Peering de rutas L4-L7 con entramado de tránsito - Tutorial sobre configuración

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Introducción

Este documento describe el tutorial de configuración del Gráfico de servicio L4-L7 con Peering de Rutas, donde tanto el consumidor como el proveedor son externos al fabric de Application Centric Infrastructure (ACI).

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Prerequisites

Requirements

Cisco recomienda que tenga conocimiento sobre estos temas:

- Agrupaciones de VLAN estáticas que se utilizarán para la VLAN de encapsulación entre los dispositivos externos y el fabric ACI
- Dominios físicos y enrutados externos que unirán la ubicación (nodo de hoja/ruta) de los dispositivos externos y el conjunto de VLAN
- Conexión de capa 3 a una red externa (L3Out)

Los pasos anteriores de las configuraciones **Fabric Access** y **L3Out** no se tratan en este documento y se supone que ya se han completado.

Componentes Utilizados

La información que contiene este documento se basa en estas versiones de software:

- Cisco Application Policy Infrastructure Controller (Cisco APIC) 1,2(1 m)
- Paquete de dispositivos Adaptive Security Appliance (ASA) 1.2.4.8
- ASA 5585 9.5(1)
- Nexus 3064 6.0(2)U3(7)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Antecedentes

El emparejamiento de rutas es una función que permite a un dispositivo de servicio, como un equilibrador de carga o un firewall, anunciar su alcance a través del fabric de ACI hasta llegar a una red externa.

El caso práctico que se presenta aquí es un firewall físico que se implementa como un gráfico de servicios de dos brazos, entre dos grupos de terminales (EPG) o L3Outs externos. El Gráfico de servicio está asociado a un contrato entre el EPG externo en la hoja 101 (N3K-1) y el EPG externo en la hoja 102 (N3K-2). El fabric ACI proporciona un servicio de tránsito para los routers (N3K-1 y N3K-2) y se utiliza el Peering de rutas, con Open Shortest Path First (OSPF) como protocolo de routing, para intercambiar rutas entre el firewall y el fabric ACI.

Configurar

Diagrama de la red

La siguiente imagen muestra cómo funciona Route Peering de extremo a extremo:



VRF1 / BD1			VRF2 / BD2
EXTERNAL-EPG	EXTERNAL	INTERNAL	INTERNAL EXTERNAL-EPG
N3K-1 L3OUT	L3OUT EXTERNAL	ASA INTERNAL L3OUT	L3OUT N3K-2
10.10.10.0/24 192.168.1.0/30	192.168.1.4/30	.10 192.168.1.8/30	.14 192.168.1.12/30 20.20.20.0/24
ping 20.20.20.1 source 10.10.10.1			

Configurar

Paso 1. Configure el routing y reenvío virtual1 (VRF1), VRF2, Bridge Domain1 (BD1) y BD2. Asocie BD1 a VRF1 y BD2 a VRF2, como se muestra en la imagen:



Paso 2. Cargue el paquete de dispositivos ASA en Dispositivo L4-L7, como se muestra en la imagen, :



Configure el dispositivo L4-L7 para el ASA 5585 físico (enrutado), como se muestra en la imagen:

alialia cisco									ρ		W
		earch: enter name, descr	common T1 infra								
Tenant T1		Sector 10	14-17 Devices	- 4545595							
💼 Quick Star	t		LT-L/ Devices	- A0A0000							
🔺 🚢 Tenant T1										Policy Parameters	Fa
🕨 🖿 Applica	ation Profiles										
🔺 🚞 Netwo	rking										
🕨 🖿 Brid	ige Domains		General		1	Device 1					
🕨 🖿 VRI	s		Manag	ied: 🗹	i	Management IP Address:	172.23.97.1	Management Port: 443	±		
🕨 💼 Ext	ernal Bridged Networks		Na	me: ASA5585		Chassis:	select a value	- (P			
🕨 💼 Ext	ernal Routed Networks		Device Packa	ige: CISCO-ASA-1.2		Interfaces:					
🕨 🖿 Roi	ute Profiles		Service Ty	/pe: Firewall							
🕨 🖿 Pro	tocol Policies		Device Ty	pe: PHYSICAL			▲ Name		Path		
🔲 L4-L7 :	Service Parameters		Physical Doma	ain: T1_PHY	<u>-</u> C		GigabitEthernet0/0		Node-105/eth1/2		
🔺 🖿 Securi	ty Policies		Context Awa	are: Single			GigabitEthernet0/1		Node-106/eth1/2		
🕨 🖿 Cor	ntracts		Function Ty	/pe: GoThrough GoTo							
🕨 🖿 Tak	ioo Contracts		Cluster Mr	ide: Single Node	-						
🕨 🖿 Imp	orted Contracts		Cidoler Me	de. bilgie libite		Cluster					
🕨 🖿 Filb	ers		Credentials		1	Management IP Address:	172.23.96.228	Management Port: 443	\$		
🕨 🖿 Troubl	eshoot Policies		Usernar	me: admin		Device Manager:	172.23.97.1	- ⊕			
🕨 💼 Monito	ring Policies		Passwo	ord:		Cluster Interfaces:					
🔺 💼 L4-L7	Services		Confirm Passwo	ord:							
🕨 🖿 L4-	L7 Service Graph Templates				_		Туре	 Name 	Concrete Interfaces		
🕨 🚞 Roi	uter configurations		Configuration	State			provider	inside	ASA5585_Device_1/[G	igabitEthernet0/1]	
🕨 🚞 Fur	iction Profiles		Configuration Issu	ies:			aanaumar	outoide	ASA5585_Device_1/[G	igabitEthernet0/0]	
🔺 💼 L4-	L7 Devices		Devices St	ate: stable			consumer	outside			
> 12	ASA5585										
🕨 🖿 Imp	orted Devices										
🕨 💼 Der	vices Selection Policies										

Paso 3. Configure L3Out para N3K-1 y asocie con BD1 y VRF1.

La red enrutada externa se utiliza para especificar la configuración de ruteo en el fabric ACI para el peering de rutas, como se muestra en la imagen:

ululu cisco				VM Networking	L4-L7 Services	Admin	Operations
		earch: enter name, descr	common infra mgmt T1				
Tenant T1		 O 	1.2 Outside March	1.12017			
🔲 Quick Start			Lo Outside - NoK-	1_13001			
🔺 🐣 Tenant T1							
🕨 🖿 Applicatio	n Profiles						
🔺 🖿 Networkii	Ig						
🕨 🖿 Bridge	Domains		⊖±				Δ \Lambda 🕕 🕕
🕨 🖿 VRFs			Properties				
🕨 🚞 Extern	al Bridged Networks		Name	• N3K-1 30UT			
🔺 🖿 Extern	al Routed Networks		Description	p: optional			
🕨 💻 Se	Action Rule Profiles		2.50019401				
▶ 💻 Ma	tch Action Rule Profiles		Taga	1			
▶ 🗠 AS.	A_IN_L3OUT		- age	enter tags separated by	comma		
P CD AS			Labe	I:			
 R N3 R N3 	K-2 L30UT		Target DSCF	: unspecified			
Route	Profiles		Route Control Enforcemen	t: 🔲 Import	🗹 Export		
Protoc	ol Policies		VRF	T1/VRF1	▼ 1⊡		
🔲 L4-L7 Sei	vice Parameters		Received V/PI	TIADE1			
🕨 🖿 Security F	olicies		External Routed Domain	: T1_L3OUT	→ (3)		
🕨 🖿 Troublest	noot Policies		 Route Profile for Interleal 	c select a value	U		
🕨 🖿 Monitorin	Policies		Route Control For Domoning		U		
🕨 🖿 L4-L7 Se	vices		Roate Control For Dampening	g.			
				 Address Family T 	уре		
							No item
							Select Actio
			Enable BOB/EIODB/00D				
			Enable BOP/EIGRP/USP		EIGRP		
			OSPE Area II	0.001			
			OPPE Area Contra	l: 🔽 Open al an alight the start			
			USPF Area Contro	 Send redistributed Originate summa 	i LSAS INTO NSSA area ny LSA		
				Suppress forward	ling address in translated LSA		
			OSPF Area Type	: NSSA area Re	gular area Stub area		
			OSPF Area Cos	:: 1	\$		

Nota: Todas las interfaces L3Out que se utilizan para el Peering de Rutas deben configurarse como una Interfaz Virtual de Switch (SVI) con VLAN ENCAP en consecuencia.

