## vLABの登録/利用ガイド

Juniper Networks 2025/4



Engineering Simplicity



\* 本資料は、リモートラボ環境であるJuniper vLabsを利用するための

登録ガイドとなります。

2025/4 ガイドとなるため、本資料とは動作が異なる場合もあるため、ご了承ください。





vLabはジュニパーの提供するユースケースや機能をテストできるWebベースのプラットフォームです。

ジュニパーの複数の製品ラインを利用できるvLabsは、ルーティング、スイッチング、セキュリティ、自動化、テレメトリ、など様々な 環境を仮想環境としてご使用いただけます。

vLabsセッションはアカウントを登録いただいた方は無料でご利用いただけます。



\*仮想環境・仮想アプライアンスの為環境による機能等の制限がございます

JUNIPER

3

#### vLAB登録手順 (1)



Use pre-built topologies to explore our products and solutions—all for free!

Test drive vMX, vSRX, Apstra, Automation, Security Director, and much more!

#### What's New

Check out our latest topologies, including:

Apstra 4.1.2
Juniper Cloud Native Router (JCNR)
SRv6
BGP CT



https://jlabs.juniper.net/vlabs/



## vLAB登録手順 (2)

JUNIPEC	
Sign In Email ID [xyz@abc.com] Email ID [xyz@abc.com]	A
Next Get help	禄
Create a user account Request a partner login	T



### vLAB登録手順 (3)

#### **USER REGISTRATION**

#### Create a New user Account

Welcome! You can register for a Juniper user account if you are a:

- Customer who is authorized to access exclusive information and resources in the Juniper Support Portal (JSP).
- Guest who would like to access the Elevate community, virtual labs such as vLabs and JCL, educational resources in the Learning Portal, or browse product information, and who voluntarily provides certain information.

NOTE: Partners have exclusive log-in credentials. To request a new partner account, visit Partner Assistance

Juniper will process your information in accordance with our Privacy Notice.





← → C 🖷 iam-signin.juniper.net/signin		or & ☆ 🖸 🗯 🖯 🤇
	Connecting to O Sign-in with your Juniper Networks Inc. account to access Justs Juniper net	
AX	JUNIPER.	A CANE
	Sign In Email ID (xyz@abc.com)	登録したメールアドレス
	Password	A A
	Remember me	TAX
XXX	Sign In Need helpsigningin?	
A	XXDATAL	



### vLAB利用手順(1)





## **vLAB**利用手順(2)

#### Network Management, Telemetry, and Analytics



#### **Contrail Enterprise** Multicloud

- Contrail 2003 with Contrail Command UI
- Contrail Insights (AppFormix) 3.1.15
- 4 vQFXs running Junos OS 18.1R3-S5
- BMSs running CentOS 7.4

## More information Launch >

VLAB開始



UNDERLAY

ADDRESS OF

ADDIDATE ADDITE

- Contrail 1909 with Contrail Command UI; Contrail Insights (AppFormix) 3.1.2
- 4 vQFXs running Junos OS 18.1R3-S5
- vSRX providing PNF functionality
- BMSs running CentOS 7.4

#### More information >

Launch >

#### animiana (J All's hades In-band (VN) Addressing

**Contrail Enterprise** 

Contrail 1910 with Contrail

1 vMX running Junos OS

Multicloud with

Command UI

18.1R3-S5

Launch >

Kubernetes 1.12

More information >

**Kubernetes** 



#### **HealthBot**

- Healthbot 3.0.0 on Linux server
- 3 vMXs running Junos OS 18.3R1.9

#### More information >

Launch >

VLABの構成等の情報確認

Cothail Adult Gree

© 2025 Juniper Networks



## vLAB利用手順 (3)



### vLAB利用手順 (4)





## vLAB利用手順(5)



12

## vLAB利用手順 (6)





## vLAB利用手順(7)



## vLAB利用手順 (8)



### vLAB利用手順 (9)

#### 登録したメールアドレスにアクセス用の アドレスとポートが送られてくる

vLabs Support	🛅 Inbox - Google	11:21
Update about Direct Access to the resources in your vLab "CEM Fabric Management and B	MS Routing*	Details

#### ALLOWED NETWORK ADDRESS PREFIXES

Your IP address - - - now has 'direct access' to your sandbox.

For more information on using 'direct access', check out the vLabs User Guide or the vLabs FAQ.

#### PORT FORWARDING INFORMATION

With your 'direct access' permission, you can now access the devices directly, as follows:

Abstract Resource Name	Protocol	Public IP Address	Public Port
Contrail_AIO	SSH	66.129.235.10	49001
Contrail_AIO	UserDef1	66.129.235.10	49002
Contrail_AIO	UserDef3	66.129.235.10	49004
Contrail_Appformix	SSH	66.129.235.10	49006
Contrail_Appformix	UserDef1	66.129.235.10	49007
Contrail_Appformix	UserDef3	66.129.235.10	49009
Contrail_Command	SSH	66.129.235.10	49011
Contrail_Command	UserDef1	66.129.235.10	49012
Contrail_Command	UserDef3	66.129.235.10	49014



vs

Macbook:~ mAsaya\$ sudo ssh jcluser@66.129.235.10 -p 49825 jcluser@66.129.235.18's password: Last login: Wed Aug 19 19:38:58 2020 from kd059138041015.ppp-bb.dion.ne.jp -bash: warning: setlocale: LC\_CTYPE: cannot change locale (UTF-8): No such file or directory [jcluser@CentOS ~]\$ su Password: [[root@CentOS jcluser]# virsh list setlocale: No such file or directory Id Name State \_\_\_\_ vqfx-re 1 running 2 vqfx-pfe running

\* +

[[root@CentOS jcluser]# virsh console 1 setlocale: No such file or directory Connected to domain vqfx-re Escape character is ^]

