s with the Composer Pro project but does not replace the graphic elements (such as icons). Restart Navigators— Also reloads all graphic elements. Useful if a theme changes.

Triggering Tests and Viewing Test History

To trigger a scheduled test or view the test history for a single system, refer to the following topics:

- [Triggering Scheduled Tests, page 1-21](#)
- [Viewing Test History, page 1-21](#)

Triggering Scheduled Tests

Diagnostic tests are performed regularly, based on the test *iteration* (how often the test should run), even if the test is included in multiple Profiles.

Click **Run Now** to run a scheduled test (and associated tasks) at the next poll.

Procedure

-
- | | |
|---------------|---|
| Step 1 | Create the profile and assign it to a system. <ul style="list-style-type: none">• Creating Commissioning Profiles, page 2-4• Creating Diagnostic Profiles, page 4-1. |
| Step 2 | Click System . |
| Step 3 | Select a system and click Details (or double-click the system name). |
| Step 4 | Select the Commissioning or Diagnostic tab. |
| Step 5 | Click Run Now next to the test (Figure 1-12). The test and associated tasks will run at the next system poll. |
-

Viewing Test History

You can view the history of tests for a single system, or generate reports for multiple systems. To generate reports for multiple systems, see the [“Use Reports To View Test Results” section on page 4-5](#).

To view test history for a single system (including the last tests run, passed/failed, and the actual and expected value), do the following.

Procedure

-
- | | |
|---------------|--|
| Step 1 | Click Systems and select a system name. |
| Step 2 | Click Details . |
| Step 3 | Select the Commissioning or Diagnostic tabs. |
| Step 4 | View the Last Run column to view test history (Figure 1-12). The Expected column describes the expected test result (if any). The Actual column displays the actual test result from the last run. |
-

Figure 1-12 Test History

Test	Device	Last	Last Run	Actual	Expected	Notes	
Director IP Address		Passed	2012-Jul6 1:22 PM	0.0.0.0			Run Now
Director Version		Passed	2012-Jul6 1:22 PM	2.2.2.180968			Run Now
Project Name		Passed	2012-Jul6 1:52 PM	New Project			Run Now

Manually Triggering Tasks and Viewing Task History

- [Manually Triggering Tasks, page 1-22](#)
- [View Pending or Completed Tasks, page 1-22](#)

Manually Triggering Tasks

Tasks can be included in tests, or run manually.

To manually trigger a task for one or more systems, do the following.

Procedure

- Step 1** Click **Systems**.
- Step 2** Select one or more system names.
- Step 3** Select a task from the **Task** menu.
- Step 4** Continue to the [“View Pending or Completed Tasks” section on page 1-22](#).



Tip

To pause or cancel a task, use the options available in the **Actions** menu. See the [“Actions” section on page 1-23](#).

View Pending or Completed Tasks

You can view the status of manually triggered tasks for a single system.



Note

- Tasks included in tests do not appear in the task queue or history since they are performed on a regular schedule.
- See the [“Use Reports To View Test Results” section on page 4-5](#) to view information for multiple systems.

Procedure

-
- Step 1** Click **Systems**.
- Step 2** Select a system and click **Details**.
- Step 3** Select one of the following tabs:
- **Queued Tasks**—Display the tasks that will be performed at the next system poll. Queued tasks are then moved to Active Tasks.
 - **Active Tasks**—Displays the tasks currently being performed.
 - **Task History**— Displays the completed tasks. Highlight an entry to view additional details.
-

Actions

The **Actions** menu is used to apply basic System settings, such as assigning Profiles, templates and organizations. You can also assign tags, pause or cancel tasks, override the polling interval, or enable and disable Quick Fix.

Procedure

-
- Step 1** Click **Systems** and select one or more systems.
- Step 2** Select an option from the **Actions** menu.

Table 1-7 **Actions**

Action	Description
Organization Assignments	Specifies the Organization for the system(s). Only users in Roles associated with that Organization can access the system. See the “ Managing Users, Roles and Organizations ” section on page 1-9 .
Profile Assignments	Defines the Commissioning and Diagnostic tests (and associates tasks) for the system. The Commissioning profile will run once. The Diagnostic Profiles will run on a recurring interval. See the following topics: • Understanding Tests and Tasks, page 1-19. • Creating Commissioning Profiles, page 2-4. • Creating Diagnostic Profiles, page 4-1.
Tag Assignments	Associates terms with the systems to aid in search.
Template Assignments	The configuration (project) template for the system(s). See the following topics: • Creating Controller Templates, page 2-3 • Cisco Smart+Connected Residential Installation and Configuration Guide

Table 1-7 **Actions (continued)**

Action	Description
Enable/Disable Auto Fix	If Auto-Fix is enabled, and a test fails, then any associated tasks will be performed. If Auto-Fix is disabled, associated tasks are not performed, even if the test fails.
Pause/Unpause Tasks	Allows you to Pause or resume tasks that are in the queue.
Cancel Queued Tasks	Cancels tasks that are queued for execution.
Override Polling Interval	Changes the frequency that the system polls Cisco RMS to check for tests. For example, a short polling interval may be required for testing, or when the systems are first deployed so that any Profile tests will be triggered quickly. After the system is deployed and stable, the polling interval can be increased to reduce unnecessary network traffic.

**Tip**

See the [“Applying General Attributes to Controllers” section on page 2-11](#) for more information.

Using Search

Use the Search field to locate and narrow the list of displayed Systems. You can search for any string included in the system attributes, or create Tags and assign them to systems to further narrow search results.

- [Creating and Assigning Tags, page 1-24](#)
- [Using Search to Locate Systems, page 1-25](#)

Creating and Assigning Tags

Use the following procedure to create tags and assign tags to a system.

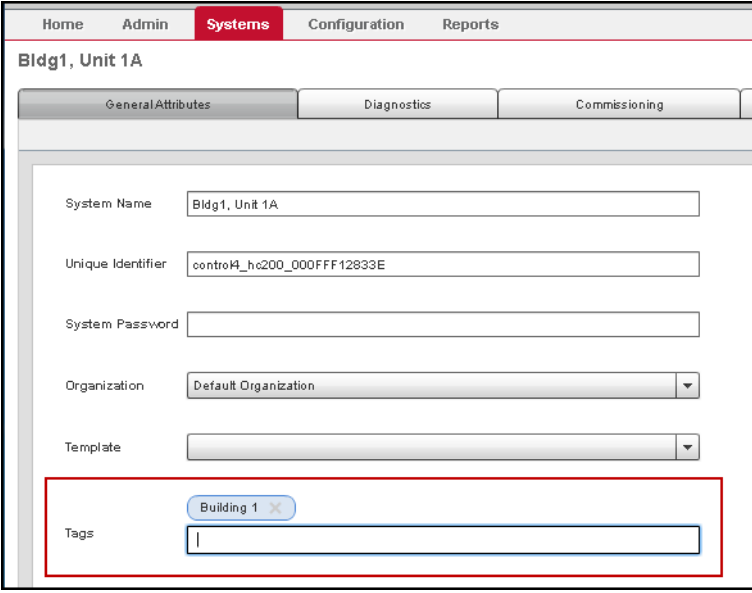
For example, create a tag “Building 1”, and assign it to all systems deployed in Building 1. This allows you to filter the Controllers list to display only those systems so you can perform tasks, updates, or generate reports for that sub-set of systems.

Procedure

-
- Step 1** (Optional) Create Tags that can be assigned to a System.
- Choose **Configuration > Tags**.
 - Click **Create**, or select an existing entry and click **Modify**.
 - Enter the tag name and description.

- d. Click **Save**.
- Step 2** Assign tags to a system.
- a. Choose the **Systems** tab.
 - b. Select a system name and click **Details**.
 - c. In the Tags field (Figure 1-13), press the space bar to see a list of all tags, or type the first characters to view matching tag entries.
 - d. Select one or more tags.
 - e. Click **Save** .

Figure 1-13 **System Tags**



The screenshot displays the 'Systems' configuration page. At the top, there are navigation tabs: Home, Admin, **Systems**, Configuration, and Reports. Below these, the page title is 'Bldg1, Unit 1A'. There are three sub-tabs: General Attributes, Diagnostics, and Commissioning. The 'General Attributes' tab is active. It contains several input fields: 'System Name' (Bldg1, Unit 1A), 'Unique Identifier' (control_hc200_000FFF12833E), 'System Password' (empty), 'Organization' (Default Organization), and 'Template' (empty). At the bottom, there is a 'Tags' section with a search bar containing 'Building 1' and a list of tags below it. The 'Tags' section is highlighted with a red box.

Using Search to Locate Systems

Enter a Tag or other string in the Search field and press *Enter* (or click **Search**). Systems with matching attributes or tags are displayed.

For example, enter “Building 1” to display only systems with that tag, or enter a Unique Identifier to display a specific system. In Figure 1-14, a partial Unique Identifier was entered to locate a specific system.

Figure 1-14 Search Example

System	Online Status	Active License	IP	Template	Active Task	Tasks Are Paus...	Auto Fix
☒ Bldg2, Unit 2A: HC-250	● Next poll in 12 minutes	true	192.168.99.139			false	false

**Tip**

Click the arrow () below the search field to display advanced search options. For example, you can enter multiple words, alternative words, or words that should be excluded (matching systems will be excluded from the results).



