

Simplified discovery of Dell EMC PowerEdge modular infrastructure (MX7000) in Dell EMC OpenManage Essentials

This Dell technical white paper provides information about discovering a Dell EMC PowerEdge MX7000 chassis and its associated blades by using the Guided Discovery wizard in OpenManage Essentials.

[Abstract](#)

This Dell technical white paper provides information about discovering a Dell EMC PowerEdge MX7000 chassis and its associated blades by using the Guided Discovery wizard.

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Revisions

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Executive summary

Dell EMC OpenManage Essentials version 2.5 introduces a new MX chassis discovery feature which simplifies the discovery process for Dell PowerEdge modular infrastructure (MX7000). This technical white paper describes the use of MX chassis discovery feature which helps in the discovery and inventory of chassis along with its blade servers located within the chassis by using only the IP address of the chassis.

1 Introduction

The complete MX chassis discovery feature introduced in OpenManage Essentials version 2.5 is enabled with the help of the new MX Chassis Discovery - All Components filter in the **Guided Discovery wizard**. With the help of a complete MX chassis discovery feature, you can discover all the blade servers installed in the same chassis by only discovering the MX7000 chassis by using its IP address.

1.1 Prerequisites

The following are the prerequisites for successfully discovering MX chassis and its components by using the complete MX chassis discovery feature:

- Complete chassis discovery feature is supported only in OpenManage Essentials version 2.5 or later.
- To access the **MX Chassis Discovery - All Components** filter, the discovery range must be added by using **Guided Discovery wizard**.

Note—From OpenManage Essentials version 2.1 and later versions, **Guided Wizard** is the default discovery wizard configuration setting. You can change this setting by clicking **Settings**→**Discovery Settings**.

2 Discover complete MX chassis in OpenManage Essentials

2.1 Discover the MX chassis and its iDRAC components

1. Click **Manage** → **Discovery and Inventory**.
The **Discovery and Inventory Portal** is displayed.
2. Under **Common Tasks**, click **Add Discovery Range**.
The **Discovery Range Configuration** page is displayed.
3. Select the **Save as Group** option and enter a name for the group in the appropriate field.

Note—It is mandatory to save the discovery range as a group for discovering the chassis and its components by using the **MX Chassis Discovery – All Components** filter.

4. Enter the IP address of the MX chassis in the appropriate field and click **Add**.

Discover Devices

Discover Devices | Discovery Range Configuration 1/4

Discovery Range Configuration

Device Type Filtering

ICMP Configuration

Summary

Specify IP address, range, or host name.

Save as Group Group Name:

Enter an IP address or a range. The first octet cannot be zero. Specify a range (for example, 12-115) or wildcard(*) in the last two octets.

IP address / range: . . . Name :

Host name:

Subnet mask: . . .

IP Range / Host Name	Discovery Range Name	Subnet Mask
100.96.45.187		255.255.255.0

Figure 1 Enter IP address of the chassis on the Discovery Range Configuration page

5. Click **Next**.
The **Device Type Filtering** page is displayed
6. Select **MX Chassis Discovery - All Components** and click **Next**.

