

# Configuring Controller to COP Communication

## Introduction

This document lays out the steps to ensure full communication between Aruba controllers (MCs and MDs) and Central on Premises (COP)

## Prerequisites

- HP Certificate Authority Certificate (so MCs and MDs can verify incoming https connections from COP) *Note: you will need to get the Certificate from the TAC*
- SNMP credentials (a Community Name for V2 or identity and privacy username and keys for V3)
- A admin level account configured on each MC or MD (username and password) Try to use a different account from the default "admin" account.

## Procedure

### Configuring MCs and MDs

1. Using the MC UI Interface
  - a. Import HP CA Certificate
    - i. Login to MC UI in a browser.
    - ii. At the "/mm" config level.
    - iii. Upload HP CA cert for MCs in "Configuration" → "System" → "Certificates".
    - iv. Import certificate as "HP\_TrustedCA".
    - v. Repeat at the "/md" level.
2. Using the MC CLI
  - a. At each MD level execute the following commands:

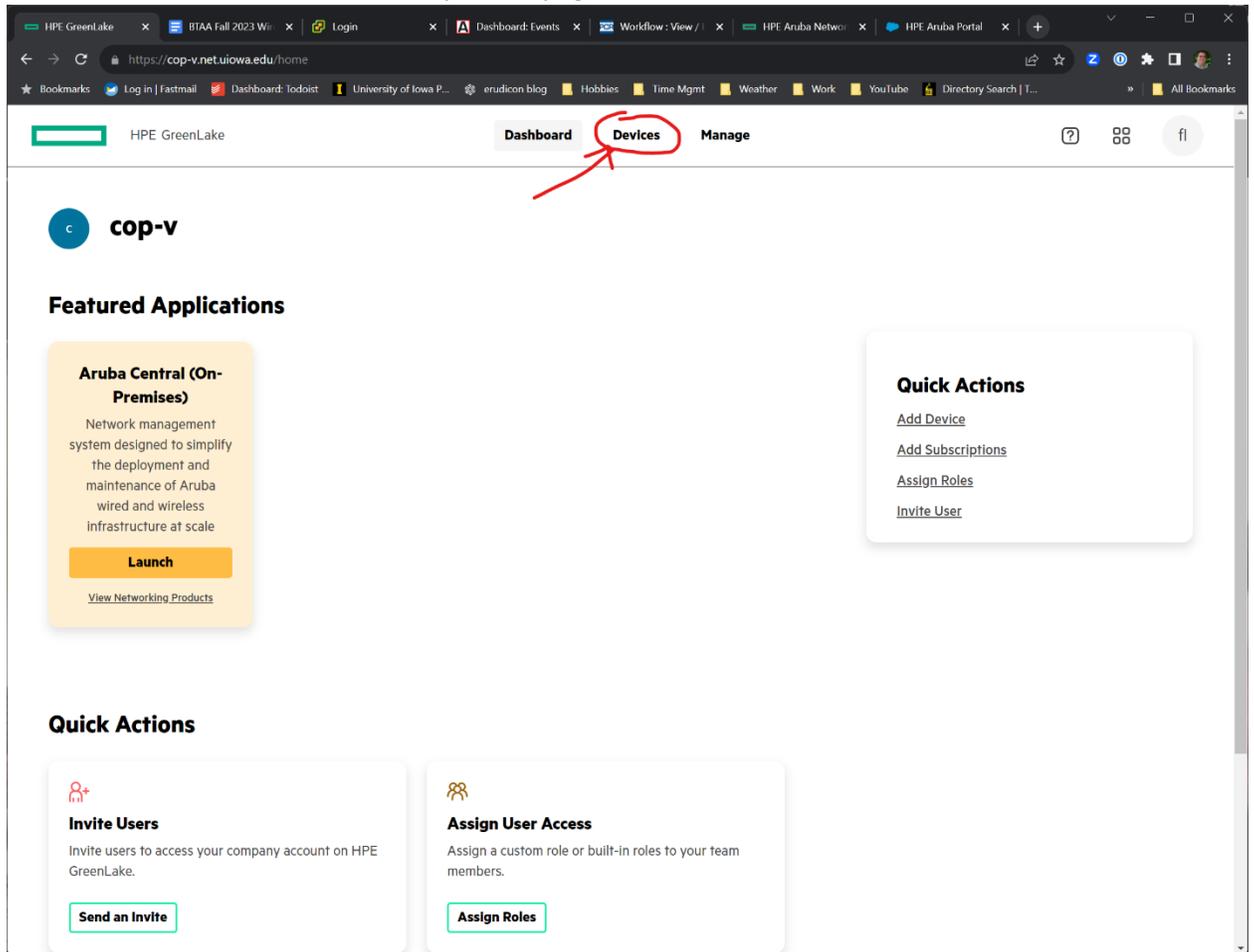
```
cd md-east-a-1
mgmt-server primary-server 128.255.211.230 profile default-amp
aruba-central server 128.255.211.230
aruba-central customca HPE_cert
write mem
```

