

# Aruba Central - Switch

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# Agenda

- Why Aruba central?
- Aruba Activate
- Account creation process
  - ✓ EVAL account
  - ✓ EVAL to Paid account conversion
- Device management
  - ✓ How to import devices on Central.
  - ✓ Subscription assignment.
- MSP - Overview
- Supported model switches in Aruba central and its supported firmware
- How switch joins central.
- Provisioning Workflow for switches to a group.
  - ✓ Provisioning a Factory Default Switch
  - ✓ Provisioning a Pre-configured or Locally-Managed Switch
- UI Based vs UI Template.
- Configuration backup on central
- Firmware compliance settings.
- Debugging commands.

# Why Aruba central?

- Cloud based network management platform for managing your wireless, wired networks with Aruba Instant APs, Gateways, and Switches from anywhere with a connection to the Internet
- It also offers value added services such as customized guest access, Presence Analytics and Clarity.

## Key features

- Its used to manage multiple instant wireless LAN's, Switches and gateway on one account.
- Dashboard for network view and client monitoring
- Zero touch provisioning.
- Secure cloud based platform—Offers a secure cloud platform with HTTPS connection and certificate based authentication.
- Remote monitoring and troubleshooting.
- WIFI Guest access configuration.
- MSP Mode – It's a feature used to manage multiple tenants on one account.
- Report Generation & Troubleshooting devices

# Aruba Activate

- Aruba inventory database which holds the information about all our devices / customer PO and accounts.
- It used to configure provisioning rule for Aruba devices like switch, IAP, AP for ZTP.

Example : switch to airwave, AP to RAP/ CAP, IAP to airwave

- we can login to activate and keep track of their devices information and provision devices putting them on folders.
- its helps in troubleshooting the issues related to ZTP and Aruba central.

**Create New Rule**

Input for Rule

Rule Type: Provisioning Rule ▼

Parent Folder: Dinesh ▼

Provision Type: Select from list... ▼

Rule Name:

Done Cancel

- IAP to AirWave
- IAP to RAP (Controller)
- IAP to CAP (Controller)
- Switch to AirWave
- Controller to AirWave
- Branch to Master Controller
- Managed Device to Master Controller



# ACCOUNT CREATION PROCESS

# Account creation process - EVAL

- Logon -->www.cloud.arubanetworks.com
- Click on Try now

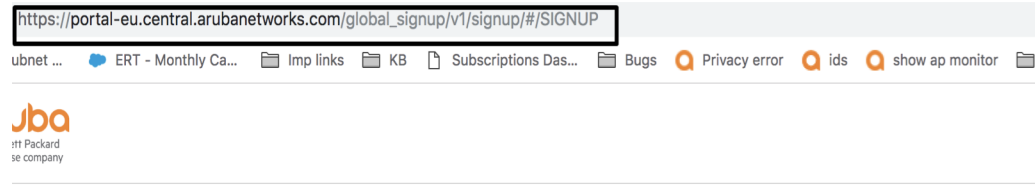
 Try Aruba Central

 Log in to Central

- Once you click on try now, it will be redirected to a URL in which we can select the time zone and register

# Account creation process - EVAL

- Based on the time zone we select, Automatically URL on the top will get redirected a server based on the time zone.
- As an example, we selected EU-1 and at the top it has redirected to portal-eu.central.arubanetworks.com



## SIGN UP WITH ARUBA CLOUD PLATFORM

Aruba Cloud Platform, a cloud based Software-As-a-Service solution, provides streamlined management

My Zone:

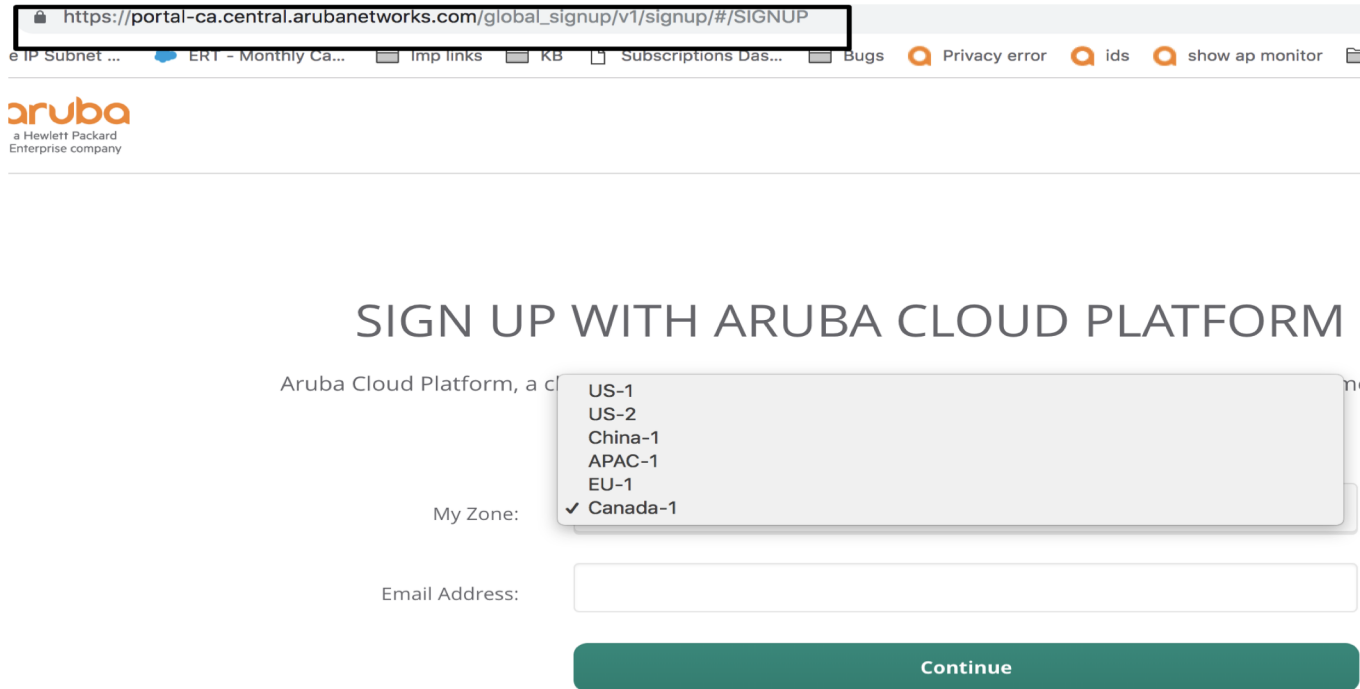
US-1  
US-2  
China-1  
APAC-1  
✓ EU-1  
Canada-1

Email Address:

Continue

# Account creation process - EVAL

- Another example changing to Canada : URL “Portal-ca.central.arubanetworks.com”



The screenshot shows a web browser window with the URL `https://portal-ca.central.arubanetworks.com/global_signup/v1/signup/#/SIGNUP` highlighted in the address bar. The browser's tab bar shows several tabs, including "ERT - Monthly Ca...". The page header features the Aruba logo and the text "a Hewlett Packard Enterprise company". The main heading is "SIGN UP WITH ARUBA CLOUD PLATFORM". Below this, the text "Aruba Cloud Platform, a c" is partially visible. A dropdown menu for "My Zone:" is open, showing a list of regions: US-1, US-2, China-1, APAC-1, EU-1, and Canada-1 (which is selected with a checkmark). Below the dropdown is an "Email Address:" label and an empty input field. At the bottom of the form is a green "Continue" button.

`https://portal-ca.central.arubanetworks.com/global_signup/v1/signup/#/SIGNUP`

Aruba  
a Hewlett Packard  
Enterprise company

## SIGN UP WITH ARUBA CLOUD PLATFORM

Aruba Cloud Platform, a c

My Zone:

- US-1
- US-2
- China-1
- APAC-1
- EU-1
- ✓ Canada-1

Email Address:

Continue

# Account creation process - EVAL

- Enter the email address and signup filling all the details
- Once you click on signup, Verification email will be sent to email address

My Zone: EU-1 

Email Address:

My Zone: eu

Email Address:



First Name:  Last Name:

Company:

Address(Line1):

Address(Line2):

*Optional:*

Country: Select Country  State: Select State 

City:  ZIP Code:

Dial Code:  Phone Number:

☐ I agree to the [Terms and Conditions](#)

# Account creation process : EVAL to PAID conversion

- Followed up signup

## ONE LAST STEP.

We have sent you an e-mail to validate your account.

Please click the link in the e-mail to register and start using our services.

Resend Verification Email

Copyright © 2018 Aruba, a Hewlett Packard Enterprise company.

- Below is the Verification email which was sent to email
- Need to click and activate the account
- Once account activated, We can login using same URL or global URL and select the time zone.

Welcome to Aruba Cloud Platform

### Please activate your account

Hello,

Welcome to Aruba Cloud Platform, a cloud-based service to manage your wired, wireless and WAN infrastructure from anywhere in the world!

Your account is ready to be activated on Zone - eu, and you are minutes away from using Aruba Cloud Platform.



#### Registration with Aruba Cloud Platform

Your registration has been processed.

#### Activate your account

Click [here](#) to activate your account.

If the link does not work, please copy and paste the following URL in the address bar of your browser.

URL: [https://portal-eu.central.arubanetworks.com/global\\_signup/v1/signup/verify/4e781515315134fbbee030fdb1d4084?language=en\\_US](https://portal-eu.central.arubanetworks.com/global_signup/v1/signup/verify/4e781515315134fbbee030fdb1d4084?language=en_US)

Enjoy!

