ةينب عم L7-4 ىوتسملا نم راسملا رظانت نيوكتلا رمم - لقنلا

المحتويات

<u>المقدمة</u> <u>المتطلبات الأساسية</u> <u>المكونات المستخدمة</u> <u>معلومات أساسية</u> <u>التكوين</u> <u>التكوين</u> <u>التحقق من الصحة واستكشاف الأخطاء واصلاحها</u>

المقدمة

يصف هذا المستند حركة مرور التكوين للرسم البياني لخدمة من المستوى 4-L7 مع تجميع المسار، حيث يكون كل من المستهلك والمزود خارج بنية البنية الأساسية المرتكزة على التطبيقات (ACI).

تمت المساهمة بواسطة زاهد حسن، مهندس خدمات Cisco المتقدمة.

المتطلبات الأساسية

المتطلبات

توصي Cisco بأن تكون لديك معرفة بالمواضيع التالية:

تجمعات VLAN الثابتة التي سيتم إستخدامها لتضمين شبكة VLAN بين الأجهزة الخارجية ونسيج واجهة التحكم • في الوصول (ACI)

المجالات المادية والموجهة الخارجية التي ستربط معا موقع (عقدة/مسار طرفية) الأجهزة الخارجية وتجمع • VLAN

• اتصال الطبقة 3 بشبكة خارجية (L3Out) لا يتم تغطية خطوات **تكوين L3Out وFabric Access** السابقة في هذا المستند وقد افترض أنها قد اكتملت بالفعل.

المكونات المستخدمة

تستند المعلومات الواردة في هذا المستند إلى إصدارات البرامج التالية:

- وحدة التحكم الخاصة بتطبيق سياسة البنية الأساسية (Cisco APIC) 1.2(1m)
 - حزمة أجهزة أجهزة أجهزة أجهزة الأمان المعدلة (ASA) 1.2.4.8

(ASA 5585 - 9.5(1 •

(Nexus 3064 - 6.0(2)U3(7 •

تم إنشاء المعلومات الواردة في هذا المستند من الأجهزة الموجودة في بيئة معملية خاصة. بدأت جميع الأجهزة المُستخدمة في هذا المستند بتكوين ممسوح (افتراضي). إذا كانت شبكتك مباشرة، فتأكد من فهمك للتأثير المحتمل لأي أمر.

معلومات أساسية

تجانب المسارات المتفرعة هي ميزة تمكن جهاز خدمة مثل موازن التحميل أو جدار حماية من الإعلان عن إمكانية الوصول إليه من خلال بنية واجهة التحكم في الوصول (ACI) إلى جميع الطرق إلى شبكة خارجية.

حالة الاستخدام المعروضة هنا هي جدار حماية فعلي يتم نشره كرسم بياني خدمة ثنائي الأذرع، بين إثنين من L3out أو مجموعات نقاط نهاية خارجية (EPG). يرتبط الرسم البياني للخدمة بعقد بين EPG الخارجي على ورقة 101 (N3K-1) و EPG الخارجي على ورقة 102 (N3K-2). توفر بنية قائمة التحكم في الوصول (ACI) خدمة عبور للموجهات (N3K-1 و N3K-2) ويتم إستخدام تناظر المسار، مع إستخدام أقصر مسار أولا (OSPF) المفتوح كبروتوكول توجيه، لتبادل المسارات بين جدار الحماية ونسيج واجهة التحكم في الوصول (ACI).

التكوين

الرسم التخطيطي للشبكة

تظهر الصورة التالية كيفية عمل نظرة المسار من نهاية إلى نهاية:





ping 20.20.20.1 source 10.10.10.1

التكوين

الخطوة 1. قم بتكوين التوجيه الظاهري وإعادة التوجيه 1 (VRF1) و VRF2 و Bridge Domain1 (BD1) و BD2. أربط BD1 ب VRF1 و BD2 ب VRF2، كما هو موضح في الصورة:

ululu cisco								Q
		arch: enter name, descr	common infra mg					
	System ALL TENANTS Add Tenant 24 t t t t t t t t t t t t t t t t t t t	Tenants arch enter name, deacr	Fabric I common 1 infra 1 mg Networks C Tag and drop	VM Networking mt 11	L4-L7 Services	Admin Common: () () () () () () () () () () () () () (Operations	T ASA_OUT_L

الخطوة 2. قم بتحميل حزمة جهاز ASA ضمن جهاز L4-L7، كما هو موضح في الصورة، :



تكوين جهاز L4-L7 ل ASA الفعلي 5585 (موجه)، كما هو موضح في الصورة:

uluiju cisco		Tenants							P		w
		earch: enter name, descr	common T1 infra								
Tenant T1		 O 	14-17 Devices	4545595							
💼 Quick Start			L4-L7 Devices	- 4949369							
🔺 🐣 Tenant T1										Policy Parameters	Fa
🕨 🖿 Applicat	lion Profiles										
🔺 🚞 Networ	king										
🕨 🚞 Brid	ge Domains		General			Device 1					
🕨 🖿 VRF	s		Manag	ed: 🗹		Management IP Address:	172.23.97.1	Management Port: 443	\$		
🕨 🖿 Exte	rnal Bridged Networks		Nan	ne: ASA5585		Chassis:	select a value	- @			
🕨 🚞 Exte	rnal Routed Networks		Device Packa	ge: CISCO-ASA-1.2		Interfaces:					
🕨 🖿 Rou	te Profiles		Service Typ	pe: Firewall							
🕨 🖿 Prot	ocol Policies		Device Typ Discipal Demo	pe: PHYSICAL			▲ Name		Path		
🖿 L4-L7 S	ervice Parameters		Physical Dollia	III_PHT	<u> </u>		GigabitEthernet0/0		Node-105/eth1/2		
🔺 🖿 Security	/ Policies		Context Awa	ire: Single			GigabitEthernet0/1		Node-106/eth1/2		
🕨 🖿 Con	tracts		Function Ty	pe: GoThrough GoTo							
🕨 🛄 Tabi	oo Contracts		Cluster Mo	de: Single Node							
🕨 🗖 Impi	orted Contracts					Cluster					
Filte	rs		Credentials			Management IP Address:	172.23.96.228	Management Port: 443			
Trouble	shoot Policies		Useman	ne: admin	_	Device Manager:	172.23.97.1	ē			
Monitor	ing Policies		Passwo	rd:	_	Cluster Interfaces:					
L4-L/ S	iervices		Confirm Passwo	rd:	_		Type	 Name 	Concrete Interfaces		
E4-L	tor configurations		Configuration	Photo			- 11-		ASA5585 Device 1/[Git	abitEthernet0/1]	
 Internet Internet<	tion Profiles		Configuration	State			provider	Inside			
- Pun	7 Devices		Comiguration Issue	es. sto: etable			consumer	outside	ASA5585_Device_1/[Gig	abitEthernet0/0]	
L++L	1545585		Denties ala	no, analiic							
k 🗖 Impi	arted Devices										
🕨 🖿 Devi	ces Selection Policies				1						

الخطوة 3. شكلت L3Out ل N3K-1 وربطت مع BD1 و VRF1.

يتم إستخدام الشبكة الخارجية الموجهة لتحديد تكوين التوجيه في بنية واجهة التحكم في الوصول (ACI) لتناسب المسار، كما هو موضح في الصورة:

ululu cisco				VM Networking	L4-L7 Services	Admin	Operations
		arch: enter name, descr	common infra mgmt T1				
Tenant T1		S 0	1.2 Outoido - N2K 1				
🔲 Quick Start			Lo Outside - Nok-	1_13001			
🔺 🐣 Tenant T1							
🕨 🖿 Applicat	tion Profiles						
🔺 🚞 Networ	king						
🕨 🖿 Brid	ge Domains		⊖±				Δ Δ Ο Ο
🕨 🖿 VRF	s						
🕨 🖿 Exte	rnal Bridged Networks		Properties				
🔺 🚞 Exte	rnal Routed Networks		Name	N3K-1_L3OUT			
) 🕨 🖿 s	Set Action Rule Profiles		Description	: optional			
► 💼 N	latch Action Rule Profiles						
► 🕾 A	SA_IN_L3OUT		Tags	:	-		
► 🕾 A	ISA_OUT_L3OUT		Label	enter tags separated by	comma		
► 🕾 N	13K-1_L30UT		Laber				
► @ r	N3K-2_L3OUT		Target DSCP	: unspecified			
🕨 🕨 🖿 Rou	te Profiles		Route Control Enforcement	🗉 🔲 Import	🗹 Export		
🕨 🖿 Prot	ocol Policies		VRF	: T1/VRF1	E		
💼 L4-L7 S	ervice Parameters		Recoived VRE	T1MRE1	0		
🕨 🖿 Security	/ Policies		External Routed Domain	: T1 L3OUT			
🕨 🖿 Trouble	shoot Policies		Boute Profile for Interleak	- palact a value			
🕨 🖿 Monitori	ing Policies				<u>*</u> 6		
🕨 🖿 L4-L7 S	Services		Route Control For Dampening				
				Address Family Ty	/pe		
							No item Solost Astio
							JOBLE ACTO
			Enable BGP/EIGRP/OSPF	: 🔲 BGP	EIGRP		
			L	🗹 OSPF			
			OSPF Area ID	: 0.0.0.1			
			OSPF Area Control	: 🗹 Send redistributed	I LSAs into NSSA area		
				🗹 Originate summai	y LSA		
				Suppress forward	ing address in translated LSA		
			OSPF Area Type	: NSSA area Re	gular area Stub area		
			OSPF Area Cost	: 1	\$		

