



Monitoring Aruba Central

Aruba Central PowerPack version 101, rev.1

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Chapter

1

Introduction

Overview

This manual describes how to monitor Aruba Central in SL1 using the *Aruba Central PowerPack*.

The following sections provide an overview of Aruba Central and the *Aruba Central PowerPack*:

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What is Aruba Central?

Aruba Central is a cloud-based platform that provides management tools and built-in analytics for Aruba Instant Access Points (IAPs), switches, and gateways. In each Aruba network, one IAP acts as a virtual controller, which is a single configuration and management point for the network.

What Does the Aruba Central PowerPack Monitor?

To monitor Aruba Central using SL1, you must install the *Aruba Central PowerPack*. This PowerPack enables you to discover, model, and collect data about Aruba Central virtual controllers and their components.

The *Aruba Central PowerPack* includes:

- Dynamic Applications to discover and monitor Aruba Central virtual controllers and their component devices
- Device Classes for each of the Aruba Central components that the *Aruba Central PowerPack* can monitor
- Event Policies that are triggered when Aruba Central component devices meet certain status criteria
- A sample SOAP/XML Credential that you can use to create your own Aruba Central Credential
- A Device Template that aligns Dynamic Applications to the Aruba Central virtual controller and enables you to discover component devices for that virtual controller
- Device Dashboards that display information about Aruba Central component devices

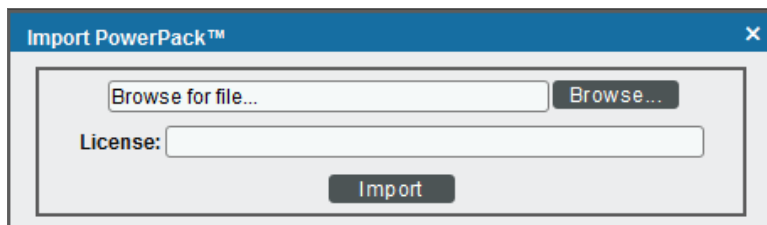
Installing the Aruba Central PowerPack

Before completing the steps in this manual, you must import and install the latest version of the *Aruba Central PowerPack*.

TIP: By default, installing a new version of a PowerPack overwrites all content from a previous version of 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 Support Site](#).
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 appears, click the **[Install]** button to install the PowerPack.

NOTE: If you exit the **PowerPack Installer** modal 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. This page appears when you click the **[Actions]** menu and select *Install PowerPack*.

To ensure accurate data collection after upgrading PowerPack, perform the additional steps:

1. Go to the **Credential Management** page (System > Manage > Credentials). Identify your current credential and click on the credential's name to edit. Add the following HTTP headers:
 - login_url=<url login>
 - auth_url=<authorization url>
 - token_url=<token url>
 - grant_type=authorization_code
 - rest_api=aruba

NOTE: Recommended values for these fields can be found in the **Configuring Aruba Central Credentials** section.

2. Add **SSLCERT Curl Option** and set the value as **False**.
3. Change the Setting Client Secret Key from **Embed Value [%3]** to **Embedded Password [%P]**.
4. Set a page size between 1 and 1000 for the **Embed Value [%3]** field and click **[Save]**.
5. Go to the **Device Manager** page (Devices > Device Manager). Identify the Aruba Central virtual root device and click the **Device Properties** icon.
6. In the Collections tab, select the **Actions** menu and click the **[Add Dynamic Application]** button.
7. Select the "REST: Performance Metrics Monitor (Aruba Central)" Dynamic Application with the current credential and click **[Save]**. To avoid seeing data collected on the old "REST: Performance Metrics Monitor" Dynamic Application report, disable the Dynamic Application's collection entirely. This allows *only* the new REST Dynamic Application to collect data. To disable the collection for the old Dynamic Application:
 - Check the "REST: Performance Metrics Monitor" Dynamic Application and select **Disable All Collection Objects** from the **Action** menu.
 - Click the **[Go]** button. You can also choose **Stop Collecting and Remove Data** to cease the collection of historical data.

NOTE: Confirm there are no spaces in the following header name: `Content-Type:application/json`

Chapter

2

Configuration and Discovery

Overview

The following sections describe how to configure and discover Aruba Central virtual controllers for monitoring by SL1 using the *Aruba Central PowerPack*:

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Prerequisites for Monitoring Aruba Central

Before you can monitor Aruba Central virtual controllers and their component devices using the *Aruba Central PowerPack*, you must first have the following information:

- Aruba Central username and password
- Aruba Central customer ID
- Aruba Central client ID
- Aruba Central client secret key


You can request these items by registering with Aruba Technical Support.