🛢 🛢 🌒 👔 - Worksmenn - Bandlesses - C 🛪 : 🕤 Caritral Command

+ C A Not Secure | 66.129.235.10.45012

CONTRAIL

Contrail Command UserDef1を ブラウザからアクセス

> Password: Login incorrect login: jcluser Password:

--- JUNOS 18.1R3-S5.3 built 2019-04-27 13:13:59 UTC {master:0} jcluser@Leaf1>

Leaf1のSSHアクセスを



Hello



## 参考:ブループリント利用手順

## - Contrail Fabric Management and BMS Routing -

クラウド上の最新版はバージョン等変わっている可能性がございますので参考として参照ください。

### **Contrail Fabric Management and BMS Routing**



各種ソフトウェア GUIへのログイン

#### **アクセス方法** ※各デバイスへのアクセス方法が記載されたメールが通知されている

[Contrail Command] Private Portが9091のもの https://66.129.235.8:44012/ [AIO(OpenStack)] http://66.129.235.8:44000/ [Appformix] http://66.129.235.8:44007/

← → C ▲ Not Secure   66.129.235.8:44012		← → C ▲ Not Secure   66.129.235.8:44000/auth/login/?next=	/	← → C ▲ Not Secure   66.129.235.8:44007/appformix/#/dashboa	d?view=infrastructure
CONTRAIL COMMAND	Log in Select Cluster ① Isolosko-1564-112+ Stale 400555012002 v Utername admin	← → C ▲ Not Secure   66.129.235.8:44000/auth/login/7next-	Log in dtim	← → C ▲ Not Secure 66.129.235.8.44007/appformix/#/dashboa	dWew-infrastructure
COMMAND	Passent Domain @ default Log in		Password		Domain: Default ÷ admin Legin

UserName: admin Password: contrail123 UserName: admin Password: contrail123 UserName: admin Password: contrail123

## JUNOSデバイスへのログイン

[vQFX] Leaf1 Sample:

\$ ssh root@66.129.235.8 -p 44024 root@66.129.235.8's password: Juniper!1 [root@CentOS ~]# virsh list setlocale: No such file or directory ld Name State \_\_\_\_\_ 1vqfx-rerunning2vqfx-pferunning [root@CentOS ~]# virsh console vqfx-re Leaf1 (ttyd0) login: root Password: Juniper!1 root@Leaf1:RE:0% cli {master:0} root@Leaf1> show version fpc0: Hostname: Leaf1 Model: vqfx-10000



### Topology

#### Management Topology

#### Dataplane Topology





JUNIPer

21

	MAND	INFRASTRUCT	IURE Fabrics			🗘   闭 Defau	it → 🔁 admin 🝷   💪 admin 🖓	-   @		
Q Search		Fabrics	Device Functional Groups	Node Profiles	Images	Telemetry Profiles				
🖈 FAVORITES	~	Fabrics					Q Q	Create		
MONITORING	>	NAME								
INFRASTRUCTURE	>									
OVERLAY	>								Select provisioning option	
WORKLOADS	>									
IAM	>									
SERVICES	>								New Fabric	Existing Fabric
SECURITY	>				No data to disp				Wizard takes you through deployment of new devices which require discovery, zero touch provisioning(ZTP)	Import existing deployed devices by discover
DEBUG	>								and complete configuration.	
DNS	>									
										Cancel
								ь <u></u>		
External applications:	PFORMIX								Existing Fabric(BrownFieldDen	lovment)を選択し、 Pr

© 2025 Juniper Networks



以下を入力 Name: 任意 Device credentials: root / Juniper!1 Management subnets: 100.123.13.0/24, Gateway:none Loopback subnets: 10.255.0.0/24

	■ INFRASTRUCTURE ■	Fabrics		û │ 🗑 Default	· 덫) admin 🔻 🛛 쏩 admin 🔻 🏾 ⑦		MAND	INFRASTRUCTURE   Fabrics   Create Fabric	다 │ @ Default → 다 ad	min • $ $ $\stackrel{\circ}{\sim}$ admin • $ $ $\textcircled{O}$
Q Search ☆ FAVORITES ✓	STEP 1 Create Fabric	STEP 2 Device discovery	STEP 3 Assign the roles	step 4 Autoconfigure	STEP 5 (optional) Assign Telemetry Profiles	Q Search ☆ FAVORITES		STEP 1 STEP 2 STEP 3 Create Fabric Device discovery Assign the roles	STEP 4 STEP Autoconfigure Assig	(optional) n Telemetry Profiles
MONITORING >						MONITORING	>	OOOOOO		
INFRASTRUCTURE >	Name* ③	69				INFRASTRUCTURE	>	CIDR* ③ Gateway ③ 100.123.13.0/24 Enter valid IPv4		11
OVERLAY >	Overlag ASN (IRCD)* (2)					OVERLAY	>			
WORKLOADS >	64512					WORKLOADS	>	+ Add		
IAM >	Node profiles* ③					IAM	>	- Loopback subnets		
SERVICES >	device-functional-gr × juniper-mx ×	~				SERVICES	>			
SECURITY >	juniper-qfx10k × juniper-qfx10k-lean ×					SECURITY	>	CIDR* ©		1
DEBUG >	juniper-qfx5120 × juniper-qfx5k ×					DEBUG	>	10.255.0.0/24		
DNS >	juniper-qfx5k-lean × juniper-srx ×					DNS	>	+ Add		
	VLAN-ID Fabric-Wide Significa	ince 💿						Additional configuration		
	▼ Expand All	I						Advanced interface filters		
	<ul> <li>Device credentials <sup>(2)</sup></li> </ul>									
						External annlications:	PFORMIX			Cancel Next

JUNIPer.