# Account creation process : EVAL work follow summary



Sign up via  
cloud.aruba  
networks.com

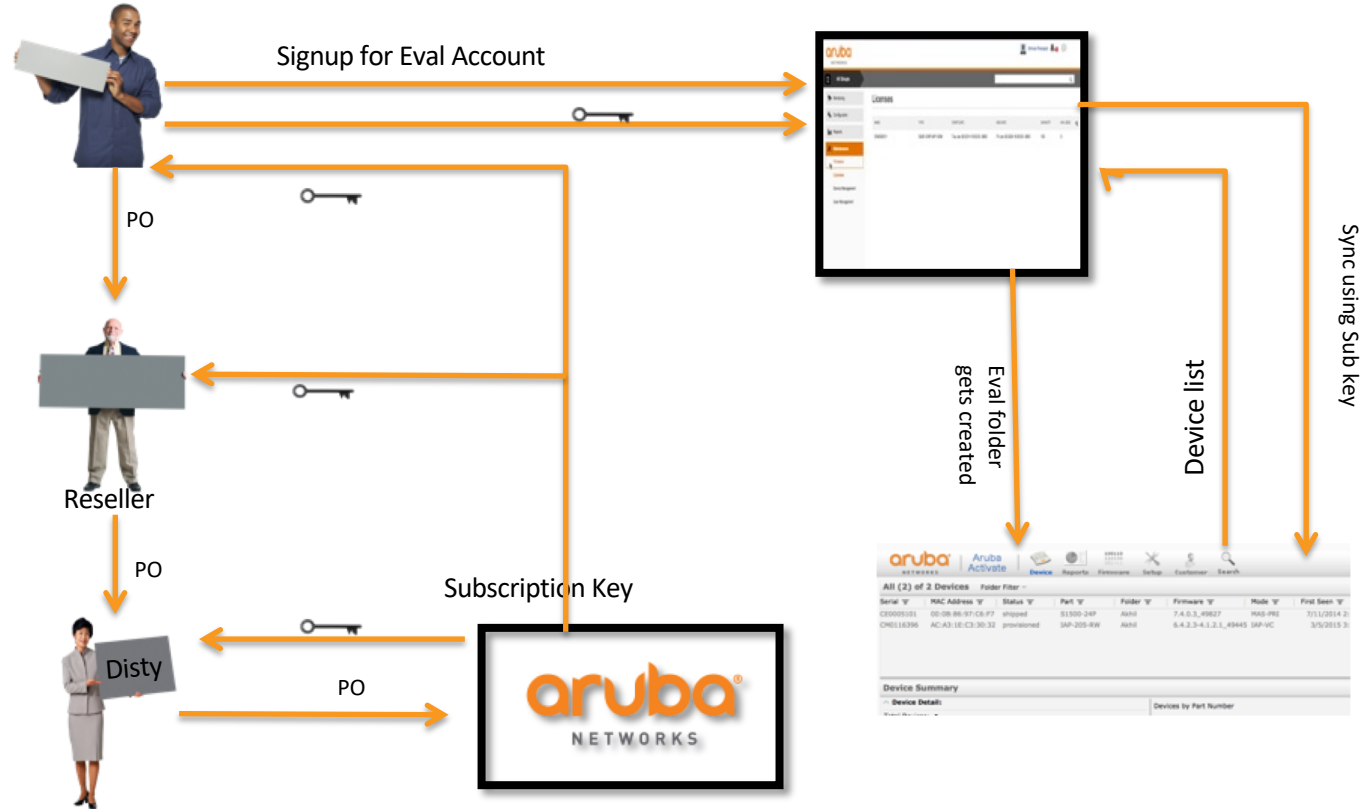
trial started  
for 90 days

Login via  
Portal.central.aruba  
networks.com

Add devices  
Assign licenses  
Manage devices  
Configuration  
Monitoring

- EVAL account will always point to one\_central\_eval folder in activate
- Device license / Network services license will get activated for 90 days.
- Auto sync up between central / Activate will not work hence always need to add the devices manually.
- You will get 5 IAP, 5 switch and 20 Network services license (Cloud guest, Clarity & Presence Analytics).
- If above licenses expired, can't manage or monitor the devices over cloud.

# Eval to Paid account conversion:





# Paid account workflow:-

1. Customer places order (PO) with reseller or distributor.
2. Those orders will be placed with Aruba.
3. End user receives the **Subscription key** via e-mail.
4. If end user doesn't get email VAR/VAD can forward the Subscription Key.
5. End user "**CLAIMS**" the Subscription key on his Central account.
6. Start date for subscription will be on the day of actual activation from Central (not when the customer receives the e-mail)
7. At this point the Subscription Key gets activated
8. Central account is now a PAID account.

# DEVICE MANAGEMENT

# Device management

- **Ways to import device manually to central**
  - ✓ Using serial number / Mac address
  - ✓ Using cloud activation key
  - ✓ Using activate account
- **Global settings → Device Inventory → Advanced**



## ADVANCED

ADD MORE DEVICE OPTIONS

ADD USING ACTIVATE

ADD WITH CLOUD ACTIVATION KEY

# Device management

- Using serial number / Mac address

ADD DEVICES

## ADD DEVICES

Central supports adding up to 32 total devices manually.

SERIAL NUMBER

MAC ADDRESS

SERIAL NUMBER

MAC ADDRESS

SERIAL NUMBER

MAC ADDRESS

SERIAL NUMBER

MAC ADDRESS

SERIAL NUMBER

MAC ADDRESS

+ 5 more rows

- Post adding 32 devices, if the account is converted as PAID it should get sync from activate.

# Device management

- Using cloud activation key,

## CLOUD ACTIVATION KEY

When you enter a Cloud Activation Key, all your devices that were purchased on the same order are added to your Aruba Central inventory.

CLOUD ACTIVATION KEY

MAC ADDRESS

Add

Cancel

# Device management

- **Using Activate account,**



## ACTIVATE

When you use your Aruba Activate credentials to synchronize your Aruba Central account, all devices in your default Activate folder will appear in your Aruba Central device inventory.

ACTIVATE USER NAME

PASSWORD

Add

Cancel

# Device management – Subscription assignment

- Auto assignment - Keys are applied first come, first serve
- Global settings → Subscription assignment,
- Selecting Auto-Subscribe will automatically apply a Device Management subscription to a device as soon as it appears in your Central inventory.

## SUBSCRIPTION ASSIGNMENT











Use the options below to assign Foundation and Network Service subscriptions to devices.

### DEVICE SUBSCRIPTIONS

A device management subscription entitles the subscribed device to be managed in Aruba Central and enables most functionality.

 **Auto Subscribe ON**  
Subscription will be automatically applied to all devices in your inventory

### DEVICES

 SUBSCRIBED	 SERIAL NUMBER	 MAC ADDRESS	 MODEL
 YES	CN84HKZ0HF	94:F1:28:8B:08:60	2930F
 YES	CNC6JSP012	20:4C:03:0A:5E:30	7008-US
 YES	CNC6JSP01N	20:4C:03:0A:5F:50	7008-US
 YES	SG54FLXLXS	5C:B9:01:24:63:40	2920
 YES	CN60HKZ13P	B0:5A:DA:98:54:60	2930F
 YES	CNBXHN760Y	B4:5D:50:C5:E8:6E	IAP-325-US

# Device management – Subscription assignment

- Manual assignment : Need to select the device and click on update subscription as below,



**Auto Subscribe OFF**

You must select devices below to assign subscriptions to them

DEVICES (0 TO BE SUBSCRIBED 3 TO BE UNSUBSCRIBED)

<input type="checkbox"/> ▾ SUBSCRIBED	▽ SERIAL NUMBER	▽ MAC ADDRESS	▽ MODEL
<input type="checkbox"/> YES	CN84HKZ0HF	94:F1:28:8B:08:60	2930F
<input type="checkbox"/> YES	CNC6JSP012	20:4C:03:0A:5E:30	7008-US
<input type="checkbox"/> YES	CNC6JSP01N	20:4C:03:0A:5F:50	7008-US
<input checked="" type="checkbox"/> YES	SG54FLXLXS	5C:B9:01:24:63:40	2920
<input checked="" type="checkbox"/> YES	CN60HKZ13P	B0:5A:DA:98:54:60	2930F
<input checked="" type="checkbox"/> YES	CNBXHN760Y	B4:5D:50:C5:E8:6E	IAP-325-US

UPDATE SUBSCRIPTION

Total number of devices: 6



# Device management – Subscription assignment

## Network service subscription assignment

Subscriptions available are: **NETWORK SERVICE SUBSCRIPTIONS**

- ✓ Clarity
- ✓ Cloud guest
- ✓ Presence analytics.
- ✓ UCC

A Network Service subscriptions enable devices to participate in Cloud Guest networks, to be included in Presence Analytics, and to be monitored through Clarity.

DRAG AND DROP DEVICE(S) ONTO A SERVICE TO ASSIGN

TO SELECT MULTIPLE DEVICES SHIFT+CLICK OR CTRL+CLICK

TO REMOVE MULTIPLE DEVICES FROM A SERVICE, USE BATCH REMOVE

SUBSCRIPTI...	DEVICES
ALL DEVICES	6
NO SUBSCRIP...	5
Clarity	1
Cloud Guest	1
Presence Anal...	1
UCC	0

20 TOTAL SUBSCRIPTIONS  
17 AVAILABLE

Serial Num...	NAME	Type	LOCATION	SERVICES
CNBXHN760Y	b4:5d:50:c5:e8:6e	iap	Saint Augustine,...	3 (Clarity,Guest,...

 BATCH REMOVE SUBSCRIPTIONS

1 Device(s)

DRAG  
←  
DROP

# Aruba Central - MSP

- MSP, Enabling MSP Mode.
- MSP New Dashboard. (2.4.7)
- MSP Device management.
- MSP Groups
- Customizing Portal skin for tenants.