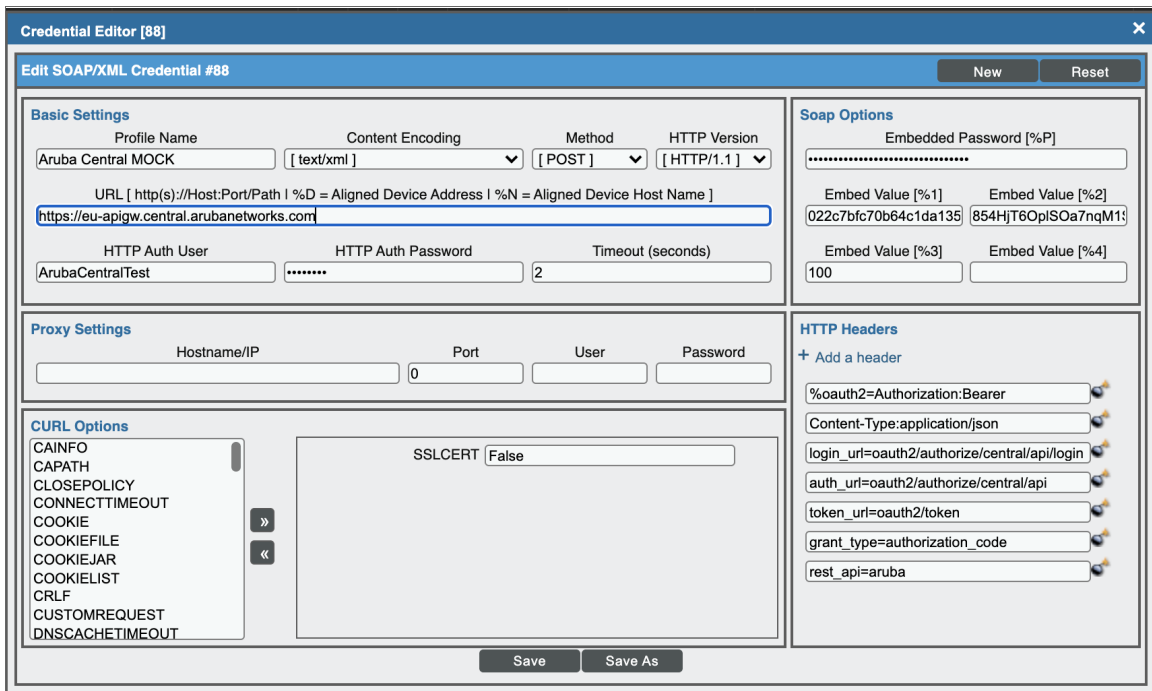
Configuring Aruba Central Credentials

To configure SL1 to monitor Aruba Central devices, you must first create a SOAP/XML credential. This credential allows the Dynamic Applications in the *Aruba Central* PowerPack to use your Aruba Central user account to retrieve information from the Aruba Central virtual controller and component devices.

The PowerPack includes an example SOAP/XML credential (**Aruba Central Example**) that you can edit for your own use.

To configure a SOAP/XML credential to access Aruba Central:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Locate the **Aruba Central Example** credential, and then click its wrench icon (). The **Edit SOAP/XML Credential** modal page appears:



The screenshot shows the 'Credential Editor [88]' window. The title bar indicates 'Edit SOAP/XML Credential #88'. The interface is divided into several sections:

- Basic Settings:** Profile Name (Aruba Central MOCK), Content Encoding ([text/xml]), Method ([POST]), HTTP Version ([HTTP/1.1]), URL (https://eu-apigw.central.arubanetworks.com), HTTP Auth User (ArubaCentralTest), HTTP Auth Password (masked), and Timeout (seconds) (2).
- Soap Options:** Embedded Password [%P] (masked), Embed Value [%1] (022c7bfc70b64c1da135), Embed Value [%2] (854HJT6OpISOa7nqM1), Embed Value [%3] (100), and Embed Value [%4] (empty).
- Proxy Settings:** Hostname/IP, Port (0), User, and Password fields.
- CURL Options:** A list of options on the left (CAINFO, CAPATH, CLOSEPOLICY, CONNECTTIMEOUT, COOKIE, COOKIEFILE, COOKIEJAR, COOKIELIST, CRLF, CUSTOMREQUEST, DNSCACHETIMEOUT) and an SSLCERT field set to False.
- HTTP Headers:** A list of headers including %oauth2=Authorization:Bearer, Content-Type:application/json, login_url=oauth2/authorize/central/api/login, auth_url=oauth2/authorize/central/api, token_url=oauth2/token, grant_type=authorization_code, and rest_api=aruba.

Buttons for 'New', 'Reset', 'Save', and 'Save As' are visible at the bottom.

3. Complete the following fields:

Basic Settings

- **Profile Name.** Type a new name for the Aruba Central credential.
- **URL.** Type your Aruba Central URL.
- **HTTP Auth User.** Type your Aruba Central username email address.
- **HTTP Auth Password.** Type your Aruba Central password.
- **Timeout.** Type a value of at least 5.

NOTE: ScienceLogic recommends setting the **Timeout** field to at least 5 seconds to account for the Aruba Central API being slow to respond. If collection fails, try increasing the timeout.

SOAP Options

- **Embedded Password [%P]**. Type your Aruba Central client secret key.
- **Embed Value [%1]**. Type your Aruba Central customer ID.
- **Embed Value [%2]**. Type your Aruba Central client ID.
- **Embed Value [%3]**. Type the page size for pagination between 1 and 1000.

NOTE: ScienceLogic recommends setting the **Embed Value [%3]** field to a value close to 1,000 for large Aruba Central systems and only lowering this value if you see SIGTERMs. Aruba Central deployments of more than 5,000 devices need a dedicated collector.

