

Chassis, Sled, and IOA Template Cloning using Dell EMC OpenManage Enterprise version 3.2

Abstract

This technical white paper describes the process of cloning a complete chassis configuration to a newly procured chassis using OpenManage Enterprise.

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Executive summary

Configuring newly procured devices in a datacenter could be quite daunting for a System Administrator, especially in large setups where many servers and chassis are added constantly.

With OpenManage Enterprise it is much easier to configure your servers and chassis as it can be used to clone configurations of existing servers or chassis to the newly-added devices.

Complete cloning of different chassis configurations for MX7000 and M1000e is demonstrated using various use cases.

1 Requirements

To perform template capture and deploy operation, the following requirements must be met:

- Deploying device configuration requires the OpenManage Enterprise Advanced license on target servers (not available for chassis). The license is not required for creating device configuration template from a server.
- For the PowerEdge servers with iDRAC version lesser than 2.52.52.52 (only up to 2.50.50.50) and the M1000e chassis, SMBv1 should be enabled on the OpenManage Enterprise appliance for creation or deployment of template. For instructions on enabling SMBv1, refer the [Openmanage Enterprise documentation](#) .
- Complete chassis discovery should be performed. (To discover the IO modules in chassis, you must enable the IO modules in the “Advanced Option” during chassis discovery. For more information, refer [OpenManage Enterprise 3.2 User’s Guide](#), **topic**: Create customized device discovery job protocol for servers – additional settings for discovery protocol.)

2 Clone Chassis and Server configurations with VLAN for MX7000

Cloning of a complete MX7000 chassis configuration is demonstrated with various use cases - each use case corresponds to a specific chassis configuration.

2.1 USE CASE 1

The requirement is to clone the chassis and the server configurations of an existing, fully-configured MX7000 chassis (represented as the Reference Setup) to one or more newly-added MX7000 chassis having the exact hardware configuration.

Note: This whitepaper is written with an assumption that the current OME appliance is not used for the Reference Setup configuration.

2.1.1 Chassis Configuration

You have an MX7000 chassis containing two sleds and two IOMs fully configured by OpenManage Enterprise (represented as the Reference Setup). The newly procured MX7000 chassis must have the same number of sleds and IOMs.

Note: The newly procured chassis must have the sleds placed in the exact same slots as the reference chassis.

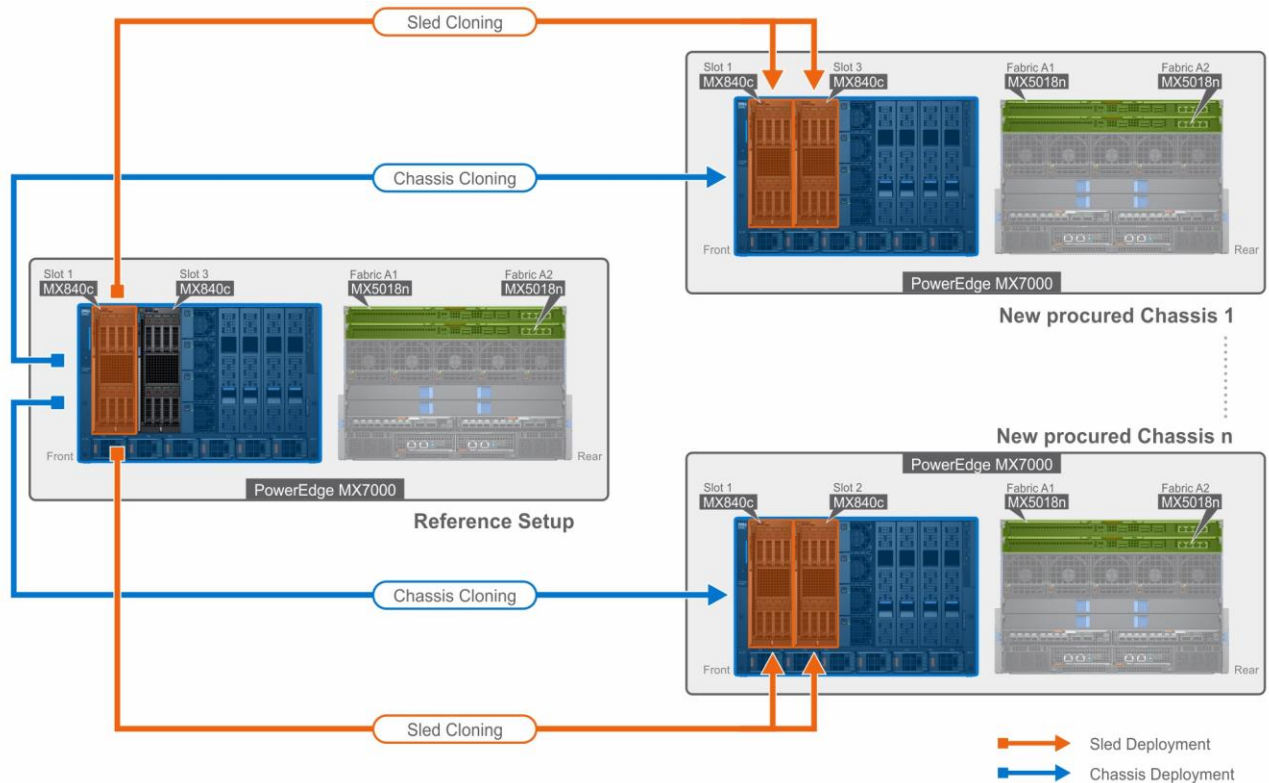


Figure 1 MX7000e Template Cloning – Usecase 1

This Use case refers to the following Configuration:

Reference Setup	Newly procured Chassis
An MX7000 Chassis populated with two MX840c Sleds in Slot1 and Slot3 and two MX5018n IOMs in Fabric A1 and Fabric A2. Both MX840c Sleds have the same Hardware configuration and VLAN configuration.	One or many Chassis with Hardware configuration that matches exactly as Reference Setup. (including the number of SLEDs, SLED Models, SLED hardware inventory in addition to number of IOMs and IOA Models).

To accomplish this use case:

Cloning of device configuration is performed on individual target devices.

For example: The Reference Chassis template is captured and deployed on one or more new Chassis. The Reference Sled template is captured and deployed on one or more new Sleds along with VLAN association.

2.1.2 Capture the Template of MX7000 Chassis and MX840c Sled

The 'reference device' is a device that has been discovered in OpenManage Enterprise, configured in a desired way, and the configuration of the same is intended to be replicated on the equivalent devices.

The reference template is crucial to the success of configuring your other devices. Make sure that the reference device is correctly configured before you create a template from it.

NOTE: The templates can also be created by importing configuration file. However, in this whitepaper we are mainly focusing on templates created using a reference device.

I. Create a template from the reference chassis

1. Navigate to the **Configuration > Deploy** Tab.
2. In the left pane, click **Create Template** and then select **'From Reference Device'**.
3. In the Create Template dialog box, enter a unique name for the template. Add a description (optional)
4. Select the Template Type as **'Clone Reference Chassis'**. Click **Next**
5. In the Reference Device section, click **Select Device** to select the device whose configuration properties must be used for creating the new template. Alternatively, you can select the target by entering the device name or Service Tag in the Advance Filters dropdown.

NOTE: The Reference device selected for capturing the template is the Reference Setup: MX7000 chassis.

6. Click **Finish**. A job is created.
7. To view the created job, go to the **Jobs** tab under **Monitor**.
8. For information about the job status, click on the **View Details** on the right pane.
9. The progress of the job is available at the **Execution History** grid of the job.

II. Create a template from the reference sled

1. Navigate to the **Configuration > Deploy** Tab.
2. In the left pane, click **Create Template** and then select **'From Reference Device'**.
3. In the Create Template dialog box, enter a unique name for the template. Add a description (optional)
4. Select the Template Type as **'Clone Reference Server'**. Click Next
5. In the Reference Device section, click **Select Device** to select the device whose configuration properties must be used for creating the new template. Note—Alternatively, you can select the target by entering the device name or Service Tag in the Advanced Filters dropdown.

Note: The Reference device selected for capturing the template is the Reference setup: MX840c. Since both MX840c Sleds have the same hardware configuration, the template is captured only from one of the sled and can be deployed on multiple sleds.

6. In the Configuration Elements section, select the check boxes corresponding to the device elements that must be cloned. You can select to clone the server properties such as iDRAC, BIOS, Lifecycle Controller, and Event Filters. By default, all elements are selected.
7. Click Finish. A job is created.
8. To view the created job, go to the Jobs tab under Monitor.
9. The progress of the job is available on the Execution History grid of the job.
10. For more details about the execution history, click on the View Details on the right pane. The execution history gives information about the Job status.

2.1.3 Associate VLAN pool to the server configuration template

VLAN association is a critical step in the server template cloning. It is mandatory that the VLAN ID deployed on the Reference setup matches with the VLAN ID associated to the newly created template.

This whitepaper is written with an assumption that the VLAN settings on Reference Chassis was done outside of the current OME appliance. VLAN pool can be re-used in case the same was already created in the OME appliance.

Note: Before going to the next step, record the details of the VLAN ID created and mapped to the Tagged and Untagged ports on the Reference setup's IOA-server-facing port. Keep the details handy for the creation of the VLAN pool.

I. Create a VLAN pool in OpenManage Enterprise according to the reference MX7000 setup

In this Use case example, let us consider the following:

- MX840c Sled is deployed with VLAN 100 (Tagged) in NIC 1 port 1 mapped to Fabric A1 and VLAN 200 (Untagged) in NIC 1 port 2 mapped to Fabric A2.