23

#### Deviceが検出された後、Next

	RAIL MAND	INFRASTRUCTURE   Fabrics	▶ Creat	e Fabric			û │ (⊕ Default →	다 admin 🕶 🛛 L admin 💌 🏾 📀
Q Search								
ST FAVORITES	~	STEP 1 STEP Create Fabric Dev	2 ice discovery	S' A	TEP 3 ssign the roles		STEP 4 Autoconfigure	STEP 5 (optional) Assign Telemetry Profiles
MONITORING	>							
INFRASTRUCTURE	>	Discovered devices		Q (?	Discover d	levices	Device discovery progre	ISS
OVERLAY	>	NAME MANAGEMEN	PRODUCT N	STATUS	INTERFACES			
WORKLOADS	>	▶ _ Leaf2 100.123.1	vqfx-10000	ONBOARDED	13			
IAM	>	▶ _ Leaf1 100.123.1	vqfx-10000	ONBOARDED	13		Thu Apr 30 2020 13:; Time)	28:15 GMT+0900 (Japan Standard
SERVICES	>	▶	vqfx-10000	ONBOARDED	13		Starting execution in "existing_fabric_online"	for job template board_template" and execution id
DEBUG	>	▶	vqfx-10000	ONBOARDED	13		"1588220889597_d3720 64c7efe31a62"	df53-ad5a-45e9-a431-
DNS	>						Thu Apr 30 2020 13:: Time)	28:21 GMT+0900 (Japan Standard
		No items selected					Successfully onboard	ded fabric 'fabricl'
External applications:	PFORMIX	Previous						Cancel Next



各DeviceのRole設定

spine1,2 : PhysicalRole: spine RoutingBridgingRole: CRB-Gateway, Route-Reflector

leaf1,2 : PhysicalRole: leaf RoutingBridgingRole: CRB-Access



#### 全てのDeviceのRole設定完了後、Autoconfigure

Q Search ☆ FAVORITES		STEP 1 Create Fabric	STEP 2 Device discovery	STEP 3 Assign the roles		STEP 4 Autoconfigure	STEP 5 (optional) Assign Telemetry Profiles	
MONITORING	>	Assign to devices					Q (C )	₩ 
OVERLAY	>	NAME	MANAGEMENT IP	NODE PROFILE	ROLE	ROUTING ROLES	AUTOCONFIGURE	
WORKLOADS	>	Leaf2	100.123.13.204	juniper-qfx10k	leaf	CRB-Access	True	
IAM	>	Leaf1	100.123.13.203	juniper-qfx10k	leaf	CRB-Access	True	
SERVICES	>	Spine2	100.123.13.202	juniper-afx10k	spine	CRB-Gateway	True	
DEBUG	>			2 1 1 1 1 1 1 1 1 1		Route-Reflector		
DNS	>	Spine1	100.123.13.201	juniper-qfx10k	spine	CRB-Gateway Route-Reflector	True	
		No items selected						
xternal pplications:	FORMIX	Previous					Cancel	utoconfigure

	RAIL IMAND	INFRASTRUCTURE   Fabrics   Create	Fabric	û 🛱 Default > 🔁 admin 🔻 🕇 🕹 admin 👻
✓ Search	~	STEP 1 STEP 2 Create Fabric Device discovery	STEP 3 Assign the roles	STEP 4 STEP 5 (optional) Autoconfigure Assign Telemetry Profiles
MONITORING	>	Ŭ Ŭ		
INFRASTRUCTURE	>	Discovered devices	Q C+ Add	Autoconfigure progress
OVERLAY	>	NAME MANAGEMENT IP PRODUCT NAME	STATUS INTERFACES	
WORKLOADS	>	Leaf2 100.123.13.204 vqfx-10000	UNDERLAY_CONFIG 13	
IAM	>	Leaf1 100.123.13.203 vqfx-10000	UNDERLAY_CONFIG 13	Thu Apr 30 2020 13:32:42 GMT+0900 (Japan Standard
SERVICES	>	Spine2 100.123.13.202 vqfx-10000	UNDERLAY_CONFIG 13	Starting execution for job template "role_assignment_template" and execution id
SECURITY	>	Spine1 100.123.13.201 vqfx-10000	UNDERLAY_CONFIG 13	"1588221157211_862e53fa-a89c-49bb-8bef- f8lc2a40356f"
DEBUG	>			Thu Apr 30 2020 13:32:45 GMT+0900 (Japan Standard Time) Assigning physical/overlay roles to the devices in the fabric
xternal pplications:	FORMIX	Previous		Cancel Next

Autoconfiguration processが完了後、Next

各Deviceにdefault-telemetry-profile2(Fabric Interfaceのみ有効) をアサイン 全てのDeviceに設定完了後、Finish

	IMAND	INFRASTRUCTURE •	Fabrics > Create Fabric		<b>C</b>   🌐 De	efault > 🔁 admin 🝷   😤 admin	•   0
Q Search		STEP 1	STEP 2	STEP 3	STEP 4	STEP 5 (notional)	
🖈 FAVORITES	~	Create Fabric	Device discovery	Assign the roles	Autoconfigure	Assign Telemetry Profiles	
MONITORING	>		-	- -	-	Ŭ	
INFRASTRUCTURE	>	Assign Telemetry Pro	ofiles			Q (C	
OVERLAY	>	NAME	MANAGEMENT IP	ROLE		TELEMETRY PROFILE	
WORKLOADS	>	Leaf1	100.123.13.203	leaf		default-telemetry-profile-2	
IAM	>	Leaf2	100.123.13.204	leaf		default-telemetry-profile-2	
SERVICES	>	Spine1	100.123.13.201	spine		default-telemetry-profile-2	
DEBUG	,	Spine2	100.123.13.202	spine		default-telemetry-profile-2	
DNS	>						
		No items selected					
External applications:	FORMIX	Previous				Cancel	Finish