cisco										A web
		arch: enter name, descr	common infra mgmt T1							
Tenant T1		 Ø 	Logical Interface Decfi	a N2K 4 JD						
💼 Quick Start			Logical Interface Profil	e - NSK-T_IP						
🔺 🐣 Tenant T1										Policy Fault
🕨 🖿 Application	n Profiles									
🔺 🚞 Networkin	9									
🕨 🖿 Bridge	Domains		Properties							
VRFs			Nam	ie: N3K-1_IP						
Externa	al Bridged Networks		Descriptio	n: optional						
🔺 🚞 Extern	al Routed Networks									
🕨 🖿 Set	Action Rule Profiles		Labe	el:						
🕨 🖿 Mat	ch Action Rule Profiles		ND polic	y: select a value	.					
▶ 🕾 ASA	LIN_L3OUT		Egress Data Plane Policing Polic	y: select a value	•					
▶ 🕾 AS/	LOUT_L3OUT		Ingress Data Plane Policing Polic	v: select a value	-					
4 🕮 N3I	K-1_L30UT		Devited Interfere							
A	Logical Node Profiles		Routed Interface	18.						
_ ▲ 1	N3K-1_NP			A Path		IP Address	MAC	Address	MTU (Bytes)	
-	Logical Interface Profiles						No items have been fi	sund.		
	N3K-1_IP						Select Actions to create a	new item.		
	OSPF Interface Profile									
1	 Contigured Nodes Contigured Nodes 									
	ropology/pod-1/node-105		5	vi:						
	Pouto Profileo			A Path	IP Address	Side A IP	Side B IP	MAC Address	MTU (Bytes)	Encap
► 🖨 N2	K-2 L20LIT			Node-105/eth1/3	192 168 1 2/30			00:22'BD:E8:19:FE	1500	vlan-100
Route	Profiles									
Protoc	ol Policies									
L4-L7 Ser	vice Parameters									
Security P	olicies		Routed Sub-Interface	IS:						
Troublesh	oot Policies			. Death	ID Address		MAC Address	MTU (Roters)	F	
Monitoring	Policies			- F800	IP Address		WAG AUGRESS	MIU (Bytes)	t	ncap
▶ 💼 L4-L7 Ser	vices						No items have been fi Select Actions to create a	ound. new item.		
1										

Configure el control de ruta de importación/exportación en subredes para N3K-1 L3Out External EPG, como se muestra en la imagen:

ululu cisco								Q
		arch: enter name, descr	common infra mgmt					
Tenant T1		S 0	External Network	Instance Profile	- N3K-1 EXT NET			
🔲 Quick Start			External Network	motanee Frome				
🔺 🐣 Tenant T1								Policy Operatic
🕨 🖿 Applicatio	on Profiles							Coperal
🔺 🚞 Networkii	ng							Contrai
🕨 🖿 Bridge	e Domains		ੇ±				A 🚺 🕕 100	
VRFs			Properties					
🕨 🖿 Extern	al Bridged Networks		Name	N3K.1 EXT NET				
🔺 🖿 Extern	al Routed Networks		Tags:	18	•			
▶ 🖿 Se	t Action Rule Profiles			enter tags separated by comm	9			
🕨 🔲 Ma	tch Action Rule Profiles		Description:	optional				
▶ 68 AS	A_IN_L3OUT							
▶ 🖽 AS	A_OUT_L3OUT		Configued VRF name:	VRF1				
▲ GB N3	3K-1_L30UT		Resolved VRF:	uni/tn-T1/ctx-VRF1				
4 🔳	Logical Node Profiles		QoS Class:	Unspecified 🗸				
1	N3K-1_NP		Target DSCP:	unspecified				
	Logical Interface Profiles		Configuration Status:	applied				
	N3K-1_IP		Configuration Issues:					
	Configured Nodes		Subnets:					
	topology/pod-1/node-105		4					
	Networks			 IP Address 	Scope		Aggregate	Route Control Profile
<u> </u>	I 4.17 Service Parameters			10.10.10.0/24	External Subn	iets for the External EPG		
	Route Profiles			20.20.20.0/24	Export Route (Control Subnet		
▶ 🖨 N3	RG2 130UT							
Route	Profiles							
Protoc	col Policies		Route Control Profile:					
🖿 L4-L7 Se	rvice Parameters			 Name 			Di	rection
🕨 🚞 Security F	Policies						Ale been been be	(
🕨 🖿 Troublesi	hoot Policies						Select Actions to crea	ite a new item.
🕨 🖿 Monitorin	g Policies							

Configure L3Out para la Interfaz Externa ASA y asocie con BD1 y VRF1, como se muestra en la imagen:

CISCO System Tenants			L4-L7 Services	Admin	Operations	ρ
ALL TENANTS Add Tenant Search: enter name, descr	common T1 infra mgmt					
Tenant T1 🛛 🐼 🖸	L3 Outside - ASA_	OUT_L3OUT				
Application Profiles Metworking Metworking Bridge Domains	€					
The VRFs The External Bridged Networks The External Routed Networks	Properties	ASA_OUT_L3OUT				
Set Action Rule Profiles Match Action Rule Profiles GA ASA IN LOUT	Description Tags	optional				
ASA_OUT_LSOUT Logical Node Profiles Metworks	Label Target DSCP	enter tags separated by co unspecified	omma			
	Route Control Enforcement	T1/VRF1	 ✓ Export 			
	Resolved VRF External Routed Domain: Route Profile for Interleak	T1/VRF1 T1_L3OUT select a value	 ✓ 면 ✓ 면 			
Let / Service Falameters Market Service Falameters	Route Control For Dampening	 Address Family Typ 	e		Route Dampening Policy	
 Monitoring Policies L4-L7 Services 					No items have been found. Select Actions to create a new Rem.	
	Enable BGP/EIGRP/OSPF	BGP Ø OSPF	EIGRP			
	OSPF Area D	 Send redistributed I Originate summary Suppress forwardin 	_SAs into NSSA area LSA g address in translated LSA			
	OSPF Area Type OSPF Area Cost	NSSA area Reg	ular area Stub area			

uluih cisco	System	Tenants	Fabric VM P	Vetworking	L4-L7 Services	Admin	Operations	Q	i	Adv. welcor
		arch: enter name, descr	I common T1 infra mgmt							
Tenant T1		S 🔊	Logical Interface Drafi		. 10					
💼 Quick Start			Logical Interface Profil	e-ASA_001	_16					
🔺 🐣 Tenant T1										Policy Faults
🕨 🖿 Application	I Profiles									
🔺 🚞 Networkin	g									
🕨 🖿 Bridge	Domains		Properties							
🕨 🖿 VRFs			Nam	ie: ASA_OUT_IP						
🕨 🖿 Externa	l Bridged Networks		Descriptio	in; optional						
🔺 💼 Externa	I Routed Networks									
🕨 🖿 Set	Action Rule Profiles		Lab	el:						
🕨 🖿 Mat	ch Action Rule Profiles		ND polic	x select a value	•					
🕨 🕾 ASA	_IN_L3OUT		Foress Data Plane Policing Polic	v select a value						
🖌 🕀 ASI	_OUT_L3OUT		Ingroup Data Diago Deliging Delig							
A 🖬	ogical Node Profiles		ingless Data Hate Policing Polic	y. select a value	• •					
∡ [ASA_OUT_NP		Routed Interface	IS:						
	📫 🛄 Logical Interface Profiles			 Path 		IP Address	MAG	C Address	MTU (Bytes)	
	ASA_OUT_IP						No house house house	Sec. and		
	📃 OSPF Interface Profile						Select Actions to create	a new item.		
	Configured Nodes									
	Iconology/pod-1/node-105		•							
	BGP for VRF-T1.VRF1		s	VI:						
	OSPE for VRF-T1:VRF1									_
> 1	Networks			 Path 	IP Address	Side A IP	Side 8 IP	MAC Address	MTU (Bytes)	Елсар
> •	Route Profiles			Node-105/eth1/2	192.168.1.6/30)		00:22:8D:F8:19:FF	1500	vlan-101
▶ 🖽 N3i	01_L30UT									
▶ 🖽 N3I	62_L3OUT									
🕨 🔲 Route	Profiles		Pouted Sub-Interface	10°						
Protoc	ol Policies		Rouled Sub-Intellace							
L4-L7 Ser	rice Parameters			 Path 	IP	Address	MAC Address	MTU (Bytea)	En	cap
Security P	blicies						No items have been	r found.		
Troublesh	oot Policies						Select Actions to create	a new item.		
Monitoring	Policies									
L4-L7 Ser	rices									

Configure el control de ruta de importación/exportación en subredes para el EPG externo de salida L3externo de ASA, como se muestra en la imagen:

ululu cisco								Q	i
		Search: enter name, descr	common T1 infra mg						
Tenant T1		< O	External Network	Instance Profile		NET			
🔲 Quick Start			External Network	instance Frome	- AGA_001_EX1_	Turn (_	
🔺 🐣 Tenant T1								Policy	Operational Stats
🕨 🖿 Application P	Profiles								Contracto
🔺 🚞 Networking									Contracts
🕨 🖿 Bridge Do	omains		₽₹				Δ 🚺 🕕 100		
🕨 🖿 VRFs			Properties						
🕨 🚞 External E	Bridged Networks		Name	ASA OUT EXT NET					
🔺 🚞 External F	Routed Networks		Tags:	HOR_OUT_EXT_RET					
🕨 🚞 Set Ac	tion Rule Profiles			enter tags separated by comm	18				
🕨 🚞 Match	Action Rule Profiles		Description:	optional					
🕨 🕾 ASA_II	IN_L3OUT								
🔺 🕾 ASA_(OUT_L3OUT		Configued VRF name:	VRF1					
Lor	gical Node Profiles		Resolved VRF:	uni/tn-T1/ctx-VRF1					
🔺 🛄 Ne	etworks		QoS Class:	Unspecified 🗸					
⊿ Ц.	ASA_OUT_EXT_NET		Target DSCP:	unspecified					
	L4-L7 Service Parameters		Configuration Status:	annlied					
▶ 🖿 Ro	oute Profiles		Configuration Issues:	applica					
▶ 🗠 N3K-1	1_L30UT		Subnets:						
▶ 🖽 N3K-2	2_L30UT		1						
Route Pro	ofiles			 IP Address 	Scope		Aggregate	Route Control Profile	Route Summa
Protocol F	Policies			10.10.10.0/24	Export Rout Shared Rou	te Control Subnet ute Control Subnet			
L4-L7 Service	e Parameters			20.20.20.0/24	External Su	bnets for the External EPG			
Security Polic	cies				Shared Rol	ute control aubhet			
r Troubleshoo	at Molicies								
Monitoring Po	Olicies		Route Control Profile:						
r 🔲 L4-L/ Servici	ies								
				 rváme 			Directi	1011	
							No items have been fo Select Actions to create au	pund.	
	OUT_LOUT gica Node Profiles works ASA_OUT_EXT_NET L4-L7 Service Parameters UL-L3OUT 2_L3OUT offices a Parameters cies a Parameters cies folicies tes		Configued VRF name: Resolved VRF: Qos Class: Target DSCP: Configuration Issues: Subnets:	VRF1 unith_T1/cbs_VRF1 Unspecified applied	Scope Export Rout Shared Rou Shared Rou	le Control Subnet Jac Control Subnet Indes for the Sedemai EPO de Control Subnet	Aggregate Direct No tens have been fo Select Actions to create a t	Route Control Profile	Route :

