使用L3out配置IP SLA功能以跟踪静态路由

目录

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简介

本文档介绍如何在思科以应用为中心的基础设施(ACI)中配置互联网协议服务级别协议(IPSLA),以 跟踪从一个L3out获知的静态路由,并仅在从第一个L3out可到达子网时通告给另一个L3out。

先决条件

要求

Cisco 建议您了解以下主题:

- ACI软件版本4.1及更高版本
- •L3out指向外部设备或服务器
- EX和 FX机箱
- 跟踪路由以使用互联网控制消息协议(ICMP)和TCP探测功能(在本示例中使用ICMP探测功能)

注意:所有Cisco Nexus第二代交换机都支持ACI映像IP SLA,包括 — EX和 — FX机箱。请 阅读IP SLA的指<u>南和限制。</u>

使用的组件

本文档中的信息基于以下软件和硬件版本:

- ACI版本5.2(2f)
- N9K-C93180YC-FX

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原 始(默认)配置。如果您的网络处于活动状态,请确保您了解所有命令的潜在影响。

背景信息

某些服务器有多个接口(如环回接口),可通过服务器的物理IP地址从ACI访问。在这种情况下 ,您可能需要添加静态路由并向外部通告,但前提是服务器的物理IP可访问。因此,IP SLA跟踪功 能是无法避免的配置,只能通过L3out配置实现这些服务器。此时,网桥域上的静态路由不<u>支持IP</u> <u>SLA跟踪功能</u>。在本文档中,我们将查找使用IP SLA的服务器示例和中转路由配置。

配置

- •L3out向服务器和N3K设备。
- 为服务器的物理IP地址配置IP SLA跟踪。
- 在L3out下配置指向服务器的静态路由,该服务器使用IP SLA跟踪并从另一个L3out通告给 N3K。

网络图



ACI实验拓扑

配置

总结步骤:

ACI交换矩阵策略:

- 创建合同(对于本例,是允许使用所有流量的通用默认过滤器,但您可以使用在同一租户中本地 创建的特定过滤器来允许特定流量。在这种情况下,请确保您允许我们用于IP SLA跟踪的协议)。
- •为服务器10.100.0.100/24(ACI端SVI 550,IP地址为10.100.0.254)创建新的L3out
- 创建IP SLA跟踪策略(IP SLA监控策略、跟踪成员策略、跟踪列表策略)
- •在L3out下向带IP SLA跟踪列表的服务器添加静态路由。
- •为使用BGP的N3K设备创建新的L3out。(EBGP)ACI AS 65535和N3K AS 65536
- •从L3out向N3K导出静态路由。
- 检验配置和连通性。
- 创建合同(在本例中,使用允许所有流量的通用默认过滤器,但是,您可以使用在同一租户中 本地创建的特定过滤器来允许特定流量,但在这种情况下,请确保允许我们用于IP SLA跟踪的 协议)。

TN_D	Contract - Contract	t_L3out	t_BGP									0.0
~ 🗒 tn_d						Summani	Topology	Deligue	Deer Entition	Contract Exception	Englis	History
> 🚍 Application Profiles						Summary	roboiolly	Poincy	Peter characa	Comment Exception	rauna	motory
> 🖬 Networking											Ó	1 %-
Contracts	Properties											
V 🚍 Standard	N	ame: Contri	ract_L3out_BGP									^
Gontract_L3out_BGP		las:										
Taboos	Global A	Mas:										
> 🖿 Imported	So	ope: VRF										
> 🚍 Fitters	QeS C	tass: Unsp	pecified 🗸									
> 🚍 Policies	Target Dt	SCP. Unsp	pecified									
> 🧮 Services		Target	COSCP Marking works cirty if the QoS C	tees in ser								
🚍 Security (Beta)	Descrip	non: sopoi										
	Annotati		Click to add a new annotation									
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		- N	Varne J	Alias	Filters				Description			
		Allo	tw_Any		common/default							
	L	_										

