Monitoring Cisco Wireless LAN Controllers

Cisco: Wireless PowerPack version 102

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Chapter 1

Introduction

Overview

This manual describes how to monitor Cisco wireless LAN controllers in the ScienceLogic platform using the *Cisco: Wireless* PowerPack.

The following sections provide an overview of Cisco wireless LAN controllers and the *Cisco: Wireless* PowerPack:

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What are Cisco Wireless LAN Controllers?

Cisco wireless LAN controllers (WLC) play a central role in Cisco unified wireless networks. WLCs collect management and data packets from the network's access points (AP) and then switch those packets between wireless clients and the wired portion of the network. The WLC also controls the network configuration and passes this configuration data to the access points, which act as wireless client interfaces.

What Does the Cisco: Wireless PowerPack Monitor?

The Cisco: Wireless PowerPack enables you to monitor Cisco WLCs and APs using the AIRESPACE-WIRELESS-MIB and CISCO-LWAPP-MIB. The PowerPack includes the following features:

- Dynamic Applications that discover and collect data from all Cisco WLC component devices monitored
- Event Policies and corresponding alerts that are triggered when Cisco WLC component devices meet certain status criteria
- Device Classes for each of the Cisco WLC component devices monitored
- Device Dashboards that display information about Cisco WLC component devices

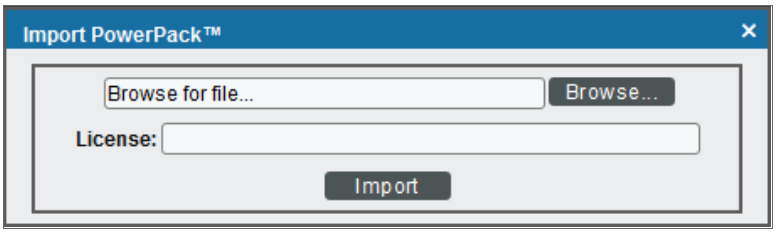
Installing the Cisco: Wireless PowerPack

Before completing the steps in this manual, you must import and install the latest version of the *Cisco: Wireless* PowerPack.

TIP: By default, installing a new version of a PowerPack overwrites all content in that PowerPack that has already been installed on the target system. You can use the ***Enable Selective PowerPack Field Protection*** setting in the **Behavior Settings** page (System > Settings > Behavior) to prevent new PowerPacks from overwriting local changes for some commonly customized fields. (For more information, see the ***System Administration*** manual.)

To download and install a PowerPack:

1. Download the PowerPack from the ScienceLogic Customer Portal.
2. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
3. In the **PowerPack Manager** page, click the **[Actions]** button, then select *Import PowerPack*.
4. The **Import PowerPack** dialog box appears:



5. Click the **[Browse]** button and navigate to the PowerPack file.
6. When the **PowerPack Installer** modal page appears, click the **[Install]** button to install the PowerPack.

NOTE: If you exit the **PowerPack Installer** modal page without installing the imported PowerPack, the imported PowerPack will not appear in the **PowerPack Manager** page. However, the imported PowerPack will appear in the **Imported PowerPacks** modal page. This page appears when you click the **[Actions]** menu and select *Install PowerPack*.

Chapter 2

Configuring Cisco WLC Monitoring

Overview

The following sections describe how to configure and discover Cisco wireless LAN controllers for monitoring by the ScienceLogic platform using the *Cisco: Wireless* PowerPack:

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Configuring a Cisco WLC SNMP Credential 7

Discovering Cisco WLC Devices 8

Verifying Discovery and Dynamic Application Alignment 9

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Prerequisites for Monitoring Cisco WLC

Before you can monitor Cisco wireless LAN controllers using the *Cisco: Wireless* PowerPack, you must have the following information:

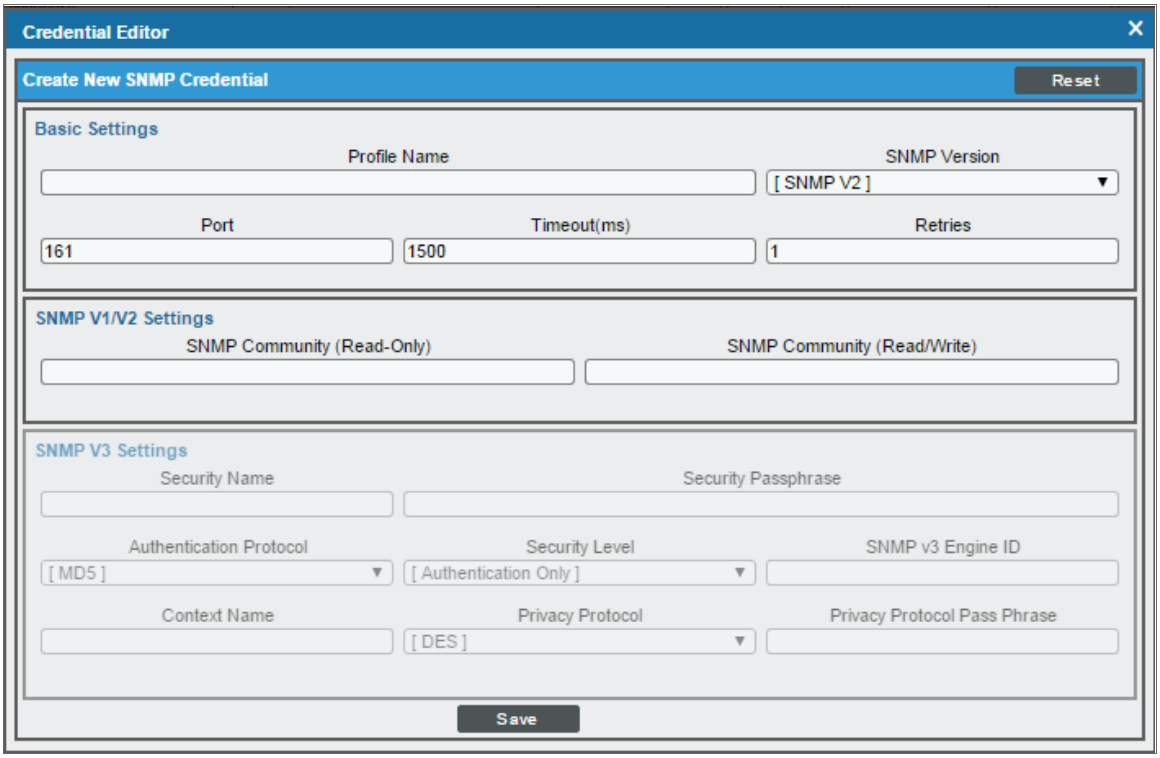
- The IP address of the WLC that you want to monitor with the ScienceLogic platform
- The settings for an SNMP V2 or SNMP V3 credential that can be used to communicate with the WLC

Configuring a Cisco WLC SNMP Credential

To configure the ScienceLogic platform to monitor a Cisco WLC, you must first create a SNMP V2 or SNMP V3 credential. This credential allows the Dynamic Applications in the *Cisco: Wireless* PowerPack) to communicate with the WLC.

To create an SNMP credential for monitoring a WLC:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Click **[Actions]**, and then select *Create SNMP Credential*. The **Credential Editor** page appears:



3. In the ***Profile Name*** field, type a name for the credential.
4. In the ***SNMP Version*** field, select *SNMP V2* or *SNMP V3*.

NOTE: Do not use an SNMP V1 credential for monitoring a WLC. Using an SNMP V1 credential will decrease the performance of the data collection process.

5. If you selected *SNMP V2*, then in the ***SNMP Community (Read Only)*** field, type the community string for the WLC.
6. If you selected *SNMP V3*, supply values in the following fields:
    - ***Security Name***. Type the SNMP user name for the WLC.