ملاحظة: يلزم تكوين جميع واجهات L3Out التي يتم إستخدامها لتقسيم المسار، كواجهة ظاهرية للمحول (SVI) مع تضمين شبكة VLAN وفقا لذلك.

alialia cisco	System	Tenants	Fabric V	'M Networking	L4-L7 Services	Admin	Operations	P	3	i web
		earch: enter name, descr	common infra mgmt T1							
Tenant T1		 O 	Logical Interface Pr	ofilo - N3K-1	ID					
💼 Quick Start			Logical Interface Fit	bille - Noix-1_	11- 11-					
🔺 🐣 Tenant T1										Policy Fault
🕨 🖿 Applicati	on Profiles		Ð₽							
🔺 🚞 Networki	ng									
🕨 🖿 Bridg	e Domains		Properties							
🕨 🖿 VRFs			1	Name: N3K-1_IP						
🕨 🚞 Extern	al Bridged Networks		Desci	iption: optional						
🔺 🚞 Exteri	al Routed Networks									
🕨 🖿 Se	t Action Rule Profiles			Label:						
► 💼 Ma	tch Action Rule Profiles		ND p	olicy: select a value	*					
▶ 🕾 As	A_IN_L3OUT		Egress Data Plane Policing F	Policy: select a value						
🕨 🕾 As	A_OUT_L3OUT		Ingress Data Plane Policing P	olicy: select a value						
4 🖨 N	3K-1_L30UT									
	Logical Node Profiles		Routed Inter	taces:						
-	N3K-1_NP			A Path		IP Address	M	AC Address	MTU (Byte:	i)
	Logical Interface Profiles						No Rome have be	on Found		
	N3K-1_IP						Select Actions to crea	te a new item.		
	OSPF Interface Profile									
	Configured Nodes		•							
-	topology/pod-1/node-105			SVI:						
> •	Networks			• Doth	ID Address	Side A ID	Side P ID	MAC Address	MTU (Puton)	Encon
	Route Profiles			- Faul	IF AUGIESS	JUE A IF	Side bir	MAG Address	Milo (bytes)	Licap
► Œ N	3K-2_L30UT			Node-105/eth1	192.168.1.2/3	30		00:22:8D:F8:19:FF	1500	vlan-100
Route	Profiles									
Proto	col Policies									
L4-L7 Se	rvice Parameters		Routed Sub-Inter	faces:						
Security I	Policies									
Troubles	noot Policies			 Path 	1	P Address	MAC Address	MTU (Bytea)		Encap
Monitorin	g Policies						No items have be	en found.		
🔻 📫 L4-L7 Se	and a second									
	rvices						Select Actions to crea	te a new item.		

تكوين التحكم في مسار الاستيراد/التصدير على الشبكات الفرعية ل N3K-1 L3Out External EPG، كما هو موضح في الصورة:

cisco								Q
		arch: enter name, descr	common infra mgmt					
Tenant T1		S 0	External Network	Instance Profile	- NSK-1 EXT NET			
💼 Quick Start			LAGINATIVELWOIK	instance Frome	- NOR-I_EXI_NET			
4 🐣 Tenant T1								Policy Operatic
Application	n Profiles							Conoral
🔺 🖿 Networkin	g							General
🕨 🖿 Bridge	Domains		ੇ±			L	A 🕕 🕕 100	
🕨 🖿 VRFs			Broportion					
🕨 🖿 Externa	al Bridged Networks		Froperties	NSK 4 EVT NET				
🔺 🚞 Externa	al Routed Networks		Tags:					
🕨 🖿 Set	Action Rule Profiles			enter tags separated by comm	a			
🕨 🖿 Mati	ch Action Rule Profiles		Description:	optional				
► 🕾 ASA	_IN_L3OUT							
► 🕾 ASA	_OUT_L3OUT		Configued VRF name:	VRF1				
4 🕾 N3F	<-1_L3OUT		Resolved VRF:	uni/tn-T1/ctx-VRF1				
A 🖬	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							
	Networks			 IP Address 	Scope		Aggregate	Route Control Profile
4 8	NJK-1_EXI_NET			10.10.10.0/24	External Subn	iets for the External EPG		
_	Le-L/ Service Parameters			20.20.20.0/24	Export Route	Control Subnet		
N2L	Adule Fiblics							
Route F	Profiles							
Protoco	al Policies		Route Control Profile:					
L 4-1 7 Sen	/ce Parameters			 Name 			c	lirection
E Security Provide S	olicies							
Troublesh	oot Policies						No items have b Select Actions to cre	een tound. ate a new item.
Monitoring	Policies							
. 🗕		l						

قم بتكوين L3Out للواجهة ASA-External واقترانه ب BD1 و VRF1، كما هو موضح في الصورة:

alialia							P
		arch: enter name, descr	common T1 infra m				
Tenant T1		S 0	1.2 Outside ACI				
🔲 Quick Start			Lo Outside - ASA	<u>~_001_L3001</u>			
🔺 🐣 Tenant T1							
🕨 🖿 Application	Profiles						
🔺 🚞 Networking							
🕨 🖿 Bridge D	Iomains		⊖±				
🕨 🖿 VRFs			Duenenties				
🕨 🖿 External	Bridged Networks		Properties	THOSE ARE AND ARE A			
🔺 🚞 External	Routed Networks		Decerin	tion: ontional			
🕨 🖿 Set A	ction Rule Profiles		Descrip	non, opnonar			
🕨 🖿 Mate	h Action Rule Profiles		_				
🕨 🕾 ASA_	IN_L3OUT			ags:			
🔺 🕾 ASA	OUT_L3OUT		La	bel:	comma		
) 🕨 🖬 L	ogical Node Profiles		Target DS	CP: unspecified			
▶ 💼 N	etworks		Bauta Cantral Enforman	ant D.	_		
▶ ■ R	oute Profiles		House Control Enlorcen	ient import	Export		
▶ 🗠 N3K-	1_L3OUT			/RF: T1/VRF1	<u>▼</u> @		
► 🕾 N3K	2_L3OUT		Resolved \	/RE: T1/VRE1			
Route P	rofiles		External Routed Dom	ain: T1_L3OUT	<u>→</u> @		
Protocol	Policies		Route Profile for Interle	eak: select a value	- @		
L4-L7 Servi	ce Parameters		Route Control For Damper	ning:			
Security Pol	licies						
Troublesho	ot Policies			 Address Family Ty 	/pe	Route Dampe	ning Policy
Monitoring I	Policies					No items have been found.	
L4-L/ Servi	ces					Select Actions to create a new iter	n.
			Enable BGP/EIGRP/05	SPE- DOD			
				OSPF			
			OSPF Area	alD: n			
			OODE Area Ore	and a construction of the			
			USPF Area Cur	Originate summar	i LSAs into NSSA area v LSA		
				Suppress forwardi	ing address in translated LSA		
			OSPF Area T	ype: NSSA area Reg	gular area Stub area		
			OSPF Area C	Cost: 0	A		
1							