CHAPTER 2

Commissioning Controllers

Commissioning a Controller adds the device to Cisco RMS and associates the new system with a template, *Commissioning Profile*, organization, and other settings.

Refer to the following topics for more information.

Contents

- [Summary Steps, page 2-1](#)
- [Creating Controller Templates, page 2-3](#)
- [Creating Commissioning Profiles, page 2-4](#)
- [Adding Controllers to Cisco RMS, page 2-7](#)
- [Applying General Attributes to Controllers, page 2-11](#)



Note

After the Commissioning process is complete, you must complete the in-dwelling tasks, such as identifying network devices in Control4 Composer Pro, creating a zigbee security layer (PAN = Personal Area Network, and other tasks. See the [“Completing the In-Dwelling Tasks” section on page 3-1](#) for more information.

Summary Steps

Complete the following steps to deploy and manage the Cisco Controllers and related equipment in your deployment.

	Task	Related Documentation	Task Complete? (✓)
Step 1	Complete the Requirements checklist.	Requirements, page 1-2	☐
Step 2	Create a configuration template using Composer Pro.	• Creating Controller Templates, page 2-3 • Cisco Smart+Connected Residential Installation and Configuration Guide	☐

Summary Steps

	Task	Related Documentation	Task Complete? (✓)
Step 3	Log in to the Cisco RMS Console.	Logging into the Cisco RMS Console, page 1-7	☐
Step 4	Create the Cisco RMS users, roles and organizations, if necessary.	Managing Users, Roles and Organizations, page 1-9	☐
Step 5	Create the Commissioning Profiles.	Creating Commissioning Profiles, page 2-4	☐
Step 6	Add the Cisco Controllers to Cisco RMS using one of the following methods: • Auto-Discover Controllers on the Network • Manually Add a Single Controller • Import Controllers From a File Note We recommend deploying a small sub-group of Controllers to verify the deployment method.	Adding Controllers to Cisco RMS, page 2-7	☐
Step 7	Apply additional settings to the systems, such as a template, profile, and organization.	Applying General Attributes to Controllers, page 2-11	☐
Step 8	Use the Composer Pro application to complete the in-dwelling tasks, including: • Identify the Controller (to associate the MAC hardware ID with the project). • Identify the ZigBee and IP network devices. • Other (optional) configuration tasks.	Completing the In-Dwelling Tasks, page 3-1	☐
Step 9	Perform additional configuration and deployment tasks.	Cisco Smart+Connected Residential Installation and Configuration Guide	☐

Creating Controller Templates

A Cisco RMS template is a .C4P configuration file that can be applied to multiple Cisco Controllers.

To create a template, configure a single Controller for the typical devices and settings in your deployment. Backup the .C4P configuration file to a disk, and then load that file into Cisco RMS. The upload process removes all user information and device-specific information so the same settings can be applied to other Controllers without conflict.

**Note**

The project template does not include configurations that must be applied in the dwelling. The *In-Dwelling* tasks include creating the zigbee security layer (PAN = Personal Area Network) that is unique to each project, identifying network devices in the project, and other tasks. See the [“Completing the In-Dwelling Tasks” section on page 3-1](#) for more information.

Procedure

- Step 1** Configure the sample Controller using Composer Pro as described in the [Cisco Smart+Connected Residential Installation and Configuration Guide](#).
- Step 2** Backup the .C4P project file.
- Choose **File > Backup As**.
 - Enter a file name and location and click **Save**.

**Tip**

The default file backup location is C:\Users\<username>\Documents\Control4\Projects.

- Step 3** Upload the project file to the Cisco RMS Console.
- Add the project file to Cisco RMS.
 - Select **Configuration > Templates**.
 - Click **Add**.
 - Enter a template name (for example, 2-room unit).
 - Click **Upload**.
 - Select the .C4P project backup file from a local or network drive, and click **Open**.
 - Wait for the upload process to complete and verify that the file name is correct.
 - Click **Save**.
- Step 4** Continue to the following topics:
- [Adding Controllers to Cisco RMS, page 2-7](#)
 - [Applying General Attributes to Controllers, page 2-11](#)
 - [Completing the In-Dwelling Tasks, page 3-1](#)

Creating Commissioning Profiles

Commissioning Profiles are sets of tests that are used to update a Cisco Controller when it is added to the Cisco RMS. Commissioning Profiles are performed once on each Controller, when the device is first added to Cisco RMS.

Common Commissioning Tests and Tasks

Tests can trigger actions, such as updating the Controller software build. Common Commissioning tasks include the following:

- Download software and apply patches.
- Download and install Composer Pro projects.
- Backup the Controller data.
- Test the configurations.
- Reboot devices.
- Refresh the on-screen and touchscreen Navigators.
- Enable or disable the Auto-Fix option (to define if tasks should automatically be applied when a test is performed).

**Tip**

To view the available tests and tasks, select **Configuration** and click **Tests** or **Tasks**. Roll over each test to view a short description.

**Tip**

You can also create Diagnostic Profiles to perform recurring tests that validate the health of a previously added system. Diagnostic Profiles can notify administrators if an error occurs, and take corrective action if possible. See the [“Creating Diagnostic Profiles” section on page 4-1](#).

Procedure

To create a Commissioning Profile:

-
- Step 1** Log in to the Cisco RMS Console.
 - Step 2** Select **Configuration > Profiles**.
 - Step 3** Create or modify the Profile.
 - a. Click **Create**, or select an existing entry and click **Modify**.
 - b. Enter a Profile name.
 - c. Select the **Commissioning** configuration type:
 - d. Click **Save**.
 - Step 4** Add tests to the Profile.
 - a. Highlight the Profile name.
 - b. Click **Assignments** (or double-click the Profile name).
 - c. Click the **Add** icon .
 - d. Select one or more tests from the pop-up window and click **OK**.

**Tip**

Roll over a test name to display a description of the test. Use **CTRL-Click** or **Shift-Click** to select multiple items.

e. Click OK.

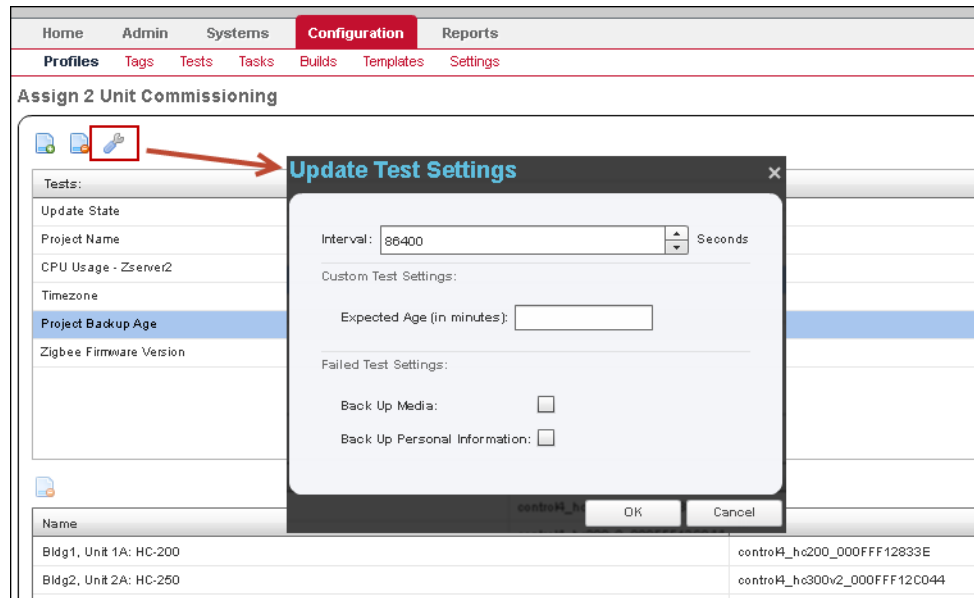
- The assigned Tests are listed in the top field. The assigned systems are displayed in the lower field ([Figure 2-1](#)).
- Click **Systems > General Attributes** to assign systems to a Profile. See the [“Applying General Attributes to Controllers”](#) section on page 2-11 for more information.

Figure 2-1 Tests and Systems Assigned to a Commissioning Profile

Assign 2 Unit Commissioning	
Tests:	
Update State	
Project Name	
Systems	
Name	ID
Bldg1, Unit 1A: HC-200	control4_hc200_000FFF12833E
Bldg2, Unit 2A: HC-250	control4_hc300v2_000FFF12C044

Step 5 (Optional) Modify the test settings (Figure 2-2).

Figure 2-2 *Editing Test Settings*



- Select the test name (from the **Configuration > Profiles > Assignments** window).
- Click the Edit icon .
- Edit the available settings.

For example, in Figure 2-2 shows the options to edit the *Project Backup Age* test. You can define the Interval (how often the test will run), and the expected age of the last backup. If the last backup is older than that age, then the test fails, you can chose to backup the system Media, Personal Information, or both.

Step 6 Continue to the following topics:

- [Adding Controllers to Cisco RMS, page 2-7](#)
- [Applying General Attributes to Controllers, page 2-11](#)
- [Completing the In-Dwelling Tasks, page 3-1](#)

Adding Controllers to Cisco RMS

You can add Controllers to Cisco RMS one at a time, import the Controllers from a file, or use the Cisco RMS Locator service to auto-discover Controllers when they are added to the network.

