

# عق اوملا ةددمتم ، EVPN VXLAN ةكبش رشن ربع DCNM 11.2(1)

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## ةمدقملا

ىل ةفاضا اب EVPN VXLAN ةكبش ل ني تي درف ني تي نب رشن ةي في ك دن ت سمل اذه حضوي  
EVPN ةكبش ةصاخ عق اوملا ةددمتم ةينب رشن في ني تي ل س نل ني تاه جم ةي في ك  
Cisco نم 11.2(1) DCNM (Data Center Manager) جم انرب مادختساب

تاونقلا ةددمتم ةي واه ، DCNM 11.0(1) رادصا في مدمقلا ، (MSD) عق اوملا ددمتم لاجملا  
تاكبشلا دي دحتل ةدحاو مكحت ةطقن يهو . عاضع ال ةددمتم ينب ةرادال اهواشنن متي ةي في ل  
تاونقلا ربع اهت كراشم متي يتلا (VRF) يره اظال هيجوتلا ةدعاو هيجوتلا ةي مكارتل  
عاضع ال ةي في ل

بيوبت لك صئاصخ/فئاظوب ةقلعت ملا لي صافتل دن ت سمل اذه فصي ال : **ةظالم**  
ةي لي صفتلا حورشلا ي طغت يتلا ةياهنلا في عجارملا ىل ع ال طال اىچري . DCNM لخاد

# ةيساس أال تاب ل ط م ل

## تاب ل ط م ل

ةيلال عيضاوم ل اب ةفرعم كي دل نوكت نأب Cisco ي صوت

- DCNM يرهاظال زاها ل رشن ل vCenter/UCS جم انرب
- Nexus 9000s و NX-OS عم هباش ل
- يرقف ل دومع ل/ةقرو ل ةقيرطب ةلصتم RS، EoRS ل Nexus 9000s

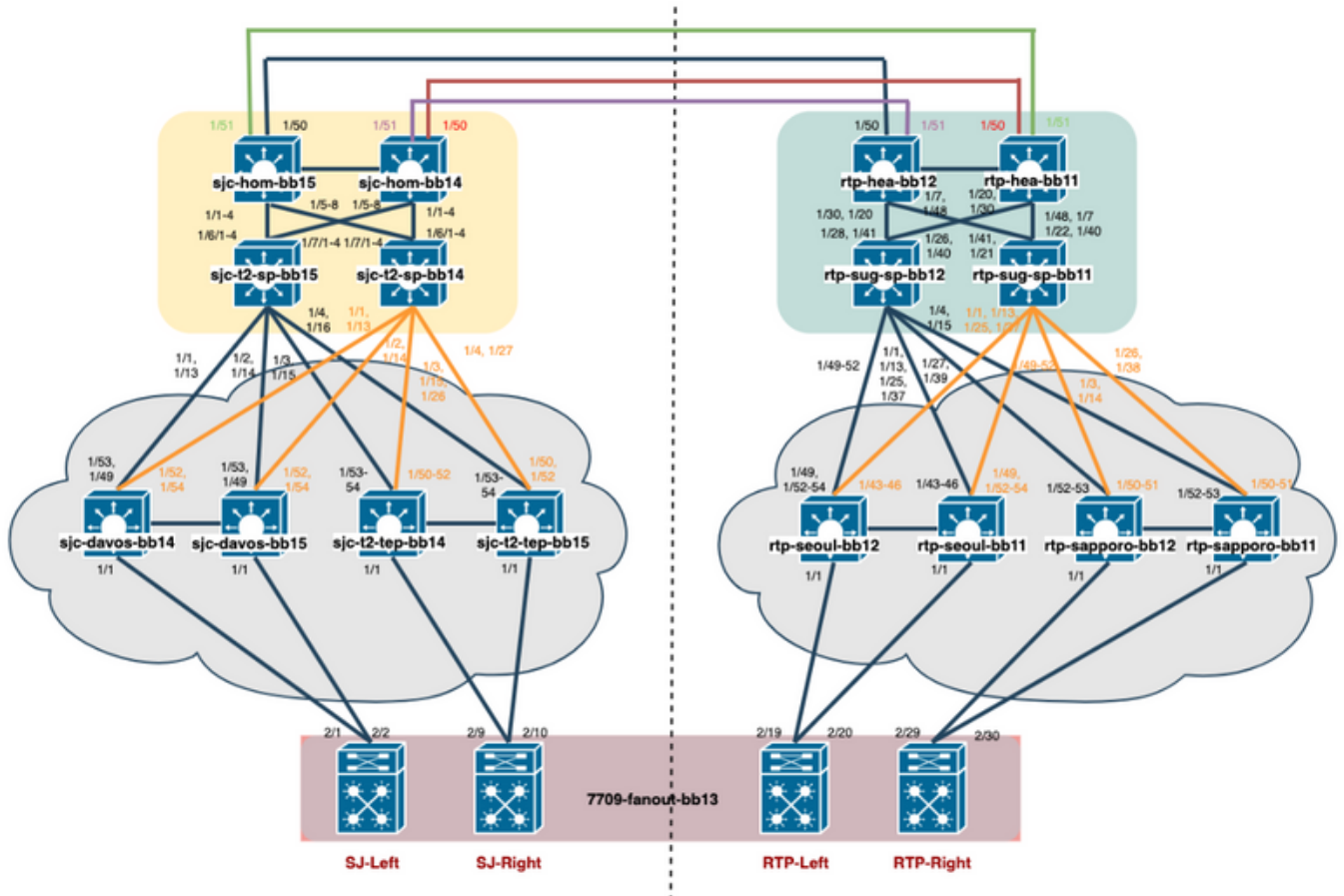
## ةمدختس م ل تانوك م ل

ةيلال ةزه أال او جم ارب ل ل دننتس م ل اذ ف ةدراول تامول عم ل دننتس

- DCNM 11.2(1)
- NX-OS 7.0(3)I7(7) و NX-OS 9.2(3)
- ةيعرف ل تازي م ل: N9K-C9508 / N9K-X97160YC-EX & N9K-C9508 / N9K-X9636PQ
- تاروشن م ل: N9K-C9372TX و N9K-C93180YC-EX و N9K-C9372TX-E و N9K-C92160YC-X
- ةيدودح ل تاب اوب ل: N9K-C93240YC-FX2 & N9K-C93180YC-FX
- "ف يضم" ك 7: N77-C7709

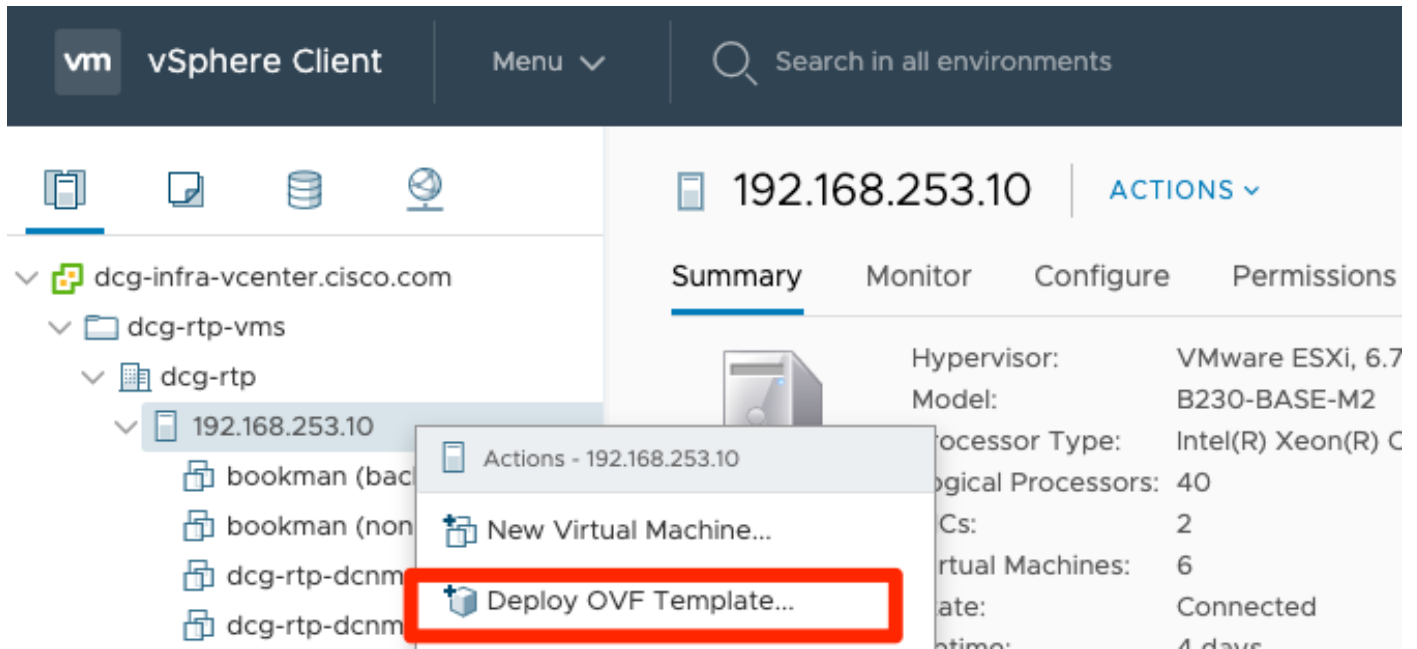
ةصاخ ةيلمعم ةئي ب ي ةدوجوم ل ةزه أال نم دننتس م ل اذ ف ةدراول تامول عم ل ءاشن ا م ت  
ت ناك اذ (يضا رت ف ا) حوس م م نيوك ت ب دننتس م ل اذ ف ةمدختس م ل ةزه أال عي م ج ت ادب  
رمأ ي ل م ت ح م ل ر ي ث ا ت ل ل ك م ه ف ن م د ك ا ت ف ، ل ي غ ش ت ل د ي ق ك ت ك ب ش

## ةينبم ةيئاي زي ف اي ج ول و ب و ط



## رشن vCenter في OVA/OVF

في (OVF) حوت فلم الة يضا رت فال الة ا ك ا ح م ل ا ق ي س ن ت ب ل ا ق ر ش ن ب م ق ، vCenter تحت 1. ة و ط خ ل ا ة ر و ص ل ل ا ي ف ح ص و م و ه ا م ك ، ه ر ا ت خ ت ي ذ ل ا ف ي ض م ل ا / م د ا خ ل ا



1. و ه ا م ك ، ت ا ف ل م ل ا ر ا ي ت خ ل ل ا ل خ ن م د د ح و ا ي ل ح م ك ل ذ ي ل ا ا م و ، OVA/OVF ف ل م ي ل ع ل ص ح ا ة ر و ص ل ل ا ي ف ح ص و م :

## Deploy OVF Template

### 1 Select an OVF template

- 2 Select a name and folder
- 3 Select a compute resource
- 4 Review details
- 5 Select storage
- 6 Ready to complete

### Select an OVF template

Select an OVF template from remote URL or local file system

Enter a URL to download and install the OVF package from the Internet, or browse to a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.

URL

http | <https://remoteserver-address/filetodeploy.ovf> | .ova

Local file

Choose Files dcnm-va.11.2.1.ova

حضوره وه امك، ةكبشلا تادادع، فيضم ي، ره اظلا زاچلا مسا) تابل اطملا ةيقب عبتا 2. ءاهن| لعل رقناو (ةروصلال في

## Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 License agreements
- ✓ 6 Configuration
- ✓ 7 Select storage
- 8 Select networks**
- 9 Customize template
- 10 Ready to complete

### Select networks

Select a destination network for each source network.

Source Network	Destination Network
dcnm-mgmt	DCG-INFRA-1
enhanced-fabric-mgmt	EVPN-NAT-1
enhanced-fabric-inband	EVPN-NAT-1

3 items

### IP Allocation Settings

IP allocation: Static - Manual  
IP protocol: IPv4

## Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 License agreements
- ✓ 6 Configuration
- ✓ 7 Select storage
- ✓ 8 Select networks
- 9 Customize template**
- 10 Ready to complete

### Customize template

Customize the deployment properties of this software solution.

✓ All properties have valid values

#### Management Properties 3 settings

1.IP Address  
2.Subnet Mask 255.255.255.0  
3.Default Gateway

انه حضوم وه امك ، DCNM VM زاهج لي غشت ادبا ، اهل امك ادرج م ب 2. ةوطخل

The screenshot shows the vSphere Client interface. At the top, there is a 'Recent Tasks' table with the following data:

Task Name	Target	Status	Initiator	Queued For	Start Time	Completion Time	Server
Power On virtual machine	esc-rtp-dcnm-FAB	Completed	DCG.LOCAL\Administrator	3 ms	06/17/2019, 3:19:21 PM	06/17/2019, 3:19:21 PM	dcg-infra-vcenter.cisco.com
Initialize powering On	dcg-rtp	Completed	DCG.LOCAL\Administrator	4 ms	06/17/2019, 3:19:21 PM	06/17/2019, 3:19:21 PM	dcg-infra-vcenter.cisco.com
Deploy OVF template	esc-rtp-dcnm-FAB	Completed	DCG.LOCAL\vpdx-extension-440bec49-45...	7 ms	06/17/2019, 3:01:45 PM	06/17/2019, 3:13:07 PM	dcg-infra-vcenter.cisco.com

Below the table, the vSphere Client interface shows the details for the VM 'esc-rtp-dcnm-FAB'. The 'Summary' tab is selected, showing the following information:

- Guest OS: Other 2.6.x Linux (32-bit)
- Compatibility: ESXi 5.1 and later (VM version 9)
- VMware Tools: Not running, not installed
- DNS Name:
- IP Addresses: Host: 192.168.253.10

هذه ىرت نأ بجي ، مكحتل ةدحو ي ف اهل لي غشت ادرج م ب ، بي ومكحت ةدحو لي غشت ب مق 3. ةوطخل  
(ك ب صاخ ل ني وك ت لا و ك ت ي ب ب صاخ ه ن ا ش ي ح IP ف ل ت خ ي) زاع ي ل ا

The screenshot shows the console output of the VM 'esc-rtp-dcnm-FAB'. The output displays the following text:

```

*****
* PREPARING THE APPLIANCE...
*****

*****
Please point your web browser to
https://[redacted]:2443
to complete the installation
*****
    
```

رشن ءانثأ اق باس ه ني وك ت ب تمق ي ذل ا IP وه اذه) <https://<ip>:2443> ل ل ل ق ت ن ا 4. ةوطخل  
دي د ج ل ت ي ب ث ل ة ي ط غ ت م ت ، ل ا ث م ل ا ذه ي ف . ل ي غ ش ت ل ا ء د ب ق و ف ر ق ن ا و

# Cisco DCNM Installer

Please select how you want to setup this instance of Cisco Data Center Network Manager:

- Fresh installation - Standalone
- Fresh installation - HA Primary
- Fresh installation - HA Secondary
- Fresh installation with backup file for restore

Continue

اهتېبثت دېرت ېتلا ٲېنېنېللا عون دېدحت بېجې، لوؤس مالا رورم ٲم لك نېوكت درېم ب 5. ٲوطلالا لكش ب ترتخاو كمهف نم دكأت كلذل فلل تخم ضرغ هل عون لك نأ ثېح FAB و LAN نېب ددح رشن VXLAN-EVPN مظعم ل وه، ءانب تلمعتسا LAN ل، لاثم اذه ل بېحص

Please choose the installation mode

LAN Fabric

*LAN Fabric is for most VXLAN-EVPN deployments.*

ٲكېشللا تقو لوكونورب مداخو، DNS مداخ مداختسا ب تېثملا تابلاطم عېتا 6. ٲوطلالا، كلذىل امو، DCNM فىضم مساو

## Please enter the following system settings

### Fully Qualified Host Name \*

Fully Qualified Host Name as per RFC1123, section 2.1, for example:

myhost.mydomain.com

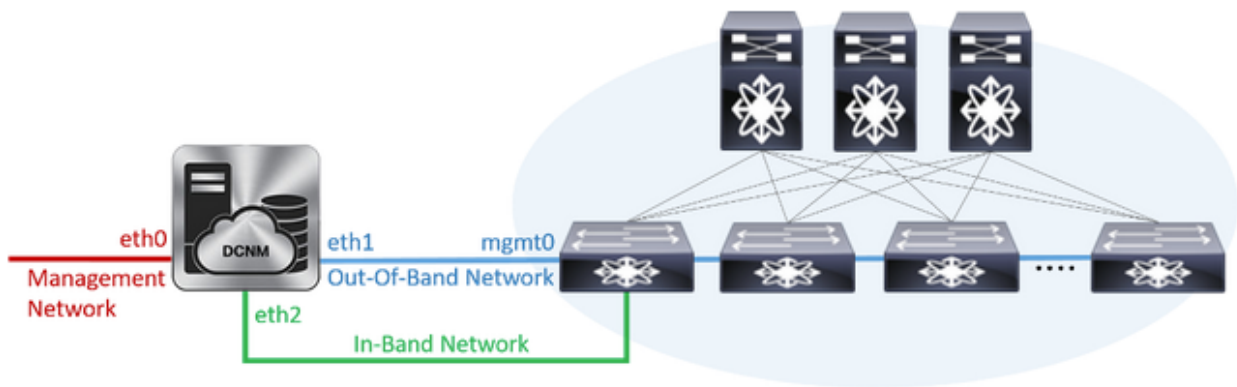
### DNS Server Address \*

DNS Server Address can be an IPv4 address or an IPv6 address

### NTP Server \*

RFC1123-compliant name or address (IPv4 or IPv6)

ةيناكم إرادإلة كبش رفوت .ةرادإلة باوبو ةرادإل اب صاخال IP ناوع نيوك ت ب مق 7 ةوطخال لوصول هم دختست يذلا IP وه اضيأ اذه .DCNM مداخل (HTTP و HTTPS و SCP و SSH) لاصتاللا مت يذلا OVA تيبثت نم كنم اق بس م IP ناوع نيوك ت بجي .ةي موسرلا مدختسم لاه جاولا اق بس هؤارجا .



## Management Network

*The Management Network is the main network connection used for reaching the DCNM web user interface. When High Availability is enabled, 3 IP addresses are required on this network.*

### Management IPv4 Address \*

Enter a valid IPv4 address along with prefix, for example: 10.10.10.2/24

### Management Network Default IPv4 Gateway \*



## Out-of-Band Network

The Out-of-Band Network provides connectivity to the device management ports (typically mgmt0). When High Availability is enabled, 3 IP addresses are required on this network.

### IPv4 Address \*

Enter a valid IPv4 address along with prefix, for example: 1.0.0.2/8

### Gateway IPv4 Address

Gateway for the Out-of-Band Network

### IPv6 Address

Enter a valid IPv6 address along with prefix, for example: 2001:db8:abcd:0012::0/96

### DNS Server Address

If no value is provided, it will be set to Out-of-Band IPv4 address.

Only IPv4 addresses are accepted.

قياطنلا لآءاء ءكباشلا مادآءسا مءى .يءءرءلا قياطنلا لآءاء ءكباشلا نىوكء 8. ءوآءلا ب ءىمامألا ءءوللا ذفنم لاصءا بلطءى ذلا ءىفرءلا ءقنلا ءقوم ءءم لءم ءاقىبءءلا نىب (BGP) ءىءوءءلا ءرابعلا لوكوءورءل لمء ءسلء ءاشنءن ءنء لمءلل ءىنءلا فى 9KS ءىب ءCNM و 9K.

## In-Band Network

The In-Band Network provides reachability to the devices via the front-panel ports. When High Availability is enabled, 3 IP addresses are required on this network.

### IPv4 Address

Enter a valid IPv4 address along with prefix, for example: 2.0.0.2/8

### Gateway IPv4 Address

Gateway for the In-Band Network

— ءىلآءلا ءاقىبءءلا ءامءء ءكباش نىوكء 9. ءوآءلا

DCNM LAN تېبثت عم (AFW) تاقېببطلال لمع راطا DCNM معددي، DCNM 11.0 رادصإب ادب لل نم لك يف قرغصم تامدخك تاقېببطلال قيسنتل Docker راطال اذه مدختسي OVA/ISO. ةعسوم ةينب نيوكتل ةعمجمل ريغو ةعمجمل تائيبلا

ةطقن ديدحت ةادأ يهف DCNM عم يضارتفا لكشب اهنحش متي يتل ايرخال تاقېببطلال ام عم قفاوتل او ةيضارتفال ةزهجال ةرادال يفاضال جمانربل او ةبقارملا جربو ةياهنل ريفوت كلذيف امب، تاقېببطلال هذه ةايح ةرود ةراداب AFW جمانرب متهي. خلا، نيوكتل Network Insights تاقېببطلال رشن AFW ريدي امك. خلا، نامال او ةقداصملا ونيزختل او تاكلبشلا NIA/NIR نيكمت متي امदन Docker تامدخل ةيعرفلا ةكبشلا هذه NIA و NIR يهو اهتايح ةرودو

ينثال مويل تايلمع مسق بجومب NIA/NIR بيكرت ةيفيك ةيطغت مت

## Internal Application Services Network

*The Internal Application Services Network is used internally.*

### IPv4 Subnet \*

Enter a valid IPv4 subnet with prefix, for example: 172.17.0.0/20.

