



Possibilities

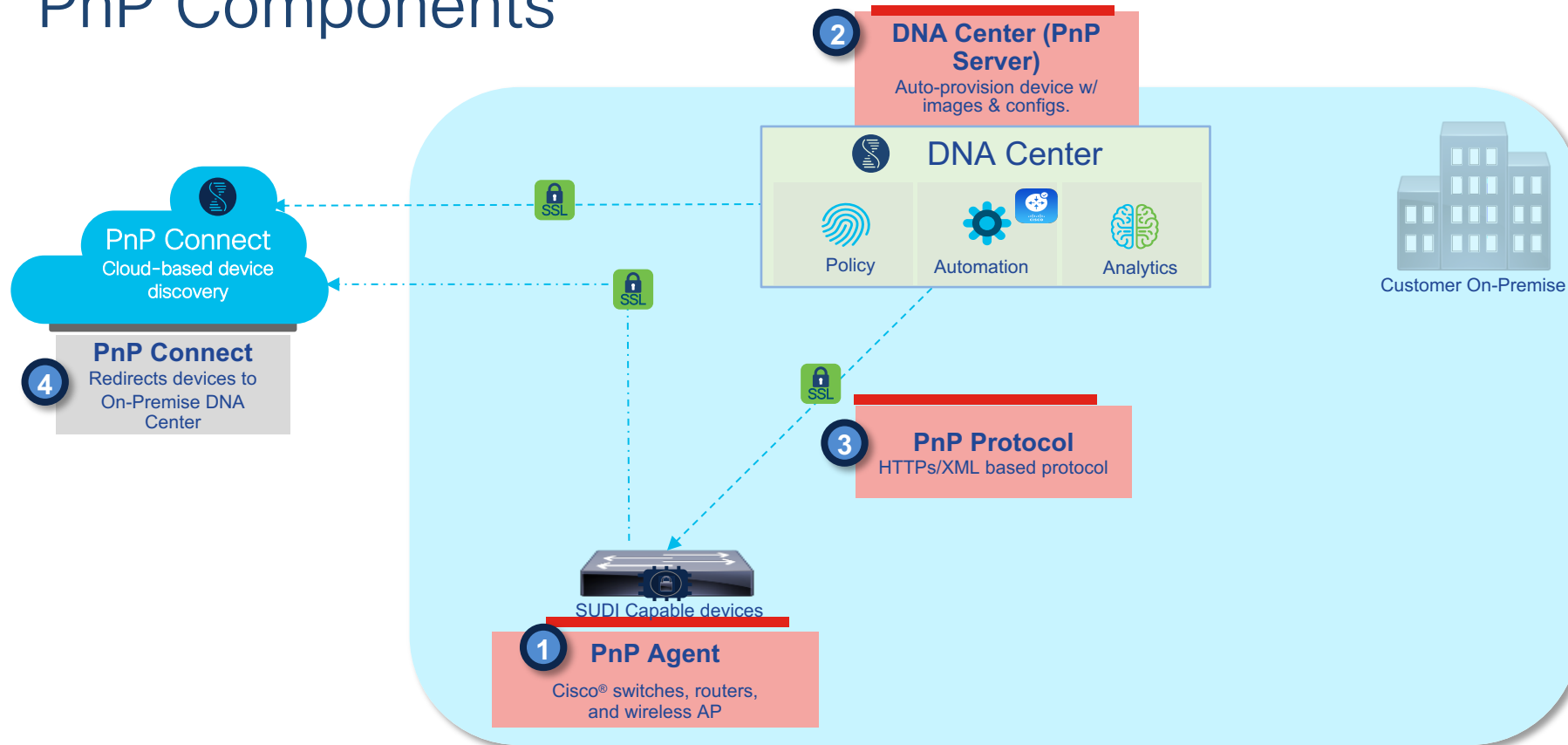
#CiscoLive | #DevNetDay

Understanding Device onboarding with PnP API in Cisco DNA Center

Adam Radford
@adamradford123
Session ID



PnP Components



Two Possible onboarding sources

Plug and Play Devices (9)

Last updated: 6:45 PM [Refresh](#) [+ Add Device](#)

[Filter](#) [Actions](#)

[EQ](#) Find

<input type="checkbox"/>	#	Device Name	Serial Number	Product ID	Source	State	Site	Last Contact	
<input type="checkbox"/>	1	adam123	12345678902	c9300	User	Planned	Global/AUS/SYD5	Not Contacted	
<input type="checkbox"/>	2	Unavailable	FDO1732Q00B	WS-C3650-48PQ-E	Network	Unclaimed	N/A	05/14/2020 06:45:25 PM	

User: added via UI or API
Network: device discovered DNAC

Claim process

Devices ▾

Fabric

Services

1 Site Assignment

2 Configuration

3 Advanced Configuration

4 Summary

Manage sites in [Network Hierarchy](#)

Filter

#	Device Name	Serial Number	Product ID	Site	Actions
1	test	1234567890q	C9300L-48UXG-2Q	Select a site*	<div>Assign to site</div>