创建合同

2.为服务器10.100.0.100/24(ACI端SVI 550,IP地址为10.100.0.254)创建新的L3out。

TN_D	O L3 Outside - L3out_Static_server
∨ Щ д_ит д_	
> E Application Profiles	
🗸 🚞 Networking	
> 💳 Bridge Domains	
> 💳 VRFs	
> 💳 L2Outs	Properties
L3Outs	Name: L3out_Static_server
> ① L3out_N3K_BGP	Allas
✓	Description. Optional
> 🖬 Logical Node Profiles	
> 🚞 External EPGs	Annotations: 🕀 Click to add a new annotation
> 🚞 Route map for import and export route control	Global Alias:
> 💳 SR-MPLS VRF L3Outs	Provider Label:
> 💳 Dot1Q Tunnels	enter names separated by comma
✓	Target DSCP: Linspecified
🗸 💳 Standard	
> 😇 Contract_L3out_BGP	PIMV6:
> 💳 Taboos	Route Control Enforcement: Maport
> 🧮 Imported	
🖿 Filters	
> 🧮 Policies	L3 Domain: TN_D_L3Dom
> 🚍 Services	Route Profile for Interleak: select a value
🚞 Security (Beta)	Route Profile for Redistribution
	+ Source
	- 30000
	Enable BGP/EIGRP/OSPF: BGP OSPF EIGRP
	Route Control for Dampening:
	Address Family Type

创建L3out

TN_D	00	Logical Node Profile - L3out_S	Static_server_nodeProfile		
< 2_אז פ_אז ש					
> E Application Profiles					
V 🖿 Networking					
> 🚞 Bridge Domains		Properties			
> 🚍 VRFs		Nar	me: L3out_Static_server_nodeProfile		
> 🔤 L2Outs		Descripti	tion: optional		
V 🖿 L3Outs					
> 🚯 L3out_N3K_BGP		A	lias:		
L3out_Static_server		Target DS	CP: Unspecified		
Logical Node Profiles		Not	des:		
El3out_Static_server_nodeProfile			 Node ID 	Router ID	Loopback Address
> Configured Nodes			topology/pod-1/node-101	101.101.101	101.101.101.101
Logical Interface Profiles					
L3out_Static_server_interfaceProfile	1				
V 🚞 External EPGs					
EXT_static_EPG					
Route map for import and export route control					
> 🚞 SR-MPLS VRF L3Outs		Create BGP Protocol Pro	file:		
> 🧮 Dot1Q Tunnels		Create BFD Multihop Protocol Pro	ntie: 🔲		
> 🚞 Contracts					

将节点连接到L3out

TN_D	\bigcirc	Logical Interface Profile -	L3out_Static_server_inte	rfaceProfile							0.0
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> 🚍 Application Profiles									Polic	Paults	History
Networking							General Routed S	ub-Interfaces	Routed Interfaces	SVI FI	loating SVI
> 🚞 Bridge Domains		0.0.0									
> 🧮 VRFs											0 ±
> 🚞 L2Outs											11 +
L3Outs		- Path	Side A IP	Side B IP	Secondary IP Address	IP Address	MAC Address	MTU (bytes)	Encap	Encap Se	cope
> 🙆 L3out_N3K_BGP		Ded. 101ada 101/ab1/0			Plaareaa	10 100 0 054/04	00.00.00.00.10.00	in the solution	den 507	Land	
V 🙆 L3out_Static_server		Pod-1/Node-101/e011/3				10.100.0.259/29	00.22.80.76.19.77	EDEN	Vian-507	LOCA	
Logical Node Profiles											
El L3out_Static_server_nodeProfile											
> Configured Nodes											
Logical Interface Profiles											
L3out_Static_server_interfaceProfile	•										
V 🚞 External EPGs											
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将接口连接到L3out