HTTP Headers

- %oauth2=Authorization:Bearer
- Content-Type:application/json
- login_url=oauth2/authorize/central/api/login
- auth_url=oauth2/authorize/central/api
- token_url=oauth2/token
- grant_type=authorization_code
- rest_api=aruba

NOTE: The %oauth2, Content-Type, grant_type and rest_api are static headers required in Aruba Central. The login_url and auth_url headers are used to obtain a code in Aruba; a token is generated with the URL of the token_url header.

4. For the remaining fields, use the default values.
5. Click the **[Save As]** button.

Discovering Aruba Central Devices

To discover and monitor your Aruba Central virtual controller, you must do the following:

- Create a virtual device representing the virtual controller
- Configure the Aruba Central device template that is included in the *Aruba Central PowerPack*
- Align the device template to the Aruba Central virtual device

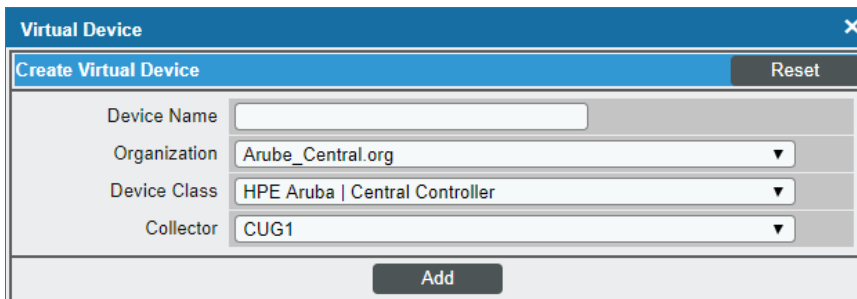
Each of these steps is documented in the following sections.

Creating an Aruba Central Virtual Device

Because the Aruba Central virtual controller does not have a static IP address, you cannot discover an Aruba Central device by running a discovery session. Instead, you must create a **virtual device** that represents the Aruba Central virtual controller. A virtual device is a user-defined container that represents a device or service that cannot be discovered by SL1. You can use the virtual device to store information gathered by policies or Dynamic Applications.

To create a virtual device that represents your Aruba Central virtual controller:

1. Go to the **Device Manager** page (Devices > Device Manager, or Registry > Devices > Device Manager in the SL1 classic user interface).
2. Click the **[Actions]** button and select *Create Virtual Device* from the menu. The **Virtual Device** modal page appears:



3. Complete the following fields:
 - **Device Name.** Type a name for the device.
 - **Organization.** Select the organization for this device. The organization you associate with the device limits the users that will be able to view and edit the device. Typically, only members of the organization will be able to view and edit the device.
 - **Device Class.** Select *HPE Aruba | Central Controller*.
 - **Collector.** Select the collector group that will monitor the device.
4. Click **[Add]** to create the virtual device.

Configuring the Aruba Central Device Template

A **device template** allows you to save a device configuration and apply it to multiple devices. The *Aruba Central PowerPack* includes the "Aruba Central Template," which enables SL1 to align all of the necessary Dynamic Applications to the virtual controller root component device.

Before you can use the "Aruba Central Template", you must configure the template so that each Dynamic Application in the template aligns with the **credential you created earlier**.

To configure the Aruba Central device template:

1. Go to the **Configuration Templates** page (Devices > Templates, or Registry > Devices > Templates in the SL1 classic user interface).
2. Locate the "Aruba Central Template" and click its wrench icon (🔧). The **Device Template Editor** modal page appears.
3. Click the **[Dyn Apps]** tab. The **Editing Dynamic Application Subtemplates** page appears:

The screenshot shows the 'Device Template Editor' interface for editing dynamic application subtemplates. The 'Dyn Apps' tab is active. On the left, the 'Subtemplate Selection' list contains several items, with 'App: Aruba: Central AP Container' selected. The main area is divided into sections: 'Template Application Behavior' (with 'Align Dynamic Application With' set to 'All devices'), 'Dynamic Application Settings' (with 'Dynamic Application' set to 'Aruba: Central AP Container Discovery'), 'Credentials' (with 'Aruba Central Example' selected), and 'Dynamic Application Thresholds' (with 'Raw Data Retention' set to 5 days). The 'Aruba Central Example' credential is highlighted with a red box.

4. In the **Credentials** drop-down list, select the credential that you created for Aruba Central.
5. Click the next Dynamic Application listed in the **Subtemplate Selection** section on the left side of the page and then select the credential you created in the **Credentials** field.
6. Repeat step 5 until you have selected your Aruba Central credential in the **Credentials** field for all of the Dynamic Applications listed in the **Subtemplate Selection** section.
7. Click **[Save]**.

NOTE: To maintain a "clean" version of the template, type a new name in the **Template Name** field and then click **[Save As]** instead of **[Save]**.

Aligning the Device Template to Your Aruba Central Virtual Device

After you have configured the Aruba Central device template so that each Dynamic Application in the template aligns with your Aruba Central credential, you can use that template to align the Dynamic Applications to the virtual device that you created to act as the root device for your Aruba Central virtual controller. When you do so, SL1 discovers and models all of the components in your Aruba Central virtual controller.

To align the Aruba Central device template to the Aruba Central virtual device:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager).
2. On the **Device Manager** page, select the checkbox for the Aruba Central virtual device.
3. In the **Select Action** field, in the lower right corner of the page, select the option *MODIFY by Template* and then click the **[Go]** button. The **Device Template Editor** page appears.
4. In the **Template** drop-down list, select your Aruba Central device template.
5. Click the **[Apply]** button, and then click **[Confirm]** to align the Dynamic Applications to the root component device.