alialia cisco	System	Tenants	Fabric	VM Networking	L4-L7 Services	Admin	Operations	Q	į	Adv welco
		arch: enter name, descr	I common T1 infra mgmt							
Tenant T1		S 0								
Quick Star			Logical Interface Pr	rofile - ASA_O						
🔺 🚢 Tenant T1										Policy Faults
🕨 💼 Applica	tion Profiles									
🔺 💼 Networ	king									A
🕨 💼 Brid	ge Domains		Properties							
🕨 🖿 VRF	s			Name: ASA_OUT_IP						
🕨 💼 Exte	mal Bridged Networks		Des	cription: optional						
🔺 🚞 Exte	mal Routed Networks									
) 🕨 💼 s	let Action Rule Profiles			Label:						
)	fatch Action Rule Profiles		ND	policy: select a value						
► 🖴)	SA_IN_L3OUT		Egress Data Plane Policing	Policy: select a value						
4 🖽 ,	ISA_OUT_L3OUT		Ingress Data Plane Policing	Policy: select a value						
	Logical Node Profiles		ingrees bate hate romang		· · ·					
	ASA_OUT_NP		Routed Int	erfaces:						
	🔺 🖿 Logical Interface Profiles			A Path		IP Address	M	AC Address	MTU (Bytes'	ù.
	ASA_OUT_IP						No Remo base be	en found		
	OSPF Interface Profile						Select Actions to crea	ite a new item.		
	Configured Nodes									
	Isopology/pod-1/node-105		4							
	BGP for VRF-T1:VRF1			SVI:						
	OSPF for VRF-T1:VRF1			 Path 	IP Address	Side A IP	Side B IP	MAC Address	MTLL (Bytes)	Fincan
	Networks Dauta Darfiles			Node 105/eth	1/2 1021691	6(20		00:22:00:50:40:55	1500	vian 191
A	Roule Prolites			14006-103/60	1/2 182.100.1	.0/50		00.22.00.10.10.11	1300	Hall-Tor
• ()	13K-1_L3001									
k 🗖 Roj	te Profiles									
Ruce	ncol Policies		Routed Sub-Inte	erfaces:						
	ervice Parameters									-
Securit	Policies			A Path		IP Address	MAC Address	MTU (Bytes)	E	ancap
► 🗖 Trouble	shoot Policies						No items have be Select Actions to crea	en found. te a new item		
🕨 🖿 Monitor	ing Policies						20000 80000 00 000			
I 4-173	-									

تكوين التحكم في مسار الاستيراد/التصدير على الشبكات الفرعية ل ASA-External L3Out EPG الخارجي، كما هو موضح في الصورة:

ululu cisco	System							Q	i
		arch: enter name, descr	common T1 infra mg						
Tenant T1		< O	External Network	Instance Profile	- ASA OUT EXT	NET			
🔲 Quick Start			External NetWORK	instance i rollie	NOR_COT_EXT_	line i			
🔺 🏝 Tenant T1								Policy	Operational Stats
🕨 🖿 Applicatio	n Profiles								Contracte
🔺 🚞 Networkir	ig								Contracts
🕨 🚞 Bridge	Domains		⊖±				Δ 🛕 🕕 🚺 100		
VRFs			Properties						
🕨 💼 Extern	al Bridged Networks		Name	ASA OUT EXT NET					
🔺 🛄 Extern	al Routed Networks		Taga:	Hon_ool_chl_HEI					
🕨 🛄 Set	Action Rule Profiles			enter tags separated by comm	LD				
🕨 🛄 Ma	tch Action Rule Profiles		Description:	optional					
► 🖾 AS	A_IN_L3OUT								
🔺 🖽 AS	A_OUT_L3OUT		Configued VRF name:	VRF1					
	Logical Node Profiles		Resolved VRF:	uni/tn-T1/ctx-VRF1					
4	Networks		QoS Class:	Unspecified -					
× .	ASA_OUT_EXT_NET		Target DSCP:	unspecified					
	L4-L/ Service Parameters		Configuration Status:	applied					
P 🔳	Houte Profiles		Configuration Issues:						
▶ GD N3	K-1_L3001		Subnets:						
P 🖽 N3	Rez_L3001								
Roule	ol Policiae			 IP Address 	Scope Export Pout	o Control Rubnot	Aggregate	Route control Profile	Route Summa
= I 4-1 7 Set	vice Parameters			10.10.10.0/24	Shared Rou	te Control Subnet			
E4-L7 Set	nlicies			20.20.20.0/24	External Sul Shared Rou	onets for the External EPG Ite Control Subnet			
Traublest	unit Policies								
Monitorini	a Policies								
L4-L7 Sei	vices		Route Control Profile:						
				 Name 			Direction		
							No items have been fourn Select Actions to create a nev	d. J. kem.	

قم بتكوين L3out ل ASA-Internal واقتران ب BD2 و VRF2، كما هو موضح في الصورة:

cisco							P	
		arch: enter name, descr	common T1 infra mgm					
Tenant T1		0 10	1.2 Outoida ASA					
🔲 Quick Start			Lo Outside - ASA_	IN_L3001				
🔺 🐣 Tenant T1								
🕨 🖿 Applicatio	n Profiles							
🔺 💼 Networkir	ıg							
🕨 🖿 Bridge	Domains		⊖±			ΔΔΟΟ		
🕨 🖿 VRFs			D I'					
🕨 🖿 Externa	al Bridged Networks		Properties	101 101 1001				
🔺 🚞 Extern	al Routed Networks		Name	e: ASA_IN_L3OUT				
🕨 🖿 Set	Action Rule Profiles		Description	a: optional				
🕨 🖿 Mat	tch Action Rule Profiles							
🔺 🕾 ASi	A_IN_L3OUT		Taga	1 x	*			
4	Logical Node Profiles		Labe	enter taga separated by c	romma			
	📃 ASA_IN_NP		Target DSCP	unspecified				
► m	Networks				-			
> E	Route Profiles		Route Control Enforcemen	t 🛄 Import	Export			
🕨 🕾 AS/	A_OUT_L3OUT		VRF	T1/VRF2	<u>▼</u> @			
► 🕾 N3I	K-1_L30UT		Resolved VRF	T1A/RF2				
► 🕾 N3	K-2_L30UT		External Routed Domain	: T1_L3OUT	- P			
🕨 🛄 Route	Profiles		Route Profile for Interleak	select a value	- @			
Protoc	ol Policies		Route Control For Dampening	2:				
L4-L7 Ser	vice Parameters							
Security P	olicies			 Address Family Ty 	pe	Ros	te Dampening Policy	
Troublesh	noot Policies					No items have been	n found.	
Monitoring	g Policies					Select Actions to create	e a new item.	
L4-L7 Ser	vices							
			Enable BOD/EIGED/0000					
			Enable BorrElohrroorn					
			OSDE Arros ID	b o				
			OUFF Alea ID					
			USPF Area Contro	I: Send redistributed Originate summan	LSAs into NSSA area			
				Suppress forwardi	ng address in translated LSA			
			OSPE Area Tyrne	NSSå area Rer	ular area Stub area			
			OSPE Area Cost		orab area			
			OSFF Alea Cost					

ahaha								P	i		Advanced Moo
CISCO		enter name, descr	Learman I T1 Links Lmarst								aconie, admin
			r common p rr p mna p ngm								
Tenant In			Logical Interface Profile	e - ASA_IN_IP							
Quick Start										Policy Fat	ulte Histor
 Teriani, IT Applicativ 	on Profiles									(Table)	211.0 1 11.01.01
🔺 🖿 Networki	na		Ŭ.▼								ACTIONS *
🕨 💼 Bridg	e Domains		Properties								
🕨 🖿 VRFs			Name	ASA_IN_IP							
🕨 💼 Eiden	nal Bridged Networks		Description	c optional							
🔺 🖿 Extern	nal Routed Networks										
🕨 🖿 Se	t Action Rule Profiles		Label	t:							
► 💼 Ma	atch Action Rule Profiles		ND policy:	select a value	•						
▲ @3 AS	SA_IN_L3OUT		Egress Data Plane Policing Policy:	select a value	•						
4	Logical Node Profiles		Ingress Data Plane Policing Policy:	select a value	- -						
1	ASA_IN_NP		Routed Interfaces		-						
											~ +
	OSPE Interface Profile		1	A Path		IP Address	MAC Ad	dress	MTU (Bytes)		
	Configured Nodes						No items have been four Select Actions to smalle a po	nd. uu iteen			
	topology/pod-1/node-106						Delect Actions to create a ne	W KONT.			
	Networks										
▶ 💼	Route Profiles		SVI	6							
▶ 🖽 AS	IA_OUT_L3OUT										~ +
🕨 🖨 N.	3K-1_L30UT			A Path	IP Address	Side A IP	Side B IP	MAC Address	MTU (Bytes)	Encap	
▶ 🙆 N	3K-2_L3OUT			Node-106/eth1/2	192.168.1.10/30			00:22:BD:F8:19:FF	1500	vlan-102	
🕨 🔲 Route	Profiles										
Proto	col Policies										
L4-L7 Se	ivice Parameters		Routed Sub-Interfaces								
 Security I Transition 	-oncles										^ +
 Indubies Monitorin 	in Policies			- Path	IP Addres	8	MAC Address	MTU (Bytea)	Encap		
Important 10 morth 10 million	nices						No items have been four Select Actions to create a pe	nd. su item			
							2000 PL010 10 C 0010 C 10				