- [Auto-Discover Controllers on the Network, page 2-7](#)
- [Manually Add a Single Controller, page 2-9](#)
- [Import Controllers From a File, page 2-9](#)

**Note**

After the Controllers are added, each system must be assigned a template, one or more Commissioning and Diagnostics Profiles, and an Organization. See the [“Applying General Attributes to Controllers” section on page 2-11](#) for more information.

Auto-Discover Controllers on the Network

Controllers can be automatically discovered on the network and added to Cisco RMS using the Cisco RMS Locator web service.

Prerequisites

The Cisco RMS Locator and Cisco RMS Server web services must be installed and configured on the network. A DNS entry for each server should also be added to direct the Controller to the correct service.

**Tip**

The Controller uses your DHCP server to access [c4locator.yourdomain.com](#) and locate the Cisco RMS Server. When creating the Cisco RMS Locator service, a DNS entry should be added for [c4locator.yourdomain.com](#). See the [Cisco Smart+Connected Remote Management Server Installation Guide](#) for more information.

Procedure

- Step 1** Add the Controller to the network.
- Step 2** Wait for the discovery process to complete and verify that the new system (Controller) appears in the Cisco RMS Console. For example:
 - a. Select **Systems**.
 - b. Use the *Search* field to narrow the list of displayed systems.
 - c. Verify that the system name appears.
- Step 3** (Optional: single Controller) Assign a template and Commissioning Profile to the system.

**Note**

This step adds the settings to a single Controller. To add the settings to multiple Controllers, proceed to the [“Applying General Attributes to Controllers” section on page 2-11](#).

- a. Double-click the system name (or select the system and click **Details**).
- b. Select a **Template** (under the General Attributes tab).



- c. Click **Save** .
- d. Select **Load Template Project** from the **Tasks** menu.
- e. Wait for the template to be applied (at the next system poll).



- Click **Queued Tasks** to verify the template will be applied at the next system poll.
- Click **Active Tasks** to view task details in process.

Figure 2-3 Task History

- g. Select the **Commissioning** tab and select a **Commissioning Profile**.
- h. Click **Save**  .

- Step 4** (Required) Continue to the [“Applying General Attributes to Controllers”](#) section on page 2-11 to apply additional system settings.
-

Manually Add a Single Controller

To add a single Controller to Cisco RMS, complete the following procedure.

Procedure

- Step 1** Select **Systems**.
- Step 2** Select **Import System > Add System**.
- Step 3** Enter the system settings.
- For example:
- **Name**—A meaningful name for the system.
For example: Bldg1, Unit1A, HC-250.
 - **Unique ID**—The primary Controller hardware ID.
For example: c4:control4_hc250_homecontroller-home-controller-250-000FFF14797F.
 - **Organization**—Specifies the Organization for the system(s). Only users in Roles associated with that Organization can access the system. See the [“Managing Users, Roles and Organizations”](#) section on page 1-9.
 - **Template**—The configuration template that defines the basic system configuration. See the [“Creating Controller Templates”](#) section on page 2-3.
 - **Auto Fix**—If Auto-Fix is enabled, and a test fails, then any associated tasks will be performed. If Auto-Fix is disabled, associated tasks are not performed, even if the test fails.
- Step 4** (Required) Continue to the [“Applying General Attributes to Controllers”](#) section on page 2-11 to apply additional system settings.
-

Import Controllers From a File

To import multiple Controllers from a Microsoft Excel or comma-separated value (CSV) file, do the following:

Procedure

- Step 1** Download a sample .xls or .csv file, and use it as a template for the required fields and format.
- a. Select **Systems**.
 - b. Select one or two systems as a sample.
 - c. Select **Export Systems to XLS**.
 - d. Select an option for the .xls or .csv file format.
 - e. Click **Save** and select a location on your local or network drive.

Step 2 Create a .xls or .csv file that includes the required information and format of the sample file.

For example:

- **Name**—A meaningful name for the system.
For example: Bldg1, Unit1A, HC-250.
- **Unique ID**—The primary Controller hardware ID.
For example: c4:control4_hc250_homecontroller-home-controller-250-000FFF14797F.
- **Tags**—Associates terms with the systems to aid in search.
- **Template**—The configuration template that defines the basic system configuration. See the [“Creating Controller Templates” section on page 2-3](#).
- **Auto Fix**—If Auto-Fix is enabled, and a test fails, then any associated tasks will be performed. If Auto-Fix is disabled, associated tasks are not performed, even if the test fails.
- **Commissioning Profile**—Defines the Commissioning tests (and associated tasks) that will run once. See the [“Creating Commissioning Profiles” section on page 2-4](#).
- **Diagnostic Profiles**—Defines the Diagnostic Profiles that run on a recurring interval. See the [“Creating Diagnostic Profiles” section on page 4-1](#).
- **Password**—The Controller root password used to access the device. Leave this setting blank to retain the default password. Enter a value to change the password on the device and in Cisco RMS.
- **Organization ID**—
- **Organization Name**—Specifies the Organization for the system(s). Only users in Roles associated with that Organization can access the system. See the [“Managing Users, Roles and Organizations” section on page 1-9](#)

Step 3 Import the file.

- a. Select **Systems**.
- b. Select **Import System > Import Systems**.
- c. Click **Browse** and select the .xls or .csv file from a local or network drive.
- d. Click **Import**.

Step 4 Verify that the Controllers were successfully added to the **Systems** list.

Step 5 (Required) Continue to the [“Applying General Attributes to Controllers” section on page 2-11](#) to apply additional system settings.

Applying General Attributes to Controllers

Use the following procedure to update the General Attributes to multiple systems after the Controllers are added to Cisco RMS. The *General Attributes* settings include the following:

- Associate the new System with a template, organization, and/or Profile.
- Enable or disable auto-fix.
- Change the polling interval.

**Note**

Some settings may not be necessary depending on the method used to add the Controllers. For example, Profiles must be added to all systems, but template assignments can be made when importing or manually adding a Controller.

Procedure

Step 1 Select the systems ([Figure 2-4](#)):

- a. Select **Systems**.
- b. Use the Search field to narrow the list. See the [Using Search, page 1-24](#).
- c. Select one or more systems (or select the *select all* box at the top of the list).

**Tip**

To apply the settings to a single system, select the system name and click **Details**.

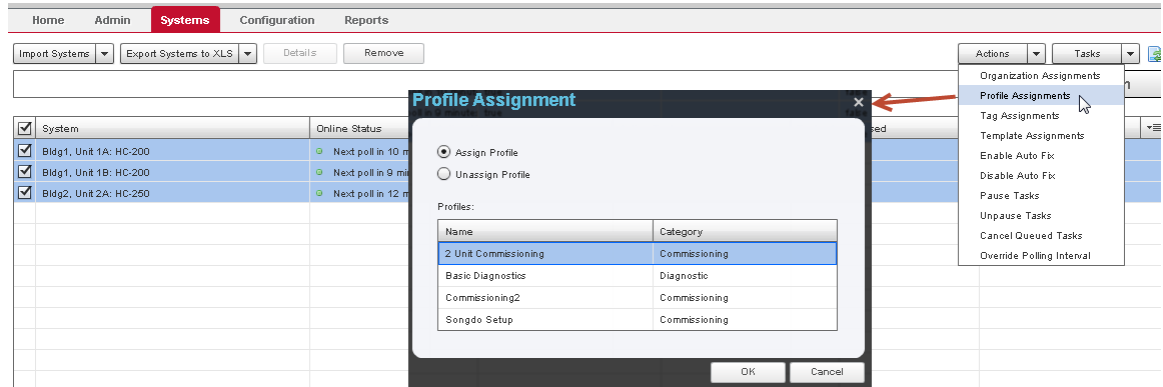
Step 2 Select each of the following options from the **Actions** menu:

- **Organization Assignments**
- **Profile Assignments**
- **Tag Assignments**
- **Template Assignments**
- **Enable/Disable Auto Fix**
- **Override Polling Interval**

**Tip**

See the [“Actions” section on page 1-23](#) for descriptions of each option.

For example, in [Figure 2-4](#) the selected systems are assigned to a Commissioning Profile.

Figure 2-4 Assigning a Profile

Step 3 Repeat [Step 2](#) for each setting required by the system.

For example, you can assign multiple Diagnostic profiles, assign a project template, or assign the system to an organization.

Step 4 (Optional) Change the systems' **Polling Interval** to a shorter time (such as 1 minute) to cause the system to quickly connect with the Cisco RMS Server and apply the changes.

- Select one or more systems.
- Choose **Override Polling Interval** from the **Actions** menu.
- Select the **Enable Override** option and enter the number of minutes between each polling interval.

**Tip**

You should change this setting back to a longer span after the Commissioning tasks are complete. A short polling interval is useful for testing and Commissioning, but is unnecessary for deployed Controllers. Short polling intervals can potentially cause network and system performance issues.

Step 5 Wait for the template and other settings to be applied (at the next system poll).

- Click **Queued Tasks** to verify the template will be applied at the next system poll.
 - Click **Active Tasks** to view task details in process.
 - Click **Task History** to verify that *Success* appears in the *Outcome* column.
- Select a task to display detailed information.

Step 6 Verify that the tests included in the Commissioning and Diagnostics profiles are performed, refer to the [“Use Reports To View Test Results”](#) section on page 4-5.

**Note**

The profile tests will be applied the next time the system polls. To change the polling interval, choose **Actions > Override Polling Interval > Enable Override** and enter the number of minutes until the next system poll.