#### 設定完了を以下の画面でFabricの状態を確認可能

	RAIL MAND	INFRASTRUCTURE	INFRASTRUCTURE > Fabrics > fabric1									ult > 🔁 admin 👻	🛛 📥 admin 👻 🛛 🧿
Q Search		Fabric Devices	Topology View	r	Top N View								
FAVORITES	~	Fabric devices	0	0			1 D C	1 0	Action			Namespaces	
IONITORING	>	STATUS N	AME MANAGE	LOOPBA	VENDOR	PRODUC	ROLE	ROUTING	INTERFA			NAME	VALUE
RASTRUCTURE	>	► 🗌 . ● ACTIVE L	eaf2 100.1	10.25	Juniper	vqfx-1	leaf	CRB-Acc	13		-	management-subnets	100.123.13.0/24 CIDR
RLAY	>	> 🗌 🌒 ACTIVE L	eaf1 100.1	10.25	Juniper	vqfx-1	leaf	CRB-Accx	13		-	loopback-subnets	10.255.0.0/24 CIDR
ADS	>	► O ACTIVE S	pine2 100.1	10.25	Juniper	vqfx-1	spine	CRB-Gate	13		-	overlay_ibgp_asn	64512 ASN
	>							Route-RE				Device Credentials	5
	>	ACTIVE S	pine1 100.1	10.25	Juniper	vqfx-1	spine	Route-Re	13				
	>												
	>												
	>												
ns: 🚔App	FORMIX	No items selected											

#### Job Typeを選択することで、Pushされたconfigを確認可能

	MAND	│ MONITORING → Jobs → Job Details							
Q Search		< Back Device Config Push for fabric1 > Spine1 Abort							
STAVORITES	~	Job Progress							
MONITORING	>								
INFRASTRUCTURE	>	Start         End         Execution ID           04/30/2020 1:32:52 PM         04/30/2020 1:33:08 PM         1588221646448_a240437b-c6f0-4802- 8899-000219374905							
OVERLAY	>								
WORKLOADS	>	Logs							
IAM	>	Starting execution for iob template "fabric config template" and execution id "1588221166448 a2e0d37b-cdf0-4802-8fa9-00201937d905"							
SERVICES	>								
SECURITY	>	Deploying config to device 'Spine1' (it may take a while)							
DEBUG	>	Junos confie nush response for device 'Spinel' \nConfiguration has been: opened. loaded. checked. diffed. committed. closed. \nDiff:							
DNS	>	<pre>instant appart capable for defree opines (nonregarized) in as dean opened) caded, encoded of field committee, coster (north) { edit] + groups { </pre>							
		<pre>+contrail_basic { + snmp { + community public { + authorization read-only; + } + }</pre>							
External applications:	Formix	+ protocols {							

#### Topology View設定1 (NetworkConnection)

※vLABはdevice間でLLDPが通らないため本設定が必要) ToplogyViewを表示せるために、Appformixにて以下の設定を実施

Appformixにloginし、"Network Topology"->"Edit Connections"をクリック Spine1とLeaf1を選択し、Add connectionをクリック



Leaf1側xe-0/0/0, Spine1側xe-0/0/0を選択し、Save



上記を繰り返し、以下の接続になるように設定 spine1(xe-0/0/0) - leaf1(xe-0/0/0) spine1(xe-0/0/1) - leaf2(xe-0/0/0) spine2(xe-0/0/0) - leaf1(xe-0/0/1) spine2(xe-0/0/1) - leaf2(xe-0/0/1)

#### 設定完了後、以下のようにTopologyが表示されることを確認





#### Topology View設定2 (SNMP設定)

AppformixにLoginし、"Setting"を選択

	1iX	Cluster: Infrastruct	ure -		🗘 Ala	arms (0) Online	Search	Q	English 🛊	Light Mode 🛊	≡
Clusters	*	Management In	frastructure							admin ()	
Dashboard	ø	•								Settings	
Charts	Lat	15	$\mathbf{O}$	1	$\mathbf{O}$	6	$\mathbf{O}$			Logout	
		Contrail	15	Glance	1	Heat	ét				
Alarms	•		Good		Good		Good				
Composite Alarms		*		8							
Application Events	≡	1	O	5	0	1	O				
Heat Map	•	Keystone	1 Good	Nova	5 Good	Swift	1 Good				
Plan	_										
rian	-	Physical Infrastr	ucture								
Reports	Đ	0				8					
Chargeback	\$	8	$\mathbf{O}$	3	$\mathbf{O}$	4	$\mathbf{O}$				
Network Topology	di.	Aggregates	8	Hosts	3	Network Devices	4				
			Good		Good		Good				
		Virtual Infrastru	cture								
		•		0							
		4	$\mathbf{O}$	8	$\mathbf{O}$						
Toggle	«	Projects	4	Virtual Networks	8						

#### "NetworkDevice"にて、ContrailCommandでFabricを作成した各 Deviceが表示されていることを確認し、"Edit"をクリック

	ΛiX	Cluster:				🗘 Alarm	s (0) Online	Search	Q	glish 🕯		ight Mode 🕻
Clusters	쓭											
Dashboard	æ		AppFormix Settings	N	etwork Settings							
	LM		Auth Settings		Show Devices: • SNMP JTI gRP		Ounconfigured		+ Add Device E	dit Con	nection	Info
			Services Settings		Search Devices							
Alarms	•		Notification Settings		Network Device Name	Method	Management IP	Interfaces	MIBs	Edit	Copy I	Delete
C	_		SLA Settings		Leaf2	LLDP	100.123.13.204	67 Interfaces	0 MIBs 🖺	٥	IC.	Û
Lomposite Alarms			Charaoback		Spine1	LLDP	100.123.13.201	67 Interfaces	0 MIBs 🗈	٥	ß	0
Application Events			Chargeback		Leaf1	LLDP	100.123.13.203	68 Interfaces	0 MIBs 🗈	٥	В	8
			Oversubscription		Spine2	LLDP	100.123.13.202	67 Interfaces	0 MIBs 🗈	٥	Ю	Û
Heat Map	₹		Plugins									
lan			Network Devices									
			Process Monitoring									
Reports	в		Kafka									
Chargeback	s		API Documentation									
			About									
Network Topology	<b>.</b>											