TN_D C3	External EPG - I	EXT_static_EPC	3							0.0
~ ₪ עד										
> Carl Application Profiles							Pol	cy Operational	Health Fau	its History
Wetworking						General	Contracts	Inherited Contracts	Subject Labels	EPG Labels
> 🚞 Bridge Domains	0.0.0.0									
> 🚍 VRFs										0 ± %.
> 🚍 L2Outs	Properties									
🗸 🚞 L3Outs	Nan Alt	THE: EXI_STADC_EPG								^
> 🚯 L3out_N3K_BGP	Annotatio		a nave annatation							
L3out_Static_server	Global Ali		or a menin annotation							
Logical Node Profiles	Deserved	inter Constituted								
V E L3out Static server_nodeProfile	Description	on: opponal								
> Configured Nodes										
Logical Interface Profiles	pcT.	ag: 32771								
L3out Static server interfaceProfile	Contract Exception T	90:								
V External EPGs	Configured VRF Nan	me: VRF_S								
EXT static EPG	Resolved VI	RF: uni/tn-TN_D/cb	C-VRF_S							
Route map for import and export route control	QUS Ca	os. Unspecified								
SR-MPLS VRF L3Outs	Target DSC	Unspecified								
Dot10 Turnels	Configuration Stat	tus: applied								
	Coniguration isso									
	Preterred Group Memb	Ser. Excluse	Include							
	Intra Ext-EPG Isolati	ion: (Enforced	Unenforced							
Security (Beta)	Subne	MSC .								11 +
		 IP Address 		Scope	Name	Aggregate	Route	Control Profile	Route Summarizatio	on Policy
		0.0.0.0/0		External Subnets for	the Extern					
										~
								Show Us	age Reset	

配置外部EPG

TN_D ○囲TN_D ○ ■ Anotication Deathers	090	External EPG - E	XT_static_EPG					P	Dicy Operational	Health	C C Faults History
V Networking							General	Contracts	Inherited Contracts	Subject Labe	s EPG Labels
> The stage comains and the stage of the sta		♥Healthy 🛞 👽 🔇									0 ± %-
> 🚞 L2Outs		Name	 Tenant 	Tenant Alias	Contract Type	Provided / Consumed	QoS Class	State	Label	5	iubject Label
L3Outs		Gontract Type: Contract									
> L3out_N3K_BGP		Contract_L3out_BGP	TN_D		Contract	Provided	Unspecified	formed			
V 📤 L3out_Static_server											
V Logical Node Profiles											
El Casta and Nation											
Contiguited Nodes											
L3out_Static_server_interfaceProfile											
V 📰 External EPGs											
EXT_state_EPG											
将合同附加到L3out											

3.创建IP SLA跟踪策略(IP SLA监控策略、跟踪成员策略、跟踪列表策略)。

IP SLA监控策略:



IP SLA跟踪成员:

TN_D	00	Track Member - Se	rver_Physi	cal_IP							00
> ■ d_nt	~							Delieu	Cloba	Foulte	
> 🚞 Application Profiles	_							Policy	Stats	Faults	History
> 🖿 Networking	_									0	÷ **-
> Contracts	_	Properties									
🗠 🚍 Policies	_		Name:	Server_Physical_IP							
V 🚞 Protocol	_		Description:								
> 🧰 BFD	_										
> 🧮 BFD Multihop	_	Track ID Of Object To	Be Tracked:	2000							
> 🧮 ND RA Prefix	_	Destination IP To	Be Tracked:	10.100.0.100							
> 🚍 BGP	_	Scope of Tr	ack Member:	L3Out - L3out_Static_si	erva 🗢 🚱 🛛						
> 🚍 Custom QoS	_		IPSLA Policy:	ICMP_Monitor	IVI 🚱 🛛	Status	of destination track IP				
> 🚍 Data Plane Policing	_	1	Deployments:	Node ID	Operation Number	 Operation Status	Latest Operation Error Message				
> 🚍 DHOP				Pod-1/Node-101	2000	Reachable	OK				
> 🚍 EIGRP	1										
End Point Retention	_										
> 🧮 First Hop Security	_										
> 🚍 HSRP											
> 🧮 IGMP Interface											
> 🚍 IGMP Snoop											
V 🚍 IP SLA											
P SLA Monitoring Policies											
E ICMP_Monitor											
> 🚍 Track Lists											
Track Members											
Server_Physical_IP											
送加10以此协学政											