Step 7 Continue to the [“Completing the In-Dwelling Tasks”](#) section on page 3-1.



CHAPTER 3

Completing the In-Dwelling Tasks

After systems are successfully commissioned using Cisco RMS (as described in the “[Commissioning Controllers](#)” section on page 2-1), perform the following *in-dwelling* tasks to associate network devices with the Controller, configure Wi-Fi devices on the residential network, and configure the end-user’s audio/video devices (such as the resident’s television).

Contents

- [Summary Steps, page 3-1](#)
- [Add the Cisco Portable Tablet to the Residential Network, page 3-2](#)
- [Identify Network Devices and Complete Composer Pro Settings, page 3-4](#)
- [Complete the Touchscreen Configuration, page 3-9](#)
- [Attach and Configure the Residential Television, page 3-10](#)

Summary Steps

To complete the deployment in each dwelling, connect a PC workstation to the primary Cisco Controller in each dwelling and use the Composer Pro application to do the following:

	Task	Related Documentation	Task Complete? (✓)
Step 1	Deploy the Cisco Controller(s).	Cisco Smart+Connected Remote Management Console Administration Guide	☐
Step 2	Launch Composer Pro and choose the primary Cisco Controller.	Cisco Smart+Connected Residential Installation and Configuration Guide	☐
Step 3	Complete the Cisco Portable Tablet network settings.	Add the Cisco Portable Tablet to the Residential Network, page 3-2	☐
Step 4	Identify the primary Cisco Controller in Composer Pro project. This associates the MAC hardware ID with the project and enable the ZigBee mesh.	Identify Network Devices and Complete Composer Pro Settings, page 3-4	☐

Add the Cisco Portable Tablet to the Residential Network

	Task	Related Documentation	Task Complete? (✓)
Step 5	Enable the Zigbee Server on the primary Cisco Controller. This creates the zigbee security layer (PAN = Personal Area Network) that is unique to each dwelling.	Identify Network Devices and Complete Composer Pro Settings, page 3-4	☐
Step 6	Identify all other ZigBee and IP network devices with the project. This securely associates each device with the dwelling and enables network communication.	Identify Network Devices and Complete Composer Pro Settings, page 3-4	☐
Step 7	Enter additional system properties, if necessary. For example, you can update the system latitude and longitude, project name, and time/date settings.	Identify Network Devices and Complete Composer Pro Settings, page 3-4	☐
Step 8	Connect each touchscreen to the Director that runs on a Cisco Controller. The Cisco Controller automatically configures the touchscreen controls.	Complete the Touchscreen Configuration, page 3-9	☐
Step 9	Connect and configure the resident's TV. This enables on-screen navigation using a resident's television and Cisco Universal Remote.	Attach and Configure the Residential Television, page 3-10	☐

Add the Cisco Portable Tablet to the Residential Network

Configure the Cisco Portable Tablet to enable communication with the other Cisco Smart+Connected Residential Solution devices, the building network, and the Internet.

Before You Begin

Verify that the following requirements are met.

Table 3-1 **Requirements**

Requirements	Related Documentation	Requirement Complete? (✓)
Install the Cisco Portable Tablet.	Cisco Smart+Connected Portable Tablet Reference Guide Cisco Smart+Connected Residential Installation and Configuration Guide	☐

Table 3-1 **Requirements (continued)**

Requirements	Related Documentation	Requirement Complete? (✓)
Ensure that the Cisco Controller is on the same subnet as the dwelling Wi-Fi wireless access point (WAP).	See the networking requirements section of the Cisco Smart+Connected Residential Installation and Configuration Guide for more information.	☐
Gather the following wireless network information for the dwelling: • SSID (network name). • Passphrase (also called a password or security key). • IP Addressing Requirements: The default is DHCP (with dynamic addresses). If you need to use a static IP address, you must provide a network IP address for this device.	See your system administrator. Cisco Smart+Connected Residential Installation and Configuration Guide	☐

Procedure

Step 1 On the touchscreen, tap **More > Settings > Network**.

Step 2 Under Wireless, select **Enable**.

- a. Select the network name (SSID), or select **Other** to add the SSID using the onscreen keyboard.
- b. Select the Security method: **None**, **WEP**, or **WPA**.
- c. Enter the wireless password.
- d. Select **Connect**. Notice that the IP settings change.

Step 3 (Optional) Enter a static IP address.



Note The IP address is set to DHCP by default. Complete the following steps only if a static IP address is used.

- a. On the Network page, tap **Static**.
- b. Select each box one at a time, and type the address: IP Address, Subnet Mask, Default Gateway, Preferred DNS, and Alternate DNS.
- c. When the keyboard appears, type the address, and then tap **Done**.
- d. Tap **OK** to return to the Network page.

Step 4 Identify the device in Composer, and then connect the display to a Director running on a Cisco Smart+Connected Residential device on the network.

- [Identify Network Devices and Complete Composer Pro Settings, page 3-4](#)
- [Complete the Touchscreen Configuration, page 3-9](#)

Identify Network Devices and Complete Composer Pro Settings

When a template is loaded on a system for the first time, the network devices included in the template must be *identified* on the Cisco Controller project, as described in the following procedure.

- If the system template is updated, and the room and device names are the same in the old and new template, the device addresses are retained (and you do not need to re-identify the devices).
- If the room or device names are different, or if additional devices were added, you must identify the network devices as described in the [“Identify Network Devices and Complete Composer Pro Settings” section on page 3-4](#).

The following procedure includes instructions to do the following (using Composer Pro):

1. Identify the *primary* Cisco Controller in the Composer Pro project.
This enables the ZigBee server and creates the PAN ID. ZigBee devices cannot be identified in the project until this is done.
2. Identify IP and ZigBee devices in the Composer Pro project.
3. Optionally revise additional system properties.

Refer to the following procedure for detailed instructions.

Procedure

Step 1 Launch Composer Pro and choose the primary Cisco Controller.

- a. Choose **Start > All Programs > Control4 > Composer 2.2.x.** (or higher)
- b. If prompted, enter your credentials (username and password) to register or renew your Composer license. See your system administrator for assistance.
- c. Select **Director on Local Network**.
- d. Highlight the Cisco Controller name (or IP address) and click **Connect**.

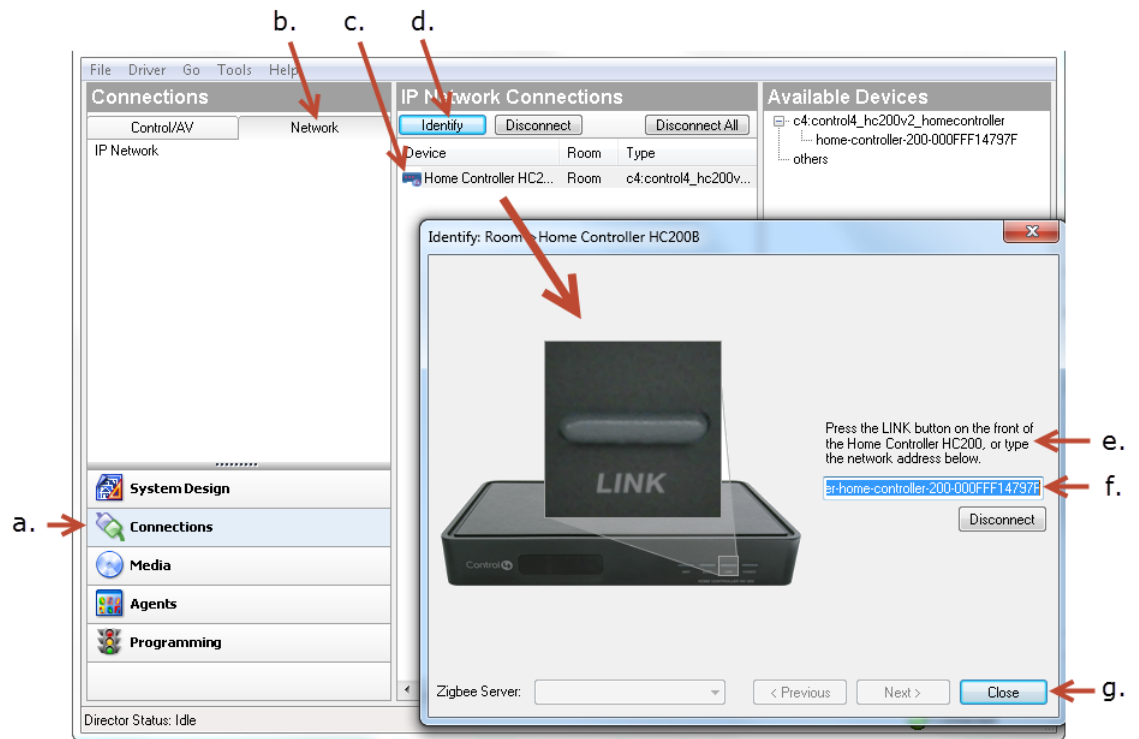


Note If the Cisco Controller does not appear in the list, verify that the Cisco Controller and networking equipment was properly installed and configured. See the [Cisco Smart+Connected Residential Installation and Configuration Guide](#) for more information.

- e. Click **Yes** to add the Cisco Controller to your list of trusted devices.
This step is only necessary the first time you connect your PC to a Cisco Controller.
- f. If prompted to update the device software, click **Cancel**.