Configure L3out para ASA-Internal y asóciese a BD2 y VRF2, como se muestra en la imagen:

ululu cisco								ρ
		arch: enter name, descr	I common T1 infra mgm					
Tenant T1		S 🖻	1.2 Outoida ACA					
💼 Quick Start			L5 Outside - ASA_	IN_L3001				
🔺 🐣 Tenant T1								
🕨 🖿 Applicatio	on Profiles							
🔺 💼 Networki	ng							
🕨 🖿 Bridge	e Domains		⊖±			⚠ ▲ 🕕 🕕		
🕨 🖿 VRFs			Properties					
🕨 🖿 Extern	nal Bridged Networks		Nam	e ASA IN L'OUT				
🔺 🛄 Extern	nal Routed Networks		Description	n: optional				
Se	t Action Rule Profiles							
Ma	atch Action Rule Profiles		Taga	s: 1 🔊	-			
- C A3	A_IN_L3001			enter taga separated by o	omma			
•	ASA IN NP		Labe	d:				
)	Networks		Target DSCF	^o : unspecified	_			
► =	Route Profiles		Route Control Enforcemen	it: 🔲 Import	🗹 Export			
🕨 🕒 AS	A_OUT_L3OUT		VR	F: T1/VRF2	. •			
🕨 🕾 N3	3K-1_L30UT		Resolved VR	E: T1//RE2				
🕨 🕾 N3	3K-2_L3OUT		External Routed Domain	n: T1_L3OUT	→ (P)			
🕨 🖿 Route	Profiles		Route Profile for Interleal	k: select a value	 ₽			
🕨 💻 Proto	col Policies		Route Control For Dampenin	a:				
L4-L7 Se	rvice Parameters							
Security F	Policies			 Address Family Ty 	pe	Ri	oute Dampening Policy	
Iroublesi	noot Policies In Rolicies					No items have be Select Actions to crea	en found. te a peur item	
Monitorini 1 4-1 7 Se	nires							
			Enable BGP/EIGRP/OSPI	F: 🔲 BGP	EIGRP			
				OSPF				
			OSPF Area ID	D: 0				
			OSPF Area Contro	ol: 🗹 Send redistributed	LSAs into NSSA area			
				Originate summan	LSA			
				uppress torwardi	ig address in translated LSA			
			OSPF Area Typ	e: NSSA area Reg	ular area Stub area			
			OSPF Area Cos	t: 0	\$			

ululu cisco	System	Tenants	Fabric VN	I Networking	L4-L7 Services	Admin	Operations	Q	i		Advanced Mo welcome, admir
		rch: enter name, descr	common T1 infra mgmt								
Tenant T1			Logical Interface Dre		ID						
💼 Quick Start			Logical Internace FIO	IIIe - ASA_IN_							
🔺 🚢 Tenant T1										Policy	Faults Histo
🕨 🖿 Applicatio	n Profiles										ACTIONS +
🔺 🚞 Networkin	ig.										ACTIONS -
🕨 🖿 Bridge	Domains		Properties								
🕨 🚞 VRFs			Na	ame: ASA_IN_IP							
🕨 🚞 Eidemi	al Bridged Networks		Descrip	tion: optional							
🔺 🚞 Extern	al Routed Networks										
🕨 🖿 Set	Action Rule Profiles		La	ibel:							
▶ 🛄 Mat	ich Action Rule Profiles		ND po	licy: select a value	*						
🔺 🙆 ASi	A_IN_L3OUT		Egress Data Plane Policing Po	licy: select a value	-						
4 🗖	Logical Node Profiles		Ingress Data Plane Policing Po	licy: select a value	•						
4	ASA_IN_NP		Pouted Interfs								
	Logical Interface Profiles		induced mene								× +
				A Path		IP Address	MAC	Addreas	MTU (Bytea)		
	USPF Interface Profile						No items have been	found.			
	 Conligured Nodes tapplomipod 1/pada 106 						Select Actions to create	a new item.			
k 🖿	Matworke										
	Poute Profiles										
▶ ⊕ asi				SVI:							× +
▶ 🕮 N3	K-1 L30UT			A Path	IP Address	Side A IP	Side B IP	MAC Address	MTU (Bytes)	Encap	
▶ 🙆 N3	K-2 L30UT			Node-106/eth1/	192.168.1.10/	30		00:22:8D:F8:19:FF	1500	vlan-102	
🕨 🚞 Route	Profiles										
🕨 🚞 Protoc	ol Policies										
🖿 L4-L7 Ser	vice Parameters										
🕨 🖿 Security P	olicies		Routed Sub-Interfa	ices:							× +
🕨 🖿 Troublesh	root Policies			 Path 	IP	Address	MAC Address	MTU (Bytes)	Encar		
🕨 🚞 Monitoring	Policies										
🕨 🖿 L4-L7 Ser	vices						No items have been Select Actions to create	tound. a new item.			

Configure el control de ruta de importación/exportación en subredes para el EPG externo de salida L3de ASA, como se muestra en la imagen:

uluilu cisco								Q
		nch: enter name, descr	common T1 infra mg					
Tenant T1		 O 	External Network	Instance Profile	- ASA IN EXT N	<u></u>		
💼 Quick Start			LAGINATIVELWOIK	instance Frome				
🔺 🐣 Tenant T1								Policy Ope
🕨 🖿 Applicatio	on Profiles							Conners
🔺 🚞 Networki	ng							Genera
🕨 🚞 Bridge	e Domains		₽₹				Δ 🛕 🕕 🕕 100	
VRFs			Properties					
🕨 🖿 Extern	nal Bridged Networks		Name:	ASA IN EXT NET				
4 Extern	nal Routed Networks		Tags:		•			
> Se	t Action Rule Profiles			enter taga separated by comma				
Ma	atch Action Rule Profiles		Description:	optional				
	IA_IN_L3UUT							
	Logical Node Frontes		Configued VRF name:	VRF2				
	ASA IN EXT NET		Resolved VRF:	uni/tn-T1/ctx-VRF2				
	Route Profiles		QoS Class:	Unspecified -				
► 🕾 AS	A OUT LIGUT		Target DSCP:	unspecified				
▶ 🕾 N3	=		Configuration Status:	applied				
▶ 🕾 N3			Configuration Issues:					
🕨 🖿 Route	Profiles		 Subnets: 					
🕨 🖿 Protoc	col Policies			 IP Address 	Scope		Aggregate	Route Control Profile
🖿 L4-L7 Se	rvice Parameters			10.10.10.0/24	External Sub	onets for the External EPG		
🕨 🚞 Security F	Policies			20 20 20 0/24	Export Rout	e Control Subnet	1	
Troublesi	hoot Policies			20.20.20.0/24	Shared Rou	ite Control Subnet		
🕨 🥅 Monitorin	g Policies							
▶ 🔲 L4-L7 Se	rvices		Route Control Profile:					
							_	
				 Name 			D	inection
							No items have b Select Actions to cre	een found. ate a new item.