Prefix length must be 20 to 22.

تاهجاول ةنيعملا تاكلبشلا عم ةيعرفلا ةكبشلا هذه لخادتت نأ بجي ال: **ةظحالم** ال بجي، كلذيل ةفاضال ابو. ةبسوخل دقعو DCNM ل ةنيعملا ETH0/ETH1/ETH2 ةزهجال و اتالوخلل اهصيخت متي يتل IP نيوانع عم ةيعرفلا ةكبشلا هذه لخادتت ةراتخملل ةيعرفلا ةكبشلا لظت نأ بجي DCNM. ةطساوب اهترادا متي يتل ايرخال (يلصلال HA رشن ةلاحي) DCNM ل ةيونثال او ةساسال دقعل تيبثت دنع ةتبات

تېببطلال ادباو اهدك او نيوكتل ليصافت عيمج عجار 10 ةوطخل

## Please review the configuration details

Installation mode	LAN Fabric
Fully Qualified Host Name	dcg-rtp-dcnm-fab.cisco.com
DNS Server Address	64.102.6.247
NTP Server Name	172.18.108.15
Management Network IP Address	172.18.118.56/24
Management Network Default Gateway	172.18.118.1
Management Network IPv6 Address	
Management Network Default IPv6 Gateway	
Out-of-Band Network IP Address	192.168.128.56/24
Out-of-Band Network IPv6 Address	
Out-of-Band Network DNS Server Address	192.168.128.56
Out-of-Band Gateway IP Address	192.168.128.1
In-Band Network IP Address	192.168.128.57/24
In-Band Gateway IP Address	192.168.128.1
Internal App Services IP Subnet	172.17.0.0/20
Administration Password	*****

[Start installation](#)

مدخستسملا ههجاو ىل ل لوخدلا ليجستب مق ،لماكلاب DCNM تيبتت درجمب 11. ةوطخل (اقباس هنيوكتب تمق يذلا فيضملا مسا و IP ناوع) ةيموسرلا

## RTP ةينب — ىلوالا ةينبالا رشن

ىل لقتنا ، DCNM ب ةصاخلا (GUI) ةيموسرلا مدخستسملا ههجاو لخدت نا درجمب 1. ةوطخلال كك چيسن لوأ عاشنال Fabric Builder > ةشمقا > مكحت Fabric Builder.



## Add Fabric

\* Fabric Name :

\* Fabric Template :

General	Replication	vPC	Advanced	Resources	Manageability	Bootstrap	Configuration Backup
---------	-------------	-----	----------	-----------	---------------	-----------	----------------------

Manual Underlay IP Address Allocation  [?](#) Checking this will disable Dynamic Underlay IP Address Allocations

- \* Underlay Routing Loopback IP Range  [?](#) Typically Loopback0 IP Address Range
- \* Underlay VTEP Loopback IP Range  [?](#) Typically Loopback1 IP Address Range
- \* Underlay RP Loopback IP Range  [?](#) Anycast or Phantom RP IP Address Range
- \* Underlay Subnet IP Range  [?](#) Address range to assign Numbered and Peer Link SVI IPs
- \* Layer 2 VXLAN VNI Range  [?](#) Overlay Network Identifier Range (Min:1, Max:16777214)
- \* Layer 3 VXLAN VNI Range  [?](#) Overlay VRF Identifier Range (Min:1, Max:16777214)
- \* Network VLAN Range  [?](#) Per Switch Overlay Network VLAN Range (Min:2, Max:3967)
- \* VRF VLAN Range  [?](#) Per Switch Overlay VRF VLAN Range (Min:2, Max:3967)
- \* Subinterface Dot1q Range  [?](#) Per Border Dot1q Range For VRF Lite Connectivity (Min:2, Max:511)
- \* VRF Lite Deployment  [?](#) VRF Lite Inter-Fabric Connection Deployment Options
- \* VRF Lite Subnet IP Range  [?](#) Address range to assign P2P DCI Links
- \* VRF Lite Subnet Mask  [?](#) Mask for Subnet Range (Min:8, Max:31)

## Add Fabric

\* Fabric Name :

\* Fabric Template :

General	Replication	vPC	Advanced	Resources	Manageability	Bootstrap	Configuration Backup
---------	-------------	-----	----------	-----------	---------------	-----------	----------------------

- \* vPC Peer Link VLAN  [?](#) VLAN for vPC Peer Link SVI (Min:2, Max:3967)
- \* vPC Peer Keep Alive option  [?](#) Use vPC Peer Keep Alive with Loopback or Management
- \* vPC Auto Recovery Time  [?](#) Auto Recovery Time In Seconds (Min:240, Max:3600)
- \* vPC Delay Restore Time  [?](#) vPC Delay Restore Time For vPC links in seconds (Min:1, Max:3600)
- vPC Peer Link Port Channel Number  [?](#) Port Channel ID for vPC Peer Link (Min:1, Max:4096)
- vPC IPv6 ND Synchronize  [?](#) Enable IPv6 ND synchronization between vPC peers
- vPC advertise-pip  [?](#) For Primary VTEP IP Advertisement As Next-Hop Of Prefix Routes

## Add Fabric



\* Fabric Name : RTP-EVPN-Fabric

\* Fabric Template : Easy\_Fabric\_11\_1

General	Replication	vPC	Advanced	Resources	Manageability	Bootstrap	Configuration Backup
			* VRF Template	Default_VRF_Universal		? Default Overlay VRF Template For Leafs	
			* Network Template	Default_Network_Universal		? Default Overlay Network Template For Leafs	
			* VRF Extension Template	Default_VRF_Extension_Universal		? Default Overlay VRF Template For Borders	
			* Network Extension Template	Default_Network_Extension_Universa		? Default Overlay Network Template For Borders	
			Site Id	65534		? For EVPN Multi-Site Support (Min:1, Max: 281474976710655). Defaults to Fabric ASN	
			* Underlay Routing Loopback Id	0		? 0-512	
			* Underlay VTEP Loopback Id	1		? 0-512	
			* Link-State Routing Protocol Tag	UNDERLAY		? Routing Process Tag (Max Size 20)	
			* OSPF Area Id	0.0.0.0		? OSPF Area Id in IP address format	
			Enable OSPF Authentication	<input type="checkbox"/>		?	
			OSPF Authentication Key ID			? 0-255	
			OSPF Authentication Key			? 3DES Encrypted	
			Enable IS-IS Authentication	<input type="checkbox"/>		?	
			IS-IS Authentication Keychain Name			?	
			IS-IS Authentication Key ID			? 0-65535	
			IS-IS Authentication Key			? Cisco Type 7 Encrypted	
			* Power Supply Mode	ps-redundant		? Default Power Supply Mode For The Fabric	
			* CoPP Profile	strict		? Fabric Wide CoPP Policy. Customized CoPP policy should be provided when 'manual' is selected	
			Enable VXLAN OAM	<input checked="" type="checkbox"/>		? For Operations, Administration, and Management Of VXLAN Fabrics	
			Enable Tenant DHCP	<input checked="" type="checkbox"/>		?	
			Enable BFD	<input checked="" type="checkbox"/>		?	
			* Greenfield Cleanup Option	Disable		? Switch Cleanup Without Reload When PreserveConfig=no	

نأ DCNM ديتر تنأ ناونع DHCP نم قاطنلا تلكش، ليكشت bootstrap لا تحت 4. ةوطخلا ةيضارتفا ةباوب نيوكتب مق. ةيلمع POAP لا ءانثأ fabric لا نمضحات فملا لا ل بحسي ةفاضلا لا لاقتنالا كنكمي نألا واهتنالا درجمب ظفح لا رقنا. لكلك ةبسانم (ةدوجوم) ةينبل لا لاالوحم.

## Edit Fabric



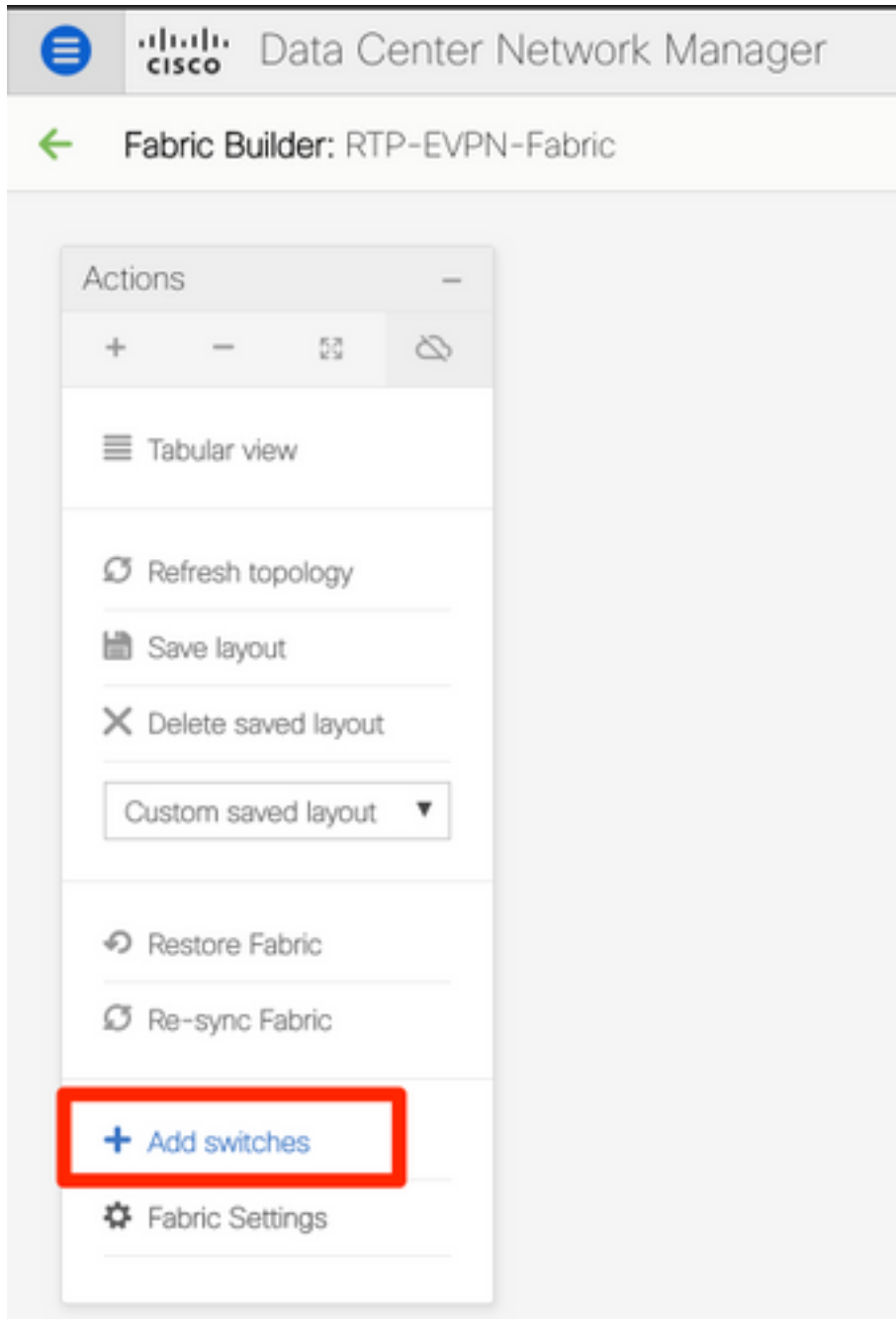
\* Fabric Name : RTP-EVPN-Fabric

\* Fabric Template : Easy\_Fabric\_11\_1

General	Replication	vPC	Advanced	Resources	Manageability	Bootstrap	Configuration Backup
			Enable Bootstrap	<input checked="" type="checkbox"/>		? Automatic IP Assignment For POAP	
			Enable Local DHCP Server	<input checked="" type="checkbox"/>		? Automatic IP Assignment For POAP From Local DHCP Server	
			* DHCP Scope Start Address	192.168.128.100		? Start Address For Switch Out-of-Band POAP	
			* DHCP Scope End Address	192.168.128.110		? End Address For Switch Out-of-Band POAP	
			* Switch Management Default Gate...	192.168.128.1		? Default Gateway For Mgmt VRF On The Switch	
			* Switch Management Subnet Prefix	24		? Prefix For Mgmt0 Interface On The Switch (Min:8, Max:30)	

## ةفانلإا ؤالوؤم ؤافاضا

دء مء Fabric Builder > (ةفلفللا ؤاونقلا) Fabric > (مكءءلا) Control ؤلا لقا ؤنا 1. ؤوطءلا امك، ؤالوؤم ؤافاضا ؤلع رقنا، رسلأال بانءلا ؤلع ؤءوؤملا ؤءوللا فف. كب ؤصاءلا ؤفبءلا ؤروللا فف ؤصوم وه.



IP mgmt0 نفلوكء بءف هءأ ؤنعم ب) فساسأ IP ناونع ماءءءسا ب ام ؤالوؤملا فاشءكا كنكمف ؤمء نفلوكء ب موقف DCNM لءءو POAP رءع ؤالوؤملا فاشءكا كنكمف وأ (افوءف لوؤم لكلك مءءءسنس، لاءملا لفلبس ؤلع. كل كلء ؤلا امو VRF ؤراءو Mgmt0 ب ؤصاءلا IP نفلوانع POAP.

hostname و بوءرمل ناونعلا ؤلءء، كممامءها نم (ءالوؤملا) ؤاءفملا ؤنأ فرل نإ ام 2. ؤوطءلا فف ؤصوم وه امك، bootstrap ؤقءقء كلء ءعب، Admin PW لءءو، لمءءسفل نأ DCNM ءرء ؤنأ ؤروللا.

Discover Existing Switches

PowerOn Auto Provisioning (POAP)

ⓘ Please note that POAP can take anywhere between 5 and 15 minutes to complete!

Bootstrap

<input type="checkbox"/>	Serial Number	Model	Version	IP Address	Hostname	Gateway
<input type="checkbox"/>	FDO213001M0	N9K-C9372TX	7.0(3)I4(7)			192.168.128.1/24
<input checked="" type="checkbox"/>	FDO21331SLK	N9K-93180YC-EX	7.0(3)I7(6)	192.168.128.102	rtp-seoul-bb11	192.168.128.1/24

لو حرم ال م ك ح ت ة د ح و ن م انه ة ر و ص ل ل ي ف ح ض و م و ه ا م ك ح ج ا ن ل ل د ي ه م ت ل ل ل ج س و د ب ي ن ا ب ج ي .

```

2019 Jun 19 14:58:51 switch %$ VDC-1 %$ %POAP-2-POAP_DHCP_DISCOVER_START: [FDO21331SLK-70:7D:B9:4A:72:21] - POAP DHCP Discover
phase started
2019 Jun 19 14:59:12 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Start DHCP v4 session
2019 Jun 19 14:59:12 switch %$ VDC-1 %$ %POAP-2-POAP_DHCP_DISCOVER_START: [FDO21331SLK-70:7D:B9:4A:72:21] - POAP DHCP Discover
phase started
2019 Jun 19 14:59:37 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Using DHCP, information received over
mgmt0 from 192.168.128.57
2019 Jun 19 14:59:37 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Assigned IP address: 192.168.128.102
2019 Jun 19 14:59:37 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Netmask: 255.255.255.0
2019 Jun 19 14:59:37 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - DNS Server: 64.102.6.247
2019 Jun 19 14:59:37 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Default Gateway: 192.168.128.1
2019 Jun 19 14:59:37 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Script Server: 192.168.128.56
2019 Jun 19 14:59:37 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Script Name: poap_dcnm.py
2019 Jun 19 14:59:38 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Using DHCP, information received over
mgmt0 from 192.168.128.56
2019 Jun 19 14:59:38 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Assigned IP address: 192.168.128.102
2019 Jun 19 14:59:38 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Netmask: 255.255.255.0
2019 Jun 19 14:59:38 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - DNS Server: 64.102.6.247
2019 Jun 19 14:59:38 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Default Gateway: 192.168.128.1
2019 Jun 19 14:59:38 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Script Server: 192.168.128.56
2019 Jun 19 14:59:38 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Script Name: poap_dcnm.py
2019 Jun 19 14:59:48 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - The POAP Script download has started
2019 Jun 19 14:59:48 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - The POAP Script is being downloaded
from [copy tftp://192.168.128.56/poap_dcnm.py bootflash:scripts/script.sh vrf management ]
2019 Jun 19 14:59:49 switch %$ VDC-1 %$ %POAP-2-POAP_SCRIPT_DOWNLOADED: [FDO21331SLK-70:7D:B9:4A:72:21] - Successfully downloaded
POAP script file
2019 Jun 19 14:59:49 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - Script file size 100623, MD5 checksum
d44d85cd6433a6efb6467faa17396933
2019 Jun 19 14:59:49 switch %$ VDC-1 %$ %POAP-2-POAP_INFO: [FDO21331SLK-70:7D:B9:4A:72:21] - MD5 checksum received from the script
file is d44d85cd6433a6efb6467faa17396933
2019 Jun 19 14:59:49 switch %$ VDC-1 %$ %POAP-2-POAP_SCRIPT_STARTED_MD5_VALIDATED: [FDO21331SLK-70:7D:B9:4A:72:21] - POAP script
execution started(MD5 validated)
2019 Jun 19 14:59:56 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: - CLI : show license host-id - script.sh
2019 Jun 19 14:59:56 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: - INFO: Get serial number: FDO21331SLK - script.sh
2019 Jun 19 14:59:56 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - INFO:device type is n9k - script.sh

2019 Jun 19 14:59:56 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - INFO:device type is n9k - script.sh
2019 Jun 19 14:59:56 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - INFO:device os version is - script.sh
2019 Jun 19 14:59:56 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - INFO: check free space - script.sh
2019 Jun 19 14:59:57 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - INFO: free space is 34643592 kB - script.sh
2019 Jun 19 14:59:57 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - Get and set interface default - script.sh
2019 Jun 19 14:59:57 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - CLI : show run | inc breakout - script.sh
2019 Jun 19 14:59:58 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - CLI : show run int | inc Ethernet - script.sh
2019 Jun 19 14:59:59 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - INFO: Ready to copy protocol scp, host
192.168.128.56, source /var/lib/dcnm/dcnm-server-list.cfg vrf management user poap password ***** - script.sh
2019 Jun 19 14:59:59 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - CLI : terminal dont-ask ; terminal password ***** ;
copy scp://poap@192.168.128.56/var/lib/dcnm/dcnm-server-list.cfg dcnm-server-list.cfg vrf management - script.sh
2019 Jun 19 15:00:00 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FDO21331SLK] - INFO: Get Device Image Config File - script.sh