添加IP以监控策略

跟踪列表策略:

TN_D	۵0	Track List - Tracking_Server_Physical_IP				0.0
✓ ■ TN_D	~			C	F	
> C Application Profiles			Policy	Stats	Faults	History
> 🚍 Networking					0	± %-
Contracts		Properties				
🖂 🚞 Policies		Name: Tracking_Server_PhysicaLJP				
Protocol		Description: optional				
> 🚞 efd						
> 🚞 BFD Multihop		Type of Track List: Threshold percentage				
> 🥅 ND RA Prefix		Percentage Up (percentage): 1				
> 🚞 9GP		Hereenstage Operation (in a constraint of a co				
> 🚞 Custom QoS		Percentage Lower (percentage). 0 Execution Developments Development (percentage) (p				
> 🚞 Data Plane Policing		Track list to track member				11 +
> 🚞 DHCP		reation: Track Member				
> 🧮 EIGRP		TN_D/Server_Physical_JP				
> 🚞 End Point Retention	_					
> 🚞 First Hop Security						
> 🧮 HSRP	- 5					
> 🚞 IGMP Interface						
> 🚞 IGMP Snoop						
V 🚞 IP SLA						
V III IP SLA Monitoring Policies						
ICMP_Monitor						
🖂 🚞 Track Lists						
F Tracking_Server_Physical_IP						
Track Members						
Server_Physical_IP						

配置跟踪列表

4.在L3out下使用新创建的IP SLA跟踪列表策略配置指向服务器的静态路由。

cisco APIC					admin 🔍	00	00
System Tenants Fabric Virtual Networking Admin	Operations Apps Inte	grations					
ALL LEWANTS ADD TENARE TENARE Search, Intelle of Celor	Common IN_D comwangz	SERVERS edge					
()(1)(0) ()(1)(0)	Node Association						00
> H Application Profiles					Policy	Faults	History
V 🖿 Networking	8 0 0 0					0	± %-
> 🧮 Bridge Domains	Properties						
> 🔤 VRFs	Node ID Router ID	t: topology/pod-1/node-101					^
	Use Router ID as Loopback Address						
> 🚯 L3out_N3K_BGP	Loopback Addresses	This setting will be ignored if loopback addresses and	e defined in the table below.				
V 🔂 L3out_Static_server		▲ IP					
Logical Node Profiles				No items have been found.			
ISout_Static_server_nodeProfile				Select Actions to create a new item.			
Computed rootes F topology/pod-1/node-101							
> 🚔 Logical Interface Profiles	Intersite Loopback Addresses						2 +
> 🚞 External EPGs		▲ IP					
Route map for import and export route control				No items have been found.			
SR-MPLS VIF L30///s Dot10 Turovit				Select Actions to create a new item.			
> Contracts							
> Policies 15.2(2f)	Static Routes						n +
> Services L3out_S	tatic_server	 IP Address 	Description	Track Policy	Next Hop IP		
Encapy L3Out 10.100/	lan 507 0.254/24	200.0.0.1/32		TN_D/Tracking_Server_Physical_IP	10.100.0.100		
VRF: TN	_D:VRF_S		Static route added with IP S	LA Track which tracking physical IP of server.			
							ý.
Physical IP: 10.100.0.10 Loopback 507: 200.0.0	.1/32						
					Show Usage R		