Configure L3Out para N3K-2 y asocie con BD2 y VRF2, como se muestra en la imagen:

ALLTENANTE I Add Tenard 1 Setter Common 1 11 I trint a I mgmd Tenard 1 Common 1 11 I trint a I mgmd Couldx Start Couldx Start
Image: Description Image: Description
Culck Start L3 OUTSIDE - N3K-2_LSOUT ▲ Tenant T1 Application Profiles ▲ Application Profiles Image: Start Application Profiles ▲ Networking Image: Start Application Profiles ▲ Wetworking Image: Start Application Profiles ▲ Start Action Rule Profiles Name: NSK-2_LSOUT ▲ Match Action Rule Profiles Name: NSK-2_LSOUT ▲ Resolved V
Image: Second
> Papilication Profiles > Parting Bornalis > P
▲ Networking ▲ Bridge Domains ▲ VRFs ▲ Deternal Bridged Networks ▲ External Routed Networks ▲ External Routed Networks ▲ External Routed Networks ▲ External Routed Networks ▲ SaA_a, U_12.0UT ▲ SaA_a, U_12.0UT ▲ Math. Action Rule Profiles
> VFrS > External Bridge Networks > > > Set Action Rule Profiles Properties Properties <
Image: Set Action Rule Profiles Image: Set Action R
Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles Image: Set Action Rule Profiles
Set Action Rule Profiles Match A
Match Action Rule Profiles
ASA_INLIGUT Importing separated by comma ASA_AUT_LSOUT Importing separated by comma ASA_AUT_LSOUT Import Target DSCP; unspecified ASA_AUT_LSOUT Route Control Enforcement Import Import Import
ASA_CUT_LSOUT Label: ASA_CUT_LSOUT Label: ASA_CUT_LSOUT Target DSCP: unspecified ACM N3K3_LSOUT Route Control Enforcement. Logical Node Profiles Route Control Enforcement. Market Status VRF: T1/VRF2. Route Profiles Resolved VRF: T1_LSOUT
Image: Waik-1_source Target DSCP: unspecified Image: Waik-2_Laource Route Control Enforcement: Image:
Ask2_1200T Route Control Enforcement Import Export > In Networks VRF: T1/VRF2 CP > Route Profiles Resolved VRF: T1/VRF2 > Route Profiles External Routed Domain: T1_130UT
Logical Node Profiles Court Control Linux Certain Import Control Linux Certain Control Linux Control Linux Control Linux Certain
Networks VRF: T1/VRF2 Route Profiles Resolved VRF; T1/VRF2 Route Profiles Resolved VRF; T1/VRF2 External Routed Domain: T1_L3OUT C
Route Profiles Resolved VRF; T1/MP2 Route Profiles External Routed Domain: T1_L3OUT
Route Profiles External Routed Domain: T1_L3OUT
Protocol Policies Route Profile for Interleak: select a value 🗸 🗗
L+L/ Sence Parameters Route Control For Dampening
Security Policies
F = Involvisnou Poinces Address Family Type Route Dampening Policy Routing Policy Address Family Type
▶ ■ MALE Section 2 No items have been found.
Enable BGP/EIGRPIOSPF: BGP EIGRP
OSPF Area ID: 0.0.0.1
ORPE Avea Control C ent redistributed I SAS into NSSA area
☑ Originate summary LSA
Suppress forwarding address in translated LSA
OSPF Area Type: NSSA area Regular area Stub area
OSPF Area Cost: 0

uluilu cisco	System	Tenants	Fabric VM N	letworking L	4-L7 Services	Admin	Operations	P	i	~
A		arch: enter name, descr	i common i T1 i infra i mgmt							
Tenant T1		S 0	Logical Interface Profil	A - N3K-2 IP						
🔲 Quick Start			Logical Interface I follo	c - Nore 2_II						_
🔺 🚢 Tenant T1										Policy Fau
Application Principal	ofiles		€↓							
A Networking										
🕨 🖿 Bridge Dor	mains		Properties							
VRFs			Nam	e: N3K-2_IP						
🕨 💼 External Br	ridged Networks		Descriptio	n: optional						
4 🔲 External Ro	outed Networks									
🕨 🛄 Set Acti	ion Rule Profiles		Labe	si:						
Match A	Action Rule Profiles		ND polic	y: select a value	*					
▶ CB ASA_IN	I_L3OUT		Egress Data Plane Policing Polic	y: select a value	•					
ASA_01	UT_L3OUT		Ingress Data Plane Policing Polic	y: select a value	•					
Market	L3OUT		Routed Interface	e.						
Market 2	L30UT		Tobled Intellace	o.						
🔺 🛄 Log	ical Node Profiles			🔺 Path		IP Address	MAG	Address	MTU (Bytes)	
4 😐 1	N3K-2_NP						No items have been	found.		
	Logical Interface Profiles						Select Actions to create	a new item.		
1										
	USPF Interface Profile									
h 🗖 him	Contigured Nodes		51	ZI:						
New	ite Profiles			A Path	IP Address	Side A IP	Side B IP	MAC Address	MTU (Bytes)	Encap
Route Prof	files			Node-106/eth1/4	192,168,1,14/30			00:22:8D:F8:19:FF	1500	vlan-103
Protocol P	olicies									
L4-L7 Service	Parameters									
Security Polici	es									
Troubleshoot	Policies		Routed Sub-Interface	s:						
🕨 🚞 Monitoring Pol	licies			 Dath 	ID Arithm		MAC Address	MTLL (Butes)	En	ran
L4-L7 Service	s				IF Addie		inno nadiess	wito (bytea)	Lik	-00
							No items have been Select Actions to create	found. a new item.		

Configure el control de ruta de importación/exportación en subredes para N3K-2 L3Out para EPG externo, como se muestra en la imagen:

uludu cisco								ρ
		arch: enter name, descr	common T1 infra mg					
Tenant T1		 O 	Extornal Notwork	Instance Profile	NOK 2 EXT NET	г		
🔲 Quick Start			External NetWORK	mistance Profile	- NOR-Z_EAT_NE	1		
🔺 🚢 Tenant T1								Policy Operational
🕨 🖿 Application	n Profiles							Concept
🔺 💼 Networkin	g							General Co
🕨 🖿 Bridge	Domains		⊖±				Δ 🛕 🕕 🚺 100	
🕨 🚞 VRFs			Properties					
🕨 🛄 Externa	al Bridged Networks		Name	N3K-2 EXT NET				
🔺 🛄 Externa	al Routed Networks		Tags:		•			
🕨 🖿 Set	Action Rule Profiles			enter tags separated by comm	5			
🕨 💻 Mat	ch Action Rule Profiles		Description:	optional				
► 🖾 ASA	_IN_L3OUT							
► 🖽 ASA	_OUT_L3OUT		Configued VRF name:	VRF2				
N3k	<-1_L3OUT		Resolved VRF:	uni/tn-T1/ctx-VRF2				
	<-2_L30UT		QoS Class:	Unspecified -				
	Logical Node Profiles		Target DSCP:	unspecified				
-			Configuration Status:	applied				
	NJK-Z_EAT_NET		Configuration Issues:					
- 1	Poute Profiles		Subnets:					
Route F	Profiles			 IP Address 	Scope		Aggregate	Route Control Profile
🕨 🖿 Protoco	ol Policies			10 10 10 0/24	Scope	Control Subpot		issue somer nome
🖿 L4-L7 Sen	vice Parameters			10.10.10.0/24	Export Rout	e contror oubliet		
🕨 🖿 Security Po	olicies			20.20.20.0/24	External Sub	onets for the External	EPG	
🕨 🖿 Troublesh	oot Policies							
🕨 🖿 Monitoring	Policies		Poute Central Profile:					
🕨 🖿 L4-L7 Sen	vices		Note Control Prolife.					
				 Name 			C	linection
							No items have b Select Actions to cre	een found. ate a new item.

Paso 4. Cree un grupo de perfiles de función y configure el perfil de función a partir de la plantilla existente, como se muestra en la imagen:

							۵ ۵) j	welco				
	arch: enter name, descr	common T1 infra											
	S 🖻	1417 Sonvisor	Eurotion Profile	ASA5595 ED									
		L4-L7 Services	Function Frome	- ASA5565_FF									
									General Faults				
		$\mathbf{O} \mathbf{I}$							A				
eters		Properties											
		Nan	ne: ASA5585_FP										
3		Descriptio	on:										
		Associated Function	on: CISCO-ASA-1.2/Firewall										
ph Templates													
ons													
·F		FEATURES AN	ID PARAMETERS	5									
		Features:	Basic Pa	rameters All Parameters									
Policies			Meta Folde	sr/Param Key		Name	Value Mandator	Lacked	Shared				
nstances		Interfaces	🖌 😂 De	vice Confia		Device							
		AccessLists		Access List		access-list-inbound		false	false				
ent Configuration for L4-L1	7 devices	NAT		Interface Related Configuration		externallf		false	false				
		TrafficSelectionOl	biects 🔹 🕨	Interface Related Configuration		internallf		false	false				
		All	🔺 🗇 Fu	nction Config		Function							
			- > 💭	External Interface Configuration	L. C.	EitConfig		false	false				
			> 💭	Internal Interface Configuration		IntConfig		faise	false				
	eters 9 ph Templates ons 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	eters e eters e Policies sstances e ent Configuration for L4-L7 devices	eters	eters eters eters eters e ters	eters eters eters eters e ters	eters	Properties Name: ASA5985_FP eters Name: ASA5985_FP > Descriptor: Associated Function: (SCO.ASA-1.2Firewall Properties Name: ASA5985_FP Descriptor: Associated Function: (SCO.ASA-1.2Firewall Pedicies Name: Asa5985_FP Descontipe: Asa595_FP Descriptor	eters	eters eters eters ph Templates ors Properties Norme AsASSIG. PP Description: Associated Function CISCO ASA 1.2 Firewall Properties Norme AsaSSIG. PP Properties Norme AsaSSIG. PP Properties Properties Norme AsaSSIG. PP Properties Properties Properties Norme AsaSSIG. PP Properties				

i

L4-L7 Services Function Profile - ASA5585_FP

						General Faul	ts Histor
⊖ ± ∕		⚠ ▲ 🕕 🕕					ACTIONS *
Properties Name: ASA5585_Fi Description: Associated Function: CISCO-ASA	p 1.2Firewall						
FEATURES AND PARAM	METERS						
Features:	Basic Parameters All Parameters						
Interfaces	Meta Folder/Param Key	Name	Value	Mandatory	Locked	Shared	
interfaces	🔺 😅 Device Config	Device					
AccessLists	Access List	access-list-inbound			false	false	
NAT	Interface Related Configuration	externalif			false	false	
TrafficSelectionObjects	🔺 😅 Access Group	ExtAccessGroup			false		
All	🔄 Inbound Access List	name	access-list-inbound	false	false		
	🔺 😅 Interface Specific Configuration	externallfCfg			false		
	IPv4 Address Configuration	IPv4Address			false		
	IPv4 Address	ipv4_address	192.168.1.5/30	true	false		
	El Security Level	external_security_level	50	false	false		
	Interface Related Configuration	internallf			false	false	
	🔺 😅 Interface Specific Configuration	internallfCfg			false		
	IPv4 Address Configuration	IPv4Address			false		
	IPv4 Address	ipv4_address	192.168.1.9/30	true	false		
	🔤 Security Level	internal_security_level	100	false	false		
	🔺 😅 Function Config	Function					
	🔺 😅 External Interface Configuration	ExtConfig			false	false	
	- 🖘 Interface Configuration	ExtConfigrel	externallf	false	false		
	🔺 😅 Internal Interface Configuration	IntConfig			false	false	
	Interface Configuration	InConfigrel	internallf	false	false		