## Configuring Central on Premises

1. Login into the COP UI in a browser and click on the System icon in the upper right hand corner.

The screenshot displays the Aruba Central web interface. The browser address bar shows the URL: [https://central-cop-v.net.uiowa.edu/frontend/#/NETWORKHEALTH\\_SITE\\_SUMMARY/MAP?nc=global](https://central-cop-v.net.uiowa.edu/frontend/#/NETWORKHEALTH_SITE_SUMMARY/MAP?nc=global). The interface includes a top navigation bar with the Aruba logo, a search bar, and a user profile icon. A red arrow points to the user profile icon in the top right corner. Below the navigation bar, there is a sidebar menu on the left with options like Overview, Devices, Clients, Applications, Security, Alerts & Events, Audit Trail, Tools, Reports, Maintain, Firmware, Organization, and System Management. The main content area features a map of Iowa with various site locations marked. A legend at the top right of the map indicates 'NO ISSUES' (green dot) and 'POTENTIAL ISSUES' (red dot). The map shows several sites with red dots, including one near Spencer and another near Iowa City. A green dot is visible near Davenport. The map also displays various performance metrics such as AI Insights (High, Medium, Low), Status (Up, Down), High Mem Usage, High CPU Usage, High CH utilization (2.4 GHz, 5 GHz), Clients (Connected, Failed), and High Noise (2.4 GHz, 5 GHz). The bottom right corner of the map area indicates '174 Plotted Site(s)'.

2. Click on the word "Devices" at the top of the page



3. Click on the words "Auto provisioning" on the left hand column of the page

The screenshot shows the HPE GreenLake 'Devices' management interface. On the left sidebar, the 'Auto-Provisioning' link is highlighted with a red circle. The main content area features an 'Inventory' section with a table of devices. A red box highlights the 'Total Devices' card, which displays '10751'.

**Inventory**

View and onboard devices in your inventory. Added devices can be associated with an application.