Viewing Aruba Central Component Devices

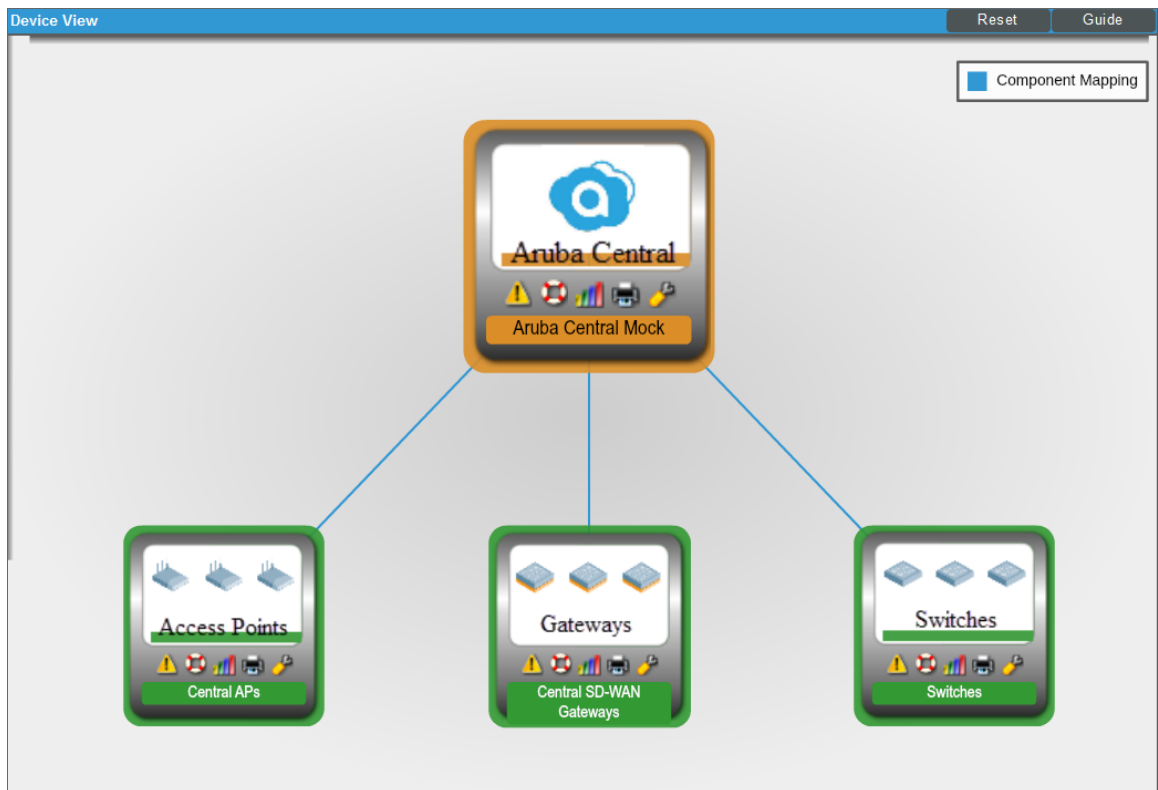
In addition to the **Devices** page, you can view your Aruba Central devices in the following places in the user interface:

- The **Device Investigator Map** page (click **Map** in the **Device Investigator** 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 listed devices reloads the page to make the selected device the primary device.
- The **Device Components** page (Devices > Device Components) displays a list of all root devices and component devices discovered by SL1. The **Device Components** page displays all root devices and component devices 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 an Aruba Central device, find the device and click its plus icon (+).
- The **Component Map** page (Classic Maps > 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. SL1 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 an Aruba Central device, 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.

Viewing Aruba Central Component Devices in the SL1 Classic User Interface

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

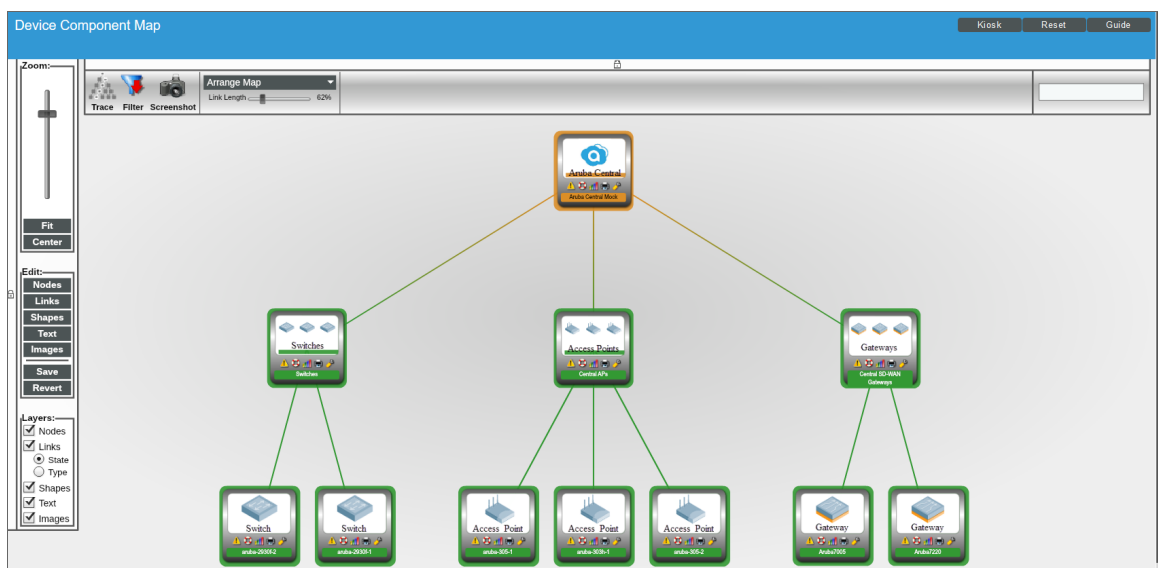
- The **Device View** modal page (click the bar-graph icon  for a device, then click the **Topology** tab) displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-clicking any of the devices listed reloads the page to make the selected device the primary device:



- The **Device Components** page (Registry > Devices > Device Components) displays a list of all root devices and component devices discovered by SL1 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 Aruba Central, find the Aruba Central root device and click its plus icon (+):

Device Name	IP Address	Device Category	Device Class Sub-class	DID	Organization	Current State	Collection Group	Collection State
Aruba Central Mock	--	Virtual	HPE Aruba Central Controller	15	Aruba Central Organization	Major	CUG1	Active
Central APs	--	Access Point	HPE Aruba AP Container	17	Aruba Central Organization	Healthy	CUG1	Active
aruba-303h-1	--	Access Point	HPE Aruba AP-303H	22	Aruba Central Organization	Healthy	CUG1	Active
aruba-305-1	--	Access Point	HPE Aruba IAP-305	20	Aruba Central Organization	Healthy	CUG1	Active
aruba-305-2	--	Access Point	HPE Aruba IAP-305	24	Aruba Central Organization	Healthy	CUG1	Active
Central SD-WAN Gateways	--	Gateway	HPE Aruba SD-WAN Gateway Container	18	Aruba Central Organization	Healthy	CUG1	Active
Aruba7005	--	Gateway	HPE Aruba 7005	23	Aruba Central Organization	Healthy	CUG1	Active
Aruba7220	--	Gateway	HPE Aruba 7220	25	Aruba Central Organization	Healthy	CUG1	Active
Switches	--	Switches	HPE Aruba Switch Container	16	Aruba Central Organization	Healthy	CUG1	Active
aruba-2930F-1	--	Switches	HPE Aruba 2930F Series	21	Aruba Central Organization	Healthy	CUG1	Active

- The **Device Component Map** page (Classic Maps > 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. SL1 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 Aruba Central devices, 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

Dashboards

Overview

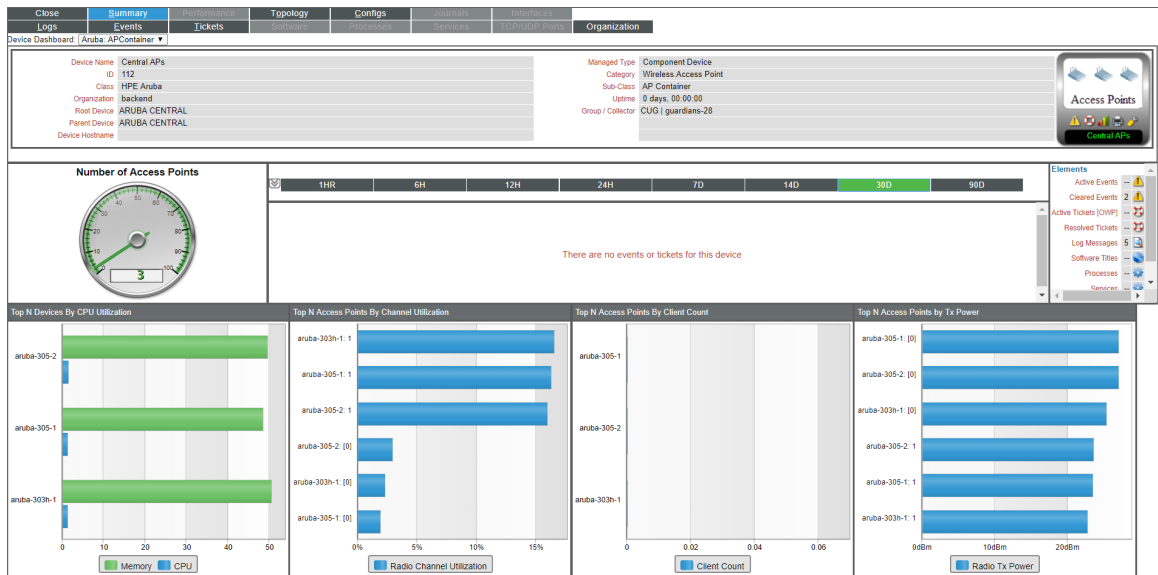
The following sections describe the device dashboards that are included in the *Aruba Central* PowerPack:

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Device Dashboards

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

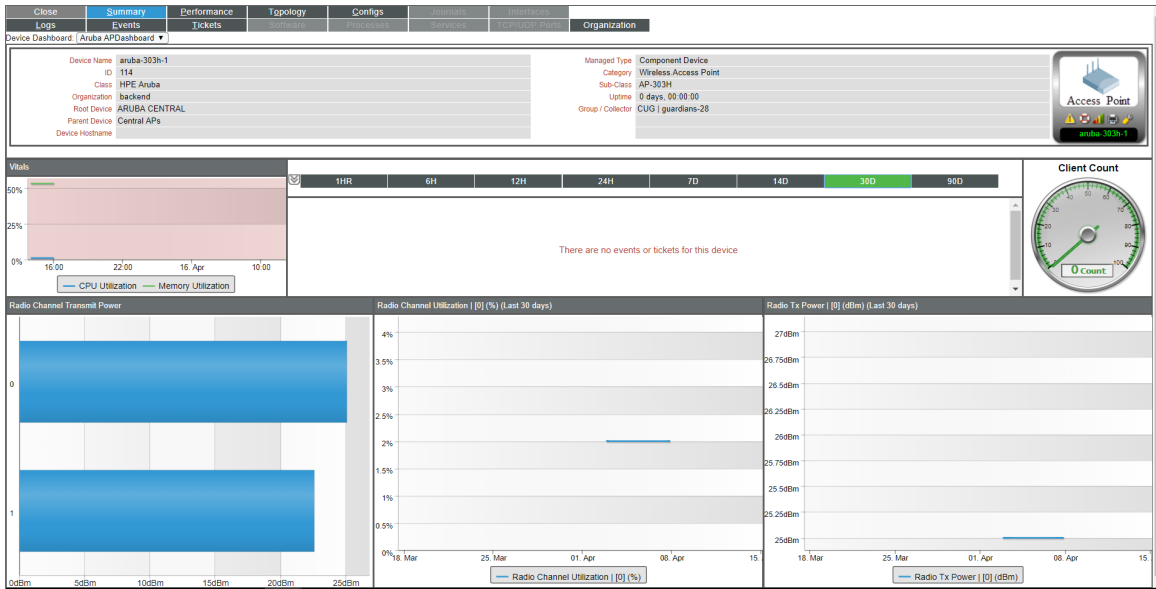
Aruba: AP Container



The **Aruba: AP Container** dashboard displays the following information:

- The basic information about the device
- The total number of access points
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Four instances of the Leaderboard/Top-N Widget that display the top access points based on the following metrics:
 - CPU/memory utilization
 - Channel utilization
 - Client count
 - Transmit power

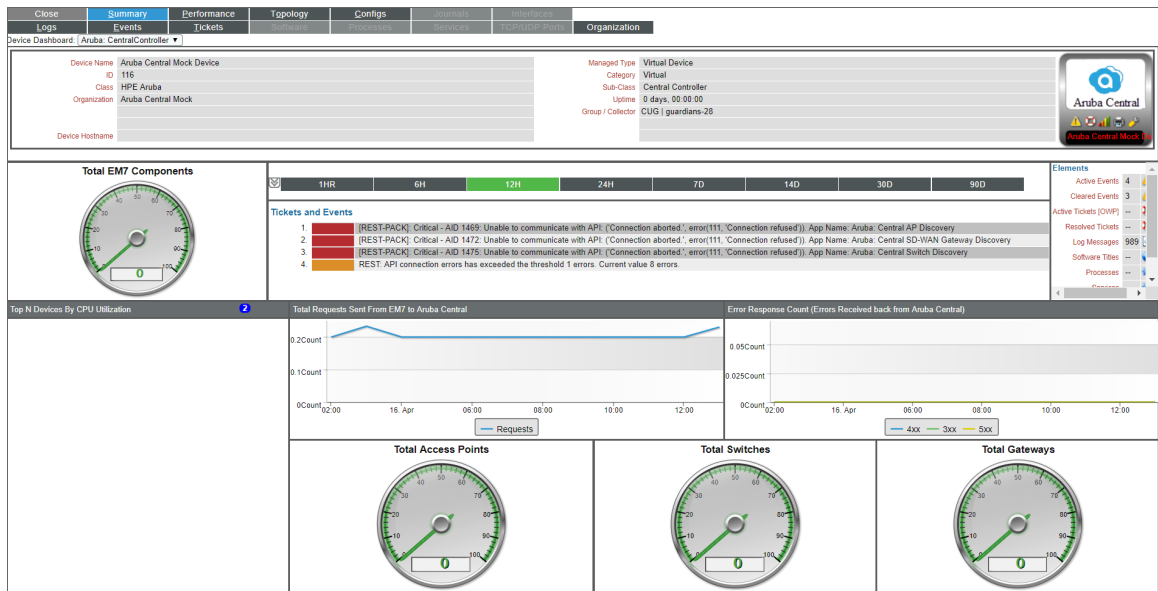
Aruba: AP



The **Aruba: AP** dashboard displays the following information:

- The basic information about the device
- The device's CPU and memory utilization vitals
- A list of active events and open tickets associated with the device
- The total number of AP clients
- Three instances of the Multi-series Performance Widget that display the following metrics trended over the specified period of time:
 - Radio channel transmit power
 - Radio channel utilization
 - Radio transmit power

