



# HP Network Node Manager i Software

Forcing an Interface to be Polled

Release 9.20

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

CONTENTS

Problem Statement ..... 3

Solution ..... 3

Solution Example ..... 3

    Setting up Polling ..... 5

        Creating an Interface Group ..... 5

        Creating a Monitoring Configuration Policy (Polling Policy) ..... 7

        Assign an interface to this interface group using a Custom Attribute ..... 10

Conclusion ..... 16

## 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.

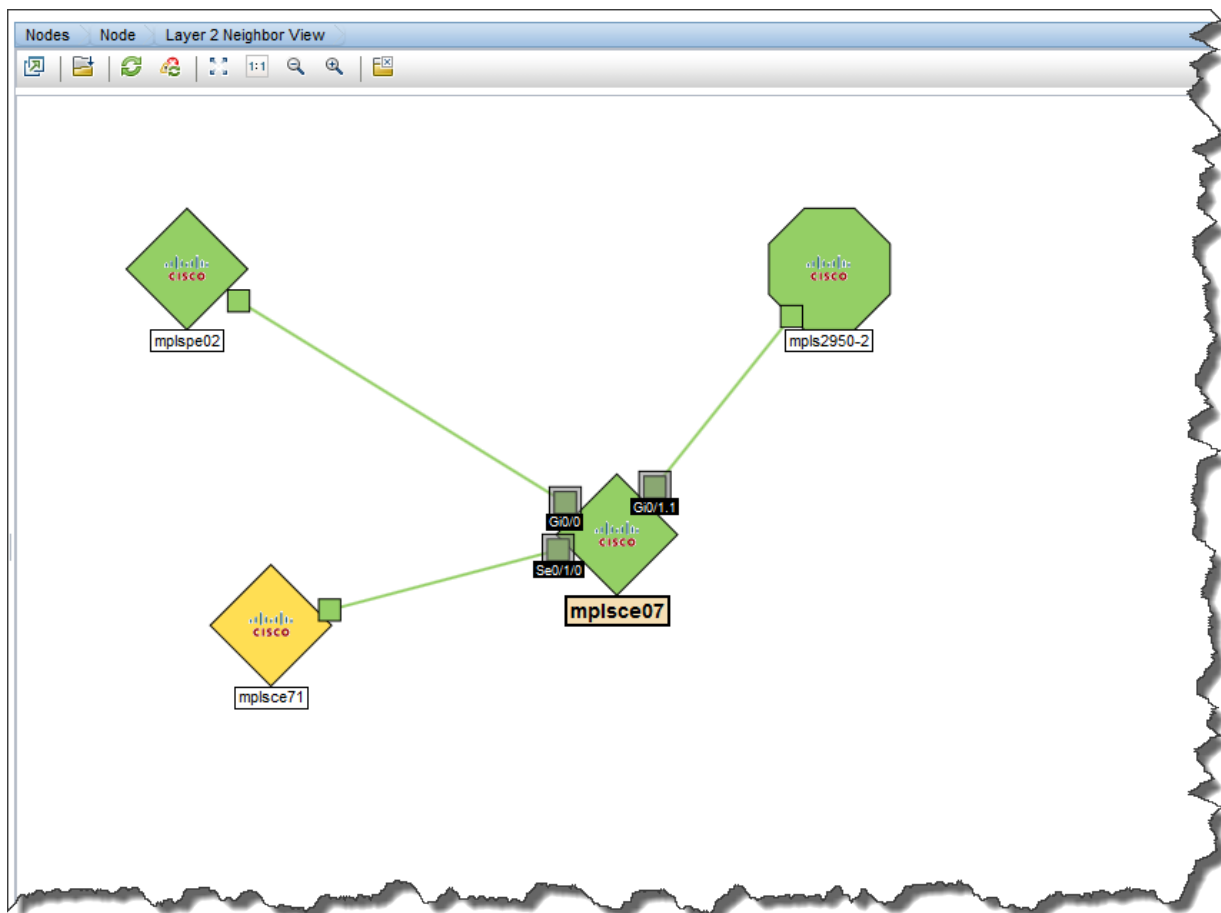
## Solution

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 `mplsce07` shown in Figure 1. This node currently only has three connected interfaces: `Gi0/1.1`, `Gi0/0` and `Se0/1/0`.