Create two VLAN pools with ID 100 and 200 using below steps:

1. Navigate to Configuration > Networks
2. Select Define and add in the Name, Description, VLAN ID and Network type.

NOTE: The VLAN ID created should be a replica of that present in the reference setup

3. Click on Finish to save the VLAN pool.

NAME	DESCRIPTION	VLAN ID
VLAN 100	Tagged : NIC 1 port 1 mapped to Fabric A1	100
VLAN 200	Untagged: NIC 1 port 2 mapped to Fabric A2	200
	Tagged: NIC 1 port 1 mapped to Fabric A1	100

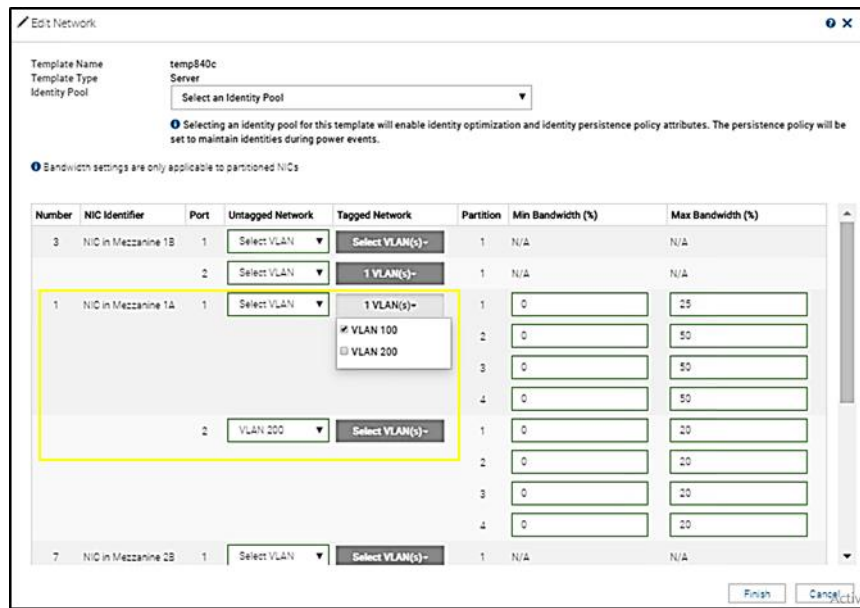
II. Edit the template of the sled to associate the VLAN pool

Associate VLANID 100 to NIC 1A-1-1 Tagged Network and VLANID 200 to NIC 1A-2-1 Untagged Network using the below steps:

1. Navigate to **Configuration > Deploy**
2. Select the Sled Template and select **Edit Network**.
3. Associate Tagged and Untagged VLAN pool, to the NIC ports of server configuration template. VLAN IDs will be deployed on server facing ports of IOMs.

NOTE: The VLAN ID associated should be a replica of that associated in the reference setup.

4. Click on **Finish** to save the Template.



2.1.4 Deploy the template on Chassis and Server

Deploying templates is the process of sending and applying configuration settings to remote devices. A template may contain configuration settings for one or more specific functional areas, or a full device configuration. To deploy the template, you must first create the template. The template is crucial to the success of the deploy task. Ensure that the device used to create the template from, is configured exactly how you wish to deploy the same.

A template that was created from a target may contain destructive attributes (especially if it contains RAID configuration settings). Deploying destructive attributes may cause data loss, connectivity issues, failure to boot and other problems. It is important to review and understand each destructive attribute before deploying it to target devices. If there is a need for some configuration settings to be changed from what has been captured when template was created, make sure to edit the template and exclude the same. Update the respective attributes and remember to save the changes.

I. Deploy the Chassis template on the new Chassis

1. Navigate to Configuration > Deploy tab.
2. Select the created Chassis template. Click on Deploy Template.
3. Select the target device as the new Chassis that was discovered.

NOTE: The target device selected is the one or more newly procured MX7000.

4. Schedule to **Run Now** and click **Finish**.

II. Deploy the Sled Template on the new Sled

1. Navigate to Configuration > Deploy tab.
2. Select the created Sled template. Deploy Template.
3. Select the new Sled as target device. Click Next.

NOTE: The target device selected is the MX840c sled in Slot1 and Slot3 in one or more newly procured MX7000 chassis.

4. The Boot to Network ISO allows you to install the specified OS post deployment.
 - i. Select the Share type as CIFS/ NFS.
 - ii. Provide the path to the OS image in the ISO path input box in “/OS-Images/OS-file.iso” format.
 - iii. Provide the Share IP address and Credentials that can be accessed from OM Enterprise console.
 - iv. Click Next.

Deploy Template: temp@40c

Target

- Boot to Network ISO
- IDRAC Management IP
- Schedule

Enter ISO File and File Share Information

Specify the full ISO path and the share location.

Boot to Network ISO

Share Type

CIFS

NFS

ISO Information

ISO Path: /Share/OS-images/RHEL7.4.iso

Share Information

Share IP Address: 10.0.0.1

Username: root

Password: *****

Step 2 of 4

Previous Next Finish Cancel

5. The IDRAC IP setting can be changed to DHCP or Static in the IDRAC Management IP Option. To set static IP for the devices selected for deployment, select the **Set static IP for each device** options and provide the Management IP for each device.

Deploy Template: temp@40c

Target

- Boot to Network ISO
- IDRAC Management IP
- Schedule

Template IP Settings

IDRAC Management IP

Don't change IP settings

Set as DHCP

Set static IP for each device

Static IP (By Device)

Subnet Mask: Gateway:

MANAGEMENT IP	NAME	MODEL	CHASSIS
	MINWINPC	PowerEdge MXT720c	
	WIN-BUSESRPHLD	PowerEdge MX840c	

2 item(s) found. Displaying items 1 - 2.

Step 3 of 4

Previous Next Cancel

6. Select the option **Run Now** to run the job immediately, otherwise, the deployment can also be scheduled.

2.2 USE CASE 2

This use case describes a complex deployment technique. Here we discuss a way to successfully clone and deploy a complete Reference setup of an MX7000 chassis configuration to a newly procured chassis having additional sleds as compared to the Reference setup thereby requiring a separate VLAN association.

Note: This whitepaper is written with an assumption that the current OME appliance is not used for the Reference Setup configuration.

2.2.1 Chassis Configuration

You have an MX7000 **Chassis** containing two sleds and two IOMs fully configured by OpenManage Enterprise (represented as the Reference Setup). The newly procured MX7000 chassis has four sleds and two IOMs based on your data center's needs.

Note: Ensure that the newly procured chassis has sleds placed in the exact same slots as the reference chassis. The additional sleds can be placed in the other slots as desired. For example, sleds in the new chassis should be placed in Slots 1 and 3 if the Reference setup has sleds in those slots.

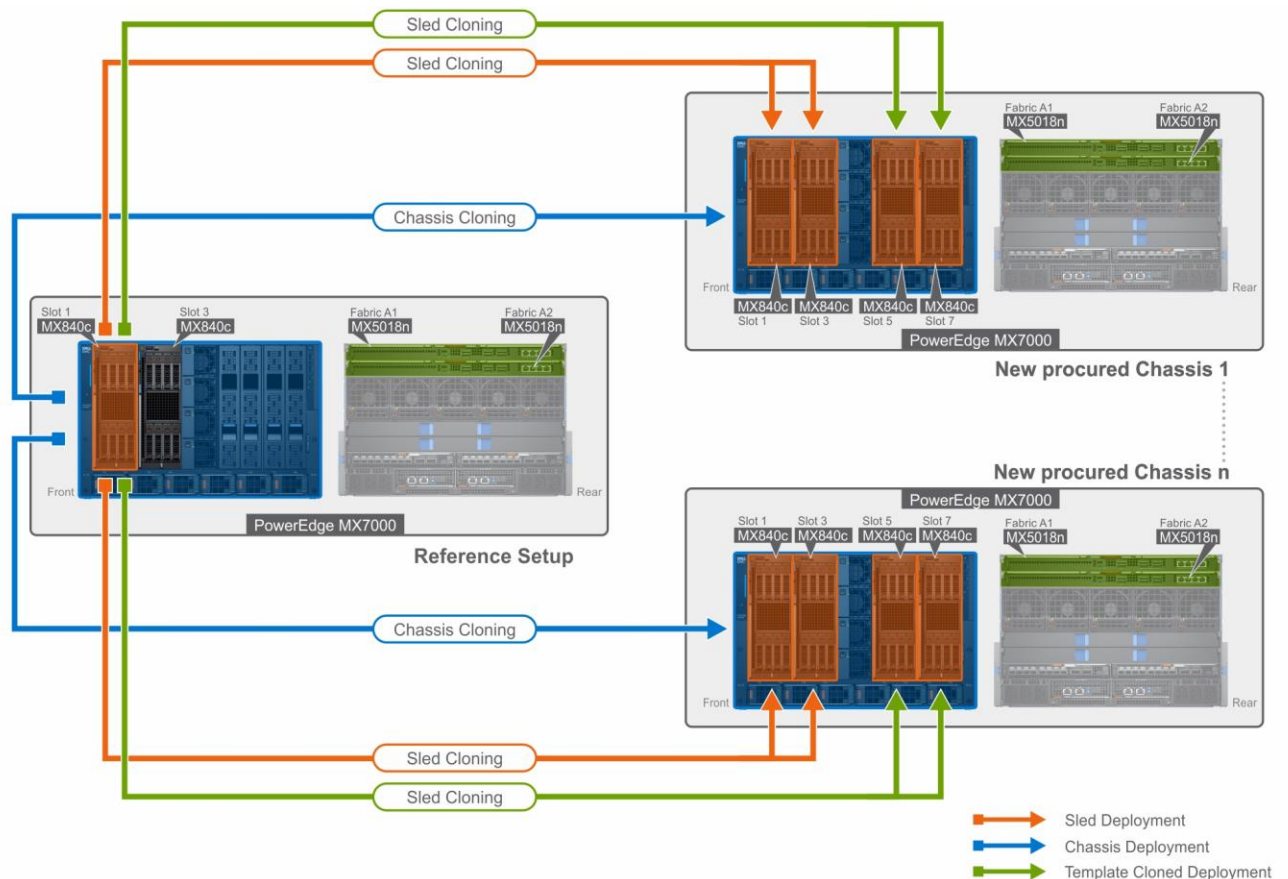


Figure 2 MX7000e Template Cloning – Usecase 2

This Use case refers to the following Configuration:

Reference Setup	Newly procured Chassis
An MX7000 chassis populated with two MX840c sleds in Slot1 and Slot3 and two MX5018n IOMs in Fabric A1 and Fabric A2.	One or many chassis with hardware configuration that exactly matches the Reference Setup, however, having two additional MX840c Sleds in Slot 5 and Slot 7 thereby requiring a separate VLAN association.

Note: The additional sleds in Slot 5 and Slot 7 in the newly procured chassis should also have the exact same hardware configuration as the sleds present in Slot 1 and 3.

To accomplish this use case:

Cloning of device configuration is performed on individual target devices.

For example, the reference chassis template is captured and deployed on one or more new chassis. The reference sled template is captured and deployed on one or more new sleds along with VLAN association. A copy of the sled template is taken to deploy and associate VLAN for the additional sleds in the newly procured chassis.

2.2.2 Capture the Template of MX7000 Chassis and MX840c Sled

This section describes how to create a template from a reference device. The 'reference device' is a device that has been discovered in OpenManage Enterprise, configured in a desired way and the configuration of the same is intended to be replicated on the equivalent devices. The reference template is crucial to the success of configuring your other devices. Make sure that the reference device is correctly configured before you create a template from it.

NOTE: The templates can also be created by importing configuration file. However, in this whitepaper we are mainly focusing on Templates created via Reference device.