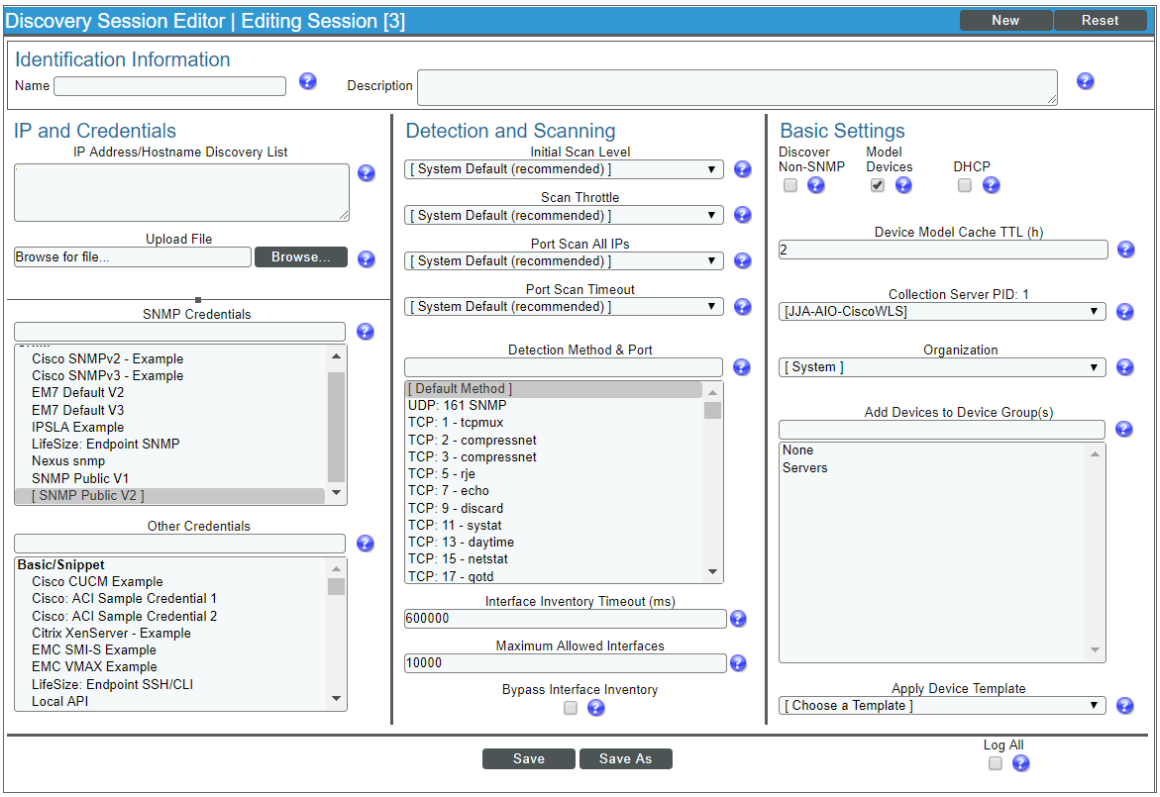
- ***Security Passphrase***. Type the passphrase for the SNMP user.
- ***Authentication Protocol***. If applicable, select the authentication protocol for the SNMP user.
- ***Security Level***. If applicable, select the security level that is applicable to the SNMP user.
- ***SNMP v3 Engine ID***. If applicable, type the SNMP V3 Engine ID for the SNMP user.
- ***Privacy Protocol***. If applicable, select the privacy protocol for the SNMP user.
- ***Privacy Protocol Pass Phrase***. If applicable, type the privacy protocol passphrase for the SNMP user.

7. Optionally, supply values in the other fields on this page. In most cases, you can use the default values for the other fields. For a description of the fields in this page, see the ***Discovery & Credentials*** manual.
8. Click **[Save]**.

Discovering Cisco WLC Devices

To discover Cisco WLC devices:

1. Go to the **Discovery Control Panel** page (System > Manage > Discovery).
2. Click the **[Create]** button. The **Discovery Session Editor** page appears:



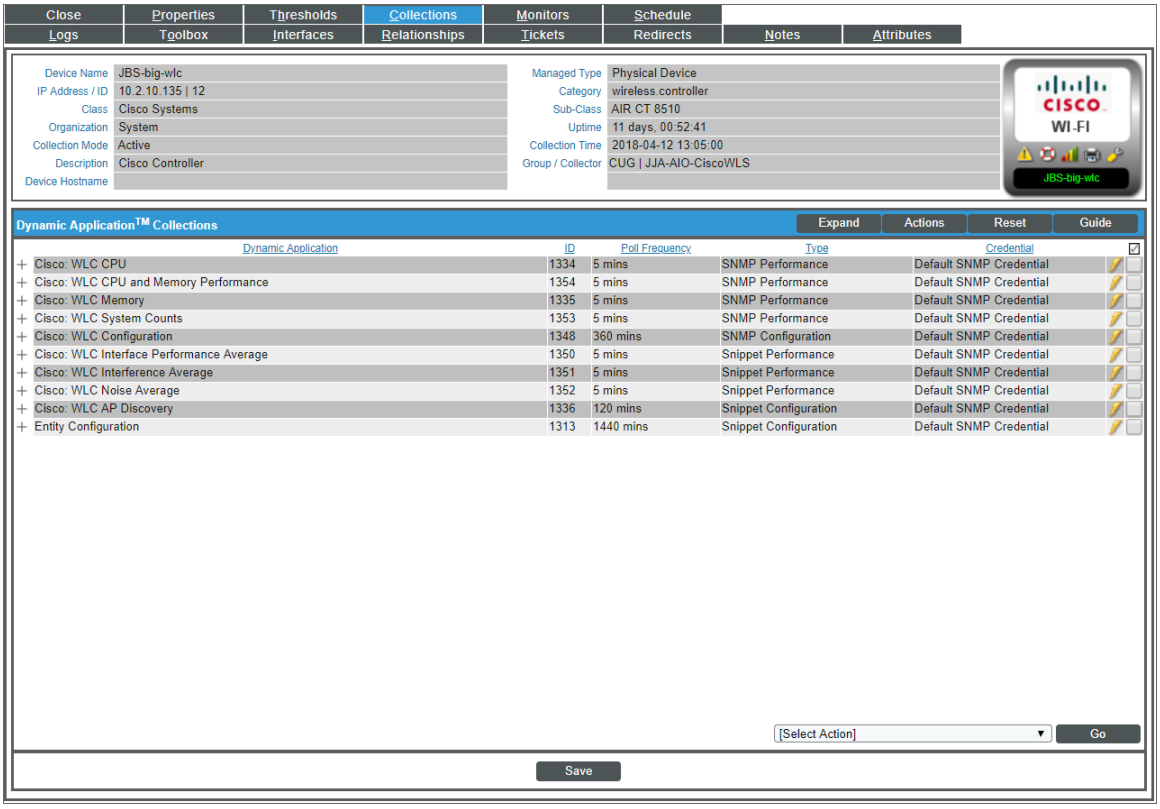
3. Supply values in the following fields:
    - ***Name***. Type a name for the discovery session.
    - ***IP Address Discovery List***. Type the IP address for the WLC.
    - ***SNMP Credentials***. Select the *SNMP credential you created for the WLC*.
4. Optionally, supply values in the other fields in this page. In most cases, you can use the default values for the other fields. For a description of the fields in this page, see the ***Discovery & Credentials*** manual.
5. Click **[Save]**, then close the**Discovery Session Editor** page.
6. The **Discovery Control Panel** page will refresh. Click the lightning bolt icon ( ) for the discovery session you created.
7. In the pop-up window that appears, click **[OK]**. The **Discovery Session** page displays the progress of the discovery session.