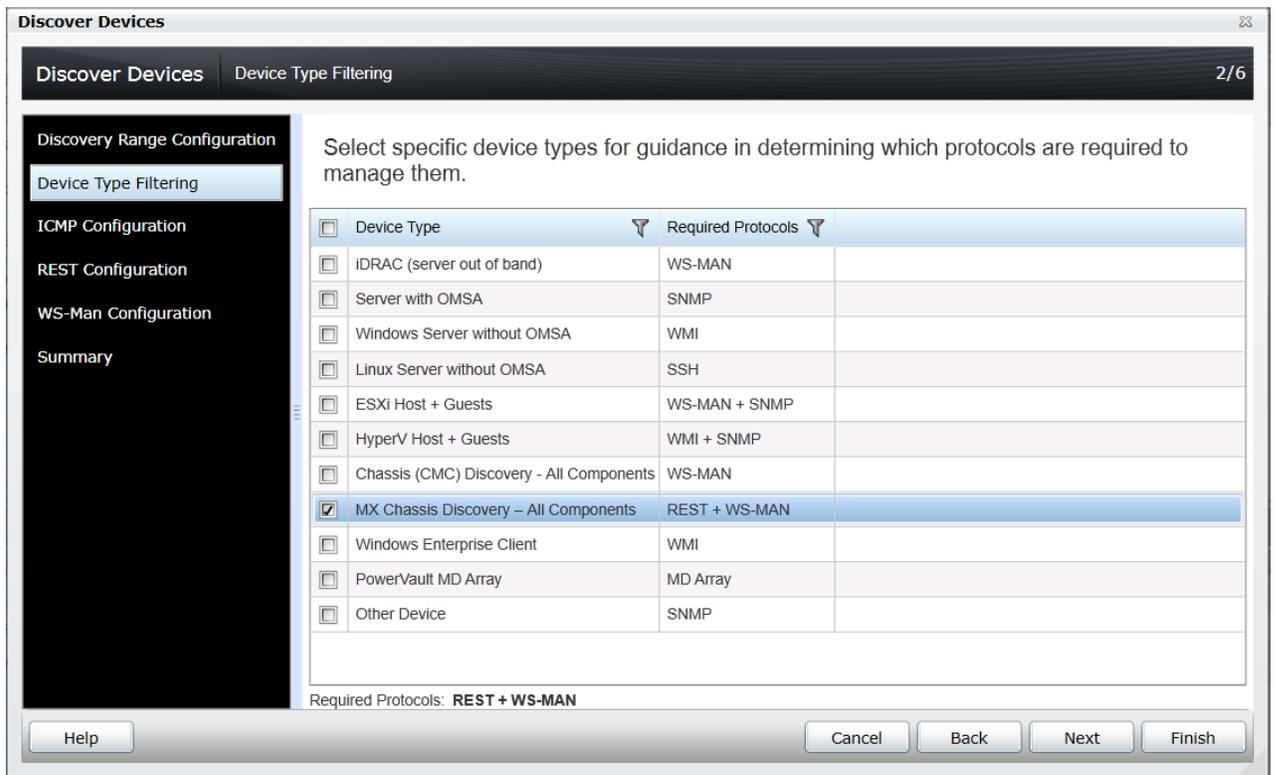


Figure 2 Select the device types for determining protocols

7. On the **ICMP Configuration** page, if required, change the Timeout and