OpenManage Network Integration for SmartFabric Services User Guide

Release 2.1



Notes, cautions, and warnings

(i) NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

MARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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About this guide

This guide provides information regarding OpenManage Network Integration (OMNI) and the integration with different solutions. It covers the following details:

- Install and setup OMNI
- OMNI automation for SmartFabric instance
- OMNI automation for PowerEdge MX SmartFabric
- OMNI automation for NSX-T
- Lifecycle management

This document may contain language that is not consistent with current guidelines of Dell Technologies. There are plans to update this document over subsequent releases to revise the language accordingly.

Text and Syntax Conventions

This guide uses the following conventions to describe text and command syntax.

Bold text	UI elements that you click or select
> (right angle bracket)	Hierarchy of menu selections
Keyword	Keywords are in Courier (a monospaced font) and must be entered in the CLI as listed
parameter	Parameters are in italics and require a number or word to be entered in the CLI
{X}	Keywords and parameters within braces must be entered in the CLI
[X]	Keywords and parameters within brackets are optional
×ly	Keywords and parameters separated by a bar require you to choose one option

Related Documents

Use the following documentation set in addition to this guide:

Table 1. More resources

Related Documentation	Link
 Dell EMC SmartFabric OS10 User Guide Dell EMC SmartFabric OS10 Installation, Upgrade, and Downgrade Guide Dell EMC SmartFabric Services User Guide 	SmartFabric OS10 Documentation
Dell Technologies VxRail Documentation	Dell Technologies VxRail Networking Solutions
Networking Solutions Support Matrix	Support Matrix
PowerEdge MX Documentation	PowerEdge MX Manuals and Documents
OMNI Documentation	Dell EMC OpenManage Network Integration for VMware vCenter

Documentation Feedback

Dell Technologies strives to provide accurate and comprehensive documentation and welcomes your suggestions and comments. You can provide feedback in the following ways:

- Online feedback form—Rate the documentation or provide your feedback on any of product documentation pages at www.dell.com/support.
- Email—Send your feedback to networkingpub.feedback@dell.com. Include the document title, release number, chapter title, and section title of the text corresponding to the feedback.

To get answers to your questions related to Dell Networking Solutions through email, chat, or call, go to Dell Technologies Technical Support page.

Change history

The following table provides an overview of the changes to this guide from a previous OMNI release to the OMNI 2.1 release. For more information about the new features, see the respective sections.

Table 2. New in 2.1

Revision	Date	Feature	Description
A00 2021–08-16		Bulk configuration	Configure all types of networks, routing profiles, server profiles, and server interface profile for a SmartFabric instance in bulk.
		Configure multirack L3 VLAN	Configure IP address for each switch in a rack when configuring multirack L3 VLAN networks.
		OMNI NSX-T automation enhancement	Automation support for BGP route configuration in NSX-T deployment.
	 Add SmartFabric instance Add OME-Modular instance Add NSX-T instance vCenter Maintenance mode 	Usability enhancement to change the Maintenance mode for SmartFabric, NSX-T, vCenter, and OME-Modular instances.	
		Edit fabric default settings	Edit the default fabric settings that are created by SFS.
	Set fabric and switch name	Edit the names of rack, switches, and their descriptions.	
		Topology	Enhanced topology view.

Table 3. New in 2.0

Revision	Date	Feature	Description
A00	2020–12-16	OMNI automation support for PowerEdge MX SmartFabric	OMNI manages fabric automation for ESXi hosts deployed within the Dell EMC PowerEdge MX solution.
		OMNI automation support for NSX-T	OMNI supports fabric automation for NSX-T Manager integration with SmartFabric Services.
		Register vCenter through OMNI Fabric Management UI	Register vCenter instance using OMNI Fabric Management UI.
		Install OMNI VM on ESXi server without vCenter	Deploy the OMNI appliance on a VMware ESXi server using the OMNI OVA file.
		Relationship information	View relationship between the vCenter and service instances (SmartFabric, NSX-T Manager, and OME-M instances).
		OMNI SmartFabric instance overview	OMNI displays the summary overview of key metrics such as device status and health, latest fabric events, and fabric

Table 3. New in 2.0 (continued)

Revision	Date	Feature	Description
			compliance errors for the SmartFabric instance.
		OMNI Home page enhancement	OMNI Home enhancement with an option to add different service instance separately.
		Support for onboarding unknown server discovered interfaces	OMNI supports dynamic onboarding of unknown servers that are discovered by SmartFabric.
		Configuration support for SmartFabric global settings	Configure the SmartFabric switch services settings through OMNI Fabric Management UI: • NTP • DNS • Syslog • SNMP
		OMNI Secure sign on support	Secure sign on enhancement for OMNI.
		vCenter Enhancement Linked mode	OMNI support for vCenter Enhanced Linked mode.
		Fabric events	View latest fabric events for each SmartFabric instance.
		Configure docker private network settings	View and configure docker private network settings on the OMNI appliance.
		Fabric compliance	View fabric compliance status and the recommended action for each SmartFabric instance.

3

Overview of OMNI, SFS, VxRail, and PowerEdge MX

This section provides an overview of Dell EMC OpenManage Network Integration (OMNI), SmartFabric Services (SFS), and integration of SFS with VxRail and PowerEdge MX.

SmartFabric Services

SmartFabric Services (SFS) is an automation framework that is built into Dell EMC SmartFabric OS10, to integrate converged and hyperconverged infrastructure systems. These solutions deliver autonomous fabric deployment, expansion, and life cycle management.

SFS enables converged infrastructure (CI) and hyperconverged infrastructure (HCI) for system administrators to deploy and operate the network fabric for the infrastructure solution as an extension of the solution being deployed. This integrated network fabric is built using industry-standard protocols adhering to the best practice recommendations for that solution, and is interoperable with existing data center networks deployment.

There are two types of SFS:

- 1. SFS for Leaf and Spine supported on selected Dell EMC S-series and Z-series PowerSwitches.
- 2. SFS for PowerEdge MX supported on PowerEdge MX switches.

For more information regarding supported switches, see SmartFabric OS10 Support Matrix.

For more information about SFS initial setup for leaf and spine, enable SFS, creating fabric settings, SFS personalities, and solution-specific details, see *Dell EMC SmartFabric Services User Guide* available in SmartFabric OS Product page.

OpenManage Network Integration

Dell EMC OpenManage Network Integration (OMNI) is a management application that is designed to complement SFS, providing a web-based UI for operating one or more automated network fabrics deployed using SFS (called SmartFabric instances).

OMNI is delivered as a virtual appliance which can be deployed as:

- A stand-alone virtual machine enabling a web portal to manage one or more SmartFabric Instances
 - An external plug-in for VMware vCenter. When deployed as a plug-in for VMware vCenter, OMNI enables:
 - Zero-touch automation of physical underlay network fabric running SFS corresponding to changes in the virtual network layer
 - Extension of vCenter Host Network Inventory data to include physical switch connectivity details for easy monitoring and troubleshooting
 - A single pane of management for one or more SmartFabric instances through the OMNI portal pages that are embedded within vCenter

VxRail SFS integration

Dell EMC VxRail integrated with SFS automates and simplifies networking for VxRail hyperconverged infrastructure deployments and ongoing network operations. As hyperconverged domains scale, the network fabric becomes the critical piece of successful deployment. VxRail integration with SFS allows customers to deploy network fabrics for VxRail clusters as an extension of the VxRail clusters without extensive networking knowledge. The network fabric is automatically configured for the VxRail nodes as the operators deploy their VxRail clusters.

Key benefits

- Faster time to production
 - Plug and play fabric formation for VxRail.

- VxRail Manager automatically creates fabric policies for VxRail nodes.
- SmartFabric automates all fabric functions.
- Integrated life cycle
 - Fabric creation, expansion, and maintenance follow the VxRail application model.
 - HCl fabric operations are fully managed through VxRail Manager or vCenter.
- Better infrastructure visibility
 - Tight integration between VxRail appliance and Dell EMC ON-Series PowerSwitches.
- Improved SLA
 - Fully validated software stack.
 - Protection from human-error due to predictable and repeatable HCI fabric experience.
- Enhanced support experience
 - World-class Dell EMC HCl and fabric services.
 - Fabric that is integrated into VxRail services and support experience.

Required components

- Dell EMC PowerSwitches supporting SmartFabric Services.
- Dell EMC SmartFabric OS10 for PowerSwitch models.
- Dell EMC OpenManage Network Integration (OMNI).
- Dell EMC VxRail hyperconverged nodes when deploying VxRail integrated solution.
- VMware vCenter internal to VxRail cluster or existing vCenter in customer environment.

See the SmartFabric OS10 Support Matrix for the latest software releases that support the VxRail and SmartFabric Service integrated solution.

Supported switches

Table 4. Supported switches for VxRail-SFS

PowerSwitches	Switch role	VxRail node connectivity options
 S4112F-ON S4112T-ON S4128F-ON S4128T-ON S4148F-ON S4148T-ON 	Leaf (top of rack) or spine	10 GbE
 S5212F-ON S5224F-ON S5248F-ON S5296F-ON 		10 or 25 GbE
S5232F-ON	Spine	Can be used as a leaf switch with ports that are connected to VxRail nodes broken out to 10GbE or 25GbE
Z9264F-ONZ9432F-ON	Spine	_

S4248FB-ON, S4248FBL-ON switches are supported for solutions without VxRail.

PowerEdge MX integration

Dell EMC PowerEdge MX is a unified, high-performance data center infrastructure providing the agility, resiliency, and efficiency to optimize a wide variety of traditional and new emerging data center workloads and applications. As part of the PowerEdge MX platform, Dell EMC SmartFabric OS10 includes SmartFabric Services which is fully integrated with the MX platform.

In MX platform, a SmartFabric is a logical entity that consists of a collection of physical resources, such as servers and switches, and logical resources such as networks, templates, and uplinks. The OpenManage Enterprise - Modular (OME-M) console provides a single interface to manage these resources as a single unit.

Key benefits

- Data center modernization
- I/O aggregation.
 - Plug and play fabric deployment.
- Single interface to manage all switches in the fabric.
- Lifecycle management
 - SmartFabric OS10 updates across the fabric.
 - \circ $\;$ Automated or manual rollback to last well-known state.
- Fabric automation
 - Physical topology compliance.
 - Server networking managed using templates.
 - Automated QoS assignment per VLAN.
 - Automated storage networking.
- Failure remediation
 - \circ $\,$ Dynamically adjusts bandwidth across all interswitch links when there is a link failure.
 - \circ $\;$ Automatically detects fabric misconfigurations or link level failure conditions.
 - Automatically heals the fabric on failure condition removal.

When PowerEdge MX switches are in SmartFabric Services mode, they operate entirely as a Layer 2 network fabric. Layer 3 protocols are not supported. For more information about MX switches, see MX documentation.

SFS and OMNI supported solutions

OMNI 2.0 and later version with the SmartFabric Services OS10 release supports the following qualified solutions. See the Solutions Support Matrix for the latest supported versions for all the qualified solutions.

Qualified Solutions	Dynamic discovery	Onboarding type	vCenter/Day 2 automation
VxRail	Yes	Automatic	Yes
PowerEdge MX	NA	NA	Yes
PowerStore X (ESXi)	Yes	Import from Fabric or vCenter	Yes
PowerStore T	Yes	Import from Fabric	No
Isilon front-end/PowerScale	No	Manual	No
Other devices running ESXi	No	Import from vCenter or Manual	Yes
Other devices running Windows or Linux-based Operating Systems	No	Import from Fabric	Yes

Table 5. Qualified solutions

(i) NOTE: In PowerEdge MX, the servers are discovered and onboarded through OME-Modular.

NOTE: Other devices can be supported provided they meet the industry Ethernet standards and are compatible with SmartFabric-enabled switches.

Dynamic Discovery - Devices that support dynamic discovery send a Dell-specific LLDP TLV. Supported devices are automatically populated in the SFS UI and OMNI by MAC address, switch, and switch port number for onboarding to the fabric. Devices that do not send the Dell-specific LLDP TLV must be manually added to the fabric.

Onboarding - Onboarding is the process of adding devices to the fabric through the creation of server interface profiles. For VxRail, the SFS and VxRail Manager automates the onboarding process. PowerStore systems support dynamic discovery and you can onboard the server using the **Import from Fabric** option in OMNI, see Import SmartFabric discovered server interfaces. Hosts running ESXi may be onboarded using the **Import from vCenter** option in OMNI only if the hosts are already connected to vCenter. For more information, see Import ESXi host profiles from vCenter. Other devices are manually onboarded by specifying the switch and switch port number for each interface, see Create server interface profile.

vCenter/Day 2 Automation - Port groups that are created in vCenter are automatically applied to the applicable hostconnected ports on the switch. The host must be running ESXi, added to the vCenter, and have a server profile that is created in OMNI. For the automation to work, register OMNI with the vCenter and ensure to start the respective OMNI vCenter automation services.

OpenManage Network Integration

OpenManage Network Integration (OMNI) enables configuration of SmartFabric Services (SFS) that integrates with VMware vCenter for fabric automation of the physical network infrastructure corresponding to the virtual network operations within vCenter. OMNI also serves as a front-end management application for managing one or more service instances, enabling administrators to manage and operate one or more network fabrics that are deployed with SFS.

The SFS REST service is started on the master. Applications consuming or integrating with SFS use this REST service for fabric operations. Communication is performed with the fabric using the IPv6 VIP assigned to the SFS master, or using the IPv4 out-of-band Management IP of the master. A default REST_USER account is created to authenticate all REST queries. The default password is admin, and Dell Technologies recommends changing the password through VxRail Manager or OMNI. OMNI communicates with SmartFabric REST Services through REST_USER account only. In OMNI, use Change SmartFabric password to change the REST_USER account password.

OMNI virtual appliance

The OMNI virtual appliance is delivered as an open virtual appliance (.ova extension) file. Deploying an OMNI OVA template allows you to add preconfigured OMNI virtual machines to vCenter Server or ESXi inventory.

The OMNI OVA file can be downloaded from the Dell EMC OMNI for VMware vCenter support portal. OMNI virtual machine deployment is tested and supported only on the VMware ESXi hypervisor, even though it is expected that the OVA could be deployed in other x86 hypervisors.

OMNI deployment

Deploying an OVA template is similar to deploying a virtual machine from a template. You can deploy an OVA template from any local file system accessible from the vSphere web client, or from a remote web server.

Table 6. OMNI deployment

OMNI VM system requirements	vCenter Server Network (OMNI VM Network 1 - ens160)	VxRail Management Network (OMNI VM Network 2 - ens192) <i>Optional in non-VxRail</i> <i>deployment</i>	OMNI access
 Virtual hardware version: vmx-14 Compatible: ESXi 6.7 and later 4 virtual CPUs; 8 GB memory; 80 GB hard disk 	 Out-of-band (OOB) management network Provides reachability to DNS, default gateway, and where OMNI obtains the IP address or hostname Provides reachability to Management network (vCenter IP address or FQDN, SmartFabric Management IP address or hostname) 	In-band link-local network— Provides reachability to SmartFabric link-local network for IPv6 VIP reachability	 vCenter HTML5 (/ui) plug-in; click OpenManage Network Integration link. OMNI stand-alone UI: https://OMNI_IP or FQDN/ using admin user SSH to OMNI VM IP address or FQDN as admin user OMNI VM console using vCenter or ESXi admin or root user
	VxRail default: vCenter Server network	VxRail default: VxRail Management network	

NOTE: Even when OMNI is deployed in-band, Dell Technologies recommends setting up connectivity with the out-of-band Management network of the switches in the network fabric to separate management traffic with user data traffic, and also to enable faster image downloads to the switches.

Maximum supported instances

A single OMNI VM instance supports:

Table 7. Number of supported instances

Entities	Number of instances supported by OMNI
vCenter	10
SmartFabric instances	15
OME-Modular instances	2
NSX-T Manager	1

Install OMNI virtual appliance using vCenter

This information describes how to deploy the OMNI appliance on a VMware ESXi hypervisor using the OMNI OVA file, and create a virtual machine (VM).

(i) NOTE: The OMNI plug-in or SmartFabric Services user interface does not provide localization.

When upgrading OMNI from an older version to 2.0 or later, follow the instructions that are provided in Upgrade OMNI appliance.

Download and install OVA

- 1. Download the OMNI release package from OpenManage Network Integration support locally, and extract the OVA image and README files from the release package .
- 2. Validate the code signed OVA image according to the instructions in README file in the release package. If the signature is invalid, contact Dell EMC Technical Support for a valid signed image.
- **3.** In the vSphere Client, select **Hosts and Clusters**, right-click the cluster that the plug-in must manage, and select **Deploy OVF Template**.

vm vSpher	e Client Menu 🗸 🔍 Se		C (@ ~	Administrator@VSPHERE.LOCAL V	\odot
li D	Actions - VxRail-Datacenter	-Datacenter ACTIONS ~			
✓ ₽ vc.st.vxrail.cl/ ✓ □ VxRail-Dat	1 New Cluster	Monitor Configure Permissions Hosts & Clusters VMs Datastor	es Networks	Updates	5 11 CH+
VxRail-V vxho: vxho:	New Folder	Virtual Machines: 13 Clusters: 1 Networks: 23		Used: 10.87 GHz Capacity: 16 Memory Free:	5.98 GHz 92.23 GB
🔀 vxho: 🕞 nsxm	s 📅 New Virtual Machine 🍞 Deploy OVF Template	Datastores: 4		Used: 162.7 GB Capacity: 2 Storage Free	54.93 GB 1: 2.87 TB
nsxm M OMN	Storage			Used: 1.91 TB Capacity	: 4.79 TB
日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日	Migrate VMs to Another Network	butes Tags			<u> </u>
	Move To Rename	<u>^</u>			
🔓 VMw	Tags & Custom Attributes				
🔓 VMw 🔓 VxRa	Add Permission	No items to display			
	X Delete	NO REITS to display			¥
Recent Tasks	opuate manager				~

4. Select Local file, click Choose Files, select the OMNI ova file from a local source, and click Next.



5. Edit the virtual machine name and select a location for the VM, and click $\ensuremath{\text{Next}}.$

Deploy OVF Template	Select a name and folder	×
	Specify a unique name and target location	
1 Select an OVF template	Virtual machine name: OMNI-2.1	
2 Select a name and folder	Select a location for the virtual machine.	
3 Select a compute resource	B vc.sjc-ta.omni.vxrail D vc.sjc-ta.omni.vxrail	
4 Review details		
5 Select storage		
6 Ready to complete		
	CANCEL BACK NEXT	
		_

 ${\bf 6.}~$ Select the destination compute resource, and click ${\bf Next}.$

Deploy OVF Template	Select a compute resource ×
1 Select an OVF template	V III VxRail-Datacenter V III VxRail-Datacenter V III VxRail-Datacenter
2 Select a name and folder	> [[]] VXRaii-Virtuai-SAN-Cluster-Z6an68i-e553-4976-9671-39165886966
3 Select a compute resource	
4 Review details	
5 Select storage	
6 Ready to complete	Compatibility Compatibility checks succeeded. CANCEL BACK NEXT

7. Review and verify the template details. You must acknowledge by ignoring the warnings clicking Next.

Deploy OVF Template	Review details Verify the template details.				×
1 Select an OVF template	The OVF package contains a advanced configuration optic	dvanced configuration options, which might pose a security risk. F ons below. Click next to accept the advanced configuration option	Review the s.		
2 Select a name and folder	A The certificate is self-signed.		lgnore lo	gnore All	
3 Select a compute resource	A The certificate is not trusted.		lgnore lg	<u>gnore All</u>	
4 Review details					
	Publisher	dellemcnetwork-appliance (Invalid certificate)			
5 License agreements	Download size	2.6 GB			
6 Select storage	Size on disk	6.4 GB (thin provisioned) 80.0 GB (thick provisioned)			
7 Select networks	Extra configuration	virtualhw.productcompatibility = hosted nvram = ovf;/file/file2			
8 Ready to complete		CANCEL	ВАСК	NEXT	

8. Accept the end-user license agreement (EULA), and click Next.



9. Select the VSAN datastore for the configuration and disk files, and click Next.

Deploy OVF Template	Select storage				×	
1 Select an OVF template	Name T	Storage Con 🔻	Capacity	Ŧ	PI	
2 Select a name and folder	O B 6WR10W20000000-01-01-service-datastore1		193.5 GB		1	
	O B 6WR20W2000000-01-01-service-datastore1		193.5 GB		1	1
3 Select a compute resource	O 🖨 6WR30W2000000-01-01-service-datastore1		193.5 GB		1-	I
	O 🖨 6WRZZV2000000-01-01-service-datastore1		193.5 GB		1-	I
4 Review details	O		13.97 TB		5	I
5 License agreements				5 items		l
6 Select storage	Compatibility				_	I
7 Select networks	✓ Compatibility checks succeeded.					
8 Ready to complete		CANCEL	ВАСК	NE	хт	

10. Select a destination network for each network source, and click Next. The VxRail Management Network must be assigned to the VxRail internal Management network. The default VLAN ID for this network is 3939. The vCenter Server network must be connected to the port group where the vCenter Server is reachable for deployment of

 $\label{eq:constraint} \ensuremath{\text{the OMNI plug-in.}}\ \ensuremath{\text{If you are using a standalone generic ESXi host deployment, you can skip this step.}$

Deploy OVF Template	Select networks Select a destination network for each sou	rce network.	×
1 Select an OVF template			
	Source Network	Destination Network	
2 Select a name and folder	vCenter Server Network	VxRail Management-26af1681-e553-497d-9c7f-39116588c9cd 🗸	
3 Select a compute resource	VxRail Management Network	vCenter Server Network-26af1681-e553-497d-9c7f-39116588c9cd 🗸	
4 Review details			2 items
5 License agreements	IP Allocation Settings		
6 Select storage	IP allocation:	Static - Manual	
7 Select networks	IP protocol:	IPv4	
8 Ready to complete			
		CANCEL BACK	NEXT

() NOTE: Ensure that the source and destination networks are mapped properly. Any misconfiguration may cause connectivity issue between vCenter and OMNI.

11. Click Finish to start creation of the VM.

Deploy OVF Template	Ready to com Click Finish to start crea	plete tion.	×
1 Select an OVF template			
	Name	OMNI-2.1	
2 Select a name and folder	Template name	OMNI-2.1.45	
3 Select a compute resource	Download size	2.6 GB	
4 Review details	Size on disk	80.0 GB	
E Liconco agreemente	Folder	VxRail-Datacenter	
5 License agreements	Resource	VxRail-Virtual-SAN-Cluster-26af1681-e553-497d-9c7f-39116588c9cd	
6 Select storage	Storage mapping	1	
7 Select networks	All disks	Datastore: VxRail-Virtual-SAN-Datastore-26af1681-e553-497d-9c7f-39116588c9cd; Format: As d efined in the VM storage policy	
8 Ready to complete	Network manning	2	
		CANCEL BACK FINIS	H

Power on OMNI VM

1. Click Recent Tasks and scroll to the bottom of the window to view the status, and wait for the deployment to finish.



Language and the second s

2. Select the OMNI VM you want to power on, and select Actions > Power > Power On.

vm vSphere Client Menu ∨	Q Search in all environments	C 🤇 v Administrator@VSPHERE.LOCAL v 😳
 VxRail-Datacenter VxRail-Virtual-SAN-Cluster2 VxRail-Virtual-SAN-Cluster2 Vxhost01.st.vxrail.cluster2 vxhost01.st.vxrail.cluster2 vxhost03.st.vxrail.cluster2 msxmgr01 	OMNI Image: Configure Permis Summary Monitor Configure Permis Guest OS: Other Compatibility: ESXi VMware Tools: Not r More DNS Name: IP Addresses: IP Addresses:	ACTIONS ~
nsxmgr02	Launch Web Console Host: vxho: Launch Remote Console 1	Clone Clone Restart Guest OS ctrl + alt + D G.12 GB
B OMNI-1.3.24 B OMNI-1.3.24_websegment	VM Hardware	VM Policies
⑦ OMNI-2.0.43 ⑦ OMNI-2.0.43_Auto ⑦ OMNI-2.0.45	> CPU 4 CPU(s) > Memory 8 GB, 0 GB mer	Template Attributes V
GMNI-2.0.81-DM	> Hard disk 1 80 GB	Export System Logs e HA
Recent Tasks Alarms	> Network adapter 1 vCenter Server Ne	Move to folder

3. Select Launch Web Console.

vm vSphere Client Menu ∨ (C Search in all environments		C ?~	Administrator@VS	PHERE.LOCAL V	٢
	Summary Monitor	Configure Permissions Datast	tores Network	rs Undates		
 V.S. UNUM-Cluster 2 V.Kail-Datacenter V.Kail-Virtual-SAN-Cluster-d368e9db-188f V.Xhost01.st.vxrail.cluster2 v.Xhost02.st.vxrail.cluster2 (Not respondi v.Xhost03.st.vxrail.cluster2 nsxmgr01 nsxmgr02 nsxmgr03 OMNI 	Launch Remote Console	Guest OS: Other (32-bit) Compatibility: ESXi 6.7 and later (VM VMware Tools: Not running, version:10 More info DNS Name: IP Addresses: Host: vxhost01.st.vxrail.clust	version 14) 3346 (Guest Manag	jed)	CPU USAGE O Hz MEMORY USAGE O B STORAGE USAGE 16.38 GB	E
🗗 OMNI-1.3.24 🗗 OMNI-1.3.24_websegment	VM Hardware	^	Notes		~	
⑦ OMNI-2.0.43 ⑦ OMNI-2.0.43_Auto ⑦ OMNI-2.0.45	> CPU > Memory	4 CPU(s)	Custom Attrik	outes	~	
☆ OMNI-2.0.89 ☆ OMNI-2.0.96-DM	> Hard disk 1	80 GB	vSphere HA		^	
😽 VMware vCenter Server Appliance	> Network adapter 1	vCenter Server Network-	Failure	Respo	nse	
🕞 VMware vCenter Server Platform Servic		d368e9db-188f-48c2-afb9-	Host failure	V F	Restart VMs	
🕞 VMware vRealize Log Insight		b95944ad71b2 (connected)	Proactive HA	• • • •	lutomated	
🔂 VxRail Manager	> Network adapter 2	VxRail Management-d368e9db-	Host Isolation	n ✓ F	ower off and restart	
		188f-48c2-afb9-b95944ad71b2	Datastore wit	h Permanent 🕕 🛛	Disabled	
		(connected)	Datastore wit	h All Paths D 🕕 🛛	Disabled	

Set up OMNI

This information describes how to log in to the VM console, and also explains the OMNI vCenter setup.

Log in to VM console

Configure OMNI through the VM console after completing the authentication step. By default, the VM console automatically closes after 10 minutes, but can be customized.

1. Enter admin for both the default username and password.

```
Debian GNU/Linux 10 dellemc-networkappliance tty1

dellemc-networkappliance login: admin

Password:

Linux dellemc-networkappliance 4.19.0-17-amd64 #1 SMP Debian 4.19.194-3 (2021-07-18) x86_64

The programs included with the Debian GNU/Linux system are free software;

the exact distribution terms for each program are described in the

individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent

permitted by applicable law.

Updating the password from default value

Changing password for admin.

Current password:

New password:

Retype new password:
```

2. If it is a first-time login, the system prompts for password change.

After the passwords are successfully updated, self-signed certificates are created. You can change the certificates later with OMNI management menu options, see Generate and Install SSL certificate.

(i) NOTE: The sudo password is the same as the password set for the admin user.

NOTE: Root user is disabled by default. To set the password to enable **root** user, use the OMNI VM console CLI menu. You can only access root user through the console.

Setup OMNI

This information describes how to set up the OMNI appliance with the required network interface configurations.

(i) NOTE: The OMNI initial configuration setup can be performed using the vCenter OMNI VM console only.

Dell Technologies recommends checking the docker private network setting before setting up OMNI to avoid any conflict with any of the external networks to which OMNI is connected.

The OMNI default docker IP address is 172.16.0.1/25. If there is a network conflict, OMNI cannot communicate with the other entities. The conflicts occur when:

- The ens160 and ens192 interfaces have IP addresses assigned from the docker private network (172.16.0.0/25).
- Any external entity such as vCenter instance, SFS instance, OME-Modular, NSX-T has IP address that is assigned in the docker private network.
- OMNI is connected to a larger network in which one or more subnetworks IP range overlaps with the docker private network.

To avoid the conflict, change the docker private network setting, see Configure docker private setting.

Network interface profile configuration

1. Select 0. Full Setup.

Menu

- _____
- 0. Full setup
- 1. Show version
- 2. Interface configuration menu
- 3. OMNI management service menu
- 4. Password/SSL configuration menu
- 5. Upgrade appliance
- 6. Reboot appliance
- 7. Show EULA
- 8. Logout

Enter selection [0 - 8]:

2. Select Edit a connection, then click OK.

li l	NetworkManager TUI
	Please select an option
	Edit a connection Activate a connection Set system hostname
	Quit
	<0K>

CAUTION: Edit a connection menu displays edit option of Bridge interface docker0 and Veth interfaces, apart from ens160 and ens192. Do not modify any configuration of the docker0 or Veth interfaces as it can lead to OMNI appliance failure or unexpected OMNI behavior.

3. Select Wired connection 1, then click Edit.

Ethernet <add> Wired connection 1 Wired connection 2 Bridge docker0 + Back></add>

4. Verify Ethernet (ens160) is connected to the vCenter reachable network, then change the Profile name to **vCenter Server Network**.



5. Change the IPv4 configuration from Automatic to Manual from the drop-down.

() NOTE: If you are using a stand-alone generic ESXi host deployment and if DHCP services are running on the Management network subnet, use the default IPv4 vCenter server network configuration which uses automatic IP address assignment using DHCP. During this scenario, set the IPv4 configuration to Automatic.



6. Click Show to the right of IPv4 configuration, then click Add.

7. Set the Manual IPv4 address with subnet mask information, Gateway address, DNS servers, Search Domains, then click **Edit** to the right of Routing.

(i) NOTE: Ensure that the IPv4 address is set with subnet mask in the prefix-length (/xx) format.

8. Select Ignore for the IPv6 configuration and click OK.



You are now ready to continue configuration.

(i) NOTE: If you are not connecting the OMNI VM to a SmartFabric local-link, ignore this part as it not applicable and you are ready to activate the connection profile.

1. Select Wired connection 2, and click Edit.

	<add> <edit> <delete> <back></back></delete></edit></add>	Ethernet vCenter Server Network Wired connection 2 Bridge docker0	
--	---	---	--

2. Rename Profile name to VxRail Mgmt Network.

Edit Connection	
Profile name <mark>Vxrail Mgmt network</mark> Device <u>00:50:56:B3:BB:60 (ens192)</u>	
• ETHERNET	<show></show>
 IPv4 CONFIGURATION <<u>Automatic></u> IPv6 CONFIGURATION <link-local></link-local> 	<show> <show></show></show>
[X] Automatically connect [X] Available to all users	
	<cancel> <ok></ok></cancel>

NOTE: The VxRail Mgmt network (ens192) setting is relevant only for VxRail deployment with IPv6 autodiscovered instance. Configuring ens192 interface is not required for non-VxRail environment.