**Figure 1: Node `mplsce07`**



Double-click the node and choose the **Interfaces** tab to see the list of interfaces as shown in Figure 2. Note that other interfaces are monitored on this node as well because they have IP addresses assigned to them. Suppose that you would like to force interface Fa0/2/0 to be monitored in addition to the interfaces already being monitored. To do this, you must create an interface group; then create a polling policy for members of this interface group. Then you will assign this interface to be a member of the group.

**Figure 2: Interface Fa0/2/0**

The screenshot shows the NMC interface for node mplsce07. The 'Interfaces' tab is selected, displaying a table of interfaces. The interface Fa0/2/0 is highlighted with an orange box, indicating it is the focus of the configuration.

Status	Admi	Oper	ifName	ifType	ifSpeed	ifIndex	ifAlias	Layer 2 Conne
✓	✓	✓	Gi0/0	ethernetCsmacd	1 Gbps	1	link to mplsce07[Gi0/0]	
✓	✓	✓	Se0/1/0	frameRelay	1.5 Mbps	3	Frame-Rel Small Subnets-m	
✓	✓	✓	Gi0/1.1	I2vian	100 Mbps	18	Dot1q Trun mpls2950-2[Fa0/	
✓	✓	✓	Tu1	tunnel	100 Kbps	10	Tunnel to r	
✓	✓	✓	Tu3	tunnel	100 Kbps	12	Tunnel to r	
✓	✓	✓	Tu4	tunnel	100 Kbps	13	Tunnel to r	
✓	✓	✓	Tu5	tunnel	100 Kbps	14	Tunnel to g	
✓	✓	✓	Tu7	tunnel	100 Kbps	15	Tunnel to g	
✓	✓	✓	Lo0	softwareLoopbac	8 Gbps	8	Loopback	
✓	✓	✓	Tu8	tunnel	100 Kbps	16	Tunnel to r	
✓	✓	✓	Tu9	tunnel	100 Kbps	17	tunnel to ri	
✓	✓	✓	Tu2	tunnel	100 Kbps	11	Tunnel to e	
✓	✓	✓	Tu0	tunnel	100 Kbps	9	Tunnel to r	
✗	✗	✗	Fa0/2/0	ethernetCsmacd	100 Mbps	4		
✗	✗	✗	Vo0	other	10 Gbps	5		
✗	✗	✗	Gi0/1	ethernetCsmacd	100 Mbps	2	Dot1q Trun	
✗	✗	✗	Nu0	other	10 Gbps	6		
✗	✗	✗	Gi0/1.9	I2vian	100 Mbps	19	Dot1q Trun	

Updated: 7/13/12 11:24:29 AM Total: 18 Selected: 1 Filter: OFF Auto refresh: OFF

Analysis - Interface Summary : Fa0/2/0 - Performance Data : Fri Jul 13 11:24:37 MDT 2012 Name: Fa0/2/0 Status: No Status Hosted On Node: mplsce07 Current Time: Fri Jul 13 11:24:37 MDT

