



Hewlett Packard
Enterprise

HPE Network Node Manager i Software 10.20

Forcing an Interface to be Polled

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Interface Polling

This document describes how to force NNMi to poll an interface. This document provides a step-by-step example of the recommended process.

Problem Statement

By default, NNMi monitors interfaces that are connected in the NNMi topology or router interfaces that host an IP address. You might run into situations that require NNMi to monitor additional interfaces. This paper describes the steps you must complete to do this.

Solution

The easiest way to configure NNMi to monitor an interface is for you to create a monitoring configuration policy that monitors interfaces with a specific custom attribute. After you create this new monitoring policy, you must put the specific custom attribute on the interface. Finally, from the NNMi console, run a configuration poll on the node to let NNMi know that it needs to monitor the interface.

Solution Example

Refer to the node called mcrouter184 shown in **Figure 1**. This node currently only has three connected interfaces: Fa0/0, Et1/0 and Se0/1.

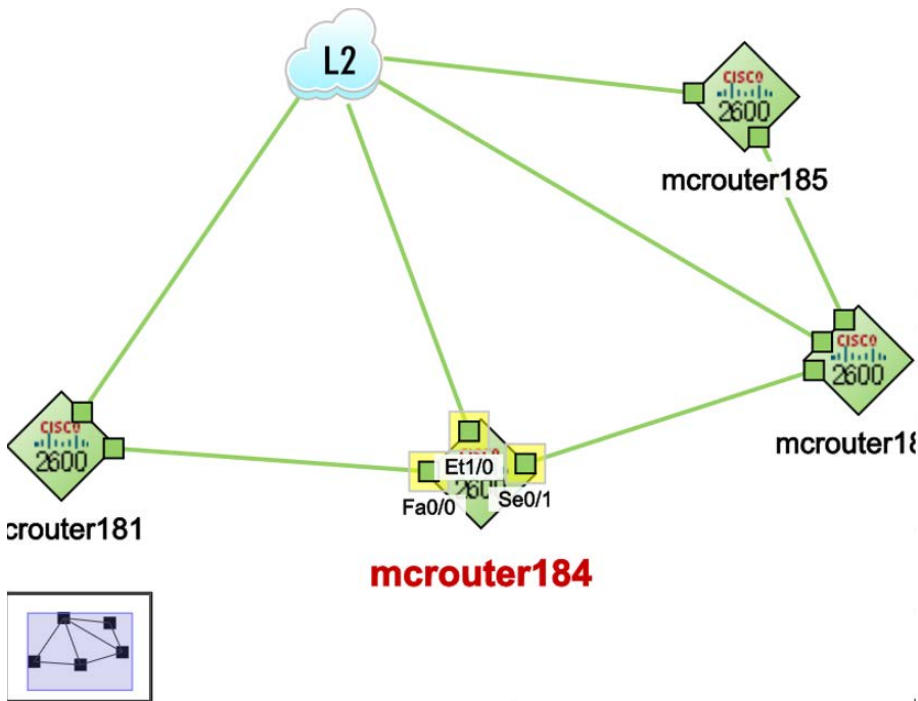


Figure 1: Node mcrouter184

Double-click the node and choose the Interfaces tab to see the list of interfaces as shown in **Figure 2**.

There are few interfaces such as Fa 0/1, Se0/0 that are not monitored and are in the **NoStatus** state. This is because a non-seeded or not discovered network device, hosts the interface that connects the link from Fa0/1 or Se0/0 of mcrouter184. Such interface cannot view the neighboring interfaces due to the missing network devices and are called Unconnected interfaces. To monitor an unconnected interface, you must create an interface group and apply a monitoring policy that helps you to monitor such interface.

For example, if you want to monitor interface Fa0/1 along with the interfaces that are already being monitored, you must perform the following steps:

1. Create an interface group.
2. Create a polling policy for the members of this interface group.

3. Assign interface **Fa0/1** as a member of this group.

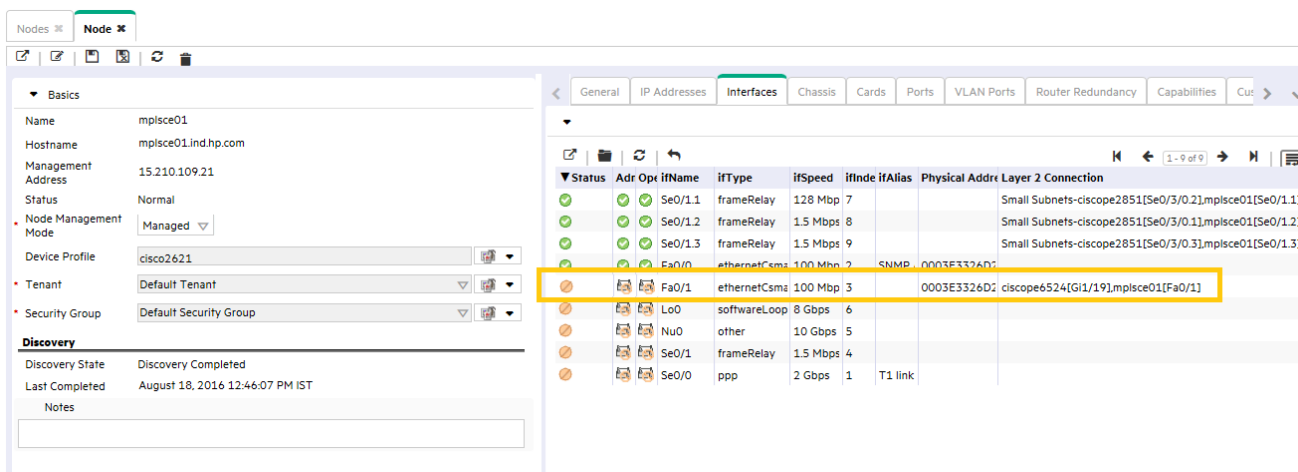


Figure 2: Interface Fa0/1

Setting up Polling

This section describes a one-time action that you do not need to do for each additional group of managed interfaces