3. Select **Disabled** for the IPv4 configuration.



4. Select Link-Local for the IPv6 configuration.

Edit Connection Profile name Vxrail Mgmt network Device 00:50:56:B3:BB:60 (ens192)	
+ ETHERNET	<show></show>
<pre>+ IPv4 CONFIGURATION + IPv6 CONFIGURATION (X) Automatically co (X) Available to all</pre> Ignore Automatic Automatic (DHCP-only) Link-Local Manual	<show> <show></show></show>
	<cancel> <ok></ok></cancel>

5. Click Edit to the right of Routing, and click Add.

Profile na Devi	Edit Connection Edit Connectic Edit Connection Edit Connectic Edit Conn	
+ ETHERNET		<show></show>
<pre> IPv4 CONFIGURATIO IPv6 CONFIGURATIO Address Gatew DNS servel Search domain Routin [] Ne [] Ig Destinat No custo [] Re (Add) </pre>	N <disabled> N <link-local> ss <add> yg ss <add> ns <add> ng (No custom routes) <<u><edit></edit></u> con/Prefix Next Hop n routes are defined.</add></add></add></link-local></disabled>	<show> <hide></hide></show>
[X] Auto [X] Avai	<0	Cancel> <ok></ok>
		<cancel> <ok></ok></cancel>

6. Enter the custom route as fde1:53ba:e9a0:cccc::/64, and click OK.

<pre> • ETHERNET <</pre>
<pre> IPv4 CONFIGURATION <disabled></disabled></pre>
I Destination/Prefix Next Hop Metric 53ba:e9a0:cccc::/64 [<add></add>
<cancel> <ok></ok></cancel>
<cancel> <ok< td=""></ok<></cancel>

7. One custom route is now configured, click OK.



8. Click **Back** to activate the connection profiles.

|--|

Activate connection profiles

(i) NOTE: To populate DNS entries automatically, deactivate and active each profile.

1. Select Activate a Connection, and click OK.

NetworkManager TUI Please select an option Edit a connection Activate a connection Set system hostname Quit <ok></ok>	

- (i) **NOTE:** If you change while editing a connection, you must deactivate then activate the connection for the respective interface profile.
- 2. Select the vCenter Server Network profile, and click Deactivate. Repeat for VxRail Mgmt Network.

Ethernet (ens160) * (beactivate) * Vcenter server network Ethernet (ens192) * Vxrail Mgmt network Bridge (docker0) * docker0
<back></back>

3. Select the vCenter Server Network profile, and click Activate. Repeat for VxRail Mgmt Network.

4. Click Back, select Set system hostname, and click OK.

NetworkManager TUI Please select an option Edit a connection Activate a connection Set system hostname Quit <ok></ok>	

5. Enter the hostname for OMNI, and click $\ensuremath{\text{OK}}$.

Please select an option
Hostname omni

(i) NOTE: If you are setting the hostname of OMNI, ensure that you have the DNS entry for the hostname.

6. The hostname is now set. Click OK.

Set hostname to 'omni'	

7. Click **Back**, and **OK** to exit the network management UI.

Cuit a connection Activate a connection Set system hostname Quit	
KOKS	

- 8. Enter a valid NTP Server IP address or hostname, and click Enter.
- 9. Enter **n** to not install the SSL certificate from remote server. When you enter **n**, the self-signed certificate that is created locally is installed.
 - (i) NOTE: To install a new certificate, see Generate and install SSL certificate.

(i) NOTE: If the NTP Server is not configured, the OMNI appliance VM synchronizes with the ESXi server time zone.

Install OMNI application on ESXi server without vCenter

Starting from 2.0 release, you can install a remote OMNI instance on ESXi server without vCenter. Use this feature when you want to install OMNI independently (without vCenter), and manage SFS. For example, use this feature to install OMNI to manage SFS in Isilon deployment.

This information describes how to deploy the OMNI appliance on VMware ESXi server using the OMNI OVA file.

Prerequisite

- The supported version of the ESXi server is 6.7 or later.
- ESXi server should have the expected hardware profile to install OMNI .ova file, see OpenManage Network Integration.
- Use Chrome or Mozilla Firefox browser.

Download and Install OVA on ESXi server

1. Download the OVA from OpenManage Network Integration support, and store the OVA image locally.

2. Log in to the ESXi server.

vmware' esxi"			root@100.9	4.120.13 - Help - Q Search -	
Navigator	🗍 ngos-r720-02				
Host Manage Monitor Image Image	Manage with vCenter Server	ige with vCenter Server Directed Register VM Directed Shut down Relations Reboot Circle Refresh Directed Shut down Relations CPU Ingos-r720-02 Version: 6.7.0 Update 2 (Build 13006603) State: Normal (connected to vCenter Server at 100.94.211.141) Uptime: 122.55 days CPU USED 50.61 (Directed Server at 100.94.211.141) USED 52.41 GB CAP STORAGE USED 1.01 TB C		CPU FREE: 56.6 GHz 2% 2% USED: 965 MHz CAPACITY: 57.6 GHz MEMORY FREE: 20.355 GB USED: 52.41 GB CAPACITY: 255.96 GB STORAGE FREE: 2.17 TB USED: 1.01 TB CAPACITY: 3.17 TB	
	This host is being manage	jed by vCenter Server. Actions may be performed aut	rtomatically by vCenter Server without your knowledge. 🏠 Actions 🛛 🕹		
	Manufacturer	Dell Inc.	Image profile	(Updated) ESXi-6.7.0-20190402001-standar	
	Model Power	PowerEdge R720		d (VMware, Inc.)	
		24 CPUs x Intel(R) Xeon(R) CPU E5-2695 v	vSphere HA state	Not configured	
		2 @ 2.40GHz	▶ vMotion	Supported	
	Image: Memory 255.96 GB Image: GB Image: GB Image: GB Image: GB	255.96 GB	System Information		
		0 B	Date/time on host	Monday, November 09, 2020, 13:47:46 UTC	
	Virtual flach	0.Bused 0.B capacity			
	Recent tasks				

3. In the ESXi server, select Virtual Machines, and click Create / Register VM.

vmware' Esxi"					root@100.94.120.13 -	Help 👻 🧿	Search -
📲 Navigator 🛛	🔂 ngos-r720-02 - Virtual Machines						
✓ ☐ Host Manage Monitor	Create / Register VM Console Pow Virtual machine	ver on 🔳 P Status 🗸	Power off II Suspend	Guest OS	ctions Host name	Q Search Host CPU V	Host memory ~
Fair Virtual Machines	. ngos-dhcp	🐼 Nor	17.08 GB	Ubuntu Linux (32-bit)	Unknown	3 MHz	796 MB
Storage		Ø Nor	16 GB	Ubuntu Linux (32-bit)	Unknown	0 MHz	0 MB
Networking 5	. By Squid%20Test	🕑 Nor	80 GB	Ubuntu Linux (64-bit)	Unknown	0 MHz	0 MB
	🗗 OMNI-3.2.dev_NGCI_10	🕑 Nor	39.06 GB	Other (32-bit)	Unknown	0 MHz	0 MB
	🗋. 👸 ОМН-1.3-ДЕМО	🕑 Nor	7.16 GB	Other (32-bit)	Unknown	0 MHz	0 MB
	🗋 🎒 Cumulus	🕑 Nor	8.48 KB	Debian GNU/Linux 9 (Unknown	0 MHz	0 MB
	🚰 Yocto%20+%20Hob	🕑 Nor	8.48 KB	Debian GNU/Linux 10	Unknown	0 MHz	0 MB
	. B OMNI-install	🕑 Nor	8.48 KB	Debian GNU/Linux 10	Unknown	0 MHz	0 MB
	🗔 🚰 OMNI-1.3.26	📀 Nor	39.06 GB	Other (32-bit)	Unknown	0 MHz	0 MB
	. 🗗 OMNI-EngOps-Test	📀 Nor	5.31 GB	Debian GNU/Linux 10	Unknown	0 MHz	0 MB
	. ib busterbuild-lab-01	📀 Nor	332.09 GB	Debian GNU/Linux 10	busterbuild-lab-02	401 MHz	32.14 GB
	i busterbuild-lab-02	📀 Nor	316.09 GB	Debian GNU/Linux 10	busterbuild-lab-01	529 MHz	16.11 GB
	🗆 🎒 cumulus-hw13	📀 Nor	Unknown	Debian GNU/Linux 9 (Unknown	0 MHz	0 MB
	Quick filters V						13 items 🦼
	Recent tasks						

4. Select the creation type as $\ensuremath{\mathsf{Deploy}}$ a VM from an OVF or OVA file and click $\ensuremath{\mathsf{Next}}.$

vm ware [*] ESXi ^{**}				Q Search -
Navigator	🗖 🖓 nɑos-r720-02 - Virtual Ma	chines		
👻 📱 Host	🔁 New virtual machine			
Manage	✓ 1 Select creation type	Select creation type		arch
Monitor	2 Select OVF and VMDK files	How would you like to create a Virtual Machine?		✓ Host memory ✓
🕨 🗗 Virtual Machines	3 Select storage 4 License agreements		This paties suides use through the second of evolution of	796 MB
Storage	5 Deployment options	Create a new virtual machine	virtual machine from an OVF and VMDK files.	0 MB
▶ Q Networking	6 Additional settings	Deploy a virtual machine from an OVF or OVA file		0 MB
	7 Ready to complete	Register an existing virtual machine		0 MB
				0 MB
				0 MB
				0 MB
				0 MB
				32.14 GB
	vm ware [*]			16.11 GB
				0 MB
			Back Next Finish Cancel	13 items 🍙
	Recent tasks			

5. Enter a name for the VM and upload the OVA file from a local source, and click Next.

VMWare' ESXi"			Q Search -
Navigator	n ngos-r720-02 - Virtual M	achines	
👻 🗐 Host	New virtual machine - OMNI-2.0		
Manage	 1 Select creation type 	Select OVF and VMDK files	arch
Monitor	2 Select OVF and VMDK files	Select the OVF and VMDK files or OVA for the VM you would like to deploy	✓ Host memory ✓
🔸 🚰 Virtual Machines	3 Select storage 4 License agreements	False a same for the video large big	796 MB
→ 🗐 Storage	5 Deployment options	OMNL2.0	0 MB
→ 🧕 Networking	6 Additional settings	Virtual machine names can contain up to 80 characters and they must be unique within each ESXI instance.	0 MB
	7 Ready to complete		0 MB
		× 🕅 OMNI-2.0.68 ova	0 MB
		OWNER. OUNT	32.14 GB
	vm ware		16.11 GB
			0 MB
		Back Next Finish Cancel	13 items 🔏
	Recent tasks		

6. Select storage for VM configuration files and virtual disks and click Next.

vm ware' ESXi"				Help 👻 🔍 Search 👻
T Navigator	ngos-r720-02 - Virtual Machines machine - OMNI-2.0		_	
Manage Monitor Virtual Machines Storage Networking Manage 1 Select creation 3 Select stor 4 License ag 5 Deployment 6 Additional 7 Ready to c	ation type F and VMDK files Select the storage type and Select the storage type and Select the storage type and Standard Persistent I Select a datastore for the Select a datastore for the	5 datastore Memory 2 virtual machine's configuration files and al	ili of its' virtual disks.	rch Host memory ~ 796 MB 0 MB 0 MB 0 MB
	Name Datastore-63	 Capacity ~ Free 3.17 TB 2.17 TF 	VMFS6 Supported Single	0 MB 0 MB 0 MB
vm	ware		1 item:	s 0 MB 0 MB 0 MB 32.14 GB 16.11 GB 0 MB
۹ (۲)	Recent tasks		Back Next Finish Ca	ancel 13 items

7. Accept the EULA license agreement and click Next.

vmware' Esxi"		Q Search
Navigator	al Machines	
Manage Monitor Virtual Machines Storage Networking Monitor Virtual Machines Ready to complete	 13.2. Waiver and Severability. Failure to enforce a provision of this EULA will not constitute a waive 13.3. Modifications. This EULA may only be modified in writing signed by both parties; provided, howeve 13.4. Governing Law and Jurisdiction. If You obtained the Software directly from Dell, then the governi A. Subject to Section 13.4 D and 13.5, if You are domiciled in the United States or Canada: (1) this B. Subject to Section 13.4 D, if You are domiciled outside of the United States or Canada: (1) this C. In any event, neither the U.N. Convention on Contracts for the International Sale of Goods, nor t D. If You are an individual consumer, this Section 13.4 does not deprive You of the protection affor 13.6. Third Party Rights. Other than as expressly set out in this EULA, this EULA does not create any r 13.7 Entire Agreement. You acknowledge that You have read this EULA, that You understand it, that You Rev.09Sept20 	V Host memory > 796 MB 0 MB 0 MB 0 MB <td< th=""></td<>
	Back Next Finish Cancel	13 items
Recent tasks		

8. By default, OMNI VM OVA has dual NIC adapters. Use only one network if you deploy OMNI VM as an independent entity without vCenter. You can disable VxRail management network (ens192). Select the disk provisioning and power options, and click **Next**.

vm ware' ESXi"			root@100.94.120.13 • Help •	Q Search
Navigator	New virtual machine - OMNI-2.0	achines		
Manage Monitor	 1 Select creation type 2 Select OVF and VMDK files 3 Select storage 	Image: wide wide wide wide wide wide wide wide		
Virtual Machines	 4 License agreements 5 Deployment options 6 Ready to complete 	Network mappings	VCenter Server Network VCenter Server Network VXRail Management Network VCenter Server Network VCenter Server Network V	796 MB 0 MB 0 MB 0 MB 0 MB
		Disk provisioning Power on automatically	Thin O Thick	0 MB 0 MB 0 MB
				0 MB 0 MB 32.14 GB
	vmware		Back Next Finish Cancel	0 MB
	Recent tasks			

You can select **Power on automatically** checkbox to power on the VM after the installation.

9. Ready to complete page displays the summary of the settings that are configured so far. Review and verify the settings and click **Finish** to complete the installation.

vm ware [*] ESXi ^{**}				Q Search -
■ Navigator ■ Host	New virtual machine - OMNI-2.0	lachines		
Manage Monitor Mon	 1 Select creation type 2 Select OVF and VMDK files 3 Select storage 	Ready to complete Review your settings selection before fin	ishing the wizard	Host memory ~ 796 MB
> Storage	 4 License agreements 5 Deployment options 	Product	OMNI-2.0.68	0 MB
Networking	6 Ready to complete	VM Name	OMNI-2.0	0 MB
		Files	OMNI-2.0.68-disk1.vmdk	0 MB
		Datastore	Datastore-63	0 MB
		Provisioning type	Thin	0 MB
		Network mappings	vCenter Server Network: vCenter Server Network,VxRail Management Network: vCenter Server Network	0 MB
		Guest OS Name	Unknown	0 MB
				0 MB
		Do not refresh your brow	ser while this VM is being deployed.	32.14 GB
	vmware			0 MB
			Back Next Finish Cancel	13 items
	Recent tasks			

Set up OMNI

To log in to the VM console and set up OMNI configurations:

- 1. Follow the steps provided in the section Set up OMNI to log in to the VM.
- Configure Wired connection 1 (ens160) interface with the ESXi management IP address. Set the IPv4 configuration from Automatic to Manual from the drop-down and enter the required IP address details along with the subnet ask and gateway information. Set the IPv6 configuration for the interface to Ignore. See ens160 interface configuration steps from Set up OMNI.

(i) NOTE: Wired connection 2 (ens192) interface setup is not required for non-VxRail deployment.

3. By default, ens160 interface is activated. If you change while editing a connection, you must deactivate then activate the connection for the ens160 interface.

OMNI appliance console CLI menu

This information describes the menus available to the admin SSH user through the console.

Table 8. OMNI appliance console CLI menu

Menu option	Submenu option	Description
1. Show version	-	Display OMNI virtual appliance and plug- in version.
2. Interface configuration menu	0. Config Docker Private network	Display default OMNI docker private network information. Also configure docker private network information. (i) NOTE: OMNI default docker private subnet is 172.16.0.1/25.
	1. Show interfaces	Display OMNI network interface configuration.
	2. Show connection status	Display OMNI network interface connection status.
	3. Configure interfaces	Configure OMNI network interfaces using Network Manager user interface including OMNI Management IP, gateway, DNS entries, search domains, routes, OMNI hostname, and so on.
	4. Show NTP status	Display OMNI network time protocol (NTP) server status.
	5. Configure NTP server	Configure OMNI NTP server. Enter remote NTP server IP or hostname. It is recommended that you use the server hostname.
	6. Unconfigure NTP server	Unconfigure OMNI NTP server.
	7. Start NTP server	Start OMNI NTP service, and enable NTP service.
	8. Stop NTP server	Stop OMNI NTP service.
	9. Exit	—
3. OMNI management service menu	1. Start OMNI management service	Start OMNI web and database essential services.
	2. View OMNI management service	Display status of OMNI essential services.
	3. Stop OMNI management service	Stop OMNI essential services.
	4. Restart OMNI management service	Restart OMNI essential services.
	5. Create support bundle	Create OMNI support bundle archive and save to download location. () NOTE: Dell Technologies recommends using the OMNI appliance management user interface to generate and download support bundle.
	6. Change application log level	Display current log-levels, and configure DEBUG or ERROR log-levels. (i) NOTE: Dell Technologies recommends using the OMNI
Table 8. OMNI appliance console CLI menu (continued)

Menu option	Submenu option	Description
		appliance management user interface to change log level of needed services.
	7. Exit	—
4. Password or SSL configuration	1. Change appliance password	Change appliance admin user password.
	2. Change root password	Assign password of application root user; root user is disabled by default, and is required to set the password first to access the root user. Root user is only accessible using the vCenter OMNI VM console. CAUTION: Changing the system state from the Linux shell can result in undesired and unpredictable system behavior. Only use Linux shell commands to display system state and variables, or as instructed by Dell EMC Support.
	3. Generate self-signed SSL certificates.	Replace existing OMNI appliance self- sign certificate. () NOTE: After SSL certificate installation completes, you must re- register OMNI with the vCenter.
	4. Install SSL certificates from remote server.	Replace OMNI certificates with the certificate that is on the remote server using SCP or FTP. (i) NOTE: After SSL certificate installation completes, you must re- register OMNI with the vCenter.
	5. Exit	—
5. Upgrade appliance		Upgrade the OMNI appliance. () NOTE: Verify the OMNI version- specific upgrade instruction before upgrading, see Upgrade OMNI.
6. Reboot appliance	—	Reboot the OMNI appliance.
7. Show EULA	—	Display the OMNI end user license agreement (EULA).
8. Logout	—	Log out as the admin user.

Generate and install SSL certificate

OMNI Management menu has options to generate self-signed SSL certificates or install SSL certificates from remote server.

Generate self-signed SSL certificate

To generate a self-signed SSL certificate:

1. From the OMNI management menu, enter 4 to go to the Password/SSL configuration menu.

Menu

- 0. Full setup
- 1. Show version
- 2. Interface configuration menu
- 3. OMNI management service menu
- 4. Password/SSL configuration menu
- 5. Upgrade appliance
- 6. Reboot appliance
- 7. Show EULA
- 8. Logout

```
Enter selection [0 - 8]: 4_
```

 Enter 3 to generate self-signed SSL certificates. OMNI VM displays confirmation for replacing the existing certificate and key with the newly created certificates and keys.

```
Password/SSL configuration menu
1. Change appliance password
  Change root password
2.
   Generate self signed SSL certificates
з.
   Install SSL certificates from remote server
5.
   Exit
Enter selection [1 - 5]: 3
Existing Certificate and Key will be replaced. Proceed? [y]? y
2020-07-31 01:51:20 INFO [setup.sh]
Generating a RSA private key
writing new private key to
'/home/isengard/workspace/sslworkspace/dellIsengardCA-key.pem'
Generating RSA private key, 4096 bit long modulus (2 primes)
.++++
e is 65537 (0x010001)
Signature ok
subject=C = US, ST = CA, L = Santa Clara, O = Dell, OU = networking,
CN = dellemcnetwork-appliance,
emailAddress = noreply@dell.com
Getting CA Private Key
omni_nginx
press [enter] to continue...
```

NOTE: If the OMNI stand-alone UI is open when generating a new self-signed SSL certificate, you must log out from OMNI stand-alone UI and log in again before you unregister and re-register the vCenter.

3. Unregister the vCenter using OMNI stand-alone UI. After you unregister the vCenter, ensure that the OMNI plug-in is removed from vCenter. If not, log out and log in the vCenter to confirm that the plug-in is removed.

4. Register the vCenter again using OMNI stand-alone UI. Log out and log in the vCenter again to apply the new SSL certificate.

Refresh the browser to view the OMNI UI plug-in from the vCenter when you register or unregister OMNI appliance with vCenter 7.0. For older versions of vCenter, log out and log in to access the plug-in from the vCenter.

Install SSL certificate from remote server

To install SSL certificate from remote server:

- 1. Generate SSL certificate using a standard method in .pem or .crt formats.
- 2. Copy the generated files to the remote SCP server.
- 3. From the OMNI management menu, enter 4 to go to the Password/SSL configuration menu.

Menu

- 0. Full setup
- 1. Show version
- 2. Interface configuration menu
- 3. OMNI management service menu
- 4. Password/SSL configuration menu
- 5. Upgrade appliance
- 6. Reboot appliance
- 7. Show EULA
- 8. Logout

Enter selection [0 - 8]: 4_

4. Enter **4** to install the certificate from remote server. Enter the remote SCP server IP address or hostname and login to the SCP server. Provide the path to the certificate and private key in the server. The files are copied to the OMNI VM.

```
Password/SSL configuration menu
1. Change appliance password
2. Change root password
3. Generate self signed SSL certificates
4. Install SSL certificates from remote server
5. Exit
Enter selection [1 - 5]: 4
2020-07-31 02:07:57 INFO [setup.sh]
Remote SCP server IP/hostname: 192.168.101.32
Username: admin
File path [certificate file format(.crt/.pem)]: /tmp/omni-cert.pem
The authenticity of host '192.168.101.32 (192.168.101.32)' can't be established.
ECDSA key fingerprint is SHA256:Hxik4YrYfZfrEbR5r5oegH8XivUdGdHHTL/+F29hiQQ.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.101.32' (ECDSA) to the list of known hosts.
admin@192.168.101.32's password:
                                                     100% 1034
                                                                    5.2MB/s
                                                                               00:00
omni–cert.pem
2020-07-31 02:08:44 INFO [setup.sh]
2020-07-31 02:08:44 INFO [setup.sh]
Remote SCP server IP/hostname [192.168.101.32]:
Username [admin]:
File path [must be private key format(.pem)]: /tmp/omni-key.pem
admin@192.168.101.32's password:
                                                     100% 1675
omni-key.pem
                                                                    7.1MB/s
                                                                               00:00
2020-07-31 02:09:11 INFO [setup.sh]
File successfully copied to /home/isengard/workspace/sslworkspace/tempprivkeyfile
Installing new keys will restart the service. Proceed? [y]? _
```

5. Enter ${\boldsymbol y}$ to install the SSL certificate.

NOTE: If the OMNI stand-alone UI is open when installing the new SSL certificate, you must log out from OMNI stand-alone UI and log in again before you unregister and re-register the vCenter.

- 6. Unregister the vCenter using OMNI stand-alone UI. After you unregister the vCenter, ensure that the OMNI plug-in is removed from vCenter. If not, log out and log in the vCenter to confirm that the plug-in is removed.
- 7. Register the vCenter again using OMNI stand-alone UI. Log out and log in the vCenter again to apply the newly installed SSL certificate.

Refresh the browser to view the OMNI UI plug-in from the vCenter when you register or unregister OMNI appliance with vCenter 7.0. For older versions of vCenter, log out and log in to access the plug-in from the vCenter.

View and configure docker private network settings

The internal docker system of the OMNI VM uses a private network to communicate with the docker components. In 2.1 release, the docker private network IP address is set to 172.16.0.1/25 by default. View and change the default configuration for the docker private network using OMNI console.

View docker private network configuration

- 1. Log in to OMNI console.
- 2. From the OMNI management menu, enter 2 to go to the Interface configuration menu.

Menu
Full setup
Show version
Interface configuration menu
PASsword/SSL configuration menu
Upgrade appliance
Reboot appliance
Show EULA
Logout

3. Enter **0** to configure docker private network.

OMNI interface configuration menu

- 0. Config Docker Private network
- 1. Show interfaces
- 2. Show connection status
- 3. Configure interfaces
- 4. Show NTP status
- 5. Configure NTP server
- 6. Unconfigure NTP Server
- 7. Start NTP Server
- 8. Stop NTP Server
- 9. Exit

Enter selection [0 - 9]: 0

4. OMNI console displays the current docker private subnet settings with an option to change the docker private network setting. You can ignore to change the setting by entering **n**.

	OMNI interface configuration menu
0. 1. 2. 4. 5. 7. 8. 9.	Config Docker Private network Show interfaces Show connection status Configure interfaces Show NTP status Configure NTP server Unconfigure NTP Server Start NTP Server Stop NTP Server Exit
Ent The	er selection [0 – 9]: 0 current docker private subnet is "172.16.0.1/25"
Cha	nging the docker private network will result in a reboot. Continue? [n]? n_

Change docker private network default settings

When there is a conflict between the default docker private network and any other network to which OMNI is connected, OMNI cannot communicate with the devices in that network. To avoid the conflict, you can change the docker private network default settings in OMNI.

To change the docker private network configuration:

- 1. From the OMNI management menu, enter 2 to go to the Interface configuration menu.
- 2. Enter **0** to configure docker private network.
- **3.** OMNI console displays the current docker private subnet settings. Any change to the docker private network setting results in reboot of OMNI. OMNI displays confirmation to change the docker private network. Enter **y** to proceed with the configuration change.
- **4.** Enter the private network IPv4 network address for docker in *A.B.C.D* format with subnet mask in prefix-length /xx format and press Enter. The docker private network address must end in x.x.x.1 or x.x.x.129 and use a /25 mask.

```
OMNI interface configuration menu
0. Config Docker Private network
   Show interfaces
1.
   Show connection status
   Configure interfaces
   Show NTP status
   Configure NTP server
   Unconfigure NTP Server
6.
   Start NTP Server
8. Stop NTP Server
9. Exit
Enter selection [0 - 9]: 0
The current docker private subnet is "172.16.0.1/25"
Changing the docker private network will result in a reboot. Continue? [n]? y
Enter the private network for Docker( in a.b.c.d/x format): 170.16.0.1/25
```

5. OMNI reboots to implement the latest docker private network configuration.

OMNI vCenter integration

This section explains connections between the physical switch in SmartFabric mode and the servers (ESXi hosts) in the vCenter. It also explains how OMNI automates the configuration on the physical switches in SmartFabric mode based on the virtual networking on hosts.

vSS and vDS port groups

Leaf switches (in SmartFabric mode) that are part of a fabric are connected to server ports (VMNICs) physically. The physical NICs of the server are configured as the uplink ports of the virtual switches; vSphere Standard Switch (vSS) of host or vSphere Distributed switches (vDS) of vCenter. You can create port groups on a vSS or vDS to provide connectivity and common network configuration. You can associate VLANs to the uplink port groups of vDS. For more information regarding vCenter port groups, vSS, and vDS, see VMware documentation.



NOTE: Dell Technologies recommends keeping the vDS uplink in Trunking mode and configures the virtual port groups with VLANs for each network. OMNI configures the respective VLANs on the switch ports and uplinks.

OMNI automation

After you register the vCenter in OMNI, OMNI handles the port group automation from the virtual switches (vDS or vSS) to physical switches.

Server interface profile

SFS represents the server NIC ports that are connected to the leaf switches as a server interface profile. For a server interface profile, a server interface ID must be configured using the MAC address of the server NIC port. When you connect a server to a port of a leaf switch, SFS identifies the NIC using the server interface ID and matches the server-facing port with the server interface profile. For the traffic to flow from a host to the server, the switch ports to which the server is connected must be configured with the same VLANs as that of server VMNICs.

Uplink

For the server to communicate with the external network, the L2 uplink in the fabric must be configured with networks used by the vCenter port groups. In L3 personality, you can create the L2 uplink with the uplink type as Default. For more information about L2 default uplink configuration, see Create L2 uplink.

Associate networks (VLANs) to server interface profiles and L2 uplinks

With vCenter integration, OMNI automatically synchronizes the VLANs to the server interface profiles and L2 uplinks:

- Queries the vSS or vDS and collects the MAC address of the connected server VMNICs.
- Identifies the server interface profiles associated with the VMNICs MAC addresses.
- Identifies the changes in the network configuration and configures the networks on the server interface profiles and uplinks.
 - If you create a port group in the vCenter, OMNI creates the general purpose networks accordingly and associates these networks with the server interface profiles and L2 uplinks. For more information, see Configure general purpose network. When OMNI creates a network during automation, it sets the Network Originator flag to Auto.
 - If you delete a port group in the vCenter, OMNI removes the network associated with the server interface profiles and uplinks.
 - If you modify the VLAN ID of a network, OMNI creates a new general purpose network and associates the network with the server interface profiles and uplinks. It also removes the old network associated with the server interface profiles and uplinks.

(i) NOTE: OMNI does not automatically delete the networks that are created manually using the UI. When you create a network using OMNI UI, OMNI sets the Network Originator flag to Manual.

OMNI behaviors

- If you remove all port groups from the host, OMNI discovers that no port group is assigned to the host and deletes all the networks on the server interface profile.
- OMNI identifies the networks that are not used by the server interface profiles and uplinks, and deletes the networks from the fabric.
- If you remove a host from the vCenter, OMNI does not remove the networks that are associated with the server interface profiles. Dell Technologies recommends you to remove the networks manually.
- If the port group network type is set to VLAN trunking or private VLAN in vCenter, OMNI ignores the port group configuration.
- If there is a change to the IP address or hostname of a VxRail node in the cluster, OMNI reflects the network configuration changes for the changed VxRail host after about 20 to 30 minutes.
- If you add a host to vCenter, OMNI takes 15 minutes to recognize the new host and reflects the network configuration for the host after 15 minutes.
- **NOTE:** When configuring bulk port-groups in a vDS or importing the port-groups in bulk through a script, Dell Technologies recommends you to enable the Maintenance mode for the vCenter in OMNI before configuring or importing the port-groups in vDS. After it is done, disable the Maintenance mode for that vCenter.

Access the OMNI stand-alone portal

6

You can access OMNI as a stand-alone portal using the OMNI IP address. OMNI appliance page displays links to launch the **OMNI Appliance Management** portal, **OMNI Fabric Management Portal**, and **OMNI Documentation**. You can access the OMNI UI using the latest version of the browsers, such as:

- Google Chrome
- Mozilla Firefox

Starting from release 2.0, OMNI provides more scalable and secure sign-on feature, when launching OMNI as a stand-alone user interface. The following options are introduced:

- Logout—Manually terminate the login session using the Log out button at the upper right of the UI.
- Login session timeout—OMNI terminates an inactive login session after 15 minutes to prevent unauthorized access.

(i) **NOTE:** This feature is not applicable if OMNI is launched from vCenter plug-in.

To access the OMNI UI as a stand-alone application:

Open a browser session, go to https://OMNI_IP with the configured IP address or FQDN.

D&LLEMC	
Getting Started	OpenManage Network Integration (OMNI) OMNI offers a single pane of glass through VMware vSphere for operation and management of Dell EMC data center switches running OS10 Enterprise Edition.
Documentation OMNI Documentation	
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Access the OMNI Fabric Management Portal

1. From the OMNI stand-alone page, click Launch OMNI Appliance Management.

2. Enter the username and password for the OMNI VM and click Sign In.

OpenManage Integration	Network		
DELLEM	IC		
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admin			
	٢		

NOTE: Alternatively, you can also log in to **Fabric Management portal** directly using **https://OMNI_IP/delawareos10** with the configured IP address or FQDN.

After successful authentication, OMNI Home page is displayed.

Once you log in to the OMNI Fabric Management Portal with the username and password, **OMNI Home** page is displayed. From **OMNI Home**, you can:

- Edit OMNI address.
- Add, edit, or delete SmartFabric instance, see here.
- Add, edit, or delete NSX-T instance, see here.
- Add, edit, or delete OME-Modular, see here.
- Add, edit, or delete vCenter instance, see here.
- View relationship details.
- View OMNI information.

Edit OMNI configuration

After you log in to OMNI, the IP address or FQDN of the OMNI is displayed in **OMNI Configuration**. You can edit OMNI IP address or FQDN.