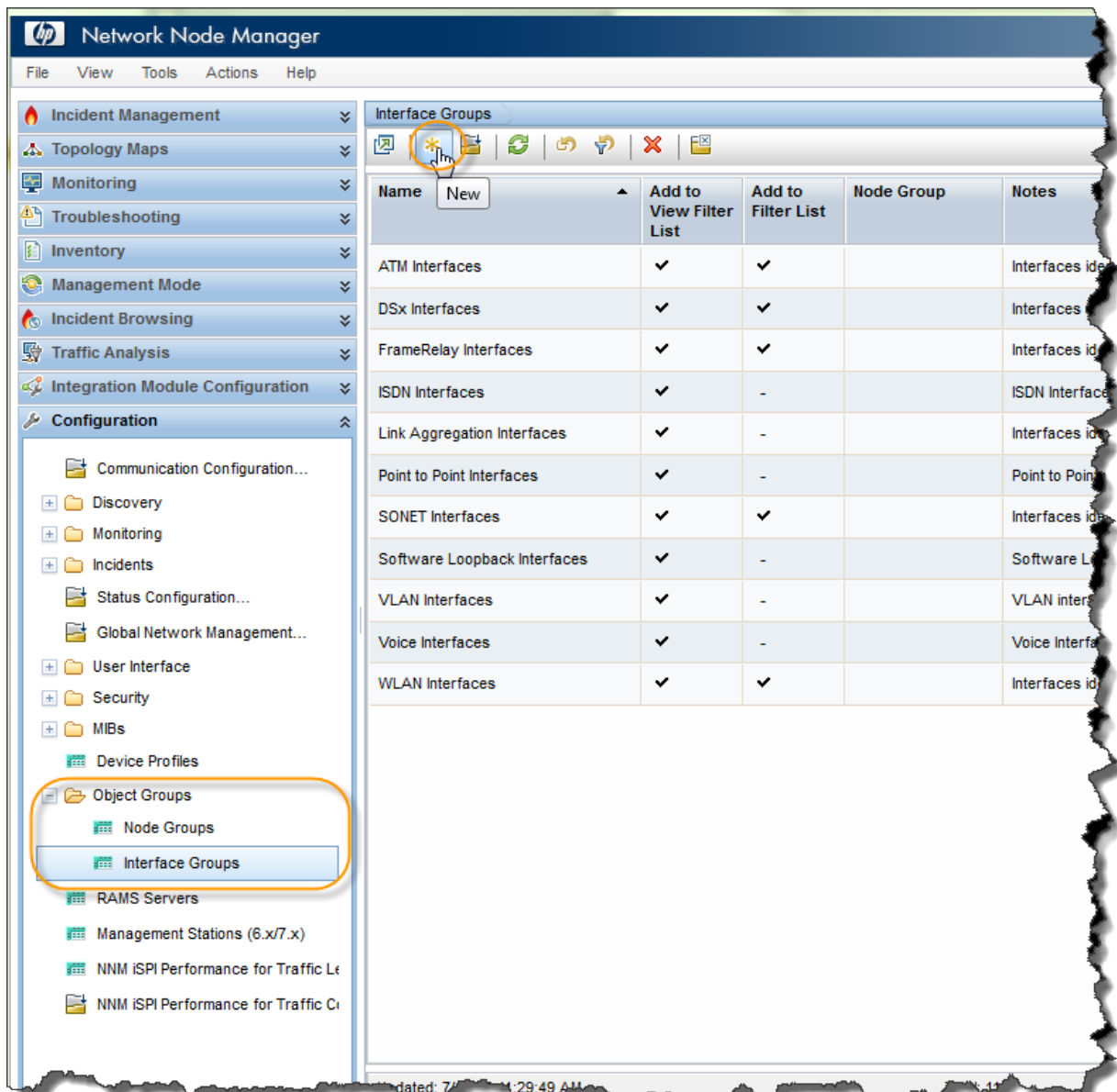
## Setting up Polling

This section describes a one-time action that you do not need to do for each additional managed interface.

