infoblox.

DEPLOYMENT GUIDE

Infoblox Network Insight Integration with Cisco ACI

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Introduction

Cisco ACI (Application Centric Infrastructure) is Cisco's SDN (software-defined networking) solution for data centers. This deployment guide illustrates how to configure Infoblox's Network Insight to discover Cisco ACI components and end hosts.

Overview



In addition to discovering various network devices and hosts in Network Insight, you can now discover assets within Cisco ACI such as:

- Tenants and VRFs
- IP subnets
- Bridge Domains
- Fabric Nodes
- APIC controller
- EPG
- Application profile (NetMRI only)
- End hosts

Requirements

The following items are required for Cisco ACI Integration in NIOS:

- Network Insight license.
- Infoblox Network Discovery Appliance.
- Infoblox NIOS 8.2.1 or later is required. NIOS 8.5.0 is the advised release

The following items are required for Cisco ACI Integration in NetMRI:

- NetMRI license.
- Infoblox NetMRI Appliance.
- Infoblox NetMRI 7.2.1 or later is required. NetMRI 7.4 is the advised release

Deployment Instructions

Note: This deployment guide covers only Cisco ACI discovery deployment instructions. Please review the Network Insight Deployment Guide or NIOS Administrator's Guide for Network Insight configuration instructions. Please review the NetMRI Administrator Guide for NetMRI configuration instructions.

Configure Cisco APIC information for Network Insight.

Note: Refer to the NIOS 8.2 Administrators Guide for Network View configuration.

1. Navigate to Grid \rightarrow Grid Manager \rightarrow Discovery. Click on the Discovery member.

Infoblox 📕 🖋 📮	Grid Manager	Upgrade L	icenses	HSM Group	Denter									
Infoblox 🗧 🖋 📮				aloop	Device	Support Ecosystem								
DHCP DNS TFTP	HTTP (File Dist)	FTP DF	P NTP	bloxTools	Discov	Subscriber Collection							4 «	
Members Services Discovery Quick Filter None	• Off Filt	ter On Sho	ow Filter											
Group Results Gro	up By Choose on	8	v	+										
∅ ▶ ■ 1 0										c	io to	Go		
Name Servic	e Status IPv4	Address Co	omment	Site										
Discor	very Service 172.1	9.18.114												
🔽 🔶 probe2.com Disco	very Service 172.1	19.18.113												

2. Click on the **Edit** button on the **Services** screen. Click on the **SDN/SD-WAN** button. Select the **Cisco ACI** entry and click on the **Edit** button. *Note: Talk with your Cisco ACI administrator to get the IP*

address, username, and password. The Cisco ACI administrator can also provide a CA certificate from the APIC.

probe2.com (Member	Discovery Properties Ed	itor)	E	×
	Basic		-	6
General Credentials Seed	Member Role should be pr	redefined as Probe or Consolidator-Probe to ad	d SDN configurations.	"
SDN/SD-WAN	Add Cisco ACI Configura *Fabric Name	ation aci_new	×	
	Addresses Cisco APIC Address T72.19.0.220	ses		
	*Protocol	HTTP		
	*Network View *Username	default 💽		
	*Password Comment	······ @		
Cancel	1	1	Save & Close -	

- 3. Enter the IP address of the Cisco APIC. Note: Multiple entries are supported for redundancy.
- 4. Select the **Protocol** which is either HTTP or HTTPS. If you decide to use HTTPS, you will need to add a CA certificate.
- 5. Select the Network View.
- 6. Enter the Username for the APIC login.
- 7. Enter the **Password** for the APIC login.
- 8. Click on the Save button and then the Save & Close button.

Configure Cisco APIC information for NetMRI.

Note: Refer to the NetMRI Administrators Guide for Network View configuration.

- 1. Log into the NetMRI GUI.
- 2. Click on the **Settings** wheel.
- 3. Go to Setup \rightarrow Discovery Settings \rightarrow APIC.

4. Click on the **'New'** button. Fill in the fields for: APIC controller address, protocol, network view, username, and password.