تكوين التحكم في مسار الاستيراد/التصدير على الشبكات الفرعية ل ASA-Internal L3Out External EPG، كما هو موضح في الصورة:

ululu cisco								٩
		arch: enter name, descr	common T1 infra mg					
Tenant T1		 0 	External Network	Instance Profile	- ASA IN EXT N	FT		
🔲 Quick Start			LACEINAL NELWOIK	instance i tome				
🔺 🐣 Tenant T1								Policy Ope
🕨 🖿 Applicatio	on Profiles							Conors
🔺 🚞 Networkir	ng							Genera
🕨 🖿 Bridge	e Domains		₽₹				🚹 🛕 🕕 🚺 100	
VRFs			Properties					
🕨 🛄 Eidern	al Bridged Networks		Name	ASA IN EXT NET				
🔺 🚞 Extern	al Routed Networks		Tags:	A3A_IN_EAT_NET	-			
🕨 🖿 Se	t Action Rule Profiles			enter taga separated by comm	18			
🕨 🖿 Ma	itch Action Rule Profiles		Description:	optional				
A CB AS	A_IN_L3OUT							
> •	Logical Node Profiles		Configued VRF name:	VRF2				
4	Networks		Resolved VRF:	uni/tn-T1/ctx-VRF2				
•	ASA_IN_EXT_NET		QoS Class:	Unspecified 🚽				
	Route Profiles		Target DSCP:	unspecified	-			
► 🖽 AS.	A_OUT_L3OUT		Configuration Status:	applied				
▶ 🖽 N3	IK-1_L3OUT		Configuration Issues:					
▶ C N3	3K-2_L3OUT		Subnets:					
P Route	Profiles		4					
Protoc	col Policies			 IP Address 	Scope		Aggregate	Route Control Profile
E4-L/ Sei	nice Parameters			10.10.10.0/24	External Su Shared Rou	phets for the External EPG Jte Control Subnet		
Decurity P	hoot Policies			20.20.20.0/24	Export Rout Shared Rou	te Control Subnet ite Control Subnet	1	
Monitorini	n Policies							
▶ ■ 14-17 Se	nices							
			Route Control Profile:					
				 Name 			c	Direction
							No items have b Select Actions to cre	een round. ate a new item.

قم بتكوين L3Out ل N3K-2 واقترانه ب BD2 و VRF2، كما هو موضح في الصورة:

dialia							P
		arch: enter name, descr	common T1 infra mgmt				
Tenant T1		 O 	1.2 Outside NOK 2				
💼 Quick Start			L3 Outside - N3K-2	2_L3001			
🔺 🚢 Tenant T1							
🕨 🖿 Application	n Profiles						
🔺 🚞 Networkin	g						
🕨 🖿 Bridge	Domains		⊖ ±			A 🔒 🕛	
🕨 🖿 VRFs			Desceties				
🕨 🖿 Externa	Il Bridged Networks		Properties	N3K 2 1 20UT			
🔺 🚞 Externa	al Routed Networks		Description	ontional			
🕨 🖿 Set	Action Rule Profiles		Description	, optional			
🕨 🖿 Mat	ch Action Rule Profiles		-				
🕨 🕾 ASA	_IN_L3OUT		lags:	enter tech senarated by			
🕨 🕾 ASA	_OUT_L3OUT		Label:	i inter anga angaranna biyo			
▶ 🕾 N3k	(-1_L30UT		Target DSCP:	unspecified			
🔺 🖾 N3F	<-2_L30UT		Poute Control Enforcement				
	_ogical Node Profiles		Note Control Enlorement	- 🛄 import			
	Vetworks		VRF:	T1/VRF2	<u>▼</u> @		
	Route Profiles		Resolved VRF	T1/VRF2			
Route I	Profiles		External Routed Domain:	T1_L3OUT	<u> </u>		
Protoci	ol Policies		Route Profile for Interleak:	select a value	<u>▼</u> 🗗		
L4-L7 Sen	nce Parameters		Route Control For Dampening				
Security Pi	pittles			Address Freile Te		D	Demonstration Dellars
Monitoring	Policies			Address Family Ty	pe	Route	Dampening Policy
I del 7 Sen	vicae					No items have been f Select Actions to create a	ound. Loew item.
	1000						
			Enable BGP/EIGRP/OSPF	BGP	EIGRP		
				🗹 OSPF			
			OSPF Area ID:	0.0.0.1			
			OSPF Area Control	Send redistributed	LSAs into NSSA area		
				🗹 Originate summan	/ LSA		
				Suppress forwardi	ng address in translated LSA		
			OSPF Area Type:	NSSA area Reg	gular area Stub area		
			OSPF Area Cost:	0	\$		
I							

ululu cisco										w
		h: enter name, descr	I common T1 infra mgmt							
Tenant T1		S 0	Logical Interface Profile	- N3K-2 IP						
🔲 Quick Start			Logical Interface I Tollie	- Nore-2_II						
🔺 🚢 Tenant T1										Policy Fau
🕨 🖿 Application	Profiles									
🔺 🚞 Networking	1									
🕨 🖿 Bridge 🛙	Domains		Properties							
🕨 🖿 VRFs			Name:	N3K-2_IP						
🕨 🚞 External	Bridged Networks		Description:	optional						
🔺 🚞 Externa	Routed Networks									
🕨 🖿 Set A	Action Rule Profiles		Label:							
🕨 🚞 Matc	h Action Rule Profiles		ND policy:	select a value						
🕨 🕾 ASA	IN_L30UT		Farmer Data Place Bolicing Policy	select e color	-					
🕨 🕾 ASA	OUT_L3OUT		Lytes bate Halle Folicity Folicy.	select a value	<u> </u>					
🕨 🕾 N3K	-1_L3OUT		Ingress Data Plane Policing Policy:	select a value	<u>*</u>					
🔺 🕮 N3K	2_L30UT		Routed Interfaces:							
A 🖬 L	ogical Node Profiles			Path		IP Address	MAC	Address	MTLL (Bytes)	
4 🛽	N3K-2_NP			- 100		in Flaghour	10.00	100.000	(0)(0)	
	Logical Interface Profiles						No items have been fi Select Actions to create a	ound. . new item.		
	🔺 📜 N3K-2_IP									
	📃 OSPF Interface Profile									
•	Configured Nodes		svi:							
🕨 🖬 N	letworks									
▶ 💼 F	Route Profiles			A Path	IP Address	Side A IP	Side B IP	MAC Address	MTU (Bytea)	Encap
🕨 🖿 Route P	rofiles			Node-106/eth1/4	192.168.1.14/30			00:22:BD:F8:19:FF	1500	vian-103
🕨 🖿 Protoco	I Policies									
🖿 L4-L7 Servi	ice Parameters									
🕨 🖿 Security Po	licies									
🕨 🖿 Troublesho	oot Policies		Routed Sub-Interfaces:							
🕨 💼 Monitoring	Policies			 Path 	IP Addres	18	MAC Address	MTIL (Bytes)	Faca	n
🕨 🖿 L4-L7 Serv	ices					-				-
							No items have been h Select Actions to create a	ound. new item.		