### Creating an Interface Group

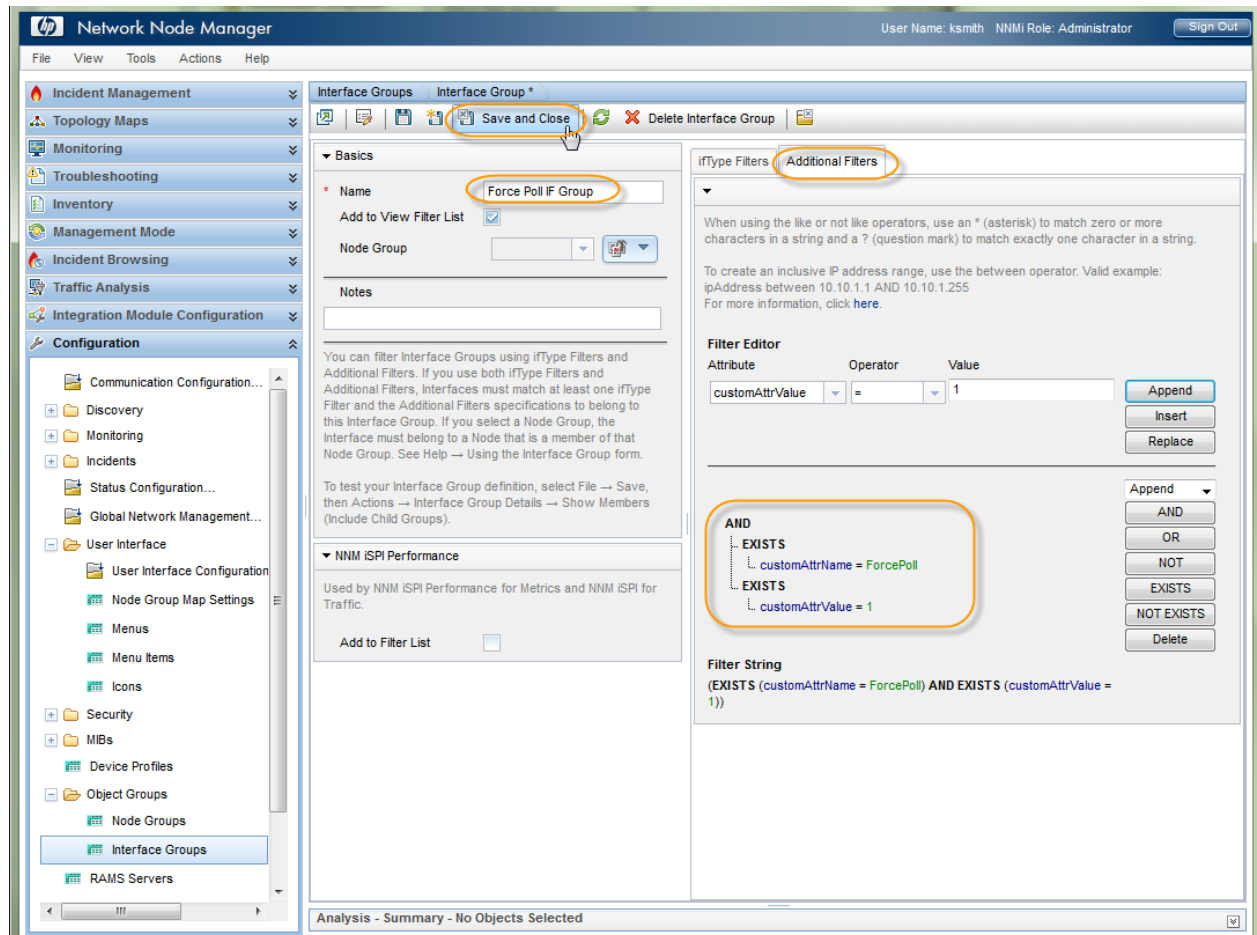
1. The first step is to create an interface filter based on custom attributes as shown in Figure 3.
2. From the NNMi console, click **Configuration**.
3. Click **Object Groups**
4. Click **Interface Groups**
5. Click the **New** button to create a new Interface Group

**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. Set up the logic as shown in the figure below. Note that Custom Attribute filtering requires the "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.
9. 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**