Creating an Interface Group

1. The first step is to create an interface filter based on custom attributes as shown in **Figure 3**.
2. From the NNMi console, click Configuration.
3. Click **Object Groups**
4. Click **Interface Groups**
5. Click the **New** button to create a new Interface Group

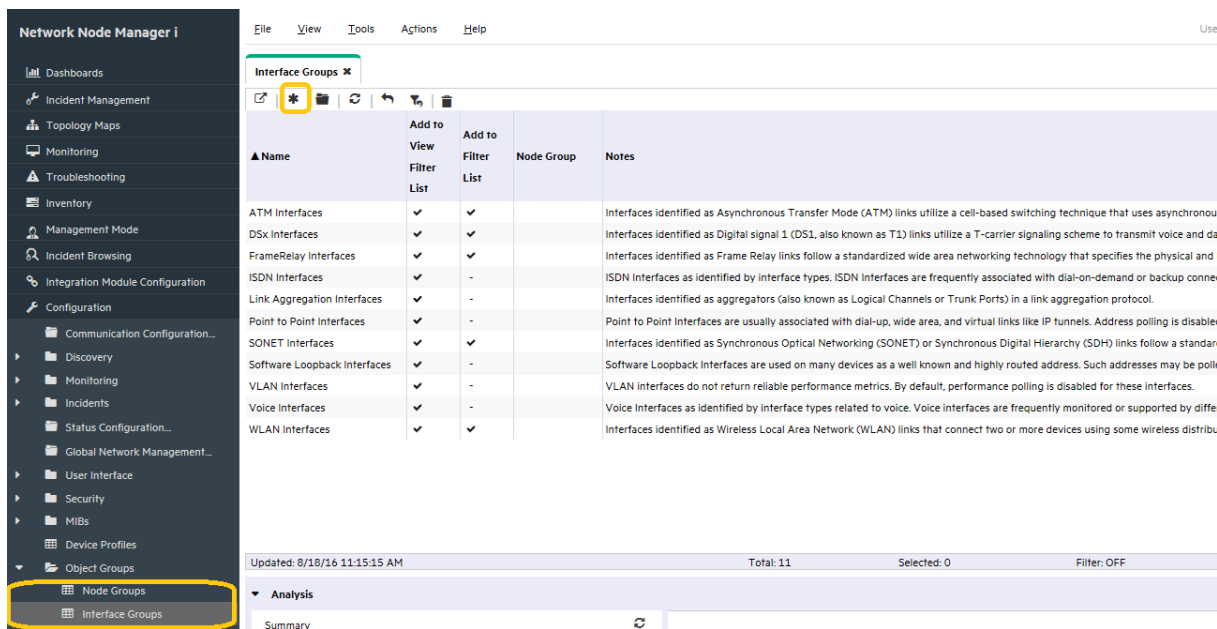


Figure 3: Creating an Interface Filter

6. Click the **Additional Filters** tab as shown in **Figure 4**.

7. For this example, name this group Force Poll IF Group.
8. The Node Group of Routers chosen here is optional. It indicates interfaces to be filtered only from nodes belonging to Routers node group.
9. Set up the logic as shown in the figure below. The logic may or may not include EXISTS operator. Figure 4 below shows the example with EXISTS operator. The logic will look for a custom attribute name of ForcePoll and a custom attribute value of 1. Remember these values as you will need them in a future step.
10. Click **Save and Close** on the Interface Group form; click **Save and Close** for any outer forms as well.