```



```

2019 Jun 19 15:00:01 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: create_image_conf - script.sh
2019 Jun 19 15:00:01 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Ready to copy protocol scp, host
192.168.128.56, source /var/lib/dcnm/licenses/device-license.idx vrf management user poap password ***** - script.sh
2019 Jun 19 15:00:01 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : terminal dont-ask ; terminal password ***** ;
copy scp://poap@192.168.128.56/var/lib/dcnm/licenses/device-license.idx device-license.idx vrf management - script.sh
2019 Jun 19 15:00:02 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: device license index does not exist, no
device licenses will be downloaded - script.sh
2019 Jun 19 15:00:02 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Ready to copy protocol scp, host
192.168.128.56, source /var/lib/dcnm/licenses/device-config vrf management user poap password ***** - script.sh
2019 Jun 19 15:00:02 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : terminal dont-ask ; terminal password ***** ;
copy scp://poap@192.168.128.56/var/lib/dcnm/licenses/device-config device-config vrf management - script.sh

2019 Jun 19 15:00:01 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Get Device Recipe - script.sh
2019 Jun 19 15:00:01 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: removing tmp file /bootflash/device-
recipe.cfg - script.sh
2019 Jun 19 15:00:01 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: create_image_conf - script.sh
2019 Jun 19 15:00:01 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Ready to copy protocol scp, host
192.168.128.56, source /var/lib/dcnm/licenses/device-license.idx vrf management user poap password ***** - script.sh
2019 Jun 19 15:00:01 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : terminal dont-ask ; terminal password ***** ;
copy scp://poap@192.168.128.56/var/lib/dcnm/licenses/device-license.idx device-license.idx vrf management - script.sh
2019 Jun 19 15:00:02 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: device license index does not exist, no
device licenses will be downloaded - script.sh
2019 Jun 19 15:00:02 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Ready to copy protocol scp, host
192.168.128.56, source /var/lib/dcnm/licenses/device-config vrf management user poap password ***** - script.sh
2019 Jun 19 15:00:02 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : terminal dont-ask ; terminal password ***** ;
copy scp://poap@192.168.128.56/var/lib/dcnm/licenses/device-config device-config vrf management - script.sh
2019 Jun 19 15:00:04 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Completed Copy of Config File - script.sh
2019 Jun 19 15:00:04 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Split config invoked... - script.sh
2019 Jun 19 15:00:04 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - Found an interface line in config:interface mgmt0
- script.sh
2019 Jun 19 15:00:04 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - Adding interface defaults - no shut on all
interfaces - script.sh
2019 Jun 19 15:00:04 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Split config is complete - script.sh
2019 Jun 19 15:00:04 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Setting the boot variables - script.sh
2019 Jun 19 15:00:04 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : copy running-config startup-config -
script.sh
2019 Jun 19 15:00:08 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : copy poap_2.cfg scheduled-config - script.sh
2019 Jun 19 15:00:08 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Copying the scheduled cfg done - script.sh
2019 Jun 19 15:00:08 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - INFO: Configuration successful - script.sh

2019 Jun 19 15:00:08 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - FINISH: Clean up files. - script.sh
2019 Jun 19 15:00:08 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : delete device-config - script.sh
2019 Jun 19 15:00:09 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : delete poap_1.cfg - script.sh
2019 Jun 19 15:00:09 switch %$ VDC-1 %$ %USER-1-SYSTEM_MSG: S/N[FD021331SLK] - CLI : delete poap_2.cfg - script.sh
2019 Jun 19 15:00:12 switch %$ VDC-1 %$ %POAP-2-POAP_SCRIPT_EXEC_SUCCESS: [FD021331SLK-70:7D:B9:4A:72:21] - POAP script execution
success
2019 Jun 19 15:00:13 switch %$ VDC-1 %$ %POAP-2-POAP_RELOAD_DEVICE: [FD021331SLK-70:7D:B9:4A:72:21] - Reload device
2019 Jun 19 15:00:15 switch %$ VDC-1 %$ %PLATFORM-2-PFM_SYSTEM_RESET: Manual system restart from Command Line Interface
<switch boot sequence here_omitting for brevity>
2019 Jun 19 15:04:05 rtp-seoul-bb11 %$ VDC-1 %$ %ASCII-CFG-2-CONF_CONTROL: System ready
[#####] 100%
Copy complete, now saving to disk (please wait)...
Copy complete.
Auto provisioning

User Access Verification
rtp-seoul-bb11 login:

```

DCNM نيو وكتب اقبسم تمق كنأ نم دكأت، لمالكاب جي سنلل نيو وكتال رشن لبق 3. ةوطخل مدختسملا ةهجاو يف ةقثب نم ةطقن رهظت نأ بجي. زاهجال دامتعا تانايب مادختساب امئاد اهيل لوصولو كنكمي، ةزيملا هذه رفوت مدع ةلاح يف. كلوخذ ليجست عانثأ ةيموسرلا Administration (إدارة) > Credentials Management (إدارة ائمانات) > LAN Credentials (LAN). ةيلحملا ةكبشلا دامتعا تانايب

ىلا نيو وكتال عفدي في DCNM لشفي، ةدوقم زاهجال دامتعا تانايب تناك اذا: ةطخالما تالوحملا.



When changing the device configuration DCNM uses the device credentials provided by the user. You have not provided the LAN switch credentials yet. Do you want to set the LAN switch credentials now?

Do not show this message again.

Yes

No

Administration / Credentials Management / LAN Credentials

#### Default Credentials

Default credentials will be used when changing device configuration. You can override the default credentials by specifying credentials for each of the devices in the Switch Table below.

DCNM uses individual switch credentials in the Switch Table. If the Username or Password column is empty in the Switch Table, the default credentials will be used.

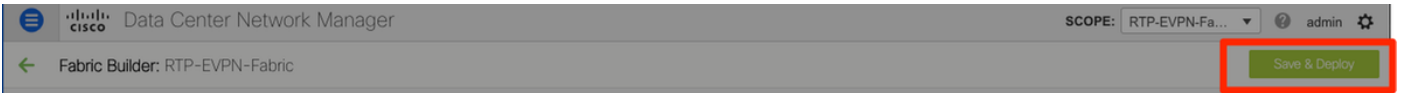
\* User Name   
\* Password   
\* Confirm Password

Save

Clear

## ةينبلا نيوكت رشن

مادختساب ةددحملا ةيفيللا ةانقلاب ةصاخلا تالوحملا عيمج فاشتكا درجمب 1. ةوطخلا ةددحملا ةينبلا < Fabric Builder > ينب > مكحتلا رصنع للاقنا، اهسفن تاوطخلا ظفح قوف رقنا. انه اهب ةصاخلا تااطابترالا عيمج عم كتالوحم يرت نأ بجي. < ةصاخلا رشنو.



لوحم لكل اهعفدم تي تي نيوكتلا رطسأ ددع يرت، نيوكتلا رشن ةذفان ي ف 2. ةوطخلا DCNM. دعب امولبق ام ةنراقمو تدرا اذك لكلك نيوكتلا ةنياعم كنكمي.

## Config Deployment



Step 1. Configuration Preview >

Step 2. Configuration Deployment Status >

Switch Name	IP Address	Switch Serial	Preview Config	Status	Re-sync	Progress
rtp-seoul-bb12	192.168.128.106	FDO21332CS5	481 lines	Out-of-sync		100%
rtp-seoul-bb11	192.168.128.102	FDO21331SLK	469 lines	Out-of-sync		100%
rtp-sapporo-bb12	192.168.128.105	FDO21302J5Z	464 lines	Out-of-sync		100%
rtp-sug-sp-bb12	192.168.128.104	FGE21332GQ9	314 lines	Out-of-sync		100%
rtp-sapporo-bb11	192.168.128.101	FDO213001M0	464 lines	Out-of-sync		100%
rtp-sug-sp-bb11	192.168.128.100	FGE21332H1D	313 lines	Out-of-sync		100%

يأثودح ةلأح يف — 100% ةبسنب ءاطخأ يأثودح مدع نمو تالوحملا عيمج ةلأح لامتك نم دكأت مسق ءانثأ اهتفداصم تمت يتلا لكاشملا عجار ةرم لك يف ةدحاو اهتجالاعم نم دكأتف ،ءاطخأ (ةلثمأ يلعل لوصحلل اذه رشنلا

## Config Deployment



Step 1. Configuration Preview >

Step 2. Configuration Deployment Status >

Switch Name	IP Address	Status	Status Description	Progress
rtp-seoul-bb12	192.168.128.106	COMPLETED	No Commands to execute.	100%
rtp-seoul-bb11	192.168.128.102	COMPLETED	No Commands to execute.	100%
rtp-sug-sp-bb12	192.168.128.104	COMPLETED	No Commands to execute.	100%
rtp-sapporo-bb11	192.168.128.101	COMPLETED	Deployed successfully	100%
rtp-sug-sp-bb11	192.168.128.100	COMPLETED	Deployed successfully	100%
rtp-sapporo-bb12	192.168.128.105	COMPLETED	Deployed successfully	100%

رطس ةهجاو يأرادصاو ةطقنلا هذه دنع ةزهجالا ىلا لوخدلا ليحست كنكمي (يرايخا). 3 ةوطخلا DCNM ةطساوب حاجنب نيوكتلا عفد نم ققحتلل **show run** رمأو

لأثم:

```
rtp-sug-sp-bb11# show run bgp
```

```
!Command: show running-config bgp  
!Time: Wed Jun 19 17:28:37 2019
```

```
version 7.0(3)I7(5) Bios:version 08.34  
feature bgp
```

```
router bgp 65534  
router-id 10.1.0.11  
neighbor 10.1.0.7  
  remote-as 65534  
  update-source loopback0  
  address-family l2vpn evpn  
    send-community  
    send-community extended  
  route-reflector-client  
neighbor 10.1.0.8  
  remote-as 65534  
  update-source loopback0  
  address-family l2vpn evpn  
    send-community  
    send-community extended  
  route-reflector-client  
neighbor 10.1.0.9  
  remote-as 65534  
  update-source loopback0  
  address-family l2vpn evpn  
    send-community  
    send-community extended  
  route-reflector-client  
neighbor 10.1.0.10  
  remote-as 65534  
  update-source loopback0  
  address-family l2vpn evpn  
    send-community  
    send-community extended  
  route-reflector-client
```

## سج — ةيناثلا ةينبلا رشن

BGP as, etc. ل فل تخم ةميق لمعتسي ءانب RTP لا عم لبق لثم steps هسفن لا تزجنا

(ةينبلا ئشنم) > Fabric Builder > Fabric (مكحتلا) > Control لىل لقتنا 1. ةوطخلا  
Create Fabric > Name IT!

امو لثامتم لا خسننلاو vPC ةينقتو ةيشغتلو ةيساسألا تادادعإلا ةفاك مسقلا اذو يطيغي  
خلإ، تابلطتملاو ةكبشلا ةنونع ماظن لىل ع دمتعي اذو. ةبولطملا كلذ لىل

عقووم مادختسا مت اذا لىرألا ةينبلا انه AnyCast Gateway MAC قباطي نأ بجي: **ةظالم**  
ححصت مت دقو. ةمومدم ريغ AnyCast ةرابع ل ةفل تخم MAC نيوانع نإف، اقحال، ةددعتم  
(زاجي لىل ةلاقملا يف هضرع متي مل) عقووملا ددعتم رشنلا مسق ءانثأ اقحال رمألا اذو

General	Replication	vPC	Advanced	Resources	Manageability	Bootstrap	Configuration Backup
---------	-------------	-----	----------	-----------	---------------	-----------	----------------------

\* BGP ASN: 65535 1-4294967295 | 1-65535[0-65535]  
 \* Fabric Interface Numbering: p2p Numbered(Point-to-Point) or Unnumbered  
 \* Underlay Subnet IP Mask: 30 Mask for Underlay Subnet IP Range  
 \* Link-State Routing Protocol: ospf Supported routing protocols (OSPF/IS-IS)  
 \* Route-Reflectors: 2 Number of spines acting as Route-Reflectors  
 \* Anycast Gateway MAC: 2020.0000.00bb| Shared MAC address for all leafs (xxxx.xxxx.xxxx)  
 NX-OS Software Image Version: If Set, Image Version Check Enforced On All Switches. Images Can Be Uploaded From Control:Image Upload

General	Replication	vPC	Advanced	Resources	Manageability	Bootstrap	Configuration Backup
---------	-------------	-----	----------	-----------	---------------	-----------	----------------------

\* Replication Mode: Multicast Replication Mode for BUM Traffic  
 \* Multicast Group Subnet: 239.2.2.0/25 Multicast address with prefix 16 to 30  
 Enable Tenant Routed Multicast (TRM):  For Overlay Multicast Support In VXLAN Fabrics  
 Default MDT Address for TRM VRFs: IPv4 Multicast Address  
 \* Rendezvous-Points: 2 Number of spines acting as Rendezvous-Point (RP)  
 \* RP Mode: asm Multicast RP Mode  
 \* Underlay RP Loopback Id: 254 0-512  
 Underlay Primary RP Loopback Id: 0-512, Primary Loopback Bidir-PIM Phantom RP  
 Underlay Backup RP Loopback Id: 0-512, Fallback Loopback Bidir-PIM Phantom RP  
 Underlay Second Backup RP Loopback Id: 0-512, Second Fallback Loopback Bidir-PIM Phantom RP  
 Underlay Third Backup RP Loopback Id: 0-512, Third Fallback Loopback Bidir-PIM Phantom RP

ربع لقتنا. لبق نم مت امك رتوي بمك لل ليغشت دي همت ماظن مسق نيوك تب مق 2. ةوطخل  
 رشنل رشنو ظفح قوف رقنا، رصانعل هذه لك فاشتك ا درجمب. رخا ةرم تالوحم ةفاضا  
 (زاجيالل عزجل اذه فذح عم) RTP ةي نب رشن مسق يف كلك ةي طغت مت دقو. نيوك تال

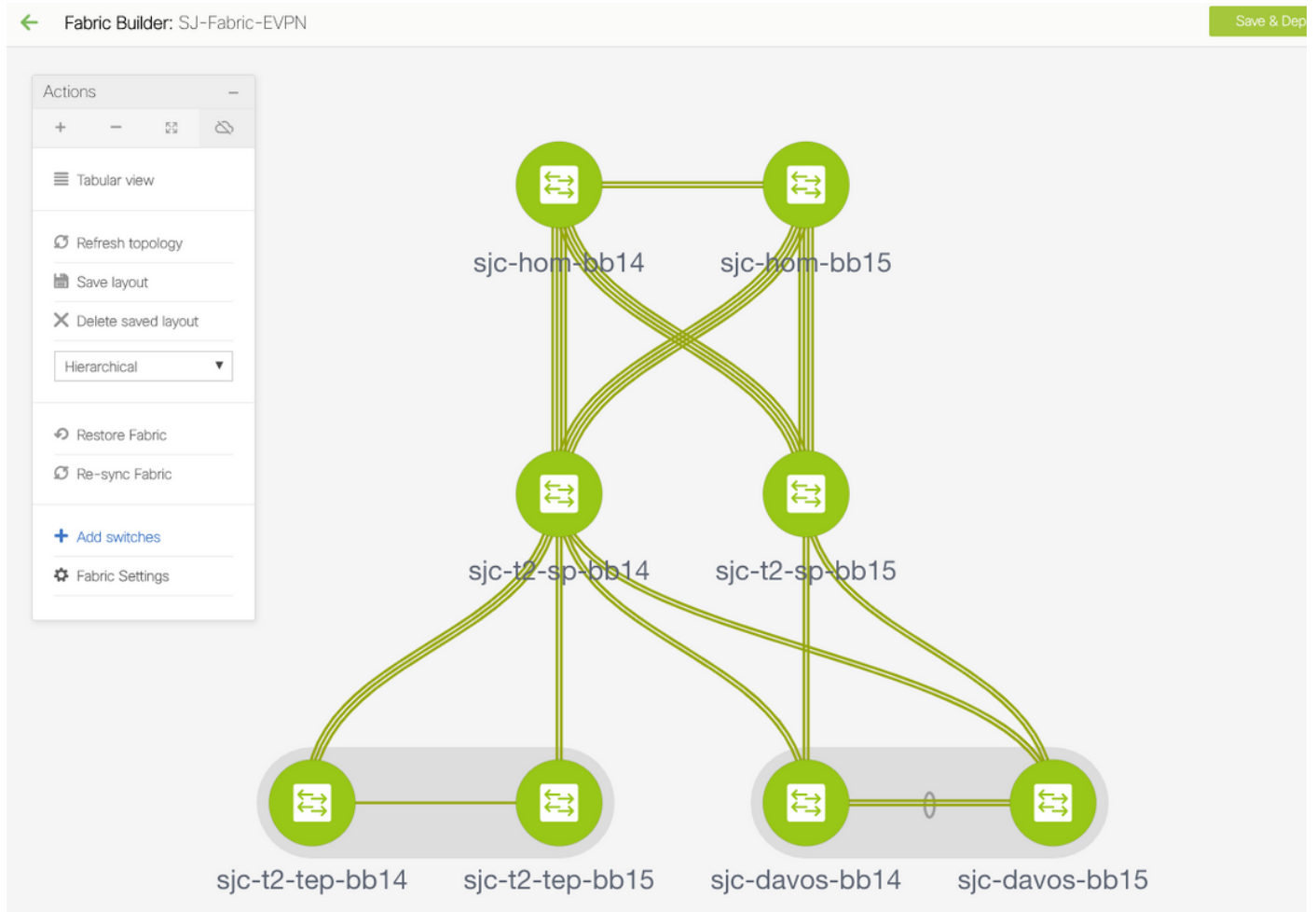
## Config Deployment



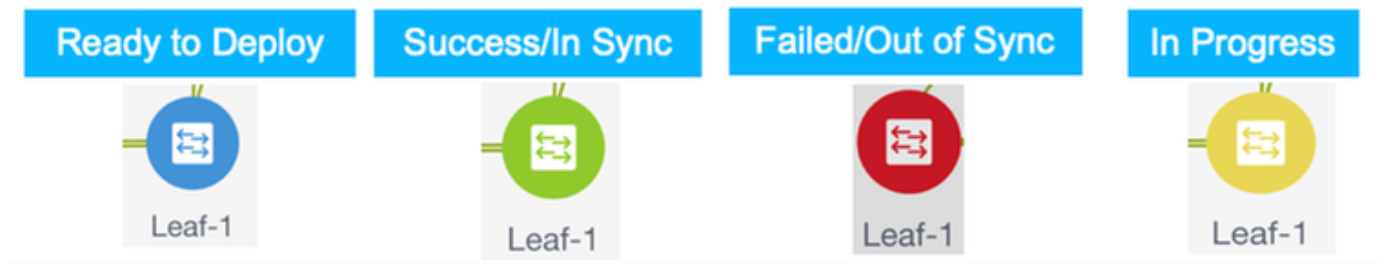
Step 1. Configuration Preview > Step 2. Configuration Deployment Status >

Switch Name	IP Address	Status	Status Description	Progress
sjc-hom-bb15	192.168.254.103	COMPLETED	No Commands to execute.	100%
sjc-davos-bb14	192.168.254.106	COMPLETED	No Commands to execute.	100%
sjc-hom-bb14	192.168.254.107	COMPLETED	No Commands to execute.	100%
sjc-davos-bb15	192.168.254.102	COMPLETED	No Commands to execute.	100%
sjc-t2-tep-bb14	192.168.254.105	COMPLETED	No Commands to execute.	100%
sjc-t2-tep-bb15	192.168.254.101	COMPLETED	No Commands to execute.	100%
sjc-t2-sp-bb15	192.168.254.100	COMPLETED	Deployed successfully	100%
sjc-t2-sp-bb14	192.168.254.104	COMPLETED	Deployed successfully	100%

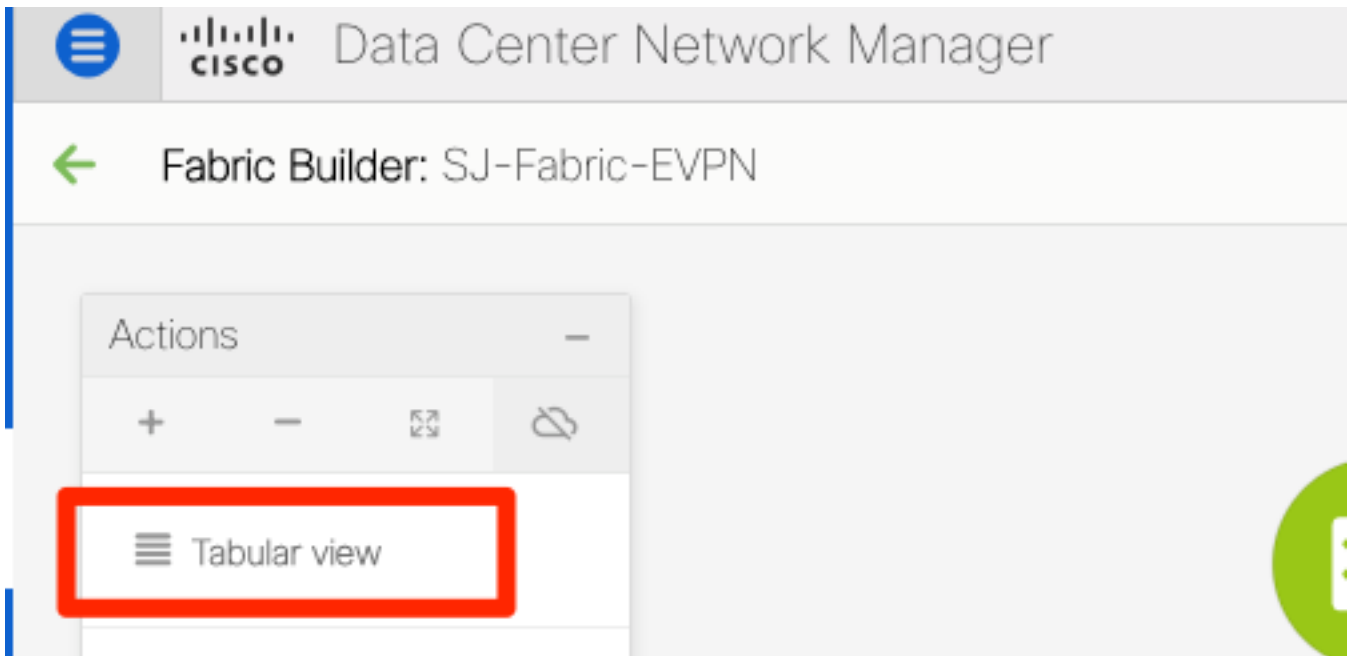
## ةياهنلا في Fabric Builder روظنم نم ايجولوبوطلا