Verifying Discovery and Dynamic Application Alignment

To verify that the ScienceLogic platform has automatically aligned the correct Dynamic Applications during discovery:

1. In the **Discovery Session** page, click the device icon ( ) for the newly discovered Cisco WLC device to view its **Device Properties** page.
2. From the **Device Properties** page for the Cisco WLC device, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.

3. The following Dynamic Applications should appear on the **Dynamic Application Collections** page for the WLC device:



- *Cisco: WLC CPU*
- *Cisco: WLC CPU and Memory Performance*
- *Cisco: WLC Memory*
- *Cisco: WLC System Counts*
- *Cisco: WLC Configuration*
- *Cisco: WLC Interface Performance Average*
- *Cisco: WLC Interface Average*
- *Cisco: WLC Noise Average*
- *Cisco: WLC AP Discovery*

NOTE: It can take several minutes after discovery for Dynamic Applications to be automatically aligned to the controller device. If the listed Dynamic Applications do not display on this page, try clicking the **[Reset]** button.

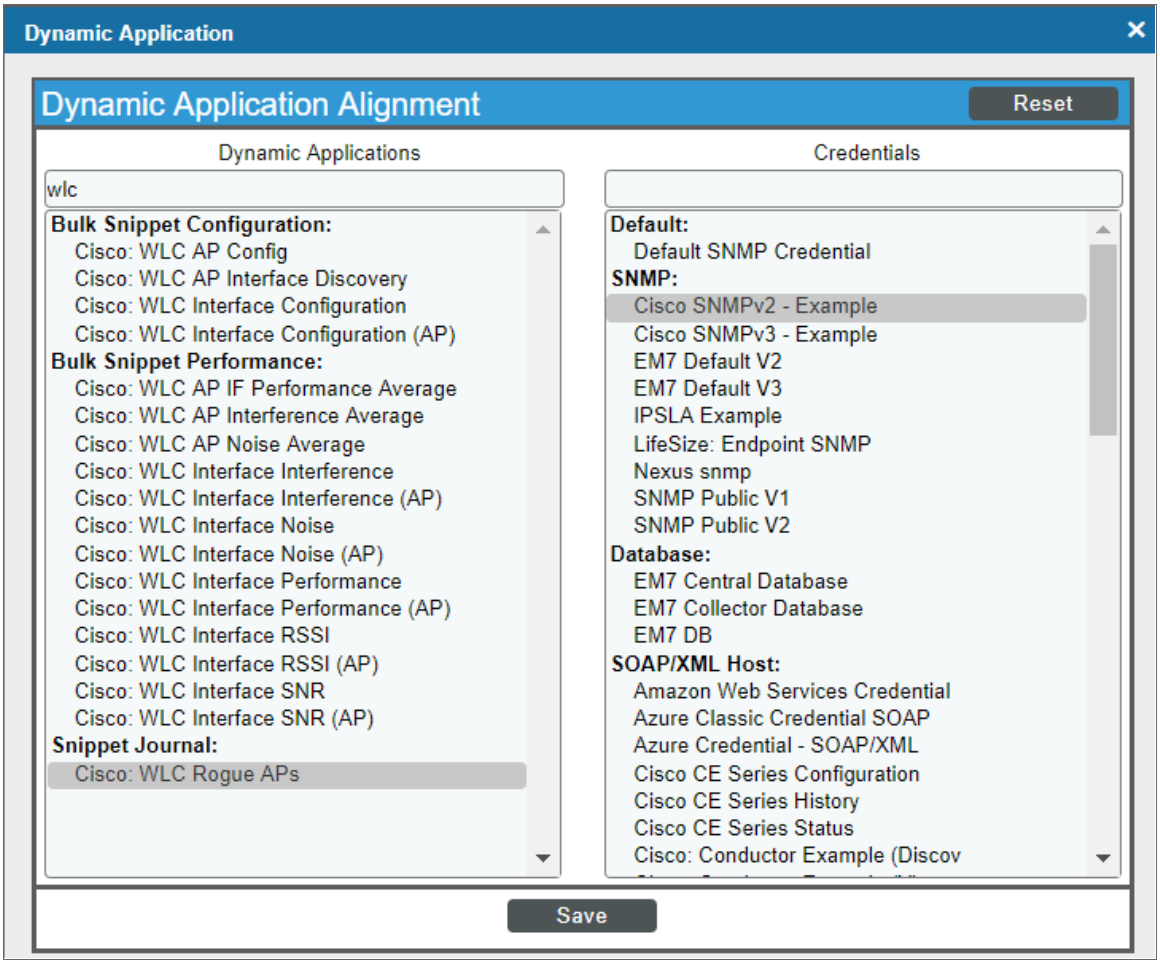
Manually Aligning Dynamic Applications

If the Dynamic Applications have not been automatically aligned, you can align them manually.

NOTE: The "Cisco: WLC Rogue AP" Dynamic Application, which can be used to collect information about rogue access points, is not automatically aligned during discovery. To use the "Cisco: WLC Rogue AP" Dynamic Application, follow the instructions in this section.

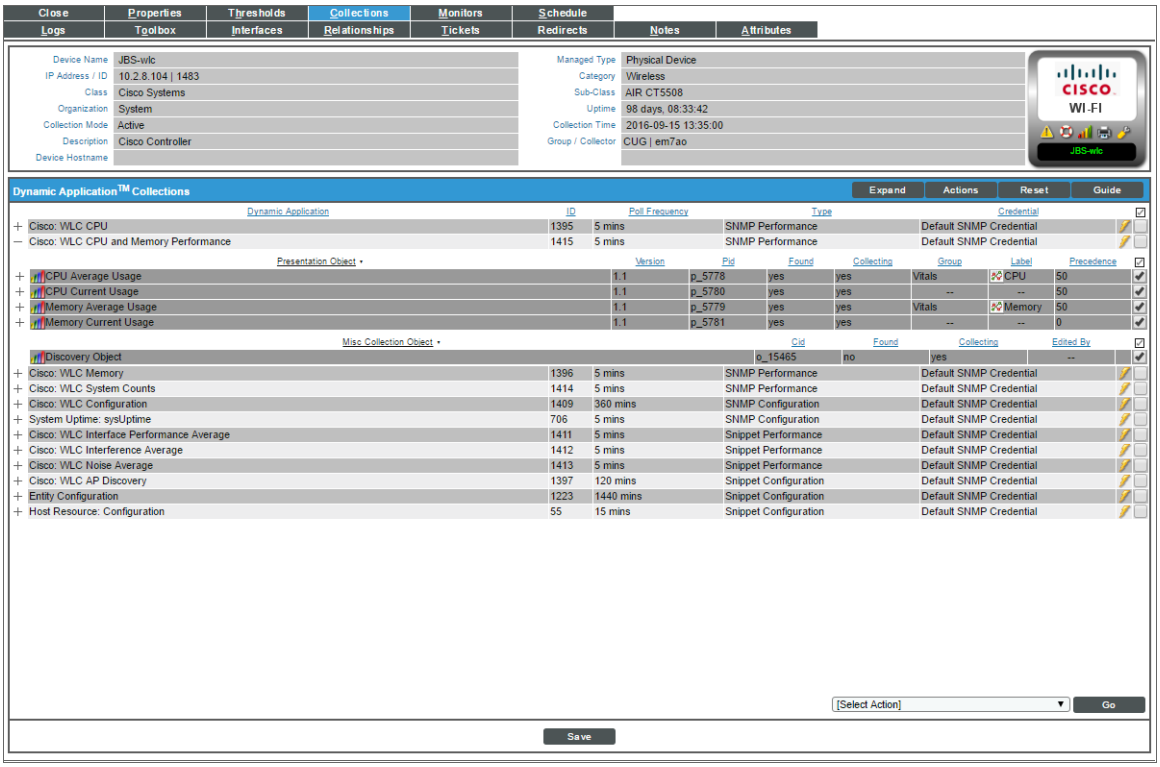
To manually align Dynamic Applications:

1. From the **Device Properties** page for the Cisco WLC device, click the **[Collections]** tab.
2. Click the **[Actions]** button and then select *Add Dynamic Applications*. The **Dynamic Application Alignment** page appears:



3. In the ***Dynamic Applications*** field, select the Dynamic Application you want to align.
4. In the ***Credentials*** field, select the Cisco WLC SNMP credential.
5. Repeat steps 2-4 for the remaining Dynamic Applications you want to align with the device.

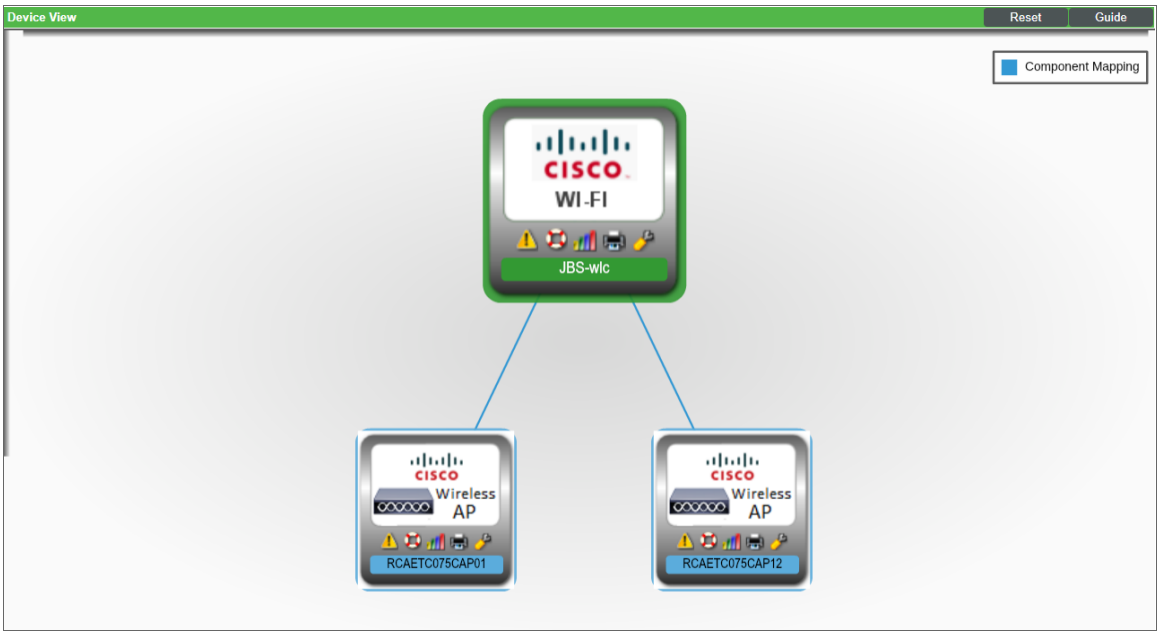
6. After aligning the Dynamic Applications, click the **[Reset]** button and then click the plus icon (+) for the Dynamic Application. If collection for the Dynamic Application was successful, the graph icons ( ) for the Dynamic Application are enabled:



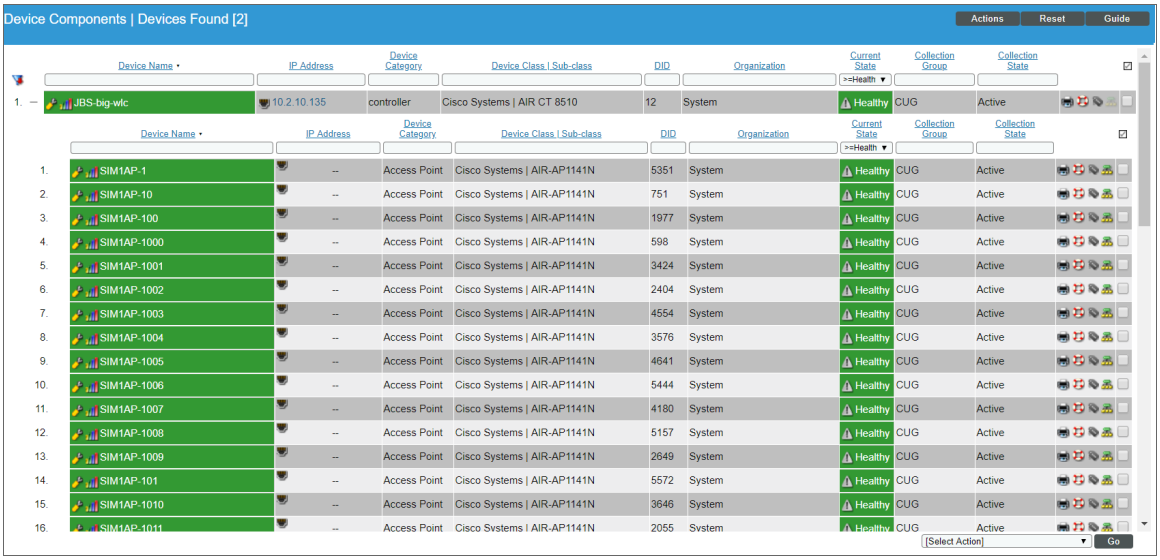
Viewing Cisco WLC Component Devices

In addition to the **Device Manager** page (Registry > Devices > Device Manager), you can view the Cisco WLC device and all associated component devices in the following places in the user interface:

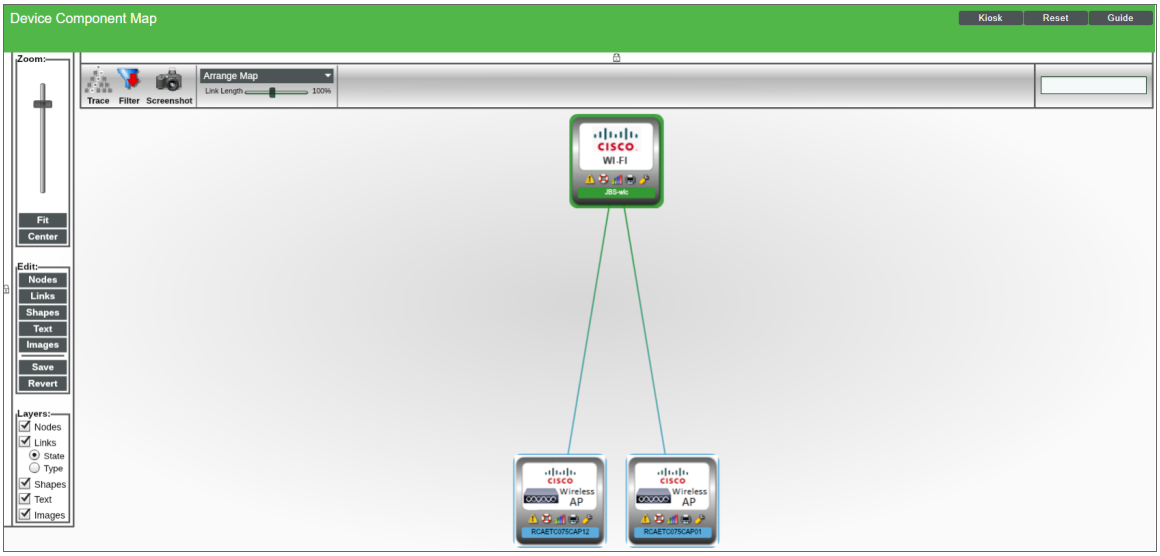
- The **Device View** page displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-clicking any of the devices listed reloads the page to make the selected device the primary device:



- The **Device Components** page (Registry > Devices > Device Components) displays a list of all root devices and component devices discovered by the ScienceLogic platform in an indented view, so you can easily view the hierarchy and relationships between child devices, parent devices, and root devices. To view the component devices associated with a Cisco WLC, click its plus icon (+):



- The **Component Map** page (Views > Device Maps > Components) allows you to view devices by root node and view the relationships between root nodes, parent components, and child components in a map. This makes it easy to visualize and manage root nodes and their components. The ScienceLogic platform automatically updates the **Component Map** as new component devices are discovered. The platform also updates each map with the latest status and event information. To view the map for a Cisco WLC, go to the **Component Map** page and select the map from the list in the left NavBar. To learn more about the **Component Map** page, see the ***Views*** manual.