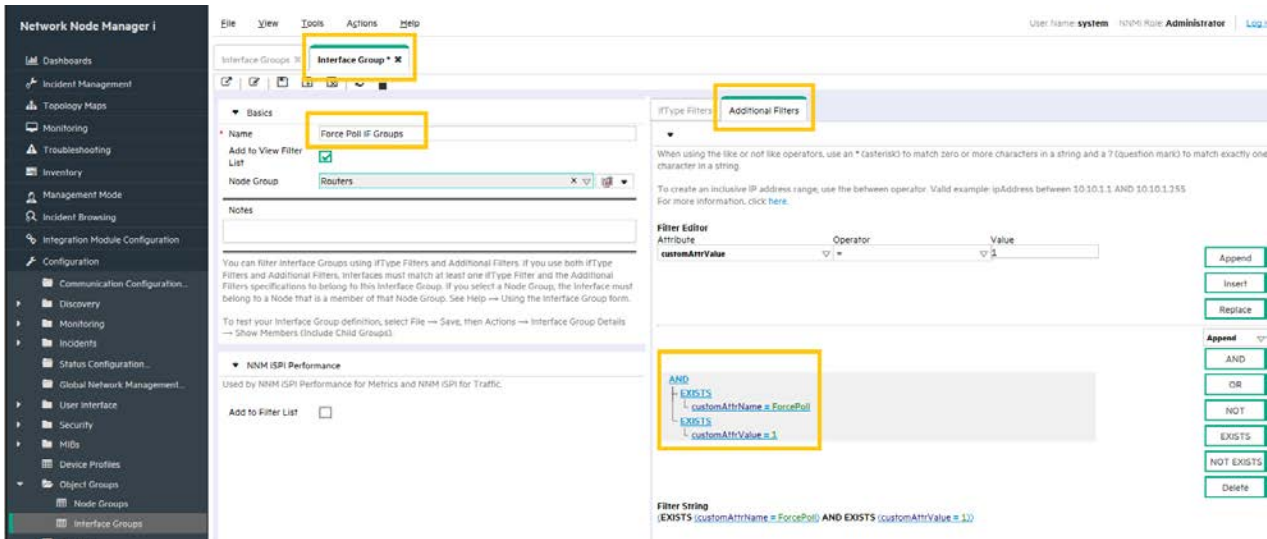


Figure 4: Configuring an Additional Filter

Creating a Monitoring Configuration Policy (Polling Policy)

The next step is to create a monitoring configuration policy by following these steps:

1. Click the **Monitoring Configuration** workspace as shown in **Figure 5**.

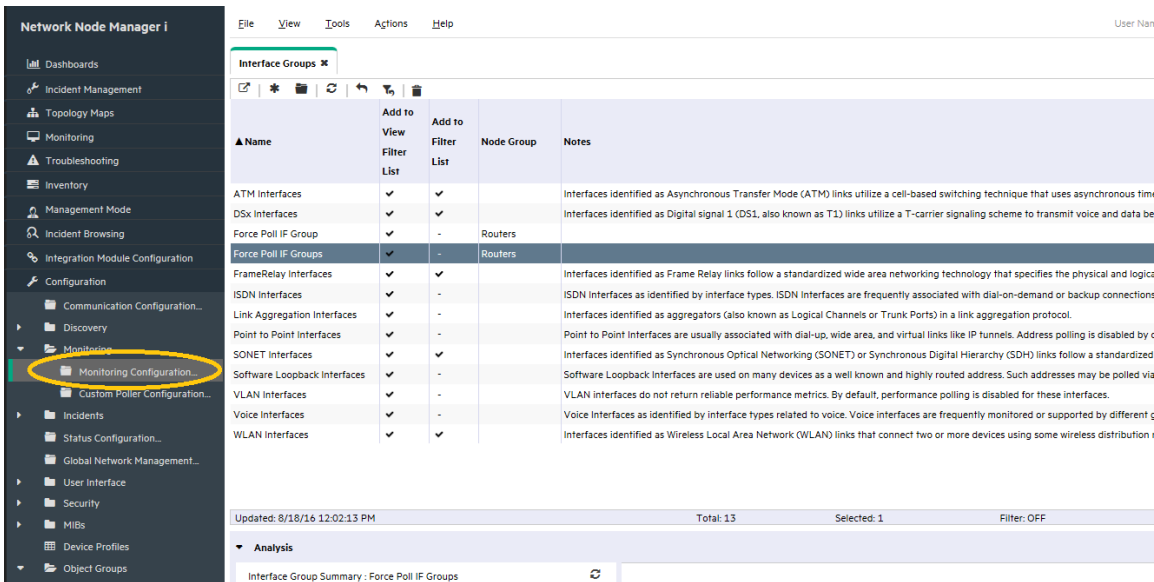


Figure 5: The Monitoring Configuration Workspace

2. Click the **Interface Settings** tab as shown in **Figure 6**; then note the current ordering values.

3. Click the **New** icon

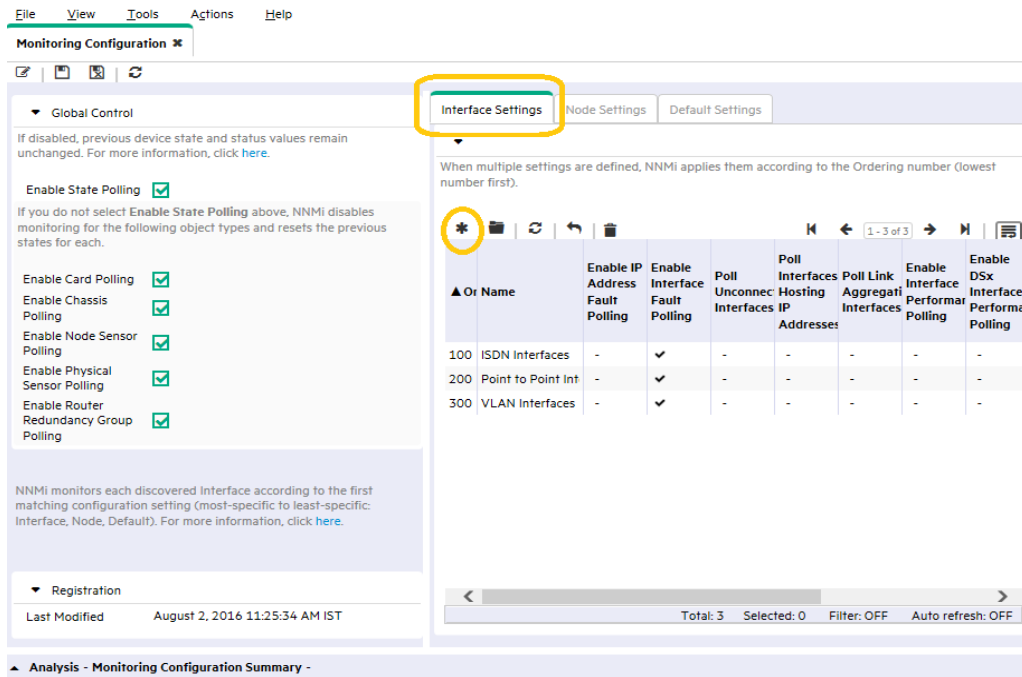


Figure 6: The Interface Settings Tab

- In the Interface Settings form shown in **Figure 7**, enter an Ordering value that is lower (higher priority) than the values you noted from the previous form. Entering a lower value causes this policy to apply to all interfaces (with this Custom Attribute setting) by having the highest priority of all the policies.
- Select Force Poll IF Group as the Interface Group.

Important: You MUST select the following check boxes:

 - Enable SNMP Interface Fault Polling
 - Poll Unconnected Interfaces under Extend the Scope of Polling Beyond Connected Interfaces
 - Poll Interfaces Hosting IP Addresses under Extend the Scope of Polling Beyond Connected Interfaces
- Select the **Enable ICMP Fault Polling** check box if you want to ping any IP addresses hosted on this interface. This check box is not selected for this example.

Note:

This example does not include any IP addresses hosted on this interface.

- Select the Poll Link Aggregation Interfaces if you want unconnected Link Aggregation or Split Link Aggregation member interfaces in switch-to-switch and server-to-switch connections to be monitored. This check box is not selected for this example.

File View Tools Actions Help

Interface Settings * x

Changes are not committed until the top-level form is saved!

Basics

For more information, click [here](#).

- Ordering: 10
- Interface Group: Force Poll IF Groups

Fault Monitoring

For more information, click [here](#).

ICMP Fault Monitoring

Enable IP Address Fault Polling:

Fault Monitoring

Enable Interface Fault Polling:

Fault Polling Interval: 5.00 Minutes

Performance Monitoring

Configuration for the optional NNM ISPI Performance for Metrics. For more information, click [here](#).

Extend the Scope of Polling Beyond Connected Interfaces

By default, only connected Interfaces are polled. These settings extend the set of monitored interfaces. It is recommended to use them with small node or Interface Groups. For more information, click [here](#).

- Poll Unconnected Interfaces:
- Poll Interfaces Hosting IP Addresses:
- Poll Link Aggregation Interfaces:

Threshold Settings

Baseline Settings

If the optional NNM ISPI Performance for Metrics is enabled, set the low and high values to det

Monitored Attribute	Threshold Setting Type	High Value	High Value Rearm	Low Value	Low Value Rearm
Total: 0					

Figure 7: Interface Settings Form

8. Click **Save and Close** on this form as shown in **Figure 8**; click **Save and Close** for any outer forms as well.

File View Tools Actions Help

Monitoring Configuration * x

Global Control

If disabled, previous device state and status values remain unchanged. For more information, click [here](#).

Enable State Polling:

If you do not select Enable State Polling above, NNM-i disables monitoring for the following object types and resets the previous states for each.

- Enable Card Polling:
- Enable Chassis Polling:
- Enable Node Sensor Polling:
- Enable Physical Sensor Polling:
- Enable Router Redundancy Group Polling:

NNM-i monitors each discovered interface according to the first matching configuration setting (most-specific to least-specific: Interface, Node, Default). For more information, click [here](#).

Registration

Last Modified: August 2, 2016 11:25:34 AM IST

Interface Settings

Node Settings

Default Settings

When multiple settings are defined, NNM-i applies them according to the Ordering number (lowest number first).

Order	Name	Enable IP Address Fault Polling	Enable Interface Fault Polling	Poll Unconnected Interfaces	Poll Interfaces Hosting IP Addresses	Poll Link Aggregation Interfaces	Enable Interface Performance Polling	Enable DSX Interface Performance Polling	Enable SONET Interface Performance Polling	Enable ATM Interface Performance Polling	Enable Frame Relay Interface Performance Polling	Notes
10	Force Poll IF Groups	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	-	-
100	ISDN Interfaces	-	<input checked="" type="checkbox"/>	-	-	-	-	-	-	-	-	ISDN Interface
200	Point to Point int	-	<input checked="" type="checkbox"/>	-	-	-	-	-	-	-	-	Point to Point
300	VLAN Interfaces	-	<input checked="" type="checkbox"/>	-	-	-	-	-	-	-	-	VLAN interfac

Figure 8: Interface Settings tab with Force Poll IF Group

Now there is a polling policy associated with all members of the Force Poll IF Group. This policy requires that interfaces be polled. The only exception would be if there were a higher priority policy (which there is not one in this example) or if the interface has been manually unmanaged using the management mode.

Assign an interface to this interface group using a Custom Attribute

The final step is to make the desired interface a member of this group (doing so results in the interface inheriting this polling policy) by assigning a custom attribute to the interface. Although there are few different ways to get to this convenience feature, only one will be shown in this example.