Settings				111
Discovery Settings			0	»
Ranges Static IPs Devic	e Hints Seed Routers APIC			User Admin +
New Edit Delete Import APIC Controller Address: Protocol: Network View:	Show Credentials Discover Now 10.40.19.10 HTTP Tenant/VRF	Username: Password:	admin	Setup Setup Wizard Scan Interfaces Network Views Collection and Groups Discovery Settings
			Cancel 4dd & Discover 4dd	 Credentials Device Support Bundles

5. Click on the 'Add & Discover' or 'Add' button.

Settings			
Discovery Settings Ranges Static IPs Device Hints S	eed Routers APIC		Wser Admin +
New Edit Delete Import Show Crede	Initials Discover Now Network View Tenant/VRF	Protocol http	arch
Page 1 of 1 Dis	:playing 1 - 1 of 1		Issue Analysis + Notifications + General Settings + Database Settings +

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Viewing Discovered Data for Network Insight.

Below is a table showing the mappings of ACI specific components into IPAM objects.

ACI	Network Insight
Fabric Node (leaves and spine)	Device record under Devices tab
APIC Controller	Device record under Devices tab

Tenant	Tenant attribute for Networks and IP addresses under
	IPAM tab
Bridge Domain	Bridge Domain attribute for Networks and IP
	addresses under IPAM tab
EPG	EPG attribute for IP addresses under IPAM tab

After waiting about 15 minutes for the discovery to complete, you can now view your discovered devices.

1. Navigate to Data Management→ Devices. Change to the network view that was used to enter the Cisco ACI details. For example, network view default was chosen.

Infoblox 📚	Dashboards Da	ata Management	Smart Folders	Grid	Administration						c	Search	admin	
	IPAM VLANs	Super Host	Devices DHCF	P DNS	File Distribution									
betwork View	A												⇒ B	8 «
Quick Filter None	V Off Filter O	n Show Filter												
→ 2 1 -										Go to		Go		
🗐 📃 IP Address	Name	Device Type	Model	Vendor	Device Version	Chassis S/N	Location	Description	Discover Now	Managed	Site			
172.19.18.1	unknown	Router												
20.0.88.65	spine201	SDN Element	N9K-C9332C	Cisco ACI	n9000-14.0(1h)	FDO22422JP8								
172.19.0.220	apic1	SDN Controller	APIC-SERVER	Cisco ACI	4.1(1i)	WZP232210FY								
20.0.88.64	leaf101	SDN Element	N9K-C93180Y	Cisco ACI	n9000-14.0(3d)	FDO23191VJW								
20.0.88.66	leaf102	SDN Element	N9K-C93180Y	Cisco ACI	n9000-14.0(3d)	FDO23191VHX								

- 2. In the previous screen shot, you can now see the SDN Controller and 3 SDN elements; leaf01, leaf02, and spine201.
- 3. You can drill down on the SDN Controller and SDN elements to gather information on interfaces, networks, IP addresses, assets, and components. Below are screen shots of each for one of the leaf nodes:

Infoblox 📚	Dashboards	Data Management	Smart Folders	Grid	Administration						C	C Search	admin	•
	IPAM VLAN	Ns Super Host	Devices DHCP	DNS	File Distribution									
Devices Home leaf101 (Cisco AC	CI 20.0.88.64) IP Addresses	Device 💉 📮 Assets Componen	nts										4	8 «
Quick Filter None	V Off Fil	Iter On Show Filter												
→ 🗷 土 🖶										Go to		Go		
🔲 📃 Name	IP Address	VRF Name	VRF Description	VRF RD	MAC Address	VLAN ID	VLAN Name	Port Type	Port Speed	Admin Status	Operation Statu	s Trunk		
📄 📃 eth1/51.3								propVirtual		Up		Off		
00 📃 🔲	20.0.88.64							propVirtual		Up		Off		
📄 📃 eth1/35					00:3A:9C:8A:5A:03				25 Gbps	Up	Down	On		
🔳 📃 tunnel11								tunnel		Up	Up	Off		
📄 📃 eth1/21					00:3A:9C:8A:59:F5				25 Gbps	Up	Down	On		
📄 📃 eth1/18					00:3A:9C:8A:59:F2				25 Gbps	Up	Down	On		
📄 📃 eth1/17					00:3A:9C:8A:59:F1				25 Gbps	Up	Down	On		
🖻 📃 po1					00:3A:9C:8A:5A:40	100 1000	qa_barem qa_barem	propVirtual		Up	Down	Off		
🔲 📃 tunnel8								tunnel		Up	Up	Off		
📄 📃 eth1/52.4								propVirtual		Up		Off		
📄 📃 eth1/11					00:3A:9C:8A:59:EB				25 Gbps	Up	Down	On		
📄 📃 eth1/38					00:3A:9C:8A:5A:06				25 Gbps	Up	Down	On		
📄 📃 eth1/6					00:3A:9C:8A:59:E6	1000	qa_barem	1000base-T	1 Gbps	Up	Up	Off		
📄 📃 vlan24	Multiple	qa_baremetal		0:0	00:22:BD:F8:19:FF			propVirtual		Up	Up	Off		
eth1/25					00:3A:9C:8A:59:F9				25 Gbps	Up	Down	On		
			_							_				
Infoblox 📚	Dashboards	Data Management	Smart Folders	Grid	Administration							Q Search	admin	