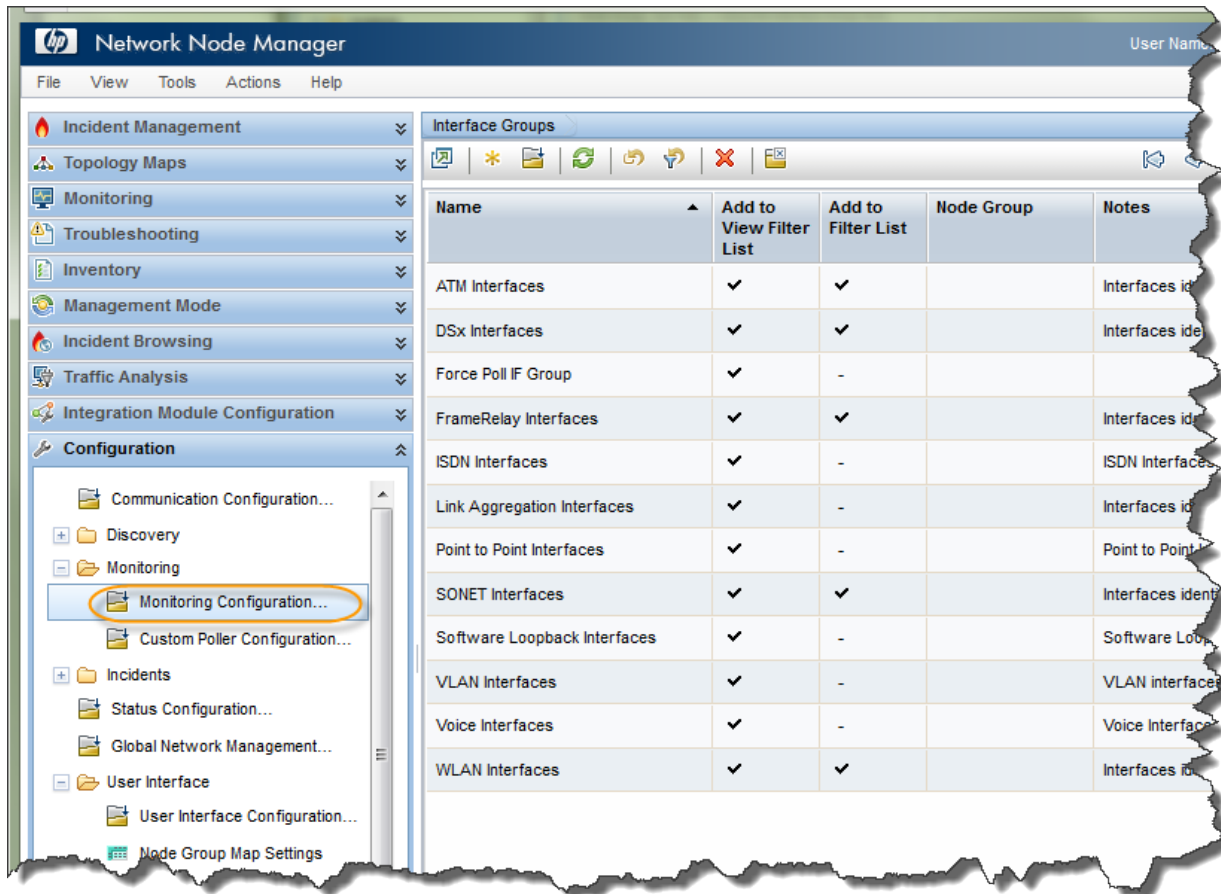


## Creating a Monitoring Configuration Policy (Polling Policy)

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**



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

**Figure 6: The Interface Settings Tab**

Monitoring Configuration

File View Tools Actions Help

Save and Close

Interface Settings Node Settings Default Settings

Global Control

If disabled, previous device state and status values remain unchanged. See Help → Using the Monitoring Configuration form.

Enable State Polling ☒

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

Enable Card Polling ☒

Enable Node Component Polling ☒

Enable Router Redundancy Group Polling ☒

NNMi monitors each discovered Interface according to the first matching configuration setting (most-specific to least-specific: Interface, Node, Default). See Help → Using the Monitoring Configuration form.

Registration

Last Modified June 1, 2012 8:48:24 AM MDT

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

Ordering	Name	Enable IPAddress Fault Polling	Enable Interface Fault Polling	Poll Unconnect Interfaces	Poll Interfaces Hosting IP Addresses	Enable Interface Perform Polling
100	ISDN Interfaces	-	✓	-	-	-
200	Point to Point Interface	-	✓	-	-	-
300	VLAN Interfaces	-	✓	-	-	-

Total: 3 Selected: 0 Filter: OFF Auto refresh: OFF

Analysis - Monitoring Configuration Summary -

- 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.



**Figure 7: Interface Settings Form**

File View Tools Actions Help

Interface Settings \*

Save and Close Delete Interface Settings

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

**Basics**

\* Ordering: 10

\* Interface Group: Force Poll IF Group

**Fault Monitoring**

ICMP Fault Monitoring

Enable IP Address Fault Polling

SNMP Fault Monitoring

Enable Interface Fault Polling

\* Fault Polling Interval: 5.00 Minutes

**SNMP Performance Monitoring**

Configuration for the optional NNM iSPI Performance for Metrics.

**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 mode or interface groups. See Help → Using the Monitoring Configuration form.

Poll Unconnected Interfaces

Poll Interfaces Hosting IP Addresses

**Threshold Settings** | Baseline Settings

If the optional NNM iSPI Performance for Metrics is enabled, set the low and high values to determine interface performance state.