1. With the interface form open, go to **Actions -> Custom Attributes -> Add...** as shown in **Figure 9**.

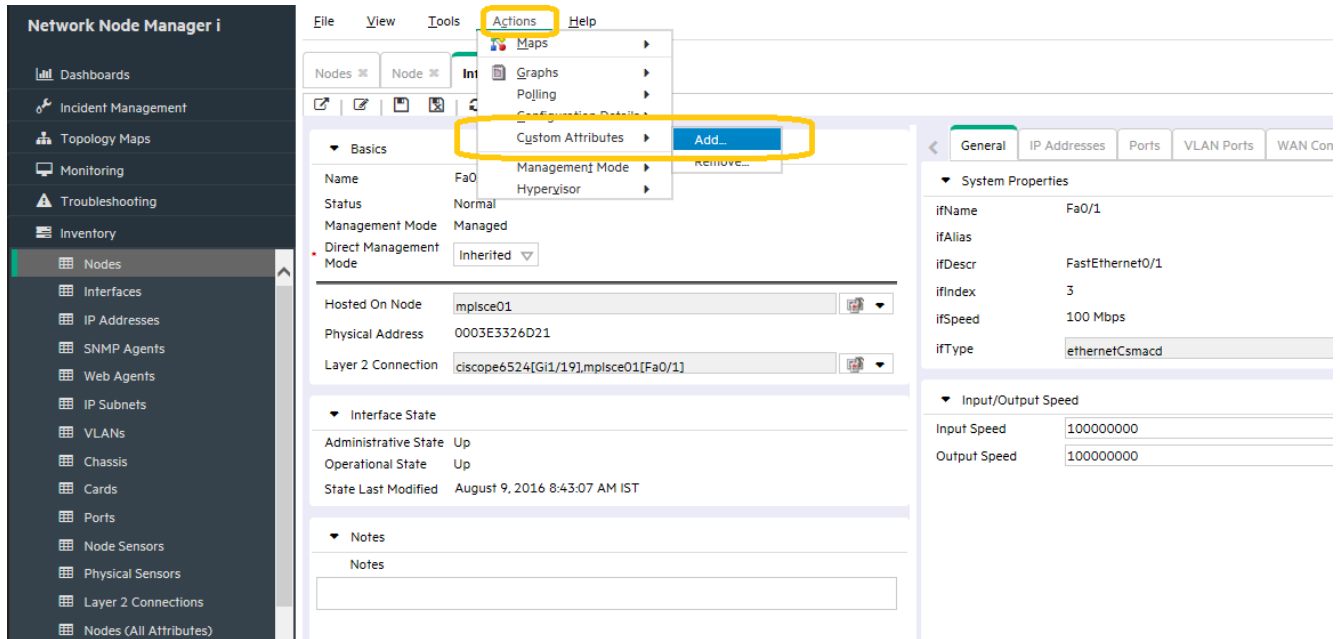


Figure 9: Adding Custom Attributes

2. After the form comes up, you must first clear the pre-selected value **NPS Annotation** as shown in **Figure 10**. This pre-selected value pertains to a different feature than the one being discussed in this whitepaper.

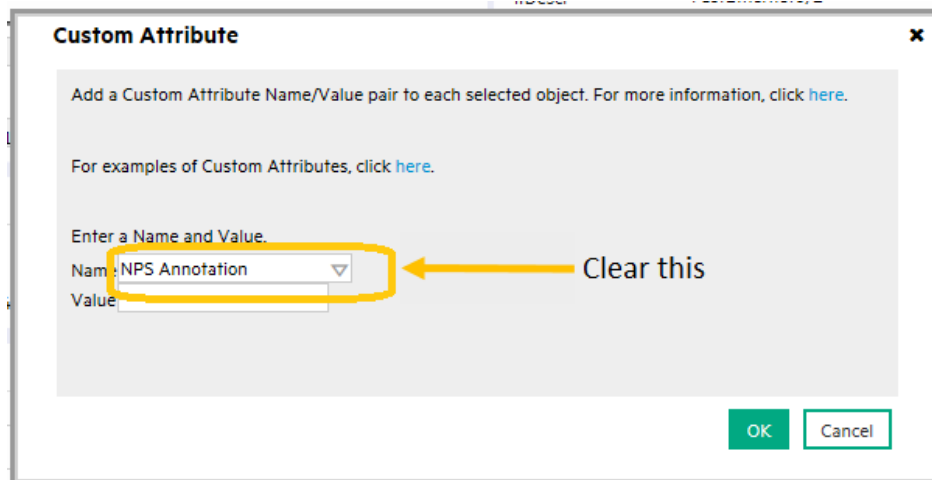


Figure 10: Clearing the Preselected Value

3. Replace **NPS Annotation** with ForcePoll as shown in **Figure 11** and set the value to 1. Remember that this is the custom attribute name and value that you set up previously. Then click **OK**.