			IPAM VLANs	Super Host	evices DHC	P DNS F	le Distribution		
	Devices Home							*	0
"	eaf101 (Cisco ACI 2	0.0.88.64) 🛛	levice 🧨 📮				~	~~~
	Interfaces	Networks	P Addresses Ass	ets Componen	ls				
	Quick Filter	None	▼ Off Filter On	Show Filter					
	# #)	2 🖬 - 🛓	0				Go to Go		
	\equiv	Network	VRF Name	VRF Description	VRF RD	Comment	Managed		
	=	15.15.15.0/24	qa_baremetal		0:0		No		
	=	88.88.88.0/24	qa_baremetal		0:0		No		
	=	17.17.17.0/24	qa_baremetal		0:0		No		
	=	8.8.8.0/24	qa_baremetal		0:0		No		
	=	7.7.7.0/24	qa_baremetal		0:0		No		
	=	11.11.11.0/24	qa_baremetal		0:0		No		
	=	34.34.34.0/24	qa_baremetal		0:0		No		
		20.0.0.32/32							
	=	12.12.12.0/24	qa_baremetal		0:0		No		
	=	77.77.77.0/24	qa_baremetal		0:0		No		
	=	14.14.14.0/24	qa_baremetal		0:0		No		
	=	18.18.18.0/24	qa_baremetal		0:0		No		
	=	20.0.0/27					No		
		19.19.19.0/24	qa_baremetal		0:0		No		
	=	10.10.10.0/24	qa_baremetal		0:0		No		
	₩ ◀ ►	BIR							

https://172.19.18.119/ui/xINW_mFTDS-dNkAp1I6t_g/xINc9/t_gfb#

Info	blox 📚		Dashboards Data Management	Smart Folders	Grid Adm	inistration							Q Search	admin	-
			IPAM VLANs Super Host	Devices DHCF	P DNS F	ile Distribution									
e De	vices Home													a	0
[»] le	af101 (C	Cisco ACI	20.0.88.64) Device 🖍 📮											<i>**</i>	~~
_	nterfaces	Networks	IP Addresses Assets Compo	onents										_	
	Quick Filter	None	Filter On Show F	ilter											
) ± E	•									Go to		Go		
ſ	=	IP Address	VRF Name VRF Descripti	on VRF RD	Interface Name	MAC Address	VLAN ID	VLAN Name	Admin Status	Operation Status	Managed	Site			
	=	15.15.15.1	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
1	=	88.88.88.8	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
I	=	17.17.17.17	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
I		8.8.8.1	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
[7.7.7.1	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
[=	11.11.11.11	qa_baremetal	0:0	vlan24	00:22:BD:F8:1			Up	Up I	No				
[34.34.34.34	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
[=	20.0.0.32			lo1023				Up	I	No				
[12.12.12.12	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
[77.77.77.77	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up	No				
[14.14.14.1	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
[18.18.18.18	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
[20.0.0.30			vlan8	00:22:BD:F8:1			Up	Up I	No				
[19.19.19.19	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
		10.10.10.10	qa_baremetal	0:0	vlan21	00:22:BD:F8:1			Up	Up I	No				
	K ()	N I C													
															-
Info	blox 📚		Dashboards Data Managemen	Smart Folders	Grid Adı	ministration							Q Searc	h admir	
			IPAM VLANs Super Host	Devices DHC	P DNS	File Distribution									
E De	vices Home													a	6
» le	af101 (C	Cisco ACI	20.0.88.64) Device 💉 🛱	l -										*	<
_	nterfaces	Networks	IP Addresses Assets Comp	onents											
			Gff Filter On Show I	Filter											
	Quick Filter	None													
	Quick Filter	None									Go to				
	Quick Filter	None	Interface Name	E Name VIDE	Description VD	BD IBA	ddraee Tu	na	Asset MAC Adde	ace VI AN ID	Go to	e Admin Status	Go Operation S	tatu	