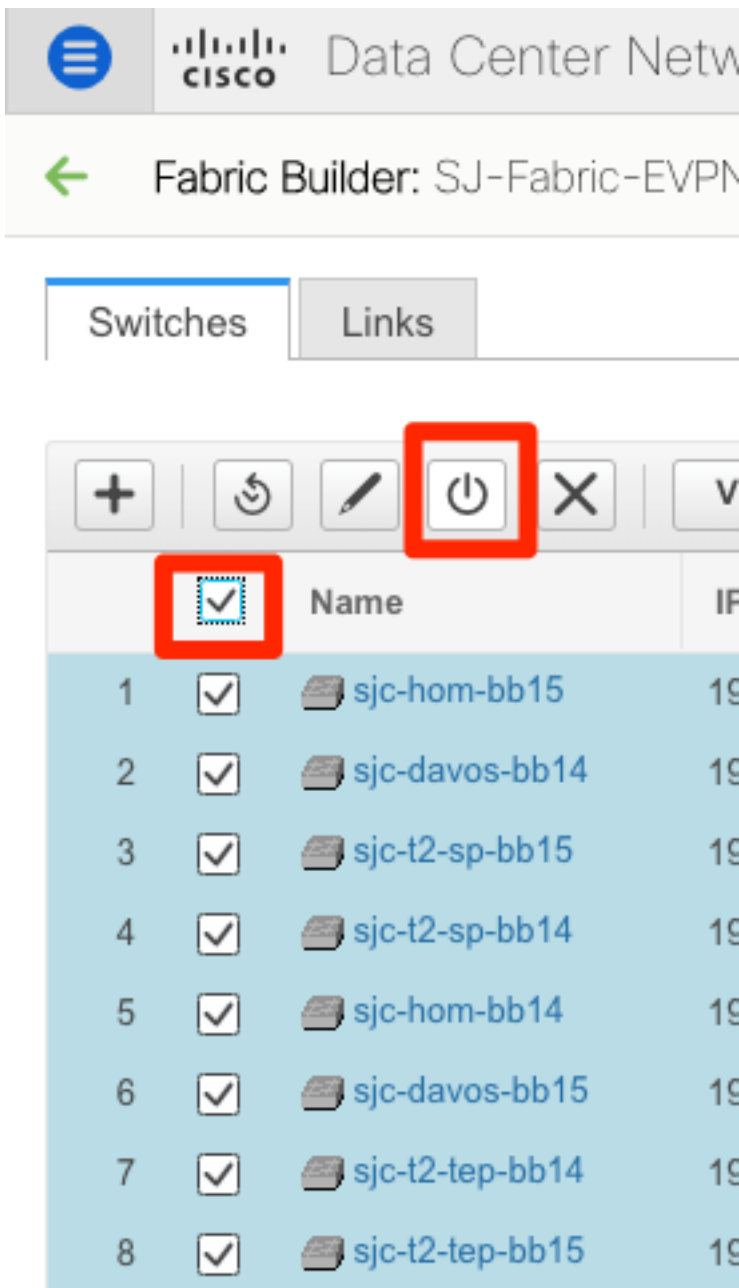
هذه رهظت. اهطباور بناجب رضخألا نوللاب تالوحملا عيجم رهظت نأ بجي، ةيلاثملا ةيجانلا نم DCNM طسوتم في ةفلتخملا ةلاحلا ناولا ةروصللا.



ليمحتلا ةداعإو نيوكتلا ظفح نم دكأت، امهرشنو نيتميقلا اتلك نيوكت درجمب 3 ةوطخلا > Fabric Builder > ةيفيلا تاونقلا > مكحتلا رصانع ىلا لقتنا. TCAM تارييغت ليعفتل ةروصللا في حضورم وه امك، ةيلودجلا ضرعلا ةقيرط ىلا لقتنا، <كب ةصاخلا ةينبلا>

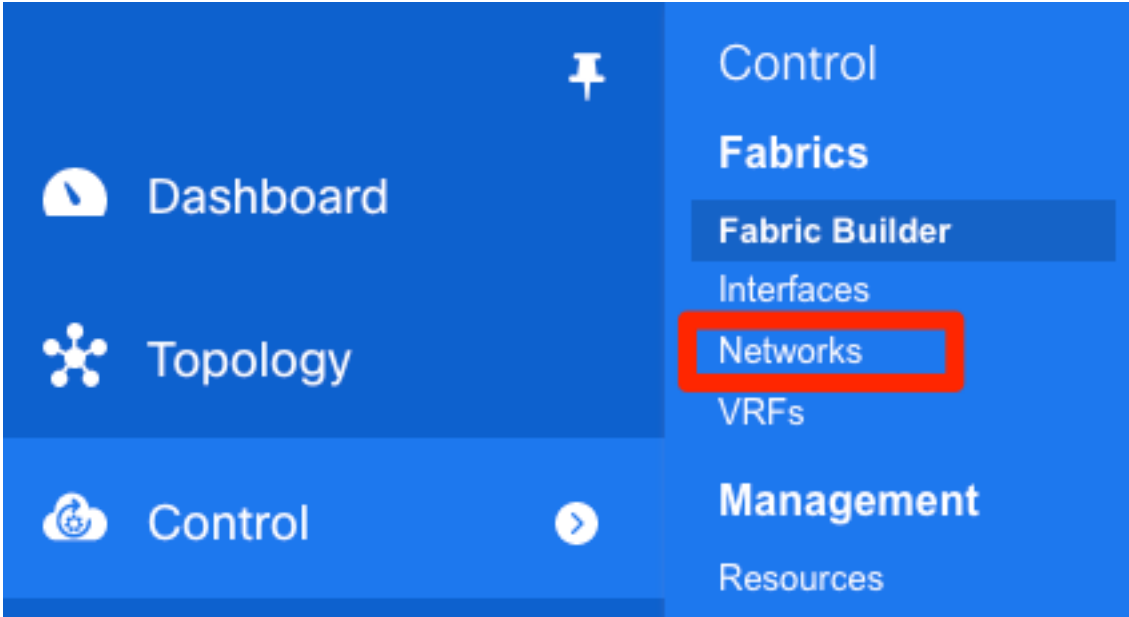


(دحاو نآ يف تالوحملا عيمج ليحت ةداعا ىلا يدؤي اذهو) ةقاطلا رزقوف رقنا مث 4. ةوطخلا

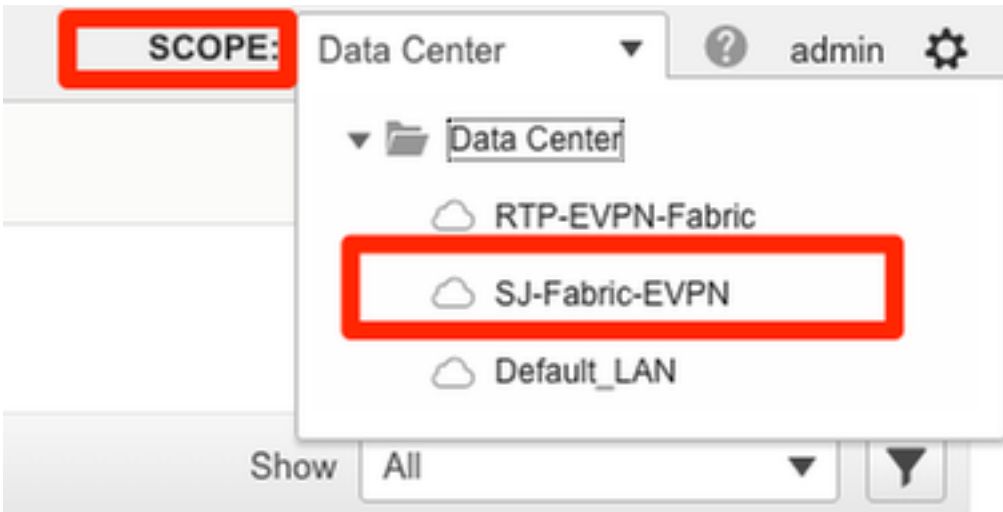


## VRFs (L3VNIs) و VLAN/L2VNI ةكبش تقلال

يف حضوره وه امك، Networks > Fabric (البن) > Control (مكحتل) الى لقتنا 1. ةوطخلال ةروصل.



يه ام، لاثم ل ل بس الى ع. ربيغتل اءارءال قاطنل ادح، ةروصلال يف حضوره وه امك 2. ةوطخلال اءه لعل نيوكتل اءه قيبطت مزلي يتل ةبنل؟



ةروصلال يف حضوره وه امك، ةمالع قوف رقنا 3. ةوطخلال



ةكبش واء) (SVI) لوحملل ةرهظلال ةءاولا ءاشنل الى ةي لمعلال لالء نم DCNM كءءل 4. ةوطخلال رز + تقطوط، ةلءرملل ءهه يف نوكل VRFs قءلءل ال نل. (امامت ينالءل ءوتسمل نم VLAN دادع ةي لمعل SVI عم مامل الى لءرءل نل لبق لالء رمل VRFs الى اتقوم كلقنل اءه و ةبنل



# Create Network



## Network Information

\* Network ID

\* Network Name

\* VRF Name  +

Layer 2 Only

\* Network Template

\* Network Extension Template

VLAN ID  Propose VLAN ?

# Create VRF



## VRF Information

\* VRF ID

\* VRF Name

\* VRF Template

\* VRF Extension Template

## VRF Profile

General

Advanced

VRF Vlan Name  ?

VRF Intf Description  ?

VRF Description  ?

Create VRF

## Network Profile

Generate Multicast IP

Please click only to generate a New Multicast Group Address and override the default value!

General

Advanced

IPv4 Gateway/NetMask	10.212.20.1/24	? example 192.0.2.1/24
IPv6 Gateway/Prefix	2001:db8::1/64	? example 2001:db8::1/64
Vlan Name	Test_Network_20001	? if > 32 chars enable:system vlan long-name
Interface Description	SVI 2300	?
MTU for L3 interface	9216	? 68-9216
IPv4 Secondary GW1		? example 192.0.2.1/24
IPv4 Secondary GW2		? example 192.0.2.1/24

مقدمت تاراخي بيوبتلا ةمالع بجومب تازيمل هذه نيوكت نكمي

- ARP عمق
- لثامتملا لخدم خسن
- ددعتملا ثبل ةومجم
- DHCP
- راسملا تامالع
- TRM
- L2 VNI route-Target
- دحلل ل3 ةرابع نيكمتم

VRF/ةكبشلال نيوكت رشنل ةعباتم قوف رقنا 5 ةوطخل

The screenshot shows the Cisco Data Center Network Manager interface. The top navigation bar includes the Cisco logo, 'Data Center Network Manager', and a 'SCOPE' dropdown set to 'SJ-Fabric-EVPN'. Below the navigation bar, there are two buttons: 'VRF View' and 'Continue', with the 'Continue' button highlighted by a red box. The main content area displays 'Fabric Selected: SJ-Fabric-EVPN' and a table of networks. The table has columns for Network Name, Network ID, VRF Name, IPv4 Gateway/Subnet, IPv6 Gateway/Prefix, Status, and VLAN ID. One network is listed: 'Andrea\_TestNetwork\_20001' with Network ID 20001, VRF Name 'Andrea\_VRF\_RED', IPv4 Gateway/Subnet '10.212.20.1/24', IPv6 Gateway/Prefix '2001:db8::1/64', Status 'NA', and VLAN ID '2300'.

DCNM كذخأي) ططخمل ضرع ةقيرط يف (ةزهجأ وأ) زاغ لعل اجودزم ارقن رقنا 6 ةوطخل  
حضورم وه امك ، ظفح لعل رقنا . قيبطتل لل لباقلل نيوكتلل اهديدحتل ، (انه لعل ايئاقلت  
ةروصلال يف

## Network Attachment - Attach networks for given switch(es)



Fabric Name: SJ-Fabric-EVPN

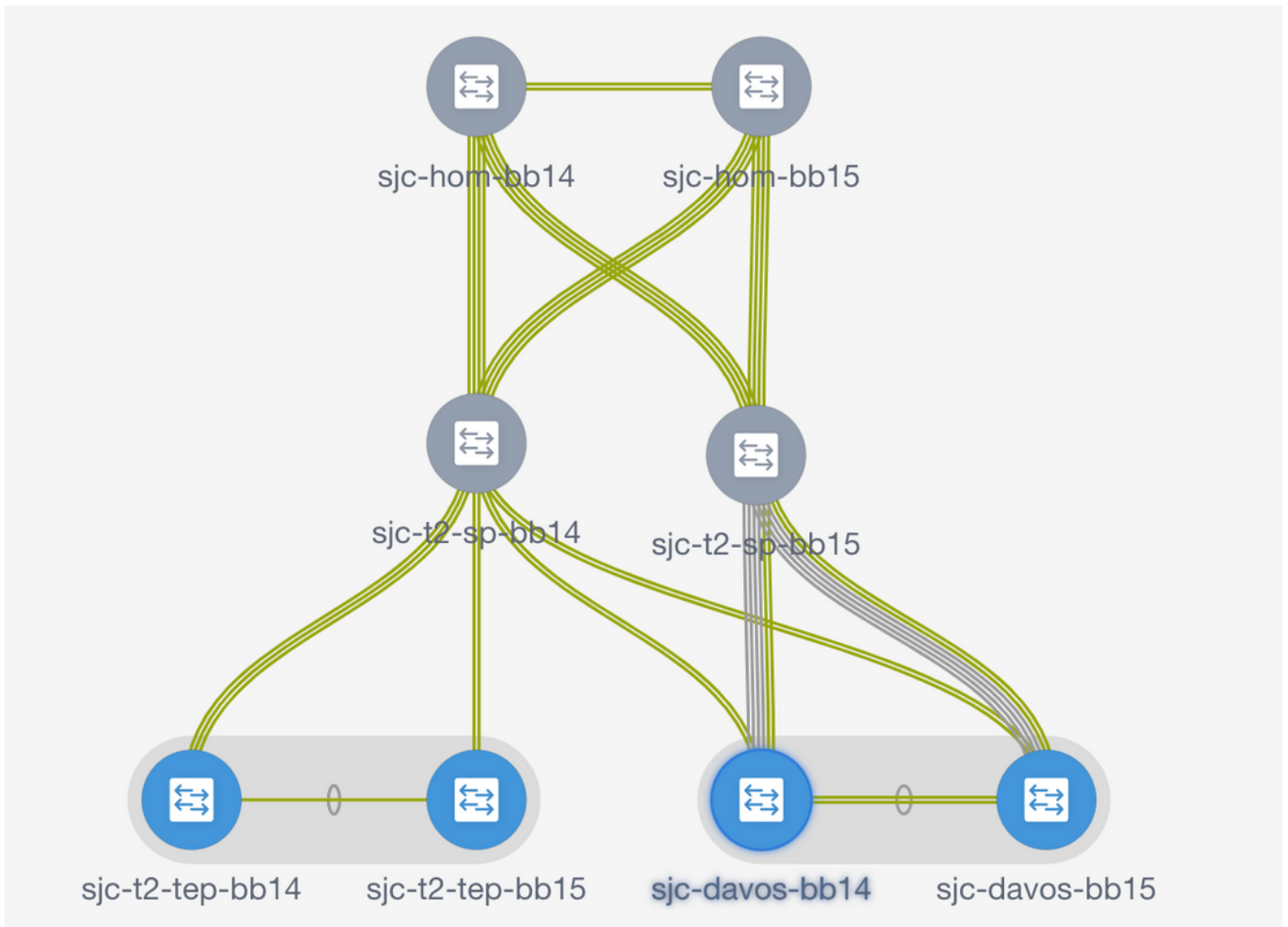
### Deployment Options

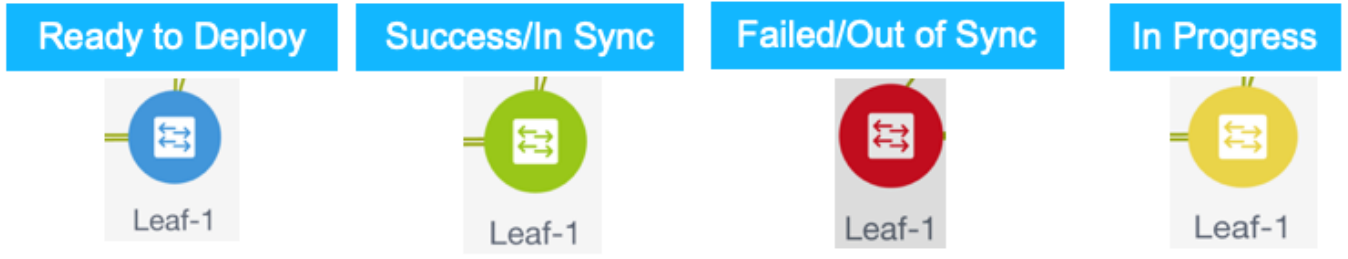
*Select the row and click on the cell to edit and save changes*

<input checked="" type="checkbox"/>	Switch ▲	VLAN	Interfaces	CLI Freeform	Status
<input checked="" type="checkbox"/>	sjc-t2-tep-bb14	2300	...	Freeform config	NA
<input checked="" type="checkbox"/>	sjc-t2-tep-bb15	2300	...	Freeform config	NA

Save

هذه هي فروع و هي امك، (رشن لل ةزهاج) ءاقرز تالوحملا و دبت نأ بجي، اهديحت درجم بو. ة وطلخا ل ةروصلا.





رشننلا لبق (CLI) رماوأل رطس ةهجاو نيوكت نم ققحتلا يف بغيرت تنك اذا: **ةظحالم**  
 ةنماعم قوف رقناو رشننلا نم ال دب ةيلصفتلا ضرعلا ةقيرط قوف رقنلا كنكم يف  
 ةيلاتلا ةشاشلا لىع.

رضخألا نوللا لىل دوعتسو نيوكتلا قيبطت ءانثا رفاأل نوللا لىل تالوحملا لوحتت  
 اهلما تك درجم ب.

نم ققحتلل (CLI) رماوأل رطس ةهجاو لىل لوخدلا ليجست كنكم ي (يرايتخا). 8 ةوطخلا  
 (port-يسوت فيرعت فلم راىخ مادختسا ركذت) كلذ لىل تجتجا اذا نيوكتلا

```

sjc-davos-bb14# show nve peers
Interface Peer-IP      State LearnType Uptime Router-Mac
-----
nve1      10.2.0.16             Up    CP          00:00:34 00f6.638e.4fd5

sjc-davos-bb14# show nve vni
Codes: CP - Control Plane      DP - Data Plane
       UC - Unconfigured       SA - Suppress ARP
       SU - Suppress Unknown Unicast
       Xconn - Crossconnect
       MS-IR - Multisite Ingress Replication
Interface VNI      Multicast-group State Mode Type [BD/VRF]  Flags
-----
nve1      20001             239.2.2.0      Up   CP   L2 [2300]
nve1      30000             n/a            Up   CP   L3 [andrea_vrf_red]

sjc-davos-bb14# show nve vrf andrea_vrf_red
VRF-Name VNI      Interface Gateway-MAC
-----
andrea_vrf_red 30000    nve1      707d.b987.11a3

sjc-davos-bb14# show run int vlan 2300 expand-port-profile

!Command: show running-config interface Vlan2300 expand-port-profile
!Running configuration last done at: Mon Jun 24 15:07:05 2019
!Time: Mon Jun 24 15:08:13 2019

version 9.2(3) Bios:version 07.61

interface Vlan2300
  description SVI 2300
  no shutdown
  mtu 9216
  vrf member andrea_vrf_red
  no ip redirects
  ip address 10.212.20.1/24 tag 12345
  ipv6 address 2001:db8::1/64 tag 12345
  no ipv6 redirects
  fabric forwarding mode anycast-gateway

sjc-davos-bb14# show nve interface nve 1 detail
Interface: nve1, State: Up, encapsulation: VXLAN
VPC Capability: VPC-VIP-Only [notified]
Local Router MAC: 707d.b987.11a3
Host Learning Mode: Control-Plane
Source-Interface: loopback1 (primary: 10.2.0.14, secondary: 10.2.0.15)
Source Interface State: Up
Virtual RMAC Advertisement: No
NVE Flags:
Interface Handle: 0x49000001
Source Interface hold-down-time: 180
Source Interface hold-up-time: 30
Remaining hold-down time: 0 seconds
Virtual Router MAC: 0200.0a02.000f
Interface state: nve-intf-add-complete

```

## عق او مل ددعت م نيوكتلا

(BGW) دودحل تاباوب ني ب رشابم لارطان تل ربح MSD ةيني ب رشن م تي ، اذه Greenfield رشن ل دن تس م ل اذه ف نم ضم ريغ ، يزك رم راس م م داخ ل يدب ل م دخت سي .