Paso 5. Cree un contrato y modifique el campo Ámbito en Arrendatario, como se muestra en la imagen:



Paso 6. Como se muestra en la imagen, cree una plantilla de gráfico de servicios L4-L7 donde la asociación de gráfico de servicios implica la asociación de una política de red enrutada externa y la configuración del router con una política de selección de dispositivos.

Learning 1911 (de Lawe)
1. Zenemen F. E. F. Bene F. Beller
L4-L7 Service Graph Template - ASA5585_SGT

Create L4-L7 Service Graph Template		i X
Drag device clusters to create graph nodes. Device Clusters T /ASA5585 (Managed Firewall)	Graph Name: ASA5585_SGT Graph Type: © Create A New One © Clone An Existing One Consumer	Provider EPG
	SUBM	AIT CANCEL

Configuración del router para especificar la ID del router que se utilizará en el dispositivo de servicio (ASA 5585), como se muestra en la imagen:

ululu cisco		Tenants	Fabric	VM Networking	L4-L7 Services	Admin					
	ALL TENANTS Add Tenant Se	arch: enter name, descr	common T1 infra								
Tenant T1		 O 	Router config	uration - ASA5585							
Quick Start			into accir o oning								
 Tenant I1 Application 	n Profiles										
Application Setworki	na										
🗖 L4-L7 Se	rvice Parameters		Properties								
🕨 🖿 Security	Policies			ame: ASA5585							
🕨 🖿 Troubles	hoot Policies		Route	er ID: 3.3.3.3							
🕨 🖿 Monitorir	g Policies		Descri	ption: optional							
🔺 🛄 L4-L7 Se	rvices										
🕨 🖿 L4-L7	Service Graph Templates										
🖉 🗖 Routi	er configurations										
E AS	A5585										
🕨 🖿 Funct	ion Profiles										
▶ 🔲 L4-L7	Devices										
🕨 🗖 Impo	ted Devices										
Devic	es Selection Policies										
Deplo	yed Graph Instances										
Deplo	yed Devices		l.								
📃 Inbar	d Management Configuration for L4-L	7 devices	4								
🕨 💻 Devic	e Managers										
🕨 💻 Chas	sis										

Cambie el tipo de adyacencia de L2 a L3, como se muestra en la imagen:

uluitu cisco									ρ	i
		arch: enter name, descr	common T1 infra mg							
Tenant T1		S 0	L4-L7 Service Gr	aph Template -	ASA5585 SGT					
Quick Start					_					Teneless
Tenant T1										Lobology
Applicati	on Profiles		ੇ ±				Δ 🗛 🕕 🕕			
	iriy anica Paramatare		Properties							
E4-L7 St	Policion		Fluperties	ASA6696 SCT						
Troubles	phont Policies		Termiate Name:	UNSPECIEIED						
Monitorir	na Policies		Configuration Issues:							
🔺 🖿 L4-L7 Se	ervices		Description:	optional						
🔺 🖿 L4-L3	7 Service Graph Templates									
	BA5585_SGT		Label:							
A [Function Node - N1		Function Nodes:	 Name 		Eurotion Name		Function Type		Description
	📃 consumer			- Habine			au all	CoTo		beachphon
	📃 provider			INT		C18CO-A8A-1.2/FIII	21VdII	0010		
Route	er configurations									
🕨 🖿 Funct	tion Profiles									
▶ ■ L4-L7	7 Devices									
Impo	rted Devices									
Devic	es Selection Policies		•							
Depit	oyed Oraph Instances		Terminal Nodes:	 Name 			Provider/Consumer		Description	
I Inbar	nd Management Configuration for L4-L3	7 devices		T1			Concumer		beenption	
🕨 🚞 Devic	e Managers						Desider			
🕨 🖿 Chas	sis			12			Provider			
			Connections:	 Name 	Connected Nodes		Unicast Route	Adjacency Type	Des	cription
				C1	N1, T1		True	L3		
				C2	N1, T2		True	L3		

Aplicar plantilla de gráfico de servicios, como se muestra en la imagen:



Asociar el gráfico de servicios al contrato, como se muestra en la imagen:

ALTERNATE LAST Tendel 1 State Market	uluilu cisco										
Turnet Ti Image: Decision Profiles Turnet Ti Appliculator Profiles Networking Likit Zientee Praimaters Bescure Profiles Turnet Times Turnet States Tu			Search: enter name, descr	common T1 infra							
 Contract Trouble Stand Application Profiles Application Profiles Security Profiles Security Profiles Security Profiles Contract Contract Detwork: T1/NSK-1_LSOUT/NSK-1_EXT_N ● Contract Contract Detwork: T1/NSK-1_LSOUT/NSK-2_EXT_N ● Contract Contract Detwork: T1/NSK-1_LSOUT/NSK-2_EXT_N ● Contract Profiles Contract Contract Detwork: T1/NSK-1_LSOUT/NSK-1_EXT_N ● Contract Contract Detwork: T1/NSK-1_LSOUT/NSK-2_EXT_N ● Contract Contract Detwork: T1/NSK-1_LSOUT/NSK-1_EXT_N ● Contract Contract Detwork: T1/NSK-1_LSOUT/NSK-2_EXT_N ● Contract Contract Detwork: T1/NSK-1_EXT_N ● Contract Contract Detwork: T1/NSK-1_EXT_N ● Contract Contract Detwork: T1/NSK-1_EXT_N ● Contract Nerre PERT_ALL No Filter (Allow All Taffic) ● 	Tenant T1		 Ø 	Apply L4-L7 Servi	ce Graph Template	To EPGs					i X
L Curdinations Consumer EPG / External Network: T1/NSK-1_ESUTJ/NSK-1_EXT_NI € Provider EPG / External Network: T1/NSK-2_EXT_NI € © Consumer EPG / External Network: T1/NSK-1_EXT_NI € © Consu	Quick Start Quick Start Tenant T1 Application I Detworking	Profiles		STEP 1 > Contra	act					1. Contract	2. Graph
Indexter and a decision of the function of	L4-L7 Service Security Pol	e Parameters cles it Policies		Config A Contract	Between EPGs			anida EDO / Estan el Maturalo III (2	
 Rouler configurations Function Profiles L4-L7 Derices Dexices Station Policies Deployed Oraph Instances Deployed Oraph Instances Dexice Managers Chassis 	Monitoring F	olicies es rvice Graph Templates		Contract Information -	Contract: Contract:	ontract	Choose An Existing Co	ntract Subject	3-2_L3001/N3K-2_EAT_NI ♥	5.5	
	Control Contro Control Control Control Control Control Control Con	nnigurations Profiles vices Devices Selection Policies		Contra No Filter (Allow	act Name: PERMIT_ALL						
	Deployer Deployer Deployer Deployer Deployer Deployer Devloe N Devloe N Devloe N	I Graph Instances I Devices anagement Configuration for L4- anagers	-L7 devices								
PREVIOUS NEXT CAN										PREVIOUS	CANCEL



Agregue/cambie el parámetro L4-L7 si es necesario, como se muestra en la imagen:

alialia cisco	System	Tenants	Fabric	VM Networking	L4-L7 Services	Admin	Operations		٩	i	
		earch: enter name, descr	common T1 infra n								
Tenant T1		S 0	Apply L4-L7 Servic	e Graph Template	To EPGs						A
Tenant 1 ■ Quick Start ■ Tanant Ti ► Application ■ Networking ■ L4-L7 Serv ► Security Poi ■ Toublesht ► Monitoring ■ L4-L7 EV ■ Toublesht ► Monitoring ■ L4-L7 EV ■ Toublesht ► Monitoring ■ L4-L7 EV ■ Toublesht ■ Devices ■ Devices ■ Deploy ■ Deploy ■ Devices ► Chassi	Profiles b lice Parameters licities Policies Policies Policies Searce Oraph Templates Searce Oraph Templates Searce Oraph Templates Searce Oraph Templates Searce Oraph Templates Searce Oraph Templates Bearce Oraph Templates of Oraph Instances ed Orach Instances ed Orach Instances ed Orach Instances s	-7 devices	Apply L4-L7 Servic STEP 3 > ASA550 config parameters : Profile Name: ASA Features: Interfaces AccessLists NAT TrafficSelection() All	Required S585_FP < div id -Vns:applyd S585_FP < div id -Vns:applyd Required Requir	To EPGs Graph Template22:applyGraphW J Parameters MTParameters J Parameters MTParameters J Device Config > > Inderface Related Config > NAT Rules List > Network Object > Service Object Oroup > Externa Interface Config > Externa Interface Config > Interface Relater Config > Externa Interface Config > Interface Relater Config	ew:3:applyProfile_edit	Icon' style= 'tilsplay: inline-block; widt Device acces=list-inbound edemailf internalif Function EdConfig IntConfig	1. Contract	2. Graph	3. ASA5585 Par	i X
				RED ind	Jicators parameters needed to b	e updated and OREEN	indicates parameters will be summitte	d to the provider EPG.	F	PREVIOUS	CANCEL