172.19.0.220 SDN Controller C4:F7:D5:F6:99:94

Up

Up

eth1/1

🖻 📃 apic1

			ets Components				
Quick Filter	None	Off Filter On	Show Filter				
1 B						Go to Go	
Name	D	escription	Class	Serial Number	Model		
48x10/25	5G 44	8x10/25G	supervisor	FDO23191VJW	N9K-C93180YC-FX		
REAR	F	ANTRAY	fan	n/a	NXA-FAN-30CFM-F		
PSU	P	SU	power	DCC2252716A	NXA-PAC-500W-PE		
PSU	P	SU	power	DCC225271S9	NXA-PAC-500W-PE		
6x40/100	0G Switch 6:	x40/100G Sw	linecard	FDO23191VJW	N9K-C93180YC-FX		
REAR	Fi	ANTRAY	fan	n/a	NXA-FAN-30CFM-F		
Nexus C	93180YC-FX ch N	exus C93180	chassis	FDO23191VJW	N9K-C93180YC-FX		
REAR	F	ANTRAY	fan	n/a	NXA-FAN-30CFM-F		
	-		ton	n/a	NXA-FAN-30CFM-F		

4. Navigate to **Data Management** → **IPAM** to view the discovered networks. Take note of the networks with bridge domains and tenants.

In	fobl	ox 📚	Dashboards	Data Managen	ent Smart Fo	olders Grid	Administration							Q Sear	ch adm	in 👻
			IPAM VI	_ANs Super Ho	st Devices	DHCP D	NS File Distribution									
-	defa	ault	Network View												a	a 0
»	Quid	ck Filter	None • Off	Filter On S	how Filter	Toggle flat view									~	» »,
					-											
	→	+•	2 🗇 - 🕹 - 🖶									G	o to	G	3	
			Network A	Comment	IPAM Utilization	Discover Now	Discovery Engine	Discovered	Discovered VLA	. Bridge Domain	Tenant	VRF Name	VRF Descri	VRF RD BGF	' AS	
		≡	4 8.8.8.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	+ 9.9.9.0/24		0.3%		Network Insight			qa_br_domain_2	qa_baremetal	qa_barem	0:	0		
		=	📫 10.10.10.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		≡	e 11.11.11.0/24		0.3%		Network Insight			qa_br_domain_2	qa_baremetal	qa_barem	0:	0		
		=	+ 12.12.12.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	e 14.14.14.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		≡	4 15.15.15.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	+ 16.16.16.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	₩ 17.17.17.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	4 18.18.18.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	📫 19.19.19.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	4 20.0.0.0/27		3.3%		Network Insight									
		=	+ 34.34.34.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	+ 77.77.77.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
		=	+ 88.88.88.0/24		0.3%		Network Insight			qa_br_domain	qa_baremetal	qa_barem	0:	0		
	K		N B													

Viewing Discovered Data for NetMRI.

- 1. After upgrading NetMRI to 7.2.1 and above, a device group called ACI is used to hold all of the Cisco ACI components such as the APIC, leaves, and spine. Select the ACI device group from the Device Group panel.
- 2. Navigate Network Explorer \rightarrow Inventory \rightarrow Devices \rightarrow All Devices.