تكوين التحكم في مسار الاستيراد/التصدير على الشبكات الفرعية ل N3K-2 L3Out ل EPG الخارجي، كما هو موضح في الصورة:

uluih cisco								Q
		arch: enter name, descr	common T1 infra mg					
Tenant T1		S 0	External Network	Instance Profile	- N3K-2 EXT NE	т		
💼 Quick Start			External Network	instance Frome				
🔺 🐣 Tenant T1								Policy Operational
🕨 🖿 Application	Profiles							Conoral
🔺 🚞 Networking								oenerar Ot
🕨 🖿 Bridge D	omains		₽₹				Λ 🛕 🕕 🕕 100	
🕨 🖿 VRFs			Dranartino					
🕨 🖿 External	Bridged Networks		Froperties					
🔺 🚞 External	Routed Networks		Tags:	NJR-Z_EAT_NET				
🕨 🖿 Set A	ction Rule Profiles			enter taga separated by comma				
🕨 🖿 Matel	Action Rule Profiles		Description:	optional				
🕨 🕾 ASA_	IN_L3OUT							
🕨 🗠 ASA_	OUT_L3OUT		Configued VRF name:	VRF2				
🕨 🗠 N3К-	1_L3OUT		Resolved VRF:	uni/tn-T1/ctx-VRF2				
🔺 🖾 N3K-	2_L3OUT		QoS Class:	Unspecified 🗸				
) 🕨 🛄 Li	ogical Node Profiles		Target DSCP:	unspecified				
4 🗖 N	etworks		Configuration Status:	annlind				
⊿ [N3K-2_EXT_NET		Configuration Issues:	applied				
	L4-L7 Service Parameters		Subnets:					
▶ ■ R	oute Profiles		•					
Route P	rofiles			 IP Address 	Scope		Aggregate	Route Control Profile F
Protocol	Policies			10.10.10.0/24	Export Rou	ite Control Subnet		
L4-L7 Servi	ce Parameters			20.20.20.0/24	External St	ubnets for the External EPG	G	
Security Pol	icies							
Troublesho	ot Policies							
Monitoring F	Policies		Route Control Profile:					
L4-L7 Servi	Ces							
				▲ Name			D	irection
							No items have be Select Actions to crea	een found. Ne a new item.
							subce records to croe	

الخطوة 4. قم بإنشاء مجموعة ملفات تعريف الدالة وتكوين ملف تعريف الوظيفة من القالب الموجود، كما هو موضح في الصورة:

									Adv welcor
	earch: enter name, descr	common T1 infra							
	O	1.4-1.7 Services	Eupotion Profile	4545585 ED					
		E4-L7 Gervices	s r unction r rome -	- A0A0000_11					_
									General Faults
n Profiles		€ ♦ 🖉							А
1g									
wice Parameters		Properties							
olicies		Nan	ne: ASA5585_FP						
noot Policies		Descriptio	on:						
g Policies		Associated Function	on: CISCO-ASA-1.2/Firewall						
rvices									
Service Graph Templates									
r contigurations									
AGENE ERO									
40365 <u>-</u> FF0		FEATURES AN							
Devices		FEATURES AN	ID PARAMETERS						
ed Devices		Features:	Basic Par	ameters All Parameters					
es Selection Policies			Meta Folde	r/Param Key		Name Va	lue Mandatory	Lacked	Shared
yed Graph Instances		Interfaces	🔺 😂 Der	rice Config		Device			
yed Devices		AccessLists	> 🗭 ,	Access List		access-list-inbound		false	false
d Management Configuration for L4-L	7 devices	NAT		Interface Related Configuration		externallf		false	false
Managers		TrafficSelectionOl	bjects 🔹 🕨	Interface Related Configuration		internallf		false	false
sis		All	🔺 🗇 Fur	iction Config		Function			
			► <u></u>	External Interface Configuration		ExtConfig		false	false
				Internal Interface Configuration		IntConfig		false	false
	System ALLTENANTS I Add Tenner I 1 84 in Profiles ing Mice Parameters oracles host Policies bente Oraph Templates configurations on Profiles Service Oraph Templates configurations on Profiles Addass_FPC Devices ted Devices as Selection Policies yed Oraph Instances yed Devices d Managers ais	System Tenants ALLENAUTS Add Tenant Seart entername, deux Im Profiles	System Tenans East: enter name, dear enter and the second of the second	System Tenards Eabric V4 Networking ALTENANTE I Add Tanuel 1 least exter norms, dear remmon 11 links I more In Profiles Image: Service	System Terans Fabric VM Networking L4.12 Services AL TENANTS Add Tenant Search refer name, dear remmon T1 refo mymd In Profiles Image: I	System Tenants Fabric VM Networking L4.L7 Services Admin ALTENANTS LAST Front L Search enter Amere, dear Immon 11 Links Lingert Immon 17 Links enter Amere, dear Immon 17 Links Lingert Immon 16 Singert Immon 17 Links Lingert Immon 17 Links Lingert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert Immon 16 Singert	System Tenans Fairs VM Networking 6.4.17.Services Admin Operations ALTERANTS / ADD Tenane, dest reference, dest reference, dest I<	System Tennis Fabric VM Networking 0.4.17.Services Admin Operations ALTERINATION AS TRANSPORT ALTERINATION AS TRANSPORT Properties Norma RASSERS JP Decisions Properties Norma RASSERS JP Decisions Properties Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Norma RASSERS JP Decisions Secondard Function: CISCO ASSA 1.2 Enveroal Norma RASSERS JP Decisions Norma RASSERS JP	System Tensde Fabric M Methondum L4.1 Services Adrini Operations ALTERNATION LATERNATION



eneral Faults History

ACTIONS +

Properties Name: ASA5585_FP Description: Associated Function: CISCO-ASA-1.2/Firewall

FEATURES AND PARAMETERS

Features:	Basic Parameters All Parameters					
	Meta Folder/Param Key	Name	Value	Mandatory	Locked	Shared
	🔺 😅 Device Config	Device				
	🕨 💭 Access List	access-list-inbound			false	false
	🔺 😅 Interface Related Configuration	externallf			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	
	E 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	
	E Security Level	internal_security_level	100	false	false	
	🔺 🚔 Function Config	Function				
	External Interface Configuration	ExtConfig			false	false
	El Interface Configuration	ExtConfigrel	externallf	false	false	
	Internal Interface Configuration	IntConfig			false	false
	- 🗐 Interface Configuration	InConfigrel	internallf	false	false	
	Interface Configuration Given State Interface Configuration Interface Configuration	ExtConfig IntConfig InConfigrel	externalif internalif	false	false false false	false

الخطوة 5. قم بإنشاء عقد وتعديل حقل النطاق للمستأجر، كما هو موضح في الصورة:

alialia cisco				VM Networking	L4-L7 Servic		Operations
		a <mark>rch:</mark> enter name, descr	common T1 infra m				
Tenant T1		- O	Contract - RERM				
🔲 Quick Start			Contract - FERN				
🔺 🐣 Tenant T1							
🕨 🖿 Applicati	on Profiles		Ð₩				
🔺 🖿 Network	ing						
🕨 🖿 Bridg	e Domains		Properties				
🕨 🖿 VRFs			Name:	PERMIT_ALL			
🕨 🖿 Exter	nal Bridged Networks		Label:				
🕨 🖿 Exter	nal Routed Networks		Scope:	Tenant 🗸			
🕨 🖿 Rout	e Profiles		QoS Class:	Unspecified 🚽 👻			
🕨 🖿 Proto	col Policies		Target DSCP:	unspecified			
🖿 L4-L7 S	ervice Parameters			For "unspecified", put "64"			
🔺 💼 Security	Policies		Description:	optional			
🔺 📕 Cont	racts						
⊿ 🚳 P	ERMIT_ALL		Subjects:				
C.	PERMIT_ALL						
🕨 🖿 Tabo	o Contracts			 Name 		Filters	
🕨 🖿 Impo	rted Contracts			PERMIT_ALL		T1/PERMIT_ALL	
🕨 🛄 Filter	S						
Troubles	hoot Policies						
🕨 🔲 Monitorii	ng Policies						
🕨 🖿 L4-L7 S	ervices						

الخطوة 6. كما هو موضح في الصورة، قم بإنشاء قالب الرسم البياني L4-L7 Service Graph حيث يتضمن اقتران الرسم البياني للخدمة اقتران نهج شبكة موجه خارجي وتكوين موجه باستخدام نهج تحديد جهاز.