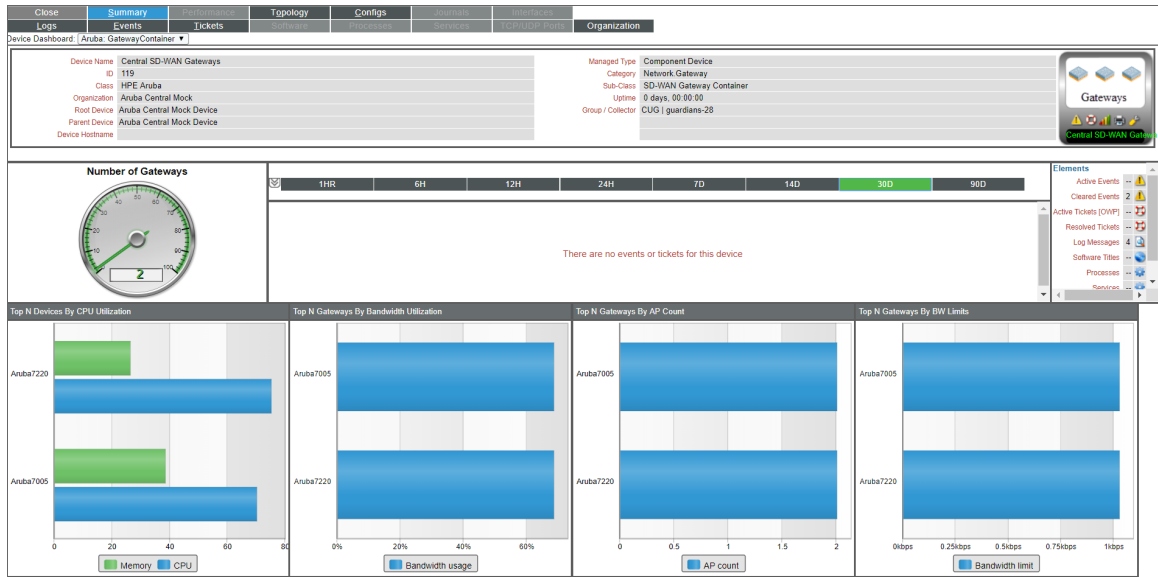
Aruba: Central Controller



The **Aruba: Central Controller** dashboard displays the following information:

- The basic information about the device
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Four instances of the Gauge Widget that display the following metrics trended over the specified period of time:
 - Total SL1 components
 - Total access points
 - Total switches
 - Total gateways
- The top devices by CPU utilization over the specified period of time
- The total requests sent from SL1 to Aruba Central over the specified period of time
- The errors received back from Aruba Central over the specified period of time

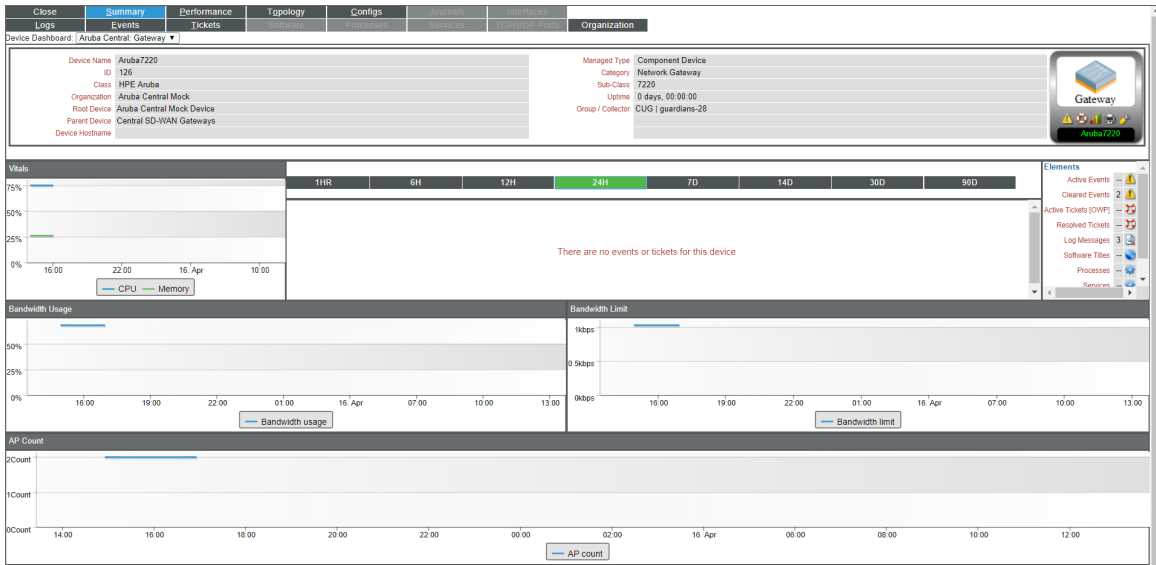
Aruba: Gateway Container



The **Aruba: Gateway Container** dashboard displays the following information:

- The basic information about the device
- The total number of gateways
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Four instances of the Leaderboard/Top-N Widget that display the top gateways based on the following metrics:
 - CPU/memory utilization
 - Bandwidth utilization
 - AP count
 - Bandwidth limit