- 1. Click OMNI Home > OMNI Configuration.
- 2. Click Edit OMNI Address.

3. Edit the IPv4 address or FQDN of the OMNI.

OMNI Configurat	ion Smar	tFabric NSX-T	OME-M vCente	er Instance	Relationships	
CREFRE					×	
OMNI Addi	Enter OM	NI FQDN or IP Ac	ddress			
	OMNI Address	100.104.26.216	FQDN or IPv4	Address		
	i Edit O • re-in: • re-re	MNI Address provokes: stall OMNI vCenter clier gister for SFS events	: nt plugin			
				CANCEL	SUBMIT	

4. Click Submit.

The system displays the edit success message.

Register vCenter with OMNI

Starting from 2.0 release, you have to register the vCenter instance with OMNI using the UI. You can register up to 10 vCenters in a single OMNI VM.

Limitation

Before registering the vCenter, ensure that there is only one FQDN mapping for a vCenter IP address in the DNS entry. Multiple DNS entries for the same IP address sometimes lead to vCenter registration failure.

To register the vCenter with OMNI:

- 1. Click OMNI Home > vCenter Instance.
- 2. Click Add to register the vCenter.
- 3. Enter the IP address or FQDN of the vCenter, username, and password.
- 4. Select the appropriate options for **Registered** and **Automation** options. By default, Registered and Automation is set to **True**.
 - Registered—Selecting True registers the vCenter with OMNI.
 - Automation—Selecting **True** creates and starts the automation service for that vCenter.

OMNI Config	Add a vCenter Ins	stance		×	
C REFRESH			,	\sim	
vCenter	vCenter IP/FQDN	100.104.26.63			
	User	administrator@vsphere.lo	cal		
	Password	•••••	<u>©</u>		
	Registered • True	False			
	Automation 💿 True 🔵	False			
			CANCEL		

The system displays a vCenter registration successful message.

When adding the vCenter instance, you can choose only to add the instance and not register. To do so, select **False** for **Registered** option. Selecting **False** adds the vCenter and no register the vCenter with OMNI. You can register later without entering the credentials again by changing the status.

You can choose not to enable the automation services for the vCenter by selecting **False** for **Automation** option. Selecting **False** creates the automation service for the specific vCenter. You can start the automation service for the vCenter whenever required, see vCenter Maintenance mode.

For Enhanced Link Mode (ELM) vCenter, see OMNI behavior in ELM.

Edit a vCenter instance

To edit the vCenter configuration:

- 1. Select the vCenter instance that you want to edit and click Edit.
- 2. Update the password and click Edit.

Delete a vCenter instance

(i) NOTE: The delete option is available only when OMNI is launched as a stand-alone UI.

To delete the vCenter configuration:

- 1. Select the vCenter instance that you want to delete and click **Delete**.
- 2. Click **Delete** to confirm the deletion.

The system displays deletion success message.

(i) NOTE: The delete action first unregister the vCenter and delete the vCenter instance.

Unregister vCenter

You can unregister a vCenter that is already registered with OMNI. When you unregister the vCenter, OMNI stops the automation services for that vCenter.

(i) NOTE: The unregister vCenter option is available only when OMNI is launched as a stand-alone UI.

- 1. Click OMNI Home > vCenter instance,
- 2. Click the status Registered for the vCenter you wanted to unregister.
- 3. Click Ok to unregister the OMNI from the vCenter.

C REFRESH	vCenter Instance Register X	st
0 100.10	The vCenter 100.104.26.63 is currently Registered. Are you sure you want to Unregister? Note: Unregistering OMNI from the vCenter while automation is running will stop OMNI automation.	R
	CANCEL	

The system displays status change success message.

After you unregister the vCenter, the status of the vCenter changes to **Not Registered** and the vCenter is moved to Maintenance mode. The Maintenance mode toggle view changes to green and the automation for that vCenter stops.

NOTE: When you unregister the vCenter from stand-alone OMNI UI, the OMNI plug-in is undeployed from vCenter. With vCenter 7.0, refresh the browser to see the change and on versions below 7.0, log out and log in to see the changes.

vCenter Maintenance mode

Enabling Maintenance mode for vCenter instance disables automation for all SmartFabric instances that are registered with that vCenter. With 2.1 release, you can use toggle switch to enable or disable Maintenance mode for vCenter. See the status using the tooltip.

Enable Maintenance mode

Changing the Maintenance mode from In Service to Under Maintenance stops the automation services that is running for that vCenter. Enable Maintenance mode for vCenter instance:

- 1. Click OMNI Home > vCenter Instance
- 2. Click the toggle switch to change the mode to In Service for the vCenter. The system prompts for confirmation to change the mode.
- **3.** Click **Ok** to confirm. This action changes the mode from In Service to Under Maintenance and stops OMNI from configuring networks on SmartFabric when there are changes in the vCenter port groups through automation.

The system displays Maintenance mode change success message.

Disable Maintenance mode

Changing the Maintenance mode from **Under Maintenance** to **In Service** enables the vCenter to be active. To disable Maintenance Mode for a vCenter instance:

- 1. Click OMNI Home > vCenter Instance
- 2. Click the toggle switch to change the mode to Under Maintenance.
- 3. Click Ok to confirm. The vCenter status changes to In Service and OMNI starts the automation service for the vCenter.

The system displays Maintenance mode change success message.

Access OMNI plug-in from the vCenter

This information describes how to access OMNI plug-in from the vCenter. After you register vCenter with OMNI, a shortcut is available from the vSphere Client left-pane within the menu drop-down and shortcuts view.

Before you use the plug-in, you must set up an OMNI appliance in vSphere. Once you register OMNI with vCenter, the OMNI plug-in is available in the vCenter. For more information about how to register vCenter with OMNI, see here.

NOTE: vCenter 7.0 supports plug-in autodiscovery feature. So, when you register or unregister OMNI appliance with vCenter 7.0, refresh the browser to view the OMNI UI plug-in from the vCenter. When using older versions of vCenter, log out and log in to access the plug-in from the vCenter.

vm vSphere Client Menu v Q Search in all environmen	ts	C (?) × Administrator@VSPHERELOCAL × ()
Vm vSphere Client Menu v Q Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all environment Image: Search in all enviro	S Figure Permissions Datastores Networks Snapshots Updates Figure Permissions Datastores Networks Snapshots Updates ACTIONS → II Power Status Powered On Guest OS Not encrypted VMware Tools Running, version:10346 (Guest Managed) () DNS Name (1) dellemc-networkappliance DNS Name (1) dellemc-networkappliance DNS Name (1) dellemc-networkappliance IIP Addresses (3) 100.104.88.89 re80::250.56ffre9e:tefc AND 1 MORE III Snapshots III	Customize view ~
VCloud Availability VRealize Operations	CPU(s), 175 MHz used No snapshot taken	Cluster
Recent Tasks Alarms		*

When you select **OpenManage Network Integration**, the **OMNI Home** page is launched. You can add SmartFabric, NSX-T, and OME-M instances and manage the service instances.

Edit OMNI autodiscovered SmartFabric instance

This information describes how to configure OMNI autodiscovered SmartFabric instances. If the OMNI virtual appliance is connected to a link-local network on SmartFabric (such as VxRail Management Network-VLAN 3939), the SmartFabric IPv6 VIP is autodiscovered by OMNI. For more information about SFS behavior, see *Dell EMC SmartFabric Services User Guide*.

(i) NOTE: This configuration is applicable only for VxRail deployment and not for PowerEdge MX environment.

When you launch the OMNI plug-in from vCenter for the first time after registering, the autodiscovered SmartFabric instance is disabled. You must edit the instance and change the REST_USER password to proceed with other SmartFabric configurations.

Edit the autodiscovered SmartFabric instance for the REST_USER password to complete the configuration.

- 1. Select the autodiscovered SmartFabric instance from the list, and click **Edit**.
 - i NOTE: During VxRail initial deployment, the system forces you to change the password. If you forget the REST_USER password, contact Dell support to reset REST_USER password.
- 2. Edit the SmartFabric name, password, or enable or disable SFS events.
- 3. Click Submit.

OMNI Configuration SmartFabric NSX-	T OME-M vConter I	nstance Delationshins	(2) OMNI Inform:	ation	
CREFRESH + CREATE 2 EDIT	Edit a SmartFabr	ic		×	
SmartFabric Instance	SmartFabric Instance	fde1:53ba:e9a0:cccc:0:5e	eff:fe00:1100		
fde1:53ba:e9a0:cccc:0:5eff:fe00:1100	Address	FQDN, IPv4, or IPv6 Address		VICE	
	Service Instance Name	[J3RXCW2.local] Descriptive Name	-		
	User Name	REST_USER			
	Password		0		
	Register for SFS Event	S			
			CANCEL	міт	

(i) NOTE: SFS events feature is supported from SmartFabric OS10 version 10.5.2.2 and later.

The system displays SmartFabric instance configuration success message.

Add SmartFabric instance

This information describes how to add SmartFabric instances in OMNI. You can add up to 15 SmartFabric instance in a single OMNI VM.

Prerequisite

Identify the master IP address of the switch in a SmartFabric cluster. To identify the master, use the show smartfabric cluster command in the OS10 switch CLI.

```
OS10# show smartfabric cluster

CLUSTER DOMAIN ID : 100

VIP : fde2:53ba:e9a0:cccc:0:5eff:fe00:1100

ROLE : MASTER

SERVICE-TAG : FX6HXC2

MASTER-IPV4 : 10.11.180.8

PREFERRED-MASTER : true
```

Use the following steps to add SmartFabric instance:

- 1. Log in to OMNI Fabric Management portal.
- 2. Click OMNI Home > SmartFabric
- 3. Click Create to manually add the master IP address of the SmartFabric instance.
- **4.** Enter the SmartFabric instance IP address, SmartFabric name, username, and password.
- 5. (Optional) Select Register for SFS events checkbox to retrieve the SFS events and display through OMNI.
- 6. Click Add.

D≪LL EMC OpenManage Network Integr	tion				1	Log Ou	ıt
	Add a SmartFat	oric		×			
OMNI Configu							
	SmartFabric Address	100.94.81.9					
SmartFabric		FQDN, IPv4, or IPv6 Address					
	SmartFabric Name	SES 2					
C REFRES	Shart usite Hume	Descriptive Name					
Sma							
	User Name	REST_USER					
	Password		<u>©</u>				
	✓ Register for SFS Ever	nts					
	Note: REST_USER is the re-	ecommended User Name for S	SmartFabric				
			CANCEL	DD			

The system displays SmartFabric instance creation success message.

SmartFabric page displays the following information:

- SmartFabric Instance—Displays the list of IP address or FQDN of the SmartFabric instance.
- SmartFabric Name—Displays the name of the SmartFabric.
- User Name—Displays the username for SmartFabric.
- Maintenance Mode—Displays the Maintenance mode of the SmartFabric.
- Gray—Maintenance mode is Off or disabled.
- Green—Maintenance mode is On or enabled.
- Fabric Status—Displays the status of the fabric.
- Green—Indicates that the fabric is online.
 - \circ $\;$ Red—Indicates that the fabric is not healthy.

Click **View** to see the more details about the SmartFabric instance. This action takes you to the **Summary** > **Overview** tab of the SmartFabric instance. For more information about the overview, see Summary.

- Compliance Status—Displays the status of the compliance of the fabric.
- Red—Indicates that there are critical compliance errors or misconfigurations.
- Green—Indicates that the fabric is in compliance.
- Amber—Indicates that there are compliance or misconfigurations warnings.

NOTE: The compliance status feature is supported on SmartFabric OS10 from 10.5.2.2. OMNI displays the compliance status information for the SmartFabric instance only if the version running on the switches is 10.5.2.2 or later. If not, the compliance status is displayed as N/A.

Click **View** to see the more details about the fabric compliance status. This action takes you to the **Serviceability** > **Fabric Compliance** of the SmartFabric instance. For more information about the overview, see Summary.

Съ	EFRESH + CREATE 🖉 EU	DIT X DELETE				
	SmartFabric Instance	SmartFabric Name	T User Name	T Maintenance Mode	Fabric Status	Compliance Status
	100.104.26.21	SFS	REST_USER		VIEW	
	100.94.77.21	SFS_2	REST_USER		VIEW	A VIEW
						1 - 2 of 2 instances

Γ

Edit a SmartFabric

To edit the configuration of the existing SmartFabric instance:

- 1. Select the SmartFabric instance from the list, and click Edit.
- 2. Update the configurations and click Submit.

The system displays SmartFabric instance update success message.

Delete a SmartFabric

To remove a SmartFabric instance from OMNI.

- 1. Select the SmartFabric instance from the list and click Delete.
- 2. Click Delete to confirm.

The system displays SmartFabric instance update success message.

SmartFabric Maintenance mode

Enabling Maintenance mode prevents OMNI from configuring networks on SmartFabric when there are changes in the vCenter port groups and disables the UI navigation for that instance. With 2.1 release, you can use toggle switch to enable or disable Maintenance mode for each SmartFabric instance.

The OMNI Home > SmartFabric page displays the mode of each SmartFabric instance added in the OMNI VM.

Enable Maintenance mode

To enable Maintenance mode for a SmartFabric instance:

- 1. Click OMNI Home > SmartFabric.
- 2. Click the toggle switch under Maintenance Mode to enable the Maintenance mode for the SmartFabric instance.
- **3.** Click **Ok** to confirm. The SmartFabric instance is put in Maintenance mode. Enabling Maintenance mode stops the automation service for that instance and also disables UI navigation for that SmartFabric instance.

CDEEDES		1
Sma	SmartFabric Maintenance \times	Fabri
0 100	The SmartFabric 100.94.81.9 is currently In Service. Do you want to move this Under Maintenance? Note: Maintenance will disable Service Instance UI navigation and stop automation for the Service Instance.	Ø
	CANCEL	

The Maintenance Mode toggle view changes to green to indicate that the maintenance mode is enabled for that SmartFabric instance.

Disable Maintenance mode

To disable Maintenance Mode for a SmartFabric instance:

- 1. Click OMNI Home > SmartFabric.
- 2. Click the toggle switch for a SmartFabric Instance to turn off the Maintenance mode.

3. Click Ok to confirm. The SmartFabric instance mode changes to In Service.



OMNI support for vCenter Enhanced Linked mode

Enhanced Linked mode (ELM) is a feature available in vCenter. Using ELM, you can link multiple vCenter appliances that are deployed across different location and have a global view of the inventory.

OMNI appliance behavior when the vCenter or vCenters registered to OMNI are in ELM:

- You must register all the vCenters that are in ELM with OMNI. For example, if two vCenters vCenter1 and vCenter2 are linked using ELM, you must register both the vCenters (vCenter1 and vCenter2) to launch OMNI plug-in from vCenter1 and vCenter2. For more information, see Register OMNI with vCenter.
- If you want to launch OMNI plug-in from a vCenter that is in ELM and does not have any host that is connected to SmartFabric instance, you can only register the vCenter and disable automation. To do that, select True for registration option and False for automation option when adding the vCenter instance in OMNI. For more information, see Register OMNI with vCenter. In this example, if vCenter2 does not have any host that is connected to SmartFabric instance added to OMNI, you can only register the vCenter and disable the automation.
- You must use stand-alone OMNI UI to unregister all the vCenters that are linked through ELM.
- Before repointing a vCenter that is registered with OMNI to a new domain, ensure that you unregister the vCenter from OMNI.

Host network inventory

You can view information about physical Dell EMC PowerSwitch infrastructure running SmartFabric OS10.

Host network inventory page

Select a host in vCenter, select the **Monitor** tab, then select **OpenManage Network Integration** (OMNI) in the monitor sidebar.

ummary Monitor Con	figure Permissions VMs	Datastores Networks	Updates		
 Issues and Alarms 					
All Issues Triggered Alarms Performance Overview	Host Network Inventory				
Advanced	Server Dhysical Adapter	Legical Switch	MAC Address	Physical Switch Node	Physical Switch Interfac
 Tasks and Events Tasks Events 		VMware HCIA Distributed Switch	00:0a:f7:f5:c1:a0	6XJHXC2	ethernet1/1/8
Hardware Health	wmnic1	VMware HCIA Distributed Switch	00:0a:f7:f5:c1:a1	2WJHXC2	ethernet1/1/6
OpenManage Network I	○ ■vusb0	1 vSwitchiDRACvusb	54:48:10:fd:e9:8f		
VxRail Physical View	4				1 - 3 of 3 PNICs

Refresh button

Click **Refresh** to update the host network inventory data and display updated contents.

Physical adapter table

Select a switch from the Host Network Inventory to view detailed information. The table is default-sorted by descending switch name to group physical adapters belonging to the same switch.

- Server Physical adapter—Name of the physical NIC.
- Logical switch—Name of switch the physical adapter is connected to.
- MAC address—AC address of the physical adapter.
- Physical switch node—Service tag of physical switch that is connected to the fabric.
- Physical switch interface—Physical switch port this server NIC is connected to.

View logical switch details

Displays information about the logical switch that is connected to the selected physical adapter.

When you select a server physical adapter from the Host Network Inventory, the page displays the information about logical switch that is connected to the selected physical NIC.

ummary Monitor Conf	figure Permissions VMs	Datastores Networks	Updates		
Issues and Alarms All Issues Triggered Alarms Performance	Host Network Inventory				
Overview	Server Physical Adapter T	Logical Switch 🔨 🕆	MAC Address T	Physical Switch Node	Physical Switch Interfa
Tasks and Events Tasks	◯ ≣ vmnic0	VMware HCIA Distributed Switch	00:0a:f7:f5:c1:a0	6XJHXC2	ethernet1/1/8
Events	• wmnic1	VMware HCIA Distributed Switch	00:0a:f7:f5:c1:a1	2WJHXC2	ethernet1/1/6
Hardware Health	◯ ≣ vusb0	1 vSwitchiDRACvusb	54:48:10:fd:e9:8f		
OpenManage Netwo	<				- F
VxRail Physical View Skyline Health	Logical Switch Switch Port Groups	VMs			1 - 3 of 3 PNICs
	Switch	MTU (B	ytes) Physi	cal Adapter	Uplink Ports
	VMware HCIA Distributed S	witch 1500	vmni	c0 vmnic1	4,uplink1 5,uplink2

- Switch tab—Includes name of switch, MTU in bytes of switch, physical adapters connected to the switch, and uplink ports on the switch.
- Port groups tab—Includes the name of port groups, and VLAN IDs for each port group.
- VMs tab—Includes the name of VMs of that host that is connected to a single virtual switch.

View physical switch details

Displays information about the onboard interface. This information displays only when there is a physical connection between the VxRail domains and OMNI.

When you select a server physical adapter from the Host Network Inventory, the page also displays the information that is related to physical switch connected to the selected physical NIC.

Onboard interface tab

Name T Issues and Alarms All Issues Triggered Alarms @ OMNI-1.3.9_ToBeRegistered Image: Control of the second s	Vxhost04.st.vxra		CTIONS -	Networks II	ndates			
Issues and Alarms All Issues Image: Im	Summary Monitor Com	Name		inetworks 0	puates			
All insides Triggered Alarms Performance Overview Advanced Tasks and Events Tasks Events Hardware Health OpenManage Network I OpenManage Network I OpenManage Network I Physical View Skyline Health Admin Status Interface Status Auto Neg Current Speed MTU Native VLAN Enabled Link Up Disabled 10000 Mb 9216 0	 Issues and Alarms 	奇 OMNI-1.3.9 To	BeRegistered					
Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix Image of the matrix I	Triggered Alarms	a VxRail Manag	er					
Overview Advanced Tasks and Events Tasks Events Hardware Health OpenManage Network I OpenManage Network I OpenManage Network I Onboard Interface Networks Admin Status Interface Status Auto Neg Current Speed MTU Native VLAN Enabled Link Up Disabled 10000 Mb 9216	 Performance 	B OMNI-1.3.9						
Advanced 1 - 4 of 4 VMs Tasks and Events 1 - 4 of 4 VMs Tasks 1 - 4 of 4 VMs Tasks 1 - 4 of 4 VMs Tasks 1 - 4 of 4 VMs Events 1 - 4 of 4 VMs Hardware Health 1 - 4 of 4 VMs OpenManage Network L Onboard Interface OpenManage Network L Onboard Interface Networks Networks VXRail Networks Physical View Admin Status Skyline Health Link Up Disabled 10000 Mb 9216	Overview	ි VMware vCen	ter Server Platform Service	es Controller				
Tasks and Events Image: Second se	Advanced						1 - 4 of 4 VMs	
Tasks Physical Switch Physical Switch Physical Switch OpenManage Network I Onboard Interface Networks OpenManage Network I Onboard Interface Networks VxRail Networks Networks Physical View Admin Status Interface Status Auto Neg Current Speed MTU Native VLAN Skyline Health Enabled Link Up Disabled 10000 Mb 9216 0	 Tasks and Events 							
Events Physical Switch Hardware Health Physical Switch OpenManage Network I Onboard Interface OpenManage Networ Networks VxRail Networks Physical View Networks Skyline Health Interface Status Admin Status Interface Status Link Up Disabled 10000 Mb 9216	Tasks							
Hardware Health Onboard Interface Networks OpenManage Network I Onboard Interface Networks VxRall Admin Status Interface Status Auto Neg Current Speed MTU Native VLAN Skyline Health Enabled Link Up Disabled 10000 Mb 9216 0	Events	Physical Switc	h					1
OpenManage Network I Onboard Interface Networks VxRail Physical View Admin Status Interface Status Auto Neg Current Speed MTU Native VLAN Skyline Health Enabled Link Up Disabled 10000 Mb 9216 0	Hardware Health							
VxRail Admin Status Interface Status Auto Neg Current Speed MTU Native VLAN Skyline Health Enabled Link Up Disabled 10000 Mb 9216 0	 OpenManage Network I 	Onboard Interfac	e Networks					
Admin Status Interface Status Auto Neg Current Speed MTU Native VLAN Skyline Health Enabled Link Up Disabled 10000 Mb 9216 0	OpenManage Netwo		ic networks					
Skyline Health Enabled Link Up Disabled 10000 Mb 9216 0	▼ VxRall	Admin Status	Interface Status	Auto Neg	Current Speed	MTU	Native VI AN	
Enabled Link Up Disabled 10000 Mb 9216 0	Skyline Health	Fachlad	lielele	Auto Neg	Current Speed	0010	Native VLAN	
	Skyline riedi(f)	Enabled	LINK UP	Disabled	10000 Mb	9216	0	

- Admin Status—configured state of the physical interface
- Interface Status—current operations state of the physical switch port
- Auto Neg—negotiation status of the physical interface
- Current Speed—current operational speed of the physical interface
- MTU—maximum transmitting unit configured on the physical interface
- Native VLAN—untagged default VLAN for the physical switch

Networks tab

- Network Name—name of the VLAN network
- Network ID—unique identifier of the fabric network
- VLAN—tagged VLAN of the switch port

View service instance and vCenter relationships

Starting from 2.0 release, OMNI displays the relationships between the vCenter and the service instances (SFS, OME-Modular, or NSX-T), and the relationship type.

OMNI automation service periodically queries the hosts information from the service instances and the registered vCenters. The information is used to build the relationship between the service instances and the vCenter. Select **OMNI Home** > **Relationships** tab to view the relationship information and the type of the relationship between the entities.

OMNI Home	OMN	Configuration SmartFabric	NSX-T O	ME-M vCenter Instance	Relationships	⑦ OMNI Information	
✓ SmartFabric	Cr	REFRESH CRECALCULATE RELATI	ONSHIPS			0	
SFS_2		Service		т Туре		T Relationships	
✓ NSX-T ■NSXT	~	NSXT		dynamic		(instances) • 100.104.26.68	
	~	100.104.26.68		dynamic		instances • NSXT • SFS	
							1 - 2 of 2 relationships

Click Recalculate Relationship to recalculate the relationship between the entities manually.

OMNI Information

You can view the links to documentation and end-user license agreement (EULA), and summary information about the OMNI VM. Select **OMNI Home** > **OMNI Information** to view the relationship information and the type of the relationship between the entities.

Plugin Information Links	OMNI Summary	
	Appliance Version	2.1.38
Documentation	Hostname	dellemc-networkappliance
ULA	Product	OpenManage Network Integration
	Software Version	2.1.39

Plugin Information Links has links to:

- Documentation—Access this link to see the documents that are uploaded at www.dell.com/support OpenManage Network Integration product page.
- EULA—Click the link to view the end-user license agreement.

OMNI Summary

- Appliance Version—Displays the version of OMNI OVA build used while installing OMNI VM initially.
- Hostname—Displays the hostname configure during OMNI setup.
- Product—Displays the name of the VM appliance that is registered with the vCenter.
- Software Version—Displays the current version of the OMNI software running in OMNI VM.

OMNI Appliance Management user interface

From OMNI 1.3 release, a new UI—OMNI Appliance Management is introduced to manage all the system, web, and automation services running in the OMNI.

After you create the OMNI virtual appliance and complete the virtual appliance setup, you can launch the OMNI appliance management UI.

You can access the OMNI Appliance Management UI from the OMNI stand-alone page, see Access OMNI stand-alone portal. Click Launch OMNI Appliance Management link from the page.

(i) NOTE: Access OMNI Appliance Management UI only with OMNI VM appliance administrator credentials.

OpenManage Network Appliance Management	
DØLLEMC	
© 2020 Dell Technologies. All Rights Reserved.	
admin	
SIGN IN	

NOTE: You can also access the Appliance Management UI directly from a browser. Open a browser, go to **https://** *OMNI_IP/***omni** with the IP address or FQDN that is configured during the initial setup.

- Logout—Manually terminate the login session using the Log out button in the upper right of the UI.
- Login session timeout—OMNI terminates an inactive login session after 15 minutes to prevent unauthorized access.

View OMNI Appliance Management summary

Summary page displays:

- Appliance Version—Displays the version of OMNI OVA build used while installing OMNI VM initially.
- Hostname—Displays the hostname configure during OMNI setup.
- Product—Displays the name of the VM appliance that is registered with the vCenter.
- Software Version—Displays the current version of the OMNI software running in OMNI VM.

	ance Management	Summary		Log Out
Summary				
Services	OMNI Summar	ГУ		_
	Appliance Version Hostname Product Software Version	1	2.0.112 omni OpenManage Network Integration 2.1.39	

In the above screenshot, the appliance version 2.0.112 is the version of the OMNI OVA image used initially to install OMNI VM. The software version of OMNI is 2.1.39 which is the current version of the OMNI software running in the VM. When you upgrade OMNI from 2.0 to 2.1 version using minor release upgrade procedure (instead of fresh installation), the software version is displayed as 2.1.39 and appliance version as 2.0.112.

NOTE: If you do a fresh installation of OMNI with OMNI OVA 2.1.x image, the appliance version and software version are displayed as 2.1.x.

Manage OMNI essential and automation services

Services menu displays all the management and vCenter automation services running on the OMNI appliance.

D&LLEMC OMNI Appl	ance Management Summary	? ∨ Log Out
Summary Services	C RESTART START STOP DOWNLOAD SUPPORT BUNDLE	
	Name y State y Description Lo	og Level
	vCenter_100.104.26.63_Automation running OMNI Automation	ERROR
	O omni_nginx running Web Server	
	Omni_api_celery_worker running OMNI Api Celery Worker	ERROR
	Omni_automation_app_celery_worker running OMNI Automation Celery Worker	ERROR
	Omni_services_celery_worker running OMNI Celery Server	ERROR

By default, the web and database essential services start automatically after the initial setup. After adding the SmartFabric, OME-M, or NSX-T instances and registering the relevant vCenters, OMNI creates automation services for each vCenter instance. Automation services that are related to the SmartFabric , OME-M, or NSX-T instances start depending on the automation option set during the registration of the vCenter.

Table 9. List of OMNI services

Service	Function	States
omni_api	Service serving REST APIs for OMNI Fabric Management interface.	Can restart the services.
omni_services	Orchestration service that provides APIs to start, stop, and manage all OMNI services.	
omni_events_receiver	Events receiver service receives events from the SFS and store in the message queue.	
omni_api_celery_worker	Worker service that conducts fabric upgrades and vCenter re-registration when registration data is updated.	
omni_automation_app_celery_worker	Automation task service that identifies vCenter configuration change tasks and synchronizes all hosts that have been changed on the vCenter.	
omni_services_celery_worker	The OMNI services celery worker manages automation container startup after OMNI services are started or restarted.	

Table 9. List of OMNI services (continued)

Service	Function	States
omni_events_celery_beat	Service that periodically cleans the old events from the database.	
omni_events_celery_worker	Worker service that process the events from the message queue and stores them in the database.	
omni_automation_app_celery_beat	Service that periodically prunes unused networks on service instances and discovers how service instances are related to each other.	
omni_queue	Service that runs the message queue. This service enables communication between other services and also to add and perform celery tasks.	
omni_db	Database service that stores crucial information.	Cannot restart, start, or stop the service.
omni_redis	In-memory database that stores data and cache API requests for OMNI.	
omni_nginx	Web server service that manages all incoming and outgoing web requests.	
vCenter automation services	Automation services running for each vCenter	Can start, stop, or restart the services.

Click **Refresh** icon to update the data and display the updated contents.

Start vCenter automation services

To start the fabric automation services:

- 1. From the OMNI Appliance Management UI, click Services tab menu.
- 2. Select the automation service that you want to start, and click Start.

	Name	DOWNLOAD SUPPORT	BUNDLE Description	Log Level
0	vCenter_100.104.26.63_Automation	exited	OMNI Automation	
0	omni_nginx	running	Web Server	
	omni_events_celery_worker	running	OMNI Celery Server	ERROR
0	omni_services	running	OMNI Application Server	DEBUG
0	omni_services_celery_worker	running	OMNI Celery Server	ERROR
0	omni_events_receiver	running	Delaware Application Server	ERROR

After you start the service, OMNI starts monitoring the networking events for the registered vCenter.

3. The system displays start service success message.

Stop vCenter automation services

To stop the fabric automation services:

1. Select the relevant automation service that you want to stop, and click Stop.

C RESTART START	STOP DOWNLOAD SUPPORT	BUNDLE	
Name	▼ State	▼ Description	Log Level
• vCenter_100.104.26.63_Auto	mation running	OMNI Automation	ERROR
O omni_nginx	running	Web Server	
O omni_events_celery_worker	running	OMNI Celery Server	ERROR
omni_services	running	OMNI Application Server	DEBUG
omni_services_celery_worke	r running	OMNI Celery Server	ERROR

2. The system displays stop service success message.

To restart the fabric automation service, select the relevant automation service, and click Restart.

Change log level

- 1. When the log-level of OMNI is set to ERROR, the system records the error logs. When the log-level is set to DEBUG, error logs and logs with additional information is recorded. Use the DEBUG level when you want to diagnose an issue.
- 2. (Optional) Click Error under log-level of each service to modify the log-level to Debug.

Set Log	g Level [vCenter_100.104.26.63_Automation]: Succ	cess		>
C	RESTART START STOP	DOWNLOAD SUPPORT	F BUNDLE	
	Name	T State	T Description	Log Level
\circ	vCenter_100.104.26.63_Automation	running	OMNI Automation	DEBUG
	omni_nginx	running	Web Server	
	omni_api_celery_worker	running	OMNI Api Celery Worker	ERROR
	omni_automation_app_celery_worker	running	OMNI Automation Celery Worker	ERROR
	omni_services_celery_worker	running	OMNI Celery Server	ERROR

The system displays set log level success message.

3. (Optional) Click **Debug** under log-level of each service to modify the log-level to **Error**.

The system displays set log level success message.

Download Support Bundle

Support options are used for debugging. If there is an issue, download a support bundle containing all the logs that are found in OMNI using **Download Support Bundle**. Also change the log-level in OMNI to collect logs of different types.

Help links

Using the help icon, you can:

- Access the Dell EMC OpenManage Network Integration documentation support page.
- View the end-user license agreement (EULA).