SNMPを選択し、Next

C	onfigure Net	work Device	×				
Select Sources to Upda	te	Device Info					
SNMP	+	LLDP:	Enabled 🗘				
ITL	+	Chassis Type:	Leaf 🛟				
gRPC	+	Management IP:	100.123.13.204				
NETCONF	+						
Exit			Next				

"MIB Configurations"にて以下のMIBを選択し、Add IF-MIB::ifTable IF-MIB::ifXTable Submitをクリック



各Deviceに同MIBを設定後、以下のように表示されていることを確認

	liX	Cluster:					🗘 Alar	rms (0) Online	Search	Q	nglish		ight Mode.	2 \$
Clusters	쓭													
Dashboard	æ		AppFormix Settings	Net	work Settings									
	Last		Auth Settings Services Settings		Show Devices:	SNMP JTI Devices	gRPC ONETCON	F Unconfigured	I	+ Add Device	Edit Con	nection	Info	
Alarms			Notification Settings		Network Device	Name	Method	Management IP	Interfaces	MIBs	Edit	Copy I	Delete	
	_		SLA Settings		Leaf2		LLDP	100.123.13.204	67 Interfaces	2 MIBs 🖍	٥	IQ.	Û	
Composite Alarms			Chargeback		Spine1		LLDP	100.123.13.201	67 Interfaces	2 MIBs 🖺	٥	ID.	Û	
Application Events			O un subscription		Leaf1		LLDP	100.123.13.203	68 Interfaces	2 MIBs 🖺	٥	Ю	Û	
Heat Map	Ł		Plugins		Spine2		LLDP	100.123.13.202	67 Interfaces	2 MIBs 🖺	0	ю	Û	
Plan	•		Network Devices											
	Ŭ		Process Monitoring											
Reports	Đ		Kafka											
Chargeback	\$		API Documentation											
Network Topology	Å		About											

Contrail CommandにLoginし、TopologyViewが表示されることを確認

	TRAIL	INFRASTRUCTURE  Fabrics  fabric1	û 🛱 Default > 🔁 admin 👻 🕹 admin 👻 🖓
Q Search		Fabric Devices Topology View Top N View	
AVORITES	~	Topology View 📀	Summary
MONITORING	>	Display Bytes/sec V	Date and time
INFRASTRUCTURE	>		Predefined Time Time Range
OVERLAY	>		© Custom time range ∨ © D4/29/202 ~ 04/30/202 □
WORKLOADS	>		40°0 Apr27 Apr30
IAM	>	국는 국논	
SERVICES	>	Spine1 Spine2	Heatmap parameters
SECURITY	>		Source virtual Network
DEBUG	>	Leaf1 Leaf2	Traffic type
DNS	>	8	All
		alo-server	Selected item
			Network Device Host/instance
External applications:	FORMIX	Nodes Spine Leaf 🚱 Host 🞯 Instance	Source interface Destination interface



#### BMS1, BMS2にLoginし、IP, Routeを確認

[root@bms1~]# ifconfig eth1 eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500 inet 192.168.100.10 netmask 255.255.255.0 broadcast 192.168.100.255

[root@bms1 ~]# ip route default via 100.123.0.1 dev eth0 proto static metric 100 100.123.0.0/16 dev eth0 proto kernel scope link src 100.123.34.8 metric 100 192.168.100.0/24 dev eth1 proto kernel scope link src 192.168.100.10 metric 100 192.168.200.0/24 via 192.168.100.1 dev eth1 proto static metric 100

[root@bms2 ~]# ifconfig eth2 eth2: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500 inet 192.168.200.10 netmask 255.255.255.0 broadcast 192.168.200.255

[root@bms2 ~]# ip route default via 100.123.0.1 dev eth0 proto static metric 100 100.123.0.0/16 dev eth0 proto kernel scope link src 100.123.34.9 metric 100 169.254.0.0/16 dev eth2 scope link metric 1004 192.168.100.0/24 via 192.168.200.1 dev eth2 192.168.200.0/24 dev eth2 proto kernel scope link src 192.168.200.10



#### VN作成

Overlay->VirtualNetworksにて、Createをクリックし、以下の2つのVNを作成 web-tier-net: 192.168.100.0/24 for BMS1 app-tier-net: 192.168.200.0/24 for BMS2

	o VERLAY > Virtual Networks > Create Virtual Network 🗘 🕞 Default > 🔁 admin 👻 🖄 admin 👻 🔿		OVERLAY 🔸 Virtual Networks 🔸 Create Virtual Network 🗘 🏾 🔀 Default > 🔁 admin 👻 🖉 Ö
Q Search	Network Tags Permissions	Q Search	Network Tags Permissions
☆ FAVORITES ~	Name* ③	$ ightarrow$ favorites $\sim$	Name* <sup>®</sup>
MONITORING >	web-tier-net	MONITORING >	app-tier-net
INFRASTRUCTURE >	Routed	INFRASTRUCTURE >	Routed
OVERLAY >	Network Policies ③ Select Network Policies ~	OVERLAY >	Network Policies  Select Network Policies
WORKLOADS >	Allocation Mode ③	WORKLOADS >	Allocation Mode ③
IAM >	User defined subnet only	IAM >	User defined subnet only 🛛 👻
SERVICES >	VxLAN Network Identifier © 1 - 16777215	SERVICES >	VxLAN Network Identifier ③ 1 - 16777215
SECURITY >		SECURITY >	
DEBUG >	Subnets Network IPAM* ③ CIDR* ③ Allocation Pools ③ Gateway* ③	DEBUG >	Subnets Network IPAM* ① CIDR* ② Allocation Pools ③ Gateway* ③
DNS >	default-domain:defaul *         192.168.100.0/24         xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	DNS >	default-domain:defaul         192.168.200.0/24         192.168.200.1         192.168.200.1
	Service Address ① VALIDO Gateway ① V DHCP ② DNS ③		Service Address ©
	+ Add		* Add
External	Create Cancel	External	Create Cancel
applications:		applications: APPFORMX	