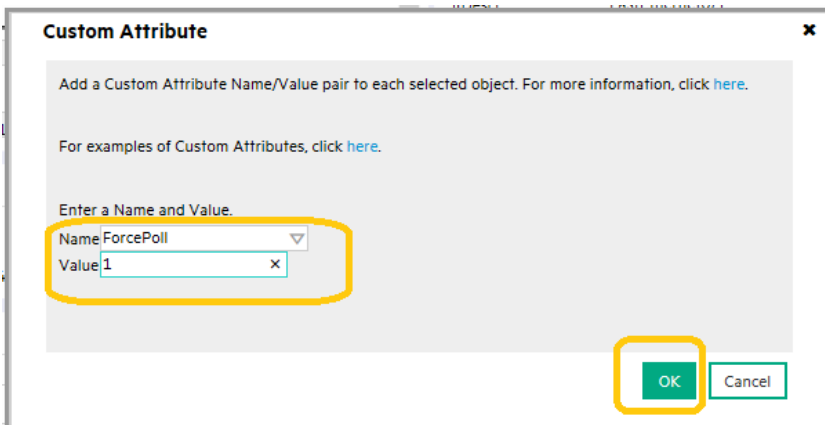
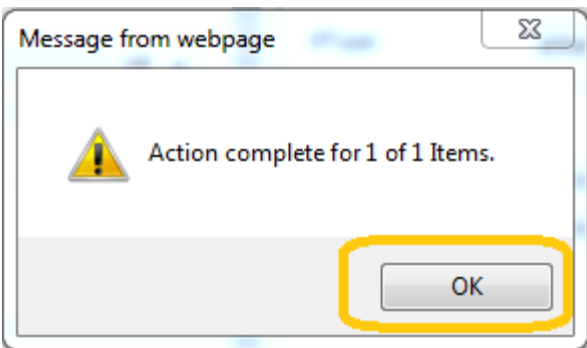


Figure 11: Creating a Custom Attribute

4. Click **OK** for the next dialog box as well.



5. Depending on the size of the environment and the polling rate, this change might take several minutes to take effect. You can run a manual status poll to speed up the process as shown in **Figure 12**.

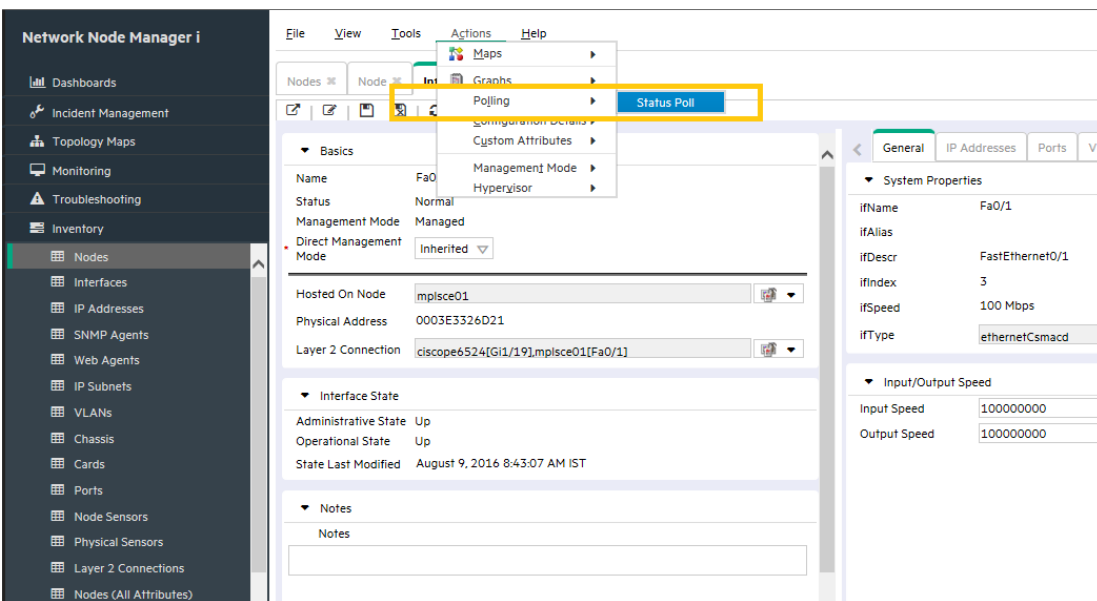


Figure 12: Run a Status Poll to Speed Things Up

You can see in **Figure 13** that Interface Fa0/1 has been polled.

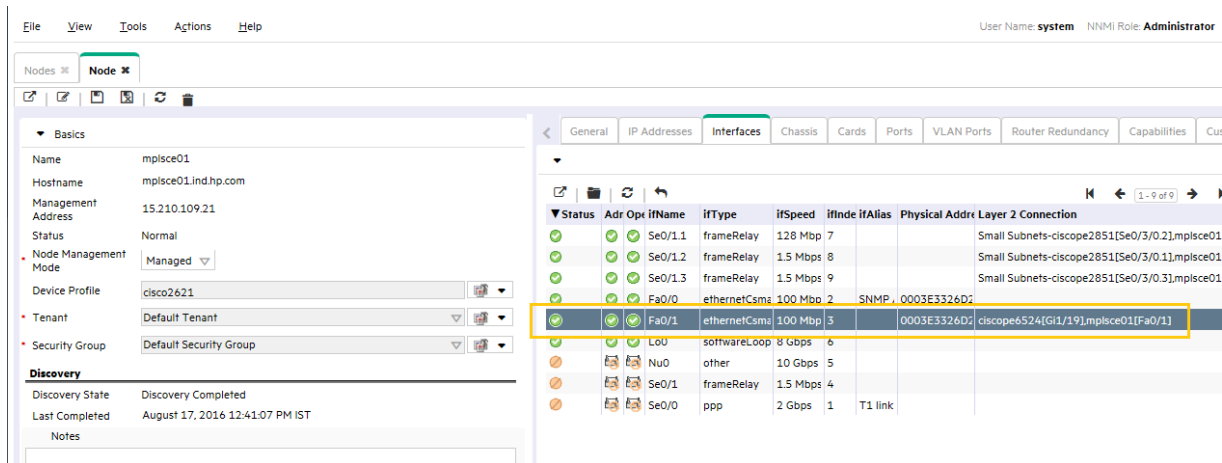


Figure 13: Polling Interface Fa0/1

6. Using the below, convenient feature, you can easily add more interfaces to this group to force them to be polled. Multiple selections are permitted in some tables as shown in **Figure 14**. Then the Custom Attribute can be added to the entire group.