Step 2 Identify the *primary* Cisco Controller (Figure 3-1).

Figure 3-1 Identifying the Primary Controller



- a. Click **Connections**.
- b. Click the **Network** tab.
- c. Highlight the Cisco Controller.
- d. Click **Identify**.
- e. Press the physical **Link** or **ID** button on the Cisco Controller, as shown in the Composer Pro image (the button may be on the front or the back of the device, depending on the model).
- f. Verify that the Cisco Controller network address appears in the entry field, as shown in Figure 3-1.
- g. Click **Close**.

Step 3 Verify that the ZigBee network is running on the *primary* Cisco Controller (Figure 3-2).



Note

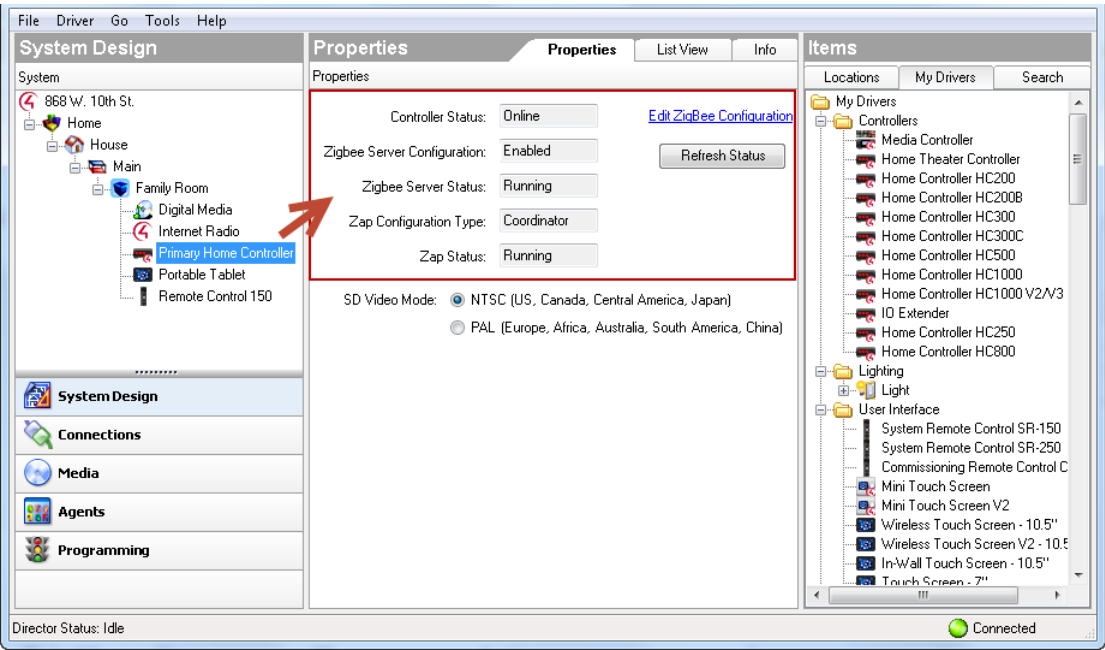
The ZigBee mesh and PAN ID are included with the configuration template that was previously applied. Identifying the primary Cisco Controller brings the Cisco Controller online and enables the ZigBee mesh network. This allows ZigBee devices to be identified with the Cisco Controller's project.

If the ZigBee mesh network was not previously created, then you must create a new network (PAN ID) as described in Step 4.

- a. Click **System Settings**.
- b. Highlight the Cisco Controller.

- c. Under the Properties pane (Figure 3-2) click **Refresh Status**.

Figure 3-2 ZigBee Server Configuration



- d. Verify that the Cisco Controller status is *Online* and the other ZigBee properties are enabled or running as shown in Table 3-2.

Table 3-2 ZigBee Properties

ZigBee Property	Status
Controller Status	Online
ZigBee Server Configuration	Enabled
ZigBee Server Status	Running
ZAP Configuration Type	Coordinator
Zap Status	Running



Note These properties should appear when the ZigBee mesh network is running on the primary Cisco Controller.

Step 4 If the ZigBee mesh network is disabled, or if the settings in Table 3-2 are disabled or offline, you must recreate the ZigBee mesh network:

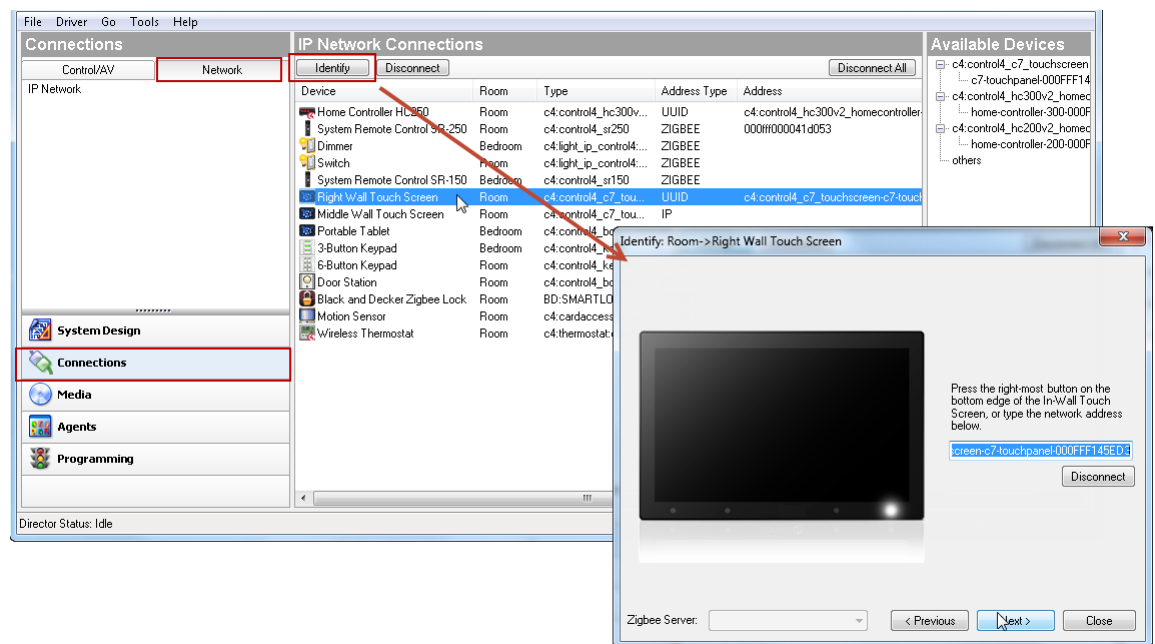
- a. Click **System Settings**.
- b. Highlight the Cisco Controller.
- c. Under the Properties pane (Figure 3-2 on page 3-6) click **Edit ZigBee Configuration**.
- d. Click **Yes** to create a new ZigBee network.

- e. Click **OK** to accept the default ZigBee Server and ZAP Coordinator (ZigBee Network Settings).
- f. Click **OK** again to accept the additional default ZigBee Network Settings (including the Server, Channel, and Coordinator).
- g. Select **File > Refresh**.
- h. To verify that the ZigBee Server is *Running*, click **System Design**, highlight the *primary* Controller, and verify that the ZigBee Server is *Running* (Figure 3-2 and Table 3-2).

Step 5 Identify each network device in the dwelling (Figure 3-3).

- All IP and ZigBee devices must be identified to establish communication with the Composer Pro project.
- If the configuration template is being updated, the
- If a message appears that the ZigBee mesh is not formed, wait a few minutes for the mesh network to be established.

Figure 3-3 Identifying Network Devices



- a. Click **Connections**.
- b. Select the **Network** tab.
- c. In the **IP Network Connections** list (center pane), select the first device and click **Identify**.
- d. When prompted, press the button on the device as instructed in the pop-up window (Figure 3-3).

Examples:

- Press the right button on the lower edge of the Cisco In-wall Display.
 - Press the wireless switch top button four times.
 - Press the red button on the Cisco Universal Remote 150 or 250 four times.
- e. When the device address displays in the Composer Pro field, click **Next**.
 - f. When all devices are identified, click **Close**.

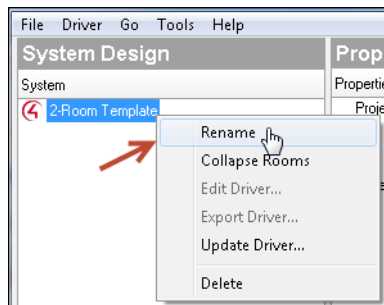
**Tip**

- IP devices typically require a single button press. ZigBee devices require four button presses. To identify ZigBee devices, the ZigBee server must be running. See the [Cisco Smart+Connected Residential Installation and Configuration Guide](#) for more information.
- If you upgraded the Cisco Controller software in [Step 1](#), the device firmware may automatically upgrade when identified. The device may be unresponsive during the upgrade process.

Step 6 (Optional) Update the system and project properties, if necessary.