**Require Subscriptions**  
0

**Assigned & Subscribed**  
10751

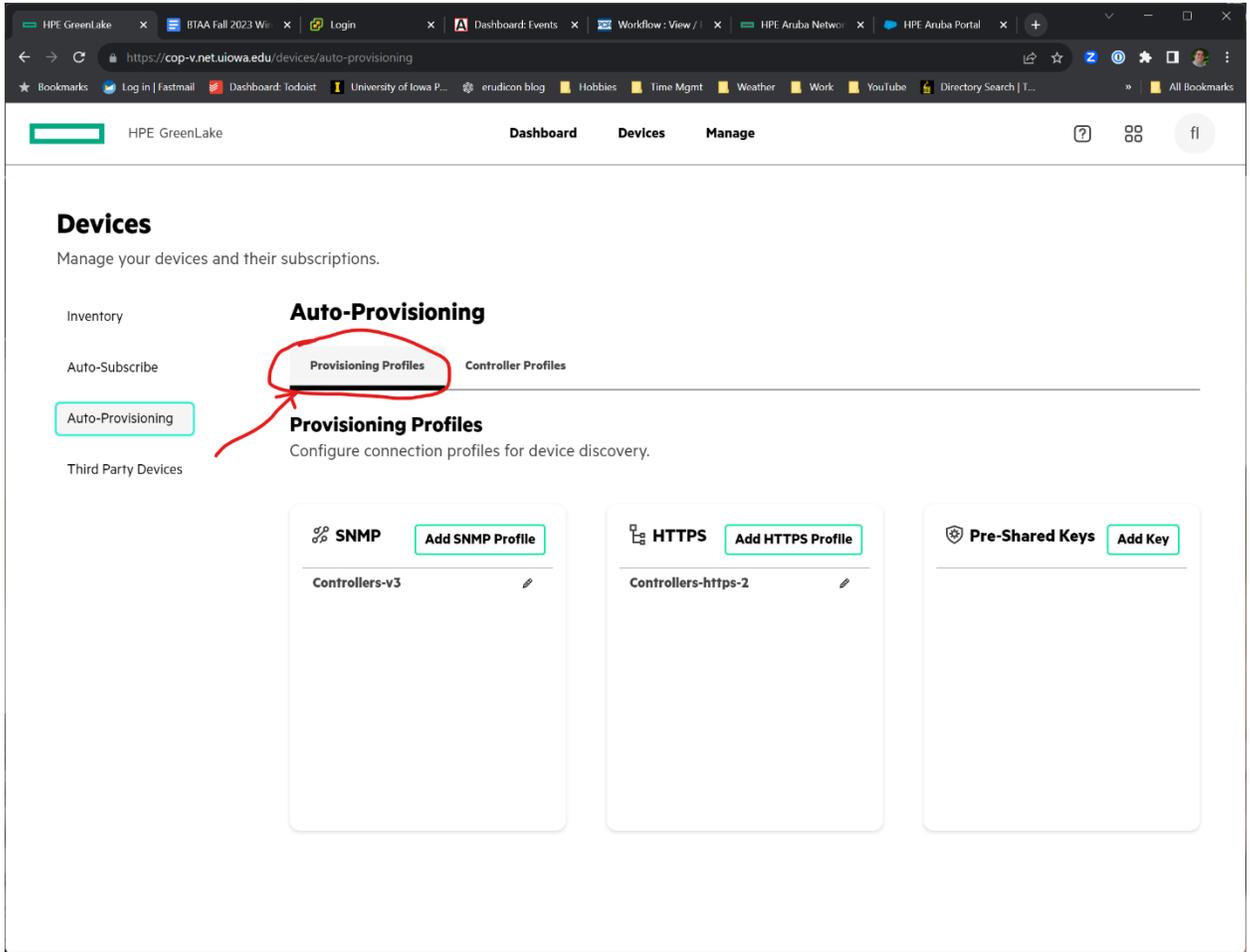
**Total Devices**  
10751

Search by Serial, Model, or MAC Address Clear Filters Actions

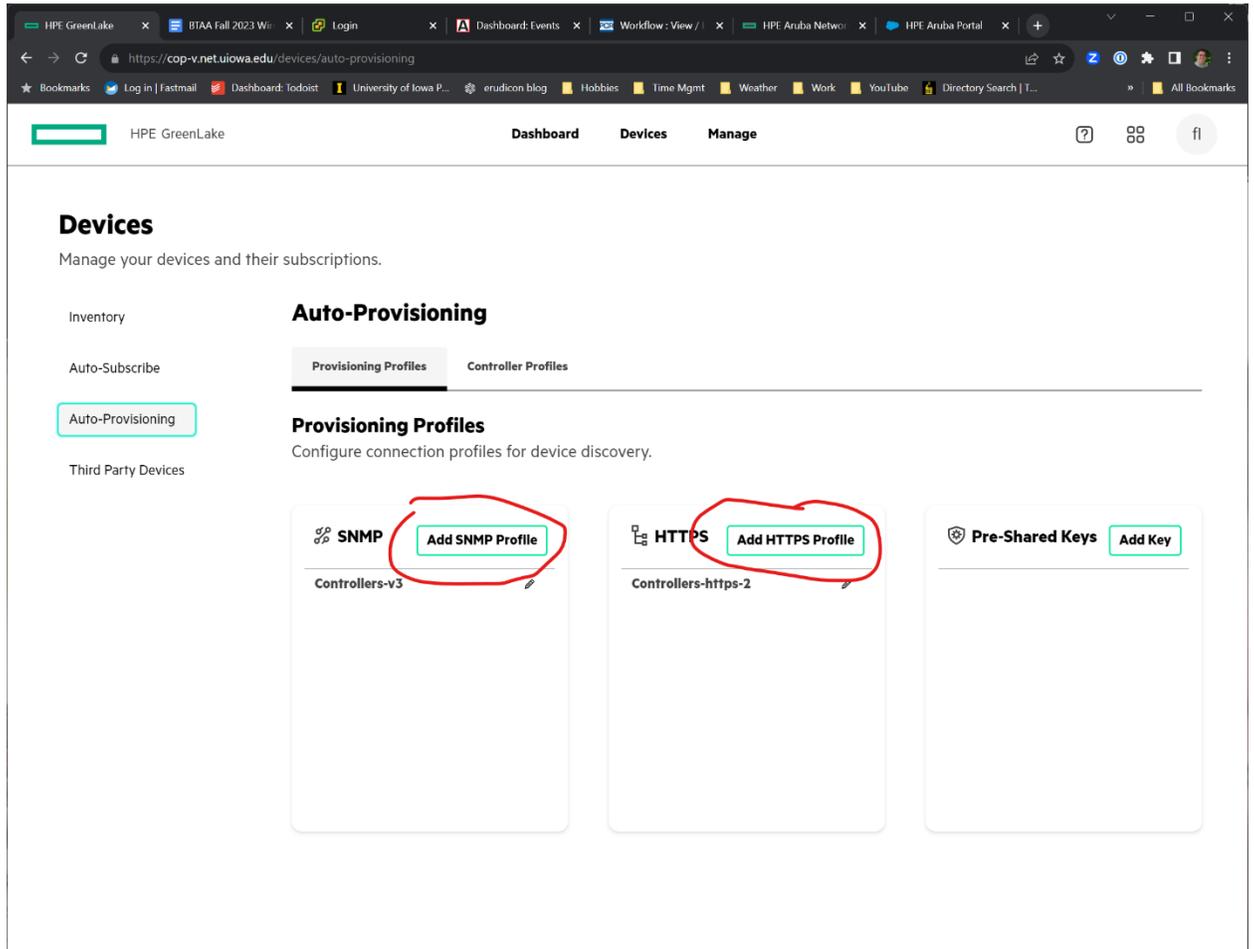
10751 Device(s)

<input type="checkbox"/>	Serial Number	Model	MAC Address	Application	Subscription Tier	Expiration Date	Tags
<input type="checkbox"/>	((q)) CNQFK9W3FW	AP-535	8C:79:09:C7:54:B6	Aruba Central (On-Premises)	Foundation AP	May 17, 2024	0
<input type="checkbox"/>	((q)) CNQCK9W1G3	AP-535	8C:79:09:C6:C9:10	Aruba Central (On-Premises)	Foundation AP	May 17, 2024	0
<input type="checkbox"/>	((q)) VNNVK9W593	AP-535	34:3A:20:CF:EC:3C	Aruba Central (On-Premises)	Foundation AP	May 17, 2024	0
<input type="checkbox"/>	((q)) VNNVK9W55Z	AP-535	34:3A:20:CF:F2:6E	Aruba Central (On-Premises)	Foundation AP	May 17, 2024	0
<input type="checkbox"/>	((q)) CNNBKSMDN	AP-505H	28:DE:65:31:34:9A	Aruba Central (On-Premises)	Foundation AP	May 17, 2024	0

4. Click on the "Provisioning Profiles" Tab



5. Create SNMP and HTTPS profiles by clicking the “Add SNMP Profile” for “Add HTTPS Profile” buttons.



6. Fill out the Appropriate parameters, depending if you are adding a SNMP or HTTPS profile (see this page and the next). When finished click the “Create” button.