Retries values based on your preference.

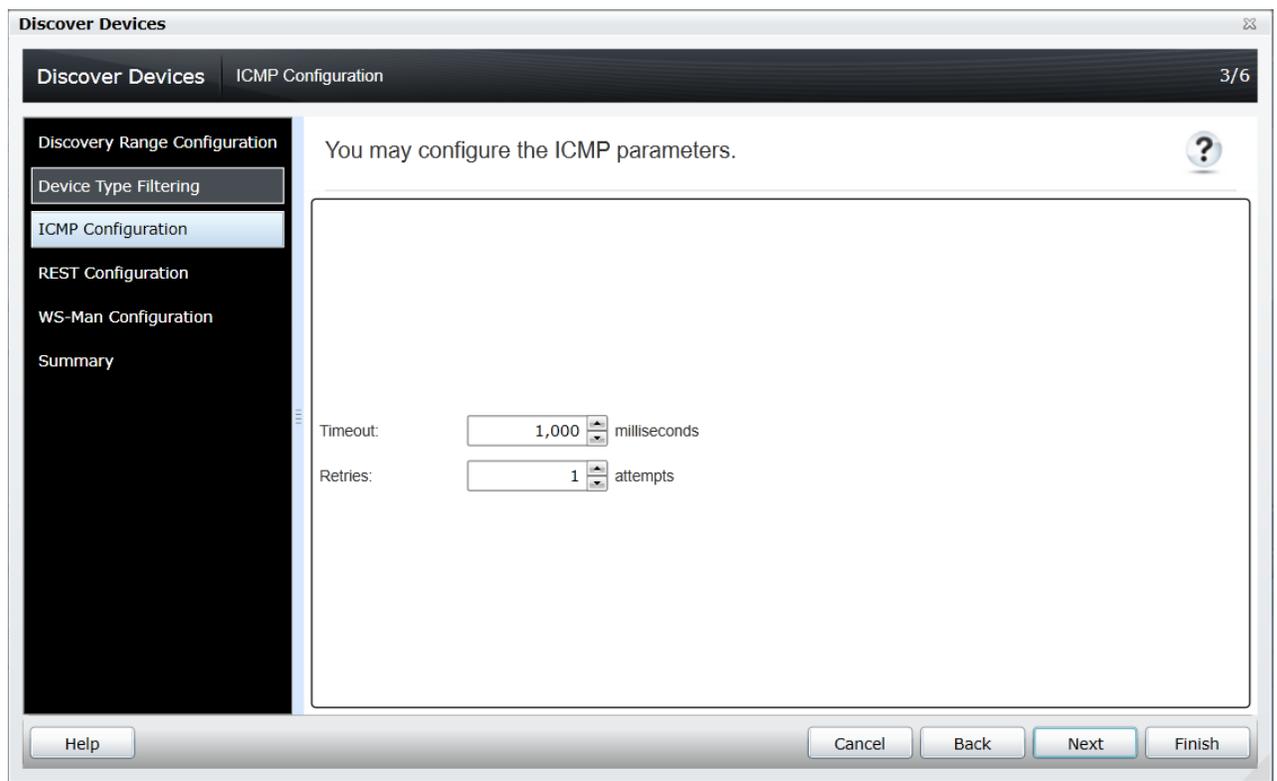


Figure 3 Configure the ICMP properties for discovering MX7000 chassis in OpenManage Essentials