在L3out下配置静态路由

5.为使用边界网关协议(BGP)的N3K设备创建新的L3out。(EBGP)ACI AS 65535和N3K AS 65536。

TN_D	S () () () L3 Outside - L3out_N3K_BGP
ע_אד	
> Application Profiles	
V 🚞 Networking	
> 🚞 Bridge Domains	
> 🚞 VRFs	
> 🚞 L2Outs	Properties
🗸 🚍 L3Outs	Name: L3out_N3K_BGP
✓	Alida.
V 🖿 Logical Node Profiles	Description: Optional
✓	
> 🧮 Configured Nodes	Annotations: 🜐 Click to add a new annotation
🗸 🚞 Logical Interface Profiles	Global Alias:
V 🗧 L3out_N3K_BGP_interfaceProfile	Provider Label:
BGP Peer 100.0.0.2- Node-102/1/3	Consumer Label: select an option
✓	Target DSCP: Unspecified
EXT_N3K_BGP_EPG	
Route map for import and export route control	PIMv6:
> 🚯 L3out_Static_server	Route Control Enforcement: Margorit
> 🚞 SR-MPLS VRF L3Outs	
> 🚞 Dot1Q Tunnels	Resolved VRF: TN D/VRF S
> 🚍 Contracts	L3 Domain: TN D L3Dom
> 🧮 Policies	Route Profile for Interleak: select a value
> 💳 Services	Route Profile for Redistribution:
🔚 Security (Beta)	▲ Source
> C+ Quick Start	
	Enable BGP/EIGRP/OSPF 🗹 BGP
	Route Control for Dampening:
	▲ Address Family Type

配置BGP协议

TN_D (C)	Logical Node Profile - L3out_B	3P_nodeProfile		
~ 開 ™.0				
> 🔤 Application Profiles				
V 🚞 Natworking				
> 🔤 Bridge Domains	Properties			
> 🖿 VRFs	Nam	e: L3out_BGP_nodeProfile		
> 🖴 120m	Descriptio	 optional 		
V 🔜 LSOUS				
V 🙆 Lävut, Nälk, BBP	Ala	K		
Logical Node Profiles	Target DSC	E Unspecified		
V 🗧 L3out_BGP_node/hote	Node	K		
> 🔛 Configured Nodes		- Note D	RouterD	Loopback Address
Logical Interface Profiles		topologu/pod=1/node=102	102.102.102.102	102.102.102.102
I.Sout_NIK_BGP_interfaceProfile				
BSP Peer 100.0.0.2 - Node-102/1/2				
El Deensi EPCo El De				
EXT_NOK_BOP_EPG				
E Route map for import and export route control				
> 📤 L3out_Static_server	BGP Peer Connectivit			
> 🔤 SR-MPLS VIF LODUS		Peer IP Address	Peer Controls	Interface
> 🔤 Dot1Q Turnets		100.0.0.2		Pod-1/Node-102/eth1/3
> Contracts				
> Poécies				
> Services				
E Security (Bana)				
> O quecsuit		_		
	Create BGP Protocol Profil			
	Greate Gro Matthop Protocol Prote	- U		

BGP对等配置文件



配置BGP对等策略



在L3out下配置逻辑接口配置文件

cisco de los	
System Texands Fabric Visual Networking Admin Operations Apps Integrations	
ALTENANTS Add Tenant Tenant Search Ione a calco	
INLD (D) (G) (G) C Exemple FOR A DEC NOX INDE FOR	0.0
	00
> 🔝 Application Putters	im Paults History
🗸 🖬 Instructing 🛛 🔤 General Contracts Inherited Contracts Sub	ect Labels EPG Labels
	0 1 %-
	V = 111
Example 2010 Name Dit Jok (49-100	^
Alar	
Conceptibility Concepti	
Control Contro	
3 Contrares Note: Decorption: Optional	
 Bit Logical Interface Partice 	
 Elsor,NC,DRP,methodestete pchgr:1038 	
BOP Peer too 5.0.2 - Muer-100/1/3 Context Exception Tag.	
Conducative We have Weight and table and	
tot jac, dog, pto dold kii: Unpached	
> 📾 Rode may for import and report rode control Early EDGCP, Unsecutive U	
> 🕹 Libor, thing, server Comparation Status applied	
> 🔤 SR-MHLS VIE LOOMs Configuration Issues:	
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I in briefs United I in the Drift Distance United I United I United I	
A lat Paced	2.4
a Pladeos aproperta da esta a seconda da esta Seconda da esta a seconda esta a seconda da esta Seconda da esta a seconda esta a seconda da esta a seconda de esta a seconda da esta a second	on Policy
C Dask Start 00.0.00 Detamal Supress for the Detamal (PG	
100.0 1/32 Garde Fault Carter Suber	