SmartFabric management with OMNI

This chapter explains how to manage SmartFabric components or entities using OMNI. The OMNI VM displays the list of manually created service instances, and the OMNI autodiscovered SmartFabric instances. For more information about the SmartFabric instances, see OMNI Fabric Management Portal.

After you log in to the OMNI Fabric Management Portal, click the SmartFabric instance added to the OMNI Home left page to access and manage the SFS entities that are configured in a SmartFabric.

NOTE: The features that are listed in this chapter are not supported on OME-Modular instance. For more information, see OMNI feature support matrix .

For each SmartFabric instance, you can:

- View the overview of the fabric.
- View fabric topology design.
- Manage switches in a SmartFabric instance.
- Configure networks, server profiles, server interface profiles, and routing policies in bulk.
- Manage server interface configuration.
- Manage uplinks.
- Manage network configuration.
- Configure SmartFabric switch services settings.
- View latest fabric event and compliance errors.
- Manage fabric lifecycle such as OS10 image upgrade, backup and restore, and switch replacement.

OMNI feature support matrix

This table lists the OMNI feature support matrix for SFS-VxRail and PowerEdge MX SmartFabric Services solutions.

OMNI feature	SFS-VxRail	PowerEdge MX SmartFabric Services
Service instance and vCenter addition	Yes	Yes
View vCenter and the service instances relationship information	Yes	Yes
vCenter automation	Yes	Yes
Fabric summary	Yes	Managed in OME-Modular
Topology view	Yes	
Switch Inventory	Yes	
Uplink view and creation	Yes	
Network or VLAN view and creation	Yes	
Global configuration	Yes	
SmartFabric OS upgrade	Yes	
Switch replacement in a fabric	Yes	
Fabric backup and restore	Yes	
Fabric event and compliance	Yes	
Server interface profiles view and creation	Yes	NA - use OME-Modular server templates and profiles
Bulk configuration	Yes	—

Table 10. OMNI feature support matrix for solutions

View SmartFabric instance overview

Starting from 2.0 release, OMNI displays a consolidated view of key metrics such as device status and health, latest fabric events, and fabric compliance errors for the SmartFabric instances.

From **OMNI Home**, select the SmartFabric instance > **Summary** > **Overview** to view the dashboard.

Device Status	Recent Fat	oric Events CRE	FRESH			
Offline Online	Device T	Severity 🕆	Time	Message		
	7QYHPK2	 Informational 	Aug 9, 2021, 3:02:08 PM	Interface 7QYHPK2:ethernet1/1/1 is up		
	7QYHPK2	Informational	Aug 9, 2021, 3:02:08 PM	Link 7QYHPK2:ethernet1/1/1 : 3QYHPK2:ethernet1/1/1 is added		
	3QYHPK2	Informational	Aug 9, 2021, 3:02:07 PM	Link 3QYHPK2:ethernet1/1/1 : 7QYHPK2:ethernet1/1/1 is added		
	3QYHPK2	 Informational 	Aug 9, 2021, 3:02:07 PM	Interface 3QYHPK2:ethernet1/1/1 is up		
Online	7QYHPK2	🛕 Warning	Aug 9, 2021, 3:00:53 PM	Interface 7QYHPK2:ethernet1/1/1 is down		
	3QYHPK2	🛕 Warning	Aug 9, 2021, 3:00:52 PM	Interface 3QYHPK2:ethernet1/1/1 is down		
	7QYHPK2	🛕 Warning	Aug 9, 2021, 3:00:52 PM	Link 7QYHPK2:ethernet1/1/1 is deleted		
				2 PM Link 3QYHPK2:ethernet1/1/1 is deleted		
	3QYHPK2	🛕 Warning	Aug 9, 2021, 3:00:52 PM	Link 3QYHPK2:ethernet1/1/1 is deleted		
Device Health	30YHPK2 Fabric Con		Aug 9, 2021, 3:00:52 PM	Link 3QYHPK2:ethernet1/1/1 is deleted 1 - 8 of 8 ever		
Device Health	30YHPK2 Fabric Con	Warning	Aug 9, 2021, 3:00:52 PM	Link 3QYHPK2:ethernet1/1/1 is deleted 1 - 8 of 8 ever		
Device Health	30YHPK2 Fabric Con Module	Warning	Aug 9, 2021, 3:00:52 PM ESH т Status	Link 3QYHPK2:ethernet1/1/1 is deleted 1 - 8 of 8 ever		
Device Health	30YHPK2 Fabric Con Module Infrastructure	Warning	Aug 9, 2021, 3:00:52 PM ESH T Status Warning	Link 3QYHPK2:ethernet1/1/1 is deleted 1 - 8 of 8 ever Error Count 3		
Device Health	3QYHPK2 Fabric Con Module Infrastructure Onboarding	Warning	Aug 9, 2021, 3:00:52 PM ESH Status Warning Warning	Link 3QYHPK2:ethernet1/1/1 is deleted 1 - 8 of 8 ever Error Count 3 3		
Device Health	3QYHPK2 Fabric Con Module Infrastructure Onboarding Uplink	Warning	Aug 9, 2021, 3:00:52 PM	Link 3QYHPK2:ethernet1/1/1 is deleted 1 - 8 of 8 ever 1 - 8 of 8 ever 5		
Device Health	3QYHPK2 Fabric Con Module Infrastructure Onboarding Uplink Cluster	Warning	Aug 9, 2021, 3:00:52 PM	Link 3QYHPK2:ethernet1/1/1 is deleted 1 - 8 of 8 ever		

The **Overview** dashboard displays information regarding the following metrics:

Device Status—Displays the status of the all the devices that are deployed in the SmartFabric instances along with the number of devices in each status.

- Green—Indicates that the devices are online.
- Red—Indicates that the devices are offline.

Recent Fabric Events—Displays the recent fabric events that are generated by SFS. The events are displayed with the following information:

- Device—Service tag of the switch.
- Severity—Severity of the event.
 - Critical—Event that is critical that has significant impact.
 - Warning—Event that you should be aware of.
 - Information—Event that does not impact and for informational purpose.
- Time—Time at which the event has occurred.
- Message—Short message about the event occurred.

Device Health—Displays the overall health of all the devices in the fabric.

Fabric Compliance—Displays the misconfiguration and compliance violations identified in the SmartFabric instance.

- Module—Name of the module in which the misconfiguration or compliance errors occurred.
- Status—Compliance status of each module in the fabric.
- Error Count—Number of errors in each module.

You can view the detailed list of all events in the SmartFabric instance from **Serviceability** page.

View node details

To view the details of the switches in the fabric:

1. Select the SmartFabric instance > Summary > Fabric Nodes.

You can view the list of spine and leaf nodes that are deployed in the fabric.

Click **Domain** at any time to update the fabric details.

2. Click the Fabric ID to view the detailed information of the switch. The details include each switch status (online or offline), name, model, version, role, and IP address.

Fabric ID—Displays the status of spine switches connected in the fabric.

✓ Fabric	ID: 100 (Autol	Fab-100)			
	5WJFX	C2	Online		
Na	me:	Spine			
Мо	odel:	Z9264F-ON			
Ve	rsion:	10.5.2.1DEV			
Ro	le:	Spine			
IP:		100.94.81.10			

Rack—Displays the status of the leaf switches in each rack.

DOMAIN					
> Fabric ID: 100 (Aut	oFab-100)				
ack					
✓ Fabric ID: 7222c22	4-223c-5fa4-a244-cd3ca1685	550 (AutoFab-7222c224-22	3c-5fa4-a244-co	d3ca1685550)	
✓ Fabric ID: 7222c22	4-223c-5fa4-a244-cd3ca1685	550 (AutoFab-7222c224-22	3c-5fa4-a244-co	d3ca1685550)	
✓ Fabric ID: 7222c22 Fabric ID: 7222c22 General BQ700	4-223c-5fa4-a244-cd3ca1685 DQ2	00000000000000000000000000000000000000	3c-5fa4-a244-co	d3ca1685550) GO2	Online
✓ Fabric ID: 7222c22 ■ BQ700 Name:	4-223c-5fa4-a244-cd3ca1685 DQ2 Leaf1	00000000000000000000000000000000000000	3c-5fa4-a244-co	GO2 Leaf2	Online
✓ Fabric ID: 7222c22 Image: Model:	4-223c-5fa4-a244-cd3ca1685 DQ2 Leaf1 S5232F-ON	0nline	3c-5fa4-a244-co GGVQ Name: Model:	d3ca1685550) GO2 Leaf2 S5232F-ON	Online
 Fabric ID: 7222c22 Fabric ID: 7222c22 Rame: Model: Version: 	4-223c-5fa4-a244-cd3ca1685 DQ2 Leaf1 S5232F-ON 10.5.2.1DEV	0nline	3c-5fa4-a244-co GGVQ Name: Model: Version:	d3ca1685550) GO2 Leaf2 S5232F-ON 10.5.2.1DEV	Online
 Fabric ID: 7222c22 Fabric ID: 7222c22 Rog700 Name: Model: Version: Role: 	4-223c-5fa4-a244-cd3ca1685 DQ2 Leaf1 S5232F-ON 10.5.2.1DEV Leaf	000 (AutoFab-7222c224-22	3c-5fa4-a244-co GGVQ Name: Model: Version: Role:	d3ca1685550) GO2 Leaf2 S5232F-ON 10.5.2.1DEV Leaf	Online

View fabric topology

The **Topology** tab displays the graphical topology of the network fabric for the selected SmartFabric instance. You can also view the details of the switch in the fabric.

Select the SmartFabric instance > Topology to view the graphical representation of the L3 leaf and spine topology.

The topology view displays the switch icons with the hostname and the service tag information under each switch and the link connectivity between the switches. Mouse over a fabric to see the detailed information about the leaf and spine switches, and the link connectivity.



Manage switches in a fabric

You can manage the spine and leaf switches available in a fabric.

From Switches page:

- View the details of the switches and the ports in a fabric.
- Edit the interface details.
- Set the MTU value for the port.
- Manage the unused ports in the switches.
- Configure breakout ports in leaf switches.
- Configure jump port.

View switch and port details

View the details of the leaf and spine switches, and the list of all ports and unused ports available in each switch. All ports category contains the list of interface and port channel in the switch.

- 1. Select the SmartFabric instance > **Switches**.
 - Fabric Switches—Displays the list of spine and leaf switches available in that SmartFabric instance.
- 2. Select the arrow of the respective leaf or spine switch to view more information.

Spine Switches—Displays the list of all spine switches with ports information. You can view all ports and unused ports in categories. Click the arrow of the respective switch and category to view more about port information.

Fabric Switches				
Spine Switches				
∽ 💭 5WJFXC2(Spine)-Spine	Online			
V 🗰 All Ports				
✓ ■ Unused Ports				
Leaf Switches				
> BQ700Q2(Leaf1)-Leaf	Online			
GGVQG02(Leaf2)-Leaf	Online			

Leaf Switches—Displays the list of all leafs in the fabric with ports, unused ports, breakout ports, and jump port information in categories. Click the arrow of the respective leaf switch category to view more information about the ports.

SmartFabric	Instance SFS_	2						
Summary	Topology	Switches	Server Interface	Uplink	Network	Global Settings	Life Cycle Management	Serviceability
Fab	ric Switches	5						
Spine Switch	ies							
> 5	WJFXC2(Spine)	-Spine	Online					
Leaf Switche	es							
~ в	Q700Q2(Leaf1)	-Leaf	Online					
~	All Ports							
~	Unused Ports							
~	Breakout Ports	& Jump Port						
> G	GVQG02(Leaf2)-Leaf	Online					

Edit port configuration on a switch

Edit the configurations such as auto negotiation or MTU of a port or multiple ports on a leaf or spine switch:

CAUTION: Changing the interface configurations can potentially cause a disruption in service. Ensure that you are aware of the network settings and the remote-peers connected to the interfaces before changing the MTU,

auto negotiation, admin status. If the configuration does not match the connected peer switch, it can lead to connectivity issues.

- 1. Select the SmartFabric instance > **Switches**.
- 2. Select the spine or leaf switch by clicking the arrow to view more information.
- 3. Select a category (All Ports or Unused Ports) and the port, and click Edit.

pine Sw	vitches							
> [JRQQG02(SiteBSpine)-Spine	(Online				
>	📕 All Ports							
	Ø EDIT	T ENABLE AU	TO NEG) DISABLE AUT	ONEG ≒ SET MT	U		_
		Interface T	Role T	Admin Status	T Operational Status	T Speed T	Auto Neg	τ -
	_							
		ethernet1/1/1	ISL	Enabled	Up	100 G	Enabled	
		ethernet1/1/1 ethernet1/1/2	ISL	Enabled Enabled	Up Up	100 G	Enabled Enabled	
		ethernet1/1/1 ethernet1/1/2 ethernet1/1/3	ISL ISL Unknown	Enabled Enabled Enabled	Up Up Down	100 G 100 G 0	Enabled Enabled Enabled	1.
		ethernet1/1/1 ethernet1/1/2 ethernet1/1/3 ethernet1/1/4	ISL ISL Unknown Unknown	Enabled Enabled Enabled Enabled	Up Up Down Down	100 G 100 G 0 0	Enabled Enabled Enabled Enabled	Т
		ethernet1/1/1 ethernet1/1/2 ethernet1/1/3 ethernet1/1/4 ethernet1/1/5	ISL ISL Unknown Unknown Unknown	Enabled Enabled Enabled Enabled Enabled	Up Up Down Down Down	100 G 100 G 0 0 0	Enabled Enabled Enabled Enabled Enabled	

Fabric Swit	Edit Interface - J	RQQG02:ethern	et1/1/1	×	
Spine Switche	Name	Optional	_		
> ₩4	Description	Optional	_		
C	Admin Status	• Enabled 🛛 Dis	abled	_	
C	MTU	9216 1312-9216		ee O	
C				0	
C				- 1	
C					
C			CANCEL	т	
					Enabled

5. Click Edit.

Configure auto negotiation status

You can enable or disable the auto negotiation on a single port or multiple ports.

Auto negotiation option is not applicable for port channel interfaces. When you configure auto negotiation for a port channel interface, OMNI UI displays a warning message to clear the port interfaces from the selected list.

To enable auto negotiation:

- 1. From All Ports, select a port or multiple ports and click Enable Auto Neg.
- 2. Click Yes to confirm.

The system displays the stage-wise progress of the interface status.

To disable auto negotiation:

- 1. From All Ports, select a port or multiple ports and click Disable Auto Neg.
- 2. Click Yes to confirm.

The system displays the stage-wise progress of the interface status.

Set MTU value

Set maximum transmitting unit (MTU) for the port:

- 1. Select a port or multiple ports and click Set MTU.
- 2. Enter the MTU value and click Set.

Spine Swi	tches						
~ ()							
	All F	Set	MTU			×	
		MTU		251⋳ ≎ 1312-9216			
		ethern			CANC	EL	
		ethernet1/1/7	Unknown	Enabled	Up	100 G	

3. Click Yes to confirm.

The system displays the action success or failure message.

Manage unused switch ports

You can view and manage the unused ports in the switches. To enable or disable unused ports:

- 1. Select the SmartFabric instance > **Switches**.
- 2. Select any spine or leaf switch by clicking the arrow to view the list of ports.
- 3. Select Unused Ports category to view the list of unused ports available in the switch.
- 4. Select a port or multiple ports and click Enable Admin Status.

~ :	5WJFXC2(Spine)-	Spine	Online				
~ U A	Il Ports						
~ U U	Inused Ports						
(† E	NABLE ADMIN	status () disable admin	I STATUS			
	Interface T	Role 🕎	Admin Status 🛛 🔻	Operational Status 🛛 🝸	Speed T	Auto Neg 🛛 🝸	MTU
	ethernet1/1/62	Unknown	Enabled	Down	0	Disabled	9216
	ethernet1/1/63	Unknown	Enabled	Down	0	Disabled	9216
	ethernet1/1/60	Unknown	Enabled	Down	0	Disabled	9216
	ethernet1/1/61	Unknown	Enabled	Down	0	Disabled	9216
	ethernet1/1/66	Unknown	Enabled	Down	0	Disabled	9216
	ethernet1/1/64	Unknown	Enabled	Down	0	Disabled	9216
	ethernet1/1/65	Unknown	Enabled	Down	0	Disabled	9216
	ethernet1/1/44	Unknown	Enabled	Down	0	Disabled	9216

To disable the ports, select a port or multiple ports, and click Disable Admin Status.

The system displays the change status and update success message on completion.

Dell Technologies recommends to:

- Enable the port status to operationally up before adding any devices to the port, if the port is disabled using the OMNI UI.
 NOTE: Devices that are connected to the disabled port are not discovered.
- Ensure that the ports are UP before adding any switches, when you expand the leaf and spine fabric deployments.
- Ensure that the switch port is in UP, when onboarding a server to a leaf switch.

Configure breakout ports

You can configure breakout ports on an interface of the leaf switch:

NOTE: By default, the auto breakout feature is enabled in SmartFabric spine switches. OMNI UI does not provide an option to break out ports in spine switches.

- 1. Select the SmartFabric instance > Switches.
- 2. From Leaf Switches, select a leaf switch from the list.
- 3. From Breakout Port and Jump Port category, select a port that you want to breakout.
- 4. Click Breakout Port.

(i) NOTE: The existing configuration of the port is reset to default when you configure a breakout port.
5. Select the Breakout Mode for the port from the list.

- 💓 All			
V 🛄 Uni			
🗸 📗 Bre	akout Po 🛄 💻	phy-port1/1/11 Breakout	t ×
	EAKOUT Mode	4X1GE ~	phy-port1/1/11
	phy phy		CANCEL SUBMIT net1/1/11:1
	phy-port1/1/13	1X100GE	✓ ■ BQ700Q2:ethernet1/1/11:3
	phy-port1/1/12		BQ700Q2:ethernet1/1/11:4
	phy-port1/1/15		

6. Click Submit.

The system displays breakout port configured successful or failure message.

To view the details of the breakout ports, select a port to view the properties of the port.

Add a jump port

You can configure one port per leaf switch as a jump port. You can select any available port that is not part of an uplink and ICL, and port connected to a server in SmartFabric deployment. To configure a jump port:

- 1. From Leaf Switches, select the leaf switch from the list.
- 2. Select the Breakout Ports & Jump Port category.
- 3. Select the switch to view the properties and click Jump Port.
- 4. Enter the Name of the new jump port, select the Interface Name, Untagged Network.
- 5. Click Add.

Fabric Switches			
Spine Switches	Add Jump Port	🛲 BQ700Q2	×
Leaf Switches	Name	test JumpPort Name	_
→ W All Ports	Interface Name	BQ700Q2:ethernet1/1/24 Select an interface	<u> </u>
V 📕 Unused Por	Untagged Network	40 (VLAN-400) Select a Network	<u> </u>
✓ ₩ Breakout Pc	Native VLAN	400	CANCEL
	۲ Breako	out Profile	() BQ700Q2 U phy-port1/1/11
o Tephy-po			✓ ■ BQ700Q2:ethernet1/1/11:1

The system displays jump port addition success message.

Delete jump port

- 1. Select the leaf switch for which you want to delete the configured jump port.
- 2. Select the Jump port and click **Delete**.

The system displays jump port deletion success message.

SmartFabric bulk configuration

With 2.1 release, you can configure a subset of configurations such as networks, server profiles, server interface profiles, routing profiles on a SmartFabric instance in bulk numbers. This feature is supported only on SFS L3 personality.

You can download the worksheet template (XLS format), specify the configuration information in the template, and upload the file to OMNI to initiate the bulk configuration workflow. You can specify bulk configurations related to networks, server profiles, and server interface profile details that must be applied on the SmartFabric instance. After you validate and apply the configurations, the configurations are automatically applied on the SmartFabric instance using the information provided in the worksheet template.

After adding the SmartFabric instance in OMNI, you can use the bulk configuration feature to apply the configurations on the SmartFabric instance.

Bulk configuration workflow

Ensure that the prerequisite is met before using the bulk configuration feature. The bulk configuration workflow requires the following actions:

- 1. Downloading the template.
- 2. Completing the required configurations on the template and uploading the bulk configuration file.
- 3. Validating the bulk configuration file for syntax errors.
- **4.** Applying the bulk configurations on the SmartFabric instance.

Configuration notes

The configuration notes that you should consider before using the bulk configuration feature:

- You cannot configure uplinks and associate the networks or routing profiles with uplinks using bulk configuration. You must create uplinks using OMNI UI, see Uplinks.
- You can add the networks or routing profiles that are created using bulk configuration to uplink. Use Edit networks option to associate the network or routing policies to uplink.
- Read the instructions provided in the SmartFabric bulk configuration template worksheet carefully before proceeding with the bulk configuration template.

Download and complete the bulk configuration template

You can download the template from OMNI appliance and complete the configurations in the template before uploading the template. In the template, you can add a bulk list of networks, server profiles, and server interface profiles with the required details. You can reuse the template when configuring networks, server profiles, or server interface profiles on multiple SmartFabric instances.

To download a bulk configuration template and complete the configurations:

1. Click the SmartFabric instance > Bulk Configuration.

Bulk Configurat	ion					
•						
\smile		-0		 (\bigcirc	
Download Templat	te	Select File	Validate	Å	Apply	
Download Co	onfiguration S file SmartFak	File Template	ate			
<u>↓</u> DOWNLOA	D					
± DOWNLOA	D					

2. Click **Download** to get the XLS SmartFabric bulk configuration template.

Save the file locally to complete the template with the required details.

3. Enter the required details in the template based on the instructions provided.

SmartFabric bulk configuration template

The template is a formatted XLS worksheet and has different tabs categorized for different configurations with instructions to update the template. OMNI creates the configurations on the SmartFabric instance based on the information provided in the worksheet.

Instructions tab—Displays the OMNI bulk configuration template instructions that are required for you to know before completing the configurations on the template.

General Purpose Networks tab—Displays the template to configure L2 and L3 general purpose networks in bulk. The tab also has example configuration details for reference.

Table 11. General Purpose Networks tab

Field	Description
Networkld	Enter the network ID for a general purpose network. This ID must be unique. For example, external-mgmt.
NetworkName	Enter the name of the network. Example, external-mgmt.
Description	Enter the description of the general purpose network. This is an optional field.
VLAN	Enter the VLAN ID for the general purpose network. The VLAN number can range from 1—3999 (excluding 3939).
IPAddressList	Enter the list of IP addresses separated by comma.
PrefixLen	Enter the prefix length for the IP address.
GateWaylpAddress	Enter the gateway IP address.
HelperAddress	Enter the helper IP address.

L3 Routed tab—Displays the template to configure L3 Routed interfaces in bulk. The tab also has sample configuration details.

Table 12. L3 Routed tab

Field	Description
Networkld	Enter the network ID for a L3 Routed interface. This ID must be unique. For example, network-2711.
NetworkName	Enter the name of the L3 Routed interface.
Description	Enter the description of the L3 Routed interface. This is an optional field.
IPAddressList	Enter the IP addresses for the L3 Routed interface separated by comma.
PrefixLen	Enter the prefix length for the IP address.

Multi rack L3 VLAN tab—Displays the template to configure multi rack L3 VLANs in bulk. The tab also has sample configuration details.

Table 13. Multi rack L3 VLAN tab

Field	Description
Networkld	Enter the network ID for a multi rack L3 VLAN. This ID must be unique. for example, hostoverlay-2500
NetworkName	Enter the name of the multi rack L3 VLAN.
Description	Enter the description of the multi rack L3 VLAN. This is an optional field.
VLAN	Enter the VLAN ID for the multi rack L3 VLAN. The VLAN number can range from 1—3999 (excluding 3939).
RackID	Enter the rack ID.
RackName	Enter the name of the rack.
IPAddressList	Enter the IP addresses for the network separated by comma.
PrefixLen	Enter the prefix length for the IP address.
GateWaylpAddress	Enter the gateway IP address.
HelperAddress	Enter the helper IP address.

VLAN Networks tab—Displays the template to configure L2 and L3 VLAN networks in bulk. The tab also has sample configuration details.

Table 14. VLAN Networks tab

Field	Description
Networkld	Enter the network ID for a L2 or L3 VLAN network. This ID must be unique. For example, network-500
NetworkName	Enter the name of the L2 or L3 VLAN network.
Description	Enter the description of the L2 or L3 VLAN network. This is an optional field.
VLAN	Enter the VLAN ID for the L2 or L3 VLAN network. The VLAN number can range from 1—3999 (excluding 3939).
IPAddressList	Enter the IP address for the L3 VLAN network separated by comma.
PrefixLen	Enter the prefix length for the IP address.
GateWayIpAddress	Enter the gateway IP address.
HelperAddress	Enter the helper IP address.

VxLAN Networks tab—Displays the template to configure L2 and L3 VXLAN networks in bulk. The tab also has sample configuration details.

Table 15. VxLAN Networks tab

Field	Description
VirtualNetworkName	Enter the network ID for a L2 VXLAN networks. This ID must be unique.
Description	Enter the name of the L2 VXLAN networks.
VItVlanid	Enter the VLT VLAN ID for the L2 VXLAN network. The VLAN number can range from 1—3999 (excluding 3939).
VxlanVni	Enter the VXLAN network identifier (VNI) for the network. The VLAN ID and VNI number must be same.
IPAddressList	Enter the IP address for the L3 VXLAN network separated by comma.
PrefixLen	Enter the prefix length for the IP address for the L3 VXLAN network.
GateWaylpAddress	Enter the gateway IP address for the L3 VXLAN network.
HelperAddress	Enter the helper IP address for the L3 VXLAN network.

ServerInterface tab—Displays the template to configure server profiles and server interface profiles in bulk. The tab also has sample configuration details.

Table 16. Server profiles tab

Field	Description
InterfaceId	Enter the server interface ID for the server interface profile. The value must be a unique string. Dell Technologies recommends using the MAC address of the onboarded server interface without ":". For example, bc97e1c9f980.
NICBonded	Enter the NIC bonding state. This field indicates whether the interface is to be configured for LACP. You can enter two values True or False. For VxRail nodes, this field should always be set to False.
Serverld	Enter the profile ID for the server profile. This is the server profile name. Use the same name for all VxRail nodes connected to the SmartFabric.

Table 16. Server profiles tab (continued)

Field	Description
BondingTechnology	Enter the bonding technology. You can enter two values AutoDetect or LACP. For VxRail nodes, you must always set to Autodetect.
UntaggedNetwork	Enter the network ID that must be untagged to the server interface profile.
Networks	Enter the network ID that must be tagged to the server interface profile separated by comma.

Static Routes tab—Displays the template to configure static routes in bulk. The tab also has sample configuration details.

Table 17. Static Routes tab

Field	Description
PolicyId	Enter the static route policy ID. This is a unique value. For example, static_1.
Name	Enter the static routing policy name.
Description	Enter the description detail for the static route policy.
Ipv4AddressPrefix	Enter the IPv4 network address for the static route policy.
Ipv4PrefixLen	Enter the prefix length for the network address.
Ipv4NextHoplp	Enter the IP address of the next hop.
Nodeld	Enter the node ID, which is the service tag number of the switch separated by comma. Validate the service tag before adding as the system does not validate the Nodeld.

eBGP Peer Configuration tab—Displays the template to configure static routes in bulk. The tab also has sample configuration details.

Table 18. eBGP Peer configuration tab

Field	Description
PolicyId	Enter the static route policy ID. This is a unique value. For example, 1a-tier0-1.
Description	Enter the description detail for the eBGP peer policy.
PeerInterfaceIPAddress	Enter the IPv4 network address for the eBGP peer policy.
PeerASN	Enter the peer ASN number.
Nodeld	Enter the node ID, which is the service tag number of the switch separated by comma.

Upload and apply the bulk configuration template

Upload the completed template to apply the configurations to the SmartFabric instance.

- 1. Click the SmartFabric instance > **Bulk Configuration**.
- 2. Click Skip to go to the next step.

3. Click Select File to choose the completed XLS worksheet containing the bulk SmartFabric configuration.

Download Tem	Select Bulk Configuration		Apply
Select Con	Choose File SmartFabric_Bulate_rev21Jul.xls		
Select an XLS		CANCEL	

4. Click Validate to proceed with the validation.

Summary	Topology	Switches	Bulk Configuration	Server Interface	Uplink	Network	Global Settings	Life Cycle Managemer
Bulk Config	guration							
	amplate)	Validate				
Coloct C	opfiquratio			Validate				
Select C	Chilguratio	n File	pric Bulk Configuration					
	TFILE							
Selected File	e	SmartFabric_B	ulkConfig_Template_rev	21Jul.xls				
ВАСК	VALIDATE							
		,						

The system displays the validation check status of each template configuration tab. If validation check has errors, the errors are displayed at the top with the detailed information. You can change the configurations based on the error information provided and upload the file again to proceed. You cannot move to next step until the errors are corrected.

5. Click Apply to apply the bulk configuration file. The system verifies the configurations and displays the verification details.

$\bigcirc -$		\bigcirc	\bigcirc		
ownloa	ad Template	Select File	Validate	Apply	
Valida	ate Configurat	ion File			
Validate	e the SmartFabric	e Bulk Configuration file			
selected	l File s	SmartFabric_BulkConfig_Template	e_rev21Jul.xls		
	Configuration Categ	Jory			
>>	⊘ L3 Routed				
»	⊘ Multi-rack L3 \	/LAN			
			Configuration Catagories p	per page 10 \checkmark 1 - 2 of 2 Configuration Ca	itagories
ВАСК	APPLY				
	APPLY plete to imple	ment the bulk configuratic	on on the SmartFabric instanc	ce.	
	PPLY plete to imple	ment the bulk configuratio	on on the SmartFabric instanc Validate	ce.	
	APPLY plete to imple d Template Configuration	ment the bulk configuration	on on the SmartFabric instanc	ce. Apply	
Apply th	APPLY plete to imple d Template Configuration he SmartFabric Bi	ment the bulk configuratio Select File	on on the SmartFabric instanc	ce. Apply	
BACK Com ownload Apply Apply th elected	APPLY plete to imple d Template Configuration he SmartFabric Bill File S	ment the bulk configuratio Select File In File ulk Configuration file	on on the SmartFabric instance Validate	ce. Apply	
BACK Compownload Apply Apply th elected	APPLY plete to imple d Template Configuration he SmartFabric Bit File S Configuration Categories	ment the bulk configuration Select File In File ulk Configuration file	on on the SmartFabric instanc Validate	ce. Apply	
BACK Com ownload Apply Apply th elected	APPLY plete to imple d Template Configuration File S Configuration Catego Q L3 Routed	ment the bulk configuration Select File In File ulk Configuration file	on on the SmartFabric instance Validate	Ce. Apply	

The system displays success message.

COMPLETE

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6.

Click Apply another configuration to apply another bulk configuration template.

If you want to verify the configurations, you can go to the respective configuration menus for the SmartFabric instance to view the list of created networks, server profiles, or server interface profiles created using bulk configuration feature.

Configuration Catagories per page ~~ 10 ~~

1 - 2 of 2 Configuration Catagories

Configure server interface profile

Server Interfaces Profile page displays a list of Server Profile IDs and their respective onboard status. Select a profile to view details pertaining to that specific profile. You can view information including interface ID, fabric ID, native VLAN, and network name and VLAN ID (if applicable).

From Server Interface, you can:

- Create a server interface profile.
- Edit a network in a server interface profile.
- Edit the ports in a server interface profile.
- Delete a server interface profile.
- Automate server onboarding.

By default, OMNI creates server interface profiles for all the server interfaces of the host as part of OMNI automation if the server interface profiles do not exist. For example, if there are four vmnics available (vmnic1 - vmnic4) in a host, OMNI automation creates server interface profiles for all the four vmnics if the server interface profiles do not exist for those interfaces. OMNI automation created server interface profiles are of Dynamic type. If the server interface profiles created by OMNI automation are not meant to be dynamically onboarded, you can edit the server interface profile details for those interfaces from OMNI UI, see Edit server interface profile.