I. Create Template from the reference chassis

1. Navigate to the **Configuration > Deploy** Tab.
2. In the left pane, click **Create Template** and then select **'From Reference Device'**.
3. In the Create Template dialog box, enter a unique name for the template. Add a description (optional)
4. Select the Template Type as 'Clone Reference Chassis'. Click Next
5. In the Reference Device section, click Select Device to select the device whose configuration properties must be used for creating the new template. Note—Alternatively, you can select the target by entering the device name or Service Tag in the Advance Filters dropdown.

NOTE: The Reference device selected for capturing the template is the Reference Setup: MX7000 chassis.

6. Click Finish. A job is created.
7. To view the created job, go to the Jobs tab under Monitor.
8. For information about the job status, click on the View Details on the right pane.
9. The progress of the job is available at the Execution History grid of the job.

II. Create Template from reference sled

1. Navigate to the **Configuration > Deploy** Tab.
2. In the left pane, click **Create Template** and provide Template Information. (Example MX840c Template) then select **'From Reference Device'**.
3. In the Create Template dialog box, enter a unique name for the template. Add a description (optional)
4. Select the Template Type as 'Clone Reference Server'. Click Next
5. In the Reference Device section, click Select Device to select the device whose configuration properties must be used for creating the new template. Note—Alternatively, you can select the target by entering the device name or Service Tag in the Advance Filters dropdown.

NOTE: The Reference device selected for capturing the template is the Reference setup: MX840c in Slot 1. This Template is used to deploy on MX840c sleds present in Slot 1 and Slot 3 of the newly procured chassis.

6. In the Configuration Elements section, select the check boxes corresponding to the device elements that must be cloned. You can select to clone the server properties such as iDRAC, BIOS, Lifecycle Controller, and Event Filters. By default, all elements are selected.
7. Click Finish. A job is created.
8. To view the created job, go to the Jobs tab under Monitor.
9. The progress of the job is available at the Execution History grid of the job.
10. For more details about the execution history, click on the View Details on the right pane. The execution history gives information about the Job status.

III. Clone template from the created template

1. Navigate to the **Configuration > Deploy** Tab.
2. Select the created Mx840c template.
3. Click on Clone.
4. In the Name dialog box, enter a unique name for the Clone Template (Example: MX840c Template-Copy). Add a description (optional)
5. A copy of the MX840c template is created.

NOTE: This template is used to deploy on MX840c sleds present in Slot 5 and Slot 7 of the newly procured chassis.

2.2.3 Associate VLAN pool to the server configuration Template

VLAN association is a critical step in the server template cloning.

It is mandatory that the VLAN ID deployed on the Reference setup matches with the VLAN ID associated to the newly created template.

This whitepaper is written with an assumption that the VLAN settings on Reference Chassis was done outside of the current OME appliance. VLAN pool can be re-used in case the same was already created in the OME appliance.

Note: Before going to the next step, record the details of the VLAN ID created and mapped to Tagged and Untagged port, on the Reference setup IOA server facing port. Keep the details handy for the creation of the VLAN pool.

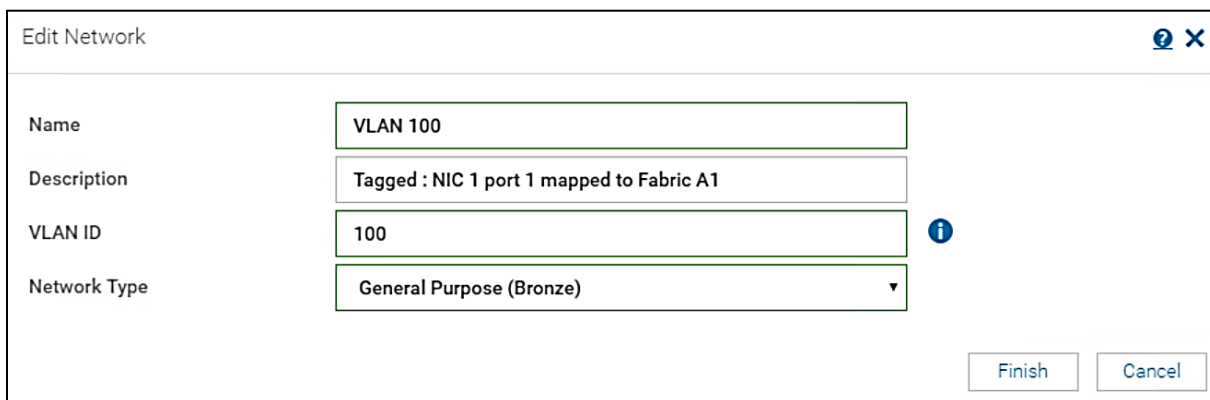
I. Create VLAN pool in OM Enterprise according to the reference MX7000 setup

In this Use case example, let us consider the following:

- MX840c Sled in Slot 1 and Slot 3 are deployed with VLAN 100 (Tagged) in NIC 1 port 1 mapped to Fabric A1 and VLAN 200 (Untagged) in NIC 1 port 2 mapped to Fabric A2.
- The additional MX840c Sled in Slot 5 and Slot 7 requires VLAN 300 (Tagged) in NIC 1 port 1 mapped to Fabric A1 and VLAN 400 (Untagged) in NIC 1 port 2 mapped to Fabric A2.

Create four VLAN pool with ID 100,200,300 and 400 using the below steps:

1. Navigate to Configuration > Networks
2. Select Define and add in the Name, Description, VLAN ID and Network type.



The screenshot shows a dialog box titled "Edit Network" with a close button (X) and a help icon (i). The dialog contains four input fields:

- Name:** VLAN 100
- Description:** Tagged : NIC 1 port 1 mapped to Fabric A1
- VLAN ID:** 100
- Network Type:** General Purpose (Bronze) (dropdown menu)

At the bottom right, there are two buttons: "Finish" and "Cancel".

NOTE: The VLAN ID created should be a replica of that present in the reference setup

3. Click on Finish to save the VLAN pool.

NAME	DESCRIPTION	VLAN ID
VLAN 100	Slot1 & Slot 3: Tagged: NIC 1 port 1 mapped to Fabric A1	100
VLAN 200	Slot1 & Slot3: Untagged: NIC 1 port 2 mapped to Fabric A2	200
VLAN 300	Slot5 & Slot 7: Tagged NIC1 Port1 mapped to Fabric A1	300
VLAN 400	Slot5 & Slot 7: Untagged NIC1 Port2 mapped to Fabric A2	400

II. Edit the template of the sled to associate the VLAN pool

- Edit the template of the sled to associate VLANID 100 to NIC 1A-1-1 Tagged Network and VLANID 200 to NIC 1A-2-1 Untagged Network using the below steps:
 1. Navigate to **Configuration > Deploy**
 2. Select the **Sled Template** and select **Edit Network**.
 3. Associate Tagged and Untagged VLAN pool, to the NIC ports of server configuration template. VLAN IDs will be deployed on server facing ports of IOMs.

NOTE: The VLAN ID associated should be a replica of that associated in the Reference setup.

Template Name: temp840c
 Template Type: Server
 Identity Pool: Select an Identity Pool

Selecting an identity pool for this template will enable identity optimization and identity persistence policy attributes. The persistence policy will be set to maintain identities during power events.

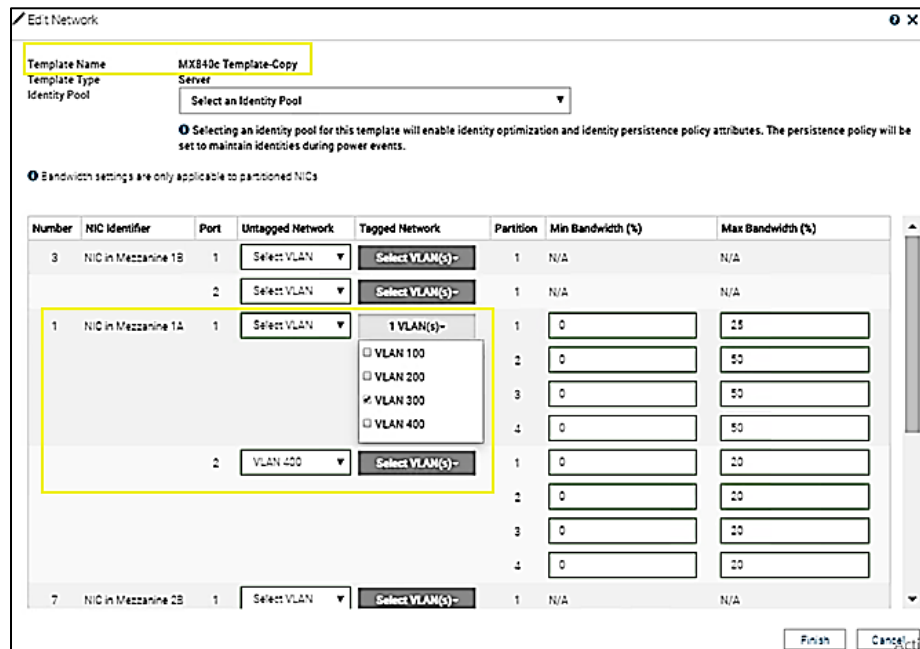
Bandwidth settings are only applicable to partitioned NICs

Number	NIC Identifier	Port	Untagged Network	Tagged Network	Partition	Min Bandwidth (%)	Max Bandwidth (%)
3	NIC in Mezzanine 1B	1	Select VLAN	Select VLAN(s)-	1	N/A	N/A
		2	Select VLAN	1 VLAN(s)-	1	N/A	N/A
1	NIC in Mezzanine 1A	1	Select VLAN	1 VLAN(s)- VLAN 100 (selected)	1	0	25
		2	VLAN 200	Select VLAN(s)-	1	0	20
		3			2	0	20
		4			3	0	20
		4			4	0	20
7	NIC in Mezzanine 2B	1	Select VLAN	Select VLAN(s)-	1	N/A	N/A

Finish Cancel

4. Click on **Finish** to save the Template.

- Edit the cloned template of the sled to Associate VLANID 300 to NIC 1A-1-1 Tagged Network and VLANID 400 to NIC 1A-2-1 UnTagged Network using the below steps:
 1. Navigate to **Configuration > Deploy**
 2. Select the **'MX840c Template-Copy' Template** and select **Edit Network**.
 3. Associate Tagged and Untagged VLAN pool, to the NIC ports of server configuration template. VLAN IDs will be deployed on server facing ports of IOMs.
 4. Click on **Finish** to save the Template.



2.2.4 Deploy the template on Chassis and Server

Deploying templates is the process of sending and applying configuration settings to remote devices. A template may contain configuration settings for one or more specific functional areas, or a full device configuration. To deploy the template, you must first create the template. The template is crucial to the success of the deploy task. Ensure that the device used to create the template from, is configured exactly how you wish to deploy the same. A template that was created from a target may contain destructive attributes (especially if it contains RAID configuration settings). Deploying destructive attributes may cause data loss, connectivity issues, failure to boot and other problems. It is important to review and understand each destructive attribute before deploying it to target devices. If there is a need for some configuration settings to be changed from what has been captured when template was created, make sure to edit the template and exclude the same. Update the respective attributes and remember to save the changes.