#### LR作成

以下の通りLogicalRouterを作成 LogicalRouterType: VXLAN Routing Fabric: fabric1

Connected networks: app-tier-net, web-tier-net

#### Monitoring->Jobから以下の設定がPushされていることが確認できる Sample: spine1

edit groups \_\_contrail\_overlay\_evpn\_\_ protocols evpn]

Extended to Physical Router: Spine1, Spine2	+ vni-options { + vni 10 { + vrf-target target:64512:8000010:
Ξ       CONTRAIL COMMAND       OVERLAY       Logical Routers       Create Logical Router       ↓       Image: Default       ↓       B admin       ▼       ⑦         O       Samethy       Samethy	+ } + vni 9 { + vrf-target target:64512:8000009;
Logical Router Tags     MONITORING     NAme* 0     MONITORING     Web2app.Ir     Admin State 0   0 Us   0	<pre>+ } + } [edit groupscontrail_overlay_evpn policy-options] + policy-statementcontrail_web2app-lr_1f4f1b6e-6921-4dfa-a17b-907033d9857b-import { + term t1 { + from community target_64512_8000012; + then accept; + } + } + policy-statementcontrail_web2app-lr_1f4f1b6e-6921-4dfa-a17b-907033d9857b-export { + term t1 { + then { + community add target_64512_8000012; + accept; + } + } + } </pre>

Spine1, Spine2にLoginし、IRBが作成されていることを確認

root@Spine	e1> show interfaces terse irb	
Interface	Admin Link Proto Local Rem	note
irb	up up	
irb.9	up up inet 192.168.100.1/24	
	192.168.100.4/24	
irb.10	up up inet 192.168.200.1/24	
	192.168.200.4/24	
root@Spine	e2> show interfaces terse irb	
Interface	Admin Link Proto Local Rem	note
irb	up up	
irb.9	up up inet 192.168.100.1/24	
	192.168.100.5/24	
irb.10	up up inet 192.168.200.1/24	
	192.168.200.5/24	

#### VPG作成

Overlay->VirtualPortGroupにて、以下の通りBMS1, BMS2用のVPG を作成

BMS1 - (vlan100 untag)(xe-0/0/3)leaf1 BMS2 - (vlan200 untag)(xe-0/0/2)leaf2

	MANE	OVERLAY > Virtual Port Group		🕼   🗃 Default > 🗗 aon. 🔍 a/min 👻   1
Q Search		Virtual Port Group		Q. C. M. Creste
☆ FAVORITES	~	NAME	PHYSICAL INTERFACES	
MONITORING	>			
INFRASTRUCTURE	>			
OVERLAY	>			
WORKLOADS	>			
IAM	>			
SERVICES	>			
SECURITY	>		No data to c	
DEBUG	>			
DNS	>			
External applications:	PFORMIX			



#### VPG作成

Overlay->VirtualPortGroupにて、以下の通りBMS1, BMS2用のVPGを作成 BMS1 - (vlan100 untag)(xe-0/0/3)leaf1 BMS2 - (vlan200 untag)(xe-0/0/2)leaf2

Q Search		Virtual Port Group Name* 💿							
SAVORITES	~	vpg-bms1							
MONITORING	>	Virtual Port Group Type      Laver 2      Routed							
INFRASTRUCTURE	>	Fabric name* ③							
OVERLAY	>	fabric1 ~							
WORKLOADS	>	Available Physical Interface				Assigned Physical	Interface		
IAM	>	Q Search available Physica	l Ir	Add all	<	Q Search ass	igned Physical Ir		Remove all
SERVICES	>	DISPLAY NAME	PHYSICAL ROUTER			DISPLAY NAME		PHYSICAL ROUTER	
SECURITY	>	xe-0/0/7	Spine2			xe-0/0/3		Leaf1	Ĥ
DEBUG	>	xe-0/0/7	Leaf1						
DNS	>	xe-0/0/0	Spine1						
		xe-0/0/5	Spine1						
		xe-0/0/9	Spine2						
			Previous 1 2	3 4 Next					
	IAND	OVERLAY   Virtual Port	Group 🕨 Create Virtual Po	ort Group		ţ	🖨 Default	›‡b_admin ◄	🛛 🛆 admin 👻 🗌
Q Search		DISPLAY NAME	PHYSICAL ROUTER			DISPLAY NAME		PHYSICAL ROUTER	
🛒 FAVORITES	~	xe-0/0/7	Spine2			xe-0/0/3		Leaf1	Û
MONITORING	>	xe-0/0/7	Leaf1						
INFRASTRUCTURE	>	xe-0/0/0	Spinel						
OVERLAY	>	xe-0/0/5	Spinel						
WORKLOADS	>	xe-0/0/9	Spine2						
IAM	>		Previous 1 2	3 4 Next					
SERVICES	>	Security Groups 💿	Port Profile ③						
SECURITY	>	, v		-					
DEBUG	>	VLAN ③							
DNS	>	Network*	VLAN ID* ©	Displa	y Name*	0	-		
		web-tier-net	× 100	vpg	-oms1-1	LUU-untagged	🎴 Auto Displi	ay warne 💿	
		- manufarmaggina 🕖							
		+ Add							