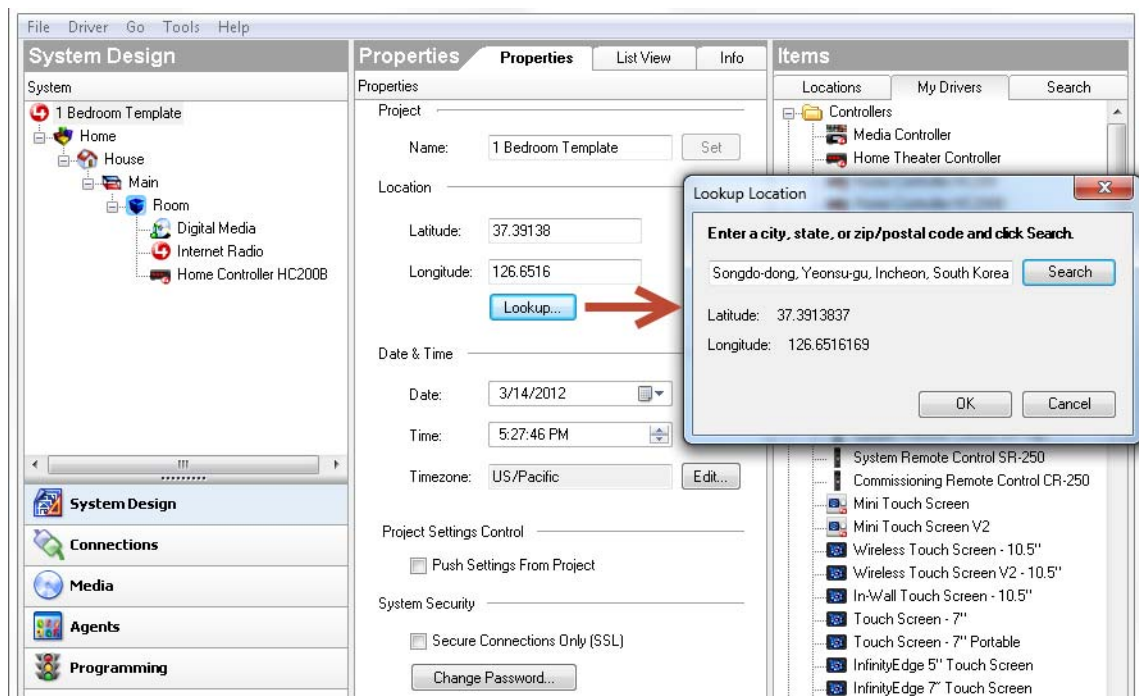
- Rename the project.
 - Right-click the project name and select **Rename**.
 - Enter a meaningful name that describes the template purpose. For example: 2-room template.

Figure 3-4 Renaming the Project



- Enter the project properties ([Figure 3-5](#)).

Figure 3-5 Project Properties



- Click **System Design**.
- Under *Properties*, enter a new *Name*, if necessary, and click **Set**.
For example, Unit 1A
- To change the location where the equipment is installed, click **Lookup**.
For example: Songdo, South Korea.
- Enter the Time and Date where the equipment is installed.
- To change the timezone, click **Edit**.



Note Changing the time zone causes the Cisco Controller to reboot.

- Step 7** Continue to the additional in-dwelling tasks. For example:
- [Complete the Touchscreen Configuration, page 3-9](#)
 - [Attach and Configure the Residential Television, page 3-10](#)
- Step 8** Complete the additional installation and configuration tasks described in the [Cisco Smart+Connected Residential Installation and Configuration Guide](#).

Complete the Touchscreen Configuration

After the touchscreens (such as the Cisco Portable Tablet) have been added to the network and identified in Composer Pro, they must also be connected to the Director application that runs on a Cisco Controller. The Cisco Controller automatically configures the touchscreen controls.



Note If the touchscreen is not connected to a Cisco Controller, the subsystem buttons will not be lit and a default room will not be displayed. Verify that the device is added and identified in Composer Pro. See the [“Identify Network Devices and Complete Composer Pro Settings” section on page 3-4](#) for details.

Procedure

- Step 1** Complete the instructions in the [“Identify Network Devices and Complete Composer Pro Settings” section on page 3-4](#).
- Step 2** On the Home page, tap **More > Settings**.
- Step 3** Tap **Director**.
- Step 4** If the Director page does not display, the Director view has probably been disabled; you must provide a password to enable it.
- If you need the password, contact your Cisco reseller if you are the Installer.
 - If you have the password, tap **Config > Disable View**, enter the password, and then tap **Director** to deselect it. Tap the **Director** button again, and view the Director page.
- Step 5** In the Director list of IP addresses, tap on your Cisco Controller’s IP address. The screen displays your current connections.

- Step 6** Verify that the Name, IP Address, and default location (room) display on the Cisco Portable Tablet to ensure all of the correct connections.
-

Attach and Configure the Residential Television

To enable on-screen navigation using a resident's television and Cisco Universal Remote, connect the resident's TV to the Cisco Controller and add the TV to the Composer Pro project. Next, define the physical A/V connections in Composer Pro.

This process allows the Cisco Controller to send commands to the TV using the IR Emitter.

Before You Begin

before you begin, locate the television driver for the television model installed in the residence. The television driver includes the correct IR codes used by the Cisco Universal Remote to control the television.

- If a driver for the television model exists in the Composer Pro local or online database, continue to the following procedure.
- If the driver does not exist in the local or online database, you must create a driver that contains the correct IR codes.
 - Use the Composer Pro **Driver Wizard**. The Cisco Controller can learn the TV IR codes from the TV's original remote.
 - You can also download the DriverWorks SDK and build a driver from a documented set of IR codes.

Procedure

- Step 1** Connect the component or HDMI cables from the resident's TV to the Cisco Controller.
- Step 2** Connect an IP emitter from the Cisco Controller to the infrared sensor on the resident's TV.
- Step 3** Add the TV to the Composer Pro project.
- a. In the **System Design** view, highlight the room where the device is installed.
For example: select **Family Room**.
 - b. Choose the **My Drivers** tab.
 - c. Double-click the driver name.



Tip Click the **Search** tab to access the Online and Local Databases to choose the driver for the TV model, if necessary. Your PC must be connected to the Internet to access the Online Database.

- Step 4** Create the Control and A/V connections for the television.
- The Control and A/V connections are the logical connections that mirror the physical cables connected from the Cisco Controller to the devices.
- a. Click **Connections**.
 - b. Click the **Control A/V** tab.

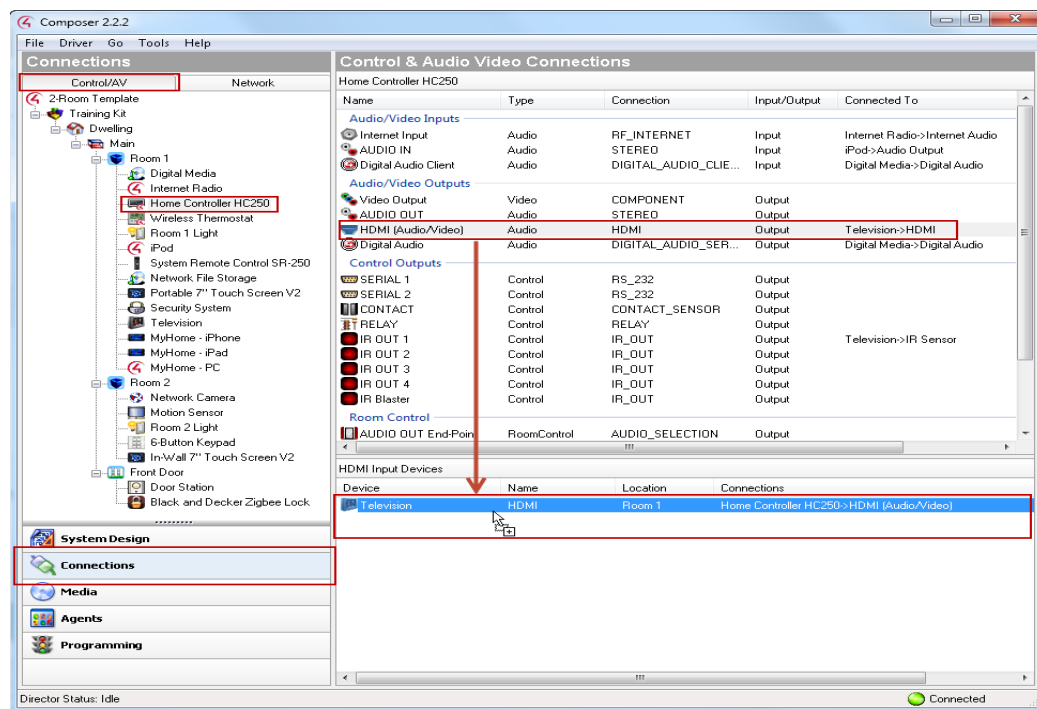
- c. Select the television.
- d. Drag and drop the connections to appropriate device and port.

For example, [Table 3-3](#) summarizes the component connections between the Cisco Controller and television (see also [Figure 3-6](#)).

Table 3-3 Sample Audio/Video Connections

Controller Output	Component Input Device
Video Output (Component HD)	TV Component Input
Audio Out 1	TV Component Input
IR Out 1	TV IR Sensor

Figure 3-6 Control and Audio/Video Connections



Note

[Table 3-3](#) and [Figure 3-6](#) are examples only. The connections vary for each residence depending on the equipment used.

Step 5 Verify the Control and Audio/Video Connections.