Create server interface profile

Create a server profile by providing the server profile type, name, and bonding technology.

Create server interface with an existing server profile

To create a server interface with an existing server profile:

- 1. Select the SmartFabric instance > Server Interface.
- Click Create to create a server interface profile and provide server interface ID, then select Existing Server Profile.
 NOTE: You cannot configure duplicate server interface ID. When using MAC address to onboard server interface, enter MAC Address without ":", for example, f8f21e2d78e0. For onboarding ESXi host Interfaces for zero touch automation, use the ESXi host VM NIC physical adapter MAC address without ":".
- 3. Select the Server Profile Id from the list, select one or multiple networks for the Untagged Network, enable or disable NIC Bonding, select Static Onboarding Option as No, and click Create.

Server Interface Id	18f21e2d78 Unique string to identify the interface When using MAC Address to onboard server interface, enter "f8/21e2d78e0" For onboarding ESXI Host Interfaces for zero touch automatic adapter MAC address without "-".	MAC Address without ":", e.g. on, use the ESXi host vmnic physical	
Server Profile Server Profile Id	Existing Server Profile New Server Profile 100.104.26.2		
Untagged Network	Network-800-OMNI (VLAN-800 of VxLAN Network) x	Tagged Network	Network-800-OMNI (VLAN-800 of VxLAN Network) x Client_Control_Network (VLAN-3939 of VxLAN Network) x Network-700-OMNI (VLAN-700 of VxLAN Network) x
Static OYes Onboarding Option	No	NIC Senable Bonding) Disable

4. (Optional) Select Yes for the Static Onboarding Option, add Leaf Node and Interface (where the server interface is connected), select the routing protocol as None, and click Create.

oerver internace na	f8f21e2d78		
	Unique string to identify the interface When using MAC Address to onboard server interface, enter N "f8f2le2d78e0" For onboarding ESXi Host Interfaces for zero touch automation adapter MAC address without ".".	AC Address without "-", e.g. 1, use the ESXi host vmnic physical	
Server Profile	• Existing Server Profile 🔿 New Server Profile		
Server Profile Id	100.104.26.2 v		
Untagged Network	Network-800-OMNI (VLAN-800 of VxLAN Network) x	Tagged Network	Network-800-OMNI (VLAN-800 of VxLAN Network) x Client_Control_Network (VLAN-3939 of VxLAN Network) x Network-700-OMNI (VLAN-700 of VxLAN Network) x
Static • Yes (Onboarding Option	⊃ No	NIC • Enable Bonding	O Disable
	Leaf2 (A1B2CD4) $ \smallsetminus $	Interface	A1B2CD4:ethernet1/1/42 ${\scriptstyle \lor}$
Leaf Node			

(Optional) Select Yes for the Static Onboarding Option, select Leaf Node and Interface (where the server interface is connected), select eBGP. Enter the eBGP routing template by entering the name, peer ASN, description, and peer interface IP address, and click Create.

Server Profile Server Profile ld	Existing Server Profile New Server Profile 100.104.26.2		
Untagged Network	Network-800-OMNI (VLAN-800 of VxLAN Network) x	Tagged Network	Network-800-OMNI (VLAN-800 of VxLAN Network) x Client_Control_Network (VLAN-3939 of VxLAN Network) x Network-700-OMNI (VLAN-700 of VxLAN Network) x
Static OYes (Onboarding Option) No	NIC O Enable Bonding	O Disable
Leaf Node	Leaf2 (A1B2CD4) \vee	Interface	A1B2CD4:ethernet1/1/42 v
Routing Protocol	None • eBGP · Static Route Select Routing for static onboarding of interface		
Name	sample ebgp	Peer Interface IP Address	1.1.1.1
Peer ASN	1 Positive Number	Description (optional)	

(i) NOTE: In static onboarding, the eBGP or static route routing protocol option is used for NSX-T deployment.

6. (Optional) Select Yes for the Static Onboarding Option, select Leaf Node and Interface (where the server interface is connected), select Static Route, enter the Network Address and Next-Hop Address, then click Create.

erver Profile la	100.104.26.2 ~		
Untagged Network	Network-800-OMNI (VLAN-800 of VxLAN Network) x	Tagged Network	Network-800-OMNI (VLAN-800 of VxLAN Network) x Client_Control_Network (VLAN-3939 of VxLAN Network) x Network-700-OMNI (VLAN-700 of VxLAN Network) x
tatic • Yes (nboarding ption) No	NIC • Enable Bonding	O Disable
eaf Node	Leaf2 (A1B2CD4) \vee	Interface	A1B2CD4:ethernet1/1/42 ${\scriptstyle \lor}$
outing Protocol	None eBGP Static Route Select Routing for static onboarding of interface		
lame	samplestatic	Network Address	1.1.1.1
			0.0.0.0
refix Length	24	Next Hop IP Address	5.5.5.5
	1-32		0.0.0.0

- (i) NOTE: You cannot delete any created server profile.
- 7. The system displays server profile and server interface creation successful messages.

Create server interface with new server profile

To create a server interface with new server profile:

- 1. From SmartFabric instance, select **Server Interface**.
- 2. Click **Create** to create a server interface profile and provide server interface ID, then select **New Server Profile**. (i) NOTE: You cannot configure duplicate server interface ID. When using MAC address to onboard server interface, enter
 - MAC Address without ":", for example, f8f21e2d78e0. For onboarding ESXi host interfaces for zero touch automation, use the ESXi host VM NIC physical adapter MAC address without ":".

3. Select the Server Profile Id and Server Profile Bonding Type from the list, select the Untagged Network and Tagged network, enable or disable NIC Bonding, select Static Onboarding Option as No, and click Create.

Server Interface Id	f8f21e2d78			
	Unique string to identify the interface When using MAC Address to onboard server inte "8f2te2d78e0" For onboarding ESXi Host Interfaces for zero tour adapter MAC address without ":".	rface, enter MAC Address withou ch automation, use the ESXi host	ıt ":", e.g. : vmnic physical	
Server Profile	Existing Server Profile New Server	Profile		
Server Profile Id	new-profile	Server Profile Bonding	~	1
	Unique string to identify the server	1990	Select Server Profile Bonding Type	
Untagged Network	Select Untagged Network	Tagged Network	AutoDetect	-
			LACP	
Static Yes Onboarding Option	No	NIC Sonding	e 🔿 Disable	a

4. (Optional) Select **Yes** for the **Static Onboarding Option**, add **Leaf Node** and **Interface** (where the server interface is connected), select the routing protocol as **None**, and click **Create**.

Server Profile Id	new-profile Unique string to identify the server	Server Profile Bonding Type	AutoDetect ~
Untagged Network	Client_Management_Network (VLAN-4091 of VxLAN Network) x	Tagged Network	Client_Management_Network (VLAN-4091 of VxLAN Network) x Client_Control_Network (VLAN-3939 of VxLAN Network) x VXLAN_400 (VLAN-400 of VxLAN Network) x L3VLAN_600 (VLAN-600) x
		NIC	Enable Disable
Static • Onboarding Option		Bonding	-
Static • Y Onboarding Option Leaf Node	Leaf2 (GGVQG02) ~	Bonding	GGVQG02:ethernet1/1/17
Static • Y Onboarding Option Leaf Node Routing Protocol	Leaf2 (GGVQG02) ∨ ● None ○ eBGP ○ Static Route Select Routing for static onboarding of interface	Bonding	GGVQG02:ethernet1/1/17

5. (Optional) Select **Yes** for the **Static Onboarding Option**, select **Leaf Node** and **Interface** (where the server interface is connected), select **eBGP**. Enter the eBGP routing template by

entering the name, peer **ASN**, description, and peer interface **IP address**, and click **Create**.

Create Serve	r Interface Profile			\times
		Network) x		^
Static • Yes Onboarding Option	No	NIC • Enable Bonding	O Disable	-
Leaf Node	Leaf2 (GGVQG02) V	Interface	GGVQG02:ethernet1/1/17 v	
Routing Protocol	None eBGP Static Route Select Routing for static onboarding of interface			
Name	sample	Peer Interface IP Address	<u>1.1.1.1</u> 0.0.0.0	
Peer ASN	1 Positive Number	Description (optional)		Ŧ
			CANCEL	TE

(i) NOTE: In static onboarding, the eBGP or static route routing protocol option is used for NSX-T deployment.

6. (Optional) Select Yes for the Static Onboarding Option, select Leaf Node and Interface (where the server interface is connected), select Static Route, enter the Network Address and Next-Hop Address, then click Create.

Static • Yes Onboarding Option	○ No	NIC Enat Bonding	ble 🔵 Disable
_eaf Node	Leaf2 (GGVQG02) V	Interface	GGVQG02:ethernet1/1/17 ~
Routing Protocol	○ None ○ eBGP ● Static Route Select Routing for static onboarding of interface		
Name	static	Network Address	1.1.1.1
			0.0.0.0
Prefix Length	24	Next Hop IP Address	4.4.4.4
	1-32		0.0.0.0
Description (optional)			

(i) NOTE: You cannot delete any created server profile.

7. The system displays server profile and service interface creation successful messages.

() NOTE: OMNI does not synchronize a statically onboarded interface when it is first added. For the synchronization to happen, a port-group change event on the vCenter must happen or a restart of the automation service for the specific vCenter and SmartFabric instance must occur.

Edit networks and ports in a server interface profile

You can edit the network and port configuration in a server interface profile. You can also view the detailed information of a server interface profile.

Select a server interface ID to view the properties of the profile on the right.

Edit networks on a server interface profile

- 1. From SmartFabric instance, select **Server Interface**.
- 2. Select the server interface ID from the list to view the detailed information.
- 3. Click Edit Networks.
- 4. Edit the Untagged Network and the Network configuration for the profile.
- 5. Click Edit.

Edit Server Ir	nterface Profile Networks 74867af	2cf2d	×
Untagged Network	Network-300-OMNI (VLAN-300 of VxLAN Network) x	Tagged Networks	network-888 (VLAN-888 of VxLAN Network) x Network-700-OMNI (VLAN-700 of VxLAN Network) x Network-800-OMNI (VLAN-800 of VxLAN Network) x
			CANCEL

The system displays the server interface profile update success message.

Edit ports on a server interface profile

- 1. Select the server interface ID from the list, and click Edit Ports.
- 2. Edit the Static Onboarding Option and the NIC Bonding configuration for the profile.
- 3. Click Edit.

Edit Server Inter	face Profile 74867af2cf2	d		×
Static • Yes (Onboarding Option) No	NIC C Bonding) Enable 🗿 Disable	
Leaf Node	Leaf1 (11Z6Y42) 🗸	Interface	11Z6Y42:ethernet1/1/48	· ~
				CANCEL
			Interface Name	1176V/2:othornot1/1/1

The system displays the server interface profile update success message.

Delete a server interface profile

You can delete a service interface profile from the SmartFabric instance:

- 1. Select the server interface profile from the displayed list and click Delete.
- 2. Click Delete to confirm.

Import ESXi host profiles from vCenter

Automate onboarding of server interface profile by importing:

Use this feature to migrate the existing ESXi hosts that are already connected to the vCenter and ready to be onboarded on to the fabric. The feature imports all the required servers to onboard on to the SFS instead of manually configuring the server interface one at a time.

OMNI retrieves data center, clusters, hosts, VM NICs, and networks for the registered vCenter. Create server interface profiles for the set of available VM NICs in ESXi hosts from vCenter.

(i) NOTE: In vCenter, enable LLDP on Distributed Virtual Switch of ESXi host to discover the interfaces automatically.

- 1. From SmartFabric instance, select **Server Interface**.
- 2. Click Import from vCenter to launch the Onboarding ESXi Hosts wizard.

3. Select the vCenter from the list, and click Next.

Onboarding ESXi Hosts	vCenter Se	election	×
1 vCenter Selection	vContor		
2 ESXi Host Selection	vcenter	Select vCenter	
3 Interface Configuration		100.104.26.21	
		100.104.26.25	
		CANCEL NE	хт

- 4. Select the relevant cluster, the ESXi host, or the VM NICs available on the ESXi host. ESXi Host Selection window displays the server profile status of the interfaces on the right.
 - (i) NOTE: You cannot select the VM NICs that are already part of a server interface profile in SmartFabric.

ES	Onboarding ESXi Hosts	ESXi Host Select	ion ×
L	2 ESXi Host Selection	Datacenter	Seleted VM NICS for Server Interface Profile Creation. *Server Interface Profile exist for the disabled interfaces
	3 Interface Configuration	 Inversion 100.104.26.2 vmnic3 vmnic1 vmnic2 vmnic0 100.104.26.3 	Host T Interface T Server Interface Profile Exist T 100.104.26.2 vmnic1 false
L			CANCEL BACK NEXT

5. Click **Next** to complete the selection of the VM NICs.

6. The Interface Configuration screen displays the list of selected VM NICs.

^{ES} Onboarding ESXi Hosts	Interface Configuration	×
1 vCenter Selection	+ ADD NETWORKS Interface Id Interface Name Discovered Interface Tagged Networks Untagged Network Routing	
2 ESXi Host Selection	Server ld: 100.104.26.2 Bonding Technology: AutoDetect	0
3 Interface Configuration	74867af2cf2d vmnic1 11Z6Y42:ethernet1/1/1 network-700,	0
	CANCEL BACK FINIS	H

7. (Optional) Click Edit icon available for each interface to edit the server profile information.

Edit the NIC bonding configuration and **Static Onboarding**. If the static onboarding is **No**, select an **Untagged Network** and one or more **Tagged Networks** and click **Update**.

Edit Server Inte	erface Profile		×
NIC Bonding	C Enable O Disable		
Static Onboarding	○ Yes		
Untagged Network	Network-799-OMNI (VLAN-799) x X		
Routing Protocol	O None ○ eBGP ○ Static Route		•
	CANCEL	UPDATE	

(i) NOTE: You cannot select same network for both untagged and tagged networks.

(Optional) If the static onboarding is **Yes**, select **Leaf Node** and **Interface** (where the server interface is connected), select the **Routing Protocol**.

- (Optional) Select the Routing Protocol as None, and click Update.
- (Optional) Select the Routing Protocol as eBGP, enter the ASN and IP address, and click Update.
- (Optional) Select the **Routing Protocol** as **Static Route**, enter the **Network Address** and **Next-Hop Address**, and click **Update**.

(i) NOTE: You cannot edit the server profile that is already configured in the system.

8. Click Add Networks to associate the networks that are part of the fabric for all the server interface profile. Select the networks for Tagged Networks and Untagged Network from the list, and click Add.

Summary Topology	Switches Server Interface	e Uplink Network Fabric Action	15		
boarding ESXi Hosts	Add Server Interface	Networks	\times		
	Add Networks will overwrite the existing netw	works of all the server interface profiles.			
vCenter Selection	Tagged Networks	Client_Control_Network (VLAN-			
ESXi Host Selection		3939 of VxLAN Network) x VXLAN 800 (VLAN-800 of			
Interface Configuration		VxLAN Network) x			
		Network-12-OMNI (VLAN-12) X			
	Untagged Network	VXLAN 800 (VLAN-800 of VxLAN Network) x			
			_		
		CANCEL			

(i) NOTE: Add networks overwrite the existing networks of all the server interface profiles.

9. Click Finish after all the configurations are complete.

	Summary	Topology Switches Server interface opinitik Network Tablic Actions	
ES	Onboarding ESXi Hosts	Interface Configuration	×
	1 vCenter Selection	+ ADD NETWORKS	
L	2 ESXi Host Selection	Interface Id Interface Name Discovered Interface Tagged Networks Untagged Network Routing Server Id: 100.104.26.2 Bonding Technology: AutoDetect Bonding Technology: AutoDetect Bonding Technology: AutoDetect	D
L	3 Interface Configuration	74867af2cf2d vmnic1 11Z6Y42:ethernet1/1/1 network-700,	0
L		CANCEL BACK FINISH	1

The system displays the server interface profile update success message.

Import SmartFabric discovered server interfaces

Automate onboarding of server interface profile by importing profiles that are discovered by SFS. Starting from 2.0 release, you can onboard unknown servers using OMNI.

When known servers are connected to the fabric, SFS discovers the servers automatically, and OMNI onboards the discovered servers as part of this workflow. SFS discovers the hosts or servers as known using the originator field in the Dell custom LLDP TLVs sent by the servers. Starting from OS10.5.2.2 release, SFS discovers unknown servers and you can onboard the unknown servers through OMNI using the **Import from Fabric** option. Onboarding unknown servers is applicable for the SFS L3 leaf and spine personality. Use this feature to onboard a new known and unknown server.

- Known server—A known server is a host that sends a valid originator in Dell-specific (custom) TLVs in LLDP frame that is recognized by SFS. Following are the list of known servers that are discovered by SFS:
 - VxRail
 - PowerStore-X
 - PowerStore-T
- Unknown server—An unknown server is a host that sends LLDP frames that do not include the Dell-specific TLV.
- 1. From SmartFabric instance, select **Server Interface**.
- 2. Click Import from Fabric. Discovered Server Interface window appears with the list of discovered interfaces.

+ ADD NETWORK	s $+$ add to server	PROFILE X REMO	VE FROM SERVER	PROFILE				
Server Profile	T Server Type T	Interface Id T	Discovered T Interface	Tagged T Networks	Untagged T Network	Routing	T Edit	
	Unknown	ethernet1/1/41	BQ700Q2:ethern	et1/1/3	Client_Manag		Ø	
	Unknown	ethernet1/1/42	BQ700Q2:ethern	et1/1/4	Client_Manag	-	0	
	Unknown	ethernet1/1/44	GGVQG02:ethern	et1/1/4	Client_Manag	-	Ø	
	Unknown	ethernet1/1/43	GGVQG02:ethern	et1/1/3	Client_Manag	-	0	
	Unknown	ethernet1/1/49	BQ700Q2:ethern	et1/1/27:1	Client_Manag		Ø	
	Unknown	ethernet1/1/44	GGVQG02:ethern	et1/1/2	Client_Manag		Ø	

(i) NOTE: The interface that is already associated with a server interface profile is not listed in the discovery table.

3. Edit the server profile information of each interface using the Edit option available at the end of each row.

Edit the NIC Bonding configuration and Static Onboarding. If the static onboarding is No, select an Untagged Network and one or more Tagged Networks and click Update.

(i) NOTE: You cannot select same network for tagged and untagged network.

(Optional) If static onboarding is **Yes**, select **Leaf Node** and **Interface** (where the server interface is connected), select the **Routing Protocol**.

• (Optional) Select the **Routing Protocol** as **None**, and click **Update**.

Edit Server Inte	erface Profile		×
NIC Bonding	C Enable O Disable		
Static Onboarding	• Yes 🔵 No		
Leaf Node	Leaf1 (11Z6Y42) v	Interface	11Z6Y42:ethernet1/1/30 ~
Untagged Network	Client_Management_Network (VLAN-4091 of VxLAN Network) x	Tagged Networks	Select Network
Routing Protocol	None		
			CANCEL

• (Optional) Select the Routing Protocol as eBGP, enter the ASN and IP address, and click Update.

Leaf Node	Leaf1 (11Z6Y42) ~	Interface	11Z6Y42:ethernet1/1/30 ~
Untagged Network	Client_Management_Network (VLAN-4091 of VxLAN Network) x	Tagged Networks	Select Network
Routing Protocol	None eBGP Static Route Select Routing for static onboarding of interface		
Routing Protocol Name	None eBGP Static Route Select Routing for static onboarding of interface ebgp	IP Address	1.1.1.1
Routing Protocol Name ASN	 None eBGP Static Route Select Routing for static onboarding of interface ebgp 2 Positive Number 	IP Address Description (optional)	<u>1.1.1.1</u> 0.0.0.0

• (Optional) Select the **Routing Protocol** as **Static Route**, enter the **Network Address** and **Next-Hop Address**, and click **Update**.

Edit Server Inte	erface Profile			×
Static Onboarding	• Yes 🔿 No			•
Leaf Node	Leaf1 (11Z6Y42) 🗸	Interface	11Z6Y42:ethernet1/1/30 >	
Untagged Network	Client_Management_Network (VLAN-4091 of VxLAN Network) x	Tagged Networks	Select Network	•
Routing Protocol	None eBGP Static Route Select Routing for static onboarding of interface			
Name	static	Network Address	1.1.1.1	
Prefix Length	<u>16</u> 0-32	Next Hop IP Address	0.0.0.0 3.3.3.3	_
Description (optional)				•
			CANCEL	UPDATE

4. Select one or multiple discovered interfaces, add the service profile and networks, and click **Update**. For more information about adding server profile and networks, see *Add to Server Profile* and *Add networks* sections.

Add to Server Profile

To add the discovered interfaces to a new or existing server profile:

- 1. Select one or more discovered interfaces, and click **Add to Server Profile**.
- 2. Select the server profile to which you want to add the discovered server interfaces.
 - Select Existing Server Profile—Select the Server Profile Id to associate the interface with the existing server profile, and click Associate.

Server Typ e	T Interface	Discovered 👻	Tagged 🚽	Untagged		
Unknown	Server F	Profile			×	
Unknown	Server Profile	• Existing Server Profile	O New Server Profi	le		
Unknown	Server Profile Id			~		
Unknown			CANCEL	ASSOCIATE		
Unknown						

• Select New Server Profile—Enter the Server Profile Id and Bonding Type to associate the interface with the new server profile, and click Associate.

covered Server Interfac	e					
ADD NETWORKS + ADD TO SE	Server F	Profile			×	
Server Profile T Interface	Server Profile	C Existing Server Profile	• New Serve	er Profile		۳ Edit
2 1	Server Profile Id	Unique string to identify the interface	Bonding Type	AutoDetect	~	
ote: Configure server name to the			CANC	EL ASSOCIATE		
						CANCEL

3. The system displays the server interface profile association success message.

Add Networks

To add the networks to the discovered interfaces:

- 1. Select one or more interfaces from the list, and click Add Networks.
- 2. Associate the networks with the discovered interfaces, and click Add.
 - Select one or multiple networks for **Tagged Networks**.
 - Select a single network for **Untagged Network**.

e Summary	Add Server Interfa	ce Networks	×	
overed Server Interfa	Add Network will overwrite the exist	a (VLAN-3999) x vlan130 (VLAN-130) x		
Server Profile T Interface		vian120 (VLAN-120) x vian300 (VLAN-300) x network-12 (VLAN-12 of VxLAN Network) x		
2 1 te: Configure server name to the	Untagged Network	a (VLAN-3999) x	ec	
		CANCEL	NDD	
der mende				

- (i) NOTE: Add networks overwrite the existing networks of all the server interface profiles.
- **3.** The system displays the server interface networks addition success message.

Remove from server profile

To remove the interface from the server profile, select one or more interfaces from the list, and click **Remove from Server Profile**.

Configure and manage uplinks

Configure an uplink and manage the uplinks that are available in the SmartFabric instance.

Using the **Uplinks** tab, you can:

- View the list of uplinks created in the SmartFabric instance.
- Create an uplink.
- Edit network and port configuration for an uplink.
- Delete a created uplink.

You can create uplinks with available interfaces which are not part of an existing uplink, server connected ports, part of a fabric automation, or jump port.

There are two types of uplinks—L2 and L3, and there are two types of L3 uplinks—L3 VLAN and L3 routed interface. Once you have created an uplink, you can then associate networks to the uplink and change or modify interfaces. These user-managed uplinks require configuration of networks through SmartFabric vCenter. From the SmartFabric instance, select **Uplink** to view the uplinks summary.

(i) NOTE: If you delete an uplink, any unused networks and ports can be used for future use.

Create L2 Uplink

You can create an uplink by selecting the fabric with a unique name, and select the interfaces, and networks to create a user uplink.

- 1. Select the SmartFabric instance > Uplink, and click Create.
- 2. Enter the uplink port type as L2, a Name, an optional description, then click Next.

Summary Topology	Switches	Server Interface	Uplink	Network	Fabric Ac		
SFS Create Uplink	Uplink Deta	ils					×
1 Uplink Details	Uplink Port Type	● L2 ○ L3					
2 Port Configuration	Name	uplink1					
3 Network Configuration	Description (optional)	first	li				
						CANCEL	NEXT

3. Enter the port configuration by selecting the rack to create the uplink on, select the interfaces, the **LAG Mode** (LACP or Static), then click **Next**.

Create Uplink	Port Configuration	×
1 Uplink Details	Select Rack to Rack AutoFab-7222c224-223c-5fa4-a244-cd3ca1685550 ∨ Create Uplink on	
2 Port Configuration	Leaf1 Leaf2	
3 Network Configuration	ethernet1/1/29 (Leaf1) Up x 🔍 ethernet1/1/29 (Leaf2) Up x 🗸	-
	Lag Mode • LACP	
	CANCEL BACK NEXT	

4. Select the untagged network, the OMNI network, and Select **Yes** or **No** to integrate the networks that are created automatically in the fabric through vCenter on this uplink.

Create Uplink	Network Configuration	n ×
1 Uplink Details	UnTagged Network	VXLAN_400 ~
2 Port Configuration	Client_Management_Network	(VLAN-4091 of VxLAN Network) x
3 Network Configuration	+CREATE NETWORK	
	Do you want networks automatical Integration to be extended on this • Yes • No	lly created in the fabric through vCenter uplink?
		CANCEL BACK FINISH

5. (Optional) Click **Create Network** to associate a network with the uplink. Enter the name of the network, optional description, and the VLAN number.

ate Uplink	Netv	work Configuration				
Jplink Details	Add N	etwork		×		
Port Configuration	Name	L2vlan				
Network Configuration	Descriptio	on (optional)	1			
	Vlan	400				
			CLOSE	REATE		

6. Click Finish to complete the L2 uplink creation.

The system displays user uplink creation success message.

Create L3 Uplink

Create an L3 uplink of L3 VLAN or L3 routed interface types.

Create L3 VLAN uplink

- 1. Select the SmartFabric instance > **Uplink**, and click **Create**.
- 2. Select L3 for the uplink port type, select L3 VLAN, enter the name for the uplink, and optional description, then click Next.

-1	Create Uplink	Uplink Detai	ls ×
0.11	1 Uplink Details	Uplink Port Type	○ L2 • L3
	2 Port Configuration	L3 Type	● L3 VLAN ○ L3 Routed Interface
	3 Network Configuration	Name	I3vlan
		Description (optional)	
L			CANCEL

3. Select the **Switch group** (Leaf or Spine), select the **rack** to create the uplink on, select the **interfaces**, select **LACP** for the LAG mode, then click **Next**.

Leaf:

	e autoritation () - i e pre-		
11	Create Uplink	Port Configuration	\times
	1 Uplink Details	Switch Group Leaf Spine	
	2 Port Configuration	Select Rack to Rack AutoFab-7222c224-223c-5fa4-a244-cd3ca1685550 ∨ Create Uplink on Create Uplication	
	3 Network Configuration	Leaf1 Leaf2 ethernet1/1/30 (Leaf1) Up x ethernet1/1/32 (Leaf2) Up x Lag Mode Lag Mode LACP	
		CANCEL BACK NEXT	

Spine:

_	Summary	Switches	Server Interface Opiink Network Fabric Actions
C	Create Uplink	Port Conf	figuration ×
	1 Uplink Details	Switch Group	C Leaf • Spine
	2 Port Configuration	Domain	AutoFab-100
	3 Network Configuration	Node	Spine ~
		ethernet1/1/	6 (Spine) Up x ethernet1/1/5 (Spine) Up x ethernet1/1/7 (Spine) Up x
		Lag Mode	• LACP) Static
			CANCEL BACK NEXT

4. Select **UnTagged** network, select the **OMNI network**, enter an optional description, select either **eBGP** or **Static Route** for the routing protocol, enter the routing policy information, then click **Finish**.

	Create Uplink	Network Configuration	×
	1 Uplink Details	Network Profile Information	
	2 Port Configuration	Name L3VLAN Prefix 24	
	3 Network Configuration	Length 1-32	
		Vian <u>4</u> 1-4093 IP Addresses 1.1.1.1	
		Description (optional)	
		Route Policy Information	
L		Routing Protocol Image: Construction of the second secon	
		Policy Id 1 Policy Name vlanebgp	-
L		Peer Interface IP 3.3.3 Peer ASN 2 Address Positive	-
L		Description (optional)	
L		CANCEL BACK	FINISH

A route is associated with the nodes that are configured in the port configuration. The system displays uplink creation success message.

Create L3 routed interface uplink

- 1. Select the SmartFabric Instance > **Uplink**, and click **Create**.
- 2. Select L3 routed interface, enter the Uplink name, and optional description, then click Next.

Create Uplink	Uplink Detai	ls	×
1 Uplink Details	Uplink Port Type	○ L2 L3	
2 Port Configuration	L3 Type	○ L3 VLAN • L3 Routed Interface	
3 Network Configuration	Name	I3route1	
	Description (optional)		
		CANCEL	хт

 Select the Switch group (Leaf or Spine), the rack to create the uplink on, select the interfaces, then click Next. Leaf:

1	Create Uplink	Port Configu	uration	×
	1 Uplink Details	Switch Group	Icaf ○ Spine	
	2 Port Configuration	Select Rack to Create Uplink on	Rack AutoFab-7222c224-223c-5fa4-a244-cd3ca1685550 ∨	
	3 Network Configuration	Node	Leaf1 v	
		ethernet1/1/29	(Leaf1) Up x	
			CANCEL BACK NEXT	

Spine:

tanco	Create Uplink	Port Config	guration	×
	1 Uplink Details	Switch Group	🗌 Leaf 💿 Spine	
	2 Port Configuration	Domain	AutoFab-100	
	3 Network Configuration	Node	Spine ~	
L		ethernet1/1/7	(Spine) Up x	•
			CANCE	EL BACK NEXT

4. Enter the network profile information and routing policy information for the uplinks, then click **Finish**.

Create Uplink	Network Con	figuration				×
1 Uplink Details 2 Port Configuration	Network Profile Info	prmation	16			
3 Network Configuration	IP Address	1.1.1.1 IP Address (0.0.0.0)				
	Description (optional)					
	Route Policy Inform	nation				
	• eBGP Static	Route				
	Policy Id	11		Policy Name	13routedebgp	
	Address				Positive Number	
	Description (optional)					
						_
				CANC	EL BACK	FINISH

The system displays L3 routed uplink creation success message.

Edit networks and ports in an uplink

You can edit the network and port configuration for an uplink, and also view the detailed information of the uplink. Select the uplink from the displayed list to view the details of the uplink on the right.

Edit networks

1. Select the uplink from the list, and click Edit Networks.

	Name 🕎	Uplink ID T	Info Name	L2U	Jplink				
0	Leaf2L3RoutedV DS_nsx	ed723614-63c0-42e6-8937-b3 134cf97d44	Networks Uplink II Interface Uplink T	D 760 Type Nor	:21a71-7da mal	a-479	e-b152-1	14a66	513fb3d
0	L2Uplink	76c21a71-7daa-479e-b152-114a 6613fb3d	Networks Interface VI AN	722 rd 100	2c224-223 (100)	3c-5fa	a4-a244-	cd3c	a1685550
		Uplinks per page 10 🗸 1	- 2 of 2 uplink Membe Interfac	e T	Status	Ŧ	MTU	٣	Туре
			Leaf2:	ethernet1/1/2	Down		9216		PhysicalEthe
			Leaf1:e	thernet1/1/3	Up		9216		PhysicalEthe
			4	h	nterfaces per	page	_10 ~	1 -	2 of 2 Interfaces
			Networ	< Name		Ŧ	Vlan ID)	Ŧ
			Client_	Control_Netv	vork		3939		

2. Edit the Untagged Network associated with the uplink, and click Update.

	Edit Upli	nk Networks		×		
C+create ∂edit ne	UnTagged Network	Client_Control_Network (VLAN-3939	of VxLAN Network) C	riginator		
Name tt	testing_1	088 (VLAN-1) Originator Manual x		-		
				inar O		
				Ŧ		
				9		

The system displays the uplink interface edit success message.