Paso 7: Política de etiquetas de ruta, configure la política de etiquetas de ruta para VRF1 (Tag:100), como se muestra en la imagen:

alialia cisco	System	Tenants	Fabric	VM Networking	L4-L7 Services	Admin	Operations		P		i		A web
Tenant T1	ALL TENANTS Add Tenant Sea	irch: enter name, descr	L common L infra L mgi VRF - VRF1	mt i T1									
Tenant T1 Applicatio Applicatio Applicatio	n Profiles						A 🛛 🕕 100		Policy	Operational	Stats	Health	Faul
 Bridge VRFs VR 	Domains F1		Properties Route Tag Policy	- VRF1_RTP				() ×					
S Market States	Deployed VRFs (Simple Mode) EPG Collection for Context F2		⊙₹					Policy History ACTIONS •					
Extern Extern Route Protoc	al Billiged Networks Profiles of Policies		Properties Na Descript	tion: optional				-					
 L4-L7 Set Security P Troublest 	vice Parameters volicies voot Policies			Tag: 100	<u> </u>			-					
 Monitorini L4-L7 Set 	g Policies mices												
				▲ EIGRE	Address Family Type		SHOW USAGE	SUBMIT CLOSE					
							No items have Select: Actions to cr	been found. eate a new item.					
				DNS labels: Route Tag Policy: VRF1_RT	P √ ₽								
										s	HOW USAG	E SUE	BMIT

Configure la política de etiquetas de ruta para VRF2 (Tag:200), como se muestra en la imagen:

ululu cisco												
		earch: enter name, descr	common infra mgm									
Tenant T1		S 🖸	VRE - VRE2									
Quick Start								Policy	Operational			
 Applicatio Application 	n Profiles 1g		⊙¥			⚠ ▲ ❶ ❶ 100						
🕨 🖿 Bridge 🔺 💼 VRFs	Domains		Route Tag Policy	- VRF2_RTP			i ×					
VR	F1						Policy History					
Extern	al Bridged Networks		⊖±				ACTIONS *					
 Extern Route 	al Routed Networks Profiles		Properties Nar	ne: VRF2_RTP								
Protoc L4-L7 Set	ol Policies vice Parameters		Descripti	on: optional								
🕨 💼 Security F	olicies		Т	g: 200								
Troublest	noot Policies		_		-							
Monitorini												
/ Lu-L/ 00												
							-					
						SHOW USAGE	SUBMIT					
			EIGRP COMER P	er Aduress Farriny.								
				▲ EIGRP #	Address Family Type		EIGRP Address Family Context					
						No items have Select Actions to c	i been found. rreate a new item.					
				DNS labels:								
				Route Tag Policy: VRF2_RTP	- ₽							
									S	HOW USAGE	SUBMIT	ז

Paso 8: Verifique el estado y verifique la política de selección de dispositivos, como se muestra en la imagen:

ululu cisco							Operations				
		earch: enter name, descr	common T1 infra mg								
Tenant T1		S 🖸	Logical Interface	Context cone	URA OF						
🔲 Quick Start			Logical interface	Context - const	umer						
🔺 🐣 Tenant T1											
Application Profiles											
🕨 🖿 Network	ing										
🖿 L4-L7 S	ervice Parameters		Properties								
🕨 🖿 Security	Policies		Connector Name:	consumer							
🕨 🖿 Troubles	shoot Policies		Diuster Interface:	Cluster Interface: outside 🚽 🗸 🗗							
🕨 🖿 Monitorii	ng Policies		Associated Network:	Associated Network: Bridge Domain L3 External Network							
4 🖿 L4-L7 S	ervices		L3 External Network:	L3 External Network: T1/ASA OUT L3OUT/A							
▶ 💼 L4-L	7 Service Graph Templates		Peristikute: han a and a								
🕨 🖿 Rout	er configurations			togp (a) copi (a)							
🕨 🖿 Func	tion Profiles										
▶ ■ L4-L	7 Devices		Subnets:					×	+		
Impo	rted Devices			ID All all	0	Desta and	Qub Qu		÷.		
Devi	es Selection Policies			IP/Mask	Scope	Preterred	Subnet Control		_		
4 C P	ERMIT_ALL-ASA5585_SGT-N1					No items have been found. Select Actions to create a new item.					
	consumer										
b Dopl	, provider										
Depi	byed Oraph Instances		Virtual IP Addresses:								
Inhar	nd Management Configuration for L4-L	7 devices						~	+		
Devir	e Managers			 IP Address 							
▶ 🖿 Chas	sis					No items have been found.					
						pelett Actions to treate a new item.					

ululu cisco		Tenants					Operations				
		earch: enter name, descr	common T1 infra mg								
Tenant T1		O IN	Logical Interface	Context - provid	lor						
💼 Quick Start			Eoglear Internace	Context - provid							
🖌 🐣 Tenant T1											
Application Profiles											
🕨 🖿 Networking											
🖿 L4-L7 Servi	ce Parameters		Properties								
🕨 🖿 Security Po	licies		Connector Name:	provider							
🕨 🖿 Troublesho	ot Policies		Cluster Interface:	inside	<u>·</u> @						
🕨 🖿 Monitoring	Policies		Associated Network	Bridge Domain	External Network						
🔺 💼 L4-L7 Serv	ces		3 External Network:								
🕨 🖿 L4-L7 S	ervice Graph Templates		D. L. L.								
🕨 🖿 Router (onfigurations		Redistribute:	bgp 🙁 ospf 🙁 🔻							
🕨 🖿 Function	n Profiles										
L4-L7 Devices			Subnets:								
🕨 🖿 Importe	d Devices							×	+		
🔺 🖿 Devices	Selection Policies			IP/Mask	Scope	Preferred	Subnet Control				
🔺 🔟 PER	MIT_ALL-ASA5585_SGT-N1					No items have been found.					
1. с	onsumer					Select Actions to create a new item.					
p 📃	rovider										
🕨 🖿 Deploye	d Graph Instances		•								
🕨 🖿 Deploye	d Devices		Virtual IP Addresses:					\times	+		
📃 Inband I	Management Configuration for L4-L3	7 devices		 IP Address 							
🕨 🖿 Device 1	lanagers										
🕨 🖿 Chassis	3			No items have been found. Select Actions to create a new item.							

Verifique la instancia de Gráficos implementados, como se muestra en la imagen:

CISCO System Tenants								Advanced M welcome, adm	
ALL TENANTS Add Tenant Search: enter name, desc	r common T1 infra mg								
Tenant T1	I Eurotian Made	.14							
🖿 Quick Start	T unction Node - I	N I					_		
🔺 🐣 Tenant T1								Policy Faults Hist	
Application Profiles	€¥								
Networking									
L4-L7 Service Parameters	Properties								
Becurity Policies	Name:	Name: N1							
Troubleshoot Policies	Function Type:	Function Type: GoTo							
Monitoring Policies	Cluster Interfaces:	A3A3363							
L4-L7 Services	Ofdater Interfacea.	- Name		Concrete In	terraces		Encap		
L4-L7 Service Graph Templates		inside		ASA5585_E	Device_1/[GigabitEthernet0/1]			unknown	
Router configurations		outside		ASA5585_E	Device_1/[GigabitEthernet0/0]			unknown	
Finite Control Provision									
Imported Devices	Function Connectors:	 Name 		Encap	•	Class ID			
Devices Selection Policies		consumer		vlan-	101	32773			
PERMIT_ALL-ASA5585_SGT-N1		provider		vlan-	102	49156			
💷 consumer									
provider									
🔺 🛄 Deployed Graph Instances	4								
PERMIT_ALL-ASA5585_SGT-T1									
Function Node - N1									
Deployed Devices	Folders And Par	ameters							
Inband Management Configuration for L4-L7 devices									
Device Managers	Features:	Basic Pa	arameters All Parameters						
Chassis		Meta Fold	ler/Param Key		Name	Value	Override Name	/Value To	
1		11							