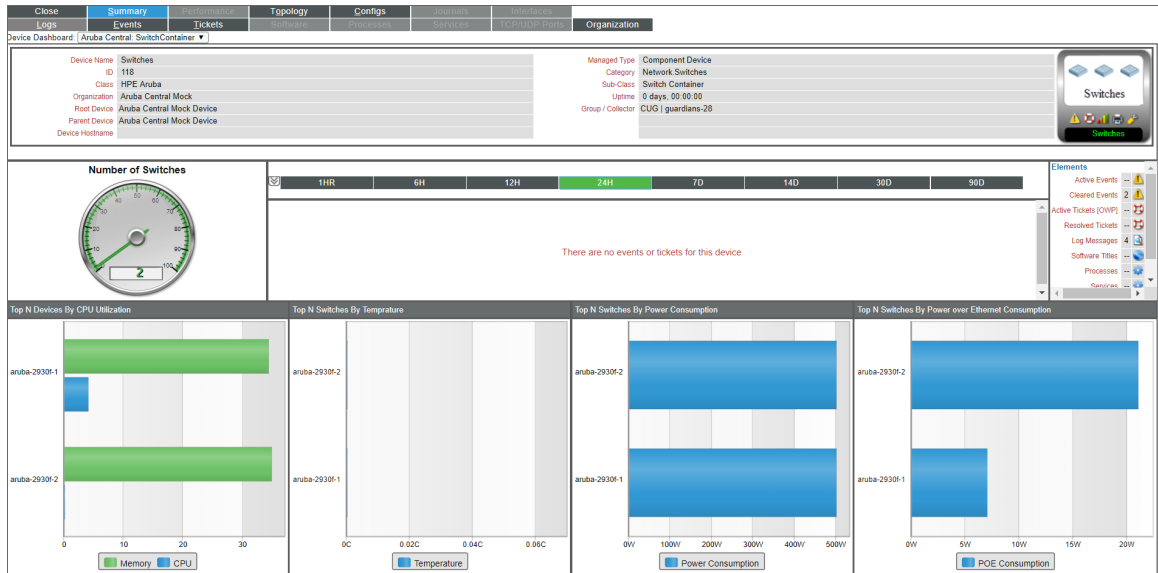
Aruba: Gateway



The **Aruba: Gateway** dashboard displays the following information:

- The basic information about the device
- The device's CPU and memory utilization vitals
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Three instances of the Multi-series Performance Widget that display the following metrics trended over the specified period of time:
 - Bandwidth usage
 - Bandwidth limit
 - AP count

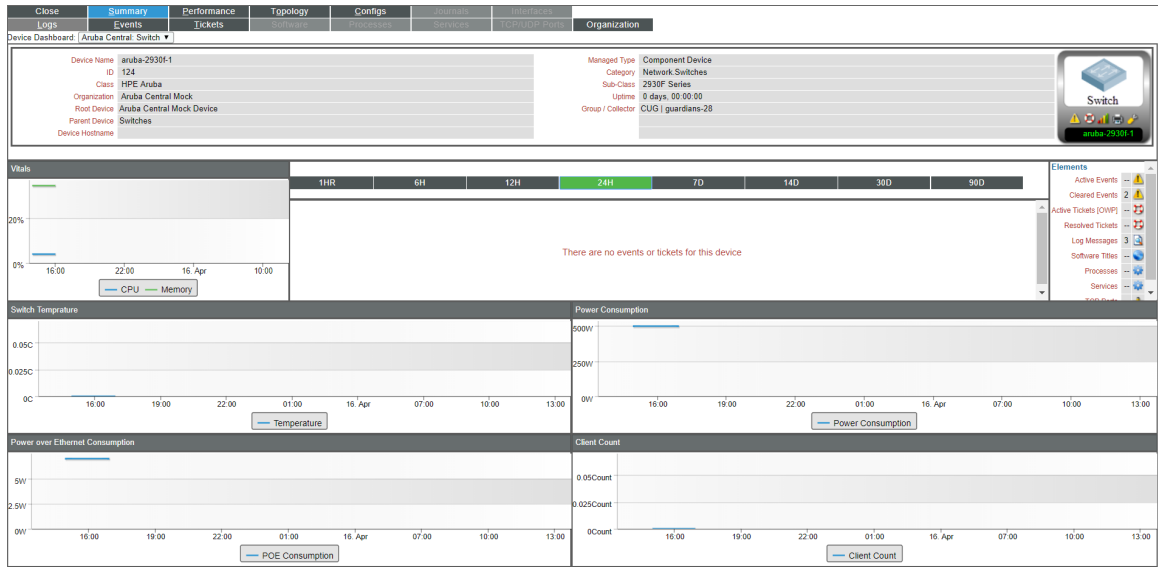
Aruba: Switch Container



The **Aruba: Switch Container** dashboard displays the following information:

- The basic information about the device
- The total number of switches
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Four instances of the Leaderboard/Top-N Widget that display the top gateways based on the following metrics:
 - CPU/memory utilization
 - Temperature
 - Power consumption
 - Power over Ethernet consumption

Aruba: Switch



The **Aruba: Switch** dashboard displays the following information:

- The basic information about the device
- The device's CPU and memory utilization vitals
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Four instances of the Multi-series Performance Widget that display the following metrics trended over the specified period of time:
 - Switch temperature
 - Power consumption
 - Power over Ethernet consumption
 - Client count

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800-SCI-LOGIC (1-800-724-5644)

International: +1-703-354-1010