8. Click **Next**.
The **REST Configuration** page is displayed.
9. Enter the REST credentials of the MX chassis.

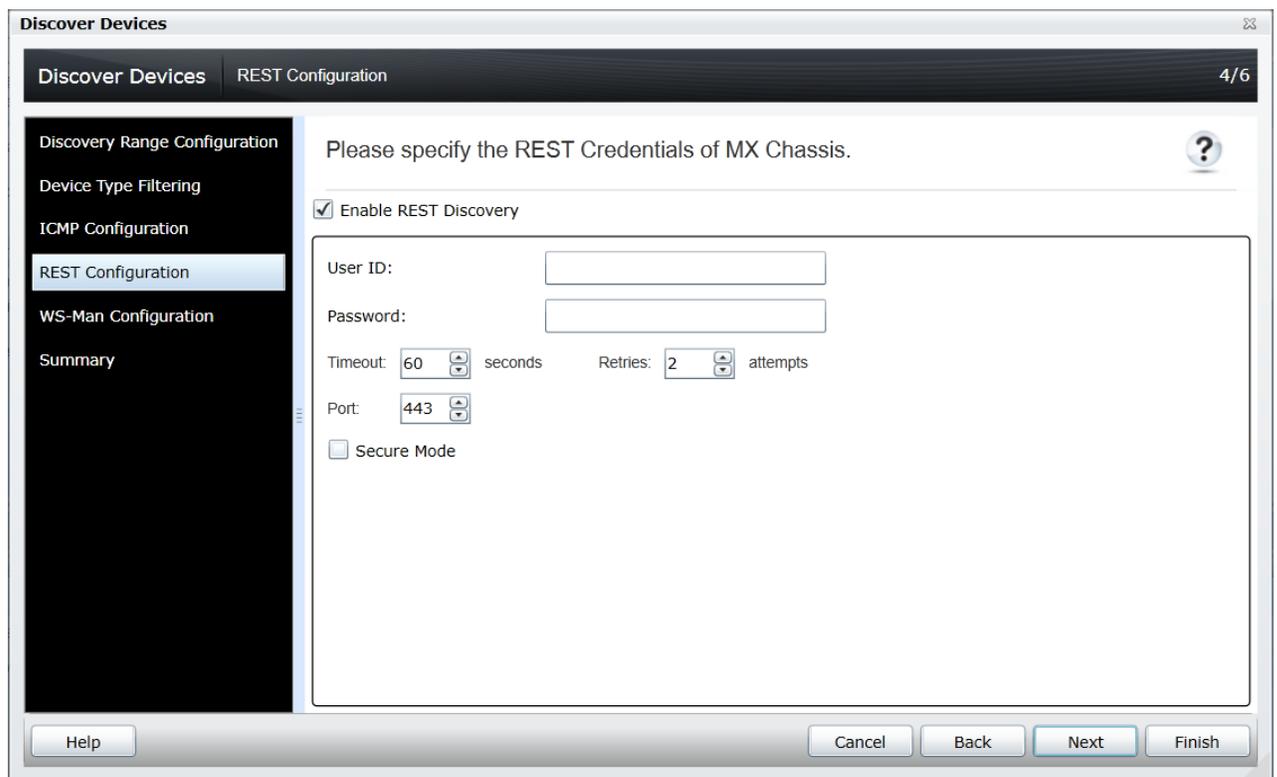


Figure 4 REST Configuration Page

10. Click **Next**.

The **WS-Man Configuration** page is displayed.