ululu cisco				VM Netw				Operations	
cibeo	ALL TENANTS Add Tenant Search:	enter name, descr	common T1 infra						
Tenant T1		S 2	Dealers of Deale						
🔲 Quick Start				ces					
4 🏝 Tenant T1									
Applicatio	n Profiles	€₹							
L4-L7 Ser	vice Parameters		 Device Name 			VRF			
Security Policies			ASA5585			none			
🕨 🖿 Troublest	noot Policies								
Monitoring	g Policies rvices								
▶ 🖿 L4-L7	Service Graph Templates								
🕨 🖿 Router	r configurations								
🕨 🖿 Functio	on Profiles								
E L4-L7	Devices ted Devices								
🔺 🖿 Device	es Selection Policies								
4 🖸 PE	RMIT_ALL-ASA5585_SGT-N1								
11	consumer								
🔺 🖿 Deplo	yed Graph Instances								
🔺 😪 PE	RMIT_ALL-ASA5585_SGT-T1								
1	Function Node - N1								
	A6696 popo		1						
785	BGP Device Configuration								
	OSPF Device Configuration								
▲ ∨ *	PERMIT_ALL-ASA5585_SGT-T1								
	BGP Graph Instance Configuration OSPF Graph Instance Configuration								
A 1	₩ N1								
	Connector N1/consumer								
🗐 Inhand	Connector N1/provider								
E Device	e Managers								
🖿 Chass	sis								
ahaha	System Tenants	Eabric	VM Networking	14.17 Services	Admin	Onerations		۵	i
CISCO	TENANTS I Artri Tenant I Search: enter name, desci	L common L T1 L infra							
Tenant T1	8		Configurations						
Quick Start		Device Oor I	Comgarations						
 Herrarit II Application Profi 	lles	€₹							
Networking L4-L7 Service P:	arameters	Name	Enable	Context Name	Address Family Area	Area Control	Area Type	Networks	
E Security Policies	8	ASA_IN_L3OUT_are	a_0 True	VRF2	IPv4 Backbone an	ea Originate summary LSA Send redistributed LSAs int	o NSSA area Regular a	rea ASA_IN_EXT_NET (10.10	1.10.0/24)
 Iroubleshoot Po Monitoring Polic 	ies	X3X_001_E3001_a	iea_0 iide	WKI I	IIII Dachbolle an	Originate summary LSA	Regulara		20.20.0/24)
L4-L7 Services L4-L7 Service	e Graph Templates								
🕨 💼 Router config	gurations								
Function Pro L4-L7 Device	files es								
Imported Devices Sele	vices ection Policies								
	ALL-ASA5585_SGT-N1								
💷 consu 📃 provid	imer Ier								
A Deployed Gr	aph Instances								
E Functi	ion Node - N1								
ASA5585	-none								
BGP D	Device Configuration								
VSPF	IT_ALL-ASA5585_SGT-T1								
BG	P Graph Instance Configuration SPF Graph Instance Configuration								
▲ V N1									
12	Connector N1/consumer Connector N1/provider								
📃 Inband Mana	agement Configuration for L4-L7 devices								
Chassis									

Verificación y resolución de problemas

Configuración APIC para arrendatario:

```
apic1# sh running-config tenant T1
# Command: show running-config tenant T1
# Time: Thu Feb 25 16:05:14 2016
   tenant T1
```

```
access-list PERMIT_ALL
 match ip
  exit
contract PERMIT_ALL
 scope tenant
  subject PERMIT_ALL
   access-group PERMIT_ALL both
    1417 graph ASA5585_SGT
    exit
  exit
vrf context VRF1
  exit
vrf context VRF2
  exit
13out ASA_IN_L3OUT
 vrf member VRF2
  exit
13out ASA_OUT_L3OUT
 vrf member VRF1
  exit
13out N3K-1_L3OUT
 vrf member VRF1
  exit
13out N3K-2_L3OUT
 vrf member VRF2
  exit
bridge-domain BD1
 vrf member VRF1
  exit
bridge-domain BD2
 vrf member VRF2
  exit
application AP1
  epg EPG1
   bridge-domain member BD1
   exit
  epg EPG2
   bridge-domain member BD2
    exit
  exit
external-13 epg ASA_IN_EXT_NET 13out ASA_IN_L3OUT
  vrf member VRF2
  match ip 10.10.10.0/24
  exit
external-13 epg ASA_OUT_EXT_NET 13out ASA_OUT_L3OUT
 vrf member VRF1
 match ip 20.20.20.0/24
  exit
external-13 epg N3K-1_EXT_NET 13out N3K-1_L3OUT
  vrf member VRF1
  match ip 10.10.10.0/24
  contract consumer PERMIT_ALL
  exit
external-13 epg N3K-2_EXT_NET 13out N3K-2_L3OUT
  vrf member VRF2
  match ip 20.20.20.0/24
 contract provider PERMIT_ALL
  exit
interface bridge-domain BD1
  exit
interface bridge-domain BD2
  exit
1417 cluster name ASA5585 type physical vlan-domain T1_PHY service FW function go-to
  cluster-device ASA5585_Device_1
```

```
cluster-interface inside
        member device ASA5585_Device_1 device-interface GigabitEthernet0/1
          interface ethernet 1/2 leaf 106
          exit
        exit
      cluster-interface outside
        member device ASA5585_Device_1 device-interface GigabitEthernet0/0
          interface ethernet 1/2 leaf 105
          exit
        exit
      exit
    1417 graph ASA5585_SGT contract PERMIT_ALL
      service N1 device-cluster-tenant T1 device-cluster ASA5585 mode FW_ROUTED
        connector consumer cluster-interface outside
          1417-peer tenant T1 out ASA_OUT_L3OUT epg ASA_OUT_EXT_NET redistribute bgp,ospf
          exit
        connector provider cluster-interface inside
         1417-peer tenant T1 out ASA_IN_L3OUT epg ASA_IN_EXT_NET redistribute bgp,ospf
          exit
       rtr-cfg ASA5585
        exit
      connection C1 terminal consumer service N1 connector consumer
      connection C2 terminal provider service N1 connector provider
      exit
   rtr-cfg ASA5585
     router-id 3.3.3.3
      exit
    exit
apic1#
```

Verifique la relación de vecino OSPF y la tabla de ruteo en la hoja 101:

```
leaf101# show ip ospf neighbors vrf T1:VRF1
OSPF Process ID default VRF T1:VRF1
Total number of neighbors: 2
Neighbor ID Pri State
                                    Up Time Address
                                                            Interface
                                    02:07:19 192.168.1.1
1.1.1.1
                 1 FULL/BDR
                                                             Vlan8
3.3.3.3
                  1 FULL/BDR
                                    00:38:35 192.168.1.5
                                                             Vlan9
leaf101# show ip route vrf T1:VRF1
IP Route Table for VRF "T1:VRF1"
'*' denotes best ucast next-hop
'**' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%<string>' in via output denotes VRF <string>
10.10.10.0/24, ubest/mbest: 1/0
   *via 192.168.1.1, vlan8, [110/8], 01:59:50, ospf-default, intra
20.20.20.0/24, ubest/mbest: 1/0
   *via 192.168.1.5, vlan9, [110/22], 00:30:20, ospf-default, inter
100.100.100.100/32, ubest/mbest: 2/0, attached, direct
   *via 100.100.100.100, lo1, [1/0], 02:21:22, local, local
   *via 100.100.100.100, lo1, [1/0], 02:21:22, direct
192.168.1.0/30, ubest/mbest: 1/0, attached, direct
   *via 192.168.1.2, vlan8, [1/0], 02:35:53, direct
192.168.1.2/32, ubest/mbest: 1/0, attached
   *via 192.168.1.2, vlan8, [1/0], 02:35:53, local, local
192.168.1.4/30, ubest/mbest: 1/0, attached, direct
   *via 192.168.1.6, vlan9, [1/0], 02:20:53, direct
192.168.1.6/32, ubest/mbest: 1/0, attached
   *via 192.168.1.6, vlan9, [1/0], 02:20:53, local, local
```

192.168.1.8/30, ubest/mbest: 1/0
 *via 192.168.1.5, vlan9, [110/14], 00:30:20, ospf-default, intra
200.200.200.200/32, ubest/mbest: 1/0
 *via 192.168.1.5, vlan9, [110/15], 00:30:20, ospf-default, intra
Verifique la relación de vecino OSPF y la tabla de ruteo en la hoja 102:

```
leaf102# show ip ospf neighbors vrf T1:VRF2
OSPF Process ID default VRF T1:VRF2
Total number of neighbors: 2
                                   00:37:07 192.168.1.9 Vlan14
Neighbor ID Pri State
3.3.3.3
                1 FULL/BDR
2.2.2.2
                 1 FULL/BDR
                                    02:09:59 192.168.1.13 Vlan15
leaf102# show ip route vrf T1:VRF2
IP Route Table for VRF "T1:VRF2"
'*' denotes best ucast next-hop
'**' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%<string>' in via output denotes VRF <string>
10.10.10.0/24, ubest/mbest: 1/0
    *via 192.168.1.9, vlan14, [110/22], 00:35:22, ospf-default, inter
20.20.20.0/24, ubest/mbest: 1/0
    *via 192.168.1.13, vlan15, [110/8], 02:08:13, ospf-default, intra
192.168.1.4/30, ubest/mbest: 1/0
   *via 192.168.1.9, vlan14, [110/14], 00:35:22, ospf-default, intra
192.168.1.8/30, ubest/mbest: 1/0, attached, direct
    *via 192.168.1.10, vlan14, [1/0], 02:14:29, direct
192.168.1.10/32, ubest/mbest: 1/0, attached
    *via 192.168.1.10, vlan14, [1/0], 02:14:29, local, local
192.168.1.12/30, ubest/mbest: 1/0, attached, direct
   *via 192.168.1.14, vlan15, [1/0], 02:09:04, direct
192.168.1.14/32, ubest/mbest: 1/0, attached
    *via 192.168.1.14, vlan15, [1/0], 02:09:04, local, local
200.200.200.200/32, ubest/mbest: 2/0, attached, direct
    *via 200.200.200.200, lo4, [1/0], 02:10:02, local, local
    *via 200.200.200.200, lo4, [1/0], 02:10:02, direct
```