Edit ports

1. Select the fabric uplink from the list and click Edit Ports.

Edit Uplink Interfaces		×		
ethernet1/1/29 (OS10) Down x ethernet1/1/4 ethernet1/1/18 (OS10) Down x	8 (OS10) Down x	-		
		orma mam		
		D		
		Ŧ		
		9		

2. Edit the networks associated with uplink interfaces and click Update.

The system displays the uplink interface edit success message.

Delete an uplink

You can delete a user-created uplink:

- 1. Select the uplink from the displayed list, and click Delete.
- 2. Click Delete to confirm.

Configure networks and routing configuration

You can set up networks and routing configuration.

(i) NOTE: Networks that are created by the OMNI user interface are considered Manual.

The OMNI vCenter PortGroup VLAN automation process does not add *Manual* networks to auto uplinks, and does not remove them from SmartFabric. Add *Manual* networks to uplinks using the OMNI portal if needed. The OMNI VLAN automation process uses *Manual* networks for ServerInterfaces. If you are using the VLANs for the OMNI registered vCenter PortGroup, it is not recommended to use the OMNI portal to create a network. OMNI automation manages those VLANs or networks by itself. For complete information, see OMNI vCenter integration.

You can configure the following types of networks:

- General purpose network
- L3 routed interfaces (for L3 profiles only)
- Multi rack L3 VLAN (for L3 profiles only)
- VLAN networks (for L2 and L3 profiles)
- VXLAN networks (for L2 and L3 profiles)

Configure networks

You can manage general purpose, multi rack L3 VLAN, VXLAN, VLAN networks, and L3 routed interfaces. From SmartFabric, select the instance > **Network**. From **Network** tab, you can create, edit, and delete the networks.

Configure general purpose networks

When you create a general purpose network, OMNI creates a VLAN network along with the VXLAN virtual network.

In general purpose network, VXLAN network identifier (VNI) and VLAN ID are same and you can associate one VLAN with the VNI across the fabric. If you delete a VLAN network, it automatically deletes the associated VXLAN network.

For example, if you create a general purpose network with VLAN ID 50, OMNI creates a VLAN 50 and associated VXLAN network with VNI 50 in the SmartFabric. When you delete the VLAN network, both VLAN 50 and VXLAN VNI 50 are deleted.

NOTE: OMNI UI does not display the virtual networks that are created automatically during general purpose network creation, as OMNI UI is designed to filter these virtual networks when displayed in the UI. However, SFS UI displays the virtual networks that are created automatically during the general purpose network creation.

Create general purpose network

To create a general purpose network:

- 1. Click the SFS instance for which you want to create a network.
- 2. Click Networks > General Purpose Networks. The page displays the list of the general purpose networks that are already configured in the SmartFabric.
- 3. Click Create to create a Layer 2 general purpose network.
- 4. Enter the following details:
 - Network ID.
 - Network name. For example, network-201.
 - VLAN ID. A number that ranges from 1 to 3999 (except 3939). For example, 201.
 - Description.

OMNI Home		
Create Layer 2 General	Purpose Network	×
Network ID	network2	
Network Name	network2	
Vlan	345	
	1 - 3999	
Description		
		CANCEL

5. Click Create. The system displays virtual network creation successful message.

Edit general purpose network

You can edit the configuration of the Layer 2 general purpose network and change it to Layer 3 general purpose network.

1. Select a network from the list and click Edit.

√ Sm	Edit Layer 2 General Purpose Network : network-791									
G	Network Type	Layer 2 General Purpose Network $ imes $								
	Network Name	network-791								
	Vlan	791 1 - 3999								
	Description	1								
				CANCEL						

- 2. Select the network type to Layer 3 general purpose network.
- **3.** Enter the following details:
 - Network name
 - VLAN
 - Description
 - IP address
 - Prefix length
 - Gateway IP address
 - Helper address

D&L	Edit Layer 3 General Purpose Network : network-791							
	Network Type	Layer 3 General Purpose Network $ \sim $	•					
G	Network Name	network-791						
E	Vlan	791 1 - 3999	L					
	Description	1	L					
	IP Addresses	13.1.1.1-4		i				
		CANCEL	T					

4. Click Edit. The system displays virtual network edits success message.

View general purpose network

To view the details of the general purpose networks, select a network from the list. The VLAN details of the specific network including network ID, originator, network name, VLAN ID, QoS priority, network type, VLAN interface IP address details, prefix length, gateway IP address, and DHCL helper address. Portgroups that are created on the vCenter are displayed under **General Purpose Networks**.

+	CREATE DE	DIT X	DELETE				VLAN Deta	ails		
	Network ID	т	VLAN ID		Ŧ	VLAN Type	Network ID	network-791		
)	VSAN		501			Layer 2	Originator	Auto		
	network-791		791			Laver 3	Network	network-791		
	network-751		751			Layer 5	Name	1		
2	vMotion_500)	500			Layer 2	VLAN ID	791	QoS	Iron
		Network	s per page	10	/	1 - 3 of 3 Networks			Priority	
							Network	Layer 3		
							Туре			
							VLAN Interfa	ce IP	13.1.1.1 13.1.1.	3 13.1.1.4 13.1.1.2
							Addresses			
							*Require 1 pe	r leaf Node		
							Network Pref	ix Length	24	
							Gateway IP A	ddress	0.0.0.0	
							DHCP Helper	Address	3.3.3.5	

Delete general purpose network

When you delete a general purpose network, both the VLAN and the VXLAN networks are deleted from OMNI. To remove a general purpose network configuration:

- 1. Select the general purpose network and click **Delete**. The system displays the list of the server interface profiles associated with the network.
- 2. Click Delete to confirm. The system displays network deletion success message.

Configure L3 routed interfaces

This information explains how to create, edit, and delete Layer 3 routed interfaces.

Create L3 routed interface

Use the following procedure to create an L3 routed interface:

- 1. Select Networks > Layer 3 Routed Interfaces.
- 2. Click Create.
- 3. Enter the network ID, network name, description, IP Address, and prefix length.
- 4. Click Create.

termonia - nonting Con	Create L3 Ro	uted Interface		×	
> VxLAN Networks	Network ID	test		î.	
 VLAN Networks Layer 3 Routed Interior 	Network Name	test		- 11	
C+create Øed	Description		li		
Network ID	IP Address	1.1.1.1 IP Address (0.0.0.0)		- 11	
	Prefix Length	16 1-32			
			CANCEL	CREATE	

The system displays network creation success message.

Edit network

- 1. Select the Network ID from the list and click Edit.
- **2.** Edit the configuration as required.
- 3. Click Edit.

×

The system displays edit network success message.

Delete network

1. Select the network ID to remove and click **Delete**. The system displays the list of uplinks associated with the network.
2. Click Delete to confirm.

The system displays network deletion success message.

Configure multirack L3 VLAN

Starting from 2.0 release, OMNI allows you to configure L3 VLAN network for the racks to which the servers are connected. Using this feature, you can create a L3 VLAN network for each VLT pair (rack) with a different subnet. This network is used for NSX-T overlay to create VTEP networks. Create, edit, and delete multirack L3 VLAN networks from OMNI. With 2.1 release, there is a provision to specify IP address for each switch in a rack when creating a multirack L3 VLAN.

This feature is used as part of NSX-T workflow. As part of automation, OMNI creates all the NSX-T networks as multirack L3 VLAN networks. You can edit and provide the Layer 3 details to the NSX-T networks. For more information, see OMNI support for NSX-T.

Create multirack L3 VLAN

- 1. Click SmartFabric instance > Networks > Multi-Rack L3 Networks.
- 2. Click Create.
- **3.** Enter the network ID, name, VLAN number, IP addresses, description, rack IP addresses, prefix length, gateway IP address, and helper addresses for each rack available in the SmartFabric cluster.
- 4. Select the Specific IP Addresses checkbox to specify the IP address for each switch.

Network ID	overlay			
etwork Name	overlay			
lan	2713 1 - 3999			
escription				
		Prefix Length	Gateway IP Address	Helper Addresses
Rack	IP Addresses			
Rack SiteB-Rack2 Specific IP Addresses	72.25.10.251	24	172.27.13.254	
Rack SiteB-Rack2 ✓Specific IP Addresses	72.25.10.251 SiteBLeaf3	24 0-32	172.27.13.254 IP Address (0.0.0.0)	72.25.10.1
Rack SiteB-Rack2 Specific IP Addresses	72.25.10.251 SiteBLeaf3	24 0-32	172.27.13.254 IP Address (0.0.0.0)	72.25.10.1
Rack SiteB-Rack2 ✓Specific IP Addresses	72.25.10.251 SiteBLeaf3 72.25.10.252 SiteBLeaf4	24 0-32	172.27.13.254 IP Address (0.0.0.0)	72.25.10.1

5. Click Create.

The system displays VLAN network creation success message.

Edit multirack L3 VLAN configuration

- 1. Select a network ID from the list and click Edit.
- Modify the details, edit the configuration as necessary and click Edit. The system displays edit network success message.

Delete multirack L3 VLAN configuration

1. Select the VLAN network to remove and click **Delete**.

2. Click Delete to confirm.

The system displays network deletion success message.

Configure VLAN networks

Create, edit, and delete L2 or L3 VLAN networks for SmartFabric.

Create L2 VLAN or L3 VLAN network

VLAN networks for L2 profile:

- 1. Click Networks > VLAN Networks.
- 2. Click Create.
- 3. Select the Network Type as Layer 2 VLAN Network is selected as the Network Type, enter the Network ID, Network Name, enter a number for the VLAN, enter an optional description, then click Create.

D&LL EMC O			
	e Summany Tanalogy Switches	Securited and United Naturals Obtail Satilians 116 October Management Sanis ashifti	
✓ SmartFabric	Create Layer 2 VLAN Network	×	
∨ NSX-T	Network Type	Layer 2 VLAN Network V	
MSX-T M	Network ID	L3VLAN-600	
	Network Name	L3VLAN-600	
	Vian	600 1- 3999	
	Description		
		CANCEL	
	> Layer 3 Routed Interfaces		

The system displays VLAN network creation success message.

VLAN networks for L3 profile:

- 1. Select Networks > VLAN Networks.
- 2. Click Create.
- 3. Select the Network Type as Layer 3 VLAN Network.
- 4. Enter the Network ID, Network Name, a number for the VLAN, description, IP address, and prefix length.
- 5. Click Create to confirm.

	Create Layer 3 VLAN Network		×	Log Out
 SmartFabric 	Network Type	Layer 3 VLAN Network \sim	•	
SFS_2	Network ID	L3VLAN-600		
✓ NSX-T → NSX-T M	Network Name	L3VLAN-600	Ŀ	
	Vlan	<u>600</u> 1 - 3999	Ŀ	
	Description		L	
	IP Addresses	15.1.1.1-2 Maximum 2 IP Addresses	Ŀ	
	Prefix Length	24	•	
		CANCEL	ТЕ	

The system displays VLAN network creation success message.

Edit network

1. Select a network ID from the list and click **Edit**.

Network Type	Layer 2 VLAN Network $ imes $	
Network Name	l3valn666	
Vlan	666	
	1- 3999	
Description		
	CANCEL	EDIT

- 2. Modify the configuration as necessary.
- 3. Click Edit.

D&L	Edit Layer 3 VLAN Network : I3valr	n666	\times	g Out
لتا × Sm	Network Type	Layer 3 VLAN Network ~	•	
G	Network Name	I3valn666		
V NS	Vian	<mark>666</mark> 1 - 3999	L	
~ ом	Description		l	
	IP Addresses	3.1.1 Maximum 2 IP Addresses	l	
	Prefix Length	24	•	
		CANCEL	т	

The system displays edit network success message.

Delete network

- 1. Select the VLAN network to remove and click Delete.
- 2. Click **Delete** to confirm.

The system displays network deletion success message.

Configure VxLAN network

Create, edit, and delete L2 and L3 profile VXLAN network configurations through OMNI. The purpose of VXLAN network is to associate multiple L2 or L3 VLAN networks to a single VXLAN network. Whereas a general purpose network does not have the flexibility to extend the VXLAN network.

Create VxLAN network

Virtual network for L2 profile:

- 1. Click the SmartFabric instance > **Network**.
- 2. Click **Networks** > **VxLAN Networks**. The page displays the list of the VXLAN networks that are configured in the SmartFabric instance.
- 3. Click Create.
- 4. Verify Layer 2 is selected as the Virtual Network Type.
- 5. Enter the text for Virtual Network Name, a value for the VxLAN VNI, the VLT VLAN ID, and description.
- 6. Click Create.

l Natworks					
I NELWOIKS	Virtual Network Type	Layer 2	~		
CREATE ØED	Virtual Network Name	test	_		
Virtual Netwo Name	VxLAN VNI	2			
Virtual_netv		Input(1 - 16777215) is required			
Virtual_netv	VLT VLAN Id	2			
Client_Contr al_Network	Description				
Client_Mana Virtual Netv	2				
			CANCEL	CREATE	

The system displays virtual network creation successful message.

Virtual network for L3 profile:

- 1. Select the SmartFabric instance > **Network**.
- 2. Click **Networks** > **VxLAN Networks**. The page displays the list of the VXLAN networks that are configured in the SmartFabric instance.
- 3. Click Create.
- 4. Select Layer 3 as the Virtual Network Type.
- 5. Enter the text for Virtual Network Name, a value for the VxLAN VNI, the VLT VLAN ID, IP address, prefix, gateway IP address, and helper IP address.
- 6. Click Create.

D&LLEMC OpenManage Network Integ	Create Virtual N	Jetwork	×	
→ OMNI Home	Virtual Network Type	Layer 3 v		
SFS_2 > General P	Virtual Network Name	vlan200		
✓ NSX-T ✓ VxLAN N	VxLAN VNI	200 Input(1 - 16777215) is required		
~ оме-м	VLT VLAN Id	200 Input(1 - 3999) is required		
OME-Modular	Description		- 1	
	IP Address	1.1.1.1		
> VLAN Ne		CA	CREATE	

The system displays virtual network creation successful message.

View VxLAN network details

The VxLAN networks display a list of mapped VLANs. Select a VxLAN network to view details pertaining to that specific network including network ID, VLAN ID, and network name.

Associate multiple VLANs to a VxLAN network

Using the steps, you can map multiple VLANs to a single VxLAN network.

- **1.** Select a VxLAN network.
- 2. Click Create option available after the VxLAN details.

	-CREATE DEDIT XDELETE		VxLAN Details
	Virtual Network T VxLAN VNI Name	T Network Type	Name vxlan300
0	vxlan300 300	Layer 3	VxLAN VNI 300 VLTi VLAN ID 300
0	Client_Control_Virtu 3939 al_Network	Layer 2	Network Type Layer 3 VLAN Interface IP Addresses 14.1.1 14.1.12
0	Client_Management 4091 _Virtual_Network	Layer 2	"Require 1 per leaf Node Network Prefix Length 24
	Virtual Networks per page 10	 1 - 3 of 3 Virtual Networks 	Gateway IP Address 14.1.1.254 DHCP Helper Address
			VLANs mapped to VxLAN Network
			Network $\overline{\gamma}$ VLAN $\overline{\gamma}$ Network $\overline{\gamma}$ Originator T ID ID Name Originator T

- $\ensuremath{\textbf{3.}}$ Enter the required details for the VLAN configuration.
- 4. Click Create.

Edit VxLAN network

You can edit the configuration of VXLAN network:

1. Select a virtual network from the list and click $\mbox{Edit}.$

AN Networks					
+create Ø	Edit Virtual Net	work		×	
Virtual Networ Name	Virtual Network Type	Layer 2	~	in30(
) vxlan300	Virtual Network Name	vxlan300			
) Client_Contr al_Network	VxLAN VNI	300 Input(1 - 16777215) is required		er 3 Iress Je	
) Client_Mana Virtual_Netv	VLT VLAN Id	300 Input(1 - 3999) is required			
	Description			LAN	
			CANCEL	EDIT	

2. Modify the Virtual Network Type.

- 3. Enter the Prefix, Gateway IP Address, IP address.
- 4. Click Edit.

rk Integration					_	
VxLAN Networks	Edit Virtual Net	work		×		
C +create Ø	Virtual Network Type	Layer 3	~			
Virtual Netwo Name	Virtual Network Name	vxlan300			n300	
vxlan300	VxLAN VNI	300 Input(1 - 16777215) is required		- 1		
Client_Cont. al_Network	VLT VLAN Id	300 Input(1 - 3999) is required			er 3 Iresses Ie	
Virtual_Netv	Description				n I	
					_AN Networ	
	IP Address	14.1.1.1-2	1		T ×DELET	
		IP Address (0.0.0.0 1.1.1.1-4)			VLAN	
	Prefix	24 1 - 32			3 300	
	Gateway IP Address	14.1.1.254	_	•		
Laver 3 Pouted-Inter			CANCEL	EDIT		
Layer 5 Rouled Inter						

The system displays virtual network edits success message.

Delete VxLAN network

To delete a VXLAN network, first delete the mapped VLAN or VLANs if associated, and delete the virtual network.

- 1. Select the Virtual Network Name, select the Network to remove, then click **Delete**.
- 2. Click **Delete** to confirm.

The system displays network deletion success message.

Configure Routes

You can configure static routes and eBGP peer routes for a network.

Configure static routes

Configure static routes and associate the route to the switch.

Create static route

- 1. Click SmartFabric > Network > Routing Configuration.
- 2. Select Static Routes.
- 3. Click **Create** to add a new static route.
- 4. Enter the relevant details and click Create.

SmartFabric I Summary	Create Static Route			×	gs Life Cycle M
Networks R	Policy Name	vlanstatic			
✓ Static Rot	Network Address	1.1.1.2			
C +4	Prefix Length 🚺	24 1-32			
	Next Hop IP Address	1.1.1.3			
0 e	Description (optional)		//		
			CANCEL	CREATE	

The system displays static route creation is successful.

Add route to switch

- 1. Select Routing Configuration > Static Routes.
- 2. Select a static route that needs to be added to the switch.

3. Click Add Route to Switch.

State Routes	
C+create ×delete	Static Route - vlanstatic
Id T Name T Address T Prefix T Next Hop Prefix Length Address	Route Description
• 1 vlanstatic 1.1.1.2 24 1.1.1.3	Switches using this routes
♦ ► Static Routes per page 10 ∨ 1 - 1 of 1 Static Routes	C+ADD ROUTE TO SWITCH × DELETE ROUTE FROM SWITCH
	Switch
	There are no Cwitches

4. Select the switch to map to this route.

Networks Ro	uting Configur	ration				
🗸 Static Rov					l	
	Add Ro	oute to Switch		\times		
C+cri				A		
	Switch	Leaf1 (BQ700Q2) V				
		Select Switch to Add Route			ites	
0 1			CAN	CEL		
0 4				C+ADD ROUTE TO	SWITCH X DELETE ROU	
			tatic Poutes			

5. Click Add.

The system displays the route added success message.

Delete route from switch

- 1. Select the route to delete, and click **Delete Route**.
- 2. Click **Delete** to confirm the removal of the route from the switch.

The system displays route policy deletion success message.

Static route details

The static route details display a list of mapped routes. Select a static route to view details pertaining to that specific route including the switch ID.

Delete static route

- 1. Select the static route to delete and click **Delete**.
- 2. Click **Delete** to confirm.

The system displays static route deletion is successful.

Configure eBGP peer route

You can configure eBGP peer routes for a network.

Create eBGP route

- 1. Select the SmartFabric instance > Network > Routing Configuration.
- 2. Click eBGP Peer Configuration.
- 3. Click **Create** to add an eBGP peer route.

✓ eBGP Peer Configuration			1
Create eBGP		×	
C +			
Policy Name	vlanstatic	-	
Peer Interface IP Address	1.1.1.2	-	
Peer ASN	2 Dositivo Numbor	-	
() e	Positive Number		
Description (optional)			
		//	
	CAN	CEL	
eBGP Peer Routes per page 10	- 6 of 6 eBGP Peer Routes		

4. Enter the relevant details and click Create. The system displays eBGP peer route creation is successful.

Delete eBGP route

- 1. Select the eBGP route policy to delete and click **Delete**.
- 2. Click **Delete** to confirm. The system displays route policy deletion success message.

Add eBGP route to switch

1. Select an eBGP route policy and click Add Route to Switch.

2. Select the switch, then click Add.

witches	Networks Routing Configu	iration	
	✓ eBGP Peer Configura		
		Add Route to Switch	×
ETE	C+create ×de		P1_Policy
Noture	Id T	Switch Spine (5WJFXC2) ~ Select Switch to Add Route	✓ EBGP policy
/irtual_N	● eBGP1_Polic		CANCEL
	CER CERCE	P Peer Routes per page 10 Y 1<1 of 1 eBGP Peer	C+ADD ROUTE TO SWITCH XDELETE ROUTE FROM SW

3. The system displays the route to switch addition success message.

View eBGP peer details

The eBGP peer details display a list of mapped routes. Select an eBGP route to view details pertaining to that specific route including the switch ID.

Networks	Vetworks Routing Configuration							
> Static	Routes							
∽ eBGP	Peer Cont	liguratio	n					
C+	CREATE	×dele	TE					eBGP Peer - eBGP1_Policy
	Id	Ψ	Name	Ψ	Peer Interface IP Address	Τ	Peer ASN	Route Description EBGP policy
0	eBGP1_	Policy	eBGP1_Pc	olicy	20.1.1.1		65001	Switches using this routes
4		еВ	GP Peer Route	es per p	age <u>10 ∨</u> 1-1o	f 1 eBGP I	Peer Routes	C+ADD ROUTE TO SWITCH × DELETE ROUTE FROM SWITCH Switch Leaf2 (GGVQG02)

Delete eBGP route from switch

- 1. Select an eBGP route, then click **Delete Route**.
- 2. Click **Delete** to remove the route from the switch. The system displays route deletion success message.

Configure global settings for SmartFabric

Starting from 2.0 release, you can configure SmartFabric switch services settings using OMNI UI.

You can configure the following services on the SmartFabric switches using OMNI:

- NTP
- DNS
- Syslog

• SNMP

(i) NOTE: This feature is supported from SmartFabric OS10.5.2.2 and later versions, and applicable for SFS L3 leaf and spine personality.

Configure NTP server

To configure an NTP server:

- 1. Select the SmartFabric instance > Global Settings > NTP. The page displays the list of the NTP servers that are already configured in the OMNI VM.
- 2. Click Add to configure an NTP server.
- 3. Enter the IP address or hostname of the NTP server and click Add.

NTP DNS SNMF	Add NTP Server		×	
+ ADD × DELETE				
Server	Server IP / Hostname	100.104.26.26		
4.3.43.2		CANCEL	ADD	

The system displays the configuration success message.

To delete an NTP server, select an entry from the list and click **Delete**.

Configure DNS server

To configure one or more DNS servers:

- Select the SmartFabric instance > Global Settings > DNS. The page displays the list of the DNS servers that are already configured in the OMNI VM.
- 2. Click Add to configure one or more DNS servers.
- **3.** Enter the IP address of the DNS server to configure a single DNS server setting. You can use the + button to add more DNS servers.
- 4. Click Add.

Global Set	tings	Add DN	IS Server			×	
NTP DNS	s snmf						
	× delete	Serve	er 1 14.1.1.23	 			
		Serve	er 2 4.3.23.2	Û			
	\bigtriangledown	Serve	er 3 15.1.1.3	 +	创		
	re no DNS			CAN	CEL ADD		
	10 🔨 0 - 0	of 0 Servers					

The system displays the configuration success message.

To delete the configured servers, select the server from the list and click **Delete All**. This action deletes all the configured DNS servers that are available in the system.

Configure SNMP server

To configure or edit an SNMP server:

- 1. Select the SmartFabric instance > Global Settings > SNMP. The page displays the list of the SNMP servers that are already configured in the OMNI VM.
- 2. Click Add to configure an SNMP server.
- 3. Enter the IP address of the SNMP server, community, and SNMP version. Provide the Security details for SNMP v3.
- 4. Click Add.

					Global Settings		
Global Settings	Add SNN	MP Serve	r			×	
NTP DNS SNMF		Server IP	4.23.3.1				
+ ADD × DELETE		Community	internal				
Server T		Version	• v2c ○ v3				
4.3.4.3		Security		~			
				CAN	CEL ADD		
			_				
Summary Topology	_2 Switches	Server Interfa	ace Uplink	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS Summary Topology Global Settings	_2 Switches Add SNN	Server Interfa 1P Servel	ace Uplink	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS Summary Topology Global Settings NTP DNS SNME	_2 Switches Add SNN	Server Interfa AP Servei Server IP	ace Uplink r 4.23.3.1	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS Summary Topology Global Settings NTP DNS SNMF + ADD X DELETE	_2 Switches Add SNN	Server Interfa AP Server Server IP Community	r 4.23.3.1 internal	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS Summary Topology Global Settings NTP DNS SNMF + ADD X DELETI Server T	_2 Switches Add SNN	Server Interfa AP Server Server IP Community Version	r 4.23.3.1 internal v2c • v3	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS, Summary Topology Global Settings NTP DNS SNMF + ADD X DELETE Server T 0 4.3.4.3	_2 Switches	Server Interfa AP Server Server IP Community Version (Security	r 4.23.3.1 internal v2c • v3 Private	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS Summary Topology Global Settings NTP DNS SNMF + ADD × DELETE Server T 0 4.3.4.3 0 4.5.6.7	_2 Switches	Server Interfa AP Server Server IP Community Version (Security	r 4.23.3.1 internal v2c • v3 Private	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS, Summary Topology Global Settings NTP DNS SNMF + ADD X DELETE Server T 0 4.3.4.3 0 4.5.6.7	_2 Switches	Server Interfa AP Server Server IP Community Version (Security	r 4.23.3.1 internal v2c • v3 Private	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS. Summary Topology Global Settings NTP DNS SNMF + ADD X DELETE Server T 4.3.4.3 4.5.6.7	_2 Switches	Server Interfa AP Server Server IP Community Version (Security	r 4.23.3.1 internal v2c • v3 Private	Network	Global Settings	Life Cycle Management	Service
SmartFabric Instance SFS Summary Topology Global Settings NTP DNS SNMF + ADD X DELETE Server T 0 4.3.4.3 0 4.5.6.7	_2 Switches	Server Interfa AP Server Server IP Community Version (Security	r 4.23.3.1 internal v2c • v3 Private	Network	Global Settings	Life Cycle Management	Service

The system displays the configuration success message.

To delete the configured servers, select a server from the list and click **Delete**.

Configure syslog server

To configure and edit a syslog server:

- 1. Select the SmartFabric instance > Global Settings > Syslog. The page displays the list of the syslog servers that are already configured in the OMNI VM.
- 2. Click Add to configure syslog server.

- **3.** Enter the IP address of the syslog server and log level.
- 4. Click Add.

Sr										
S							Global	Settings		
GI	lobal Setti	ings							-	
N		SNMF	Add Sys	log Serve	er			2	×	
		🖉 edit		Server IP	4.3.21.3					
				Log Level	Critical	\sim				
		Serv				С	ANCEL	ADD		

The system displays the configuration success message.

Edit syslog server

You can edit the log level for the syslog server.

- 1. Select the server from the list and click Edit.
- 2. Edit the log level of the server and click **Update**.

(
	Global Set	tings							
		s snmf	Edit Sys	log Serve	r			×	
		Ø EDIT		Server IP	6.5.43.1				
				Log Level	Alert	~			
		.1							
		Serv				CANC	UPDATE		

To delete the configured servers, select the server from the list and click **Delete**.

Edit fabric settings

With 2.1 and later releases, you can edit default settings of a SmartFabric instance. Use the following procedure to edit the global fabric configuration settings:

(i) NOTE: Any changes to the default fabric settings reboot all the switches in the network fabric.

- 1. Click the SmartFabric instance for which you want to edit the global default fabric settings.
- 2. Click Global Settings > Fabric Settings.
- 3. Click Edit.
- 4. Edit the values of the default settings.
- 5. Click OK.

Fabric Settings	×
Leaf ASN	65011
Spine ASN	65012
Private Subnet Prefix	172.16.0.0
Private Prefix Length	16
Global Subnet Prefix	172.30.0.0
Global Prefix Length	16
Client Control VLAN	3939
Client Management VLAN	4091
STP Mode MST Rapid PVST	
	CANCEL

The system prompts for confirmation to continue. After you click **OK**, all the switches in the network fabric reload to apply the fabric setting changes. The changed settings are applied only after a reboot.

Update default fabric, switch names, and descriptions

SFS assigns unique names for the network fabric, racks, and switches automatically. With 2.1 and later releases, you can edit the default fabric and switch names, and descriptions of a SmartFabric instance. Use the following instructions to change the names and descriptions:

- 1. Click the SmartFabric instance for which you want to edit the default fabric and switch names.
- 2. Click Global Settings > Set Fabric & Switch name.
- 3. Click the Set Fabric & Switch name link.
- 4. Edit the name and description of the network fabric, and click Next.

Set Fabric & Switch Name	Network Fabric			×
1 Network Fabric	ID	Name	Description	
2 Racks				
3 Switches	100	AutoFab-100	Auto-Fabric Generator	_
			CANCEL	хт

5. Edit the name and description of the rack, and click Next.

Set Fabric & Switch Name	Racks		×
1 Network Fabric	Name	Description	Switches
2 Racks			
3 Switches	SiteB-Rack2	Auto-Fabric Generator	3QYHPK2, 7QYHPK2
			CANCEL BACK NEXT

6. Edit the name and description of the switches.

Set Fabric & Switch Name	Switches				×
1 Network Fabric	ServiceTag	Туре	Model	Name	Description
2 Racks					
3 Switches	JRQQG02	Spine	\$5232F-ON	SiteBSpine	siteB
	7QYHPK2	Leaf	S4148F-ON	SiteBLeaf3	siteB
	3QYHPK2	Leaf	S4148F-ON	SiteBLeaf4	siteB
				CANCEL	BACK

7. Click Finish.

(i) NOTE: If you change the switch name in the UI, the hostname on the switch CLI is also updated.

View fabric events and compliance status

Starting from 2.0 release, OMNI displays the list of fabric events and compliance checks for each SmartFabric instance.

Download the events and compliance errors

(i) NOTE: This option is available only when OMNI is accessed as a stand-alone application.

You can download all the events and the compliance errors that are listed for each SmartFabric instance from stand-alone OMNI UI.

Select the SmartFabric instance > **Serviceability** and click **Download**. The downloaded zip file contains the fabric events and compliance errors in CSV format.

D≪LL EMC OpenManage	Network Integratic	'n			Log	g Out
OMNI Home	ESmartFabric Insta	nce SFS_2				
 SmartFabric 	Summary Top	oology Switches	Server Interface Uplin	k Network Global Settings	Life Cycle Management Serviceability	
SFS_2	Serviceability					
	Fabric Events	Fabric Compliance xpects minimum 3 characters.				
	Name	Node T	Severity T	Timestamp	Message	
	Leaf2	GGVQG02	🔥 Warning	Nov 25, 2020, 8:49:39 PM	Interface GGVQG02:ethernet1/1/1 is down	
	Leaf2	GGVQG02	🔥 Warning	Nov 25, 2020, 8:49:40 PM	Link GGVQG02:ethernet1/1/1 is deleted	
	Leaf2	GGVQG02	🔥 Warning	Nov 25, 2020, 8:49:41 PM	Interface GGVQG02:ethernet1/1/2 is down	
	Leaf2	GGVQG02	🔥 Warning	Nov 25, 2020, 8:49:42 PM	Link GGVQG02:ethernet1/1/2 is deleted	
	Leaf1	BQ700Q2	🔥 Warning	Nov 25, 2020, 8:49:44 PM	Link BQ700Q2:ethernet1/1/1 is deleted	
	Leaf1	BQ700Q2	🔥 Warning	Nov 25, 2020, 8:49:45 PM	Interface BQ700Q2:ethernet1/1/1 is down	
	Leaf1	BQ700Q2	🔥 Warning	Nov 25, 2020, 8:49:46 PM	Interface BQ700Q2:ethernet1/1/2 is down	
	Leaf1	BQ700Q2	🛕 Warning	Nov 25, 2020, 8:49:47 PM	Link BQ700Q2:ethernet1/1/2 is deleted	

NOTE: Download option is not available when OMNI plug-in is launched from vCenter. Hence, you cannot download the fabric events and compliance CSV files from OMNI plug-in page.