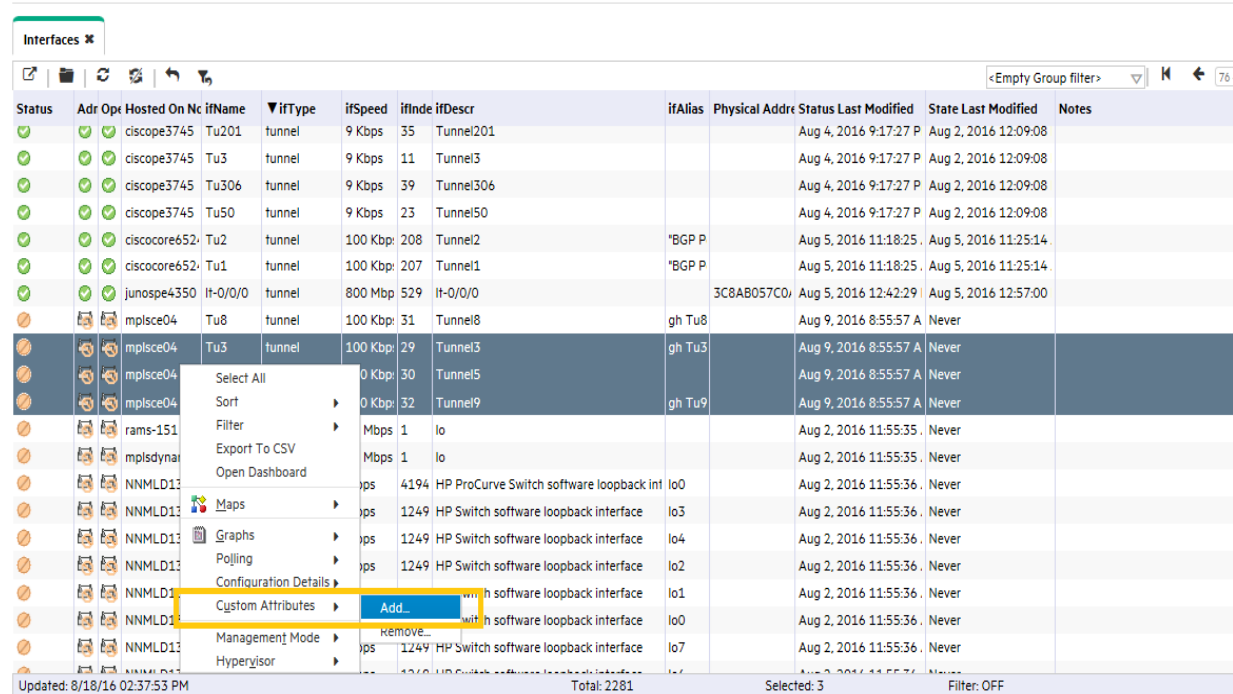


Figure 14: Using Multiple Selections

7. If you want to see all the interfaces that you have forced to be polled, go to **Inventory -> Interfaces** and choose **Force Poll IF Group** from the pull down menu as shown in **Figure 15**.



Figure 15: Listing the "Forced Polled" Interfaces

8. Finally, if you want to remove an interface from this **Force Poll IF Group**, there are a few ways you can do it. One is to right-click on the interface; then choose **Custom Attributes -> Remove...** as shown in **Figure 16**.