Verificar la configuración, la relación de vecino OSPF y la tabla de ruteo en ASA 5585:

```
ASA5585# sh run interface
interface GigabitEthernet0/0
no nameif
security-level 0
no ip address
!
interface GigabitEthernet0/0.101
nameif externalIf
security-level 50
ip address 192.168.1.5 255.255.255.252
1
interface GigabitEthernet0/1
no nameif
security-level 100
no ip address
interface GigabitEthernet0/1.102
nameif internalIf
```

```
security-level 100
ip address 192.168.1.9 255.255.255.252
1
interface Management0/0
management-only
nameif management
security-level 0
ip address 172.23.97.1 255.255.254.0
ASA5585# sh run router
router ospf 1
router-id 3.3.3.3
network 192.168.1.4 255.255.255.252 area 0
network 192.168.1.8 255.255.255.252 area 0
area O
log-adj-changes
1
ASA5585# sh ospf neighbor
Neighbor ID
              Pri State
                                  Dead Time Address
                                                               Interface
100.100.100.100 1 FULL/DR
                                   0:00:38 192.168.1.6
                                                              externalIf
                                    0:00:33 192.168.1.10 internalIf
200.200.200.200 1 FULL/DR
ASA5585# sh route ospf
Routing Table: T1
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route, + - replicated route
Gateway of last resort is not set
       10.10.10.0 255.255.255.0
O IA
          [110/18] via 192.168.1.6, 00:22:57, externalIf
O IA
       20.20.20.0 255.255.255.0
          [110/18] via 192.168.1.10, 00:22:47, internalIf
        200.200.200.200 255.255.255.255
0
          [110/11] via 192.168.1.10, 00:22:47, internalIf
ASA5585# sh access-list
access-list cached ACL log flows: total 0, denied 0 (deny-flow-max 4096)
           alert-interval 300
access-list access-list-inbound; 3 elements; name hash: 0xcb5bd6c7
access-list access-list-inbound line 1 extended permit tcp any any eq www (hitcnt=0) 0xc873a747
access-list access-list-inbound line 2 extended permit tcp any any eq https (hitcnt=0)
0x48bedbdd
```

access-list access-list-inbound line 3 extended permit icmp any any (hitcnt=6) 0xe4b5a75d Verifique la configuración, la relación de vecino OSPF y la tabla de ruteo en N3K-1:

```
N3K-1# sh run ospf
!Command: show running-config ospf
!Time: Thu Feb 25 15:40:55 2016
version 6.0(2)U3(7)
feature ospf
router ospf 1
  router-id 1.1.1.1
interface Ethernet1/21
  ip router ospf 1 area 0.0.0.1
interface Ethernet1/47
  ip router ospf 1 area 0.0.0.1
N3K-1# sh ip ospf neighbors
 OSPF Process ID 1 VRF default
 Total number of neighbors: 1
                                      Up Time Address Interface
01:36:24 192.168.1.2 Eth1/47
 Neighbor ID Pri State
 100.100.100.100 1 FULL/DR
                                      01:36:24 192.168.1.2
                                                               Eth1/47
N3K-1# sh ip ospf route
 OSPF Process ID 1 VRF default, Routing Table
  (D) denotes route is directly attached
                                              (R) denotes route is in RIB
10.10.10.0/24 (intra)(D) area 0.0.0.1
     via 10.10.10.0/Eth1/21* , cost 4
20.20.20.0/24 (inter)(R) area 0.0.0.1
     via 192.168.1.2/Eth1/47 , cost 62
100.100.100.100/32 (intra)(R) area 0.0.0.1
     via 192.168.1.2/Eth1/47 , cost 41
192.168.1.0/30 (intra)(D) area 0.0.0.1
     via 192.168.1.1/Eth1/47* , cost 40
```

Verifique la configuración, la relación de vecino OSPF y la tabla de ruteo en N3K-2:

```
N3K-2# sh run ospf
!Command: show running-config ospf
!Time: Thu Feb 25 15:44:47 2016
version 6.0(2)U3(7)
feature ospf
router ospf 1
router-id 2.2.2.2
interface loopback0
ip ospf network point-to-point
ip router ospf 1 area 0.0.0.0
interface Ethernet1/21
ip router ospf 1 area 0.0.0.1
interface Ethernet1/47
```

ip router ospf 1 area 0.0.0.1

```
N3K-2# sh ip ospf neighbors
OSPF Process ID 1 VRF default
Total number of neighbors: 1
Neighbor ID Pri State
                                   Up Time Address
                                                           Interface
                                   01:43:50 192.168.1.14 Eth1/47
200.200.200.200 1 FULL/DR
N3K-2# sh ip ospf route
OSPF Process ID 1 VRF default, Routing Table
  (D) denotes route is directly attached (R) denotes route is in RIB
2.2.2.0/30 (intra)(D) area 0.0.0.0
    via 2.2.2.0/Lo0* , cost 1
10.10.10.0/24 (inter)(R) area 0.0.0.1
    via 192.168.1.14/Eth1/47 , cost 62
20.20.20.0/24 (intra)(D) area 0.0.0.1
    via 20.20.20.0/Eth1/21* , cost 4
192.168.1.12/30 (intra)(D) area 0.0.0.1
    via 192.168.1.13/Eth1/47* , cost 40
```

Verifique las reglas de filtro de contrato en la hoja y el conteo de aciertos del paquete:.

leaf101# show system internal policy-mgr stats Requested Rule Statistics [CUT] Rule (4107) DN (sys/actrl/scope-3112964/rule-3112964-s-32773-d-49158-f-33) Ingress: 1316, Egress: 0, Pkts: 0 RevPkts: 0 Rule (4108) DN (sys/actrl/scope-3112964/rule-3112964-s-49158-d-32773-f-33) Ingress: 1317, Egress: 0, Pkts: 0 RevPkts: 0 leaf101# show system internal policy-mgr stats Requested Rule Statistics [CUT] Rule (4107) DN (sys/actrl/scope-3112964/rule-3112964-s-32773-d-49158-f-33) Ingress: 2317, Egress: 0, Pkts: 0 RevPkts: 0 Rule (4108) DN (sys/actrl/scope-3112964/rule-3112964-s-49158-d-32773-f-33) Ingress: 2317, Egress: 0, Pkts: 0 RevPkts: 0

leaf102# show system internal policy-mgr stats Requested Rule Statistics [CUT] Rule (4103) DN (sys/actrl/scope-2752520/rule-2752520-s-49156-d-6019-f-default) Ingress: 3394, Egress: 0, Pkts: 0 RevPkts: 0 Rule (4104) DN (sys/actrl/scope-2752520/rule-2752520-s-6019-d-49156-f-default) Ingress: 3394, Egress: 0, Pkts: 0 RevPkts: 0 [CUT] leaf102# show system internal policy-mgr stats Requested Rule Statistics [CUT] Rule (4103) DN (sys/actrl/scope-2752520/rule-2752520-s-49156-d-6019-f-default) Ingress: 4392, Egress: 0, Pkts: 0 RevPkts: 0 Rule (4104) DN (sys/actrl/scope-2752520/rule-2752520-s-6019-d-49156-f-default) Ingress: 4392, Egress: 0, Pkts: 0 RevPkts: 0 [CUT]

Prueba de disponibilidad entre N3K-1 y N3K-2:

```
N3K-1# ping 20.20.20.1 source 10.10.10.1
PING 20.20.20.1 (20.20.20.1) from 10.10.10.1: 56 data bytes
64 bytes from 20.20.20.1: icmp_seq=0 ttl=250 time=2.098 ms
64 bytes from 20.20.20.1: icmp_seq=1 ttl=250 time=0.922 ms
64 bytes from 20.20.20.1: icmp_seq=2 ttl=250 time=0.926 ms
64 bytes from 20.20.20.1: icmp_seq=3 ttl=250 time=0.893 ms
64 bytes from 20.20.20.1: icmp_seq=4 ttl=250 time=0.941 ms
```

--- 20.20.20.1 ping statistics ---

5 packets transmitted, 5 packets received, 0.00% packet loss round-trip min/avg/max = 0.893/1.156/2.098 ms

N3K-2# ping 10.10.10.1 source 20.20.20.1 PING 10.10.10.1 (10.10.10.1) from 20.20.20.1: 56 data bytes 64 bytes from 10.10.10.1: icmp_seq=0 ttl=250 time=2.075 ms 64 bytes from 10.10.10.1: icmp_seq=1 ttl=250 time=0.915 ms 64 bytes from 10.10.10.1: icmp_seq=2 ttl=250 time=0.888 ms 64 bytes from 10.10.10.1: icmp_seq=3 ttl=250 time=1.747 ms 64 bytes from 10.10.10.1: icmp_seq=4 ttl=250 time=0.828 ms

--- 10.10.10.1 ping statistics ---5 packets transmitted, 5 packets received, 0.00% packet loss round-trip min/avg/max = 0.828/1.29/2.075 ms

Adjunto se encuentra el archivo de configuración XML para el arrendatario y el perfil de función ASA, que se utiliza para esta demostración.