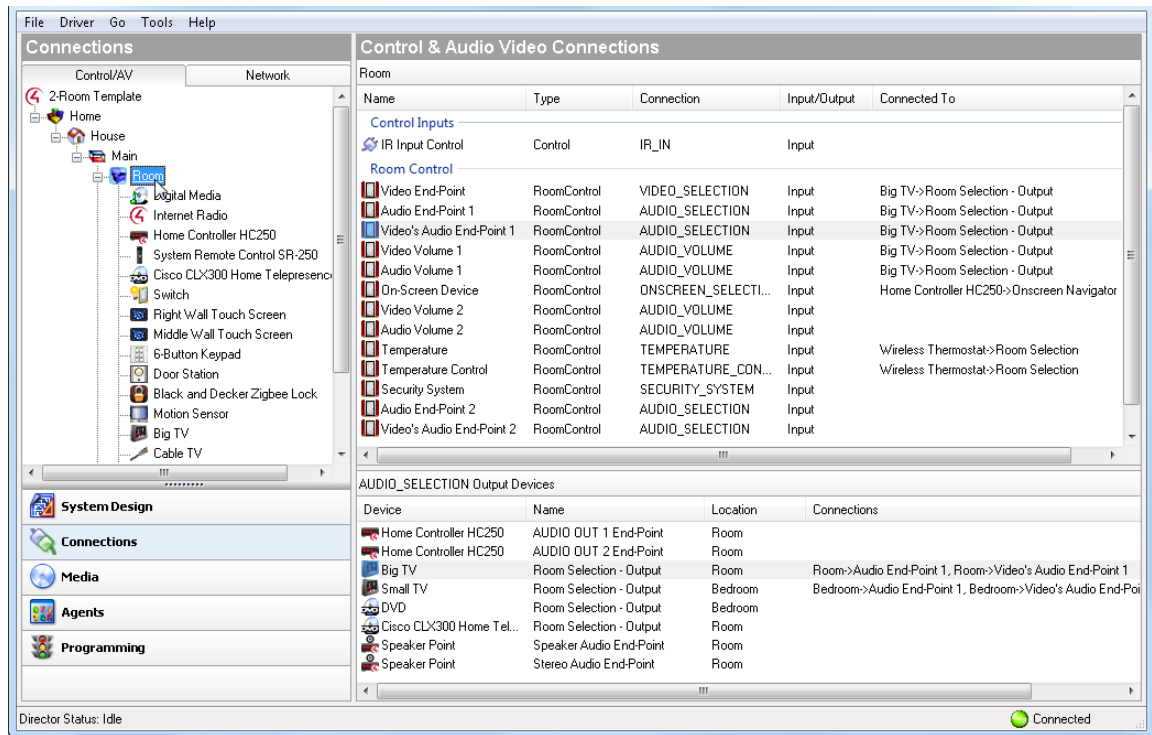
- a. Click **Connections**.
- b. Click the **Control A/V** tab.
- c. Select a room.

For example, the *Living Room* or *Bedroom*.

- d. A summary of the Control and Audio/Video Connections *endpoints* is displayed ([Figure 3-7](#)).

Endpoints are the destination for control and audio/video signals.

Figure 3-7 Control and Audio/Video Endpoints



For example, [Table 3-4](#) describes the purpose of the endpoints shown in [Figure 3-7](#).

Table 3-4 Room Endpoints

Endpoint	Connected To	Description
Video End Point	Big TV	Video sent out from the Cisco Controller will be displayed on the “Big TV”.
Audio End Point	Big TV	Audio sent out from the Cisco Controller will be displayed on the “Big TV”. Note Audio could also be sent to other devices, such as an amplifier/receiver.
- Video’s Audio Endpoint - Video Volume - Audio Volume	Big TV	- The audio associated with video is sent to the “Big TV”. - The Video Volume and Audio Volume changes are sent to the “Big TV”. Note These endpoints are added automatically.
On-screen Device	Primary Cisco Controller	Causes the Navigator user interface to be displayed by the Cisco Controller on the assigned video output device. Note This endpoint is added automatically.

- e. Drag the **On-screen Device** endpoint to the Cisco Controller. This enables the Onscreen Navigator controls on the television.
-



CHAPTER 4

Diagnostic Tests, Profiles, and Reports

Diagnostic profiles are used to perform tests on a recurring. The diagnostic tests can also trigger tasks to correct an issue or perform an action.

Tests and tasks can perform any action that can also be performed using a secured shell or API SOAP call.

Contents

- [Creating Diagnostic Profiles, page 4-1](#)
- [Use Reports To View Test Results, page 4-5](#)

Creating Diagnostic Profiles

Diagnostic Profiles are groups of tests that can be applied to multiple systems. For example, Diagnostic Profiles can test system performance, gather project information, or check memory use. The tests can also perform tasks based on the test results. See the [“Understanding Tests and Tasks” section on page 1-19](#) for more information.



Tip

To view the available tests and tasks, select **Configuration > Tests** and roll over each test to view a short description.

Procedure

To create a Commissioning Profile:

- Step 1** Log in to the Cisco RMS Console.
- Step 2** Select **Configuration > Profiles**.
- Step 3** Create or modify the Profile.
 - a. Click **Create**, or select an existing entry and click **Modify**.
 - b. Enter a Profile name.
 - c. Select the **Diagnostic** configuration type:
 - d. Click **Save**.
- Step 4** Add tests to the Profile.
 - a. Highlight the Profile name.

- b. Click **Assignments**.
- c. Click the **Add** icon .
- d. Select one or more tests from the pop-up window and click **OK**.

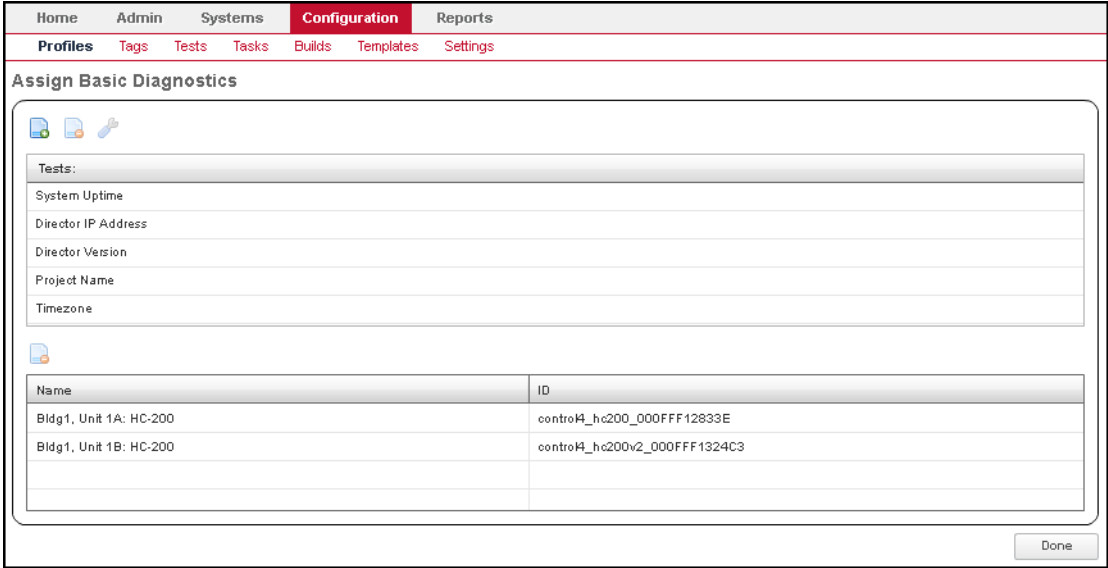
**Tip**

Roll over a test name to display a description of the test. Use **CTRL-Click** or **Shift-Click** to select multiple items.

- e. Click **OK**.

The assigned Tests are listed in the top field. The assigned systems are displayed in the lower field ([Figure 4-1](#)).

Figure 4-1 Tests and Systems Assigned to a Diagnostic Profile

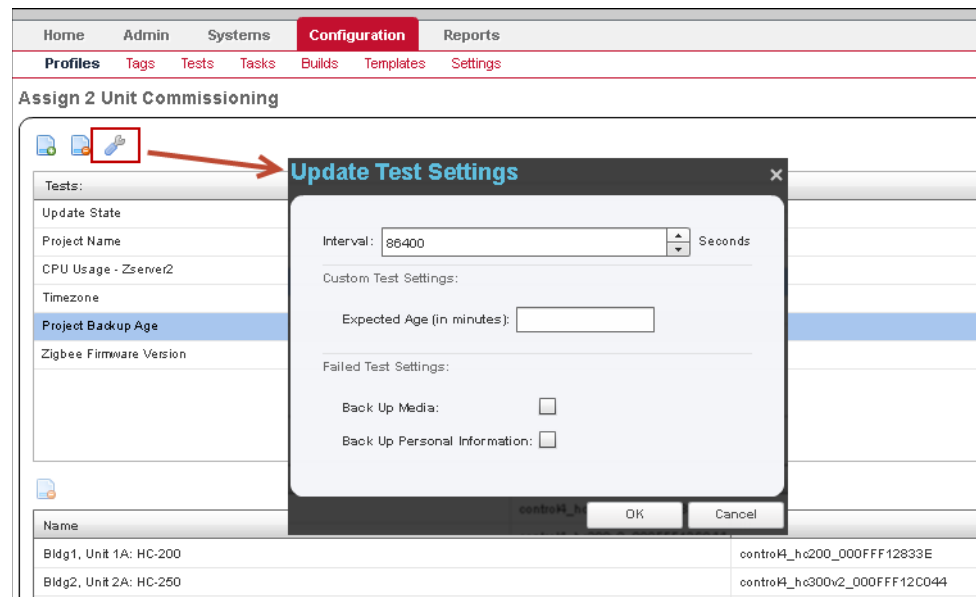


The screenshot shows the 'Assign Basic Diagnostics' window. At the top, there are tabs: Home, Admin, Systems, Configuration (selected), and Reports. Below these are sub-tabs: Profiles, Tags, Tests, Tasks, Builds, Templates, and Settings. The main area is titled 'Assign Basic Diagnostics'. It contains two sections: 'Tests:' and a table of assigned systems. The 'Tests:' section lists: System Uptime, Director IP Address, Director Version, Project Name, and Timezone. The table below has two columns: 'Name' and 'ID'. It lists two systems: 'Bldg1, Unit 1A: HC-200' with ID 'controM_hc200_000FFF12833E' and 'Bldg1, Unit 1B: HC-200' with ID 'controM_hc200v2_000FFF1324C3'. A 'Done' button is at the bottom right.