I. Deploy the Chassis template on the new Chassis

1. Navigate to Configuration > Deploy tab.
2. Select the created Chassis template. Deploy Template.
3. Select the target device as the new Chassis that was discovered.

NOTE: The target device selected is the one or more newly procured MX7000.

4. Schedule to **Run Now** and click **Finish**.

II. Deploy the Sled Template on the new Sled

Deploy the MX840c Template to Slot 1 and Slot 3 of newly procured chassis using the below steps:

1. Navigate to Configuration > Deploy tab.
2. Select the MX840c template. Deploy Template
3. Select the new Sled as target device. Click Next.

NOTE: The target device selected is the MX840c sled in Slot1 and Slot3 in one or more newly procured MX7000 chassis.

4. The Boot to Network ISO allows you to install the specified OS post deployment.
 - i. Select the Share type as CIFS/ NFS.
 - ii. Provide the path to the OS image in the ISO path input box in “/OS-Images/OS-file.iso” format.
 - iii. Provide the Share IP address and Credentials that can be accessed from OM Enterprise console.
 - iv. Click Next.

Deploy Template: temp840c

Target

- ✓ Boot to Network ISO
- ✓ iDRAC Management IP
- ✓ Schedule

Enter ISO File and File Share Information

Specify the full ISO path and the share location.

Boot to Network ISO

Share Type

CIFS
 NFS

ISO Information

ISO Path:

Share Information

Share IP Address:
Username:
Password:

Step 2 of 4

Previous Next Finish Cancel

5. The IDRAC IP setting can be changed to DHCP or Static in the IDRAC Management IP Option.
 - If you wish to set static IP for the devices selected for deployment, select the **Set static IP for each device** options and provide the Management IP for each device.

Deploy Template: temp840c

Target

- ✓ Boot to Network ISO
- ✓ iDRAC Management IP
- ✓ Schedule

Template IP Settings

iDRAC Management IP

Don't change IP settings
 Set as DHCP
 Set static IP for each device

Static IP (By Device)

Subnet Mask: Gateway: ..

MANAGEMENT IP	NAME	MODEL	CHASSIS
<input type="text"/>	MINWINPC	PowerEdge MX740c	
<input type="text"/>	WIN-BUSERHPHLO	PowerEdge MX840c	

2 item(s) found. Displaying items 1 - 2

Step 3 of 4

Previous Next Cancel

Deploy the MX840c Template -copy to Slot 5 and Slot 7 of newly procured chassis using the below steps:

1. Navigate to Configuration > Deploy tab.
2. Select the **MX840c Template-copy**. Deploy Template.
3. Select the new Sled as target device. Click Next.

NOTE: The target device selected is the MX840c sled in Slot5 and Slot7 in one or more newly procured MX7000 chassis.

4. The Boot to Network ISO allows you to install the specified OS post deployment.
 - i. Select the Share type as CIFS/ NFS.
 - ii. Provide the path to the OS image in the ISO path input box in “/OS-Images/OS-file.iso” format.
 - iii. Provide the Share IP address and Credentials that can be accessed from OM Enterprise console.
 - iv. Click Next.
5. The IDRAC IP setting can be changed to DHCP or Static in the IDRAC Management IP Option.
 - o If you wish to set static IP for the devices selected for deployment, select the **Set static IP for each device** options and provide the Management IP for each device.
6. Select the option Run Now if you wish to run the job immediately or deployment can be scheduled.

3 Clone Chassis, IOA and Server configurations with VLAN for M1000e

Cloning of complete M1000e chassis configuration is demonstrated using various use cases, where each use case is specific to a particular chassis configuration.

3.1 USE CASE 3

You have an M1000e Chassis containing two sleds and two IOAs which are fully configured (represented as the Reference Setup) by OpenManage Enterprise based on your data center's needs.

The requirement is to replicate the complete configuration to one or more newly acquired M1000e chassis having the exact same hardware configuration.

IOA cloning is supported on the M1000e and the FX2 chassis. For these chassis, a template captured from a reference IOA can be deployed on the new IOAs. The same is discussed in [Creating and Deploying IOA Template](#).

IOA Template contains VLAN data, SNMP configurations, IOA modes, DCB configuration details etc. Hence post deployment, the new IOAs are expected to have cloned all these configurations successfully. The VLAN deployment can be skipped when the user intends to clone the IOA configuration.

Note: This whitepaper is written with an assumption that the current OME appliance is not used for the Reference Setup configuration.

3.1.1 Chassis Configuration

You have an M1000e **Chassis** containing two Sleds and two IOAs fully configured by OpenManage Enterprise (represented as the Reference Setup). The newly procured M1000e chassis have the same number of Sleds and IOAs.

Note: The newly procured chassis should have sleds placed in the exact same slots as the reference chassis.

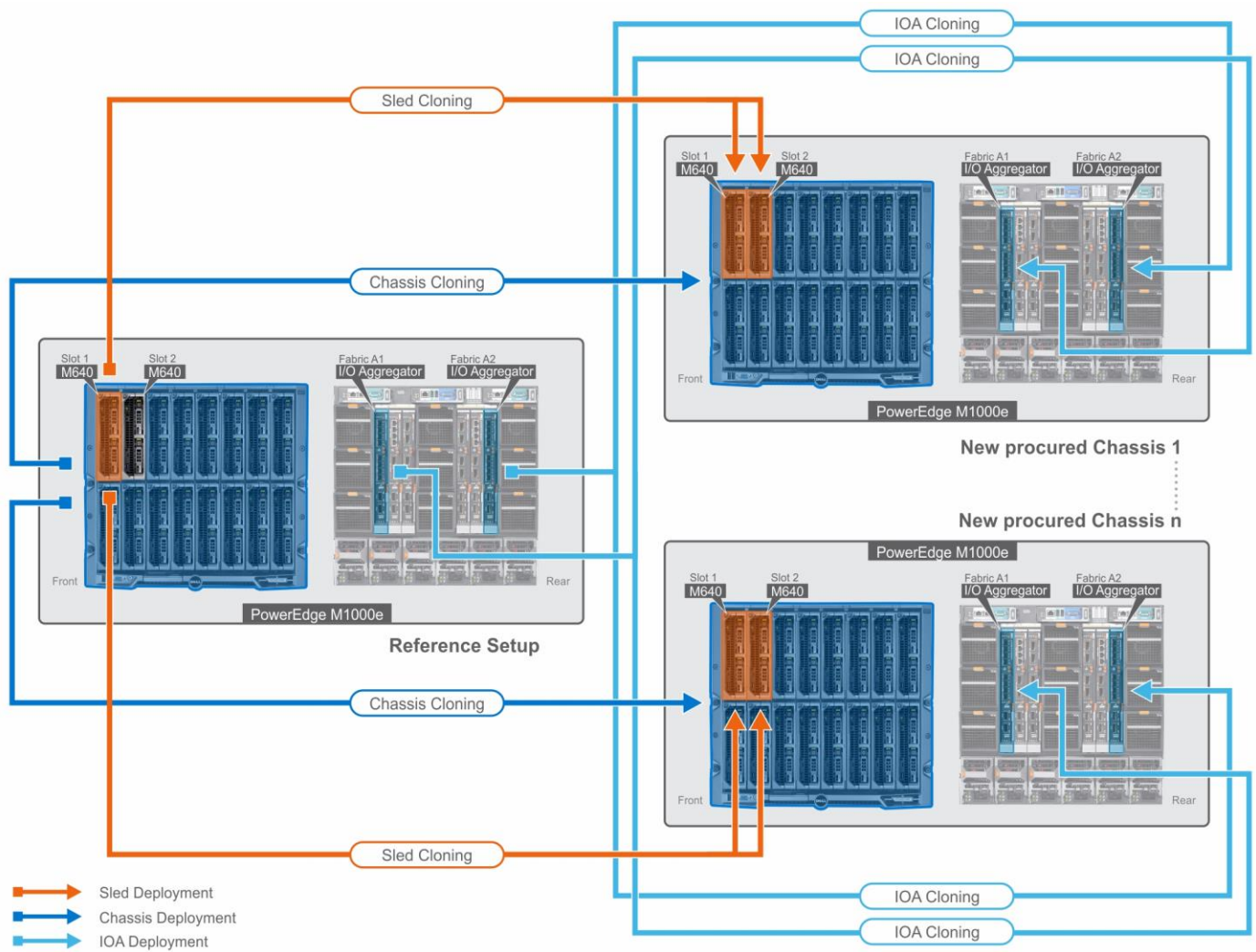


Figure 3 M1000e Template Cloning – Usecase 3

Reference Setup	Newly procured Chassis
An M1000e Chassis populated with two M640 Sleds in Slot1 and Slot2 and two M I/O Aggregator in Fabric A1 and Fabric A2. Both M640 Sleds have the same Hardware configuration and VLAN configuration.	One or many Chassis with Hardware configuration that matches exactly as Reference Setup. (including the number of SLEDs, SLED Models, SLED hardware inventory in addition to number of IOAs and IOA Models).

To accomplish this use case:

Cloning of device configuration is performed on individual target devices. For example: The Reference Chassis template is captured and deployed on one or more new Chassis. The Reference Sled template is captured and deployed on one or more new Sleds along with VLAN association.

3.1.2 Capture the template of M1000e Chassis and M640 Sled

This section describes how to create a template from a reference device. The 'reference device' is a device that has been discovered in OpenManage Enterprise, configured in a desired way and the configuration of the same is intended to be replicated on the equivalent devices. The reference template is crucial to the success of configuring your other devices. Make sure that the reference device is correctly configured before you create a template from it.

NOTE: The templates can also be created by importing configuration file. However, in this whitepaper we are mainly focusing on templates created via Reference device.

I. Create a template from the reference chassis

1. Navigate to the **Configuration > Deploy** Tab.
2. In the left pane, click **Create Template** and then select '**From Reference Device**'.
3. In the Create Template dialog box, enter a unique name for the template. Add a description (optional)
4. Select the Template Type as '**Clone Reference Chassis**'. Click **Next**
5. In the Reference Device section, click **Select Device** to select the device whose configuration properties must be used for creating the new template. Note—Alternatively, you can select the target by entering the device name or Service Tag in the Advance Filters dropdown.

NOTE: The reference device selected for capturing the template is the Reference Setup: M1000e chassis.

6. Click **Finish**. A job is created.
7. To view the created job, go to the **Jobs** tab under **Monitor**.
8. For information about the job status, click on the **View Details** on the right pane.
9. The progress of the job is available at the **Execution History** grid of the job.