QANET-SA53		FULLNM		FindIT Q User: admin Logout
Dashboard Network Analys	is Network Explorer Confi	g Management Reports		ペ 章 0
Inventory Summar	ies Topology Discovery S	witch Port Management		Select Device Group
Devices Connected End Hosts Connected IP Prones Connected IP Prones All Devices	s Network Explorer Confi es Topology Discovery S All Devices Search P Address Network View 10.40.19.12 Tenant/VRE 10.40.19.13 Tenant/VRE 10.40.19.14 Tenant/VRE	g Management Reports which Port Management Device Name Type apic1 SDN Controller (99%) LEAF1 SDN Element (99%) LEAF2 SDN Element (99%) SPINE SDN Element (99%)	Vextor Model Claso APIC-SERVER-M1 Claso N9K-C9398PX Claso N9K-C9398PX Claso N9K-C9398PX Claso N9K-C9398PX	Select Device Group
Virtual Devices + Interfaces + OSs +				
Models +	Page 1 of 1 > >	Displaying 1 - 4 of 4	Upda	ad at 2017-09-28 15:48:30
© 2017 Infoblox, Inc. All rights reserved.				2017-09-28 15:48

3. If you click on the IP address, you will get the device viewer for that IP address. You will then be able to view the EPG, Bridge Domains, VLANs and interfaces.

LEAF1 10	.40.19.12 (Physical Dev	/ice) Tenant/VRF			
Type: O/S Version: Up Time: Last Communi Discovery Blac	SDN Element (99 n9000-12.2(1n) 2d 08h 54m 33s cation: 2017-09-28 15:4 kout: N/A	9%) Vendor: Model: SNMP Status: 5:17 MAC Address: Change Blackout	Cisco N9K-C9396PX Enabled (Unknown Communit 00:22:BD:F8:19:FF : N/A	ARRARA ARA	
EPG			?	»	
EPG				Network Analysis	+
Search			Views 🔻 Filters 🛛 🗶 🌊	Device/Network Explorer	+
Tonant	Application profile	ERO		ACI	-
	Application prome	NA FRO		EPG	
common		VM-EPG		Enge Domains	
intra	access	default			
mgmt	VM-Tenant-App-Profile	VM-EPG			
NetMRI-Tenant	dev-ap	dev-epg-2			
NetMRI-Tenant	dev-ap	dev-main-epg			
NetMRI-Tenant	dev-ap	netmri-epg			
NI-Tenant	NI-AP	ni-main-epg			
test	NIOS-ANP	DDI-2			
test	NIOS-ANP	DDI-1			
				Interfaces	+
				Router	+
				Switch	+
🕅 🖣 Page	1 of 1 🕨 🕅 Displayin	ng 1 - 9 of 9	Updated at 2017-09-28 15:52:40	Settings & Status	+

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4. If you click on the Network View, you will be able to see the VRFs.

Name: Description:	Tenant/VRF		•
Associated VRFs			
Search			Views - Filters Assign 💐 🎅
Device Name 🔺	VRF Name	VRF RD	
LEAF1	black-hole	0:0	
LEAF1	management	0:0	
LEAF1	NetMRI-Tenant:NetMRI-VRF	0:0	
LEAF1	common:Infoblox-PN	0:0	
LEAF1	overlay-1	0:0	
LEAF2	NetMRI-Tenant:NetMRI-VRF	0:0	
LEAF2	NetMRI-Tenant:netmri-vrf-2	0:0	
🕅 🔍 Page	1 of 2 🕨 🕅 Displaying	1 - 10 of 17	Updated at 2017-09-28 15:50:23
Imported VRFs			
Search			Views - Filters 💐 🄁
Route Target	Device Name VRF Name	VRF RD	

5. When clicking on **Summaries** \rightarrow **Network Views**, you will be able to see details of the network view.

QANET-SA53	FULLINM	dIT Q User: admin Logout
Dashboard Network Analy	ils Network Explorer Config Management Reports	× 🌣 0
Inventory Summa	ies Topology Discovery Switch Port Management	Select Device Group
ACI 2017-09-28	٥	Search
A012011-00-20		- 🍓 All Devices (38)
Routes	VRFs - common:Infoblox-PN	- 🔂 ACI (4)
Subasta 1	Search Views 🔻 Filters 💐 🔁	Network Management (1)
VI AN-	VRF Name VRF Network View VRF Description VRF RD Device Name IP Address Network View	Routing (19)
VLANS +	common:Infobiox-PN Tenant/VRF 0:0 LEAF1 10.40.19.12 Tenant/VRF	Switching (16)
Route Targets +	common:Infoblox-PN Tenant/VRF 0:0 LEAF2 10.40.19.13 Tenant/VRF	a UNKNOWN (3)
HSRP/VRRP Groups +		
Ports +		
NIOS Grids +		
Network Views +		
VRFs -		
Search 💐 🛃		
VRF Name 🔺 VRF Description		
View All VRFs		
(default)IOS		
black-hole		
common:Infoblox-PN		
management		
NetMRI-Tenant:NetMRI-VRF		
Net/RI-Tenant:netmri-vrf-2		
NI-Tenant:NI-VRF		
overlay-1		
test1 vrf test1		
4 4 Page 1 of 1 ▶ ▶ 1 - 9 of 9	√ √ Page 1 of 1 → → Displaying 1 - 2 of 2 Updated at 2017-09-28 15:57:54	
© 2017 Infoblox, Inc. All rights reserved.		2017-09-28 16:00