# Aruba Central - MSP

## MSP

The MSP mode is a multi-tenant operational mode that Aruba Central accounts can be converted into to manage multiple tenant accounts, allocate devices, assign subscriptions, and monitor tenant accounts

### How to enable & disable MSP Mode

To enable



dinesh.dk@hpe.com

ArubaNetworks

Customer ID:  
5002844

My Zone: internal2

Switch Customer

Change Password

User Settings

Managed Service Mode

Terms of Service

Logout

To Disable



dinesh.dk@hpe.com

ArubaNetworks

Customer ID:  
5002844

My Zone: internal2

Switch Customer

Change Password

User Settings

Disable MSP

Terms of Service

Logout

# Aruba Central - MSP

## New look in MSP Dashboard starting from 2.4.7

aruba Central

CURRENT APP  
MONITORING & REPORTS

### Dashboard

View and manage customer accounts

### Trends

Visualize MSP statistics

### Alerts

Set, edit and view alerts

### DASHBOARD

#### CUSTOMERS

TOTAL  
2

#### ACCESS POINTS

ASSIGNED  
0

UNASSIGNED  
37

#### SWITCHES

ASSIGNED  
0

UNASSIGNED  
9

#### GATEWAYS

ASSIGNED  
0

UNASSIGNED  
0

#### DEVICE SUBSCRIPTIONS

ASSIGNED  
9

UNASSIGNED  
37

### CUSTOMERS

ADD NEW CUSTOMER

CUSTOMERS	ACCESS POINTS		SWITCHES		GATEWAYS		CRITICAL ALERT...
	UP	DOWN	UP	DOWN	UP	DOWN	
MSP_1	0	0	0	0	0	0	0
MSP_Test	0	0	0	0	0	0	0

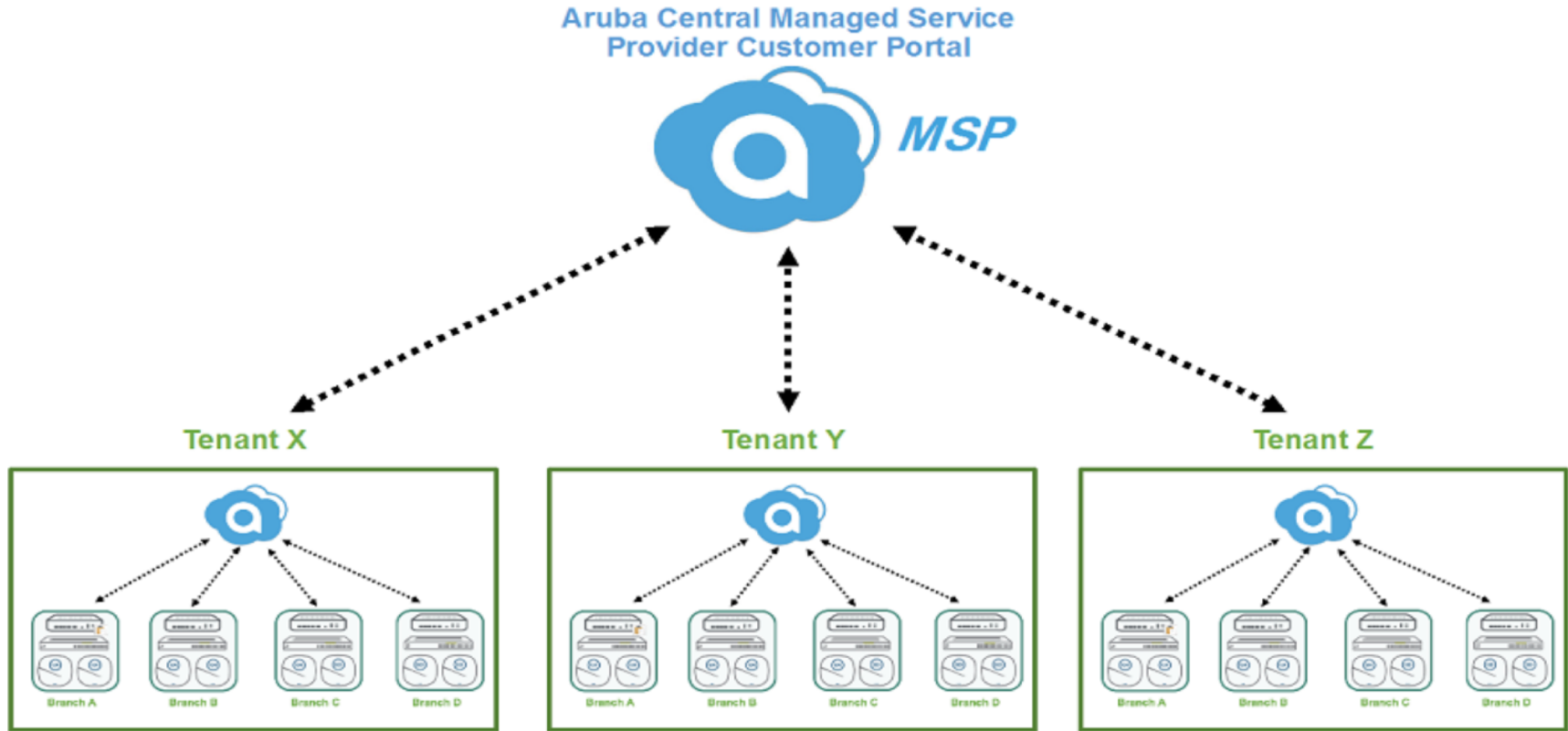
## CUSTOMERS

ADD NEW CUSTOMER

CUSTOMERS	ACCESS POINTS		SWITCHES		GATEWAYS		CRITICAL ALERT...
	UP	DOWN	UP	DOWN	UP	DOWN	
MSP_1	0	0	0	0	0	0	0
MSP_Test	0	0	0	0	0	0	0

expand edit delete


# Aruba Central – MSP & Tenants overview




# MSP – Device management

Navigation : Global settings → device inventory

We can see customer field additionally populated on below snapshot



 CURRENT APP  
GLOBAL SETTINGS

**Manage Groups**  
View, edit and add configuration groups

**Device Inventory**  
View an inventory of all your devices


**Key Management**  
Track all your subscription keys

**Subscription Assignment**  
Assign and modify device and service subscriptions



## DEVICE INVENTORY

View the devices in your inventory and manually add devices here.

ADD DEVICES

 ADVANCED

### VIEW DEVICES

Serial N...	MAC AD...	TYPE	IP ADDRESS	LOCATION	NAME	MODEL	PART N...	CUSTO...	STATUS
CN74HL22...	F4:03:43:0...	switch	--	--	--	2930F	JL261A	Css corp	
CN6BHL21...	94:18:82:C...	switch	--	--	--	2930F	JL261A	Css corp	

# MSP – Device management

Once we select the device, assign it to the customer and groups.

## ASSIGN 1 DEVICE(S) TO CUSTOMER ×

### SELECT A CUSTOMER

▽ CUSTOMER NAME

MSP_1
MSP_Test

2 Customer(s)

(OPTIONAL)  
SELECT MSP\_TEST GROUP

▽ GROUP NAME

default
---------

1 Group(s)



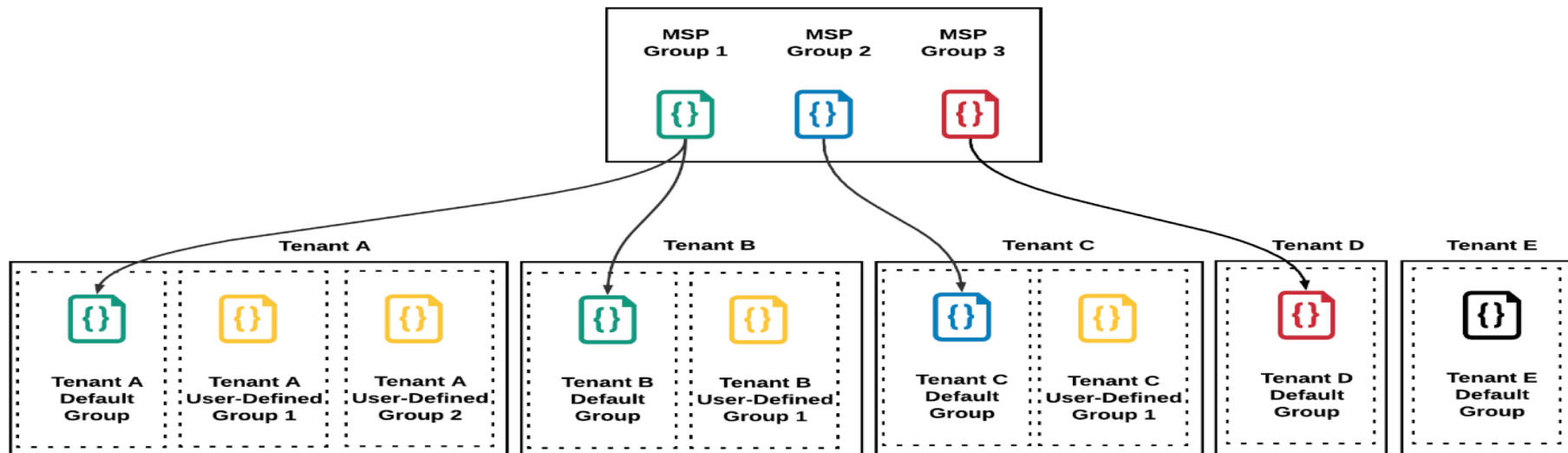
CANCEL

ASSIGN DEVICE(S)

Note : Devices will never show up under tenants account until it reach the Aruba central

# MSP – Group management

- MSP groups are UI groups mapped to the default UI groups in the tenant account.
- If a tenant account is associated to a specific group in the MSP mode, the configuration changes to the devices associated with this tenant account are pushed only to the default group in the tenant account view.
- However, MSP administrators can create more groups for a specific tenant by drilling down to a tenant account.
- Template groups are not supported in the MSP mode. However, template groups can be defined and managed at each tenant account individually.