II. Create a template from the reference sled

1. Navigate to the **Configuration > Deploy** Tab.
2. In the left pane, click **Create Template** and then select 'From Reference Device'.
3. In the Create Template dialog box, enter a unique name for the template. Add a description (optional)
4. Select the Template Type as 'Clone Reference Server'. Click **Next**
5. In the Reference Device section, click **Select Device** to select the device whose configuration properties must be used for creating the new template. Note—Alternatively, you can select the target by entering the device name or Service Tag in the Advance Filters dropdown.

NOTE: The Reference device selected for capturing the template is the Reference setup: M640. Since both M640 Sleds have the same hardware configuration, the template is captured only from one of the sled and can be deployed on multiple sleds.

6. In the Configuration Elements section, select the check boxes corresponding to the device elements that must be cloned. You can select to clone the server properties such as iDRAC, BIOS, Lifecycle Controller, and Event Filters. By default, all elements are selected.
7. Click **Finish**. A job is created.
8. To view the created job, go to the **Jobs** tab under **Monitor**.
9. The progress of the job is available at the **Execution History** grid of the job.
10. For more details about the execution history, click on the **View Details** on the right pane. The execution history gives information about the Job status.

3.1.3 Associate VLAN pool to the server configuration Template

VLAN association is a critical step in the server template cloning.

It is mandatory that the VLAN ID deployed on the Reference setup matches with the VLAN ID associated to the newly created template.

This white paper is written with an assumption that the VLAN settings on Reference Chassis was done outside of the current OME appliance. VLAN pool can be re-used in case the same was already created in the OME appliance.

This section, can be skipped only if IOA deployment (discussed in [Creating and Deploying IOA Template](#)) is forecasted on the respective IOAs present in the chassis.

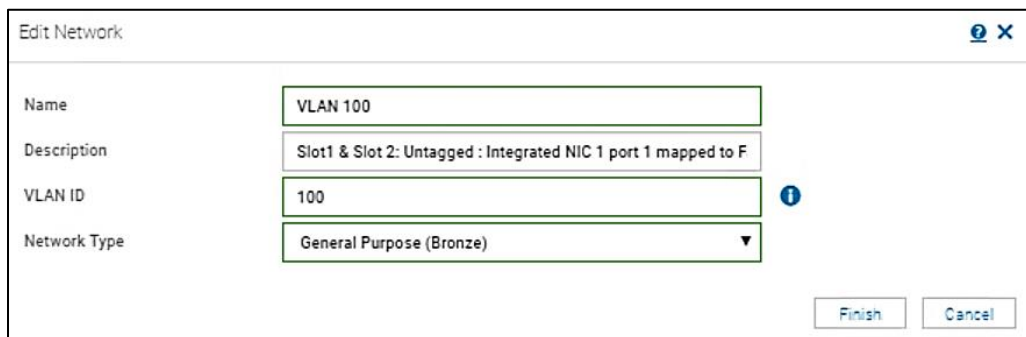
Note: Before going to the next step, record the details of the VLAN ID created and mapped to Tagged and Untagged port, on the Reference setup IOA server facing port. Keep the details handy for the creation of the VLAN pool.

I. Create VLAN pool in OM Enterprise according to the reference configuration in M1000e setup

- The M640 Sled is deployed with VLAN 100 (Tagged) in Integrated NIC port 1 mapped to Fabric A1 and VLAN 200 (Untagged) in Integrated NIC port 2 mapped to Fabric A2.

Create two VLAN pool with ID 100 and 200 using below steps:

1. Navigate to Configuration > Networks
2. Select Define and add in the Name, Description, VLAN ID and Network type.



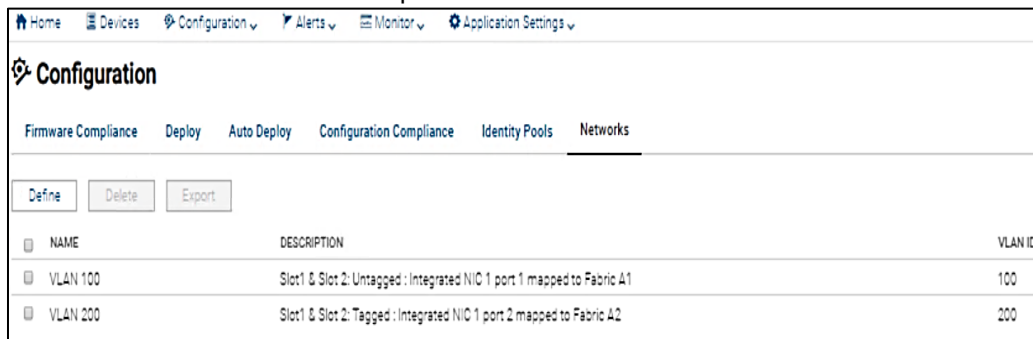
The screenshot shows a dialog box titled "Edit Network" with the following fields and values:

Field	Value
Name	VLAN 100
Description	Slot1 & Slot 2: Untagged : Integrated NIC 1 port 1 mapped to F
VLAN ID	100
Network Type	General Purpose (Bronze)

Buttons: Finish, Cancel

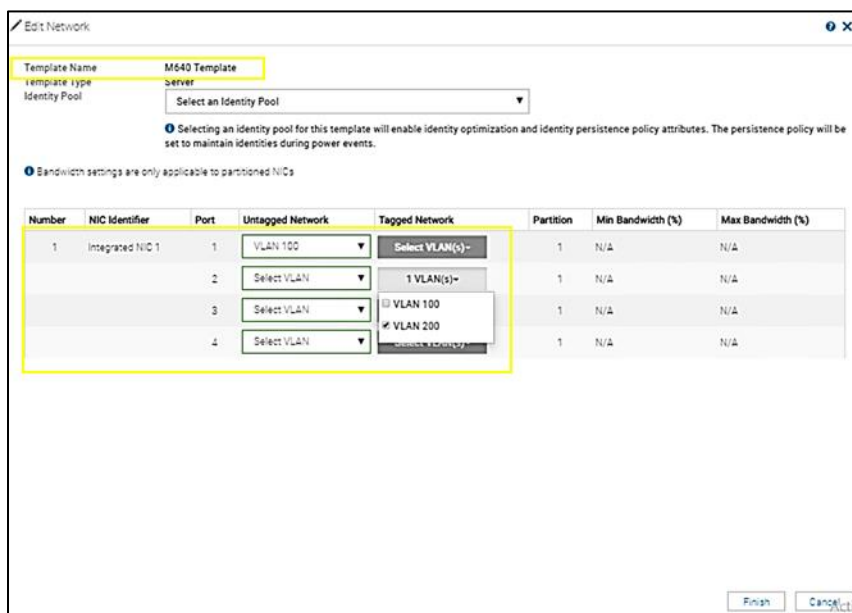
NOTE: The VLAN ID created should be a replica of that present in the reference setup

2.3.2.1 Click on Finish to save the VLAN pool.



II. Edit the template of the Sled to associate the VLAN pool

- Associate VLANID 100 to Integrated NIC 1 Port1 UnTagged Network and VLANID 200 to Integrated NIC 1 Port2 Tagged Network using the below steps:
 - Navigate to **Configuration > Deploy**
 - Select the Sled Template and select Edit Network.
 - Associate Tagged and Untagged VLAN pool, to the NIC ports of server configuration template. VLAN IDs will be deployed on server facing ports of IOAs.



NOTE: The VLAN ID associated should be a replica of that associated in the reference setup.

- Click on Finish to save the Template.

3.1.4 Deploy the template on Chassis and Server

Deploying templates is the process of sending and applying configuration settings to remote devices. A template may contain configuration settings for one or more specific functional areas, or a full device configuration. To deploy the template, you must first create the template. The template is crucial to the success of the deploy task. Ensure that the device used to create the template from, is configured exactly how you wish to deploy the same. A template that was created from a target may contain destructive attributes (especially if it contains RAID configuration settings). Deploying destructive attributes may cause data loss, connectivity issues, failure to boot and other problems. It is important to review and understand each destructive attribute before deploying it to target devices. If there is a need for some configuration settings to be changed from what has been captured when template was created, make sure to edit the template and exclude the same. Update the respective attributes and remember to save the changes.

I. Deploy the Chassis template on the new Chassis

1. Navigate to Configuration > Deploy tab.
2. Select the created chassis template and click on **Deploy Template**.
3. Select the target device as the new Chassis that was discovered.

NOTE: The target device selected is the one or more newly procured M1000e.

4. Schedule to **Run Now** and click **Finish**.

II. Deploy the Sled Template on the new Sled

1. Navigate to Configuration > Deploy tab.
2. Select the created sled template. Click on **Deploy Template**.
3. Select the new Sled as target device. Click Next.

NOTE: The target device selected is the M640 sled in Slot1 and Slot2 populated in one or more newly procured M1000e chassis.

4. The Boot to Network ISO allows you to install the specified OS post deployment.
 - i. Select the Share type as CIFS/ NFS.
 - ii. Provide the path to the OS image in the ISO path input box in “/OS-Images/OS-file.iso” format.
 - iii. Provide the Share IP address and Credentials that can be accessed from OM Enterprise console.
 - iv. Click Next.

Deploy Template: temp840c

Target

Boot to Network ISO

ORAC Management IP

Schedule

Enter ISO File and File Share Information

Specify the full ISO path and the share location.

Boot to Network ISO

Share Type

CIFS

NFS

ISO Information

ISO Path

/Share/OS-images/RHEL7.4.iso

Share Information

Share IP Address

10.0.0.1

Username

root

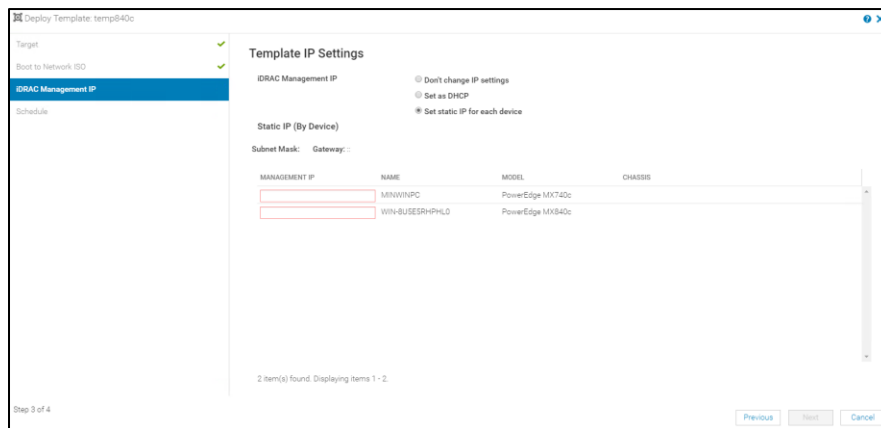
Password

.....