:

ALL TENANTS Add Tenant Search: enter name, descr	L common [Ti] infra mgmt	
Tenant T1		
Quick Start	L4-L/ Service Graph Template - ASA5585_SG1	
🔺 🚢 Tenant T1	төрө	ogy Policy
Application Profiles		
🕨 💼 Networking		
L4-L7 Service Parameters	Consumer	
Security Policies		
Troubleshoot Policies	ASA5585	
Monitoring Policies		
L4-L7 Services	NI	
🔺 🛄 L4-L7 Service Graph Templates		
🔺 🌱 ASA5585_SGT	ASA5585 Information	
Function Node - N1	Firewall Routed	
Router configurations	Profile: ASA5585_FP	
Function Profiles		
L4-L7 Devices		
Imported Devices		
Devices Selection Policies		
Deployed Graph Instances		
Deployed Devices		
Inband Management Configuration for L4-L7 devices		
🕨 💼 Device Managers		
▶ 💼 Chassis		
Create L4-L7 Service Graph Template		1
Drag device clusters to create graph nodes		
Diag device clusters to create graph nodes.		
Device Clusters	Graph Name: ASA5585_SGT	
0 +	Graph Type: O Create A New One O Clone An Existing One	
T1 (ACA5595 (Managed Eirowall)		
TT /ASASSSS (Wanaged Filewall)	Consumer	vider
	EPG E	PG
		\mathbb{S}
	A\$A5585	9
	N1	
	141	
	Please drag a device from devices table and drop it here to create a service node.	
	A S A SSSS Information	
	Firewaii: Concernent	
	Pmfile: T1/ASA5585 EPG/ASA5585 EP	
		NCEL
	SUBMIT	INCEL

تكوين الموجه لتحديد معرف الموجه الذي سيتم إستخدامه على جهاز الخدمة (ASA 5585)، كما هو موضح في الصورة:

uluilu cisco		Tenants	Fabric	VM Networking	L4-L7 Services	Admin
	ALL TENANTS Add Tenant 8	Search: enter name, descr	common T1 infra			
Tenant T1		 Ø 	Router config	uration - ASA5585		
💼 Quick Start			reducer coming			
🔺 🐣 Tenant T1						
🕨 🖿 Applicatio	on Profiles					
🕨 🔲 Networki	ng					
🔲 L4-L7 Se	rvice Parameters		Properties			
🕨 🖿 Security F	Policies		IN	ame: ASA5585		
🕨 🖿 Troubles	hoot Policies		Route	er ID: 3.3.3.3		
🕨 🖿 Monitorin	g Policies		Descri	ption: optional		
🔺 🖿 L4-L7 Se	rvices					
▶ 🛄 L4-L7	Service Graph Templates					
🔺 🗖 Route	r configurations					
🗒 AS	A5585					
🕨 🛄 Funct	on Profiles					
▶ 💼 L4-L7	Devices					
🕨 🖿 Impor	ted Devices					
🕨 🖿 Devic	es Selection Policies					
🕨 🖿 Depic	yed Graph Instances					
🕨 🛑 Depic	yed Devices					
📜 Inban	d Management Configuration for L4-	L7 devices	•			
🕨 💻 Devic	e Managers					
🕨 🖿 Chas	sis					

تغيير نوع التجاور من L2 إلى L3، كما هو موضح في الصورة:

scr common T1 infra mj							
	ranh Template -	ASA5585 SCT					
L4-L7 Service G	rapir remplate -	ASA5565_3G1					
							Topology
Properties							
Name:	ASA5585_SGT						
Template Name:	UNSPECIFIED						
Configuration Issues:							
Description:	optional						
Label:							
Function Nodes:	🔺 Name		Function Name		Function Type		Description
	N1		CISCO-ASA-1.2/Firewall		GoTo		
Terminal Nodes:	 Name 		Provi	der/Consumer		Description	
	T1		Cons	umar			
	T2		Provi	der			
Connections:	 Name 	Connected Nodes		Unicast Route	Adjacency Type	Descript	tion
	C1	N1, T1		True	L3		
	C2	N1, T2		True	L3		
	L4-L7 Service G	L4-L7 Service Graph Template -	L4-L7 Service Graph Template - ASA55885_SGT	L4-L7 Service Graph Template - ASA5585_SGT	L4-L7 Service Graph Template - ASA5585_SGT Properties Name Configuration issues Description Description Label: Function Nodes: Name Function Nodes: Name Function Nodes: Name Function Nodes: Name Provider/Consumer T1 Connected Nodes Unicast Route C1 N1, T1 Tue C2 N1, T2	L4-L7 Service Graph Template - ASA5585_SGT Properties Name Configuration Issue: Description: Label: Function Nodes: N1 CISCO-ASA-1.2/Firewall OoTo Terminal Nodes: Name Provider/Consumer T1 Connected Nodes Usicast Route Adjacency Type Connected Nodes Usicast Route Adjacency Type C1 N1, T1 Tue 13	L4-L7 Service Graph Template - ASA5585_SGT Properties Name Description Optional Label: Function Nodes: Name Consumer Tomologian Consumer Tomologian Consumer Connected Nodes Uncest Route Adjacency Type Description 1 Connected Nodes Uncest Route Adjacency Type Connected Nodes Uncest Route Adjacency Type

تطبيق قالب الرسم البياني للخدمة، كما هو موضح في الصورة:



قم بإرفاق الرسم البياني للخدمة بالعقد، كما هو موضح في الصورة:

CISCO System Tenants			
ALL TENANTS Add Tenant Search: enter name, descr			
Tenant T1 🛛 🗟 🖸	ply L4-L7 Service Graph Template To EPGs		<u>i X</u>
Innant 11 Image: Constraint of the second	pty L4-L7 Service Graph Template To EPGs TEP 1 > Confract Config A Contract Between EPGs Consumer EPG / External Network: T1/NSK-1_LSOUT/NSK-1_EXT_NI ♥ € Contract To Create A New Contract Contract Name: PERMIT_ALL No Filler (View All Traffic): 2	Provider EPG / External Network: T1/N3K-2_L3OUT/N3K-2_EXT_NI	1. Contract 2. Graph
			PREVIOUS NEXT CANCEL

cisco										
		Search: enter name, descr	common T1 infra m							
Tenant T1		S 0	Apply L4-L7 Servic	e Graph Template	To EPGs					i X
Tenant 1	rofiles Parameters ies Policies Sites S	-L7 devices	Apply L4-L7 Servic STEP 2 > Graph Config A Service G Dedce Clusters	anaged Firewall)	To EPGs Graph Template: Consumer Brg N3K-1_EKT ASA5555 Information Freewalt Proteit Roter Config Consumer C	routed ASA5585_SGT TI/ASA5585_FP TI/ASA_501_L30UT/ASJ outside Oeneral TI/ASA_LI_L30UT/ASA_1	C C C ASA5585 P N1 C C C ASA585 P ASA585 P ASA585 P	1. Contract	2. Graph	3. ASA5585 Parameters
									PRE	VIOUS NEXT CANCEL

قم بإضافة/تغيير المعلمة L4-L7 إذا لزم الأمر، كما هو موضح في الصورة:

uluilu cisco	System	Tenants	Fabric	VM Networking	L4-L7 Services	Admin	Operations		P	i
		Bearch: enter name, descr	common T1 infra							
Tenant T1		M 0	Apply L4-L7 Servi	ce Graph Template [·]	To EPGs					í) >
Ionant 11 Couck Start Tonant 11 L4-17 Ser L4-17 Ser Monitorin CL4-17 Ser Monitorin CL4-17 Ser CL4-17 Forth Forth Forth CL4-17 CL4-17	n Profiles ig ig ivice Parameters Tolicies aost Policies profices Senice Graph Templates AddBsCotol confluctations on Profiles Devices ted Devices ted Devices selection Policies ved Graph Instances ved Devices d'Anangement Configuration for L4- Managers is	L7 devices	Apply L4-L7 Servi STEP 3 > ASA55 config parameters Profie Name: AS Features: Interfaces Accessitats NoT TraffitSelection All	ce Graph Template	To EPGs GraphTemplate2AcapphGraph1 d Parameters d Parameters D Detec Config D Det	4ew:3.apph/Profile_edit nt g fguration fguration fguration fguration	Non' style='display: inline-block; widt Namo Device access-list-inbound externalif internalif Function ExtConfig	1. Contract 2. Gri h: 30pc>>dh> Vate	aph 3. At	SA5585 Parameters
				RED Inc	AAT Policy	be updated and GREEN	i indicates parameters will be summitte	nd to the provider EPO.	PREVIOUS	FINISH CANCEL

الخطوة 7: سياسة علامة المسار، قم بتكوين سياسة علامة المسار ل VRF1 (Tag:100)، كما هو موضح في الصورة:

alialia cisco	System	Tenants	Fabric	VM Networking	L4-L7 Services	Admin	Operations		P		i		A web
		rch: enter name, descr	common infra mgm	t I T1									
Tenant T1		S 0	VRF - VRF1										
Quick Start									Policy				
Application	Profiles												
🔺 🚞 Networking	3												
Bridge I	Domains		Properties										
	1		Route Tag Policy	- VRF1_RTP				i X					
	Deployed VRFs (Simple Mode)							Policy History					
	EPG Collection for Context							T OILCY THRIDITY					
VRF								ACTIONS *					
🕨 🚞 Externa	I Routed Networks		Properties										
🕨 🛑 Route F	Profiles		Descriptio	ne: optional				_					
Protoco	ol Policies												
E4-C7 Set	licies		Te	ig: 100	•								
🕨 💼 Troublesh	oot Policies		_										
Monitoring	Policies												
P 🔲 L4-L7 Serv			1										
								_					
							SHOW USAGE	SUBMIT CLOSE					
				- EIGRP	Address Family Type			EIGRP Address Family Context					
							No items have b Select Actions to cre	ieen found. sate a new item.					
				DNS labels:									
			L L	Route Tag Policy: V/PE1 DT									
				wate hag rolley. VRF1_RTF	<u> </u>								
										S	HOW USAG	e su	BMIT