11. Enter the WS-Man credentials of iDRACs of blade servers installed on the MX chassis.

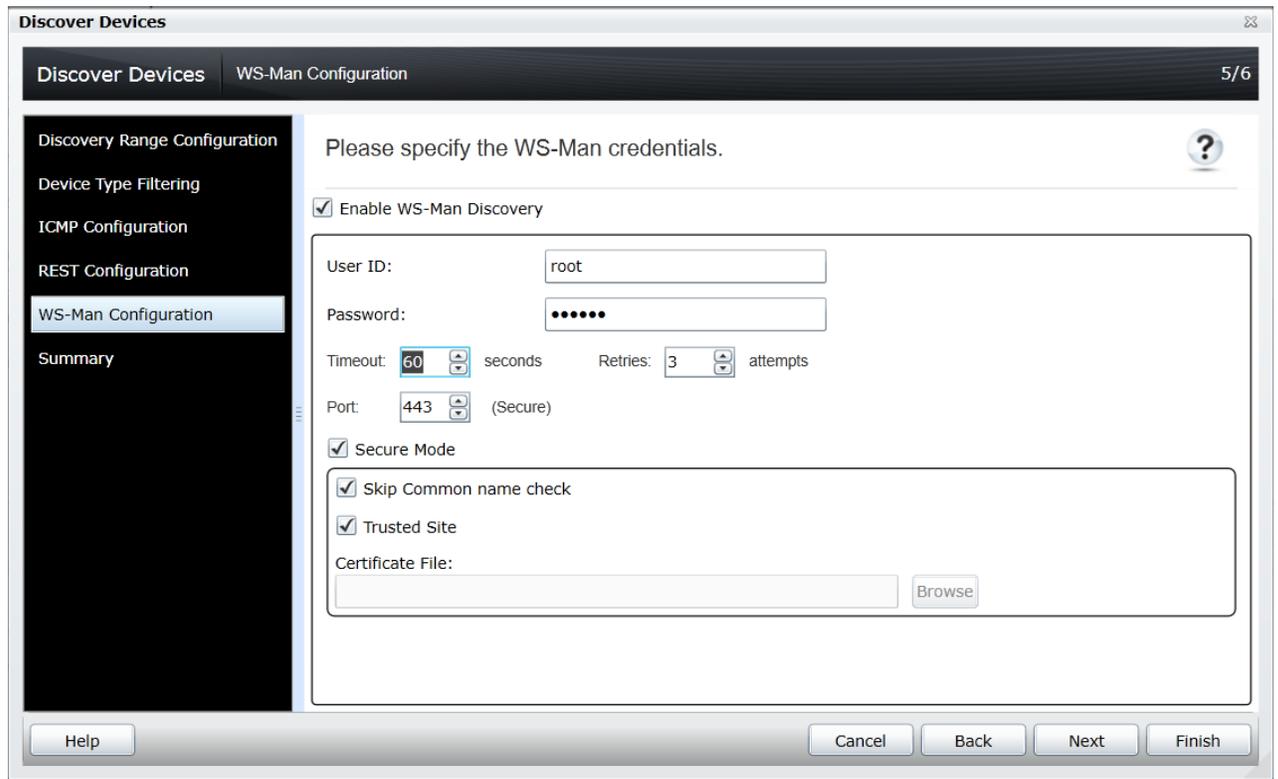


Figure 5 Specify WS-Man credentials for discovering MX7000 chassis in OpenManage Enterprise

12. Click **Next**.

The **Summary** page is displayed

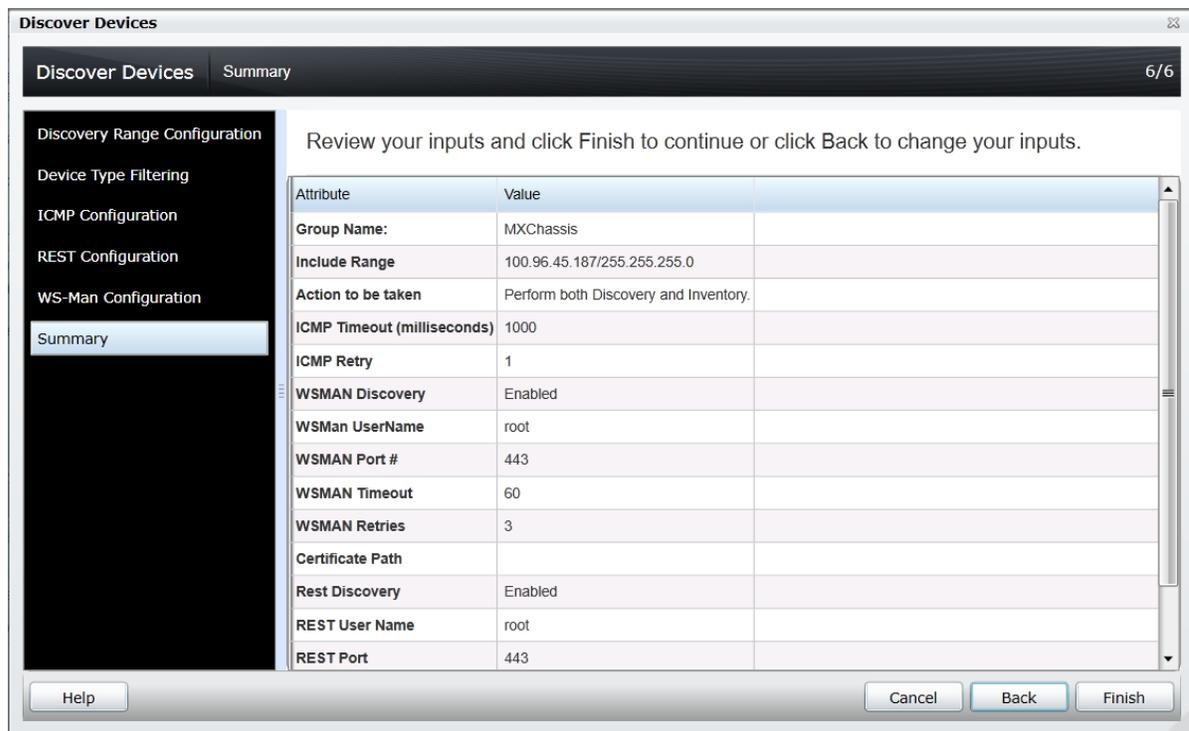


Figure 6 Summary Page

13. Click **Finish**.

A discovery job for discovering the MX chassis and its components (blade servers) is initiated.