# Create SNMP Profile

Enter the details below to create a SNMP Profile.

Name\*

SNMP Version\*

SNMPv3 Username\*

SNMPv3 Auth Protocol\*

Auth Password\*

Confirm Auth Password

SNMPv3 Privacy Protocol\*

Privacy Password\*

Confirm Privacy Password

Cancel

Create

## Create HTTPS Profile

Enter the details below to create a HTTPS Profile.

Name\*

User\*

Password\*

Confirm Password

**Cancel**

**Create**

7. Click on the "Controller Profile" tab

The screenshot shows a web browser window with the URL <https://cop-v.net.uiowa.edu/devices/auto-provisioning>. The page title is "HPE GreenLake" and the navigation menu includes "Dashboard", "Devices", and "Manage".

The main content area is titled "Devices" and includes the sub-header "Auto-Provisioning". Under "Auto-Provisioning", there are two tabs: "Provisioning Profiles" and "Controller Profiles". The "Controller Profiles" tab is highlighted with a red circle and a red arrow pointing to it.

Below the tabs, the "Provisioning Profiles" section is visible, with the sub-header "Provisioning Profiles" and the text "Configure connection profiles for device discovery." There are three cards representing different profile types:

- SNMP**: Includes an "Add SNMP Profile" button and a profile named "Controllers-v3" with an edit icon.
- HTTPS**: Includes an "Add HTTPS Profile" button and a profile named "Controllers-https-2" with an edit icon.
- Pre-Shared Keys**: Includes an "Add Key" button and no profiles are listed.

8. A list of MCs and MDs should appear. For each MD or MC click on the three dots to the right of the line and select "EDIT"

The screenshot shows the HPE GreenLake web interface. The main content area is titled "Auto-Provisioning" and "Controller Profiles". Below this is a table with columns: Device Name, IP Address, SNMP Profile, and HTTPS Profile. The table contains several rows of data. A red circle highlights the "Edit" button in the dropdown menu for the first row.

Device Name	IP Address	SNMP Profile	HTTPS Profile	
mm-west-p	172.24.80.85	Controllers-v3	Controllers-https-2	... Edit Delete
mm-east-p	172.24.18.84	Controllers-v3	Controllers-https-2	...
ctrl-east-a-2	172.24.18.88	Controllers-v3	Controllers-https-2	...
ctrl-east-a-4	172.24.18.90	Controllers-v3	Controllers-https-2	...
ctrl-east-a-5	172.24.80.91	Controllers-v3	Controllers-https-2	...
ctrl-east-a-3	172.24.18.89	Controllers-v3	Controllers-https-2	...

- Fill out the fields, select the SNMP and HTTPS profile appropriate for the MC or MD. Click the "Update" Button when done.

The screenshot shows a dialog box titled "Add Devices" with a sub-header "Device Discovery". Below the sub-header is a descriptive text: "Enter the details of a compatible device to begin the device discovery process." The form contains four input fields: "Name" with the value "mm-west-p", "IP Address\*" with the value "172.24.80.85", "SNMP Profile\*" with a dropdown menu showing "Controllers-v3", and "HTTPS Profile\*" with a dropdown menu showing "Controllers-https-2". At the bottom right, there are two buttons: "Cancel" and "Update".

Add Devices

## Device Discovery

Enter the details of a compatible device to begin the device discovery process.