Name	ID
Bldg1, Unit 1A: HC-200	controM_hc200_000FFF12833E
Bldg1, Unit 1B: HC-200	controM_hc200v2_000FFF1324C3

Step 5 (Optional) Modify the test settings (Figure 4-2).

Figure 4-2 Editing Test Settings



- a. Select the test name (from the **Configuration > Profiles > Assignments** window).
- b. Click the Edit icon .
- c. Edit the available settings.

For example, in Figure 4-2 shows the options to edit the *Project Backup Age* test. You can define the Interval (how often the test will run), and the expected age of the last backup. If the last backup is older than that age, then the test fails, you can chose to backup the system Media, Personal Information, or both.

Step 6 Assign the Profile to one or more Systems.

- a. Select **Systems**.
- b. Use the Search field to narrow the list. See the [Using Search, page 1-24](#).
- c. Select one or more systems (or click the box at the top of the list to select all displayed items).

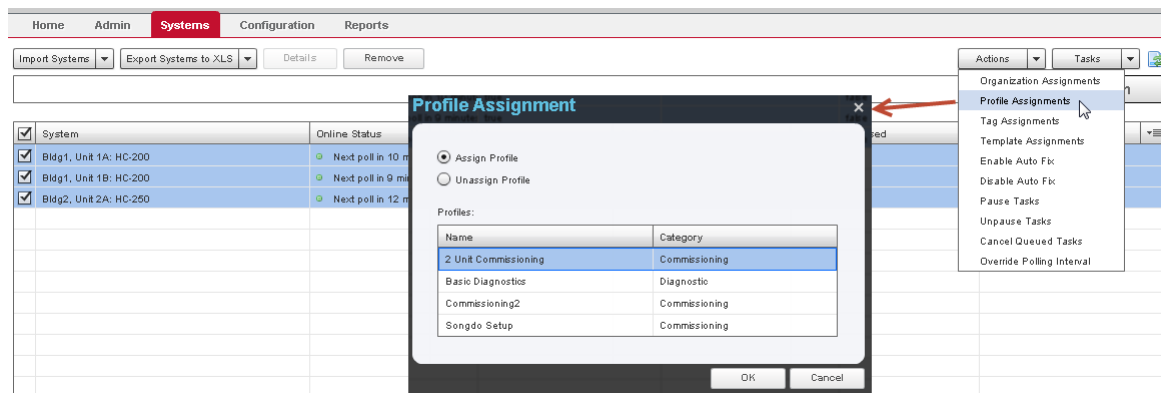


Tip To apply the settings to a single system, select the system name and click **Details**.

- d. Select **Profile Assignments** from the **Actions** menu.
- e. Select the profile and click **OK**.

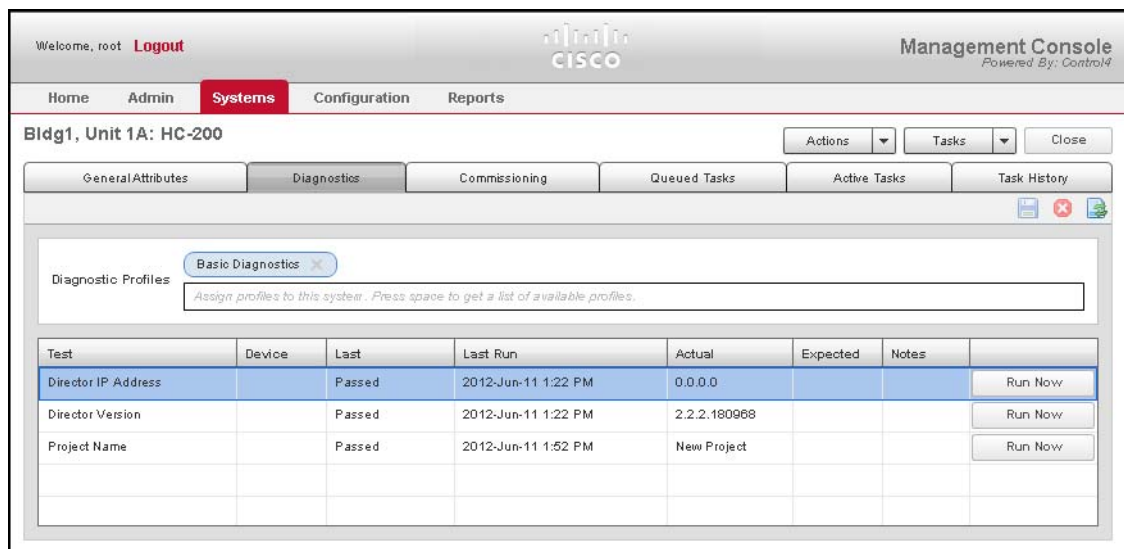
For example, in [Figure 4-3](#) the selected systems are assigned to a Commissioning Profile.

Figure 4-3 Assigning a Profile



Step 7 Wait for the Tests to be performed (based on polling interval).

Figure 4-4 Diagnostic Profile Assigned to a System



- The Profile will be applied and displayed the next time the system polls Cisco RMS ([Figure 4-4](#)).
- Diagnostic tests are performed regularly, based on the test *iteration* (how often the test should run), even if the test is included in multiple Profiles. Click **Run Now** to run the test and associated tasks at the next poll.



Tip

To change the polling interval, choose **Actions > Override Polling Interval > Enable Override** and enter the number of minutes until the next system poll.

Step 8 Use Reports to view details of completed Tests. See the “[Use Reports To View Test Results](#)” section on [page 4-5](#).

Use Reports To View Test Results

Use Reports to view test results for one or more Controllers, and to generate results for a time span, for a specific device type, or for tests that passed, failed or were blocked.

Figure 4-5 Reports

1 →

2 →

3 →

4 →

5 →

Device Name	System	Test Type	Actual Result	Ex...	Outcome	Last Run	Notes
Bldg1, Unit 1A: HC-200	Bldg1, Unit 1A: HC-200	Director Version	2.2.2.180968		Passed	2012-Jun-9 1:37 PM	
Bldg1, Unit 1A: HC-200	Bldg1, Unit 1A: HC-200	Director IP Address	0.0.0.0		Passed	2012-Jun-9 1:37 PM	
Living Room > Home Controller HC200B	Bldg1, Unit 1B: HC-200	Director Version	2.2.2.180968		Passed	2012-Jun-9 1:36 PM	
Living Room > Home Controller HC200B	Bldg1, Unit 1B: HC-200	Director IP Address	192.168.99.130		Passed	2012-Jun-9 1:36 PM	
Bed Room > White Wall TouchScreen	Bldg1, Unit 1B: HC-200	System Uptime	130570	minutes	Passed	2012-Jun-9 1:36 PM	System
Living Room > Portable 7" Touch Screen V2	Bldg1, Unit 1B: HC-200	System Uptime	130570	minutes	Passed	2012-Jun-9 1:36 PM	System
Living Room > Middle Wall TouchScreen	Bldg1, Unit 1B: HC-200	System Uptime	12788	minutes	Passed	2012-Jun-9 1:36 PM	System
Living Room > Right Wall TouchScreen	Bldg1, Unit 1B: HC-200	System Uptime	12788	minutes	Passed	2012-Jun-9 1:36 PM	System

- 1 Filters—Select the following filters to narrow the results.
 - Time span—Click time span to open the pop-up window. Select a **Start** and **End Date**, or select a pre-defined setting, such as Today, Current Results, or Last 7 Days.
 - Tags—Press the space bar to display all tags, or enter the tag name. See the [“Creating and Assigning Tags”](#) section on page 1-24 for more information.
 - Device Type—Select a physical device to include in the results, or select All to display all devices.
 - Test—Limits the results to devices that include the selected test.
 - Status—Limits the results to tests that **Passed**, **Failed**, or were **Blocked**. Select **All** to include all test results, regardless of status.
- 2 Reports results.
- 3 Page navigation and display options.
- 4 **Search**—Enter a text string to narrow the results. Matching entries are loaded dynamically and are displayed in red.
- 5
 - Refresh the results list.
 - Save the results to an Excel file.

Procedure

To generate a test report:

- Step 1** Click **Reports**.
- Step 2** Select the report filters and click **Load Results**:

- Step 3** (Optional) Enter search terms to highlight entries that match the terms.
- Step 4** (Optional) Click the refresh icon  to update the list.
- Step 5** (Optional) Click the Export icon  to save the report to an Excel spreadsheet file.
-