ةروصل ل اي ف حضوم وه امك ، **Control > Fabric Builder > Create Fabric** ل ل قتنا 1. ةوطخل



## Fabric Builder

Fabric Builder creates a managed and controlled SDN fabric. Select an existing fabric below or define a new VXLAN fabric (POAP), set the roles of the switches and deploy settings to devices.

Create Fabric

عمىاقولل ف MSD\_FABRIC\_11\_1 رتخاو امسا "عق او مل ا ددعت م ة نبل" ح نم ا 2 ة و ط خ ل ل ة نبل بل ا ق ل ة ل د س ن م ل ل

و ت س م ل ل و ي ن ا ث ل ل و ت س م ل ل ن م ة ي ض ا ر ت ف ا ل ا ة ز ه ج ا ل ا ق ا ط ن ا ن م د ك ا ت ة م ا ع ت ح ت 3 ة و ط خ ل ل ن ا ب ج ي ة ك ل ذ ل ل ة ف ا ض ا ل ا ب و . ك ي د ل ة ي د ر ف ل ل ا ة ي ف ي ل ل ل ا و ن ق ل ل م د خ ت س ت ا م ق ب ا ط ي ث ل ا ث ل ل DCNM ك ح ن م ي . (ل ا ث م ل ا ا ذ ه ي ف RTP/SJ) ن ي ت م ي ق ل ل ا ل ك ي ل ع AnyCast ة ب ا و ب ل MAC ق ب ا ط ي ل ل ل ا ق ت ن ا ل ل ب ق ا ه ا ح ي ح ص ت م ز ل ي و ة ق ب ا ط ت م ر ي غ ة ر ا ب ع ل ل MAC ن ي و ا ن ع ت ن ا ك ا ذ ا ا ط خ ل ل MSD م ا د خ ت س ا

General	DCI	Resources
* Layer 2 VXLAN VNI Range	20000-29000	? Overlay Network Identifier Range (Min:1, Max:16777214)
* Layer 3 VXLAN VNI Range	30000-39000	? Overlay VRF Identifier Range (Min:1, Max:16777214)
* VRF Template	Default_VRF_Universal	? Default Overlay VRF Template For Leafs
* Network Template	Default_Network_Universal	? Default Overlay Network Template For Leafs
* VRF Extension Template	Default_VRF_Extension_Universal	? Default Overlay VRF Template For Borders
* Network Extension Template	Default_Network_Extension_Universal	? Default Overlay Network Template For Borders
Anycast-Gateway-MAC	1010.0000.00aa	? Shared MAC address for all leaves
* Multisite Routing Loopback Id	100	? 0-512

General	DCI	Resources
DCI Subnet IP Range	10.10.1.0/24	? Address range to assign P2P DCI Links
Subnet Target Mask	30	? Target Mask for Subnet Range (Min:8, Max:31)
* Multi-Site Overlay IFC Deployment Method	Direct_To_BGWS	? Manual, Auto Overlay EVPN Peering to Route Servers, Auto Overlay EVPN Direct Peering to Border Gateways
Multi-Site Route Server List		? Multi-Site Router-Server peer list, e.g. 128.89.0.1, 128.89.0.2
Multi-Site Route Server BGP ASN List		? 1-4294967295   1-65535[0-65535], e.g. 65000, 65001
Multi-Site Underlay IFC Auto Deployment Flag	<input checked="" type="checkbox"/> ?	

General

DCI

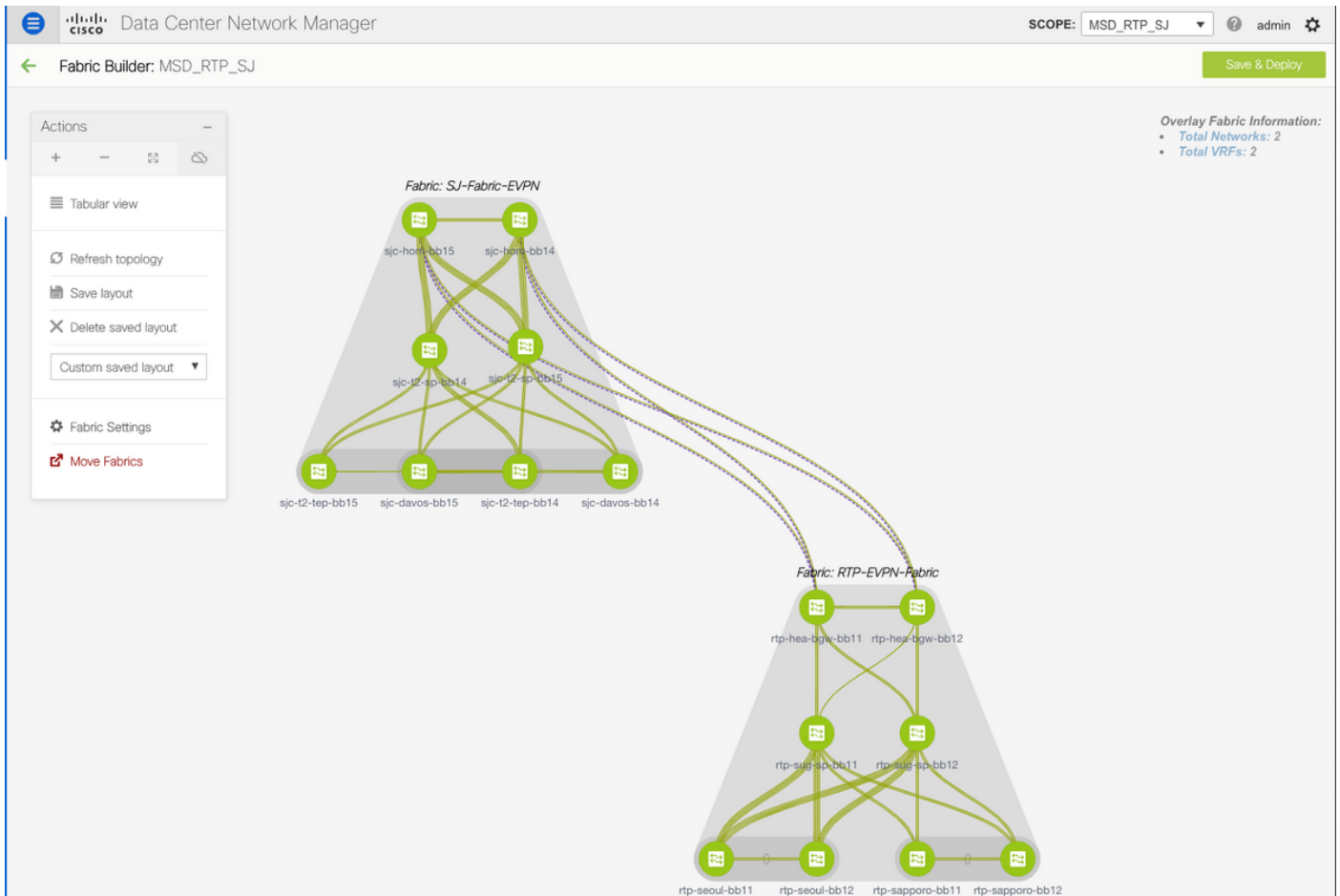
Resources

\* Multi-Site Routing Loopback IP Range

10.10.0.0/22

? Typically Loopback100 IP Address Range

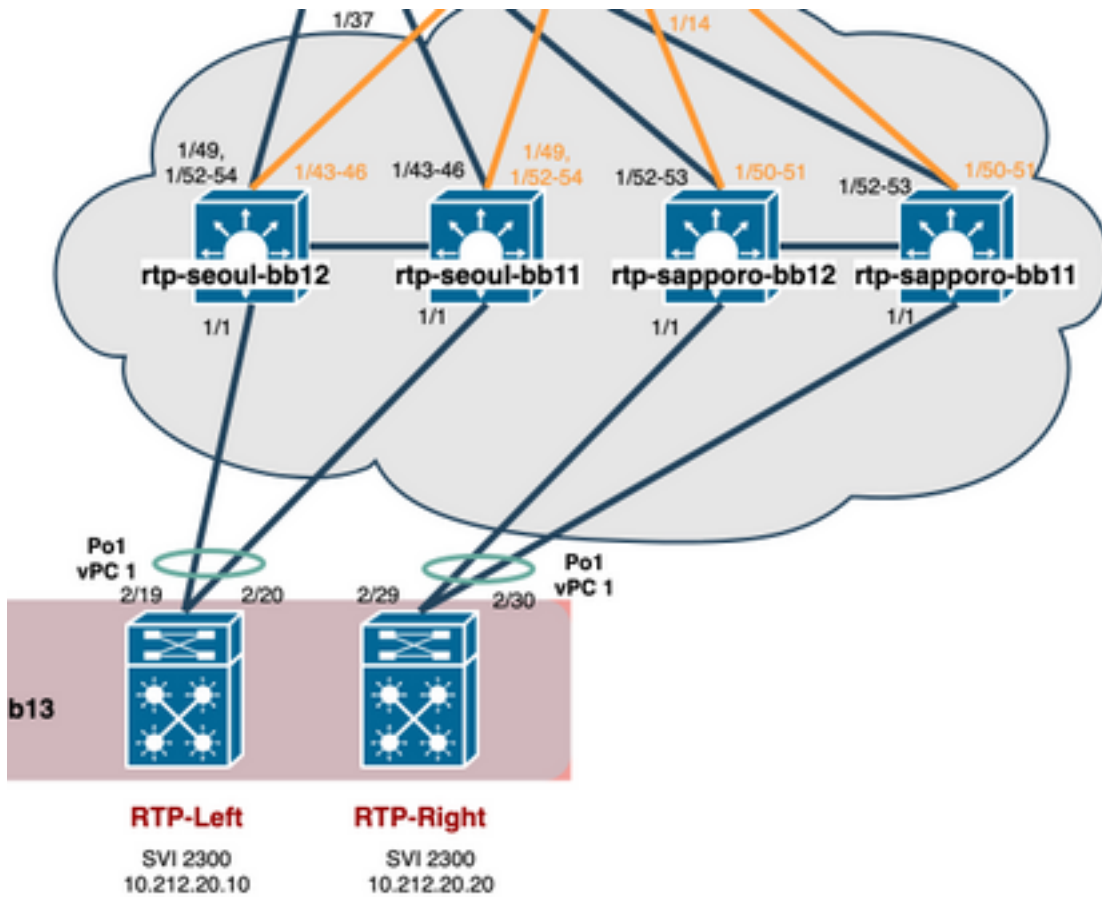
ودبت نأ بجي .رشن وظيفح قوف رقناو MSD ةينب ىلإ لقتنا مث ،ظيفح قوف رقنا 4. ةوطخال  
حاجنب اهلامتك ا درجمب (رضخال نوللاب تاطابترالا + تالوحملا عيمج) كلتل ةهباشم كتقبط



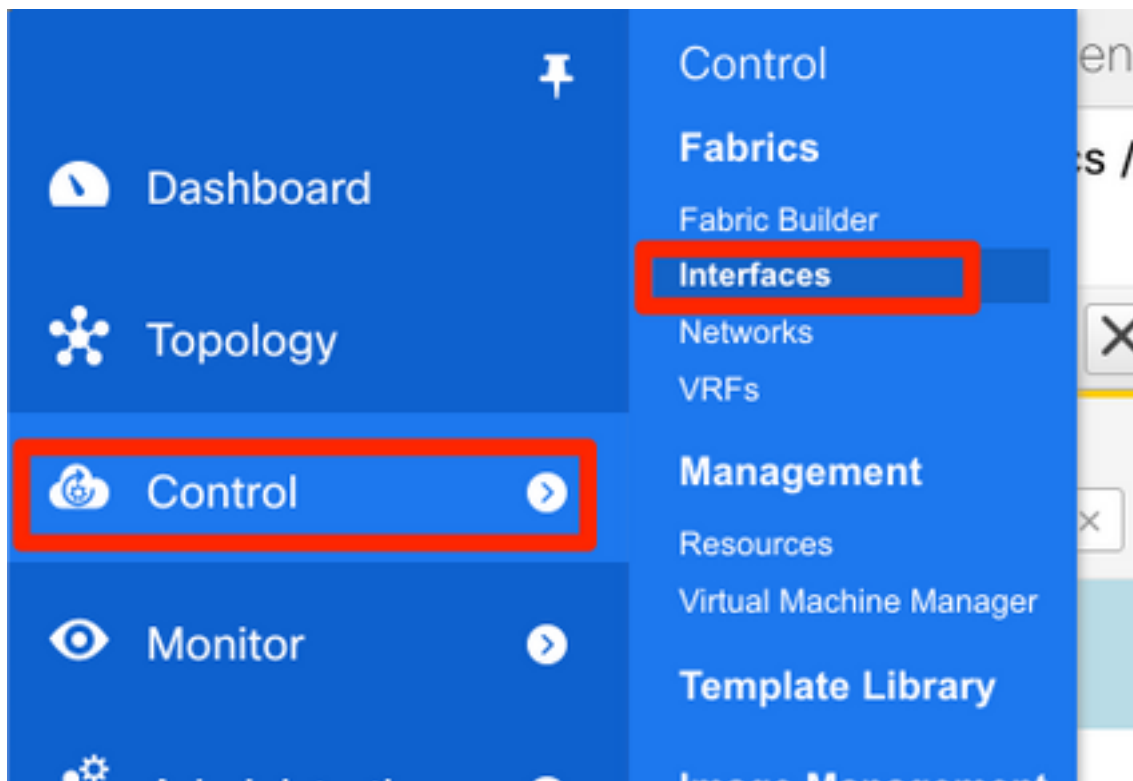
**Do not forget to re-deploy any Networks/VRFs across both fabrics + the MSD Fabric!**

## فيضم لل لاصتالا طخ/الوصول تاسايس رشن

لاصتالا رابتخاو ةفلتخم VTEP جاوزا نم vPC لاصتا طوطخ نيوكت مت ،لاثملا لىبس ىلع  
ةروصلال في حضورم وه امك ةلصلال وذ ططخملال .ةيحلحمل RTP ةينب لخاد



ةروصلال ي ف حضوم وه امك ،ةوخلال قوفا لقتنا 1. ةوخلال



ةروصلال ي ف حضوم وه امك ،ةوخلال قوفا لقتنا 2. ةوخلال



## Control / Fabrics / Interfaces

## Interfaces

Interfaces							
Device Name	Name	Admin	Oper	Reason	Policy	Overlay Network	Status
sapporo-bb	1/1	up	up	ok			
<input checked="" type="checkbox"/> rtp-sapporo-bb11	Ethernet1/1	↑	↑	ok	int_trunk_host_11_1	NA	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> rtp-sapporo-bb12	Ethernet1/1	↑	↑	ok	int_trunk_host_11_1	NA	<input checked="" type="checkbox"/>

ءارجال هم ادختسإ متي يذلا N7K إلى مدخال نم vPC لاصتا طخ عاشنإ متي، لاثملا اذه يف رورملا اذه يف لاصتالا تارابتخإ.

امو BPDUGuard و LACP فاقيا لىغشتو ةي داملا تاهج اول او بس انم ال vPC جوز دح 3 ةوطخلا كلك.

## Add Interface

\* Type: virtual Port Channel (vPC) ▼

\* Select a vPC pair: rtp-sapporo-bb11---rtp-sapporo-bb12 ▼

\* vPC ID: 1

\* Policy: int\_vpc\_trunk\_host\_11\_1 ▼

Note : PeerOne = rtp-sapporo-bb11 & PeerTwo = rtp-sapporo-bb12

## General

Peer-1 Port-Channel ID: 1 ? Peer-1 VPC port-channel number (Min:1, Max:4096)

Peer-2 Port-Channel ID: 1 ? Peer-2 VPC port-channel number (Min:1, Max:4096)

Peer-1 Member Interfaces: Eth1/1 ? A list of member interfaces for Peer-1 [e.g. e1/5,eth1/7-9]

Peer-2 Member Interfaces: Eth1/1 ? A list of member interfaces for Peer-2 [e.g. e1/5,eth1/7-9]

\* Port Channel Mode: active ? Channel mode options: on, active and passive

\* Enable BPDU Guard: false ? Enable spanning-tree bpduguard

Enable Port Type Fast:  ? Enable spanning-tree edge port behavior

Save

Preview

Deploy

Note : PeerOne = rtp-sapporo-bb11 & PeerTwo = rtp-sapporo-bb12

General

\* MTU  ? MTU for the Port Channel

\* Peer-1 Trunk Allowed...  ? Allowed values: 'none', 'all', or vlan ranges (ex: 1-200,500-2000,3000)

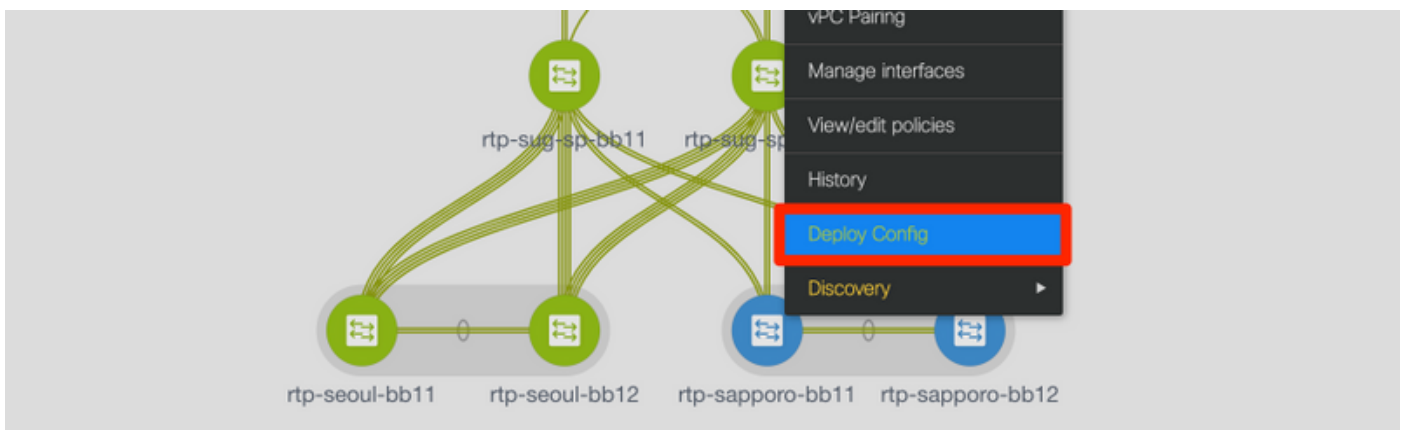
\* Peer-2 Trunk Allowed...  ? Allowed values: 'none', 'all', or vlan ranges (ex: 1-200,500-2000,3000)

Peer-1 PO Description  ? Add description to Peer-1 VPC port-channel (Max Size 254)

Peer-2 PO Description  ? Add description to Peer-2 VPC port-channel (Max Size 254)

Note ! All configs :

حضوره وه امك، ةرشابم رشنلا كنكمي، كلذ نم ال دب. ءاهتالال دنع ظفح يلع رقنا. 4 ةوطخال ءروصلال يف.