Name

IP Address\*

SNMP Profile\*

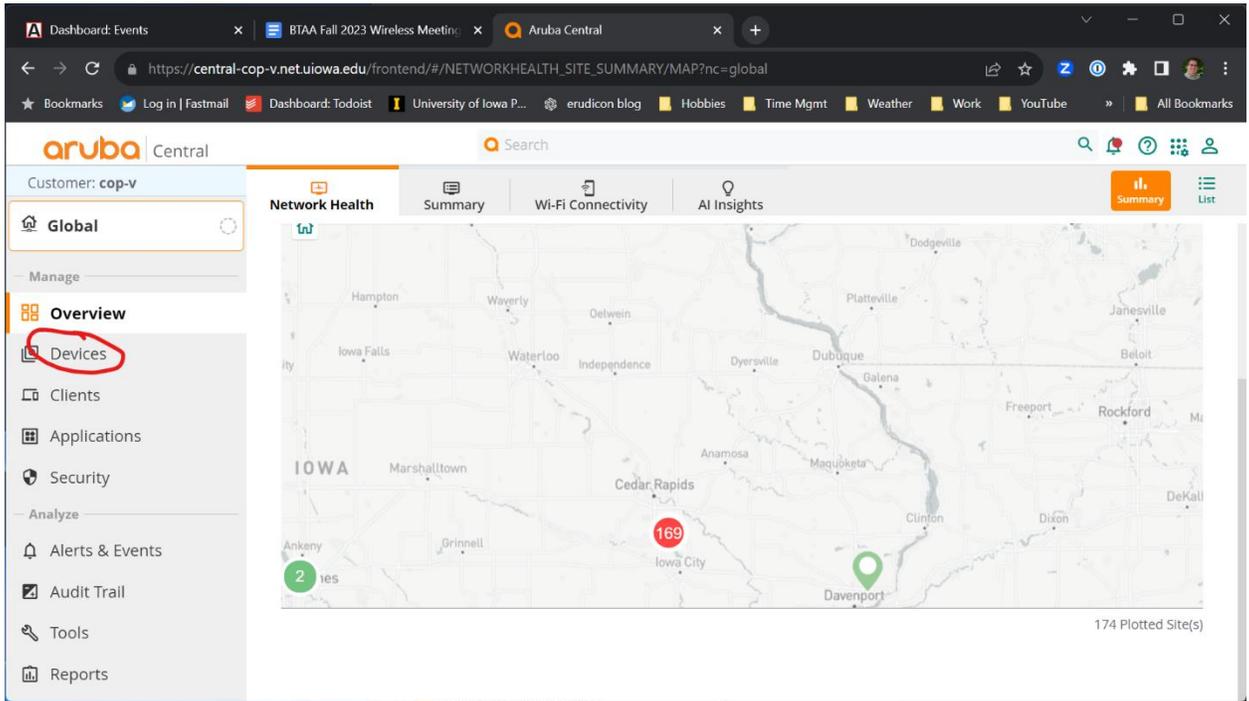
HTTPS Profile\*

Cancel Update

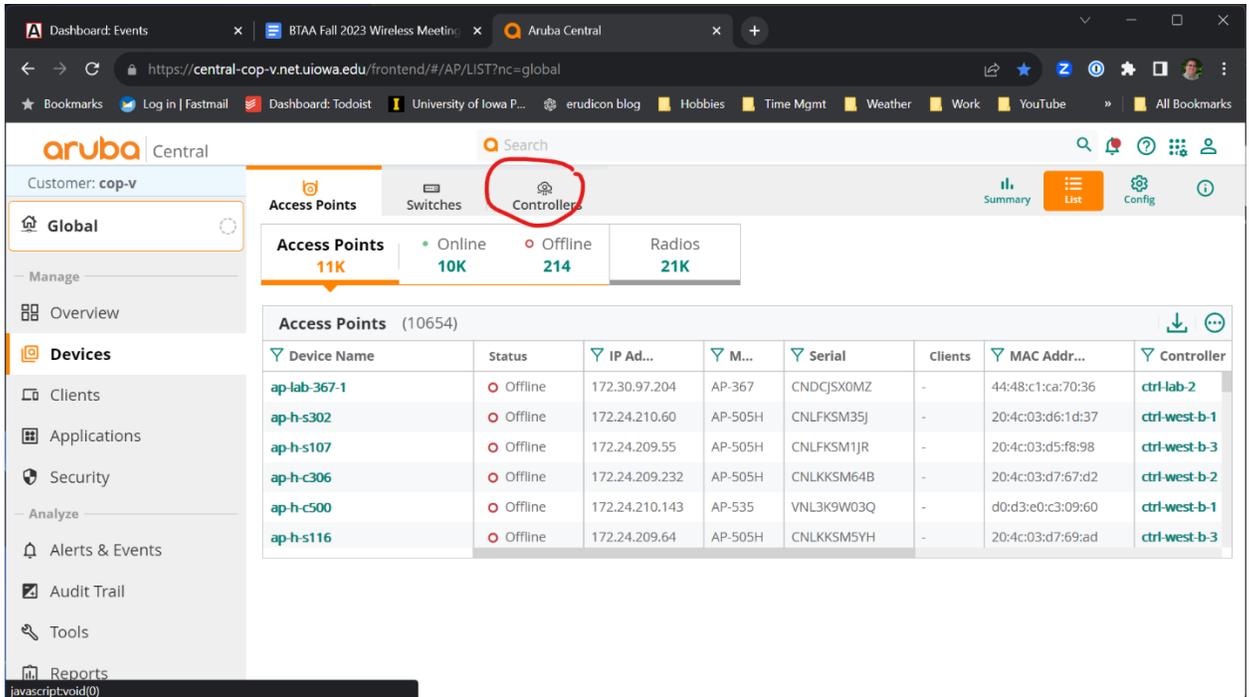
- Repeat steps 8-9 for each MC or MD

# Verification

1. Browse back to the main COP screen, Click on “Devices” in the left hand column



2. Select the “Controllers” tab



- On the controllers screen check for every MD that there is something specified in the “Mobility Conductor” and “Cluster Name” Columns.

The screenshot shows the Aruba Central web interface for a customer named 'cop-v'. The 'Controllers' tab is active, displaying a summary of 30 controllers: 26 Online, 4 Offline, 6 Clusters, and 6 Mobility Conductors. A table below lists the controllers with the following columns: Controller Name, Mobility Conductor, Cluster Name, Total, Down, Active, Standby, Client, Model, Status, IP Address, and MAC Address. A red circle highlights the first row's Controller Name, Mobility Conductor, and Cluster Name columns.

Controller Name	Mobility C...	Cluster Name	Total	Down	Active	Standby	Client	Model	Sta...	IP Address	MAC Ad