Chapter 3

Cisco WLC Dashboards

Overview

The following sections describe the device dashboards that are included in the *Cisco: Wireless* PowerPack:

Device Dashboards ***15***

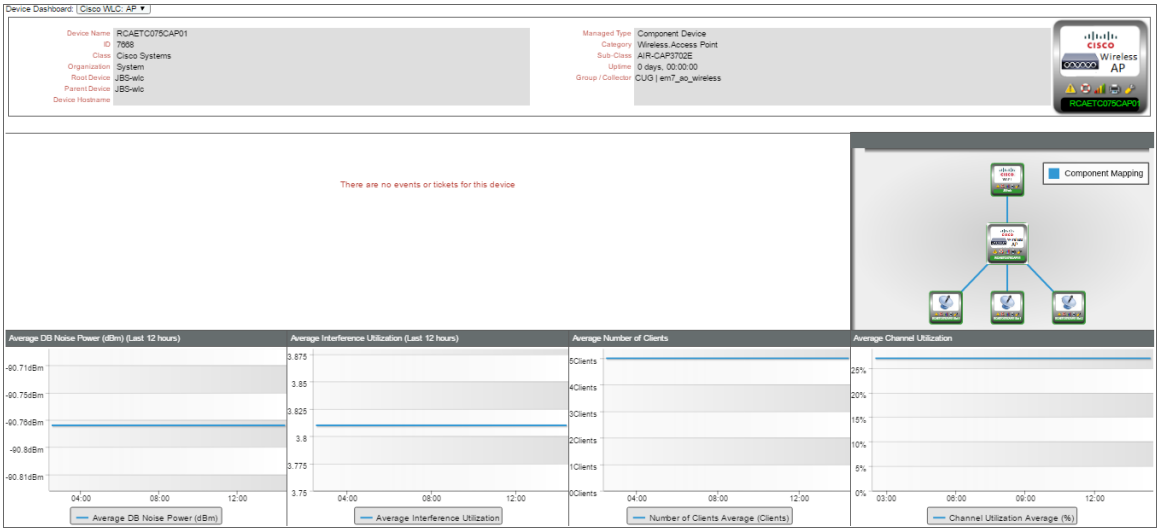
Cisco WLC: AP Dashboard *16*

Cisco WLC: Interface Dashboard *16*

Device Dashboards

The *Cisco: Wireless* PowerPack includes device dashboards that provide summary information for Cisco WLC component devices. Each of the device dashboards in the *Cisco: Wireless* PowerPack is set as the default device dashboard for the equivalent device class.

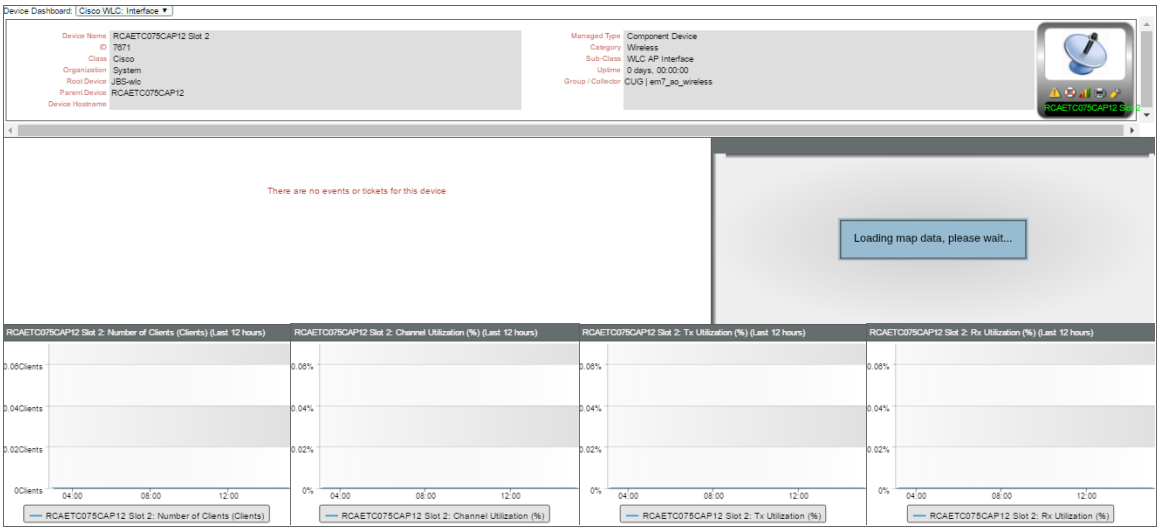
Cisco WLC: AP Dashboard



The Cisco WLC: AP device dashboard displays the following information about Cisco wireless access points:

- Events and tickets on the device
- A component map
- Average decibel (dB) noise over the past 12 hours
- Average interface utilization over the past 12 hours
- Average number of clients across all interfaces on the access point for the most recent poll
- Average channel utilization across all interfaces on the access point for the most recent poll

Cisco WLC: Interface Dashboard



The Cisco WLC: Interface dashboard displays the following information about Cisco wireless access point interfaces:

- Events and tickets on the device
- A component map
- Number of clients over the past 12 hours
- Channel utilization over the past 12 hours
- Tx utilization over the past 12 hours
- Rx utilization over the past 12 hours

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