During the discovery and inventory of the chassis, all the blade servers are added as part of the discovery and inventory.

Note—Providing IP address range on the **Discovery Configuration** page (see Figure 1) is also supported for complete chassis discovery. For example, 192.168.10.* or 192.168.1.1-30.

2.2 Auto-discovered devices associated to MX chassis

After the discovery and inventory cycle of the MX chassis and blade servers is complete, select the **Discovery Range Group** to view the complete details of the devices discovered in the range. For example, MX chassis and auto-discovered devices associated to the MX chassis (blade servers) as shown in 0.

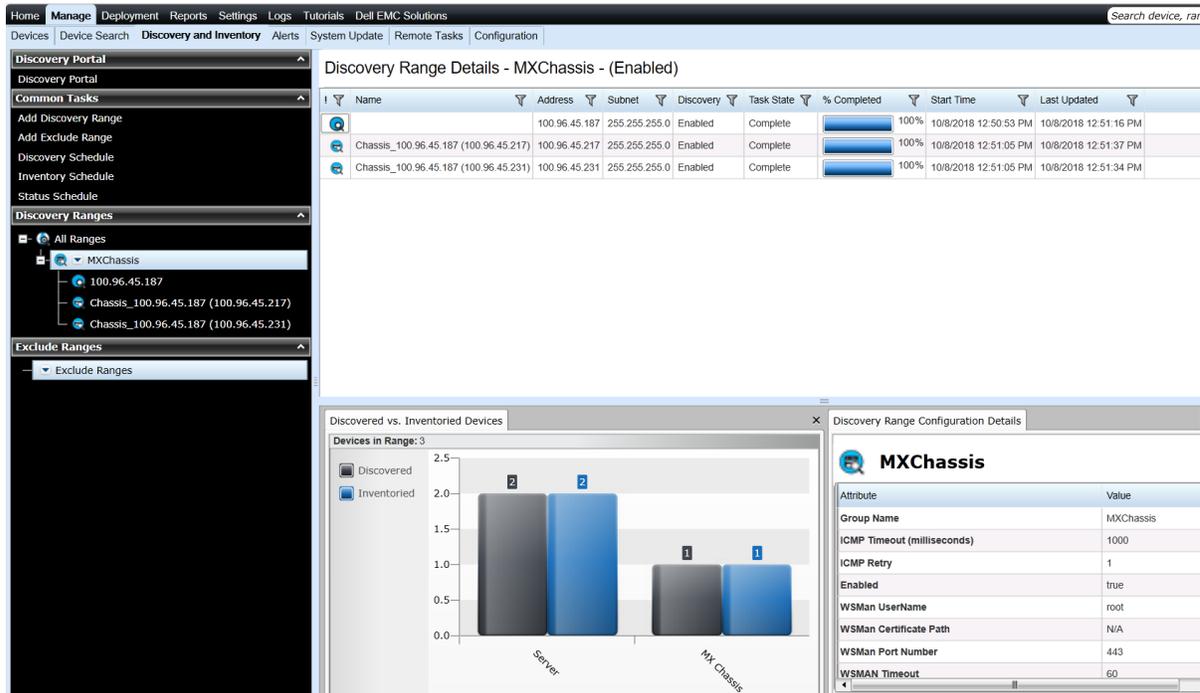


Figure 7 View full info about the MX chassis and servers associated with it

In 0, you can observe that discovering MX chassis IP by using complete chassis discovery feature resulted in auto-discovery of two blade servers (iDRACs).

The discovery range for the auto discovered devices - has the following naming convention:

Chassis_<Chassis_IP_address> (<Component_IP_address>)

where <Chassis_IP_address> is the IP address of MX chassis in which the device is present and <Component_IP_address> is the IP address of the iDRAC.

The chassis range that is entered and auto-discovered device discovery ranges (blade servers) will display different icons that allow you to easily identify the group.