传输L3out中的外部EPG导出子网

TN_D	000	External EPG - EXT_N3	K_BGP_EPG						
✓ ∰ T_D									Policy Operational
> 🖬 Appelation Homes								General	Contracts Inherited Contracts
> 🔤 Bridge Domains		THEATTY 🗿 🕐 🙆 🕐							
> = ves		Name	 Tenant 	Tenant Alias	Contract Type	Provided / Consumed	QoS Class	State	Label
V 🚞 130/8		G Contract Type: Contract							
V 🙆 LBoxt_NBK_BBP		Contract_L3out_BGP	TN_D		Contract	Consumed	Unspecified	formed	
Logical Node Profiles									
V B L3out_BOP_nodeProfile									
> 🧰 Configured Nodes									
English Interface Profiles									
Elout_NIK_BOP_intertaceProfile									
BOP Peer 100.0.0.2 - Node-102/1/3									
V D Dyternol FD/Is									

将合同附加到外部EPG

6.从L3out向N3K导出静态路由。

switchname N3K feature bgp feature interface-vlan interface Vlan550 no shutdown vrf member BGP_L3out ip address 100.0.2/30 interface loopback200 vrf member BGP_L3out ip address 30.30.30.1/32 interface Ethernet1/1 switchport mode trunk router bgp 65536 address-family ipv4 unicast neighbor 100.0.0.1 vrf BGP_L3out router-id 3.3.3.3 address-family ipv4 unicast network 30.30.30.1/32 neighbor 100.0.0.1 remote-as 65535 update-source Vlan550 address-family ipv4 unicast

验证

使用本部分可确认配置能否正常运行。

Nexus3K。



中转路由通告由拓扑解释

N3K# routing vrf BGP_L3out

N3K%BGP_L3out# show ip route IP Route Table for VRF "BGP_L3out" '*' denotes best ucast next-hop '**' denotes best mcast next-hop '[x/y]' denotes [preference/metric] '%' in via output denotes VRF 30.30.30.1/32, ubest/mbest: 2/0, attached *via 30.30.30.1, Lo200, [0/0], 02:35:27, local *via 30.30.30.1, Lo200, [0/0], 02:35:27, direct 100.0.0/30, ubest/mbest: 1/0, attached *via 100.0.0.2, Vlan550, [0/0], 05:52:18, direct 100.0.0.2/32, ubest/mbest: 1/0, attached *via 100.0.0.2, Vlan550, [0/0], 05:52:18, local 200.0.0.1/32, ubest/mbest: 1/0 *via 100.0.0.1, [20/0], 02:32:36, bgp-65536, external, tag 65535

源地址为N3K环回地址时,可以访问服务器环回。

N3K

interface loopback200
vrf member BGP_L3out
ip address 30.30.30.1/32

N3K# ping 200.0.0.1 vrf BGP_L3out source 30.30.30.1

PING 200.0.0.1 (200.0.0.1): 56 data bytes 64 bytes from 200.0.0.1: icmp_seq=0 ttl=252 time=0.94 ms 64 bytes from 200.0.0.1: icmp_seq=1 ttl=252 time=0.729 ms 64 bytes from 200.0.0.1: icmp_seq=2 ttl=252 time=0.658 ms 64 bytes from 200.0.0.1: icmp_seq=3 ttl=252 time=0.706 ms 64 bytes from 200.0.0.1: icmp_seq=4 ttl=252 time=0.655 ms --- 200.0.0.1 ping statistics ---5 packets transmitted, 5 packets received, 0.00% packet loss round-trip min/avg/max = 0.655/0.737/0.94 ms