ctrl-east-a-1	mm-east-p	E-Cluster-A	573	0	573	553	2923	A7240XM-US	Up	172.24.18.87	00:1a:1e:0
ctrl-east-a-2	mm-east-p	E-Cluster-A	557	2	555	571	2990	A7240XM-US	Up	172.24.18.88	00:1a:1e:0
ctrl-east-a-3	mm-east-p	E-Cluster-A	553	1	552	573	2054	A7240XM-US	Up	172.24.18.89	00:1a:1e:0
ctrl-east-a-4	mm-east-p	E-Cluster-A	554	2	552	553	2973	A7240XM-US	Up	172.24.18.90	00:1a:1e:0
ctrl-east-a-5	mm-east-p	E-Cluster-A	576	3	573	554	3013	A7240XM-US	Up	172.24.18.91	00:1a:1e:0
ctrl-east-a-6	mm-east-p	E-Cluster-A	553	1	552	553	3063	A7240XM-US	Up	172.24.18.92	00:1a:1e:0
ctrl-east-b-1	mm-east-p	E-Cluster-B	491	0	491	472	1173	A7240XM-US	Up	172.24.18.12	00:1a:1e:0
ctrl-east-b-2	mm-east-p	E-Cluster-B	491	0	491	471	1326	A7240XM-US	Up	172.24.18.13	00:1a:1e:0
ctrl-east-b-3	mm-east-p	E-Cluster-B	473	0	473	489	1212	A7240XM-US	Up	172.24.18.14	00:1a:1e:0
ctrl-east-b-4	mm-east-p	E-Cluster-B	471	0	471	490	1200	A7240XM-US	Up	172.24.18.15	00:1a:1e:0
ctrl-east-b-5	mm-east-p	E-Cluster-B	471	0	471	475	1232	A7240XM-US	Up	172.24.18.16	00:1a:1e:0