2.3 Discovery, inventory, and status operations

The MX chassis device right-click options, **Refresh Inventory** and **Refresh Status**, available in the device tree and the **Perform Discovery Now**, **Perform Discovery and Inventory Now**, **Perform Status Polling Now** and **Perform Inventory Now** options available in the **Discovery and Inventory** portal result in the same action on all the auto-discovered devices.

For example, to perform status polling of the MX chassis and all auto-discovered devices associated to the MX chassis, you can do one of the following:

- Click **Perform Status Polling Now** in the **Discovery and Inventory** portal. See Figure 8.
- Click **Refresh Status** in the device tree. See Figure 9.

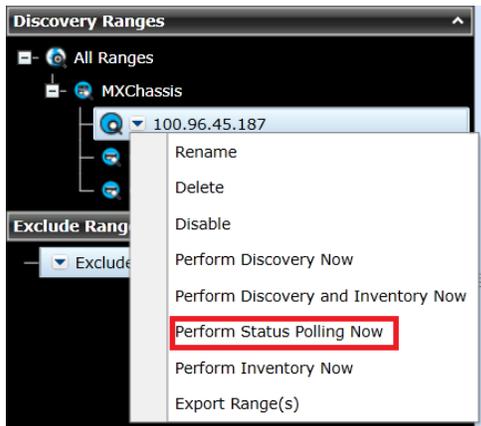


Figure 8 Performing status poll of MX chassis and all auto discovered devices associated to the MX chassis by using the MX chassis discovery range right-click option in the **Discovery and Inventory** portal.

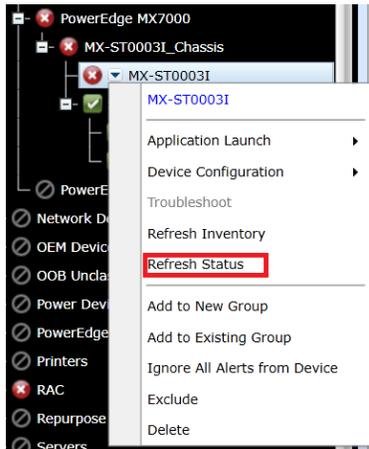


Figure 9 Performing status poll of MX chassis and all auto discovered devices associated to the MX chassis by using the MX chassis device right-click option in the device tree.

If these devices were discovered separately, the right-click operations on the auto-discovered blade server ranges will have the same behavior as in the case. This gives the flexibility to perform the required operation on auto-discovered devices from the discovery ranges in Discovery Portal.

2.4 Addition and removal of blades in MX chassis

When a new blade server is inserted into MX chassis after a MX chassis is discovered by using the MX Chassis Discovery - All Components filter, it is auto discovered in the next scheduled discovery or inventory cycle of the MX chassis. You can also manually initiate the discovery of the blade server by using the Perform Discovery and Inventory Now or Refresh Inventory option as described in the [Discovery, inventory, and status operations](#) section.

Similarly, if a blade server is removed from the MX chassis after the MX chassis is discovered using the MX Chassis Discovery - All Components filter, it is removed from the MX chassis group in the next scheduled discovery or inventory cycle of the MX chassis. You can also manually initiate the removal of the blade server

from the MX chassis by using the Discovery and Inventory Now or Refresh Inventory option as described in the [Discovery, inventory, and status operations](#) section. In addition to this, the removed blade server will be de-associated from the MX chassis group and associated to All Ranges in the Discovery Ranges section of the Discovery and Inventory page.

2.5 Associate blades to a MX chassis that is discovered before using the complete chassis discovery feature

It is recommended that you either use only the MX Chassis Discovery - All Components filter to discover the chassis and its associated components or you discover the MX chassis and its associated components individually. However, if the blade servers of MX chassis are already discovered in OpenManage Essentials (while the MX chassis is not discovered and you use the MX Chassis Discovery - All Components filter to discover the MX chassis and its associated components (blade servers)), all the previously discovered blade server ranges are associated to the MX discovery range group as shown in 0 and the names of those discovery ranges are updated as described in [Auto discovered devices associated to MX chassis](#).