Showing 1 of 1

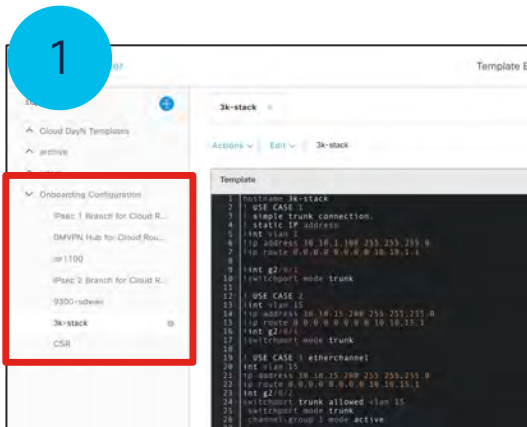
Cancel

Back

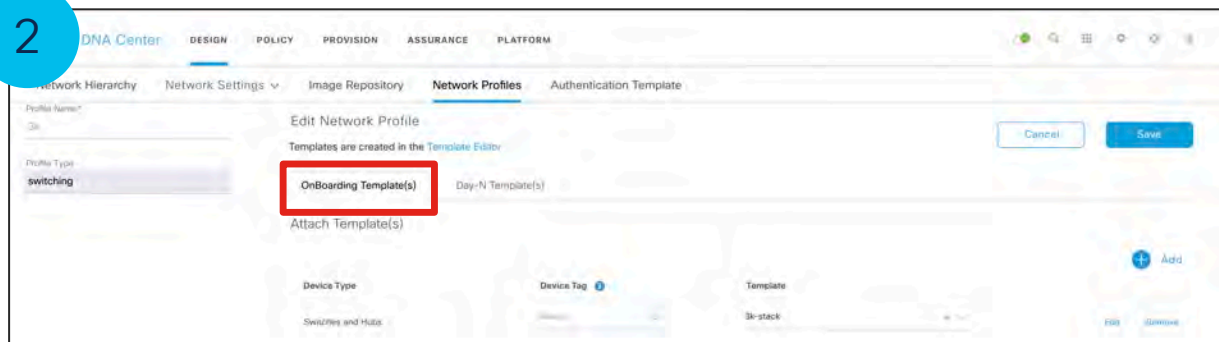
Next

UI Onboarding template and network profile

1



2



3



- 1) Create Onboarding template – 3k-stack
- 2) Create a switching network profile and add template to day-0
- 3) Add sites to the network profile



API

Some other things

- RESET the device

```
./template.py --template adam/reset --device 10.10.15.200 --params '{}'
```

- Delete the device from inventory

```
dnacentercli devices get-network-device-by-ip --ip_address  
10.10.15.200 | jq -r '.response.id | @text ' | xargs dnacentercli devices  
delete-device-by-id -id
```

- Watch the device

```
./watch_provision.py FDO1732Q00B
```


Part 1 Discovery/Add

POST **/dna/intent/api/v1/onboarding/pnp-device/import**

```
[{
  "deviceInfo": {
    "hostname": name,
    "serialNumber": serial,
    "pid": pid,
    "sudiRequired": False,
    "userSudiSerialNos": [],
    "stack": stack,
    "aaaCredentials": {
      "username": "",
      "password": ""
    }
  }
}]
```

This API is only required to pre-add device.

Unknown devices appear after discovery.

Part 2 - site claim

POST **/dna/intent/api/v1/onboarding/pnp-device/site-claim**

```
{
  "siteId": siteId,
  "deviceId": deviceId,
  "type": "Default",
  "imageInfo": {
    "imageId": imageId,
    "skip": False},
  "configInfo": {
    "configId": configId,
    "configParameters": []}
}
```

imageInfo is optional
configInfo - template is optional

configParameters are:
{"key" : "var" , "value" : "val"}
Rather than {"var": "val"}

Other commands

```
./dnacentercli pnp get-device-history --serial_number FDO1732Q00B -pp 2
```

```
./dnacentercli pnp --help
```

Access Points

Part 2 - site claim - Access Points

POST **/dna/intent/api/v1/onboarding/pnp-device/site-claim**

```
{  
  "siteId": siteId,  
  "deviceId": deviceId,  
  "type": "AccessPoint",  
  "hostname": hostname,  
  "rfProfile": "LOW"  
}
```

Type is now "AccessPoint"

Hostname is required

rfProfile is also required

This will fully provision the AP

Needs WLC to be managed by DNAC

PNP API Summary

Endpoint	Verb	Description
onboarding/pnp-device/import	POST	Import devices
onboarding/pnp-device/site-claim	POST	Claim a device to a site. Image and template optional
onboarding/pnp-device?serialNumber={}	GET	Get the status of the device
onboarding/pnp-device/history?serialNumber={}	GET	Get the PnP history for the device

Explore More

- Sandbox URL: <http://cs.co/enterprisesandbox>
- Blog Links: <https://blogs.cisco.com/author/adamradford>
 - <https://blogs.cisco.com/developer/dna-center-template-programmer-api>
 - <https://blogs.cisco.com/developer/dna-center-cli>