# MSP – Portal customization

Navigation : Maintenance → Portal customization

arubaCentral

CURRENT APP MAINTENANCE

Firmware

Portal Customization

Audit Trail

API Gateway

Portal Customization

Customization Skinning

Product Name: Aruba Central

Provider Name: Company X

Contact Link:

Sender Email Address: no-reply@arubanetworks.com

Mailing Address: 1344 Crossman Ave. Sunnyvale, CA 94089-1113

Service Link: http://cloud.arubanetworks.com/aruba-central-sla

Terms & Conditions Link: http://cloud.arubanetworks.com/aruba-central-tos

arubaCentral

CURRENT APP MAINTENANCE

Firmware

Portal Customization

Audit Trail


API Gateway

Portal Customization

Customization Skinning

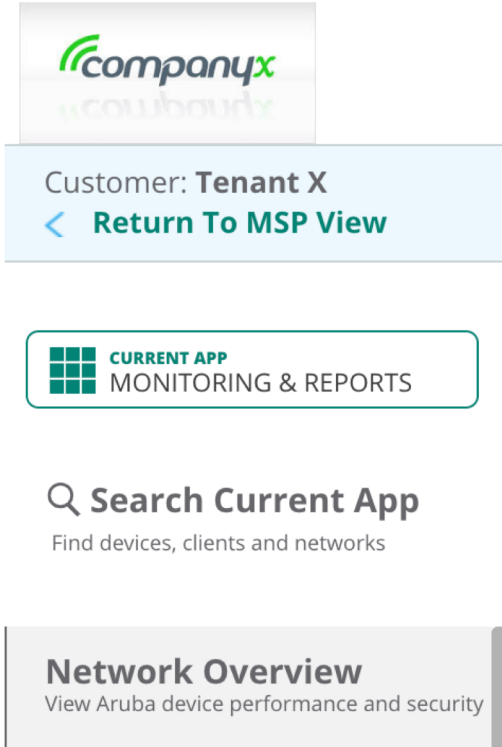
Logo: 

Browse (max limit: 700 KB)



# MSP – Portal customization


Once the logo is uploaded, We can see the logo under all the tenants




The screenshot displays the MSP portal interface for a specific tenant. At the top, the 'companyx' logo is visible. Below it, a light blue header bar contains the text 'Customer: Tenant X' and a link '< Return To MSP View'. The main content area features a green grid icon next to the text 'CURRENT APP MONITORING & REPORTS'. Below this is a search section with a magnifying glass icon, the text 'Search Current App', and the subtitle 'Find devices, clients and networks'. At the bottom, a grey bar highlights the 'Network Overview' section with the subtitle 'View Aruba device performance and security'.

companyx

Customer: **Tenant X**  
< [Return To MSP View](#)

 **CURRENT APP**  
MONITORING & REPORTS

 **Search Current App**  
Find devices, clients and networks

**Network Overview**  
View Aruba device performance and security

# SUPPORTED MODEL SWITCHES IN ARUBA CENTRAL AND ITS SUPPORTED FIRMWARE

# Supported switches / firmware

- Supported Aruba Switch Series, Software Versions, and Switch Stacking support

Switch Platform	Supported Software Versions	Recommended Software Versions	Switch Stacking Support
Aruba 2530 Switch Series	YA/YB.16.05.0008 or later	YA/YB.16.05.0008 or later	N/A
Aruba 2540 Switch Series	YC.16.03.0004 or later	YC.16.05.0007 or later	N/A
Aruba 2920 Switch Series	WB.16.03.0004 or later	WB.16.05.0007 or later	Yes <b>Switch Software Dependency:</b> WB.16.04.0008 or later
Aruba 2930F Switch Series	WC.16.03.0004 or later	WC.16.05.0007 or later	Yes <b>Switch Software Dependency:</b> WC.16.07.0002
Aruba 2930M Switch Series	WC.16.04.0008 or later	WC.16.05.0007 or later	Yes <b>Switch Software Dependency:</b> WC.16.06.0006
Aruba 3810 Switch Series	KB.16.03.0004 or later	KB.16.05.0007 or later	Yes <b>Switch Software Dependency:</b> KB.16.07.0002
Aruba 5400R Switch Series	KB.16.04.0008 or later	KB.16.05.0007 or later	Yes <b>Switch Software Dependency:</b> KB.16.06.0008

- Provisioning and configuration of Aruba 5400R Switch Series and switch stacks is supported only through configuration templates.

# Switch Stacking Support

- A switch stack is a set of switches that are interconnected through stacking ports. The switches in a stack elect a primary switch called Commander and a backup switch as Standby. The remaining switches become Members of the stack

Switch Platform	Maximum Number of Stack Members	Minimum Supported Version
Aruba 2920 Switch Series	4	WB.16.04.0008
Aruba 2930M Switch Series	10	WC.16.06.0006
Aruba 5400R Switch Series	2	KB.16.06.0008
Aruba 2930F Switch Series	8	WC.16.07.0002
Aruba 3810 Switch Series	10	KB.16.07.0002

# Switch Stacking Support

- The switch elected as the commander establishes a WebSocket connection to Central.
- Switch stacks can be added only to a template group and cannot be moved to a UI group.
- After forming a switch stack, you can remove one of the member and erase its stacking configuration. However, the member can join Central as a standalone switch only after it is deleted from the switch stack.
- The following pre-defined variables are refreshed and re-imported from a switch stack when a new stack member is added or removed, or when a failover occurs.

`_sys_template_header`

`_sys_module_command`

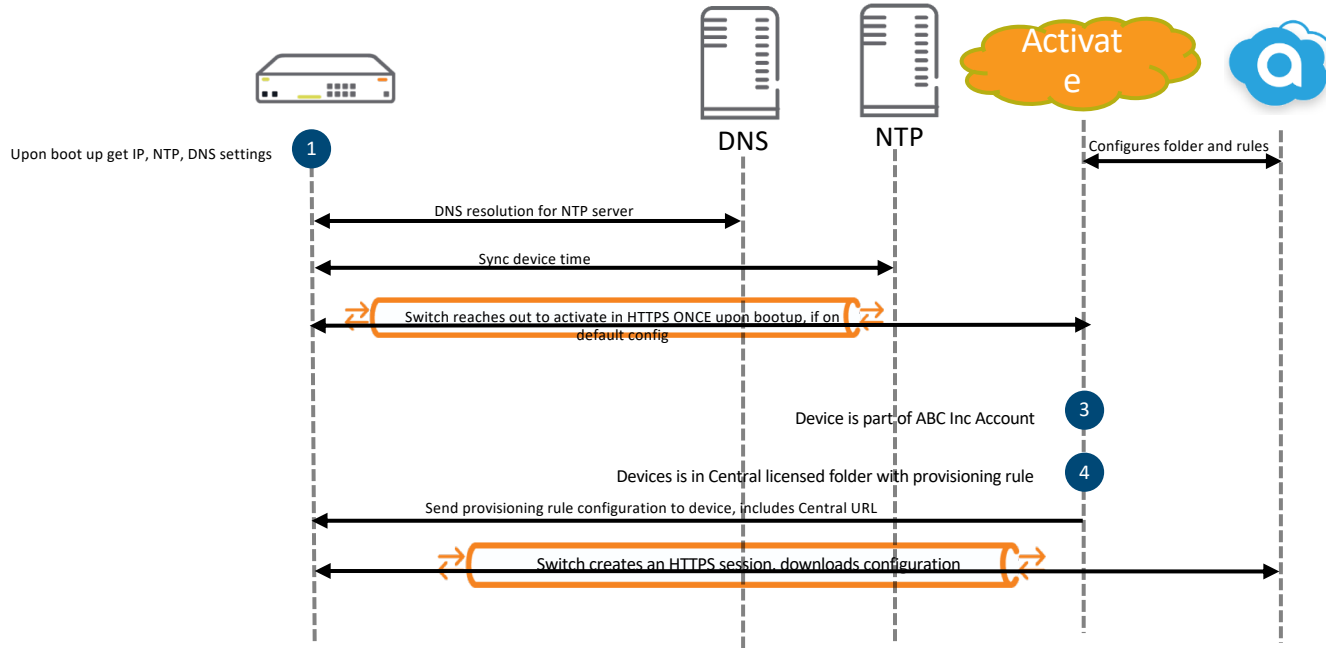
`_sys_stack_command`

`_sys_oobm_command`

`_sys_vlan_1_untag_command`

`_sys_vlan_1_tag_command`

# How switch communicates central



# How switch communicates central

Filter: (udp.port==123 or dns or ip.addr==104.36.249.200 or ip.addr==104.36.249.201) → Filter: DNS, NTP, Activate IP