ACI枝叶102路由表(具有面向Nexus 3K的L3out)。

Leaf102# show ip route vrf TN_D:VRF_S

IP Route Table for VRF "TN_D:VRF_S"
'*' denotes best ucast next-hop
'**' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%' in via output denotes VRF
10.100.0.0/24, ubest/mbest: 1/0
 *via 10.0.96.64%overlay-1, [200/0], 02:56:36, bgp-65535, internal, tag 65535
30.30.1/32, ubest/mbest: 1/0

of N3K.
 *via 100.0.0.2%TN_D:VRF_S, [20/0], 02:44:34, bgp-65535, external, tag 65536
100.0.0/30, ubest/mbest: 1/0, attached, direct
 *via 100.0.0.1, vlan19, [0/0], 05:09:37, direct
100.0.0.1/32, ubest/mbest: 1/0, attached
 *via 100.0.0.1, vlan19, [0/0], 05:09:37, local, local
101.101.101.101/32, ubest/mbest: 1/0
 *via 10.0.96.64%overlay-1, [1/0], 02:56:36, bgp-65535, internal, tag 65535
102.102.102.102.102,102, lo5, [0/0], 16:49:13, local, local
 *via 102.102.102.102, lo5, [0/0], 16:49:13, direct
200.0.0.1/32, ubest/mbest: 1/0
 *via 10.0.96.64%overlay-1, [1/0], 02:42:15, bgp-65535, internal, tag 65535

枝叶101 IP SLA配置验证(从CLI)。

Leaf101# show ip sla configuration IP SLAs Infrastructure Engine-III Entry number: 2000 Owner: owner-icmp-echo-dme Taq: Operation timeout (milliseconds): 900 Type of operation to perform: icmp-echo Target address/Source address: 10.100.0.100/0.0.0.0 Traffic-Class parameter: 0x0 Type Of Service parameter: 0x0 Request size (ARR data portion): 28 Verify data: No Vrf Name: TN_D:VRF_S Schedule: Operation frequency (seconds): 5 (not considered if randomly scheduled) Next Scheduled Start Time: Start Time already passed Group Scheduled : FALSE Randomly Scheduled : FALSE Life (seconds): Forever Entry Ageout (seconds): 3600 Recurring (Starting Everyday): FALSE Status of entry (SNMP RowStatus): Active Threshold (milliseconds): 900 Distribution Statistics: Number of statistic hours kept: 2 Number of statistic distribution buckets kept: 1 Statistic distribution interval (milliseconds): 20 History Statistics: Number of history Lives kept: 0 Number of history Buckets kept: 15 History Filter Type: None

Leaf101# show track brief

TrackId	Туре	Instance	Parameter	State	Last Change
4	IP SLA	2000	reachability	up	2021-09-16T18:08:42.364+00:00
3	List		percentage	up	2021-09-16T18:08:42.365+00:00

Leaf101# show track

```
Route prefix 200.0.0.1/32

Track 2

IP SLA 2000

reachability is up

6 changes, last change 2021-09-16T00:01:50.338+00:00

Tracked by:

Track List 1
```

使用托管对象查询(Moquery)命令进行验证:

apic1# moquery -c fvIPSLAMonitoringPol -f 'fv.IPSLAMonitoringPol.name=="ICMP_Monitor"'
Total Objects shown: 1

# fv.IPSLAMonitoringPol						
name	:	ICMP_Monitor				
annotation	:					
childAction	:					
descr	:					
dn	:	uni/tn-TN_D/ipslaMonitoringPol-ICMP_Monitor				
extMngdBy	:					
httpMethod	:	get				
httpUri	:	/				
httpVersion	:	HTTP10				
ipv4Tos	:	0				
ipv6TrfClass	:	0				
lcOwn	:	local				
modTs	:	2021-09-15T21:18:48.195+00:00				
monPolDn	:	uni/tn-common/monepg-default				
nameAlias	:					
ownerKey	:					
ownerTag	:					
reqDataSize	:	28				
rn	:	ipslaMonitoringPol-ICMP_Monitor				
slaDetectMultiplier	:	3				
slaFrequency	:	5				
slaPort	:	0				
slaType	:	icmp				
status	:					
threshold	:	900				
timeout	:	900				
uid	:	15374				
userdom	:	:all:				