## Config Deployment



Step 1. Configuration Preview >

Step 2. Configuration Deployment Status >

Switch Name	IP Address	Switch Serial	Preview Config	Status	Re-sync	Progress
rtp-sapporo-bb12	192.168.128.105	FDO21302J5Z	<a href="#">15 lines</a>	Out-of-sync		<div style="width: 100%;"><div style="width: 100%;"></div></div> 100%
rtp-sapporo-bb11	192.168.128.101	FDO213001M0	<a href="#">15 lines</a>	Out-of-sync		<div style="width: 100%;"><div style="width: 100%;"></div></div> 100%

هقبيبطت متيس يذلا نيوكتلال عجار (يرايخا). 5 ةوطخال

## Config Preview - Switch 192.168.128.105



Pending Config

Side-by-side Comparison

```
interface ethernet1/1
  no spanning-tree port type edge trunk
interface port-channel1
  switchport
  switchport mode trunk
  mtu 9216
  vpc 1
  spanning-tree bpduguard disable
  description To N7K RTP-Right Eth2/29
  no shutdown
  switchport trunk allowed vlan 1-4094
interface ethernet1/1
  channel-group 1 force mode active
  no shutdown
configure terminal
```

## Config Deployment



Step 1. Configuration Preview >

Step 2. Configuration Deployment Status >

Switch Name	IP Address	Status	Status Description	Progress
rtp-sapporo-bb11	192.168.128.101	COMPLETED	Deployed successfully	100%
rtp-sapporo-bb12	192.168.128.105	COMPLETED	Deployed successfully	100%

ك: 7 ىل ع ى ودي ل ن ي وكت ل ( ى ر ا ي ت خ ) . 6 ة و ط خ ل ا



لإلخ نم فيضملا اذه ىرت RTP لخد ىرخأل VTEP تالوكوتورب نأ نم دكأت (يرايخإ). 8. ةوطخلل EVPN/HMM:

```
rtp-seoul-bb12# show bgp l2vpn evpn 10.212.20.20 vrf andrea_vrf_red
BGP routing table information for VRF default, address family L2VPN EVPN
Route Distinguisher: 10.1.0.10:35067 (L2VNI 20001)
BGP routing table entry for [2]:[0]:[0]:[48]:[002a.6a5c.6045]:[32]:[10.212.20.20]/272, version 168
Paths: (2 available, best #1)
Flags: (0x000212) (high32 00000000) on xmit-list, is in l2rib/evpn, is not in HW

Advertised path-id 1
Path type: internal, path is valid, is best path, in rib
Imported from 10.1.0.13:35067:[2]:[0]:[0]:[48]:[002a.6a5c.6045]:[32]:[10.212.20.20]/272
AS-Path: NONE, path sourced internal to AS
10.1.0.1 (metric 6) from 10.1.0.11 (10.1.0.11)
Origin IGP, MED not set, localpref 100, weight 0
Received Label 20001 30000
Extcommunity: RT:65534:20001 RT:65534:30000 S00:10.1.0.1:0 ENCAP:8
Router MAC:3890.a5eb.05cf
Originator: 10.1.0.13 Cluster list: 10.1.0.11
```

9. ةوطخلل (Seoul-BB11/12 ل ةي لمعمل س فن ررك (يرايخإ)). 9. ةوطخلل (SVI 2300 ت ق ل خ ، ةانق vPC ت ق ل خ) ل لاصتا دي كأت ل RTP-Right ل RTP-Left نم قد RTP ةي نب لخد EVPN ربع L2 لاصتا دي كأت ل RTP-Right ل RTP-Left نم قد

```
RTP-Left# ping 10.212.20.20
PING 10.212.20.20 (10.212.20.20): 56 data bytes
64 bytes from 10.212.20.20: icmp_seq=0 ttl=254 time=1.385 ms
64 bytes from 10.212.20.20: icmp_seq=1 ttl=254 time=1.03 ms
64 bytes from 10.212.20.20: icmp_seq=2 ttl=254 time=0.98 ms
64 bytes from 10.212.20.20: icmp_seq=3 ttl=254 time=0.997 ms
64 bytes from 10.212.20.20: icmp_seq=4 ttl=254 time=0.974 ms

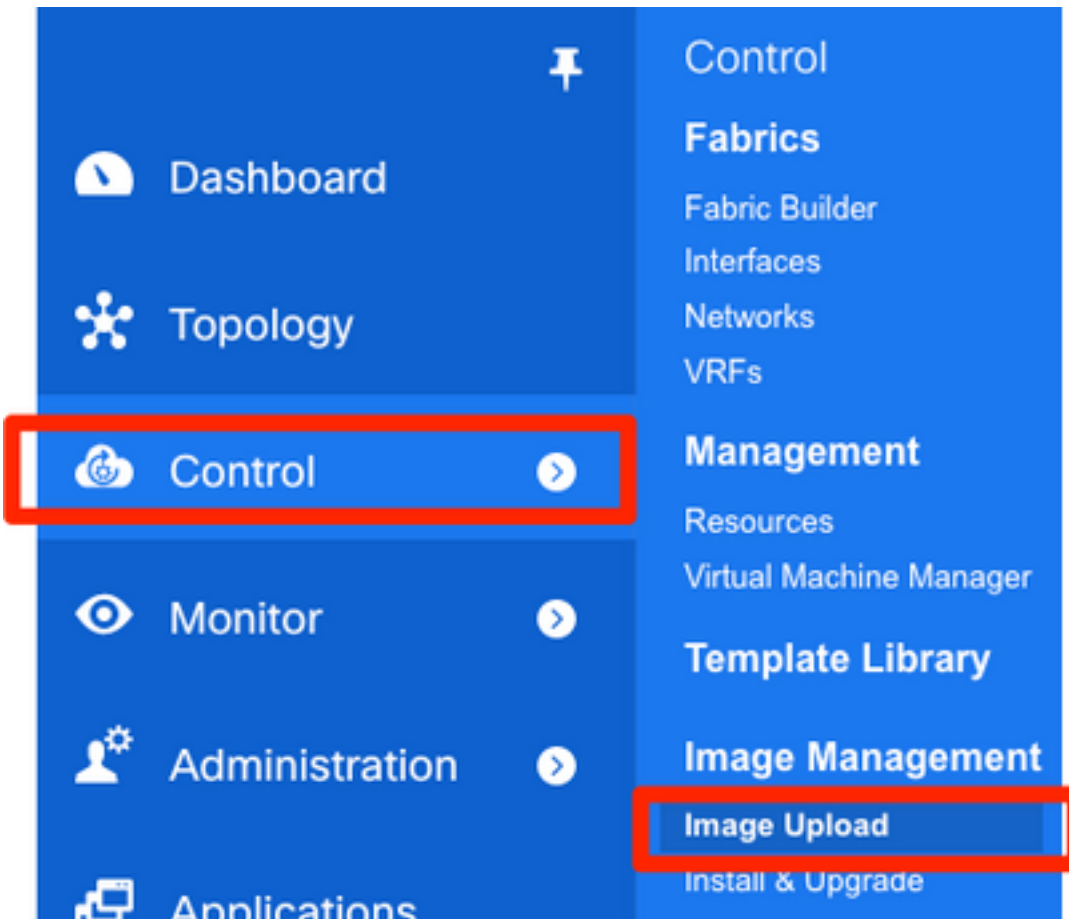
--- 10.212.20.20 ping statistics ---
5 packets transmitted, 5 packets received, 0.00% packet loss
round-trip min/avg/max = 0.974/1.073/1.385 ms
```

تاهجاوو ي صخشلا رتوي بم كلاب ةصاخ ريغ ذفانم تاونق عاشنإل ةلثامم تاوطخ عابتا نكمي تاهجاو ل ةفاضل قاي س نم ض كلذ ل امو ، لوصول

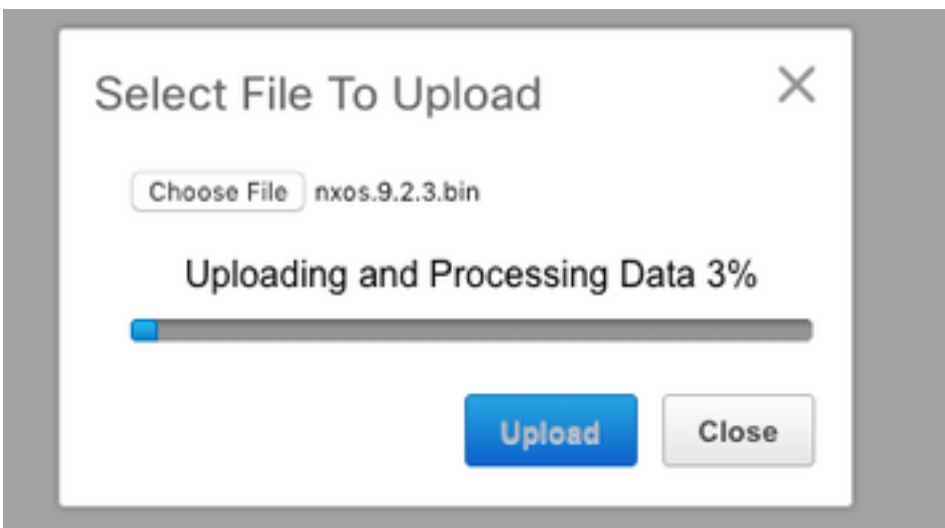
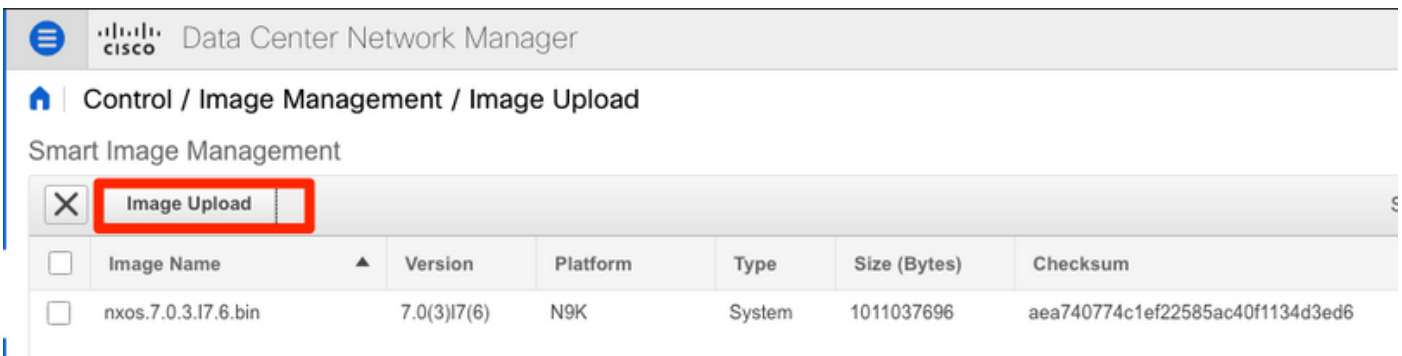
## يناثلا مويلا تاي لمع

### DCNM ربع NX-OS جم انرب ةي قرت

> مكحتلا لىل لقتنا م ث ، (DCNM مداخ لىل روصلال نم ةعومجم وأ) ةروصل لىمحتب مق 1. ةوطخلل ةروصلال ي ف حضوم وه امك ، ةروصلال لىمحت > ةروصلال ةرادا

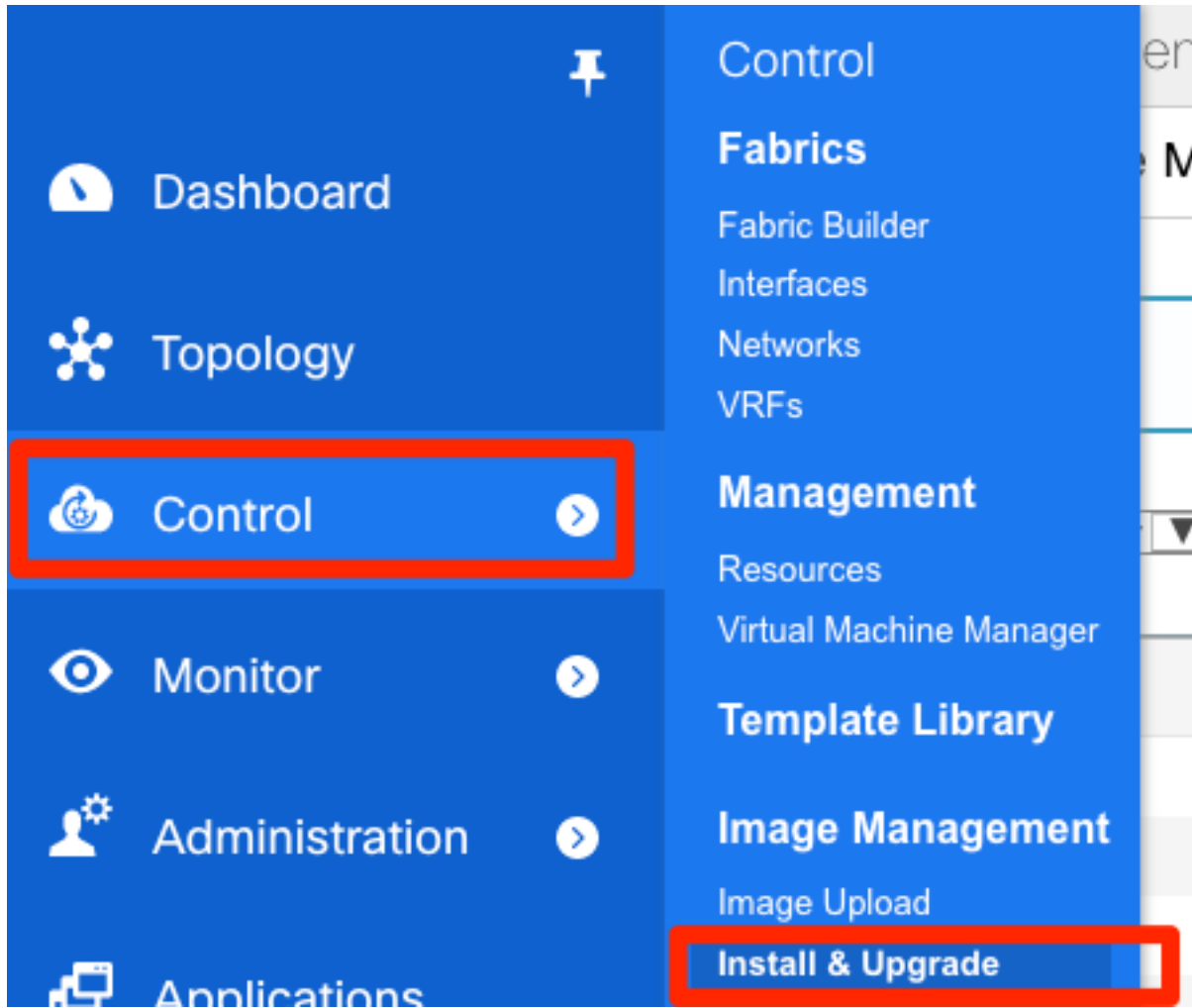


حضورم وه امك (تافللملا) فللملا رهظي نأ بجي مئ، ليحمل لئيمحتلا تابللاطم عبتا 2. ةوطخللا ةروصلا هذه في:



اذا قيقرتللاو تيبتتلا الى للاقتنالا كنكمي، (تافللملا) فللملا لئيمحت درجمب 3. ةوطخللا

ةرادإ) Image Management > (مكحتلإ) Control ىلإ لقتنا .ةقرت ىلإ ةحأب تالوحملا تناك  
ةروصلإ يف حضوم وه امك ،(ةقرتلاو تېبثتلا) Install & Upgrade > (روصللا



ت.نن سح لماك ءانب RTP لآ ،لاثم اذه ل .اهتقرت دىرت ىتلا تالوحملا ددح .4 ةوطخلا

Control / Image Management / Install & Upgrade

1 Select Switches → 2 Specify Software Images ✓ → 3 Pre-Installation Checks → 4 Schedule Job

Device Scope: Data Center

Available Switches

Switch Name	IP Address	Model	Version
sjc-davos-bb14	192.168.254.106	N9K-C92160YC-X	9.2(2.71)
sjc-davos-bb15	192.168.254.102	N9K-C92160YC-X	7.0(3)I7(5)
sjc-hom-bb14	192.168.254.107	N9K-C93180YC-FX	9.2(1)
sjc-hom-bb15	192.168.254.103	N9K-C93180YC-FX	9.2(1)
sjc-t2-sp-bb14	192.168.254.104	N9K-C9508	7.0(3)I7(1)
sjc-t2-sp-bb15	192.168.254.100	N9K-C9508	7.0(3)I7(3)
sjc-t2-tep-bb14	192.168.254.105	N9K-C9372TX-E	7.0(3)I7(5a)
sjc-t2-tep-bb15	192.168.254.101	N9K-C9372TX-E	7.0(3)I7(4)

Selected Switches

Switch Name
rtp-sug-sp-bb12
rtp-sug-sp-bb11
rtp-seoul-bb12
rtp-seoul-bb11
rtp-sapporo-bb12
rtp-sapporo-bb11
rtp-hea-bgw-bb12
rtp-hea-bgw-bb11

Previous Next Finish Cancel

ةيقرتب مق ،ةسرامم لضفأك) هيلإ تالوحملا ةيقرت ديرت يذلا NX-OS رادصا دح 5 ةوطخل (NX-OS رادصا سفن لىل تالوحملا عيمج

Control / Image Management / Install & Upgrade

1 Select Switches ✓ → 2 Specify Software Images ✓ → 3 Pre-Installation Checks → 4 Schedule Job

Auto File Selection Select File Server: Default\_S... Image Version: 7.0(3)I7(6) Path\*: /var/lib/dcnm/images/ Apply

Name	Version	Kickstart Image	System Image	KSI Image	Vrf	Available Space (MB)		Selected Files Size(MB)	Skip Ver... Compati...	Select P... Line Ca...	Upgrade Options
						Primary Supervi...	Secondary Supervisor				
rtp-hea-b...	7.0(3)I7(5)	Not Applicab	nxos.7.0.3.I7.	Not Applicable	manage...	115145	Not Available	1012	<input type="checkbox"/>	<input type="checkbox"/>	Options
rtp-hea-b...	7.0(3)I7(5)	Not Applicab	nxos.7.0.3.I7.	Not Applicable	manage...	115146	Not Available	1012	<input type="checkbox"/>	<input type="checkbox"/>	Options
rtp-sapp...	7.0(3)I7(3)	Not Applicab	nxos.7.0.3.I7.	Not Applicable	manage...	49821	Not Available	1012	<input type="checkbox"/>	<input type="checkbox"/>	Options
rtp-sapp...	7.0(3)I7(3)	Not Applicab	nxos.7.0.3.I7.	Not Applicable	manage...	50535	Not Available	1012	<input type="checkbox"/>	<input type="checkbox"/>	Options
rtp-seoul...	7.0(3)I7(6)	Not Applicab	nxos.7.0.3.I7.	Not Applicable	manage...	35476	Not Available	1012	<input type="checkbox"/>	<input type="checkbox"/>	Options
rtp-seoul...	7.0(3)I7(...)	Not Applicab	nxos.7.0.3.I7.	Not Applicable	manage...	33780	Not Available	1012	<input type="checkbox"/>	<input type="checkbox"/>	Options
rtp-sug-s...	7.0(3)I7(5)	Not Applicab	nxos.7.0.3.I7.	Not Applicable	manage...	20294	Not Available	1012	<input type="checkbox"/>	<input type="checkbox"/>	Options
rtp-sug-s...	7.0(3)I7(5)	Not Applicab	nxos.7.0.3.I7.	Not Applicable	manage...	46651	Not Available	1012	<input type="checkbox"/>	<input type="checkbox"/>	Options

\*Provide absolute path in case of SCP and SFTP servers. For TFTP and FTP servers, please provide the relative path from TFTP/FTP home directory. For more information on auto file selection refer to online help.

Previous Next Finish Cancel

سبق ام قيقدت ةيلمع لالخنم حاتفملا ضكري DCNM وكلذ دعب تقطوط 6 ةوطخل



ءاهن| ديدحت كلذ نم الءب كنكمي اءل ،تقولا ضعب ءذفانللا هءه قرءتست ءق .تءبءءللا  
كبايغ ءانءا ءقءرءللا ءلوءءو اءءال تءبءءللا

The screenshot shows the 'Data Center Network Manager' interface. The breadcrumb navigation is 'Control / Image Management / Install & Upgrade'. The process flow consists of four steps: 1. Select Switches (checked), 2. Specify Software Images (checked), 3. Pre-Installation Checks (active), and 4. Schedule Job. Below the flow, there is a 'Compatibility Check' section with a progress bar and a 'Finish Installation Later' button highlighted in red. The table below shows the status of compatibility checks for various switches.

Name	Current Action	Version Compatibility Verification
<input checked="" type="radio"/> rtp-sug-sp-bb12	Compatibility check in progress	STARTED
<input type="radio"/> rtp-sug-sp-bb11	Compatibility check in progress	STARTED
<input type="radio"/> rtp-seoul-bb12	Compatibility check in progress	STARTED
<input type="radio"/> rtp-seoul-bb11	Compatibility check in progress	STARTED
<input type="radio"/> rtp-sapporo-bb12	Compatibility check in progress	STARTED
<input type="radio"/> rtp-sapporo-bb11	Compatibility check in progress	STARTED
<input type="radio"/> rtp-hea-bgw-bb12	Compatibility check in progress	STARTED

Compatibility Logs

In Progress

Previous Next Finish Close

انه ءرءصلا ءف ءءوم وه اءل الءام رهظي وراءءنالا ءمءاق ءف ءمءملا ءءوب اءه مءقءي  
هلءمءءا ءءءب

The screenshot shows the 'Data Center Network Manager' interface. The breadcrumb navigation is 'Control / Image Management / Install & Upgrade'. The 'Upgrade History' tab is active. The 'Software Upgrade Tasks' section shows a table with one task highlighted in orange. The 'Finish Installation' button is highlighted in red.