تكوين سياسة علامة المسار ل VRF2 (العلامة:200)، كما هو موضح في الصورة:

uluilu cisco												
		earch: enter name, descr										
Tenant T1		Sec. 10	VRE - VRE2									
🔲 Quick Start			VIXI - VIXI Z					-				
Tenant T1								Policy	Operational			Fault
Application			<u>਼</u> ₹			Δ 🛕 🕕 🕕 100						
Internetion	a Domains		Route Tag Policy	VENDER BTD								
🔺 🖿 VRFs				y- vixi 2_ixii-								
▶ 🖻 VR	F1						Policy History					
► P VR	IF2		€±				ACTIONS +					
 Extern 			Properties									
🕨 🖿 Route	Profiles		N	ame: VRF2_RTP								
🕨 🖿 Protoc	ol Policies		Descrip	otion: optional								
🔲 L4-L7 Sei	rvice Parameters											
Security F	Policies		. L	Tag: 200	<u> </u>							
Monitorine												
▶ 💼 L4-L7 Se	rvices											
		4										
						SHOW USAGE	SUBMIT CLOSE					
			EIGRP CONEX	Per Address Family.								
				 EIGRE 	Address Family Type		EIGRP Address Family Context					
						No items have Select Actions to cr	been found. reate a new item.					
				DNS labels								
				Route Teg Policy: VPE2 PT	P							
				Nogrondy. VRP2_R	· · · ·							
									S	IOW USAGE	SUB	MIT

الخطوة 8: تحقق من الحالة وتحقق من سياسة تحديد الجهاز، كما هو موضح في الصورة:

cisco							Operations					
		anch: enter name, descr	common T1 infra mg									
Tenant T1		S 10	Logical Interface	Context - consi	Imer							
💼 Quick Start			Logioarintoriado	Contoxt Conto								
4 🐣 Tenant T1												
Applicatio	n Profiles		⊖ ↓									
Networkin	g											
L4-L7 Ser	vice Parameters		Properties									
Security P	olicies		Connector Name:	consumer								
Troublesh	oot Policies		pluster internace.		<u>*</u> 69							
Monitoring	I Policies		Associated Network:	Bridge Domain L3 I	External Network							
	Vices Romino Oronh Tomplatao		L3 External Network: T1/ASA_OUT_L3OUT// 🛫 📳									
Eq-L7	configurations		Redistribute:	bgp 🗷 ospf 🗷 🔍 👻								
Function	n Profiles											
▶ ■ L4-L7	Devices											
🕨 🖿 Import	ed Devices		Subnets:					\times	+			
🔺 🕅 Device	s Selection Policies			IP/Mask	Scope	Preferred	Subnet Control					
🔺 🖸 PE	RMIT_ALL-ASA5585_SGT-N1					No items have been found.						
	consumer					Select Actions to create a new item.						
E	provider											
🕨 🖿 Deploy	red Graph Instances		•									
🕨 🖿 Deploy	red Devices		Virtual IP Addresses:					\times	+			
📃 Inband	Management Configuration for L4-L7	7 devices		 IP Address 								
🕨 🖿 Device	Managers					No New Advertising forward			_			
🕨 🖿 Chass	is					Select Actions to create a new item.						

ululu cisco		Tenants					Operations				
		common T1 infra mg									
Tenant T1		S 0	Logical Interface	Context provid	lor						
💼 Quick Start			Logical Internace	Context - provid							
🔺 🐣 Tenant T1											
🕨 🖿 Applicatio	n Profiles										
🕨 🖿 Networkir	g										
🖿 L4-L7 Service Parameters			Properties								
🕨 🖿 Security Policies			Connector Name:	provider							
🕨 🚞 Troubleshoot Policies			Cluster Interface:	inside	<u>·</u> @						
🕨 🖿 Monitoring Policies			Associated Network	Bridge Domain	Evternal Network						
🔺 💼 L4-L7 Services			3 External Network:	T1/ASA IN LOUT/AS							
🕨 🖿 L4-L7 Service Graph Templates			D. F. F.								
Router configurations			Redistribute:	bgp 🙁 ospf 🙁 🔻							
Function Profiles											
L4-L7 Devices			Subnets:								
🕨 🖿 Import	Imported Devices							×	+		
🔺 💼 Devices Selection Policies			IP/Mask	Scope	Preferred	Subnet Control					
PERMIT_ALL-ASA5585_SGT-N1					No items have been found.						
1	consumer					Select Actions to create a new item.					
	provider										
🕨 🖿 Deployed Graph Instances			4								
Deployed Devices		Virtual IP Addresses:					\times	+			
Inband Management Configuration for L4-L7 devices			 IP Address 								
🕨 🖿 Device Managers											
🕨 🛄 Chassis						No items have been found. Select Actions to create a new item.					

تحقق من مثيل الرسم البياني الذي تم نشره، كما هو موضح في الصورة:

Concilete interfaces ASA5565_Device_1(()igabitEthernet0(1) ASA5565_Device_1(()igabitEthernet0(1) Encep		Policy
Concrete interfaces ASA5565_Device_1(f)(igabitEthernet0(f) ASA5565_Device_1(f)(igabitEthernet0(f) Encep		Policy
Concrete Interfaces ASA5565_Device_1((DiggabitEthernet0/1) ASA5565_Device_1(OiggabitEthernet0/1) Encep		Policy
Concrete Interfaces A8A5595_Device_1((0)gabitEthernet0(1) A8A5595_Device_1((0)gabitEthernet0(1) Encep		Police
Concrete Interfaces A985585_Device_1I(0)gabitEthernet0/1) A5A5586_Device_1/(0)gabitEthernet0/0) Encep		
Concrete Interfaces ASA5565_Device_1(/olgabitEthernet0/r) ASA5565_Device_1(/olgabitEthernet0/r) Encap		
Concrete Interfaces A685585_Device_1()0(gabitEthernet0/1) A885585_Device_1()0(gabitEthernet0/0) Encep		
Concrete interfaces ASA5565_Device_1/(0igabitEthernet0/1) ASA5565_Device_1/(0igabitEthernet0/0) Encap		
Concrete Interfaces ASA5565_Device_1(/0igabitShernet0/r) ASA5565_Device_1/(0igabitShernet0/r) Encap		
Concrete Interfaces ASA5595_Device_1((GigabilEthernet0/1) ASA5595_Device_1((GigabilEthernet0/0) Encap		
Concrete Interfaces ASA5585_Device_1((0)gabitEthernet0/1) ASA5585_Device_1((0)gabitEthernet0/0) Encep		
ASA5505_Device_1/[OigabitEthernet0/1] ASA5505_Device_1/[OigabitEthernet0/0] Encap		
ASA5585_Device_1/[OigabitEthernet0/0] Encap		
Encap		
Encep		
	Class ID	
view 404	20272	
wan- i ui	32173	
vlan-102	49156	
rs		
Name	Value	Override Name/Value To
rs	Name	Name Value