No.	Time	Source	Destination	Protocol	Details
40	3.147621	0.0.0.0	255.255.255.255	DHCP	DHCP Discover - Transaction ID 0x88de2bd0
50	3.460726	10.70.26.1	10.70.26.54	DHCP	DHCP Offer - Transaction ID 0x88de2bd0
133	7.047568	0.0.0.0	255.255.255.255	DHCP	DHCP Discover - Transaction ID 0x88de6096
134	7.049439	10.70.26.1	10.70.26.54	DHCP	DHCP Offer - Transaction ID 0x88de6096
240	12.048208	0.0.0.0	255.255.255.255	DHCP	DHCP Request - Transaction ID 0x88de6096
241	12.050542	10.70.26.1	10.70.26.54	DHCP	DHCP ACK - Transaction ID 0x88de6096
255	12.760572	10.70.26.54	10.1.10.10	DNS	Standard query 0x0001 A pool.ntp.org
256	12.761686	10.1.10.10	10.70.26.54	DNS	Standard query response 0x0001 A pool.ntp.org A 45.33.84.208 A 208.79.48.154 A 154.16.245.246
257	12.762176	10.70.26.54	154.16.245.246	NTP	NTP Version 1, reserved
258	12.851041	154.16.245.246	10.70.26.54	NTP	NTP Version 1, server
261	12.879205	10.70.26.54	10.1.10.10	DNS	Standard query 0x0002 A device.arubanetworks.com
262	12.879902	10.1.10.10	10.70.26.54	DNS	Standard query response 0x0002 A device.arubanetworks.com A 104.36.249.201
		10.70.26.54	104.36.249.201	TCP	52553 → 443 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=2 SACK_PERM=1 TSval=192490 TSecr=0
		104.36.249.201	10.70.26.54	TCP	443 → 52553 [SYN, ACK] Seq=0 Ack=1 Win=28960 Len=0 MSS=1460 SACK_PERM=1 TSval=3442508729 TSecr=192490 WS=128
		10.70.26.54	104.36.249.201	TLSv1.2	Client Hello
		104.36.249.201	10.70.26.54	TCP	443 → 52553 [ACK] Seq=1 Ack=174 Win=30080 Len=0 TSval=3442508730 TSecr=192500
		104.36.249.201	10.70.26.54	TLSv1.2	Server Hello
		104.36.249.201	10.70.26.54	TCP	[TCP segment of a reassembled PDU]
		104.36.249.201	10.70.26.54	TLSv1.2	Certificate
		104.36.249.201	10.70.26.54	TCP	[TCP Retransmission] 443 → 52553 [PSH, ACK] Seq=2897 Ack=174 Win=30080 Len=117 TSval=3442508740 TSecr=192500
		10.70.26.54	104.36.249.201	TCP	52553 → 443 [ACK] Seq=174 Ack=3014 Win=66608 Len=0 TSval=192500 TSecr=3442508730
		10.70.26.54	104.36.249.201	TLSv1.2	Client Key Exchange
		10.70.26.54	104.36.249.201	TLSv1.2	Change Cipher Spec
		10.70.26.54	104.36.249.201	TLSv1.2	Hello Request, Hello Request
		104.36.249.201	10.70.26.54	TCP	[TCP ACK 344244] 52553 → 443 [ACK] Seq=492 Ack=3014 Win=66608 Len=0 TSval=192540 TSecr=3442508740
		104.36.249.201	10.70.26.54	TCP	443 → 52553 [ACK] Seq=3014 Ack=492 Win=31104 Len=0 TSval=3442508776 TSecr=192540
		104.36.249.201	10.70.26.54	TLSv1.2	Change Cipher Spec, Encrypted Handshake Message
278	12.937666	10.70.26.54	104.36.249.201	TLSv1.2	Application data
279	12.939336	104.36.249.201	10.70.26.54	TLSv1.2	Application data
		104.36.249.201	10.70.26.54	TCP	[TCP Retransmission] 443 → 52553 [PSH, ACK] Seq=3065 Ack=718 Win=32256 Len=518 TSval=3442508989 TSecr=192550
283	13.352612	104.36.249.201	10.70.26.54	TCP	[TCP Retransmission] 443 → 52553 [PSH, ACK] Seq=3065 Ack=718 Win=32256 Len=518 TSval=3442509196 TSecr=192550
292	13.768938	104.36.249.201	10.70.26.54	TCP	[TCP Retransmission] 443 → 52553 [PSH, ACK] Seq=3065 Ack=718 Win=32256 Len=518 TSval=3442509611 TSecr=192550
295	13.928844	10.70.26.54	104.36.249.201	TCP	52553 → 443 [ACK] Seq=718 Ack=3583 Win=66038 Len=0 TSval=192750 TSecr=3442508782
296	13.928860	10.70.26.54	104.36.249.201	TCP	[TCP Dup ACK 295#1] 52553 → 443 [ACK] Seq=718 Ack=3583 Win=66038 Len=0 TSval=193540 TSecr=3442508989
297	13.928861	10.70.26.54	104.36.249.201	TCP	[TCP Dup ACK 295#2] 52553 → 443 [ACK] Seq=718 Ack=3583 Win=66038 Len=0 TSval=193540 TSecr=3442509196
298	13.931953	10.70.26.54	104.36.249.201	TCP	[TCP Dup ACK 295#3] 52553 → 443 [ACK] Seq=718 Ack=3583 Win=66038 Len=0 TSval=193540 TSecr=3442509611
313	14.960756	10.70.26.54	104.36.249.201	TCP	[TCP segment of a reassembled PDU]
314	14.960770	10.70.26.54	104.36.249.201	TLSv1.2	Application data
315	14.961324	104.36.249.201	10.70.26.54	TCP	443 → 52553 [ACK] Seq=3583 Ack=3183 Win=37120 Len=0 TSval=3442510804 TSecr=194570
320	15.032640	104.36.249.201	10.70.26.54	TLSv1.2	Application data
321	15.032642	104.36.249.201	10.70.26.54	TCP	443 → 52553 [FIN, ACK] Seq=3942 Ack=3183 Win=37120 Len=0 TSval=3442510875 TSecr=194570
322	15.055271	10.70.26.54	104.36.249.201	TCP	52553 → 443 [ACK] Seq=3183 Ack=3943 Win=65678 Len=0 TSval=194640 TSecr=3442510875
354	15.333265	10.70.26.54	104.36.249.201	TCP	52553 → 443 [FIN, PSH, ACK] Seq=3943 Ack=3943 Win=65678 Len=0 TSval=194940 TSecr=3442510875
355	15.333266	10.70.26.54	10.1.10.10	DNS	Standard query 0x0003 A internal.central.arubanetworks.com
356	15.334061	104.36.249.201	10.70.26.54	TCP	443 → 52553 [ACK] Seq=3943 Ack=3184 Win=37120 Len=0 TSval=3442511177 TSecr=194940
357	15.334070	10.1.10.10	10.70.26.54	DNS	Standard query response 0x0003 A internal.central.arubanetworks.com CNAME prod-internal2-public-device-elb-282623156.us-west-2.elb.amazonaws.com
1200	33.255000	10.70.26.54	10.1.10.10	DNS	Standard query 0x0004 A internal.central.arubanetworks.com
1201	33.268778	10.1.10.10	10.70.26.54	DNS	Standard query response 0x0004 A internal.central.arubanetworks.com CNAME prod-internal2-public-device-elb-282623156.us-west-2.elb.amazonaws.com