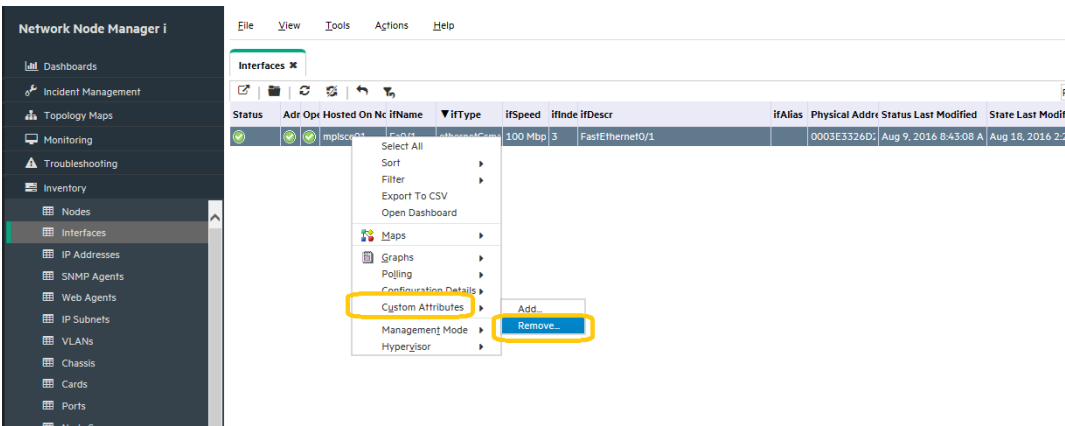
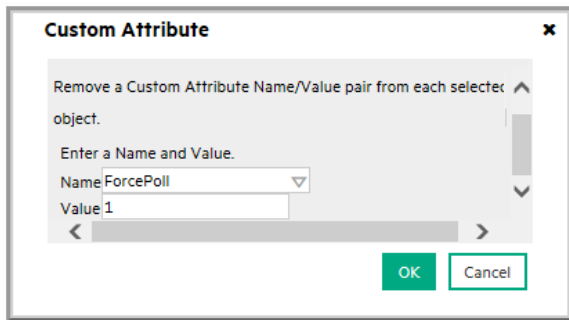
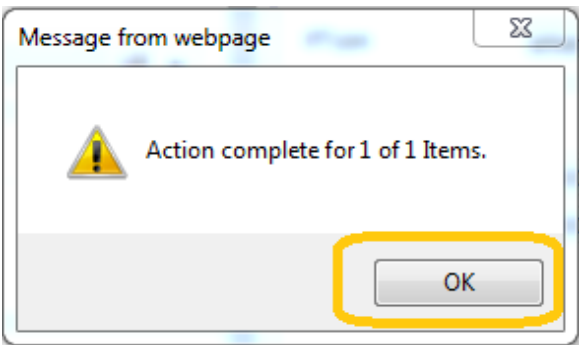


Figure 16: Removing an Interface from Forced Polling

9. Type in **ForcePoll** for the **Name** and **1** for the **value**; then click **OK**.



10. Click **OK** in the next dialog box.



Another method you can use to return the interface to its non-forced polling policy is to do the following:

1. Open the interface form.
2. Click the **Custom Attributes** tab.
3. Select the **ForcePoll** attribute.
4. Click the **Delete** button as shown in **Figure 17**.

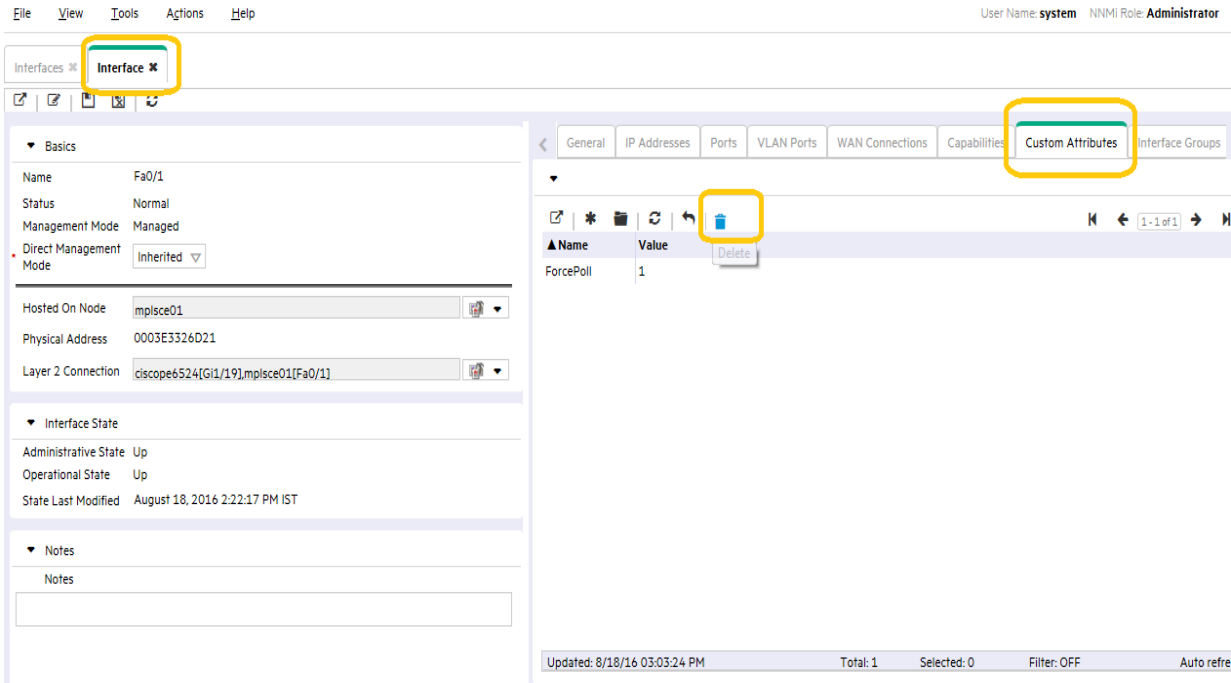


Figure 17: Deleting a Forced Poll

Now the interface will return to its non-forced polling policy.

Conclusion

NNMi is flexible enough to assist you if you must monitor additional interfaces. You can configure NNMI to monitor additional interfaces using a monitoring configuration policy and a specific custom attribute that you define. You then add this attribute to the interface, so that the interface can be monitored. You can accomplish this by following the steps detailed in this paper.

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Product name and version: NNMi 10.20

Document title: Forcing an Interface to be Polled

Feedback:

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