	AIL	OVERLAY   Virtual Port Gr	oup 🕨 Create Virtua	Port Group		¢,	Default 🕞 Default	› 🔁 admin 👻	占 admin 👻 🕇
Q Search	- -	Virtual Port Group Name* ③ vpg-bms2							
MONITORING	>	Virtual Port Group Type							
INFRASTRUCTURE	>	Layer 2     Routed							
OVERLAY	>	fabric1 v							
WORKLOADS	>	Available Physical Interface				Assigned Physical I	nterface		
IAM	>	Q leaf2 ×		Add all	<	Q Search assig	ined Physical Ir		Remove all
SERVICES	>	DISPLAY NAME	PHYSICAL ROUTER			DISPLAY NAME		PHYSICAL ROUTER	
SECURITY	>	xe-0/0/11	Leaf2			xe-0/0/2		Leaf2	Û
DEBUG	>	xe-0/0/0	Leaf2						
	·	xe-0/0/6	Leaf2						
7110	-	xe-0/0/4	Leaf2						
		xe-0/0/5	Leaf2						
Q Search		DISPLAY NAME xe-0/0/11	PHYSICAL ROUTER	>		DISPLAY NAME		PHISICAL ROUTER	â
☆ FAVORITES	~	xe-0/0/11	Leaf2			xe-0/0/2		Leaf2	
MONITORING	>	xe-0/0/0	Leaf2						
INFRASTRUCTURE	>	xe-0/0/6	Leaf2						
OVERLAY	>	xe-0/0/4	Leaf2						
WORKLOADS	>	110 07 03 0							
IAM	>								
SERVICES	>	Security Groups (1)	Port Profile (2)						
SECURITY	>								
DEBUG	>	VLAN ③	VI AN ID*	Directo	o Name	• @			
DNS	>	app-tier-net	<ul> <li>200</li> </ul>	vpg	-bms2-	-200-untagged	🛃 Auto Display	Name 💿	Û
		<ul> <li>✓ Native/untagged ③</li> <li>+ Add</li> </ul>							
External applications:	PFORMOX	Create Cancel							

#### Monitoring->Jobから以下の設定がPushされていることが確認できる Sample: leaf1

[edit groups _	_contrail_	_overlay_	evpn	protocols evpn]
I sunt audiau	- (			

- + vni-options {
- + vni 9 {
- + vrf-target target:64512:8000009;
- +
- + }

[edit groups \_\_contrail\_overlay\_evpn\_\_ policy-options]

- + policy-statement \_contrail\_web-tier-net-I2-9-import {
- + term t1 {
- + from community target\_64512\_8000009;
- + then accept;
- +
- + }

+ -----

Job summary: Job execution completed successfully.Detailed job results: Successfully completed job for 1 devices.

#### BMS1にLoginし、BMS2との疎通確認

[root@bms1 ~]# ping 192.168.200.10 PING 192.168.200.10 (192.168.200.10) 56(84) bytes of data. 64 bytes from 192.168.200.10: icmp\_seq=1 ttl=63 time=119 ms 64 bytes from 192.168.200.10: icmp\_seq=2 ttl=63 time=205 ms 64 bytes from 192.168.200.10: icmp\_seq=3 ttl=63 time=121 ms

#### Contrail CommandにてBMSの接続が確認可能 vLABではTelemetryがうまく動作しないため、Traffic流量の確認は不可

JUNIPEI

	MAND	INFRASTRUCTURE   Fabrics   fabric1	¢,	│ 🗃 Default → 🔁 admin 🔹 │ Å admin 👻 │ (
Q Search		Fabric Devices Topology View Top N View		
🖈 FAVORITES	~	Topology View 📀		Summary
MONITORING	>	Display Bytes/sec v		Date and time
INFRASTRUCTURE	>		C	Predefined Time Range
OVERLAY	>			Custom time range V 0 04/30/202 ~ 05/01/202
WORKLOADS	>			Apr 28 May 01
IAM	>	국는 국는	e	Notes and the second seco
SERVICES	>	Spine1 Spine2	0	neatmap parameters
SECURITY	>		0 Bytes/sec	Source Virtual Network           Virtual Network         Virtual Network
DEBUG	>	Leaf2 Leaf2		Traffic type
DNS	>			All
		alo-server bms_vpg_v bms_vpg_v		Selected item
				Network Device Host/instance
		- Legend	0 Bytes/sec	Source Interface Destination Interface
External	PFORMIX	Nodes Spine Leaf 🕃 Host 🗊 Instance		× × ÷

#### \*vLAB環境だと動作しない。セットアップオペレーションのみ

OpenStack準備 以下からCirrOSをDownload <u>http://download.cirros-cloud.net/0.5.1/cirros-0.5.1-x86\_64-disk.img</u>

🔁 openstack. 🛛 📼 ad	dmin 🔻								👗 admin 👻	🖸 openstack. 📼 admin	Create Image			3	×
Project >	Admir	in / Compute / Image	35							Project >	Image Details	Image Details			0
Overview	Ima	ages								Överview	Metadata	Specify an image to upload to the Image Service. Image Name cirros	Image Description		
Compute V Hypervisors	Q 0	Click here for filters.						× Create	Image Delete Images	Compute 🗸 Hypervisors		Image Source			Create Image
Host Aggregates Instances	Display	ying 0 items Owner	Name *	Туре	Status	Visibility	Protected	Disk Format	Size	Host Aggregates		Source Type File			Size
Flavors	Display	ying 0 items				No items to display.				Flavors		File			
Network >										Images		Browse cirros-0.5.1-x86_64-disk.img			
System >										System >		Format <sup>®</sup> Raw \$			
										Identity >		Image Requirements	Damdiek		
												Choose an image	Choose an image	:	•
												Architecture	Minimum Disk (GB)	Minimum RAM (MB)	
												Image Sharing			
												Visibility Public Private	Yes No		

#### Flavor作成

Admin->Compute->Flavorsにて、以下の通りFlavorを作成

opensta	ack. 📼 adr	nin 🕶										🛔 admin 👻
Project	>	Admin / Compute / F	lavors									
Admin	~											
	Overview	Flavors										
Compu	te 🗸											
	Hypervisors								F	ilter	Q	+ Create Flavor
н	ost Aggregates	Flavor Name	VCPUs	RAM	Root Disk	Ephemeral Disk	Swap Disk	RX/TX factor	ID	Public	Metadata	Actions
	Instances					No item	ns to display.					
	Images											
Networ	k 🔉											
System	>											
Identity	>											