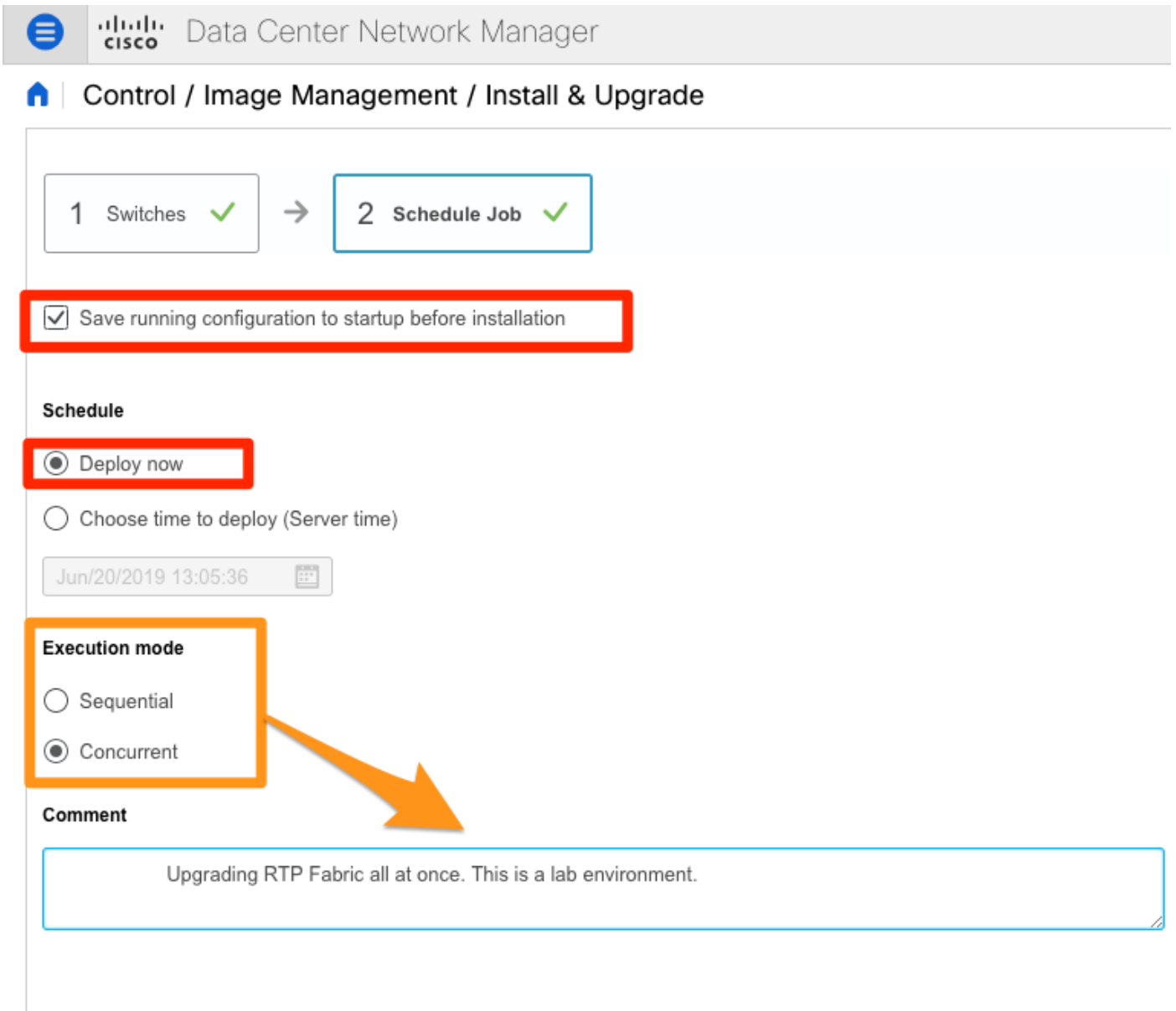
Task Id	Task Type	Owner	Devices	Job Status	Created Time	Scheduled At	Completed Time
1	Compatibility	admin	rtp-hea-bgw-bb11,rtp-hea...	COMPLETED WITH EXCEPTION	2019-06-20 12:...	2019-06-20 12:...	2019-06-20 13:03:..

ءءاسم اءءءل سءل ءءل RTP ءالءءم ءءا ناك ءقءاسللا ءلءال ءف ءانءءسالا :ءظءالم  
NX-OS ءرءصل ءءفك

ءءوم وه اءمك ،راءال سءفن ءف تءبءءللا ءاهن| قوف رءنا ،ءقءفاوءللا مءءن اءم 7. ءوءءال  
ءرءصلا ءف



سفن في لكال) نمازتم لكشپ اهب مايقلا متيس يتلا تايقرتلا ديدحت كنكمي 8. ةوطخلا نمازتم ددحمالا نإف، ةيملعم ةئيب هذه نا امب. (قرم لك في دحاو) يلسلست لكشپ وأ (تقولا



ةروصلا في حضوم وه امك، مدقتلا ديق رهظتو ةمهمل عاشنا متي

Upgrade History | Switch Level History

Software Upgrade Tasks Selected 0 / Total 1

View | Delete | New Installation | Finish Installation Show Quick Filter

Task Id	Task Type	Owner	Devices	Job Status	Created Time	Scheduled At	Completed Time	Comment
1	Upgrade	admin	rtp-hea-bgw-bb11,rtp-hea...	<b>IN PROGRESS</b>	2019-06-20 13...	2019-06-20 13...		Upgrading RTP Fabric all

Upgrade History | Switch Level History

Software Upgrade Tasks Selected 0 / Total 1

View | Delete | New Installation | Finish Installation Show Quick Filter

Task Id	Task Type	Owner	Devices	Job Status	Created Time	Scheduled At	Completed Time	Comment
1	Upgrade	admin	rtp-hea-bgw-bb11,rtp-hea...	COMPLETED	2019-06-20 13...	2019-06-20 13...	2019-06-20 13:20:...	Upgrading RTP Fabric all

انه ةروصلال ديحتل ةليدب ةقيرط ضرع متي.

sjc-t2-sp...	7.0(3) 7(1)	Not Applicabl	Select Image	Not Applicable	manage...	<a href="#">6326</a>	<a href="#">2683</a>	Not Applicable	<input type="checkbox"/>	<input type="checkbox"/>	Options
sjc-t2-sp...	7.0(3) 7(3)	Not Applicabl	Select Image	Not Applicable	manage...	<a href="#">4437</a>	Not Available	Not Applicable	<input type="checkbox"/>	<input type="checkbox"/>	Options



```
rtp-sug-sp-bb12# show run interface ethernet1/5
```

```
!Command: show running-config interface Ethernet1/5  
!Running configuration last done at: Wed Sep 11 14:41:05 2019  
!Time: Wed Sep 11 14:53:25 2019
```

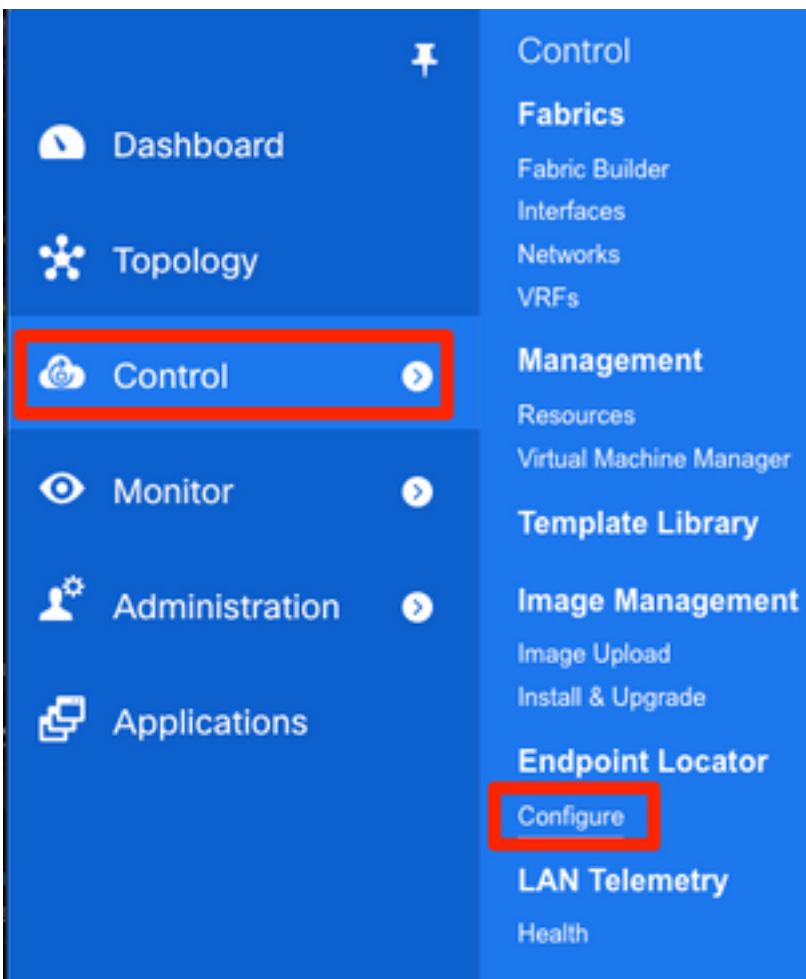
```
version 7.0(3)I7(7) Bios:version 08.36
```

```
interface Ethernet1/5  
description To DCMN Server for Endpoint Locator & Apps  
mtu 9216  
no ip redirects  
ip address 99.99.99.2/30  
no ipv6 redirects  
no shutdown
```

ةطقن نم لاصتالا اذه ىلع س كعلاو DCNM م داخ لاصتا رابتخا كنكمي هنا نم دكأت 2. ةوطخل  
ةطقن ىلإ.

```
[root@dcm-rtp-dcm-fab ~]# ping 99.99.99.2  
PING 99.99.99.2 (99.99.99.2) 56(84) bytes of data.  
64 bytes from 99.99.99.2: icmp_seq=1 ttl=255 time=0.780 ms  
64 bytes from 99.99.99.2: icmp_seq=2 ttl=255 time=0.802 ms  
64 bytes from 99.99.99.2: icmp_seq=3 ttl=255 time=0.772 ms  
^C  
--- 99.99.99.2 ping statistics ---  
3 packets transmitted, 3 received, 0% packet loss, time 2001ms  
rtt min/avg/max/mdev = 0.772/0.784/0.802/0.034 ms
```

ةطقن ددحم > Control > DCNM ل (GUI) ةيموسرلا مدختسملا ةهجاو ىلإ لقتنا 3. ةوطخل  
ةروصلال يف حضوم وه امك، Configure > ةياهنلل.



يف حضورم وه امك ،اهب ةيفرطالال ةطقنلال عقوم ددحم نيكمت ديرت يتلال ةينبلال ددح .4 ةوطخلال ةروصلال

## 1. Select a Fabric

Choose a fabric where you want the Endpoint Locator functionality to be enabled.

Continue

يسيرللا دوماعلال ددح ،ةروصلال يف حضورم وه امك .5 ةوطخلال

## 2. Select Spine

For an iBGP-based fabric, choose the Route-Reflectors.

For an eBGP-based fabric, choose the transit spines.

Spine 2 (optional)

نم ETH2 ب ةصاخلال IP ريريرت مت ،ةيللالال ةوطخلال للاقنلال لبق .(يرايخال). 6 ةوطخلال اذ ةبولطم ةوطخلال هذه نوكت ال) DCNM مداخلع هذه رماوالال رطس ةهجاو ربع يلصلال رشنال (اححص ديدجلال DCNM مداخلع تيبثت اناثأ هنيوكت مت يذلال يلصلال IP ناك

```

[root@dcdg-rtp-dcnm-fab ~]# ifconfig eth2 0.0.0.0
[root@dcdg-rtp-dcnm-fab ~]# appmgr setup inband
Configuring Interface for InBand Connectivity...
Please enter the information as prompted:
InBand Physical IP [e.g. 2.2.2.69]: 99.99.99.1
InBand Network Mask [e.g. 255.255.255.0]: 255.255.255.252
InBand Gateway [e.g. 2.2.2.1]: 99.99.99.2
Validating Inputs ...
You have entered these values..
PIP=99.99.99.1
NETMASK=255.255.255.252
GATEWAY=99.99.99.2

Press 'y' to continue configuration, 'n' to discontinue [y] y
{"ResponseType":0,"Response":"Refreshed"}
Done.

[root@dcdg-rtp-dcnm-fab ~]# ifconfig eth2
eth2: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 99.99.99.1 netmask 255.255.255.252 broadcast 99.99.99.3
    inet6 fe80::250:56ff:fe9e:23f5 prefixlen 64 scopeid 0x20<link>
    ether 00:50:56:9e:23:f5 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 11 bytes 698 (698.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

```

متم ام عم اذه قباطتي نأ بجي .ي ددرتال قاطنلال لخاد هه جاوالا نيوكت نم ققحت 7. ةوطخلال ةقباسال ةوطخلال ي هنيوكت.

### 3. Verify DCNM In-band Interface

Choose the Ethernet interface on the DCNM that will provide reachability to the Spine(s) within the fabric.

eth2

Interface IP

99.99.99.1 / 30

### 5. Review and Enable Endpoint Locator

Fabric: RTP-EVPN-Fabric

DCNM Interface: eth2 (99.99.99.1/30)

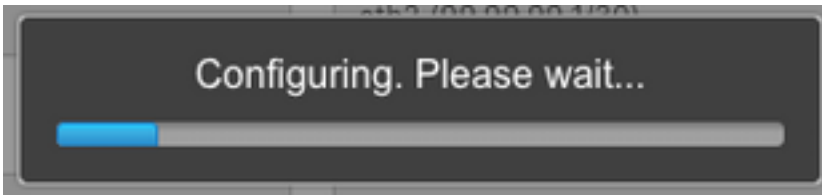
\* Collect additional information (Port, VLAN, etc.) Yes

Spine 1: rtp-sug-sp-bb12 (192.168.128.104)

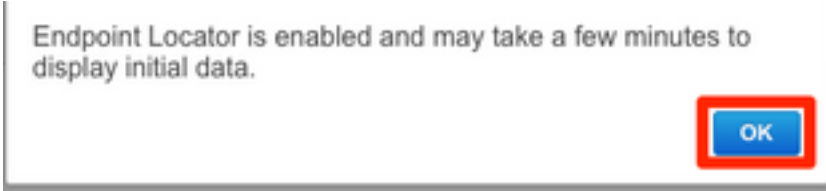
Next-hop IP: 99.99.99.1

Spine 2:

قئاقد عضب ةوطخلال هذه قرغتست دق .نيوكت قوف رقنا ،نيوكتلال ةعجارم درجمب 8. ةوطخلال



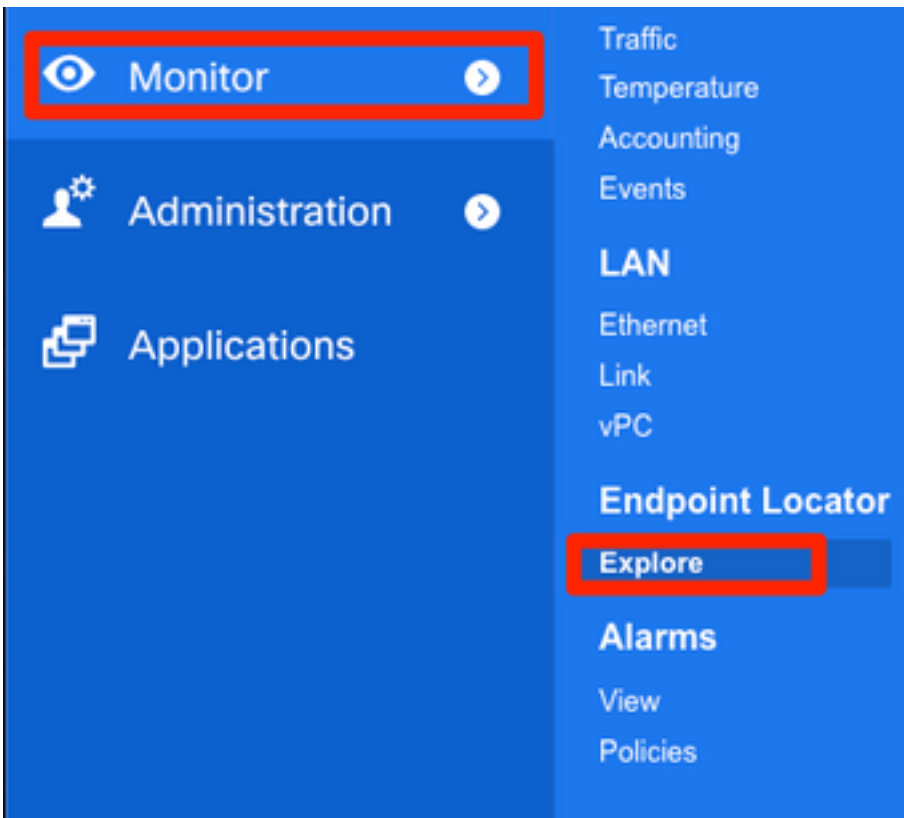
ةروصللا يف حضورم وه امك ،راطخإلا رهظي ،هلامتكا درجمبو



EVPN L2VPN ةلئاع يف ددحمللا يسيسيئرلا دوماعلا لىع BGP راج نيوكتب ماق DCNM نأ ظحال

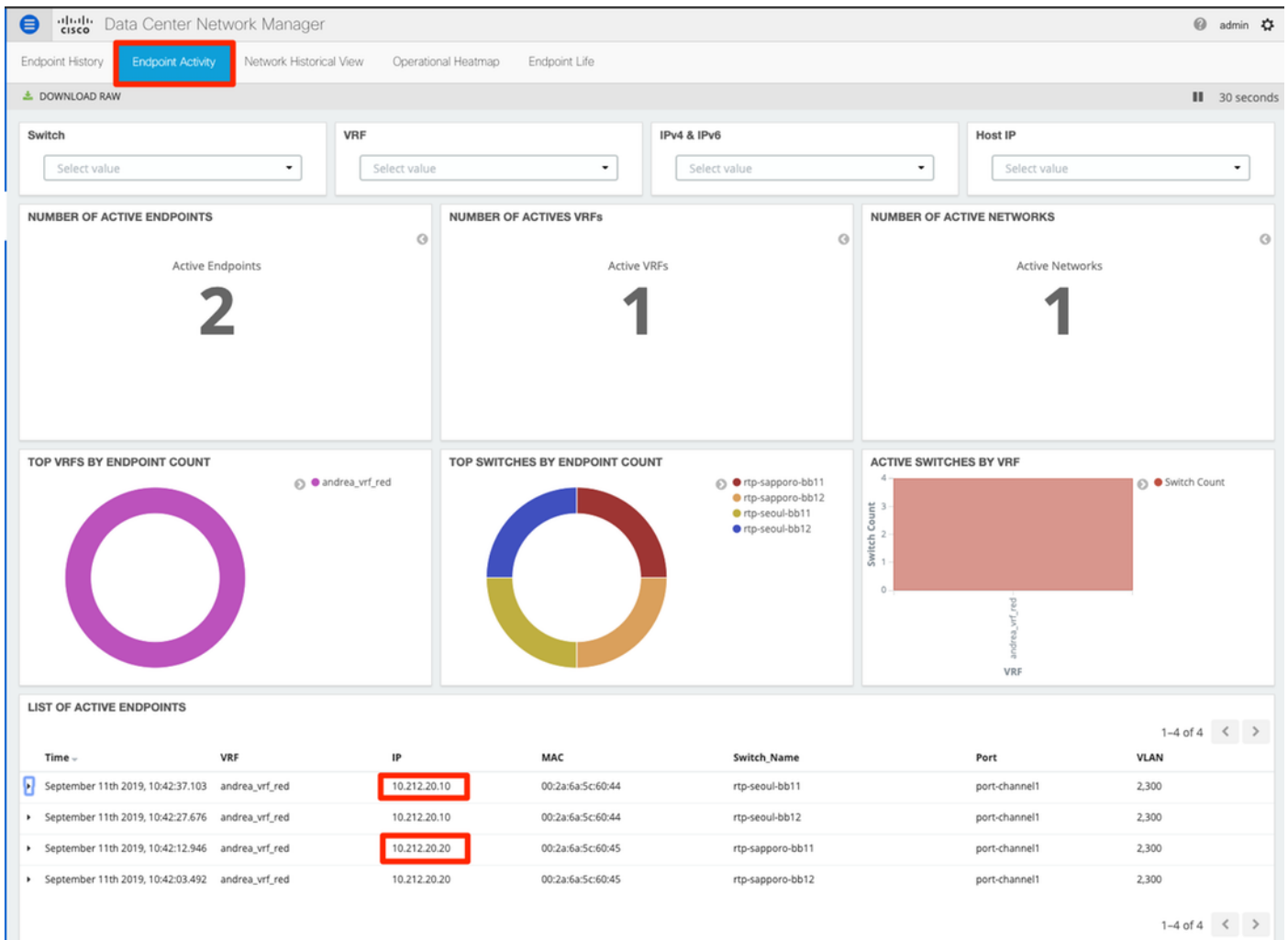
```
rtp-sug-sp-bb12# show run bgp | sec "neighbor 99"
neighbor 99.99.99.1
remote-as 65534
address-family l2vpn evpn
send-community
send-community extended
route-reflector-client
```

ددحم > ةشاشللا لىل لقتنا .ةيفرطالا ةطقنلا عقوم ددحم مادختسا نألا كنكمي 9 ةوطخال  
فاشكتسا > ةياهنلا ةطقن عقوم



رابتخا زيزا ةيلمع يلحمللا ل تلكش ناك نأ فيضم نانثإلا تيأر عيطاتسي تنأ ،لاثم اذه يف  
ءانب RTP لال يف





## رشنلا اذه اناثأ اهت هجاوم تمت يتلا لكاشملا

### حل اص ريغ تالبك لي صوت

لكاشملا ل vPC peer-link ل عيحت أطخ يف ببست امم ئيس تالبك لي صوت هب تالوحملا نم جوز ناك ل: امث. port-channel500.