Step 2 of 4

Previous Next Finish Cancel

5. The IDRAC IP setting can be changed to DHCP or Static in the IDRAC Management IP Option.
 - If you wish to set static IP for the devices selected for deployment, select the **Set static IP for each device** options and provide the Management IP for each device.



6. Select the option **Run Now** if you wish to run the job immediately or deployment can be scheduled.

3.1.5 Creating and Deploying IOA Template

An IOA Template contains VLAN data, SNMP configurations, IOA modes, DCB configuration details etc. Hence post deployment, the new IOA is expected to have cloned all these configurations successfully.

Supported IOAs models:

The following table displays the IOA models supported by OMEEnterprise for creating and deploying the template.

Chassis (CMC) type	Supported IOA Model
Dell PowerEdge M1000E	PowerEdge M I/O Aggregator
Dell PowerEdge FX2/FX2s	PowerEdge FN410S PowerEdge FN410T PowerEdge FN2210S

Supported IOA Modes:

The following table displays the modes supported for extraction and deployment of template on IOA.

IOA Model	Standalone Mode	Programmable MUX Mode	Virtual Link Trunking Mode	Full-Switch Mode	Stack Mode
PowerEdge M I/O Aggregator	Yes	Yes	Yes	No	No
PowerEdge FN410S	Yes	Yes	Yes	No	No
PowerEdge FN410T	Yes	Yes	Yes	No	No
PowerEdge FN2210S	Yes	Yes	Yes	No	No

I. Create Template of an IOA

1. Navigate to Configuration > Deploy portal
2. Click on create template option, from the drop down select "From Reference Device"
3. Create template wizard pops up
4. Enter the template name and description, Select the template Type as Clone Reference IOA

Create Template

Template Information

Reference Device

General

Template Name: IOA Template

Description: Example of IOA Template and Cloning

Template Type:

- Clone Reference Server
- Clone Reference Chassis
- Clone Reference IOA

Step 1 of 2

Next Cancel

5. In Reference device section, select the device and click on finish button
6. Job will be created in jobs portal and when clicked on view details Task Execution History will be displayed.
7. Once create template job is completed, Template will be displayed in Deploy portal
8. Select the template and when clicked on view details Configuration details will be displayed in text format

Template Details

Template Name	IOA Template
Description	Example of IOA Template Cloning
Reference Device	PowerEdge FN 410S IOA
Last Updated	Jun 21, 2019 6:52:39 PM
Last Updated By	admin

Deploy Template Edit

Configuration Details

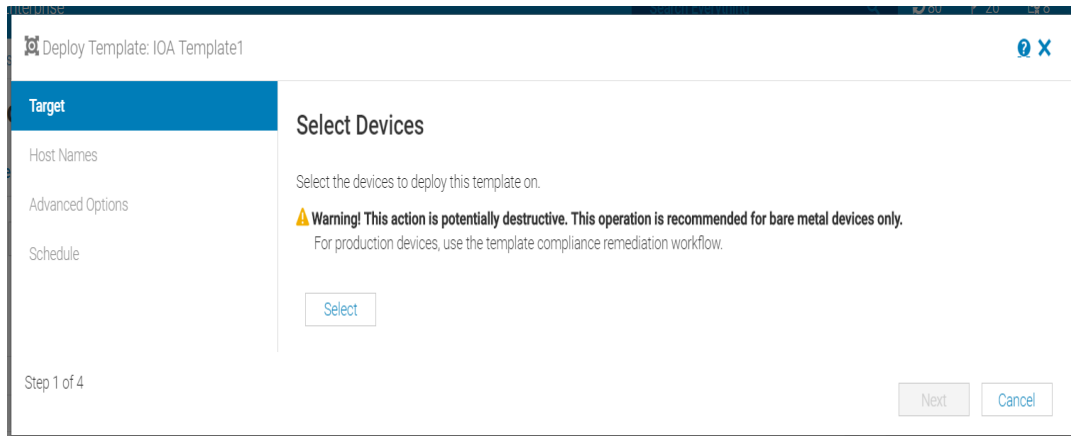
```
!Cloning Header Start
!ReleasePlatform FN
!ReleaseVersion 9.14(1.2)
!ReleaseSize 47869648
!ReleaseTime Jan 18 2019 10:11:04
!CardType s-FN410S-IOA
!Service-Tag FX5IOA2
!Serial-Number CN000000000016
!FCPortsPresent FALSE
!IOM-Mode standalone40G
!Checksum f14de94027a4ab6cecc2bb9ef0347c
!Cloning Header End

! Version 9.14(1.2)
!
```

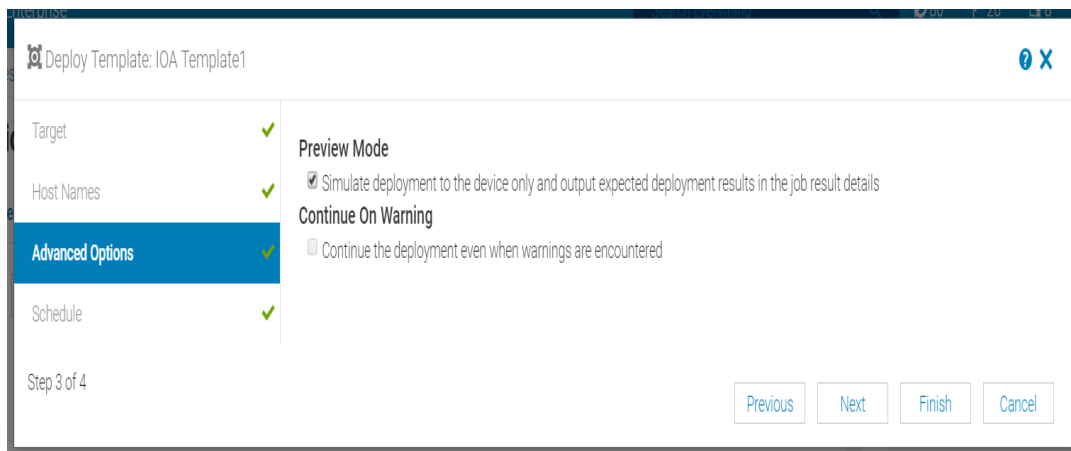
NOTE: Template of IOA will be captured only in supported modes, else an error message will be displayed in task.

Deploy the IOA Template

1. Navigate to Configuration → Deploy portal
2. Select the captured template and click on Deploy Template option
3. Deploy Template wizard pops up. In Target section, select the device on which template must be deployed (Number of devices selected will be displayed), click Next option



4. Host Names section will be displayed, Enter the Hostname for selected device, click next button.
5. Advanced option allows two ways of deployment.
Preview mode simulates the deployment and return the expected deployment result in the Task Execution history page. When deployment options are set to **“preview”** the actual configuration change is not being affected on the target IOA, only pre-checks are performed. Results of the pre-check are returned to the Task Execution history page.
If the Pre-Check in Task Execution history page is displayed as Warning, then **“Continue on Warning”** option can be enabled in the next deployment task to perform actual configuration changes on target IOA.



When deployment task is performed using Preview mode, Pre-Checks will be displayed as:

Success -> Success indicates, the configuration can be successfully deployed on the IOA without any failure

Warning -> Warning indicates, there is a low severity dependency mismatch which may need attention. However, you can continue the deployment with “Continue on warning” option.

Failure -> Failure indicates, the configuration cannot be applied on the target IOA.

6. Select the option **Run Now** if you wish to run the job immediately or deployment can be scheduled.

3.2 USE CASE 4:

This use case describes a complex deployment technique. Here, we discuss a way to successfully clone and deploy a complete Reference setup of an **M1000e** chassis configuration to a newly procured chassis having additional sleds as compared to the Reference setup, thereby requiring a separate VLAN association.

Note: This whitepaper is written with an assumption that the current OME appliance is not used for the Reference Setup configuration.

3.2.1 Chassis Configuration:

You have an **M1000e Chassis** containing two Sleds and two IOAs fully configured (represented as the Reference Setup) by OpenManage Enterprise based on your data center’s needs. The requirement is to replicate the complete configuration to one or more newly acquired M1000e chassis having the same exact hardware configuration.

Note: Ensure that the newly procured chassis has sleds placed in exactly the same slots as the reference chassis. The additional sleds can be placed in the other slots as desired. For example, sleds in the new chassis should be placed in Slots 1 and 2 if the Reference setup has sleds in those slots.

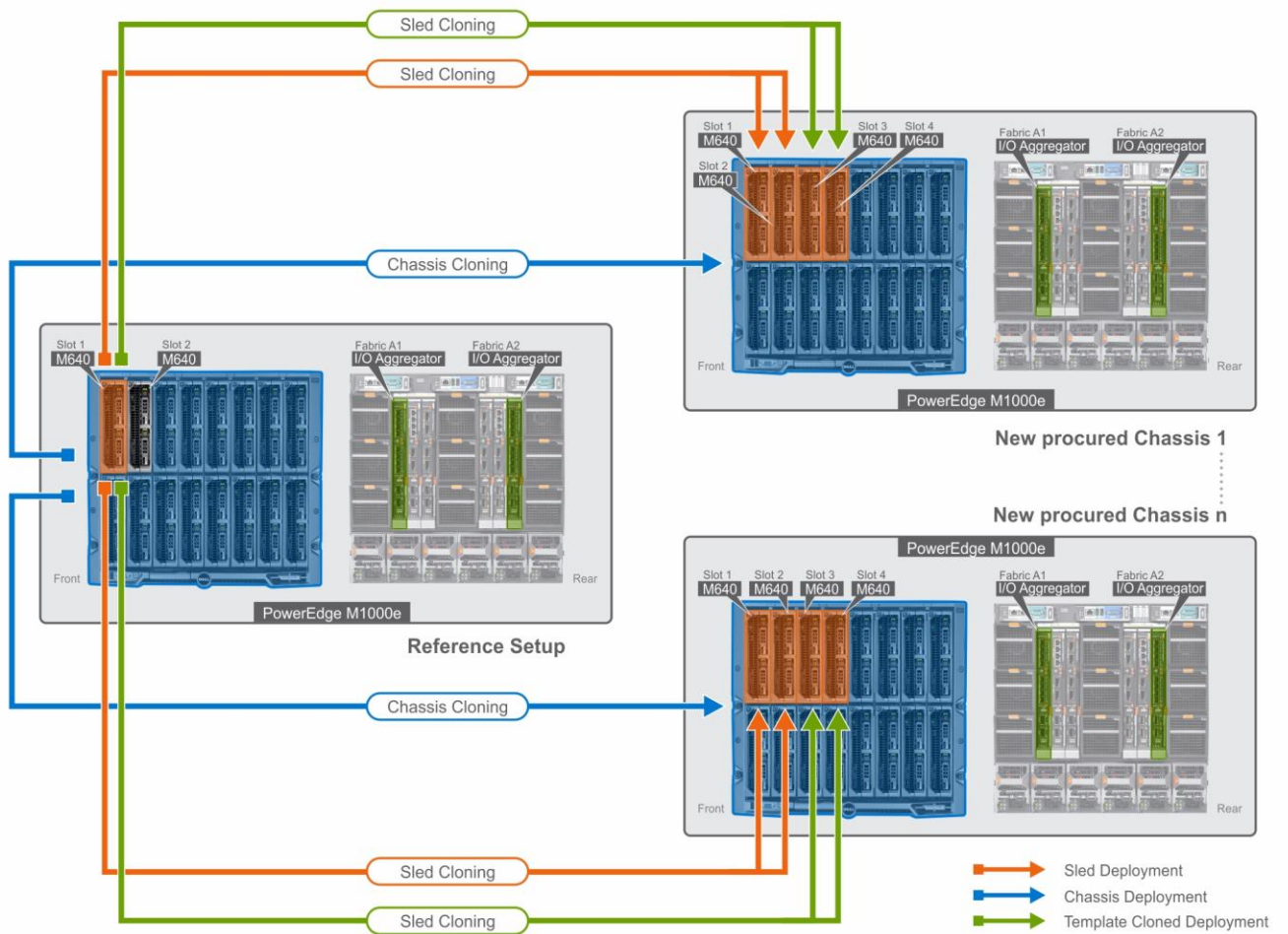


Figure 4 M1000e Template Cloning – Usecase 4

This Use case refers to the following Configuration:

Reference Setup	Newly procured Chassis
An M1000e chassis populated with two M640 Sleds in Slot1 and Slot2 and two M I/O aggregators in Fabric A1 and Fabric A2. Both M640 sleds have the same hardware configuration and VLAN configuration.	One or many chassis with hardware configuration that matches exactly as Reference setup, however, have an additional two M640 Sleds in Slot 3 and Slot 4 requiring a separate VLAN association.

To accomplish this use case:

Cloning of device configuration is performed on individual target devices.

For example: The Reference chassis template is captured and deployed on one or more new chassis. The Reference sled template is captured and deployed on one or more new sleds along with VLAN association. For the additional sleds in the new chassis, a copy of the sled template is taken to associate VLAN and deploy the template.

3.2.2 Capture the Template of M1000e Chassis and M640 Sled

This section describes how to create a template from a reference device. The 'reference device' is a device that has been discovered in OpenManage Enterprise, configured in a desired way and the configuration of the same is intended to be replicated on the equivalent devices. The reference template is crucial to the success of configuring your other devices. Make sure that the reference device is correctly configured before you create a template from it.

I. Create Template from the reference chassis

1. Navigate to the **Configuration > Deploy** Tab.
2. In the left pane, click **Create Template** and then select **'From Reference Device'**.
3. In the Create Template dialog box, enter a unique name for the template. Add a description (optional)
4. Select the Template Type as 'Clone Reference Chassis'. Click Next
5. In the Reference Device section, click Select Device to select the device whose configuration properties must be used for creating the new template. Note—Alternatively, you can select the target by entering the device name or Service Tag in the Advance Filters dropdown.
NOTE: The Reference device selected for capturing the template is the Reference Setup: M1000e chassis.
6. Click Finish. A job is created.
7. To view the created job, go to the Jobs tab under Monitor.
8. For information about the job status, click on the View Details on the right pane.
9. The progress of the job is available at the Execution History grid of the job.

II. Create Template from reference sled

1. Navigate to the Configuration > Deploy Tab.
2. In the left pane, click Create Template and then select 'From Reference Device'.
3. In the Create Template dialog box, enter a unique name for the template. Add a description (optional)
4. Select the Template Type as 'Clone Reference Server'. Click Next
5. In the Reference Device section, click Select Device to select the device whose configuration properties must be used for creating the new template. Note—Alternatively, you can select the target by entering the device name or Service Tag in the Advance Filters dropdown.

NOTE: The Reference device selected for capturing the template is the Reference setup: M640. Since both M640 Sleds have the same hardware configuration, the template is captured only from one of the sled and can be deployed on multiple sleds.

6. In the Configuration Elements section, select the check boxes corresponding to the device elements that must be cloned. You can select to clone the server properties such as iDRAC, BIOS, Lifecycle Controller, and Event Filters. By default, all elements are selected.
7. Click Finish. A job is created.
8. To view the created job, go to the Jobs tab under Monitor.
9. The progress of the job is available at the Execution History grid of the job.
10. For more details about the execution history, click on the View Details on the right pane. The execution history gives information about the Job status.

III. Clone template from the created template

1. Navigate to the **Configuration > Deploy** Tab.
2. Select the created M640 Template.

3. Click on Clone template.
4. In the Create Template dialog box, enter a unique name for the template (Example: M640 Template-Copy). Add a description (optional)
5. A copy of the M640 Template is created.

NOTE: This Template is used to deploy on M640 sleds present in Slot 3 and Slot 4 of the newly procured chassis.

3.2.3 Associate VLAN pool to the server configuration Template

VLAN association is a critical step in the server template cloning.

It is mandatory that the VLAN ID deployed on the Reference setup matches with the VLAN ID associated to the newly created template.

Note: Before going to the next step, record the details of the VLAN ID created and mapped to Tagged and Untagged port, on the Reference setup IOA server facing port. Keep the details handy for the creation of the VLAN pool.

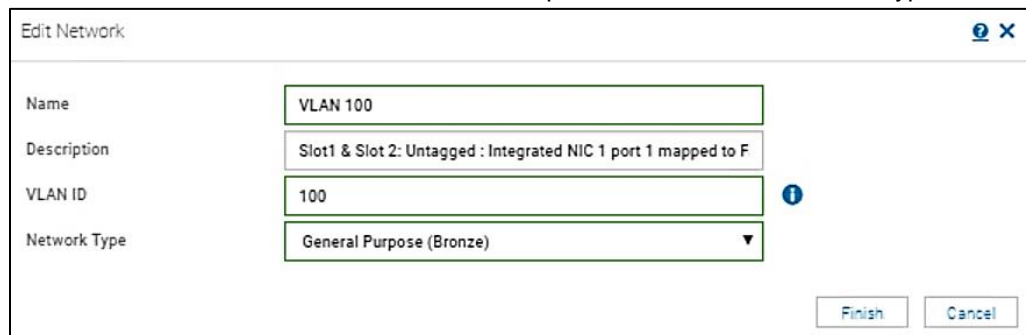
I. Create VLAN pool in OM Enterprise according to the reference M1000e setup

In this Use case example, let us consider the following:

- M640 Sled in Slot 1 and Slot 2 are deployed with VLAN 100 (Tagged) in NIC 1 port 1 mapped to Fabric A1 and VLAN 200 (Untagged) in NIC 1 port 2 mapped to Fabric A2.
- The additional M640 Sled in Slot 3 and Slot 4 requires VLAN 300 (Tagged) in NIC 1 port 1 mapped to Fabric A1 and VLAN 400 (Untagged) in NIC 1 port 2 mapped to Fabric A2.

Create four VLAN pool with ID 100,200,300 and 400 using below steps:

1. Navigate to Configuration > Networks
2. Select Define and add in the Name, Description, VLAN ID and Network type.



The screenshot shows a dialog box titled "Edit Network" with the following fields and values:

Field	Value
Name	VLAN 100
Description	Slot1 & Slot 2: Untagged : Integrated NIC 1 port 1 mapped to F
VLAN ID	100
Network Type	General Purpose (Bronze)

Buttons: Finish, Cancel

NOTE: The VLAN ID created should be a replica of that present in the reference setup

3. Click on Finish to save the VLAN pool.

NAME	DESCRIPTION	VLAN ID
VLAN 100	Slot1 & Slot 2: Untagged : Integrated NIC 1 port 1 mapped to Fabric A1	100
VLAN 200	Slot1 & Slot 2: Tagged : Integrated NIC 1 port 2 mapped to Fabric A2	200
VLAN 300	Slot5 & Slot 7: Untagged : Integrated NIC 1 port 1 mapped to Fabric A1	300
VLAN 400	Slot5 & Slot7: Tagged : Integrated NIC 1 port 2 mapped to Fabric A2	400

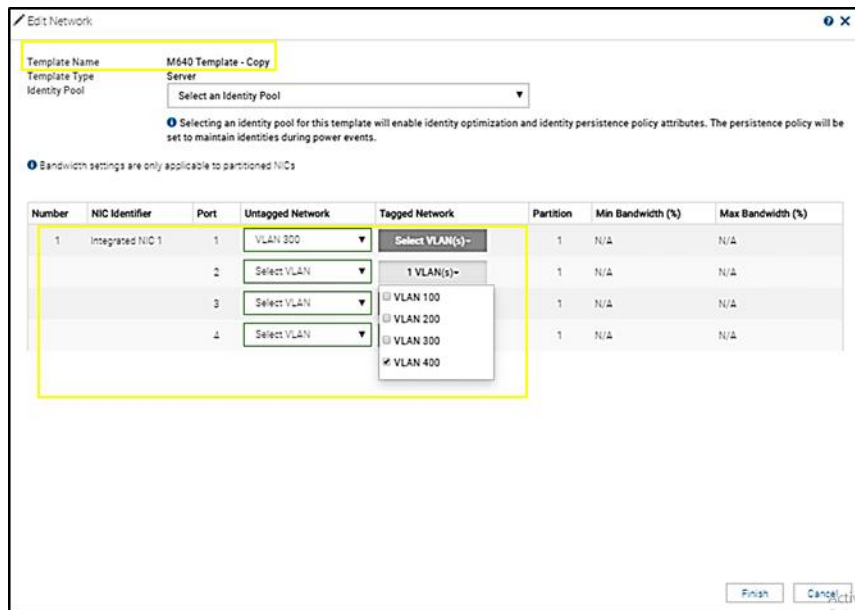
II. Edit the template of the Sled to associate the VLAN pool

- Edit the template of the sled to associate **VLANID 100** to Integrated NIC 1 Port1 Untagged Network and **VLANID 200** to Integrated NIC 1 Port2 Tagged Network using the below steps:
 1. Navigate to Configuration > Deploy
 2. Select the Sled Template and select Edit Network.
 3. Associate Tagged and Untagged VLAN pool, to the NIC ports of server configuration template. VLAN IDs will be deployed on server facing ports of IOAs.