SSL Activate

DHCP

DNS pool.ntp.org

NTP

DNS device.arubanetworks.com

DNS internal.central.arubanetworks.com



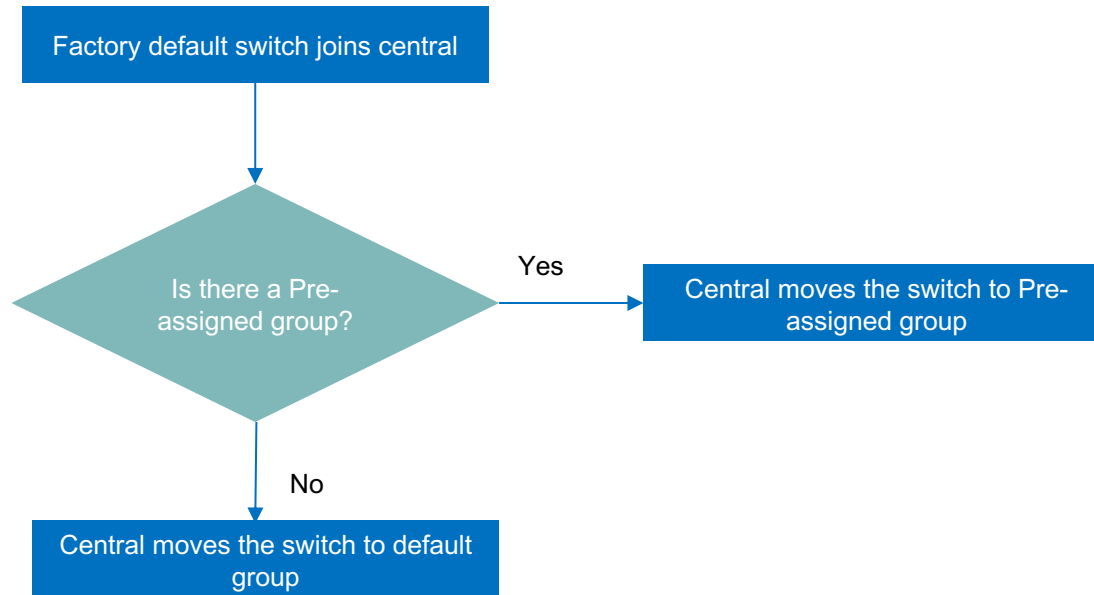
# Provisioning Workflow for switches

PROVISIONING A FACTORY DEFAULT SWITCH

PROVISIONING A PRE-CONFIGURED OR LOCALLY-MANAGED SWITCH

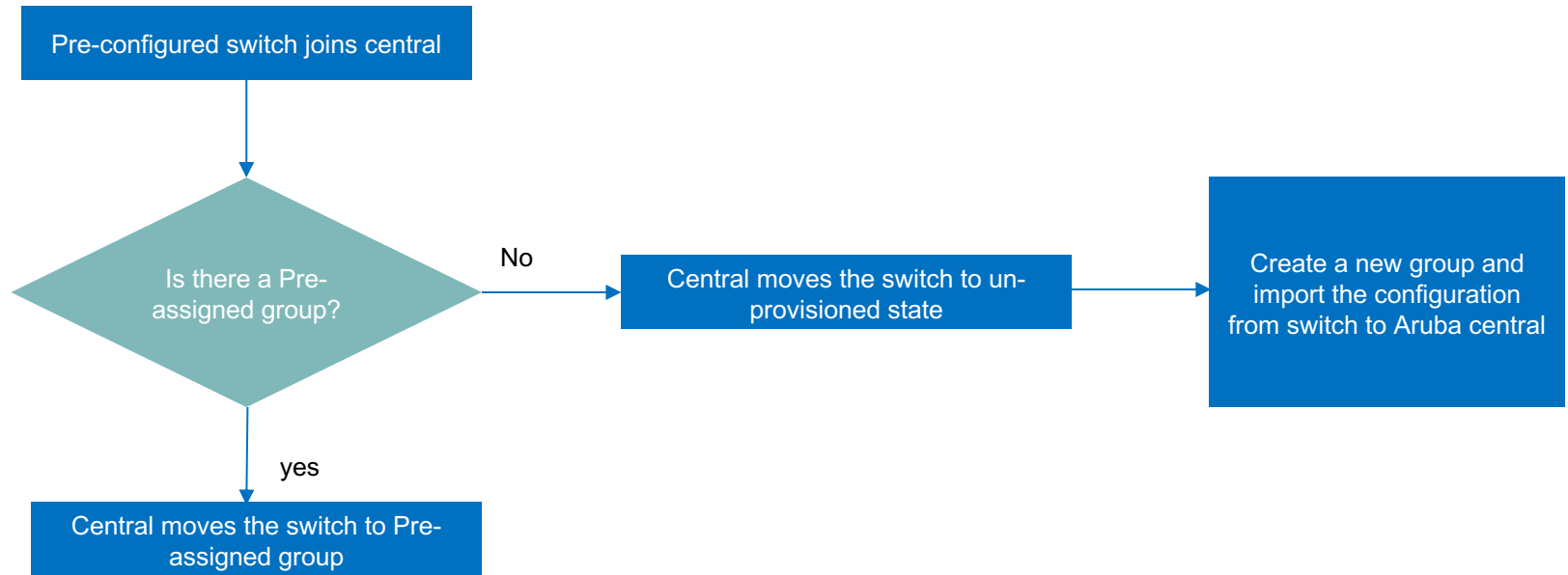
# Provisioning a Factory Default Switch

- Create groups & pre-provision devices to groups (UI based or Template).
- If not, devices with default configuration will automatically move into default group



# Provisioning a Pre-configured or Locally-Managed Switch

- Pre-configured switches requires one touch provisioning in Aruba central.
- We recommends to use this option if you want to preserve the current configuration running on the switch



# Provisioning a Pre-configured or Locally-Managed Switch

Global settings→Manage groups→ Device will be listed under unassigned device

Select the device and click on import configuration to a new group

▽ GROUP NAME	DE...
ALL CONNECTED D...	1
UNASSIGNED DEVI...	1
default	0

 New Group  
 Clone Selected Group

▽ NAME	▽ LOCATION	▽ TYPE	▽ SERIAL #	▽ MAC A
LabRack-R34	,	Aruba Switch	SG77FLXFF4	94:f1:28

 Import Configuration to New Group

# Provisioning a Pre-configured or Locally-Managed Switch

Enter the group name, User name and password and click on import configuration to import the configuration to central

## IMPORT CONFIGURATION

GROUP NAME

Aruba-2920-TG

PASSWORD

.....

CONFIRM PASSWORD

.....

Cancel

Import Configuration

▽ GROUP NAME

DE...

ALL CONNECTE...

1

UNASSIGNED D...

0

Aruba-2920-TG

1

config t

default

0



New Group



Clone Selected Group

# Provisioning a Pre-configured or Locally-Managed Switch

- We can also import the configuration after moving to template group as below

## EDIT TEMPLATE



Template Name

2920

Device

Aruba Switch

Model

2920

Version

16.05

Part Name

Aruba 2920 24G POE+ Switch (J9727A)



Not applicable if stacking is enabled

Select a device to import

LabRack-R34

Import Template

configuration



Importing configuration from a device will replace the existing template

### Template

```
1: J9727A Configuration Editor; Created on release #WB.16.05.0004
2: Ver #12:08.15.9b.3f.b3.b8.ee.34.79.3c.29.eb.9f.fc.f3.ff.37.ef:4
3
4 hostname "LabRack-R34"
5 module 1 type j9727a
6 no cwp enable
7 ip default-gateway 10.23.197.1
```

Cancel

Save

# Provisioning a Pre-configured or Locally-Managed Switch

## EDIT TEMPLATE



Template Name

2920

Device

Aruba Switch ▼

Model

2920 ▼

Version

16.05 ▼

Part Name

Aruba 2920 24G POE+ Switch (J9727A) ▼



Not applicable if stacking is enabled

Select a device to import

LabRack-R34 ▼

Import Template

configuration



Importing configuration from a device will replace the existing template

### Template

```
1 #This template is imported from device "LabRack-R34" with serial
2
3 %_sys_template_header%
4 hostname "%_sys_hostname%"
5 %_sys_module_command%
6 no cwrp enable
7 include-credentials
```

Cancel

Save

# UI group Vs Template group on Aruba central.

- Configuration :

## CREATE NEW GROUP

GROUP NAME

☐

USE AS A TEMPLATE GROUP (optional)

This allows configuration template to be applied for all the devices in the device group. Once designated as a Template Group, UI based configuration wizards cannot be used for this device group

PASSWORD

CONFIRM PASSWORD

Cancel

Add Group

## CREATE NEW GROUP

GROUP NAME



USE AS A TEMPLATE GROUP (optional)

This allows configuration template to be applied for all the devices in the device group. Once designated as a Template Group, UI based configuration wizards cannot be used for this device group

Cancel

Add Group

- Cant set password while creating template group



# Features available on UI Based group

- **Switch Configuration Details**
- **Configuring Switch Ports**
- **Configuring VLANs on Switches**
- **Configuring Port Trunking and LACP on Aruba Switches**
- **Enabling Spanning Tree Protocol on Switches in UI Groups**
- **Configuring Access Policies for Switch Ports and VLANs**
- **Configuring DHCP Pools on Switches**
- **Switch Configuration Using CLI Snippets**
- **Configuring System Parameters for a Switch**

# CLI Snippets

- Central currently includes limited configuration options in the UI. If certain configuration parameters, are not available in the UI, We recommends that you use CLI snippets to push configuration changes to switches
- However UI configuration overrides the configuration changes pushed through the CLI snippets. Hence, CLI snippets must be used only if the configuration parameters are not available in the UI menu options for switch configuration.
- The configuration changes pushed through CLI snippets are stored in the flash memory of a switch. When this switch reloads, the configuration changes applied through the CLI snippet will be removed.
- CLI Snippets has to be a valid CLI Command (IAP / Switch).
- Central doesn't support CLI snippets for Aruba mobility access switch.
- If the CLI snippet configuration changes are applied on a device in a group, the new devices joining this group will not inherit these changes.

# Sample configuration for CLI Snippet

Navigate : Wired management → Switch-Aruba → Advanced settings → New CLI Snippet

## 1. DEVICE INFORMATION

Model

Aruba2930F-8G-PoE+-2SFP+ Switch(JL258A)

Version

WC.16.05.0004\_607

## 2. PASTE CLI SNIPPET

CLI Snippet

```
1 dhcp-server pool "VLAN60"
2 default-router "172.18.152.1"
3 dns-server "172.22.102.229,172.22.102.232"
4 network 172.18.152.0 255.255.255.0
5 range 172.18.152.126 172.18.152.126
6 static-bind ip 172.18.152.30 255.255.255.0 mac 205655-456454
7 exit
```

✓ 7/300 lines used

Cancel

Save Settings

# Limited management while switch managed on central

- Once switch is connected to Central following features are disabled when cloud connection is on:

- ✓ WebUI and REST
- ✓ SNMP
- ✓ Menu

- Following cli commands will not be allowed when the switch is managed by Central.

- |                    |               |
|--------------------|---------------|
| ✓ Boot             |               |
| ✓ recopy           | ✓delete       |
| ✓ Erase            | ✓Reboot       |
| ✓ reload           | ✓Restore      |
| ✓ setup            | ✓Menu         |
| ✓ startup-default  | ✓write memory |
| ✓ Amp-server       | ✓aruba-vpn    |
| ✓ Upgrade-software |               |

# SNMP Feature will be disabled while switch managed on central

- We won't be able to add SNMP devices for the switches managed on central.
- Central uses SNMP feature to push the configuration to the switches from cloud hence we can't add SNMP server to send out logs from the switch.

# Template group

- Unsupported configuration on UI.
- Mainly used for switches.
- We can use Variable file to do device specific configuration for switches / IAP using one common global template file.
- Its for customer who likes CLI rather WEBUI based configuration.
- Stacking switches can be configured only via template based group.
- Easy to manage large deployments.
- CLI snippet feature is not supported for switch version 16.05 & above in a template group.