6. When clicking on **Summaries** → **VRFs**, you will be able to see the VRFs that are assigned to the devices.

QANET-SA53		FULLN	м						Fir	ndIT	Q User: admir	n <u>Logout</u>
Infoblox 💸 Dashboard Network Analysi	s Network Explorer	Config Management	Reports								A \$	0
Inventory	es Topology Discover	ry Switch Port Manage	ement							Select Device Grou	p	» @
A CL 2017 00 28	_		_		_	_	_	_	0	Search		
AGI 2017-05-20	1									- 🍓 All Devices (38)	
Routes +	VRFs - common:Infoblo	x-PN								ACI (4)	anagement (1)	
Subnets +	Search							Views • Filters	2	Network w	o SNMP (6)	
VLANs +	VRF Name 🔺 VR	RF Network View VR	F Description V	RF RD D	evice Name	IP Address	Network View			Routing (1	9)	
Route Targets +	common:Infoblox-PN Te	anant/VRF	0	:0 LI	EAF1	10.40.19.12	Tenant/VRF			UNKNOWN	(16) I (3)	
HSRP/VRRP Groups	common:Infoblox-PN Te	enant/VRF	0	:0 LI	EAF2	10.40.19.13	Tenant/VRF					
Ports +												
NTOS Gride												
Network Viewe												
VDEc												
search												
VRF Name VRF Description												
View All VRFs												
black-hole												
common infohiox-PN												
management												
Net/MRI-Tenant:Net/MRI-VRF												
NetMRI-Tenant:netmri-vrf-2												
NI-Tenant:NI-VRF												
overlay-1												
test1 vrf test1												
4 4 Page 1 of 1 ▶ ▶ 1 - 9 of 9	4 Page 1 of 1	▶ ▶ Displaying 1 -	2 of 2					Updated at 2017-09-2	8 15:57:54			
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7. Navigating to **Network Explorer** → **Discovery** will show the discovery status, IP addresses, interfaces, VRF names, and network views.

QANET-SA53	FULLINM	FindIT Q User: admin Logout
Infoblox 💸 Dashboard Network Analysis	Network Explorer Config Management Reports	× 🌣 0
Inventory Summaries	lopology Discovery - Switch Port Management	Select Device Group
ACI		Search
Search	Maren - Ellers Newsyn Hack Newsyn Haus Lineses Hammans 🏛 🕱 🍊	– 🍓 All Devices (38)
	Views V miles bisover now Edense unimanage i Views Views v miles bisover now Edense unimanage i Views v	ACI (4) ACI (4) ACI (4) ACI (4)
P Address Network View Name	E P R S SC C CC G DB CB Type Last Timestamp Last Action	Network w/o SNMP (6)
ID 40.19.14 Ienant/VRF SPINE IP Address Interface VRF Name Network View	V V V SUCCESSfully collected data / Table: Vians	Routing (19)
20.0.8.65 Io3 Ildefault/VNM Tenant/VRF		UNKNOWN (3)
20.0.152.65 04-104 #default#VNM Tenant/VRF 20.0.8.64 01-101 #default#VNM Tenant/VRF		
20.0.0.33 07 - 107 #default#VNM Tenant/VRF		
20.0.34 08-108 #default#VNM Tenant/VRF		
20.0.64.94 <u>k0-lo0</u> #default#VNM Tenant/VRF		
20.0.035 109 + 109 #default#VNM Tenant/VRF		
20.0.152.66 102 102 WetautevNM Tenant/VRP 20.0.152.67 106 #default#VNM Tenant/VRF		
□ ▶ <u>10.40.19.12</u> <u>Tenant/VRF</u> LEAF1	🥝 🌑 🥝 🥥 🔘 🛕 🥝 🥥 🕲 SDN Element 2017-09-28 16:05:28 SNMP Collection: Successfully collected data / Table: Vlans	
□ ▶ <u>10.40.19.13</u> <u>Tenant/VRF</u> LEAF2	🥝 🥚 🥝 🥝 🌑 🛕 🥝 🥝 SDN Element 2017-09-28 16:05:27 SNMP Collection: Successfully collected data / Table: Vlans	
10.40.19.10 Tenant/VRF apic1	🧭 🌒 🧟 🧐 🌑 🛕 🧔 🧭 🧭 SDN Contr 2017-09-28 16:04:12 Device Groups: Successfully assigned to device groups	
< < Page 1 of 1 <>>		
Entire Network Totals		
Network Devices: 34		
Licensed Devices: 28	IP Addresses: Classified 119 Reached 127 Identified 128	
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Troubleshooting - NIOS