View fabric events

OMNI UI lists the events that are generated for each SmartFabric instance.

This feature is supported from SmartFabric OS10.5.0.7 version and both on L2 and L3 personality.

To view the latest events, select the SmartFabric instance > **Serviceability** > **Fabric Events**. The table lists the latest events with detailed information including switch name, service tag of the switch, severity, time, and the event message.

-	lopology	Switches	Server Interface	5	Uplink Ne	etwork	Global Se	ttings	Life Cycle Manager	ment Service	eabil
Serviceabi	lity 👤 🛛	OWNLOAD									
Talania Errant	c Eabria C	ompliance									
ote: T Filter op	ption expects mini	imum 3 characte	ers.								
-apric Event lote: ▼Filter of Name	ption expects mini	imum 3 characte	ers. Severity	Ŧ	Timestamp			Message			
-apric Event lote: ▼ Filter of Name Leaf2	ption expects mini Node GGVQ	imum 3 characte	Severity	Ŧ	Timestamp Nov 25, 202	20, 5:22:27	PM	Message	e GGVQG02:port-char	nnel10 is down	

View fabric compliance status

SFS validates the health of the cluster, topology role, underlay, overlay, network, server appliance discovery, uplink, policy, and VLT. SFS monitors the health in both the switch and the whole fabric levels. OMNI retrieves the fabric compliance status for the SFS instance and displays the noncompliance events with details. OMNI also recommends the actions to eliminate the compliance violations or misconfigurations.

This feature is supported from OS10.5.2.2 version or later, and applicable for SFS L3 leaf and spine personality.

To view the fabric compliance errors:

- Select the SmartFabric instance > Serviceability > Fabric Compliance to view the latest compliance errors. The table lists
 the latest compliance events with detailed information including switch name, service tag of the switch, status, error code,
 and the recommended action.
- 2. Click the information icon to view the recommended action for each compliance error.

Click **Refresh** to update the data and display the new compliance errors.

You can also view the fabric events and the compliance errors in the SmartFabric instance overview dashboard. Select the SmartFabric instance > **Summary** > **Overview** to view the overview of events and errors. The fabric compliance errors are grouped under infrastructure, cluster, server onboarding, and uplink categories.

8

OMNI automation support for PowerEdge MX SmartFabric

Starting from 2.0 release, OMNI manages fabric automation for ESXi hosts deployed within the Dell EMC PowerEdge MX solution when running SmartFabric Services. For any change to the port group configuration in vCenter, OMNI automatically associates the VLAN to the applicable host-connected ports on the switch. OpenManage Enterprise Modular (OME-Modular) is embedded in the MX platform and enables configuration and management of up to 20 MX7000 chassis from one interface. For more information about SmartFabric services on PowerEdge MX, see PowerEdge MX documents.

View the logical and physical switch inventory of MX servers in vCenter **Host Network Inventory** page. For more information, see View host inventory.

Prerequisites

Ensure that the following prerequisites are met to support OMNI automation services for PowerEdge MX:

- MX system is healthy with no failed components.
- The PowerEdge MX network switches must be configured in SmartFabric mode and operational.
- The entire PowerEdge MX system must be on the MX 1.20.10 baseline or later.
- MX servers that are considered for automation must be deployed through OME-Modular server profiles.
- The OME-Modular server template should include vCenter infrastructure VLANs such as management and vMotion but not virtual machine VLANs.
- MX servers must have ESXi installed and be connected to the target vCenter.
- Dell Technologies recommends using VMware ESXi version 6.7 and later.
- OMNI must be able to communicate with OME-Modular and vCenter to provide automation.
- NIC Teaming (LAG mode) configuration in OME-M should match with the Teaming configuration in vCenter. If there is a
 mismatch between OME-M and vCenter configuration, OMNI automation does not publish the port-groups to the IOMs as
 expected.

NOTE: OMNI automation does not support MX servers with NIC partitioning enabled, with the exception of FCoE or iSCSI storage partitions.

For more information about VMware ESXi and PowerEdge MX, see Dell EMC PowerEdge MX VMware ESXi with SmartFabric Services Deployment Guide.

Workflow to integrate OME-Modular with OMNI

Ensure that the prerequisites are met before starting the workflow to integrate OME-Modular with OMNI. Dell Technologies recommends creating a dedicated OME-Modular user account (OMNI_USER) in OME-M for OMNI with a role of Fabric Manager.

(i) NOTE: Do not use the root user OME-Modular credentials.

- 1. Add the OME-Modular service instances in OMNI.
- 2. Register the vCenters to which the MX servers are connected.
- 3. Manage automation services for OME-Modular.

Add OME-Modular instance

To manage MX SmartFabric automation using OMNI, add the OME-Modular instance to OMNI. In 2.1 release, you can add up to two OME-Modular instances in a single OMNI VM.

1. Click OMNI Home > OME-M.

- 2. Click **Create** to create an OME-Modular service instance by adding the IP address or DNS name of the lead chassis. If the OME-Modular instance IP address is a virtual IP address, use the virtual IP address to create the instance.
- **3.** Enter the OME-Modular IP address, name, username, and password.

Add OME-M Ir	nstance		×	@ omi	
OME-M Address	100.94.81.3 FQDN, IPv4, or IPv6 Address	_			
OME-M Name	OME-Modular Descriptive Name	l		Ŧ	
User Name	OMNI_USER	l			
Password	•••••	0			
Note: OMNI_USER is the	e recommended User Name for (OME-M			
		CANCEL	ADD		

4. Click Add.

The system displays OME-Modular instance creation success message. **OME-M** page displays the list of the service instances available in the OMNI appliance.

OME-M page displays the following information:

- OME-M Instance—Displays the list of IP address or FQDN of the OME-M instance.
- OME-M Name—Displays the name of the OME-M.
- User Name—Displays the username for OME-M.
- Maintenance Mode—Displays status of Maintenance mode of the OME-M instance.
 - Gray—Maintenance mode is Off or disabled.
 - Green—Maintenance mode is On or enabled.
- Config Status—Displays the status of the OME-M instance.

Enable or Disable OMNI automation for OME-Modular

With 2.1 release, you can use the toggle switch to enable or disable the Maintenance mode for each OME-M instance. Disable automation for the OME-Modular instance by changing the mode from In Service to Under Maintenance mode.

1. Click the toggle switch to change between the modes. The system prompts for confirmation to change the mode.

2. Click Ok to confirm.

Enabling Maintenance mode prevents OMNI from configuring networks on the instance when there are changes in the vCenter port groups and disables the UI navigation for that instance.

Edit OME-Modular instance

Use the following procedure to edit the name of the OME-Modular instance:

- 1. Click OMNI Home > OME-M.
- $\label{eq:2.2} \textbf{Select the OME-M instance that you want to edit and click \textbf{Edit}.}$
- 3. Enter the required details and click **Submit**.

OMNI Config	Edit OME-M Inst	ance		Х ⑦ омм
CREFRES	OME-M Address	100.94.81.3 FQDN, IPv4, or IPv6 Addre	255	
оме	OME-M Name	OME-Modular1 Descriptive Name		Y
	User Name	OMNI_USER		
	Password	•••••	<u></u>	
	Note: OMNI_USER is the recon	nmended User Name foi	r OME-M	вміт

The system displays OME-Modular instance edit success message. **OME-M** page displays the list of the service instances available in the OMNI appliance.

Delete OME-Modular instance

You can delete OME-Modular instance from OMNI.

- 1. Select the OME-Modular instance that you want to delete and click Delete.
- 2. Click **Delete** to confirm.

The system displays OME-Modular instance delete success message.

Register OMNI with vCenter

Register OMNI with the vCenters that are associated with the MX servers, see Register vCenter with OMNI. When adding the vCenter instance, set the Automation option to **True** to enable the automation services for that vCenter.

View OME-Modular instance

To view the details of the OME-Modular instance, select the OME-Modular instance. OMNI displays a link to OME-Modular console, and you can launch the OME-Modular console by clicking the link.

〇 OMNI Home	Compose Me-Modular
 SmartFabric SFS_2 	OME-M Console
✓ OME-M	

You can also view the relationship information between the registered vCenter and the OME-Modular. For more information, see View relationship status.

D≪LL EMC OpenManage	e Network Integration		Log Out
CMNI Home	OMNI Configuration SmartFabric N	NSX-T OME-M vCenter Instanc	e <u>Relationships</u> ③ OMNI Information
	Service V 172.16.11.150	т Туре dynamic	
			r - r or r readorisings

OMNI automation services for OME-Modular

After you add an OME-Modular instance and register the respective vCenters, OMNI creates automation services for the added vCenter instances. You can view the vCenter automation services from OMNI Appliance Management UI. For more information, see here.

- () NOTE: When you update the MX7000 firmware, Dell Technologies recommends stopping the OMNI automation services for the respective OME-M instance manually. To stop the automation service, select the relevant OME-Modular instance and change the state to Maintenance mode. For more information about disabling automation services, see Register vCenter with OMNI.
- **NOTE:** When the OME-M is not reachable from OMNI, the automation services for the OME-Modular instance must be restarted manually after the network connection is reestablished. OMNI synchronizes the vCenter configuration changes with OME-Modular only after you restart the automation services.

OMNI VLAN automation

During OMNI VLAN automation, OMNI associates the newly created VLAN to the SmartFabric uplinks and servers, and it does not apply to the server templates. Following table lists the detailed OMNI automation actions for various configuration scenarios:

Configuration scenarios	OMNI automation action
For a port group VLAN creation in vCenter	 OMNI checks if the VLAN is already configured in OME-Modular. If it exists, OMNI uses the existing VLAN. If not, OMNI creates a VLAN in OME-Modular. NOTE: In vCenter, trunk VLAN or private VLAN for port groups is not supported. OMNI associates the newly created vCenter VLAN to the SmartFabric Ethernet uplinks and related servers. NOTE: OMNI does not associate VLANs to the SmartFabric uplinks when there is more than one Ethernet uplink in the SmartFabric. Assign VLANs manually to the uplinks using the OME-Modular UI.
For a port group VLAN deletion from vCenter	OMNI removes the VLAN associated with the related servers, but not from the uplinks. OMNI does not remove the VLAN configuration from OME-Modular.
On deletion of OMNI-created VLAN from OME-Modular	During synchronization, OMNI adds the removed VLANs back to the corresponding servers and uplinks in OME-Modular.

Table 19. OMNI automation scenarios

Table 19. OMNI automation scenarios (continued)

Configuration scenarios	OMNI automation action
On removal of OMNI-created VLAN from an uplink in OME- Modular	During synchronization, OMNI adds the VLANs back to the corresponding uplink in OME-Modular.

View OMNI-created VLANs in OME-Modular

You can use OME-Modular console to view the configuration changes done by OMNI as part of automation. In OME-Modular, the OMNI-created VLAN has the naming convention of NETWORK_<ID> for the name and OMNI NETWORK_<ID> - DO NOT DELETE for description.

Open	nManage Enterp	prise Modular				Search Everything	1	Q	C 506	28734	🔒 root	?	i
🕈 Home	🗏 Devices 🗸	🔗 Configuration 🗸	🚩 Alerts 🗸	🖼 Monitor 🗸	Application Se	ettings 🗸							×
🖗 Conf	figuration												Í
Firmware	Compliance	Deploy Identity Po	ools VLAN	5									
Define		Export - Import	. •										- 1
		DESCRIPTION					VLAN ID						11
ESXi-M	IGMT						1611	^					
D NETWO	ORK_1000	OMNI NETWORK	_1000 - DO NOT	DELETE			1000						
D NETWO	ORK_1007	OMNI NETWORK	_1007 - DO NOT	DELETE			1007						
D NETWO	ORK_1010	OMNI NETWORK	_1010 - DO NOT	DELETE			1010						
□ NETWO	DRK_2007	OMNI NETWORK	_2007 - DO NOT	DELETE			2007						
D NETWO	ORK_3007	OMNI NETWORK	_3007 - DO NOT	DELETE			3007 2007						1
NETWO	ORK_700	OMNI NETWORK	_700 - DO NOT [DELETE			700						- 1
NETWO	ORK_701	OMNI NETWORK	_701 - DO NOT [ELETE			701						- 1
□ NETWO	ORK_800	OMNI NETWORK	_800 - DO NOT [ELETE			800						
NETWO	ORK_801	OMNI NETWORK	_801 - DO NOT [DELETE			801	~					

9

OMNI automation support for NSX-T

Starting from 2.0 release, OMNI manages fabric automation for NSX-T. NSX-T is a network virtualization product of VMware that programmatically creates, deletes, and restores software-based virtual networks. For more information about NSX-T, see VMware product documents.

Prerequisites

Ensure that the following prerequisites are met to support OMNI automation services for NSX-T:

- For OMNI 2.1 release, the SmartFabric OS10 version running on the PowerSwitches should be 10.5.2.7 or a later version that
 is listed in the SmartFabric OS10 Solutions matrix. Minimum version of NSX-T supported by OMNI is 3.0.2.
- Servers must be deployed and onboarded in SmartFabric.
- NSX-T Manager cluster must be running and reachable to OMNI.
- The vCenter that is registered with OMNI should be configured as a compute manager in NSX-T.
- OMNI must have connectivity with SmartFabric and vCenter that is registered with OMNI.

NOTE: Dell Technologies recommends you to use vCenter VDS over NSX-T managed VDS (NVDS) as NVDS is not supported.

Workflow to integrate NSX-T with OMNI

Use the following information to integrate NSX-T with OMNI for automation.

Ensure that the prerequisites are met before starting the workflow to integrate NSX-T with OMNI for automation.

- 1. You add the NSX-T Manager instance in OMNI.
- 2. OMNI starts automation for NSX-T and synchronizes the networks from NSX-T.
- 3. You configure L3 properties for host and edge overlay networks manually after the networks are connected by automation.
- 4. OMNI configures multi rack L3 VLAN IP address and BGP peer routing policies for edge uplinks automatically.
- **NOTE:** OMNI supports only BGP as a dynamic routing protocol between Tier-0 gateways and physical routers, and does not support OSPF.

Add NSX-T instance

To manage the automation for NSX-T using OMNI, add the NSX-T Manager instance in OMNI. From OMNI 2.0 release, you can add one NSX-T Manager instance in a single OMNI VM.

() NOTE: If the NSX-T deployment uses L2 uplinks from the SFS fabric to connect to the external network, do not add the NSX-T instance in OMNI. Use the bulk configuration option to configure the host and edge overlay networks, see Bulk configuration or create the host and edge overlay networks using Multi-Rack L3 VLAN option in OMNI, see Configure multi rack L3 VLAN.

To add the NSX-T instance:

- 1. Click OMNI Home > NSX-T.
- 2. Click Create.
- 3. Enter the NSX-T Manager cluster virtual IP address or FQDN, name, username, and password.
- 4. Click Add.

D&LLEMC OpenManage	e Network Integra	ation				Log Out
	OMNI Configi	Add NSX-T In:	stance		×	
	C REFRES	NSX-T Address	100.94.79.211 FQDN, IPv4, or IPv6 Address			
	NSX	NSX-T Name	NSX-T Manager Descriptive Name			
		User Name	admin			
		Password Note: admin is the reco	mmended User Name for NSX-	CANCEL	DD	

The system displays NSX-T instance creation success message.

NSX-T page displays the following information:

- NSX-T Instance—Displays the list of IP address or FQDN of the NSX-T instance.
- NSX-T Name—Displays the name of the NSX-T.
- User Name—Displays the username for NSX-T.
- Maintenance Mode—Displays the Maintenance mode of the NSX-T instance.
 - Gray—Maintenance mode is Off or disabled.
 - Green—Maintenance mode is On or enabled.
- Config Status—Displays the status of the NSX-T configuration.

Enable or Disable OMNI automation for NSX-T

With 2.1 release, you can change the Maintenance mode between In Service and Under Maintenance states using the toggle switch.

- 1. Click the toggle switch to change between the modes. The system prompts for confirmation to change the mode.
- 2. Click Ok to confirm.



Enabling Maintenance mode prevents OMNI from configuring networks on the instance when there are changes in the vCenter port groups and disables the UI navigation for that instance.

Edit NSX-T instance

You can edit the name of the NSX-T instance.

- 1. Select the NSX-T instance that you want to edit and click Edit.
- 2. Enter the required details and click Submit.

OMNI Config	Edit NSX-T Ins	stance		×	@ omni	
	NSX-T Address	100.94.79.212 FQDN, IPv4, or IPv6 Address			e	
• 100	NSX-T Name	NSX-T Manager Descriptive Name	<u> </u>		SERVICE	
	User Name	admin				
	Password		0			
			CANCEL	SUBMIT		

The system displays NSX-T instance edit success message.

Delete NSX-T instance

You can delete NSX-T instance from OMNI.

- 1. Select the NSX-T instance that you want to delete and click **Delete**.
- 2. Click **Delete** to confirm.

The system displays NSX-T instance delete success message.

OMNI automation for NSX-T

After you add the NSX-T Manager as an instance in OMNI, OMNI automation discovers the relationship between the entities such as NSX-T Manager, vCenter, and the SFS instance.

NOTE: It may take few minutes to populate the relationship information and the related networks that are created by OMNI automation.

uration SmartFabric NSX	S Type	ter Instance Relationships ③ OMNI Information
e	т Туре	T Relationships T
.79.223	dynamic	instances
Manager	dynamic	(instances (1)) • 100.94.79.223
Ma	nager	inager dynamic

As part of automation, OMNI does the following automation tasks:

• Creates host and edge overlay networks. OMNI notifies the creation of host and edge overlay NSX-T networks using UI alerts. You must configure the L3 properties of the overlay networks manually.

NOTE: In NSX-T deployment, when you add a host to a new rack, you must update the L3 properties of the host overlay network for the new rack manually.

- Creates edge uplink networks with IP address configured.
- Tags the above networks that are created to the corresponding server interface profiles and synchronizes NSX-T networks.
- Creates the route policies for NSX-T Tier-0 interfaces with a name of the Tier-0 interface and associates the policies with the switches on the edge rack.
- **NOTE:** If you want to manually configure the SmartFabric for NSX-T deployment, you must not add the NSX-T instance in OMNI.

OMNI behavior

- OMNI creates all NSX-T networks as multirack L3 VLAN networks.
- If OMNI NSX-T automation service is running while NSX-T configuration is in progress, OMNI might display error alerts while the NSX-T is partially configured. You can check and acknowledge the alert messages once the configuration is complete and OMNI automation is successful.
- If you have added an NSX-T instance in OMNI with a preconfigured SmartFabric with BGP policies or networks, OMNI
 notifies the relevant errors if there is a mismatch between the SmartFabric network configuration and NSX-T. If there is no
 mismatch, OMNI uses the existing configuration.

The following table lists the OMNI alert message for the configurations that are done manually:

Table 20. OMNI behavior

Manual configuration	Behavior	Alert message	Recommendation
Configure the rack settings of the edge rack for each uplink network with an	If OMNI identifies an existing uplink network with the same IP address and prefix, it uses the existing network and does not create a network.		
IP address and prefix.	If the uplink network already has the edge rack configured with a different IP address and prefix, OMNI notifies the information as alerts.	Rack {rack_id} already configured for {network_id}	You can manually edit the configuration with the alert message information or delete existing network so that OMNI automation can create it.
	If the uplink network already has a rack with the IP and prefix combination that OMNI wants to use to configure the edge rack, it notifies the information.	<pre>'\'{ip}\' already exists on Rack {rack_id} for {network_id}</pre>	

Table 20. OMNI behavior (continued)

Manual configuration	Behavior	Alert message	Recommendation
Create a routes policy for NSX- T Tier-0 interface.	If OMNI identifies an existing route policy with the same peer interface details and AS number, it uses the existing policy and does not create a route policy.	_	_
	If OMNI identifies a route policy that has the same name that OMNI wants to use, but contains a different peer ASN and interface IP address details, OMNI notifies the information as alerts.	Route Policy: {id} already exists with mismatches on the following fields: {fields}	You can delete the existing policy so that OMNI automation can create it.

View NSX-T instance

After the NSX-T instance is successfully added, the instance is listed as an entry in the **OMNI Home** left pane.

D∻LL EMC OpenManag	ge Network Integration	Log Out
습 OMNI Home	Related vCenters	
 SmartFabric SFS_2 	 ✓ vCenter: 100.94.79.223 ✓ SmartFabric: SES_2 	
∨ NSX-T	C GO TO NETWORKS GO TO SERVER INTERFACE TRIGGER AUTOMATION	
	Network ID T VLAN ID T Server Interface	
	> uplink-01_1847 1847 Server Interfaces @	
	> uplink-02_1848 1848 Server Interfaces	
	> host_overlay_profile2_2502 2502 Server Interfaces Image: Server Interfaces	
	> edge_overlay_profile_1849 1849 Server Interfaces	
	Networks per page 10 × 1 - 4 of 4 Networks	

In the left pane, under **OMNI Home**, select the NSX-T instance to view the list of networks that are created by OMNI automation. OMNI displays the vCenter information that is related to the specific NSX-T instance. You can click the vCenter to see the SmartFabric instances that are associated with that instance. When you click a SmartFabric instance, OMNI displays the list of networks that are synchronized from NSX-T and the server interface profiles that are tagged to the NSX-T networks. The NSX-T page displays direct links to **Network** and **Service Interface** configuration tabs of the SmartFabric instance. Click **Trigger automation** to trigger the OMNI automation manually. This action synchronizes the changes in NSX-T to OMNI.

Edit Layer 3 NSX-T networks

After the networks are synchronized from NSX-T, complete the Layer 3 networks configuration in OMNI.

1. From NSX-T instance page, click **Go to Networks**. The click action goes to the **Networks** tab of the SmartFabric instance directly.

2. Click Multi-Rack L3 VLAN to see the list of the NSX-T networks that are synchronized by OMNI.

	ge Network Integration	Log Out
 ✓ OMNI Home ✓ SmartFabric ✓ SFS_2 	SmartFabric Instance NSX-T Manager Summary Topology Switches Server Interface Uplink Network Global Settings Life Cycle Management Networks Routing Configuration	Serviceability
✓ NSX-T	✓ Multi-Rack L3 VLAN C +CREATE ØEDIT ×DELETE	
	Network ID T VLAN ID T	
	uplink-01_1847 1847	
	uplink-02_1848 1848	
	host_overlay_profile2_250 2502	
	dge_overlay_profile_1849 1849	
	Networks per page 10 \checkmark 1 - 4 of 4 Networks	

3. Edit the host and edge overlay networks and assign IP address manually for host and edge overlay. To edit the Layer 3 settings, see Configure multi-rack L3 VLAN.

Click **Go to Server Interface** to go to the **Server Interface** configuration of the SmartFabric instance. Configure server interface profiles and edit the networks from this page, see server interface profile.

Lifecycle management

This chapter explains common lifecycle operations of upgrading the SmartFabric OS10 and OMNI appliance, replacing a switch, and backup and restoring the SmartFabric.

NOTE: The Lifecycle management features are not supported on OME-Modular instances. For more information, see OMNI feature support matrix.

Using Life Cycle Management menu, you can:

- Change SmartFabric password.
- Upgrade SmartFabric OS10 image.
- Replace a switch in a network fabric.
- Fabric backup and restore.

Change SmartFabric password

You can change the REST_USER password of the SFS instance:

- 1. Select the SmartFabric instance > Life Cycle Management > SmartFabric Password Change.
- 2. Enter the current password for the REST_USER, the new password, confirm the new password.
- 3. Click Update Password.

The system displays password update success message.

Upgrade SmartFabric OS in switch

You can upgrade SmartFabric OS from OMNI VM.

From OMNI, you can upload an OS10 image to upgrade the switches in SmartFabric.

NOTE: This instruction is applicable for SmartFabric instance. To upgrade OS10 on MX switches, use OME-M console. For more information, see PowerEdge MX documents.

You can upgrade OS using the following steps:

- Upload the latest image in the OMNI VM.
- Upgrade fabric using the uploaded image.
- (Optional) Delete the image from the OMNI VM.

Upload image

Upload an OS10 image to the OMNI VM:

1. Select the SmartFabric instance > Life Cycle Management > Upgrade OS.

Summary	Topology	Switches	Bulk Configura	ation Server Interface	e Uplink	Network	Global Settings	Life Cycle Manage
Life Cycle	Manageme	ent						
🔅 SmartFab	ric Password	Change	🔅 Upgrade OS	📾 Replace Switch		and Restore		
C :	↑ UPLOAD	OPGRA	DE FABRIC \times	DELETE IMAGE 🚺				
Name								Ŧ
				\bigtriangledown				
				There are no imag	ges!			

- 2. Click **Upload** to upload the .bin file.
- 3. Click Choose File to upload the file to OMNI.
- 4. Click Upload. The system displays the upload progress.

Life Cycle I	Uploa	d Image				stara	
	Choose	e File PKGS_C	DS10-Entaller-x86_64.b	in		store	
				CANCEL	UPLOAD		
			Tr	ere are no image	es!		

Upgrade fabric

Click the informational icon to see the current SmartFabric OS version. Upgrade the switches in a fabric with an OS10 image: 1. Select the .bin image and click Upgrade Fabric.

A CmartEabric Decoward Chang	re 🛱 Ungrade OC 🖂 Deplace Switch 🔅 Realiup and Restore	
i sindri Fabric Password Chang	ge 🤯 Opgrade OS 🔤 Replace Switch 🤯 Backup and Restore	
	PORADE FABRIC X DELETE IMAGE	
Name		7
• PKGS OS10-Enterprise-10.5	5.2.6P1.365stretch-installer-x86 64.bin	

NOTE: Upgrade Fabric option upgrades all the switches in a network fabric. You cannot stop the upgrade after it is triggered.

2. Click **Upgrade** to confirm. Dell Technologies recommends you to take the backup configuration using **Backup and Restore** before initiating the upgrade.

The system displays fabric upgrade success message.

After you initiate the fabric upgrade, you can see the progress of the upgrade from this menu. As part of upgrade, each switch in the fabric is installed with the new version of OS10 and the switch reboots to complete the upgrade process. OMNI checks each switch in the fabric, one at a time to ensure maximum uptime during the upgrade process.

Life Cycle Mar	nagement		
🚯 SmartFabric P	assword Change	Upgrade OS 🛛 📾 Replac	e Switch 🛛 🛞 Backup and Restore
Fabric 100 (Aut Upgrading noo Switch	toFab-100) OS Upgra de 7QYHPK2)2021-0 Upgrade Status	ade In Progress 7-08 02:06:55 UTC Date & Time	
3QYHPK2 (SiteBLeaf4)	Finished	2021-07-08 01:55:35 UTC	
7QYHPK2 (SiteBLeaf3)	Installation In Progress	2021-07-08 02:06:55 UTC	
JRQQG02 (SiteBSpine)	Finished	2021-07-08 02:06:51	

Delete image

Delete the OS10 image uploaded in the OMNI VM:

- 1. Select the .bin image to delete and click **Delete Image**.
- 2. Click Delete to confirm.

The system displays delete image is success.

Replace switch in a fabric

You can replace the faulty OS10 switch in a SmartFabric.

NOTE: This instruction is applicable for SmartFabric instance only. To replace a switch in MX, follow the instructions that are provided in the MX documents. For more information, see PowerEdge MX documents.

To replace a switch:

- 1. Identify the OS10 switch to be replaced and label each of the cables with the port numbers before disconnecting the cables.
- 2. Back up the following configurations from the faulty switch to configure the new switch with the same details:
 - Hostname
 - Management IP address
 - DNS and NTP IP addresses if configured
 - Spanning-tree mode

(i) NOTE: In SmartFabric Services mode, RPVST+ is enabled by default on the uplink interfaces.

- Other nonfabric commands
- **3.** Ensure that the new switch has the same OS version as the faulty switch. You can check the version using the following command:

OS10# show version

- **4.** Power off the existing switch to prevent data traffic loss in the cluster.
- 5. Remove the ICL and uplink connections from the existing switch, and connect to the new switch.

(i) NOTE: Do not remove connections to VxRail nodes until the new switch is in SmartFabric Services mode.

(i) NOTE: Ensure that the ICL ports are connected to the other leaf switch which is already in SmartFabric Service mode.

- 6. Enable SmartFabric Services on the new switch and define the ICL ports.
 - For L2 personality—Enable SmartFabric Services on the new switch, and define the breakouts, uplinks, interlink ports, plus any other parameters such as management VLAN, LACP, VLAN tagging, and so on.

For example, if the uplink port is 1/1/4 and the interlink ports are 1/1/29,1/1/30, no VLAN tagging, LACP auto, management VLAN 1 as default.

:~\$ sfs_enable_vxrail_personality.py -i 1/1/6,1/1/8 -u 1/1/4 -1

• For L3 personality—Enable SmartFabric Services on the new switch using the smartfabric l3fabric enable role command. Example:

OS10# smartfabric l3fabric enable role LEAF vlti ethernet 1/1/29-1/1/30

For more information about enabling SmartFabric Services, see Dell EMC SmartFabric OS10 User Guide Release 10.5.0.

7. The new switch reboots and is placed in SmartFabric Services mode.

(i) NOTE: During reboot, the configurations are synchronized in the new switch and it takes several minutes.

- 8. Connect VxRail server ports to the new switch one-by-one to bring up the switch ports and advertise LLDP.
- **9.** Review the command outputs on both switches for same configurations. Use the following commands to validate the configurations:
 - OS10# show vlan

(i) NOTE: The command displays if the switch is a primary or secondary peer.

- OS10# show vlt 255
- OS10# show lldp neighbor

10. After ensuring all the configurations are up and running, login to OMNI. From **OMNI Home** > SmartFabric instance > **Life Cycle Management** > **Replace Switch** to complete the switch replacement workflow.

SmartEabric Dass	word Change	(Upgrada O		b 🛱 Rackup and Postoro	
	word change	ver opgrade O:			
Old Switch	Leaf1 (BC	Q700Q2) V			
New Switch	Leaf2 (G	GVQG02)	\checkmark		

11. Select the switch that you want to replace from the list, select the new switch, and click **Replace**. The system displays switch replace success message.

Back up and restore the fabric configuration

You can save the current fabric configuration in a repository, and restore the data using a backup file when an error or failure occurs.

(i) NOTE: This instruction is applicable for SmartFabric instance only and not supported on OME-M instance.

From OMNI, using the Fabric backup and restore feature, you can:

- Set a local or remote repository.
- Back up the configuration of a select fabric in the OMNI VM.
- Download the backup files to the local system.
- Delete the downloaded backup from the OMNI VM.
- Upload or import the fabric backup file from the local or remote repository to the OMNI VM.
- Restore the fabric from a backup file.

() NOTE: The fabric backup and restore features are supported from the OS10.5.0.7 version. If the OS10 software version is less than 10.5.0.7, the system displays a message that backup is not supported for the software version and all the backup and restore functions are disabled.

Set Repository

To backup the configuration, set up a local repository on the OMNI VM or a remote repository to store the backup files. OMNI supports File Transfer Protocol (FTP), Secure Copy protocol (SCP), and Secure File Transfer Protocol (SFTP) to transfer the backup files to a remote repository. You can either set a local or a remote repository at a time. To change the backup repository, edit the repository setting accordingly.