# Important points to be noted on template

- The CLI syntax in the switch template must be accurate. We recommends that you validate the configuration syntax on the switch before adding it to the template text.
- Ensure that the command text indentation matches the indentation in the running configuration.
- Ensure that the template contains mandatory information. (Example switch model , firmware version etc)
- The commands in the template are case-sensitive.
- The following example illustrates the case discrepancies that the users must avoid in templates and variable definitions.

```
trunk E1-E4 trk1 trunk
```

```
interface Trk1
```

```
dhcp-snooping trust
```

```
exit
```

# Sample Template

- Easiest way to create a template is copy and pasting the running configuration from switch without removing any mandatory lines.
- Below is the same template file and variable

```
{
"CN66HKW01S": {
  "_sys_lan_mac": "e0:07:1b:c2:26:40",
  "_sys_serial": "CN66HKW01S",
  "_sys_hostname": "Switch1",
  "untagged_ports_vlan1": "1,16-28",
  "untagged_ports_vlan2": "2-15",
  "tagged_ports_vlan2": "1",
  "interface_10_status": "1"
},
"CN69HL2034": {
  "_sys_lan_mac": "e0:07:1b:c4:0d:e0",
  "_sys_serial": "CN69HL2034",
  "_sys_hostname": "Switch2",
  "untagged_ports_vlan1": "1-15",
  "untagged_ports_vlan2": "16-28",
  "tagged_ports_vlan2": "1",
  "interface_10_status": "0"
}
}
```

```
1 %_sys_template_header%
2 %_sys_module_command%
3 hostname %_sys_hostname%
4 include-credentials
5 snmpv3 engineid "%_sys_snmpv3_engineid%"
6 vlan 1
7   name "DEFAULT_VLAN"
8   untagged %untagged_ports_vlan1%
9   %if tagged_ports_vlan1%
10     tagged %tagged_ports_vlan1%
11   %endif%
12   ip address dhcp-bootp
13   exit
14 vlan 2
15   untagged %untagged_ports_vlan2%
16   tagged %tagged_ports_vlan2%
17   ip address 192.168.2.1 255.255.255.0
18   exit
19 interface 10
20   %if interface_10_status=1%
21     enable
22   %else%
23     disable
24   %endif%
25 exit
```



# Configuration Audit

- In case of template error or failed to push the configuration, Central will throw an error under configuration audit.

Navigation : Wired management → configuration audit

- Configuration audit will help you to identify the errors specifying the exact line. ( Example line 20 : invalid port: 25-28) (24 Port switch)



**Search Current App**

Find devices, clients and networks

Templates

Variables

Advanced Settings

Configuration Audit

## OVERVIEW

In Aruba Central, the configuration of a virtual controller or switch can be individually inherited from the group. This is known as a 'local override'. Use this view to review Occasionally a Central managed device will fail to receive a configuration change from see it as a 'configuration sync issue'. If the condition persists, contact Aruba support

## TEMPLATE ERRORS & CONFIGURATION SYNC ISSUES

Template Errors

0 Device

[View Template Errors](#)

Failed Changes

1 Device

[Failed config difference](#)

# Switch behavior in 16.04 and 16.05 and above (Template group)

- In 16.04.x, whenever configuration change is made using template switch will reboot.
- Starting from 16.05.x, switch will not reboot for any configuration in template group and even when switch is moved from the UI group to template or vice versa.
- In 16.05.x and above, we can see the below logs when the switch is moved from one group to another.

```
2530-Switch# show logging -r cfg
```

Keys: W=Warning I=Information M=Major D=Debug E=Error

---- Reverse event Log listing: Events Since Boot ----

```
I 09/24/18 08:00:17 05631 cfgRestore: Successfully applied configuration
```

```
REST_Payload to running configuration.I
```

```
09/24/18 08:00:15 05690 cfgRestore: Configuration restore is initiated.
```

# How to create configuration Backup on Aruba central

- The backup and restoration options are available for devices deployed in template groups.
- It back up templates and variable files applied to the devices in template groups.
- You can create and maintain up to 20 backed up configuration files. If the number of backup files exceed 20, the old backed up configuration files are overwritten.
- However, if the backed up files are marked as **Do not Delete**, Central does not overwrite the backed up configuration files.
- When the backup or restore for a template group is in progress, you cannot make configuration changes to that group.
- The restore operation will get terminated if the firmware version doesn't match on any one device in the group.
- For example, if the configuration file was backed up when a switch was running 16.03.0003 and was later upgraded to 16.04.0003, the restore operation fails for the group.

# How to create configuration Backup on Aruba central

- Navigation : Wired management → Configuration audit → Create new backup

The screenshot shows the Aruba Central interface. On the left is a sidebar with the 'aruba Central' logo, a 'CURRENT APP WIRELESS MANAGEMENT' button, a search bar, and navigation links for 'Templates', 'Variables', and 'Configuration Audit'. The main panel displays a 'CREATE NEW BACKUP' dialog box. At the top of the dialog is a filter bar for 'WIRELESS MANAGEMENT' showing 'Aruba-Template' with statistics: '1 Total Devices | 0 Offline APs | 1 Offline SWITCHES | 0 Offline'. The dialog title is 'CREATE NEW BACKUP'. Below the title, the 'BACKUP NAME' field contains 'Backup-December\_2018'. A green information box states: 'Central stores only the latest 20 backups. Older ones get overwritten as new ones are created. To protect this backup from being overwritten, you have to enable Do Not Delete below.' Below this, the 'Do Not Delete' toggle switch is currently turned off. At the bottom of the dialog are 'Cancel' and 'OK' buttons.

## BACKUP IN PROGRESS

Backup Name: Backup-December\_2018

Initiated By Username: dinesh.dk@hpe.com

Backup Initiated At: 17 Dec 12:02 AM



Configuration backup is under progress for this group. No user can make any changes to configuration for this group until the Backup is complete.

# How to restore the configuration backup

## CONFIGURATION BACKUP & RESTORE

You can maintain backups of the group configuration and at a later point of time restore the configuration to the backups w to plan.

Backups (MAX 20)  
1

[Manage Backups](#)  
[Create New Backup](#)

Last Backup (17 Dec 12:02 AM)  
**Success**

[Last Backup Log](#)

Last Restore  
No Restores Done

[Restore From Backup](#)

## RESTORE FROM BACKUP

Backup Name:

Backup-December\_2018 (17 Dec 12:02 AM) ▼

Device Type:

Aruba Switch ▼

Cancel

OK

# Firmware compliance settings to upgrade firmware

- Central allows you to run a firmware compliance check and force firmware upgrade for devices in a group. To force a specific firmware version for all AP devices or Switches in a group.
- Navigation : Maintenance → Firmware → Firmware Compliance Setting → Choose the group and device
- Uncheck the Auto reboot if we need to reload the switch later.

The screenshot displays the Aruba Central interface with a modal dialog titled 'MANAGE FIRMWARE COMPLIANCE' open. The dialog contains the following fields and options:

- Groups:** A dropdown menu showing 'Aruba-Template'.
- Firmware Version:** A dropdown menu showing '16.06.0008 (Recommen'.
- Auto Reboot:** A checkbox that is currently checked.
- When?:** Two radio buttons, 'Now' (selected) and 'Later Date'.

At the bottom of the dialog are 'Cancel' and 'Save and Upgrade' buttons. The background interface shows the 'FIRMWARE' section with a search bar, a table of devices (including 'NAME' and 'LabRack-...'), and a 'COMPLIANCE STATUS' section showing 'Not Set'.

# Debugging Tips

## Requirement:

- Switch should have access to the internet and should be in factory default condition for ZTP.
- Switch should be on recommended version : “16.05.0007 and later”
- DNS, NTP and HTTPS protocols should be allowed, if the switches are placed behind the firewall.
- Below destination needs to be allowed on firewall.

\*.arubanetworks.com"

\*.cloudfront.net"

Device.arubanetworks.com

Few of sample could URLs:

- app2-eu.central.arubanetworks.com
- app1.central.arubantworks.com
- app2.central.arubanetworks.com
- Internal.central.arubanetworks.com

# Debugging Tips

- **Issues with Aruba 2530 switch bring up in central**

Aruba switch model 2530 manufactured before July 2017 will not get authenticated on activate server'

Root cause :

it does not have TPM hence does not have factory cert to authenticate with Central, Activate.

Workaround :

We need to add those switches manually to exception list in activate.

Affected switches we would see below error message:

I 08/23/17 18:41:29 05226 activate: Successfully resolved the Activate server

address device.arubanetworks.com to 104.36.249.201.

W 08/23/17 18:41:30 05602 activate: EST provision with activate server failed because of not-authenticated



# Debugging Tips

## **How to check if activate provision enabled?**

Aruba-2930F-24G-PoEP-4SFP# show activate provision

Configuration and Status - Activate Provision Service

Activate Provision Service : Enabled

Activate Server Address : device.arubanetworks.com

Activation Key : HWYRQH2Q

If the device successfully establishes SSL with activate server then the activate server would generate the activation key for the switch.

## **How to do force provisioning on the switch?**

HP-2920-24G(config)# activate provision force

Immediately provision the system using Aruba Activate.

# Debugging Tips

How to check if switch received a provisioning rule on activate?

Select the device in activate→ Device history

No license - Fail-prov-no-rule.

Licensed – switch->athena

The screenshot shows the Aruba Activate web interface. At the top, there's a navigation bar with 'Aruba Central' and 'Aruba Activate' tabs. Below the navigation bar, there's a search bar and a list of folders. A red banner message states: 'The Server Certificate for the Activate website has been replaced. ArubaOS, RAP, IAP-VPN and ClearPass customers - please refer the Customer Advisory and take the recommended actions.' Below this, the 'Activate' section has 'Devices' and 'Setup' tabs. The 'Devices' tab shows 'All : 1 Devices (1 - 1)' and a table of devices. The table has columns: Serial, Status, Part, Part Description, Folder, Firmware, Mode, First Seen, and Last. The device listed is 'SG54FLXMF6' with status 'shipped', part 'J9727A', description 'Aruba 2920 24G PoE+ Switch', folder 'athena-f-alpha2\_sub\_569', firmware 'WB.16.04.0008', mode 'MAS-PRI', and first seen '2/16/2017 3:41 PM'. Below the device list, there's a 'Device Detail' section for '5C:B9:01:18:6E:40'. The 'Device History' section shows a list of 30 events. An orange arrow points to the 'Current Version' column in the history table, highlighting the entry 'WB.16.04.0008' for the 'fail-prov-no-rule' status. The history table has columns: Date, Type, Source IP, Current Version, Mode, Status, Description, and Device Info. The events show a sequence of 'provision-update' and 'firmware-check' events, with the 'fail-prov-no-rule' status appearing multiple times. The 'Device list updated at 5:43:35 AM' is shown at the bottom.