Switch Name	IP Address	Status	Status Description	Progress
rtp-sapporo-bb11	192.168.128.101	FAILED	feature ngoam is an invalid command	2%
rtp-sapporo-bb12	192.168.128.105	FAILED	channel-group 500 force mode active Failed with follo...	15%
rtp-sug-sp-bb11	192.168.128.100	COMPLETED	Deployed successfully	100%
rtp-sug-sp-bb12	192.168.128.104	COMPLETED	Deployed successfully	100%
rtp-seoul-bb11	192.168.128.102	COMPLETED	Deployed successfully	100%
rtp-seoul-bb12	192.168.128.106	COMPLETED	Deployed successfully	100%

ءاطخألا عجارو Control > Fabric Builder لىل فلخل لل لقتنا 1. ةوطخللا

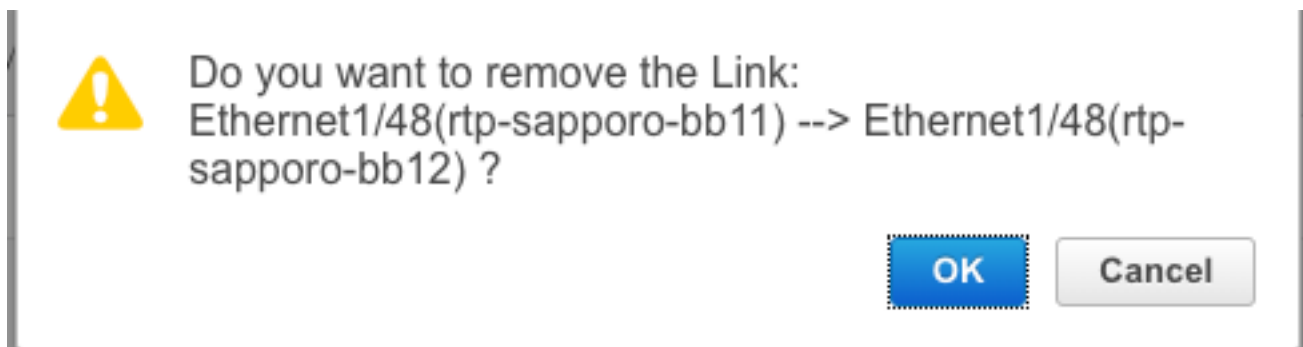
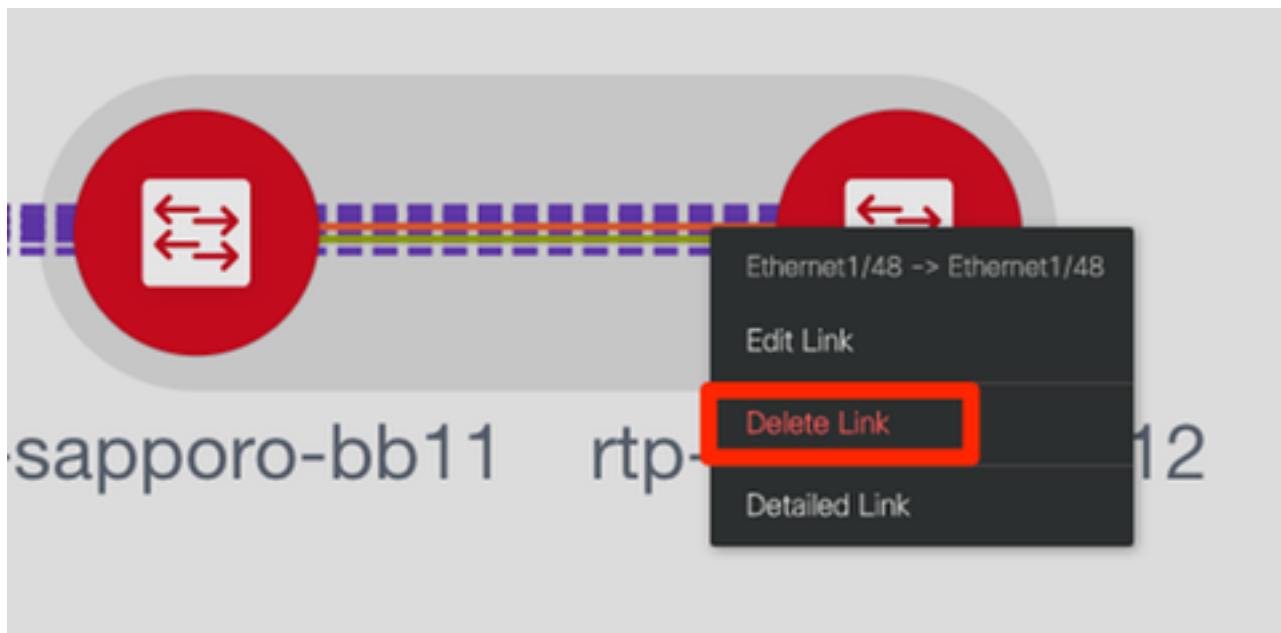
### Fabric errors & warnings

2 Errors, 0 Warnings, 0 Info

Delete all

- Switch[FDO21302J5Z] - CLI command 'channel-group 500 force mode active' failed with following error:command failed: port not compatible:[Buffer boost] \*\* You can use force option to override the port's parameters \*\* (e.g. "channel-group X force") \*\* Use "show port-channel compatibility-parameters" to get more information on failure
- Switch[FDO213001M0] - CLI command 'feature ngoam' failed with following error:CLI command is invalid.

م — رمأل لش ف يذلا channel500-ذفنم لاب قلعتم لاولا أطخلل ةبسننلاب 2 ةوطخلال 40G ذفنم و 10G ذفنم يلع ناك vPC ريظنن لاصتالال نا **show cdp neighbors** ربع هنم ققحتلال اضيا DCNM نم طبرللا فذويعي عي بط ءانيم 10G لال تلزا (قفاوتم ريغ):



### ةزيم نيوكت لش ف

لوحملال ةيقرت تمت — "ةكبشلال ةمس" نيوكت لش فب قلعتم لال يناثلال أطخلل ةبسننلاب لجمتو. ىرخأ ةرم رشنو ظفح قوف رقناو "ةكبشلال ةمس" معدمتي شيح ثدحأ NX-OS رادصا لال

نېتل أسمل اتلك

## ةفلتخملا ىنبلل ةرادلل ةيعرفلا تاكبشلا لخاد

ةلصفنم تناك اذ) اهسفن ةيعرفلا ةكبشلا مادختسا مت SJ، ةيناثلا ةينبلا رشن اناثا ةطقن لشفو ضراعت ليجستب DCNM موقى، كلذ عمو، (قفاوم اذه نوكتى نأ بچيف، ايدام رييغتو VLAN ةرادل فلتخم يف تعضو نوكتى انب SJ ل نأ امب اذه تللح (POAP) لوصولا ناونع DHCP ل نم قاطنلا

### Add Fabric

\* Fabric Name : SJ-EVPN-Fabric  
\* Fabric Template : Easy\_Fabric\_11\_1

General	Replication	vPC	Advanced	Resources	Manageability	Bootstrap	Configuration Backup
Enable Bootstrap <input checked="" type="checkbox"/> ? Automatic IP Assignment For POAP							
Enable Local DHCP Server <input checked="" type="checkbox"/> ? Automatic IP Assignment For POAP From Local DHCP Server							
* DHCP Scope Start Address		192.168.128.108	? Start Address For Switch Out-of-Band POAP				
* DHCP Scope End Address		192.168.128.115	? End Address For Switch Out-of-Band POAP				
* Switch Management Default Gate...		192.168.128.1	? Default Gateway For Mgmt VRF On The Switch				
* Switch Management Subnet Prefix		24	? Prefix For Mgmt0 Interface On The Switch (Min:8, Max:30)				



The fabric **SJ-EVPN-Fabric** was added with below message:

Management Default Gateway network 192.168.128.0 for fabric SJ-EVPN-Fabric has conflict with fabric RTP-EVPN-Fabric's Management Default Gateway network 192.168.128.0. Same Gateway network cannot be used within the same or different fabrics, please use different Gateway Network.

Close

## جورخلا تاهجاو

رطس ةهجاو ةفاضلا تمت، (ططخملا ىل عجرا) تالوخملا ضعب يف كيكفتلا تاهجاو 1. ةوطخلال T2 spines ل ايودي هذه رماوالا

```
sjc-t2-sp-bb14# show run | i i breakout  
interface breakout module 1 port 6-7 map 10g-4x
```

ةيصلألا تاهجاو اول فذحاو، تاهجاو اول > Control ىل لقتنا 2. ةوطخلال

Control / Fabrics / Interfaces

Interfaces Selected 4 / Total 520

Deploy

Device Name	Name	Admin	Oper	Reason	Policy	Overlay Network	Status	Port-C
<input checked="" type="checkbox"/>	sjc-t2-sp-bb14			Not discovered	int_trunk_host_11_1	NA	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	sjc-t2-sp-bb14			Not discovered	int_trunk_host_11_1	NA	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	sjc-t2-sp-bb15			Not discovered	int_trunk_host_11_1	NA	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	sjc-t2-sp-bb15			Not discovered	int_trunk_host_11_1	NA	<input checked="" type="checkbox"/>	

رماً الا اذه حي حصت ب مقت مل اذا. ETH1/6/1-4 و ETH1/7/1-4 يه ايل عف ةم دخ تس مل ا تاه اول (ز) هس فن DCNM لال خ نم اء تن ال اب م اي ق ل ل ة ق ي ر ط ك انه. اق حال رشن ل او ظ ف ح ل ل ش ف ي س ف (ة ل ا ق م ل ا هذ ه ي ف ل و م ش م ر ي غ ، ل ا ح ي ا ي ل ع ، ة م ا ل ع ر ا و ج ب

## ة م و ع د م ر ي غ ة ر د ق ي ل ا ر ش ن ل ا د ن ع ة ي ن ب ل ا ي ف ا ط خ ث د ح

Data Center Network Manager SCOPE: SJ-Fabric-EVPN admin

Network / VRF Selection > Network / VRF Deployment > VRF View | Continue

Fabric Selected: SJ-Fabric-EVPN Selected 1 / Total 2

Networks

Network Name	Network ID	VRF Name	IPv4 Gateway/Subnet	IPv6 Gateway/Prefix	Status	VLAN ID
<input type="checkbox"/>	Andrea_TestNetwork_20001	Andrea_VRF_RED	10.212.20.1/24	2001:db8::1/64	DEPLOYED	2300
<input checked="" type="checkbox"/>	mesau-22302	mesau-southeas...	10.23.2.1/24		OUT-OF-SYNC	2302

Network Information

\* Network ID

\* Network Name

\* VRF Name

Layer 2 Only

\* Network Template

\* Network Extension Template

VLAN ID   ?

Network Profile

*Please click only to generate a New Multicast Group Address and override the default value!*

General | **Advanced**

DHCPv4 Server 2  ? DHCP Relay IP

DHCPv4 Server VRF  ?

Loopback ID for DHCP Relay interface (Min:0, Max:1023)  ?

Routing Tag  ? 0-4294967295

TRM Enable  ? Enable Tenant Routed Multicast

L2 VNI Route-Target Both Enable  ?

Enable L3 Gateway on Border  ?

مأمألا إلى مدقتال نام DCNM نكم تي مل اذل، SJ TRM ةي ن بي في (T2S) لك ايهال ضعب معدت ال انه TRM معد. نيوكتلا اذه عفد لواح ام دنع

[https://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus9000/sw/92x/vxlan-92x/configuration/guide/b-cisco-nexus-9000-series-nx-os-vxlan-configuration-guide-92x/b\\_Cisco\\_Nexus\\_9000\\_Series\\_NX-OS\\_VXLAN\\_Configuration\\_Guide\\_9x\\_chapter\\_01001.html#concept\\_vw1\\_syb\\_zfb](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus9000/sw/92x/vxlan-92x/configuration/guide/b-cisco-nexus-9000-series-nx-os-vxlan-configuration-guide-92x/b_Cisco_Nexus_9000_Series_NX-OS_VXLAN_Configuration_Guide_9x_chapter_01001.html#concept_vw1_syb_zfb)

في رهظي تاراطإال ريحت VRF و ةكبشال نام لك نمض TRM نيكم تي ع برم ديحت اغالل ةروصلل.

Fabric Builder > VRF.

Data Center Network Manager SCOPE: SJ-Fabric-EVPN admin

Network / VRF Selection > Network / VRF Deployment Network View | Continue

Fabric Selected: SJ-Fabric-EVPN

VRFs Selected 1 / Total 2

VRF Name	VRF ID	Status
Andrea_VRF_RED	30000	DEPLOYED
<input checked="" type="checkbox"/> mesau-southeast-corner	32302	PENDING

### ▼ VRF Information

\* VRF ID

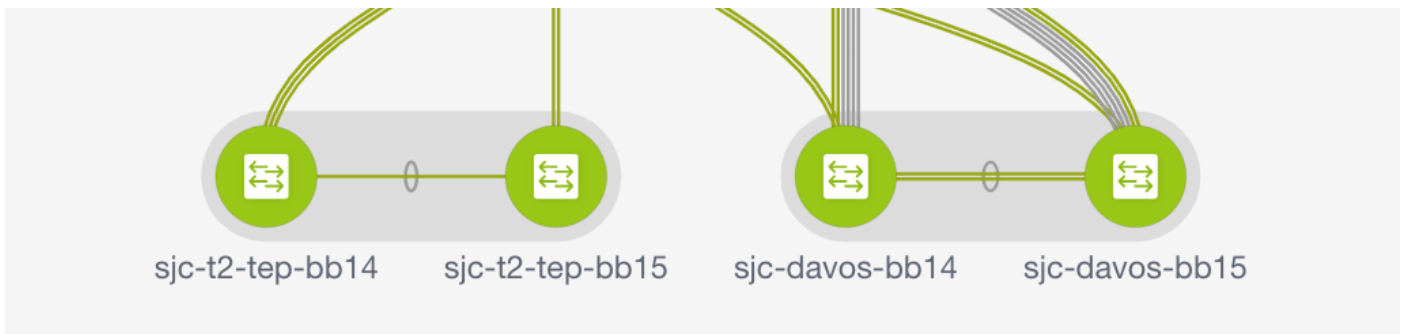
\* VRF Name

\* VRF Template

\* VRF Extension Template

### ▼ VRF Profile

General	Advanced
	VRF Intf MTU <input type="text" value="9216"/> ? 68-9216
	Loopback Routing Tag <input type="text" value="12345"/> ? 0-4294967295
	Redistribute Direct Route Map <input type="text" value="FABRIC-RMAP-REDIST-SUBNET"/> ?
	Max BGP Paths <input type="text" value="1"/> ? 1-64
	Max iBGP Paths <input type="text" value="2"/> ? 1-64
	TRM Enable <input checked="" type="checkbox"/> ? Enable Tenant Routed Multicast
	* Is RP External <input type="checkbox"/> ? Is RP external to the fabric?



اقباس مت امك يلاوتلا ىلع رشن مت ةعباتم قوف رقنا.

## DCNM 11.2 في دي دجل ام

- vPC راي عمل اق فو ةي في لىل تاونقلا ربع (PEERING) ةعرسلا قئاف نيزختلا ةزيم
- ىلع ال في EVPN ني كمتم eBGP ىلع ةمئاقلا ةهجوملا ىنبلا
- ميب دودجل في لىل ال GW دومع/دودجل يرقف دومع Easy Fabric Brownfield تانيسحت رجأت سملل هجوملا ددعتملا ثبلار يدي
- ي چراخ DHCP م داخ عم 0/bootstrap موي

ي نائل مويلا تاي لمع:

- Network Insights قي ببطت دراوم
- Network Insights Advisor قي ببطت
- (eth0) ي چراخلا لوصولل IPv6 معد
- UCS-Fi مادختساب VMM ةبسوح ةي ؤر ةيناكمإ

- ططخملا ضرع تانيسحت
- نم ةنمضم ةيقرت 11.0/11.1

نودب vPC يصخشلا رتويبمكلا لىل يديلقلا vPC يصخشلا رتويبمكلا نم ريغتلا DCNM مادختسا:

MCT ةينقت مادختسا بلطتت ال يتلا ةيضارتفالا رتويبمكلا ةزهجأ ايازم:

- ةيداملا ذفانملا رادهإ نود هاجتإلا يئانث نسحم ل ح
- ةيديلقلا vPC صئاصخ لىل ع ظفاحي
- PIP عم لزنملا بةلصتمة درفملا ةياهنلا طاقنل نسحملا هيحوتلا

## ةلص تاذا تامولعم

- (1) 11.2 رادصإلا، Cisco DCNM نم LAN ةكبش ةينب نيوكت لىل د  
[https://www.cisco.com/c/en/us/td/docs/switches/datacenter/sw/11\\_2\\_1/config\\_guide/lanfabric/b\\_dcnm\\_fabric\\_lan/control.html](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/sw/11_2_1/config_guide/lanfabric/b_dcnm_fabric_lan/control.html)
- عقاوملا ةددعتم - BGP VXLAN EVPN ىنب يف دودحل لىل ع دادمإلا مادختسا ةلاح: لصفلا  
[https://www.cisco.com/c/en/us/td/docs/switches/datacenter/sw/11\\_2\\_1/config\\_guide/lanfabric/b\\_dcnm\\_fabric\\_lan/border-provisioning-multisite.html](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/sw/11_2_1/config_guide/lanfabric/b_dcnm_fabric_lan/border-provisioning-multisite.html)
- ةكبش صاخلا EVPN لوكوتوربل عقاوملا ددعتم عقوم عم يلاتلا لىل جلا نم DCI لوصوم  
vPC ةينقت معدت يتلا دودحل تاباوبل يمسرلا ريرقتلا مادختساب VXLAN  
[https://www.cisco.com/c/en/us/products/collateral/switches/nexus-9000-series-switches/whitepaper-c11-742114.html#\\_Toc5275096](https://www.cisco.com/c/en/us/products/collateral/switches/nexus-9000-series-switches/whitepaper-c11-742114.html#_Toc5275096)
- يمقرلا ىوتحملا ةرادإ تاقيبطت: لصفلا  
[https://www.cisco.com/c/en/us/td/docs/switches/datacenter/sw/11\\_2\\_1/config\\_guide/lanfabric/b\\_dcnm\\_fabric\\_lan/applications.html](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/sw/11_2_1/config_guide/lanfabric/b_dcnm_fabric_lan/applications.html)

ةمچرتل هذه لوج

ةللأل تاي نقتل نم ةومچم مادختساب دن تسمل اذہ Cisco تچرت  
ملاعلاء انءمچي فني مدختسمل معدى وتحم مي دقتل ةيرشبل او  
امك ةقيقد نوك تنل ةللأل ةمچرت لصف أن ةظحال مچري. ةصاخل مهتبل ب  
Cisco يلخت. فرتحم مچرت مامدقي يتل ةيفارتحال ةمچرتل عم لالحل وه  
ىل إأمئاد ةوچرلاب ي صؤت وتامچرتل هذه ةقدنع اهتيل وئسم Cisco  
Systems (رفوتم طبارل) ي لصلأل يزي لچنل دن تسمل