apic1# moquery -c fvTrackMember -f 'fv.TrackMember.name=="Server_Physical_IP"' Total Objects shown: 1

fv.TrackMember : Server_Physical_IP name annotation : childAction : descr : dn : uni/tn-TN_D/trackmember-Server_Physical_IP dstIpAddr : 10.100.0.100 extMngdBy : : 2000 id id: 2000lcOwn: localmodTs: 2021-09-15T21:16:22.992+00:00monPolDn: uni/tn-common/monepg-default nameAlias : : ownerKey : ownerTag

rn : trackmember-Server_Physical_IP
scopeDn : uni/tn-TN_D/out-L3out_Static_server
status :
uid : 15374
userdom : :all:

apic1# moquery -c fvTrackList -f 'fv.TrackList.name=="Tracking_Server_Physical_IP"'
Total Objects shown: 1

<pre># fv.TrackList</pre>		
name	:	Tracking_Server_Physical_IP
annotation	:	
childAction	:	
descr	:	
dn	:	uni/tn-TN_D/tracklist-Tracking_Server_Physical_IP
extMngdBy	:	
lcOwn	:	local
modTs	:	2021-09-15T07:41:15.958+00:00
monPolDn	:	uni/tn-common/monepg-default
nameAlias	:	
ownerKey	:	
ownerTag	:	
percentageDown	:	0
percentageUp	:	1
rn	:	tracklist-Tracking_Server_Physical_IP
status	:	
type	:	percentage
uid	:	15374
userdom	:	:all:
weightDown	:	0
weightUp	:	1

故障排除

目前没有针对此配置的故障排除信息。

如果链路断开或物理IP地址无法到达,ACI IP SLA在配置的阈值达到后显示目标IP"超时"。



L3out接口关闭



链路关闭后IP SLA监控链路状态

枝叶101 CLI验证(您可以看到"上次操作返回代码"的超时)。

Leaf101# show ip sla statistics

IPSLAs Latest Operation Statistics IPSLA operation id: 2000 Latest RTT: NoConnection/Busy/Timeout Latest operation start time: 23:54:30 UTC Wed Sep 15 2021 Latest operation return code: Timeout Number of successes: 658 Number of failures: 61 Operation time to live: forever

一旦服务器可达,它就会显示状态OK。

TN_D () () () () () () () () () () () () ()	Track Member - Server_Phys	IP				
					Policy	Stats
> The Networking	8 7 4 0					
> 🖬 Contracts	Properties					
V 🖿 Policies	Name:	r_Physical_IP				
V 🖬 Protocol	Description:					
> 🖬 BFD						
> 🖬 BFD Multihop	Track ID Of Object To Be Tracked:					
> 🖬 ND RA Prefix	Destination IP To Be Tracked:	00.0.100				
> 🖬 BGP	Scope of Track Member:	ut - L3out_Static_serv 🗸 🛃				
> Custom QoS	IPSLA Policy:	P_Monitor 🗸 🕼				
> 🔤 Data Plane Policing	Deployments:	le ID Operation Number	Operation Status	Latest Operation Error Message		
		d-1/Node-101 2000	Reachable	OK		
> 🚍 EIGRP	•					
End Point Retention						
> Erist Hop Security						
> 🖬 HSRP						
> 🖬 IGMP Interface						
> 🧮 IGMP Snoop						
V 🖿 IP SLA						
> 📰 IP SLA Monitoring Policies						
> 🔚 Track Lists						
V 🔚 Track Members						
Server_Physical_IP						

·链路启动后IP SLA监控器状态

Leaf101# show ip sla statistics

IPSLAs Latest Operation Statistics IPSLA operation id: 2000 Latest RTT: 1 milliseconds Latest operation start time: 00:03:15 UTC Thu Sep 16 2021 Latest operation return code: OK Number of successes: 18 Number of failures: 86 Operation time to live: forever

相关信息

- <u>思科APIC第3层网络配置指南,版本5.2(x)</u>
- <u>技术支持和文档 Cisco Systems</u>