Create Flavor			×
Flavor Information *	Flavor Access		
Name *			Flavors define the sizes for RAM disk number of cores
cirros			and other resources and can be selected when users deploy instances
ID 😧			
auto			
VCPUs *			
1		▲ ▼	
RAM (MB) *			
1024		▲ ▼	
Root Disk (GB) *			
5		* *	
Ephemeral Disk (GB)			
0		* *	
Swap Disk (MB)			
0		* *	
RX/TX Factor			
1		*	
			Cancel Create Flavor

Hypervisor有効化 Admin->Compute->Hypervisors->ComputeHostにてaio-serverをEnable Network確認 Project->Network->Networksにて、Demo2で作成したSubnetが OpenStack側にも反映されていることを確認

💼 openstack. 📼 admi	in <del>v</del>					👗 admin 👻	openstack.	🔳 adm	nin 🔻							🛓 admin 👻
Project >	Admin / Compute / All H	lypervisors					Project	~	Project / Network / Net	works						
Admin V	All Hypervis	sors					API	Access	Networks							
Compute 🗸							Network	~								
Hypervisors	Hypervisor Sum	mary					Network T	opology			Name = 🕶			Filter	+ Create Network	🛍 Delete Networks
Host Aggregates							N	etworks	Displaying 4 items							
Instances								Routers	Name	Subnets Associated		Shared	External	Status	Admin State	Actions
Flavors	v	CPU Usage	Memory	y Usage		Local Disk Usage	Security	Groups	LR::master-LR			No	No	Active	UP	Edit Network 🝷
Images		Used 0 of 0	Used 0Byte	es of 0Bytes		Used 0Bytes of 0Bytes	Floa	ting IPs	LR::web2app-Ir			No	No	Active	UP	Edit Network 💌
Network >	Hypervisor Comp	ute Host					Orchestration	Trunks	app-tier-net	b44a34d9-4b3a-42ac-b816-e9b61d78ade5 192.168.200.0/24		No	No	Active	UP	Edit Network 💌
Identity >	Displaying 1 item					Filter Q	Object Store	>	web-tier-net	f89cd342-7cf6-42a0-8b9d-7739f7a4401c 192.168.100.0/24		No	No	Active	UP	Edit Network 💌
	Host	Availability zone	Status	State	Time since update	Actions	Admin	>	Displaying 4 items							
	aio-server	nova	Disabled	Up	0 minutes	Enable Service 💌	Identity	>								
	Displaying 1 item															



#### Instance作成 Project->Compute->Instancesにて、Launch Instancesをクリック

openstac	k. 📼 adr	nin 🕶											🛔 admin
Project	~	Project / Compute / Ins	tances										
Compute	API Access	Instances											
	Overview Instances								Instance ID =	•		Filter	A Launch Instance
	Images	Instance Name	Image Name	IP Address	Flavor	Key Pair	Status	Availat	oility Zone	Task	Power State	Time since crea	ted Actions
	Key Pairs						No items to	display.					
Network	>												
Orchestratio	n <b>&gt;</b>												
Object Store	, <b>,</b>												
Admin	>												
Identity	>												

Details	Please provide the initial hostname for the instance, the av count. Increase the Count to create multiple instances with	ailability zone where it will be deployed, and the instance on the same settings.
Source *	Instance Name *	Total Instances
Flavor *	vm1	(TO MAX)
Networks *	Description	10%
Network Ports	Availability Zone	0 Current Usage
ecurity Groups	There are no Availability Zones.	9 Remaining
ey Pair		
onfiguration	Count *	
erver Groups		
heduler Hints		
letadata		
Cancel		(Back Next)



#### Uploadした cirros imageを選択

Details	Instance source (image snapsho	is the template used to creat t), a volume or a volume snap	e an instance. You can oshot (if enabled). You c	use an image, a s an also choose to	anapshot of an inst o use persistent sto	ance brage by
Source	creating a new Select Boot So	volume. urce				
Flavor *	Image		*			
Networks *	Allocated					
Network Ports	Name	Updated	Size	Туре	Visibility	
Security Groups	> cirros	5/1/20 10:58 AM	15.58 MB	raw	Public	*
Key Pair	✓ Available	0				Select of
Configuration	Q Click he	re for filters.				
Server Groups	Name	Updated	Size	Туре	Visibility	
Scheduler Hints			No available items			
Metadata						

#### 作成した cirros flavorを選択

etails	Flavors manag Allocated	ge the sizing t	for the com	pute, memory and	d storage capacit	y of the instance.		
burce	Name	VCPUS	RAM	Total Disk	Root Disk	Ephemeral Disk	Public	
ivor	> cirros	1	1 GB	5 GB	5 GB	0 GB	Yes	¥
works *	✓ Availabl	e 🕜						
work Ports	Q Click h	ere for filters						select one
urity Groups	Name	VCPUS	RAM	Total Disk	Root Disk	Ephemeral Disk	Publi	ic
Pair								
figuration								
ver Groups								
eduler Hints								

× Cancel

< Back

Next > 🔷 Launch Instance

× Cancel

#### InstanceのSubnetとして、web-tier-netを指定し、Launch Instance

Launch Instance			ж
Details	Networks provide the communication channels for instances in the cloud	J.	0
Source		Select networks from	n those listed below.
Flavor	Network         Subnets Associated           ◆1         > web-tier-net         f89cd342-7cf6-42a0-8b9d-7739f7a4401c	Shared Admin State	Active
Networks			
Network Ports	✓ Available 1	Select	at least one network
Security Groups	Q Click here for filters.		×
Key Pair	Network Subnets Associated Shar	red Admin State	Status
Configuration	> app-tier-net b44a34d9-4b3a-42ac-b816-e9b61d78ade5 No	Up	Active <b>↑</b>
Server Groups			
Scheduler Hints			
Metadata			
X Cancel		< Back Next >	Launch Instance



# Thank you

JUNIPE ...

**Engineering** Simplicity