1. Try to ping the IP address of the APIC. If successful, then go to the next step.

2. Download a support bundle. Navigate to Grid \rightarrow Grid Manager \rightarrow Members.

Infoblox 📚 🛛 Dashboards Data	Management Smart Folders	Grid Administration					Q Search	admin	
Grid Manager Upg	grade Licenses HSM Group	Device Support Ecosystem							
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Members Services							🛅 Delete		
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Name HA	Status IPv4 Address	IPv6 Address Identify	DHCP DNS	TETP	HTTP	FTP	Grid Properties		
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m ko probe1.com No	Running 172.19.18.114	Unsupported					🔯 Snapshot		
							SMC Promote Test		
V = 🔶 probe2.com No	Running 172.19.18.113	Unsupported					Configure Captive Portal		
							🛓 Download	-	
							Certificates	-	
							➡ Traffic Capture		
							Ltd Capacity Report		
							E Syslog		
							Test SNMP		
							Manage GSS-TSIG Keys		
							BFD Templates		
							🔎 Data Connector		
Firefox							U NTP		
							💠 bloxTools		

3. Click on the Discovery member which is probe2.com in this example. Navigate to **Toolbar** → **Download** and click on **Support Bundle**.

Infoblox 📚	Dashboards Data	Management S	Smart Folders	Grid Adminis	tration						Q Search	admin	•
	Grid Manager Upg	rade Licenses	HSM Group	Device Support	Ecosystem								
🗧 Infoblox 🗖 🖉 🖪	_										Toolbar	>>	6
	HTTP (File Diet)		I line	Discourse Cr	describer Collection						🕂 Add		~
DHCP DNS IFIF	FTTP (File Disi)		DIOXIDOIS	Discovery	Juschber Collection						🗹 Edit		
Members Services											Delete		
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Group Results Gr	oup By Choose one	v	+								License		
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+ ♂ `` ` ≡ ™	⊞ ≰• ⊖							Go to		Go	Control	•	
Name	HA	Status	IPv4 Address	IPv6 Address	Identify	DHCP	DNS	TFTP	HTTP	FTP	Grid Properties	•	
n infoblox	Llocald No	Punning	172.19.18.119		Unsupported						3 Backup	•	
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probe1.	.com No	Running	172.19.18.114		Unsupported						GMC Promote Test	•	
🔽 📄 🔶 probe2.	.com No	Running	172.19.18.113		Unsupported						Configure		
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- 4. A compressed file will be created and can be downloaded to your Downloads directory. The file name is supportBundle.tar.gz. Uncompress this file.
- 5. After uncompressing, change directory to the newly created subdirectory called **SupportBundle**. Search for the compressed file called nm_discovery_support_bundle.tgz. Uncompress this file.
- 6. The subdirectory Augusta is now created in the subdirectory supportBundle. Change directory to Augusta/snmp_logs. Open the latest dataEngine.log.<year>-<month>-<day> file. The information related to Cisco ACI can be found by searching string 'AciObject' or IP address of Cisco APIC/LEAF. For example:

2017-08-01 16:11:47 [info] 13627 (worker14) 10.40.19.10/AciObject-3707429403927922829: AciObject: collection completed

2017-08-01 16:11:47 [info] 13627 (worker14) 10.40.19.10/AciObject-3707429403927922829: Done (663ms)

2017-08-01 16:20:24 [info] 22904 (worker01) 10.40.19.12/AciObject-4004721853816867796: ACI request POST /api/aaaLogin.json failed: **Request to ACI failed: 401 Unauthorized**

(401: Username or password is incorrect - FAILED local authentication)

2017-08-01 16:20:24 [error] 22904 (worker01) 10.40.19.12/AciObject-4004721853816867796: Cannot login to ACI controller 10.40.19.10: Request to ACI failed: 401 Unauthorized (401: **Username or password is incorrect - FAILED local authentication**)

2017-08-01 16:22:25 [info] 23101 (worker13) 1.1.1.1/AciObject-6001678353361986687: ACI request POST /api/aaaLogin.json failed: **Request to ACI failed: 500 Can't connect to 1.1.1.1:80 (Connection timed out)**

2017-08-01 16:22:25 [error] 23101 (worker13) 1.1.1.1/AciObject-6001678353361986687: AciObject: Failed collection: Cannot login to ACI controller 1.1.1.1: Request to ACI failed: 500 Can't connect to 1.1.1.1:80 (Connection timed out)

Troubleshooting - NetMRI

1. Try to ping the IP address of the APIC from within NetMRI. If successful, then go to the next step.

2. Navigate to any of the ACI devices in **Network Explorer** \rightarrow **Inventory** \rightarrow **AII Devices**. Make sure the ACI device group is highlighted.

Infobiox State Dashboard Network Ana	is Network Explorer Config Management Reports	~ ○ 章 ●
Inventory Summ	ies Topology Discovery Switch Port Management	Select Device Group
ACI 2017-10-05		Search
Devices Components Devices Components Connected End Hosts Connected IP Prones Connecte	Al Devices Search P Address & Behood: Mare 2 pairs Rame 7 pps Veedor Model Sector 2 pairs Rame 7 pps Veedor Model Sector 2 pairs School Pairs Casco APIC SERVER M1 Sector 2 pairs School Pairs (SPA) Sector 2 pairs Rame 7 pps School Pairs (SPA)	Vom * Films * C Wom * Films * C Ap Strems (18) * C T Survices (4) * T Survices (4) MARE GRAV (77) * Submanned (4)
Virbal Devices	Status Nerror LEV2 SDA Borner (DPA) Deco MR-CB30PX Status Nerror SDA Borner (DPA) Deco MR-CB30PG	When the field (1) When the same (1) Source (2) Source (2) Sou
Interfaces		
Models	[i i] Page 1 of 1 Displaying 1 - 4 of 4	Lipstanted at 2017-10-45 11:44-07

3. Pick the device in question by clicking on the IP address to bring up the Device Viewer.

4. Within the Device Viewer, navigate to Settings & Status \rightarrow General Settings \rightarrow Enable SNMP debug.

General Settings	>> Network Analysis	+
NetBIOS Scanning : Disabled Analysis : Enabled	Device/Network Explorer	+
ARP Cache Refresh : Disabled Config Charge : N/A	ACI	+
	Interfaces	+
Modify Device Settings	Router	+
Names I E 4 E 4	Switch	+
	Settings & Status	-
Type: SDN Element	General Settings Management Status User Audit Log Device Audit Log Logs	
SNMP Debug: SEnabled	E Device Support	
If 'Locked' or 'Unlocked' is selected for Config Change, this will override the Device Group setting. Config Change: Group Default Locked Unlocked		
To correct the reboot time for devices up longer than 497 days, enter the date and time of the last device reboot (YYYY-mm-dd hh:mm:ss).		

5. Click on the **Update** button.

6. Navigate to Settings→ Database Settings→ Send Support Bundle. Highlight all of the Data Categories and click on the OK button.



7. You can then either review the dataEngine.log file or submit a support bundle to Infoblox TAC for further review.

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Infoblox unites networking and security to deliver unmatched performance and protection. Trusted by Fortune 100 companies and emerging innovators, we provide real-time visibility and control over who and what connects to your network, so your organization runs faster and stops threats earlier.

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