Number	NIC Identifier	Port	Untagged Network	Tagged Network	Partition	Min Bandwidth (%)	Max Bandwidth (%)
1	Integrated NIC 1	1	VLAN 100	Select VLAN(s)-	1	N/A	N/A
2		2	Select VLAN	1 VLAN(s)-	1	N/A	N/A
3		3	Select VLAN	<input type="checkbox"/> VLAN 100	1	N/A	N/A
4		4	Select VLAN	<input checked="" type="checkbox"/> VLAN 200 <input type="checkbox"/> VLAN 300 <input type="checkbox"/> VLAN 400	1	N/A	N/A

NOTE: The VLAN ID associated should be a replica of that associated in the reference setup.

5. Click on **Finish** to save the Template.
 - Edit the cloned template of the sled to associate **VLANID 300** to Integrated NIC 1 Port 1 UnTagged Network and **VLANID 400** to Integrated NIC 1 Port 2 Tagged Network using the below steps:
 1. Navigate to **Configuration > Deploy**
 2. Select the **'M640 Template-Copy' Template** and select **Edit Network**.
 3. Associate Tagged and Untagged VLAN pool, to the NIC ports of server configuration template. VLAN IDs will be deployed on server facing ports of IOAs.



4. Click on Finish to save the Template.

3.2.4 Deploy the template on Chassis and Server

Deploying templates is the process of sending and applying configuration settings to remote devices. A template may contain configuration settings for one or more specific functional areas, or a full device configuration. To deploy the template, you must first create the template. The template is crucial to the success of the deploy task. Ensure that the device used to create the template from, is configured exactly how you wish to deploy the same. A template that was created from a target may contain destructive attributes (especially if it contains RAID configuration settings). Deploying destructive attributes may cause data loss, connectivity issues, failure to boot and other problems. It is important to review and understand each destructive attribute before deploying it to target devices. If there is a need for some configuration settings to be changed from what has been captured when template was created, make sure to edit the template and exclude the same. Update the respective attributes and remember to save the changes.

I. Deploy the Chassis template on the new Chassis

1. Navigate to Configuration > Deploy tab.
2. Select the created Chassis template. Click on Deploy Template.
3. Select the target device as the new Chassis that was discovered.

NOTE: The target device selected is the one or more newly procured M1000e.

4. Schedule to Run Now and click Finish.

II. Deploy the Sled Template on the new Sled

1. Navigate to Configuration > Deploy tab.
2. Select the created Sled template. Click on Deploy Template.
3. Select the new Sled as target device. Click Next.

NOTE: The target device selected is the M640 sled in Slot1 and Slot2 populated in one or more newly procured M1000e chassis.

4. The Boot to Network ISO allows you to install the specified OS post deployment.
 - i. Select the Share type as CIFS/ NFS.
 - ii. Provide the path to the OS image in the ISO path input box in “/OS-Images/OS-file.iso” format.
 - iii. Provide the Share IP address and Credentials that can be accessed from OM Enterprise console.
 - iv. Click Next.

Deploy Template: temp840c

Target ✓

Boot to Network ISO ✓

iDRAC Management IP ✓

Schedule ✓

Enter ISO File and File Share Information

Specify the full ISO path and the share location

Boot to Network ISO

Share Type

CIFS

NFS

ISO Information

ISO Path:

Share Information

Share IP Address:

Username:

Password:

Step 2 of 4

Previous Next Finish Cancel

- v. The iDRAC IP setting can be changed to DHCP or Static in the iDRAC Management IP Option.
 - o If you wish to set static IP for the devices selected for deployment, select the **Set static IP for each device** options and provide the Management IP for each device.

Deploy Template: temp840c

Target ✓

Boot to Network ISO ✓

iDRAC Management IP ✓

Schedule ✓

Template IP Settings

iDRAC Management IP

Don't change IP settings

Set as DHCP

Set static IP for each device

Static IP (By Device)

Subnet Mask: Gateway: .:

MANAGEMENT IP	NAME	MODEL	CHASSIS
<input type="text"/>	MINWINPC	PowerEdge MX740c	
<input type="text"/>	WIN-BUSESRPHLO	PowerEdge MX840c	

2 item(s) found. Displaying items 1 - 2

Step 3 of 4

Previous Next Cancel

- vi. Select the option Run Now if you wish to run the job immediately or deployment can be scheduled.

Deploy the M640 Template -copy to Slot 3 and Slot 4 of the newly procured chassis using the below steps:

1. Navigate to Configuration > Deploy tab.
2. Select the M640 Template-copy. Click on Deploy Template.

3. Select the new Sled as target device. Click Next.

NOTE: The target device selected is the M640 sled in Slot3 and Slot4 in one or more newly procured M1000e chassis.

4. The Boot to Network ISO allows you to install the specified OS post deployment.
 - i. Select the Share type as CIFS/ NFS.
 - ii. Provide the path to the OS image in the ISO path input box in “/OS-Images/OS-file.iso” format.
 - iii. Provide the Share IP address and Credentials that can be accessed from OM Enterprise console.
 - iv. Click Next.
5. The IDRAC IP setting can be changed to DHCP or Static in the IDRAC Management IP Option.
 - o If you wish to set static IP for the devices selected for deployment, select the **Set static IP for each device** options and provide the Management IP for each device.
6. Select the option Run Now if you wish to run the job immediately or deployment can be scheduled.

4 Clone chassis and server configuration with VLAN by changing the attributes values

OpenManage Enterprise allows editing of a template if you wish to customize the configuration of the target server. The attributes of template can be edited irrespective of whether the template was created using a Reference device or Reference Template file. The built-in templates can be edited only after cloning it.

Note: Editing of IOA templates is not supported in OpenManage Enterprise.

4.1 Use Case 5

You have a Chassis containing Sleds and IOA fully configured (represented as the Reference Setup) by OpenManage Enterprise based on your data center's needs and now wish to replicate the complete configuration, with few changes in the deployment attributes of chassis and sleds, to one or more newly procured chassis containing equal number of Sleds.

To accomplish this use case:

Cloning of device configuration is performed on individual target devices. The templates from a fully configured chassis and sled are captured, edited with the desired attribute values, and deployed on the newly procured chassis, sleds, and IOAs respectively.

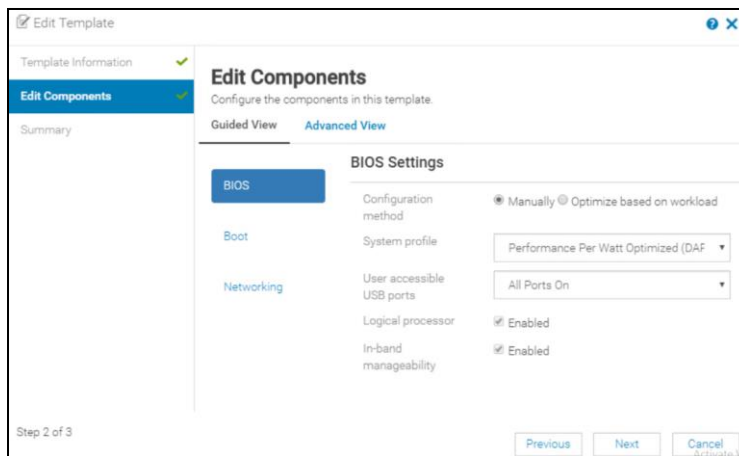
4.1.1 Capture the template of chassis and sleds

Capturing the templates of chassis and sleds have been discussed previously in various use case sections of this white paper. Refer the [Create Template](#) from one of the previous topics.

4.1.2 Edit the template of chassis and sleds

I. Editing a server template

1. Navigate to Configuration → Deploy portal
2. Select the Server Template and Click Edit.
3. Edit the Template Name and description is required in the Template Information grid.
4. Edit components gives two options **Guided View** and **Advanced View** to configure the components of the current template.
 - The **Guided View** enables to edit the attributes such as BIOS, boot sequence, and networking. If the configuration elements are not set while creating the template, they will not be displayed during the edit mode.
 - The **Advanced View** mode enables you to edit all the available server configuration settings.
5. Based on your target server setting requirements, if you wish to modify the Boot Sequence settings, Network Bandwidth allocation, Exclude components/attributes Deployment Template.
 - Edit the Boot property of the template and change the Boot sequence.
 - Modify the Network property of the template and edit the Min/Max Bandwidth to match the Target setting requirement.
 - Advance View allows you to exclude the required attributes from deploying.

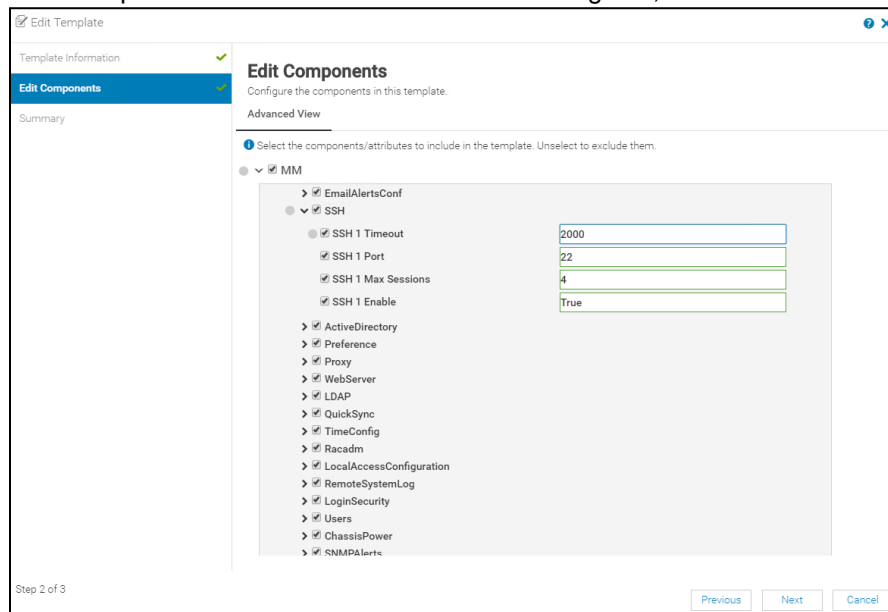


6. Review the modification in the Summary and click Finish to save the Template.

II. Editing a chassis template

Chassis Template gives **Advanced View** option mode that enables to edit all the available chassis Management Module components.

1. Navigate to Configuration → Deploy portal
2. Select the Chassis Template and Click **Edit**.
3. Edit the Template Name and description if required in the Template Information grid.
4. Based on your Target chassis setting requirements, if you wish to modify a component, say change the SSH 1 Timeout
 - Go to the SSH dropdown and in the **SSH 1 Timeout** Dialog box, and edit the Timeout number. Click **Next**.



5. Review the modification in the Summary and click Finish to save the Template.

4.1.3 Deployment of Template on chassis and sleds

Refer to the [deployment](#) topics mentioned in the previous sections of this white paper.

A Technical support and resources

- [Dell.com/support](https://www.dell.com/support) is focused on meeting customer needs with proven services and support.
- For OpenManage Enterprise documentation on the Dell support site, see [OpenManage Enterprise documents](#)