cisco				VM Net					Operations	
	ALL TENANTS Add Tenant Search: e	nter name, descr	common T1 in							
Tenant T1		 O 	Deployed D	oviece						
🔲 Quick Start			Deployed D	evices						
4 🐣 Tenant T1										
Application Profiles Networking			⊖₹							
L4-L7 Se	irvice Parameters		A Device Name				VRF			
🕨 🖿 Security F	Policies		ASA5585				none			
🕨 🖿 Troubles	hoot Policies									
Monitorin	ig Policies									
▶ 🖬 L4-L7	Service Graph Templates									
🕨 🖿 Route	er configurations									
🕨 🖿 Funct	ion Profiles									
E L4-L7	Devices ted Devices									
Devices Selection Policies										
PERMIT_ALL-ASA5585_SGT-N1										
📜 consumer										
🛋 🗖 Depic	provider wed Graph Instances									
⊿ 💙 PE	ERMIT_ALL-ASA5585_SGT-T1									
1	Function Node - N1									
A Depic	oyed Devices									
A A A	BGP Device Configuration									
	OSPF Device Configuration									
▲ \$*	PERMIT_ALL-ASA5585_SGT-T1									
	BGP Graph Instance Configuration									
4	V* N1									
_	📃 Connector N1/consumer									
(E) where	E Connector N1/provider									
🔲 Inban	d Management Configuration for L4-L7 device e Managers	S								
🖿 Chas	sis									
ahah	Autor Toronte	F alwia	AN INTERNATION	14120-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-		den la	Occurting		0	:
CISCO	System Tenants	F abric							~	1
Tenant T1			Oran France tirana							
Duick Start		Device USPF	Configurations							
 Tenant T1 Application Pro 	files	€±								
Networking	Parameters	Name	Enable	e Context Name	Address Family	Area	Area Control	Area Type	Networks	
Security Policie	8	ASA_IN_L3OUT_area	_0 True	VRF2	IPv4	Backbone area	Send redistributed LSAs into NSSA Originate summary LSA Send redistributed LSAs into NSSA	karea Regulararea	ASA_IN_EXT_NET (10.10.1	10.0/24)
 Troubleshoot P Monitoring Policity 	folicies cies	ASA_OUT_E3OUT_a	ea_U Irue	VRF1	IPv4	Backbone area	Originate summary LSA	Regular area	ASA_OUT_EXT_NET (20.2)	0.20.0/24)
L4-L7 Services	a Crash Tamalatan									
Router confi	igurations									
Function Print End Function Print Functi Print Function Print Function Print F	ofiles es									
Imported De	avices									
Devices Sel PERMIT, PERMIT,	lection Policies _ALL-ASA5585_SGT-N1									
💷 const 💷 provi	umer dar									
🔺 🖿 Deployed G	raph Instances									
✓ Y PERMIT	_ALL-ASA5585_SGT-T1 tion Node - N1									
🔺 🚞 Deployed D	evices									
 ASA558 BGP 	perione Device Configuration									
	Device Configuration									
B	GP Graph Instance Configuration									
■ 0: ■ \\ \\ N	SPF Graph Instance Configuration									
1	Connector N1/consumer									
📃 Inband Man	agement Configuration for L4-L7 devices									
🖿 Device Man 💼 Chassie	agers									

التحقق من الصحة واستكشاف الأخطاء وإصلاحها

تكوين APIC للمستأجر:

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#

التحقق من علاقة OSPF المجاورة وجدول التوجيه على صفحة 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 Vlan8 1 FULL/BDR 1.1.1.1 FULL/BDR 00:38:35 192.168.1.5 Vlan9 1 3.3.3.3 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>%' ubest/mbest: 1/0 ,10.10.10.0/24 via 192.168.1.1, vlan8, [110/8], 01:59:50, ospf-default, intra* ubest/mbest: 1/0 ,20.20.20.0/24 via 192.168.1.5, vlan9, [110/22], 00:30:20, ospf-default, inter* ubest/mbest: 2/0, attached, direct ,100.100.100.100/32 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* ubest/mbest: 1/0, attached, direct ,192.168.1.0/30 via 192.168.1.2, vlan8, [1/0], 02:35:53, direct* ubest/mbest: 1/0, attached ,192.168.1.2/32 via 192.168.1.2, vlan8, [1/0], 02:35:53, local, local* ubest/mbest: 1/0, attached, direct ,192.168.1.4/30 via 192.168.1.6, vlan9, [1/0], 02:20:53, direct* ubest/mbest: 1/0, attached ,192.168.1.6/32 via 192.168.1.6, vlan9, [1/0], 02:20:53, local, local*

ubest/mbest: 1/0 ,192.168.1.8/30 via 192.168.1.5, vlan9, [110/14], 00:30:20, ospf-default, intra* ubest/mbest: 1/0 ,200.200.200.200/32 via 192.168.1.5, vlan9, [110/15], 00:30:20, ospf-default, intra* التحقق من علاقة OSPF المجاورة وجدول التوجيه على صفحة 102:

leaf102# show ip ospf neighbors vrf T1:VRF2 OSPF Process ID default VRF T1:VRF2 Total number of neighbors: 2 Neighbor ID Pri State Up Time Address Interface 3.3.3.3 FULL/BDR 00:37:07 192.168.1.9 Vlan14 1 FULL/BDR 02:09:59 192.168.1.13 Vlan15 1 2.2.2.2 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>%' ubest/mbest: 1/0 ,10.10.10.0/24 via 192.168.1.9, vlan14, [110/22], 00:35:22, ospf-default, inter* ubest/mbest: 1/0 ,20.20.20.0/24 via 192.168.1.13, vlan15, [110/8], 02:08:13, ospf-default, intra* ubest/mbest: 1/0 ,192.168.1.4/30 via 192.168.1.9, vlan14, [110/14], 00:35:22, ospf-default, intra* ubest/mbest: 1/0, attached, direct ,192.168.1.8/30 via 192.168.1.10, vlan14, [1/0], 02:14:29, direct* ubest/mbest: 1/0, attached ,192.168.1.10/32 via 192.168.1.10, vlan14, [1/0], 02:14:29, local, local* ubest/mbest: 1/0, attached, direct ,192.168.1.12/30 via 192.168.1.14, vlan15, [1/0], 02:09:04, direct* ubest/mbest: 1/0, attached ,192.168.1.14/32 via 192.168.1.14, vlan15, [1/0], 02:09:04, local, local* ubest/mbest: 2/0, attached, direct ,200.200.200.200/32 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*

التحقق من التكوين، وعلاقة جوار OSPF وجدول التوجيه على ASA 5585:

ASA5585# sh run interface 1 interface GigabitEthernet0/0 no nameif security-level 0 no ip address 1 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 1 interface GigabitEthernet0/1.102 nameif internalIf

```
security-level 100
                                                       ip address 192.168.1.9 255.255.255.252
                                                                                            !
                                                                      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
                   FULL/DR
                                  0:00:38 192.168.1.6 externalIf 1 100.100.100.100
                                   0:00:33 192.168.1.10 internalIf 1 200.200.200.200
                   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
                                     via 192.168.1.6, 00:22:57, externalIf [110/18]
                                                            O IA
                                                                     20.20.20.0 255.255.255.0
                                    via 192.168.1.10, 00:22:47, internalIf [110/18]
                                                              200.200.200.200 255.255.255.255
                                                     0
                                    via 192.168.1.10, 00:22:47, internalIf [110/11]
                                                                      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 التحقق من التكوين، وجدول علاقة جوار OSPF والتوجيه على 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 Neighbor ID Pri State Up Time Address Interface 01:36:24 192.168.1.2 Eth1/47 1 100.100.100.100 FULL/DR 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) intra)(D) area 0.0.0.1) 10.10.10.0/24 via 10.10.10.0/Eth1/21* , cost 4 inter)(R) area 0.0.0.1) 20.20.20.0/24 via 192.168.1.2/Eth1/47 , cost 62 intra)(R) area 0.0.0.1) 100.100.100.100/32 via 192.168.1.2/Eth1/47 , cost 41 intra)(D) area 0.0.0.1) 192.168.1.0/30

التحقق من التكوين، وجدول علاقة جوار OSPF والتوجيه على N3K-2:

via 192.168.1.1/Eth1/47* , cost 40

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

التحقق من قواعد عامل تصفية العقد على الورقة وعدد مرات ضرب الحزمة:.

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

إختبار قابلية الوصول بين N3K-1 و 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 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 64 packets transmitted, 5 packets received, 0.00% packet loss 5
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 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 64

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

مرفق هو ملف تكوين XML للمستأجر وملف تعريف وظيفة ASA، المستخدم لهذا العرض التوضيحي.

ةمجرتاا مذه لوح

تمجرت Cisco تايان تايانق تال نم قعومجم مادختساب دنتسمل اذه Cisco تمجرت ملاعل العامي عيمج يف نيم دختسمل لمعد يوتحم ميدقت لقيرشبل و امك ققيقد نوكت نل قيل قمجرت لضفاً نأ قظعالم يجرُي .قصاخل امهتغلب Cisco ياخت .فرتحم مجرتم اممدقي يتل القيفارت عال قمجرت اعم ل احل اوه يل إ أم اد عوجرل اب يصوُتو تامجرت الاذة ققد نع اهتي لوئسم Systems الما يا إ أم الا عنه يل الان الانتيام الال الانتيال الانت الما