(i) NOTE: If OMNI is deployed within the same cluster, Dell Technologies recommends you to use remote backup repository.

Set a local repository

- 1. Select the SmartFabric Instance > Life Cycle Management > Backup and Restore.
- 2. From Backup and Restore tab, click Set Repository.
- 3. Select Local.
- 4. Click Submit.


The system displays local repository configuration success message.

Set a remote repository

- 1. From Backup and Restore tab, click Set Repository.
- 2. Select Remote.
- **3.** Select the protocol (FTP, SCP, or STFP) from the list.
- 4. Enter the Hostname, Username, and Password details.
- 5. (Optional) Enter the **Repository Path** details.
- 6. Click Submit.

				×	
Dianco chi	acco one from the	bolow		0.000	
	bose one from the) Delow			
	rup to Omini mesystem)				
V Remote (II	.p/scp/srtp)				
Required					
				esto	
Protocol	ftp v Select proto	col			
11010001				AC	
Hostname	localhost				
Username	delawareos10				
Password	•••••	\odot			
	harry Dath				
•Option	nal. If not specified, uses	repository defa	ult home		
•Absol	ute or relative path	, ,			
•OMNI	will attempt to create pa	ath if doesn't exis	st s alort		
•railule	s such as remote permi	ssion reported a	s diei t		
Repository		Optional		and a second	
Path					
			CANCEL		
			CANCEL	SUBMIT	

The system displays remote repository configuration success message.

Edit repository

You can edit the repository type that is already set:

- 1. From Backup and Restore tab, click Edit Repository.
- 2. Edit the repository type, enter the required details if prompted, and click Edit.

() NOTE: When you edit the repository from local to remote, the backup files from the local OMNI VM are transferred to the remote repository. If you change the repository from remote to local, they backup files are not transferred to local OMNI VM.

Backup fabric configuration

To backup the fabric configuration:

- 1. Select Life Cycle Management > Backup and Restore.
- 2. Click Backup Now.
- $\ensuremath{\textbf{3.}}$ Enter the description for the backup file.
- 4. Click Ok.

Summary		gs Life Cycle.
		×
Life Cycle I	Enter Backup Description	
😳 SmartFabr	backup1	store
C 6		ACKUP 🖉 E
	(i) Note: Fabric Backup will backup SFS applied configuration for	
Name	on individual switches has to be backed up using switch CLI.	Description
		_
	CANCEL	
		Backup Files per page

The backup file is stored as a JSON file.

- () NOTE: The backup action stores SFS-applied configuration for the whole fabric. Any OS10 system configuration that is done on the individual switches directly has to be backed up using the OS10 CLI. For more information about how to backup the configuration, see *Dell EMC SmartFabric OS10 User Guide*.
- 5. The system displays backup completed success message.

Download backup

You can download a backup file from the OMNI stand-alone VM to the local system. This option is available only when OMNI is accessed as a stand-alone application.

- **NOTE: Download** option is not available when OMNI is launched as a plug-in from vCenter. Hence, you cannot download the backup JSON configuration files using OMNI plug-in.
- 1. Select **Backup and Restore** tab, and select the backup JSON file that you wanted to download from the list.
- 2. Click Download.

The file is downloaded locally with the backup download success message.

Delete backup

You can delete a backup file from the OMNI VM.

- 1. Select Backup and Restore tab.
- 2. Select the backup file that you want to delete from the displayed list, and click Delete.
- 3. Click **Delete** to confirm.

The system displays backup deleted success message.

Upload backup

You can upload a backup file from the local system to the OMNI VM.

1. From Backup and Restore tab, click Upload Backup.

2. Enter the description and choose the file that you want to upload.

		_	
Summary	Upload Backup	gs	
Life Cycle I			
③ SmartFabr	Description second	store	
C 6		ACKU	
Name	Choose File sf_100.104.26.32-1589566283.json	Ŧ	
o sf_100			
	CANCEL	ckup F	

3. Click Upload.

The system displays upload file success message.

(i) NOTE: OMNI displays error if the uploaded file is not in the JSON format.

Restore from a backup file

You can restore the configuration running on the SmartFabric using a backup file during unexpected error situation or disaster.

- CAUTION: Restore action is disruptive and cause connection downtime and traffic loss. The restore action erases all fabric configuration and restarts the entire fabric with the configuration in the backup file. It is highly recommended to use the restore action during a maintenance window.
- 1. Select Life Cycle Management > Backup and Restore.
- 2. Select the backup file from which you want to restore the configuration, and click Restore.

							Life Cycle Ma	anagement
Restore Co	onfiguratio	ON estore Operati	on. The restore opera	ition is <mark>disru</mark>	ptive and will	result in connectivity	and traffic	
loss. The Fal highly recom downtime. Do you want	bric will be torn nmended to car t to proceed wi	-down (switch ry out the rest th the Restore	es will be reloaded to ore operation during ?	gether) and a maintenar	I rebuilt with th	ne backed-up JSON f order to plan around	ile. It is I the	REPOSITO
					CANCEL	GET DIFF	RESTORE	<u>×</u> 1-1

() NOTE: The restore action reboots all the switches with the applied fabric settings. Any manual configuration that are performed directly on individual switches has to be restored manually using the OS10 CLI. For more information about how to restore the configuration, see *Dell EMC SmartFabric OS10 User Guide*.

(Optional) Click Get Diff to compare the current configuration with the configuration in the backup file.
 Configuration Diff View displays the detailed comparison between the current and backup configuration.



4. To proceed with the restore action, select the checkbox to confirm, and click Restore.

Once you initiate the restore process, OMNI appliance changes the SmartFabric instance state to Maintenance mode automatically, which stops all the fabric automation services for that SmartFabric instance.

5. The system displays the restore success message.

When the fabric restore is complete, change the Maintenance mode of the SmartFabric instance to **In Service**. For more information about Maintenance mode, see Maintenance mode.

6. For internal vCenter environment, restart the vCenter manually from the Platform Service Controller page. For more information about restarting the vCenter, see VMware vSphere Documentation.

Upgrade OMNI appliance

This section explains how to upgrade the OMNI appliance in two ways.

When upgrading OMNI VM from 1.3 to 2.0 or a later version , you can install the OMNI .ova file using new installation or upgrade OMNI using the .zip file.

Upgrade OMNI - new installation

Follow the below steps when upgrading OMNI appliance from older version (1.1 or 1.2) to 1.3 and later versions:

1. Prerequisite

Save the following details:

- IP address or hostname of the SmartFabric instances that are manually added in the OMNI VM.
- IP address or FQDN information of all the vCenters that are registered with the OMNI VM.
- IP address or hostname of the OMNI VM.
- Details of the ens192 and ens160 interface settings.
- 2. Unregister the vCenter from OMNI VM, see here.
- 3. Shut down the older OMNI VM.
- 4. Deploy the new OMNI VM using the latest OMNI OVA file, see Create OMNI virtual appliance.
- 5. Configure the OMNI VM with the documented settings and complete the full setup, see Set up OMNI.

Upgrade OMNI

You must be in the OMNI VM console to use these steps and only applies to the OMNI minor release upgrade. You can also upgrade OMNI from 1.3 to 2.0 or later using this upgrade workflow.

To upgrade OMNI appliance:

- 1. Download the OMNI upgrade image from the Dell EMC Support portal and store the image on an SCP server. Check the existing version.
- 2. From the OMNI VM console, select the option 5. Upgrade Appliance.

Menu

- 0. Full setup
- 1. Show version
- 2. Interface configuration menu
- 3. OMNI management service menu
- 4. Password/SSL configuration menu
- 5. Upgrade appliance
- 6. Reboot appliance
- Show EULA
- 8. Logout

Enter selection [0 - 8]: 5_

The display lists all the applications which can be upgraded along with the old and new versions. Upgrading requires restarting the services.

3. Enter the SCP server IP address or hostname, username, and the path to the upgrade .zip file and password.

Welcome to Dell EMC OpenManage Network Integration (OMNI) management Menu 0. Full setup Show version 1. Interface configuration menu 2. З. OMNI management service menu 4. Password/SSL configuration menu 5. Upgrade appliance 6. Reboot appliance Show EULA 8. Logout Enter selection [0 - 8]: 5 2020-11-19 05:20:52 INFO [setup.sh] Getting the upgrade file Remote SCP server IP/hostname: 100.104.26.58 Username: admin Path to the upgrade zip file: /tmp/OMNI-upgrade-2.0.83.zip_ 4. Verify all information, then enter **Y** to continue. 5. Verify the OMNI version. Welcome to Dell EMC OpenManage Network Integration (OMNI) management

Menu

- 0. Full setup
- Show version
 Interface configurat
- Interface configuration menu
 OMNI management service menu
- 4. Password/SSL configuration menu
- 5. Upgrade appliance
- 6. Reboot appliance
- 7. Show EULA
- 8. Logout

Enter selection [0 – 8]: 1 OMNI appliance version(2.0.68) OMNI vSphere client plugin version(2.0.83) press [enter] to continue...

- 6. After you upgrade OMNI, close the active OMNI browser. Open a new browser and log in to OMNI to see the new or upgraded UI changes.
- 7. Unregister and register the vCenter again using OMNI UI, see Register vCenter with OMNI.

Before upgrading to OMNI from 1.3 to 2.0 or a later version using this upgrade workflow, change the hardware profiles for the VM. To change the hardware details, follow these steps:

1. Go to vCenter and shut down the OMNI VM.

vm vSphere Client	Menu 🗸 🛛 🔍 Search in all env		C @~	Administrator@VSPHERE.LOCAL V
↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ </td <td>OMNI-2.O-Padma Monitor Configu Monitor Configu Compa Co</td> <td>Permissions Datastores Networks ACTIONS Permissions Datastores Networks OS: Debian GNU/Linux 10 (64-bit) atibility: ESXi 6.7 and later (VM version 14) re Tools: Running, version:10346 (Guest Managed) More Info More Info Inf</td> <td>5 Updates</td> <td> CPU USAGE 114 MHz MEMORY USAGE 327 MB STORAGE USAGE 14.05 GB </td>	OMNI-2.O-Padma Monitor Configu Monitor Configu Compa Co	Permissions Datastores Networks ACTIONS Permissions Datastores Networks OS: Debian GNU/Linux 10 (64-bit) atibility: ESXi 6.7 and later (VM version 14) re Tools: Running, version:10346 (Guest Managed) More Info More Info Inf	5 Updates	 CPU USAGE 114 MHz MEMORY USAGE 327 MB STORAGE USAGE 14.05 GB
_	VM Hardware	✓ Note:	5	^
	Related Objects		otes	
	Host	100.104.26.3 Custo	om Attributes	~
	Networks	VM Network	bute	Value
Recent Tasks Alarms				1

2. Click the Edit Settings menu from the OMNI VM page.

vm vSphere Client	Menu 🗸 🛛 🔍 Search	n in all environments	C 0 ~	Administrator@VSPHERE	
	🗄 OMNI-2.0	🕨 🔲 🛃 🔯 🛛 ACTIONS 🗸			
> 🔁 100.104.26.62	Summary Monitor	Configure Permissions Datastores Network	ks Updates		
 ✓ ☐ 100.104.26.63 ✓ ☐ Datacenter ✓ ☐ 100.104.26.3 		Guest OS: Other (32-bit) Compatibility: ESXI 6.7 and later (VM version 14)	red		CPU USAGE O Hz
☐ Kumaragurunode3 ☐ OMNI-1.3.24	Powered Off	More info DNS Name:	Jed)		MEMORY USAGE
OMNI-2.0	Launch Web Console	IP Addresses: Host: 100.104.26.3			STORAGE USAGE
vCenter_81	Launch Remote Console	0			
WindowsServer201	VM Hardware	✓ Not	es		^
	Related Objects	Edit	Notes		
	Host	Cust	tom Attributes		<u>^</u>

3. Change the Memory and Hard disk 1 settings. Set Memory to 8 GB and Hard disk to 80 GB.

(i) **NOTE:** When you upgrade OMNI VM using .ova file, you do not have to change these settings as it is installed automatically with the above configurations.

	Virtual Hardware VM Options			_
.104.26.62	> CPU	4 ~	0	
.104.26.63 Datacenter	> Memory *	8 GB ~		CPU USAGE
100.104.26.3	> Hard disk 1 *	80 GB ~		MEMORY USAGE
D OMNI-2.0	> SCSI controller 0	LSI Logic Parallel		0 B
🔂 OMNI-2.0-Padma	> Network adapter 1	VM Network >	Connect	STORAGE USAGI
VCenter_81 VMware vCenter	> Network adapter 2	VM Network $ \smallsetminus $	Connect	
WindowsServer2	> CD/DVD drive 1	Client Device ~	Connect	^
	Video card	Specify custom settings ~		

4. Power On the OMNI VM after setting the required configurations.

Troubleshooting

Use the following information to troubleshoot some of the common problems that occur with vCenter and OMNI appliance connectivity, OMNI UI launch, SmartFabric instance configurations, and OMNI automation.

Troubleshooting tools

Use the following tools when you run into any issues or during troubleshooting.

Logs and support data for troubleshooting

You can generate a support bundle with error and debug logs using OMNI. These logs can help you to identify, diagnose, and debug problems.

Dell Technologies recommends downloading the support bundle from the OMNI Appliance Management UI. By default, the log-level in OMNI appliance is set to ERROR. You can toggle the appliance log setting between ERROR to DEBUG. Change the log-level appropriately for each service and download the support bundle, see OMNI Appliance Management UI.

NOTE: Dell Technologies recommends setting the log level to DEBUG when you are experiencing any appliance issue and want to generate a support bundle.

If you cannot access the UI, use the OMNI console to download the support bundle at /tmp/support-bundle.tar.gz on the OMNI VM. You can also change the log-level. When you change the log level from ERROR to DEBUG from OMNI VM console, the change applies to only the services omni_api and omni_services. For more information about OMNI management menu, see OMNI console menu.

Verify OMNI VM connectivity

After setting up OMNI, verify the IP address, DNS settings, and connection status from the OMNI VM console:

- When OMNI is deployed in one of the VxRail nodes in the cluster, ensure that you have configured IPv6 information for VxRail Mgmt network (ens192) and custom route as fde1:53ba:e9a0:cccc::/64. Disable IPv4 configuration for ens192 interface.
- 2. When OMNI is deployed on an ESXi server and registered with an external vCenter, ensure that you have set IPv4 configuration with subnet mask and gateway information for the vCenter server network (ens160). Set the IPv6 configuration for the interface to **Ignore**.
- **3.** Check the interface connection status through the OMNI console.

To check the interface configurations through the OMNI console:

a. From the OMNI management menu, enter 2 to go to the Interface configuration menu.

- Menu
 - -----
-). Full setup
- 1. Show version
- 2. Interface configuration menu
- 3. OMNI management service menu
- 4. Password/SSL configuration menu
- 5. Upgrade appliance
- 6. Reboot appliance
- 7. Show EULA
- 8. Logout

Enter selection [0 – 8]: 2

b. Enter the selection as 1 to view the interfaces and press Enter.

Enter selection [1 - 9]: 1
sudo: unable to resolve host OMNI-1.3.14: Name or service not known
docker0: flags=4099UP,BROADCAST,MULTICAST> mtu 1500
inet 172.17.0.1 netmask 255.255.0.0 broadcast 172.17.255.255
ether 02:42:05:1a:45:da txqueuelen 0 (Ethernet)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 100.104.26.22 netmask 255.255.0 broadcast 100.104.26.255
inet6 fe80::250:56ff:fe85:abb7 prefixlen 64 scopeid 0x20<link>
ether 00:50:56:85:ab:b7 txqueuelen 1000 (Ethernet)
RX packets 695002 bytes 159086623 (151.7 MiB)
RX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
ens192: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
ether 00:50:56:85:93:cd txqueuelen 1000 (Ethernet)

ether 00:50:56:85:93:cd txqueuelen 1000 (Ethernet) RX packets 463229 bytes 46227842 (44.0 MiB) RX errors 0 dropped 52 overruns 0 frame 0 TX packets 65686 bytes 11664357 (11.1 MiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

10: flags=73<UP,LOOPBACK,RUNNING> mtu 65536 inet 127.0.0.1 netmask 255.0.0.0 inet6 ::1 prefixlen 128 scopeid 0x10<host> loop txqueuelen 1000 (Local Loopback) RX packets 624296 bytes 90090468 (85.9 MiB) RX errors 0 dropped 0 overruns 0 frame 0 TX packets 624296 bytes 90090468 (85.9 MiB) TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

(END)

c. Enter 2 to view the connection status. The status should be up and connected.

OMN	II interface configuration menu
1. Sho	w interfaces
2. Sho	w connection status
3. Con	ifigure interfaces
4. Sho	w NTP status
5. Con	ifigure NTP server
6. Unc	configure NTP Server
7. Sta	int NTP Server
8. Sto	ip NTP Server
9. Exi	t
Enter s	election [1 – 9]: 2
DEVICE	TYPE STATE CONNECTION
ens160	ethernet connected Vcenter server network
docker0	bridge connected docker0
ens192	ethernet connected Vxrail Mgmt network
lo	loopback unmanaged
press [enter] to continue

Unable to add SmartFabric instance in OMNI

Problem

Not able to add the SmartFabric instance in OMNI.

Causes

- SmartFabric instance is not reachable or is down.
- IP address of the SmartFabric instance is not the master node IP address.

Resolution

- Ensure that the SmartFabric is reachable. To check the SmartFabric connectivity:
 - 1. Log in as **root** user through the OMNI VM console.
 - 2. Check the connectivity of the SmartFabric instance using the ping command. If OMNI is internal, use IPv6 address or hostname of the service instance. If OMNI is external, use the IPv4 address or hostname of the service instance.

:~\$ ping <IPv4-address or hostname of the destination> :~\$ ping6 <IPv6-address or hostname of the destination>

- 3. If ping fails, verify that the OMNI interfaces are configured properly. See Verify OMNI VM connectivity.
- Ensure that the IP address is the master node IP address. To check the IP address of master node:
- 1. Identify the master node using the OS10 CLI command. See Add SmartFabric instance.
- 2. Add the SmartFabric instance using the identified master IP address.

Missing networks on server interfaces

Problem

OMNI automation process fails to create and associate the appropriate network on a server interface during synchronization.

Causes

- No relationship is formed between the vCenter and service instances.
- Automation service is running for that vCenter, but you do not see OMNI SmartFabric task created in vCenter.
- Automation service is not running for that vCenter.

Resolution

- Check the relationship status between the vCenter and service instances. For more information, see Relationship information. If the relationship is not formed correctly, try the following:
 - Click **Recalculate Relationship** so that OMNI can recalculate the relationship between the entities manually.
 - Delete and reconfigure the SmartFabric instance and vCenter.
- Wait for 20 minutes. The self-correction monitor mechanism in OMNI should correct this issue within 20 minutes.
- If the southbound interface is a general ESXi server, create a server interface profile manually. If there is no server profile, no relationship is created. For more information about creating server interface profile, see server interface.
- Ensure that the service instance and vCenter are in **In Service** mode. The automation is not enabled if any of the relevant vCenters or SmartFabric instances is in **Maintenance** mode.

If the relationship status is correct and the automation is running, yet the issue persists, restart the automation service for the respective vCenter from the OMNI UI, see OMNI Appliance Management UI. After restart, OMNI synchronizes all the configurations again through automation.

Unable to launch OMNI UI

This information provides troubleshooting information when you are unable to launch OMNI plug-in from vCenter and as a stand-alone UI.

Unable to launch OMNI plug-in from vCenter

Problem

Unable to launch OMNI plug-in from vCenter.

vCenter does not show the OMNI plug-in option in the menu even after the vCenter is registered with OMNI through the OMNI Fabric Management UI. vCenter also shows OMNI plug-in download errors after the vCenter is registered with OMNI.

Causes

- 1. OMNI is not able to communicate with the vCenter due to SSL certificate errors.
- 2. vCenter could not resolve OMNI FQDN.

Resolution

1. Install a new SSL certificate, see Generate and Install SSL certificates. If the OMNI stand-alone UI is open when installing a new certificate, you must log out from OMNI stand-alone UI and log in again before you unregister and re-register the vCenter.

After installing the certificate:

- **a.** Unregister the vCenter using OMNI stand-alone UI. After you unregister the vCenter, ensure that the OMNI plug-in is removed from vCenter. If not, log out and log in the vCenter to confirm that the plug-in is removed.
- **b.** Register the vCenter again using OMNI stand-alone UI. Log out and log in the vCenter again to apply the newly installed SSL certificate.
- 2. Ensure that the DNS is configured for the vCenter and is reachable. Also, ensure that the DNS have both the forward and reverse lookup configurations for the OMNI FQDN or IP address. If the problem still persists, try to unregister and register the OMNI appliance with vCenter again. For more information, see Register vCenter with OMNI.

Unable to launch stand-alone OMNI UI

Problem

Unable to launch the OMNI VM as a stand-alone application.

Causes

- vCenter server network connection (ens160) IPv6 configuration is not set to Ignore.
- OMNI essential services are not running.

Resolution

• Set the IPv6 configuration for vCenter server network (ens160) as Ignore. For more information, see Setup OMNI.

- Check if the OMNI essential services are running using Appliance management UI. If OMNI UI is not accessible, check the OMNI management service status on the OMNI VM console. To check the services status:
 - 1. From the OMNI management menu, enter **3** to select the OMNI management service menu.
 - 2. Enter 4 to restart all the database and web essential services.
 - (i) NOTE: To restart the automation services, go to OMNI Appliance Management UI and restart the services.
 - 3. Enter 2 to view the list of registered vCenter managed by the OMNI VM. Confirm that all services are active.

Enter selection [1 – 7]: 2 Name	Command	State	Ports
omni_api	/bin/bash –c python –c "fr	Up	
omni_api_celery_worker	 celery worker ––app=vcente	Up	
omni_automation_app_celery_be	 celery beat –−app=vcentera	Up	
at omni_automation_app_celery_wo	 celery worker ––app=vcente	Up	
rкer omni_db	 docker–entrypoint.sh postg	Up	127.0.0.1:5432->5432/tcp
omni_events_celery_beat	 celery beat –−app=vcentera	Up	
omni_events_celery_worker	 celery worker ––app=vcente	Up	
omni_events_receiver	 ∕usr/local/bin/gunicorn –w	Up	
omni_nginx omni_queue	nginx –g daemon off; docker–entrypoint.sh rabbi 	Up Up	15671/tcp, 127.0.0.1:15672->15672/tcp, 15691/tcp, 15692/tcp, 25672/tcp, 4369/tcp, 5671/tcp,
omni_services	∕bin/bash –c python –c "fr	Up	127.0.0.1.3072-730727(cp
omni_services_celery_worker	 celery worker ––app=vcente	Up	
/usr/local/lib/python3.5/site-p 3.5 support will be dropped in from cryptography import x509	ackages/OpenSSL/crypto.py:12: Cr the next release of cryptography	ryptograp y. Please	bhyDeprecationWarning∶ Python e upgrade your Python.

2020–12–04 08:36:43,387 OMNI is registered with 100.104.26.63 vCenter host press [enter] to continue...

NOTE: View OMNI management service status is recommended for status validation and debugging. Therefore, the output does not show the port numbers.

OMNI plug-in does not show service instance

Problem

- OMNI plug-in does not show any service instance even though the service instance is added to OMNI.
- OMNI plug-in does not show the instance when the vCenter is launched using the IP address but the vCenter is registered with FQDN in OMNI.

Cause

When the DNS is either not reachable or not configured with the required settings.

Resolution

Ensure that the DNS is reachable and is configured with forward and reverse lookup details for vCenter IP address or FQDN.

Unable to register the vCenter in OMNI

Problem

Unable to register the vCenter in OMNI.

Causes

- vCenter server network (ens160) is not assigned a correct port-group during deployment.
- IP addresses assigned to the OMNI interfaces (ens160 and ens192) exist on the same network as of docker default private network (172.16.0.0/25).
- DNS entries with two or more FQDN names for a vCenter IP address.

Resolution

- Ensure that ens160 is connected to the vCenter server network properly during OMNI deployment. For more information, see Setup OMNI.
- Change the docker private network configuration, see Configure docker private network.
- Retain only one FQDN and IP address mapping for a vCenter in the DNS entry.

OMNI is unable to communicate with other devices

Problem

OMNI appliance is unable to communicate with any external devices.

Causes

When the OMNI docker default network range conflicts with the IP address of other entities to which OMNI is connected.

The conflict occurs when:

- The ens160 and ens192 interfaces have IP addresses from the same network as that of docker default network (172.16.0.0/25) of OMNI.
- The IP address assigned to any external entity such as vCenter, SFS instance, OME-Modular, NSX-T, NTP server, DNS server, or DHCP server exists on the same network as that of the docker default network of OMNI.
- OMNI is connected to a larger network in which the IP range of one or more subnetworks overlaps with the docker default network.

Resolution

Change the docker private network configuration, see Configure docker private network.

(i) NOTE: OMNI appliance reboots after the docker private network IP address is changed.

Timestamp not synchronized in OMNI

Problem

Logs and events timestamp details are not synchronized with the current data center.

Cause

OMNI does not have the proper NTP server configuration.

Resolution

Check the NTP server configuration in the OMNI appliance. Apply the correct configuration, if required. To check and change the NTP server setting:



Welcome to Dell EMC OpenManage Network Integration (OMNI) management Menu 0. Full setup Show version Interface configuration menu OMNI management service menu Register/Update OMNI vSphere client plugin with vCenter Password/SSL configuration menu Upgrade appliance Reboot appliance Show EULA Logout Enter selection [0 - 9]: 2 2. Enter 4 to view the NTP status. OMNI interface configuration menu _____ 1. Show interfaces 2. Show connection status 3. Configure interfaces 4. Show NTP status 5. Configure NTP server 6. Unconfigure NTP Server 7. Start NTP Server 8. Stop NTP Server 9. Exit Enter selection [1 - 9]: 4 NTP is configured NTP Server: 18.1.1.92 refid st t when poll reach delay offset jitter remote server.st02.omn 202.22.158.30 4 u 329 512 1 0.337 47.278 0.000 press [enter] to continue...

3. If the NTP server is not configured to the correct data center, enter **5** to configure the NTP server, and enter the valid NTP server IP address or hostname.

Reset OMNI VM password

To change the log-level from the OMNI console:

1. Reboot the VM from vCenter and select Advanced Options for Debian GNU/Linux.

*Advanced_or	/Linux ptions for Debi	ian GNU/Linux
Mavancea o,	10113 101 000.	
Use the	↑ and ↓ keys f	to select which entry is highlighted.
Press er before b	nter to boot th pooting or `c'	he selected OS, `e' to edit the commands for a command-line.
kove to go to the	line starting with	linux and onding with roganist
keys to go to the	line starting with	n linux and ending with ro quiet.
keys to go to the	line starting with	n linux and ending with ro quiet.
keys to go to the	line starting with GNU G	n linux and ending with roquiet. RUB version 2.02+dfsg1-20
keys to go to the	line starting with GNU G insmod ext:	n linux and ending with roquiet. RUB version 2.02+dfsg1-20 2
keys to go to the	line starting with GNU G insmod ext: set root='h if [_x\$fea	n linux and ending with ro quiet. RUB version 2.02+dfsg1-20 2 hd0,msdos1' ture_platform_search_hint = xy]; then
keys to go to the	line starting with GNU G insmod ext: set root='h if [x\$fea search - nt-efi=hd0,ms;	n linux and ending with ro quiet. RUB version 2.02+dfsg1-20 2 hd0,msdos1' ture_platform_search_hint = xy]; then -no-floppyfs-uuidset=roothint-bi dos1hint-baremetal=ahci0,msdos1 bfad5
keys to go to the 0,msdos1hi 272-4fce-80c5	line starting with GNU G insmod ext: set root='H if [x\$fea search - nt-efi=hd0,ms -4e816a00bd6f else	A linux and ending with ro quiet. RUB version 2.02+dfsg1-20 2 hd0,msdos1' ture_platform_search_hint = xy]; then -no-floppyfs-uuidset=roothint-bi dos1hint-baremetal=ahci0,msdos1 bfad5
keys to go to the 0,msdos1hi 272-4fce-80c5 4fce-80c5-4e8	line starting with GNU G insmod ext: set root='H if [x\$fea search - nt-efi=hd0,ms -4e816a00bd6f else search - 16a00bd6f	A linux and ending with ro quiet. RUB version 2.02+dfsg1-20 2 hd0,msdos1' ture_platform_search_hint = xy]; then -no-floppyfs-uuidset=roothint-bi dos1hint-baremetal=ahci0,msdos1 bfad5 -no-floppyfs-uuidset=root bfad5792-
keystogotothe 0,msdos1hi 272-4fce-80c5 4fce-80c5-4e8	line starting with GNU G insmod ext: set root='l if [x\$fea search - nt-efi=hd0,msu -4e816a00bd6f else search - 16a00bd6f fi echo	RUB version 2.02+dfsg1-20 2 hd0,msdos1' ture_platform_search_hint = xy]; then -no-floppyfs-uuidset=roothint-bi dos1hint-baremetal=ahci0,msdos1 bfad5 -no-floppyfs-uuidset=root bfad5792- 'Loading Linux 4.19.0-9-amd64'
keys to go to the 0,msdos1hi 272-4fce-80c5 4fce-80c5-4e8 bianvg-root	line starting with GNU G insmod ext: set root='l if [x\$fea search - nt-efi=hd0,msu -4e816a00bd6f else search - 16a00bd6f fi echo linux ro quiet	RUB version 2.02+dfsg1-20 2 hd0,msdos1' ture_platform_search_hint = xy]; then -no-floppyfs-uuidset=roothint-bi dos1hint-baremetal=ahci0,msdos1 bfad5 -no-floppyfs-uuidset=root bfad5792- 'Loading Linux 4.19.0-9-amd64' /vmlinuz-4.19.0-9-amd64 root=/dev/mapp
keys to go to the 0,msdos1hi 272-4fce-80c5 4fce-80c5-4e8 bianvg-root	line starting with GNU G insmod ext: set root=' if [x\$fea search - nt-efi=hd0,ms -4e816a00bd6f else search - 16a00bd6f fi echo linux ro quiet echo inited	RUB version 2.02+dfsg1-20 2 hd0,msdos1' ture_platform_search_hint = xy]; then -no-floppyfs-uuidset=roothint-bi dos1hint-baremetal=ahci0,msdos1 bfad5 -no-floppyfs-uuidset=root bfad5792- 'Loading Linux 4.19.0-9-amd64' /vmlinuz-4.19.0-9-amd64 root=/dev/mapp 'Loading initial ramdisk'

3. Append init=bin/bash after ro quiet.



5. Remount the directory.

mount / -rw -o remount

[1.412485] piix4_smbus 0000:00:07.3: SMBus Host Controller not enabled! [2.003442] sd 2:0:0:0: [sda] Assuming drive cache: write through /dev/mapper/debian--vg-root: clean, 91252/2285568 files, 1503501/9127936 blocks bash: cannot set terminal process group (-1): Inappropriate ioctl for device bash: no job control in this shell root@(none):/# mount / -rw -o remount root@(none):/# passwd admin New password: _



[1.399189] piix4_smbus 0000:00:07.3: SMBus Host Controller not enabled! [1.979601] sd 2:0:0:0: [sda] Assuming drive cache: write through /dev/mapper/debian--vg-root: recovering journal /dev/mapper/debian--vg-root: clean, 91252/2285568 files, 1503501/9127936 blocks bash: cannot set terminal process group (-1): Inappropriate ioctl for device bash: no job control in this shell root@(none):/# mount / -rw -o remount root@(none):/# passwd admin New password: Retype new password: passwd: password updated successfully root@(none):/# _

7. Reset the VM from vCenter and log in through the new password for the OMNI VM.