Serial	Status	Part	Part Description	Folder	Firmware	Mode	First Seen	Last
SG54FLXMF6	shipped	J9727A	Aruba 2920 24G PoE+ Switch	athena-f-alpha2_sub_569	WB.16.04.0008	MAS-PRI	2/16/2017 3:41 PM	


Date	Type	Source IP	Current Version	Mode	Status	Description	Device Info
5/9/2018 6:16 AM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	success	SWITCH->Athena	SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 5:29 PM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	fail-prov-no-rule		SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 5:24 PM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	fail-prov-no-rule		SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 5:19 PM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	fail-prov-no-rule		SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 5:19 PM	firmware-check	73.218.104.206	WB.16.05.0007	MAS-PRI	success	WB.16.05.0007	SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 5:14 PM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	fail-prov-no-rule		SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 5:09 PM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	fail-prov-no-rule		SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 5:07 PM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	fail-prov-no-rule		SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 5:02 PM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	fail-prov-no-rule		SG54FLXMF6, 5C:B9:01:18:6E:40, 292
5/7/2018 4:57 PM	provision-update	73.218.104.206	WB.16.04.0008	MAS-PRI	fail-prov-no-rule		SG54FLXMF6, 5C:B9:01:18:6E:40, 292

# Debugging Tips

How to verify the provisioning rule is applied to a device on activate?

- Login to activate and verify if the device is in correct folder “athena-f<customer\_ID-Licensed” when the device licensed on central.
- Devices will be in default folder when its not licensed and we shouldn't modify or edit any athena related folders in activate.
- Editing those folders or deleting those folders will bring all the devices down on central.

Name ▾	Parent ▾	Name ▾	Folder ▾
AA-HomeIAP-RR	default	athena-r-007145412c4945acb09e	athena-f-007145412c4945acb09ee77153bc1785-Lic
AMUKADDAM_FOLDER	default	athena-r-007145412c4945acb09e-controller	athena-f-007145412c4945acb09ee77153bc1785-Lic
athena-f-007145412c4945acb09ee77153bc1785	default	athena-r-007145412c4945acb09e-switch	athena-f-007145412c4945acb09ee77153bc1785-Lic
athena-f-007145412c4945acb09ee77153bc1785-Licensed	athena-f-00		
athena-f-015fb69425ed4651b6d32614185716ff	default		
athena-f-015fb69425ed4651b6d32614185716ff-Licensed	athena-f-01		
athena-f-01da0f5f52c47f994e4e8553cec5e2a	default		
athena-f-01da0f5f52c47f994e4e8553cec5e2a-Licensed	athena-f-01		
athena-f-01e1dcd6fbd4e2c8d59567b17eb5e2f	default		
athena-f-01e1dcd6fbd4e2c8d59567b17eb5e2f-Licensed	athena-f-01		
athena-f-0231241d6a7b473c886fac45fadd973f	default		
athena-f-0231241d6a7b473c886fac45fadd973f-Licensed	athena-f-02		

 **Rule Detail**

**Rule Detail**

Rule Type:	Provisioning Rule
Parent Folder:	athena-f-007145412c4945acb09ee77153bc1785-Licensed
Provision Type:	Switch to Central
Central IP/URL:	internal.central.arubanetworks.com
Rule Name:	athena-r-007145412c4945acb09e-switch
Create Date:	11/19/2018 4:33 PM
Created By:	athena_integration

# Debugging Tips

## How to check if switch managed on central?

Aruba-2930F-24G-PoEP-4SFP# show aruba-central Configuration and Status - Aruba Central

Server URL : https://internal.central.arubanetworks.com/ws

Connected : Yes

Mode : Managed

Last Disconnect Time : NA

## If the switch disconnected from central :

LabRack-R34# show aruba-central

Configuration and Status - Aruba Central

Server URL : https://internal.central.arubanetworks.com/ws

Connected : No

Mode : NA

Last Disconnect Time : Fri Dec 14 21:03:18 2018

# Debugging Tips

## **Aruba Central Support mode:**

**2530 (config)# aruba-central support-mode enable**

This mode will enable all CLI configuration commands, including those normally reserved by the Aruba Central service.

Use of this mode may invalidate the configuration provisioned through Aruba Central server. Continue (y/n)?

After enabling support mode, local configuration can be done.

Note: When the switch is rebooted, Aruba central support mode will be disabled and all the local configuration will be lost.

# Debugging Tips

## How to verify communication with activate:

Show log -r activate

Aruba-2930F-24G-PoEP-4SFPP# show log -r activate

I 06/08/18 13:46:06 05221 activate: The device is provisioned with the Central  
<https://internal.central.arubanetworks.com/ws>.

I 06/08/18 13:46:06 05622 activate: Trusted Anchor Certificate received from  
Activate server is successfully installed.

I 06/08/18 13:46:06 05223 activate: Successfully established connection with the  
Activate server;parsing final provision service response.

I 06/08/18 13:46:03 05226 activate: Successfully resolved the Activate server  
address device.arubanetworks.com to 104.36.249.201.

# Debugging Tips

## How to verify communication with Central:

### Show log –r central

```
Aruba-2930F-24G-PoEP-4SFPP# show log –r central
```

I 06/08/18 13:38:13 05252 central: Maximum retries limit have been reached to contact Aruba Central server. Contacting back to Activate server for reprovisioning.

W 06/08/18 13:38:13 05232 central: SSL negotiation failed with status = -5901.  
I 06/08/18 13:36:13 05235 central: Websocket connection failed. Config channel is not established. Retry after 120 seconds.

W 06/08/18 13:36:13 05232 central: SSL negotiation failed with status = -5901.  
I 06/08/18 13:35:12 05235 central: Websocket connection failed. Config channel is not established. Retry after 60 seconds.

W 06/08/18 13:35:12 05232 central: SSL negotiation failed with status = -5901.  
I 06/08/18 13:34:42 05235 central: Websocket connection failed. Config channel is not established. Retry after 30 seconds.

# Debugging Tips

HP-2920-24G-PoEP# debug ztp

HP-2920-24G-PoEP# debug aruba-central

HP-2920-24G-PoEP# debug destination session

HP-2920-24G-PoEP# debug security crypto

To print the logs

HP-2920-24G-PoEP# show debug buffer.

Debug Logging

Source IP Selection: Outgoing Interface

Origin identifier: Outgoing Interface IP

Destination:

Session

Enabled debug types:

aruba-central

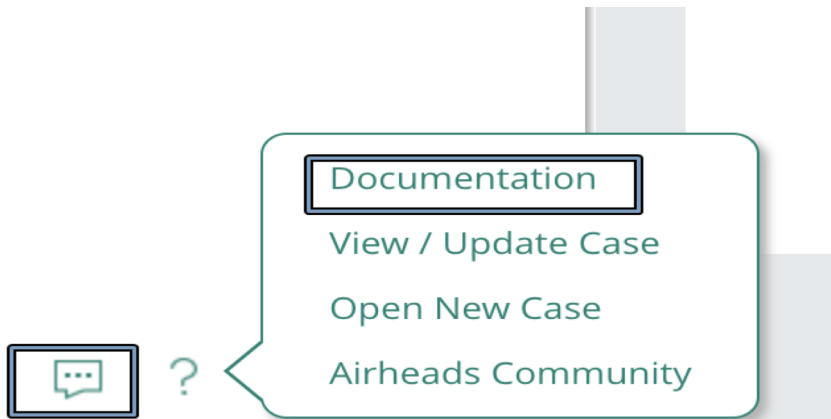
ztp

To disable debugs, append "no" to the debug command



# Central guide with the latest updates

- Click on the icon at the left side bottom of the Aruba central UI as below,



- Once you click on documentation, it will redirect to below link,

[http://help.central.arubanetworks.com/2.4.7/documentation/online\\_help/content/home.htm?lang=en\\_US](http://help.central.arubanetworks.com/2.4.7/documentation/online_help/content/home.htm?lang=en_US)

# Central guide with the latest updates

## Basics



Know more about Central, its key capabilities, supported solutions and devices!

[Key features of Central](#)  
[Supported Devices](#)  
[SD-WAN Solution](#)

## What's New



Learn more about the new features, solutions, services, and enhancements introduced in this release!

[Install Manager](#)  
[Virtual Gateway Deployment](#)  
[Application Visibility](#)  
[See What's New for more...](#)

## Quick Starts



Get started with Central, onboard your devices, organize and manage your devices!

[Getting Started with Central](#)  
[Getting Started with SD-WAN Deployment](#)  
[Getting Started with Switch Deployment](#)

## Network Management



Learn how to configure and manage your devices, and set up your network!

[Wireless LAN](#)  
[SD-WAN](#)  
[Wired Access](#)

## Dashboard



Monitor your devices, network, and clients, configure alerts, and detailed reports!

[Monitoring Dashboards](#)  
[Alerts](#)  
[Reports](#)

## Managed Service Provider



Explore our Managed Service Provider offering for managing your customer accounts and networks!

[Overview](#)  
[MSP Getting Started](#)  
[MSP Deployment Scenarios](#)  
[MSP Solution Guide](#)

## APIs



Use Central APIs to manage and monitor devices, networks, and user accounts!

[API Gateway](#)  
[API Documentation on Swagger](#)  
[API Gateway Automation Guide](#)  
[API Webhook Service](#)

## Value Added Services



Explore value added services for additional capabilities on your devices!

[Clarity](#)  
[Guest Access](#)  
[Unified Communications](#)  
[Presence Analytics](#)

## Documentation Resources



Browse help topics, FAQs, solution guides, and other related information.

[Browse Help Topics](#)  
[SD-WAN Solution Guide](#)  
[ServiceNow Integration Guide](#)  
[Other Related Documents](#)  
[FAQs](#)

# Questions

# THANK YOU!