2.6 Prevent the discovery of iDRACs

If you prefer not to include one or few associated blade servers to be grouped under the MX chassis or if you do not want to discover one or few associated blade servers by using the MX Chassis Discovery - All Components filter, you can do so by adding the blade server IP address to Exclude Ranges in the Discovery and Inventory portal.

If you prefer to discover only the MX chassis and do not want any of the associated blade servers to be auto-discovered by using complete chassis discovery feature, clear the Enable WS-Man Discovery option in WS-Man Configuration shown in Figure 5.

3 Troubleshoot the MX7000 discovery issues in OpenManage Enterprise

If the complete chassis discovery feature does not successfully auto-discover the required devices associated to the MX chassis, you may find more details in Application Logs in the Logs portal. As shown in Figure 10, details are included in the Application Logs if OpenManage Essentials finds an invalid IP address, the IP address is in exclusion list, and others.

Severity	Time	Message
Information	10/8/2018 4:41:24 PM	Chassis Discovery Task: Blade IP(100.96.45.217) of CMC(100.96.45.187) is invalid or in Exclusion range. Skipping this Address.CMC Slot:3, ServiceTag:null, Model:PowerEdge MX740c
Information	10/8/2018 4:41:24 PM	Chassis Discovery Task: No Valid Switch IPs found for Chassis:100.96.45.187

Figure 10 Application Logs messages indicating the issues in discovering devices associated to the MX chassis while performing the complete chassis discovery

If the MX chassis is discovered as unknown device in OM Essentials, then ensure the following:

- MX chassis web server certificate is valid.
- The REST credentials are valid for the MX chassis.

3.1 FAQs

1. **Question**—How do I use the complete chassis discovery feature if the MX chassis has one credential and all the iDRACs have other common credentials?

Answer—You can discover the MX chassis and blade servers by following the instructions in step 10 and 11 of the [Discover complete MX chassis in OpenManage Essentials](#) section.

2. **Question**—If each blade server in the MX chassis has different credentials, how do I use the complete chassis discovery feature to discover all the blade servers?

Answer—The complete chassis discovery feature does not have provision to enter different credentials for each blade server. To auto-discover all blade servers by using the complete chassis discovery feature, all iDRACs in MX chassis must have the same credentials.

3. **Question**—The blade servers in a MX chassis are not getting discovered while using the MX Chassis Discovery – All Components filter. How can I troubleshoot further?

Answer: See the Application Logs page after the discovery and inventory is completed and ensure that the MX chassis components have valid IP address and are not in the exclusion range.

4. **Question**—I discovered the Dell chassis and its components by using the MX Chassis Discovery – All Components filter of Guided Wizard. I notice that the discovery range group of the previously discovered blade servers has moved within the discovery range group of the chassis. However, the blade servers that I had discovered earlier are still inventoried using the SNMP protocol. What should I do?

Answer—It is recommended that you either discover each blade server individually or discover the chassis and its components by using the MX Chassis Discovery – All Components filter of the Guided Wizard. If you had discovered a few blade servers prior to discovering the chassis using the MX Chassis Discovery – All Components filter of the Guided Wizard, do the following:

1. Edit the chassis discovery range group.
2. Select the **MX Chassis Discovery – All Components** filter.
3. Provide the credentials of the chassis and the blade servers (iDRACs).
4. Save the changes.
5. Right-click the chassis range group and click **Perform Discovery and Inventory Now**.
The blade servers will use the WS-Man credentials during the next inventory cycle.

5. **Question**—How can I delete all the auto discovered blade servers along with MX chassis?

Answer—To delete all the auto-discovered blade servers along with MX chassis, delete the Group created for the MX chassis.

6. **Question**—Can I discover multiple MX chassis or IP Ranges by using MX Chassis Discovery – All Components filter?

Answer—Yes. See the information included after step 13 in [Discover the MX chassis and its iDRAC components](#) section.

A Technical support and resources

[Dell.com/support](https://dell.com/support) is focused on meeting customer needs with proven services and support.