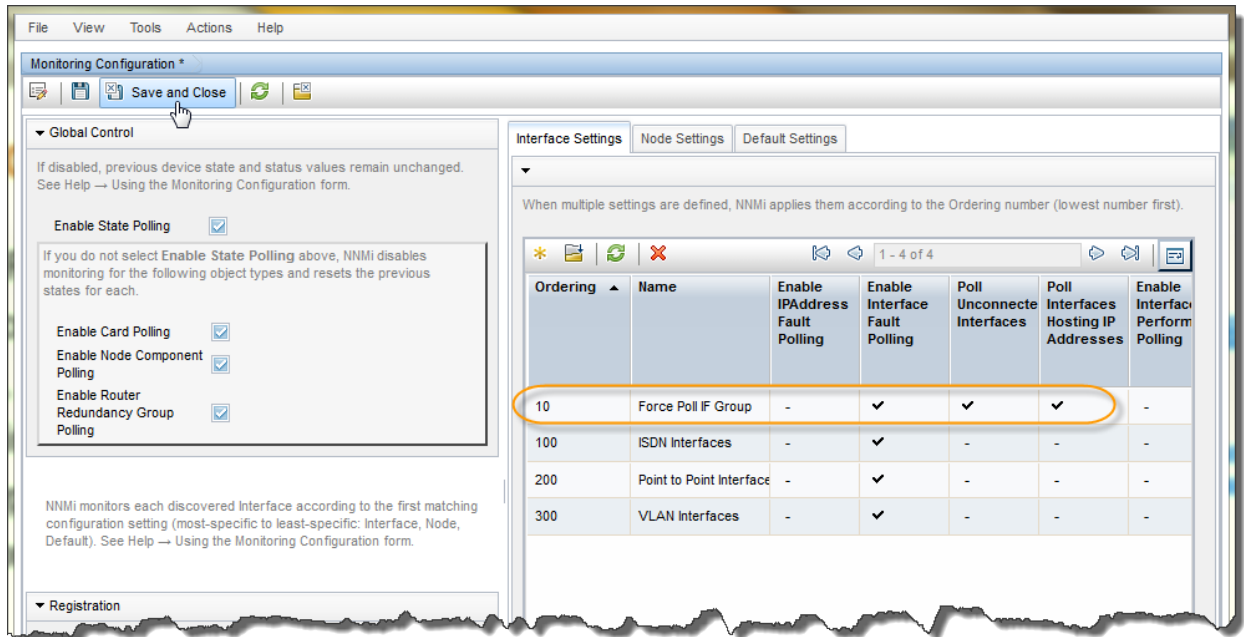
Monitored Attribute	Threshold Setting Type	High Value	High Value Rearm	Low Value	Low Value Rearm
---------------------	------------------------	------------	------------------	-----------	-----------------

Total: 0 Selected: 0 Filter: OFF Auto refresh: OFF

Analysis

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

**Figure 8: Make Sure to Save your Work**



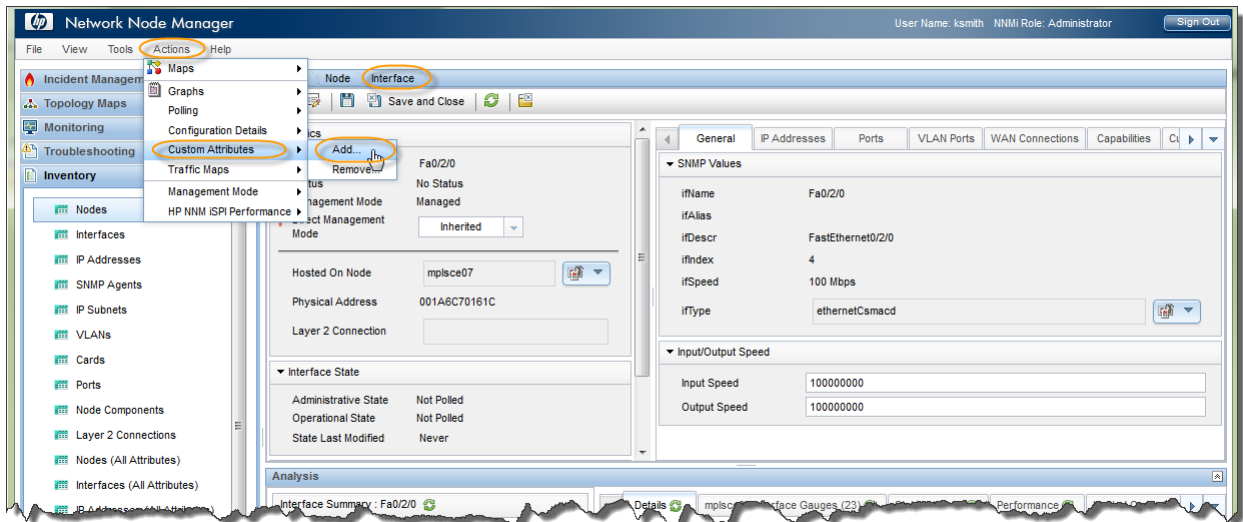
Now there is a polling policy associated with all members of the Force Poll IF Group. This policy requires that interfaces be polled. The only exception would be if there were a higher priority policy (which there is not one in this example) or if the interface has been manually unmanaged using the management 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. NNMi 9.20 has a new and convenient way to do this. Although there are few different ways to get to this convenience feature, only one will be shown in this example.

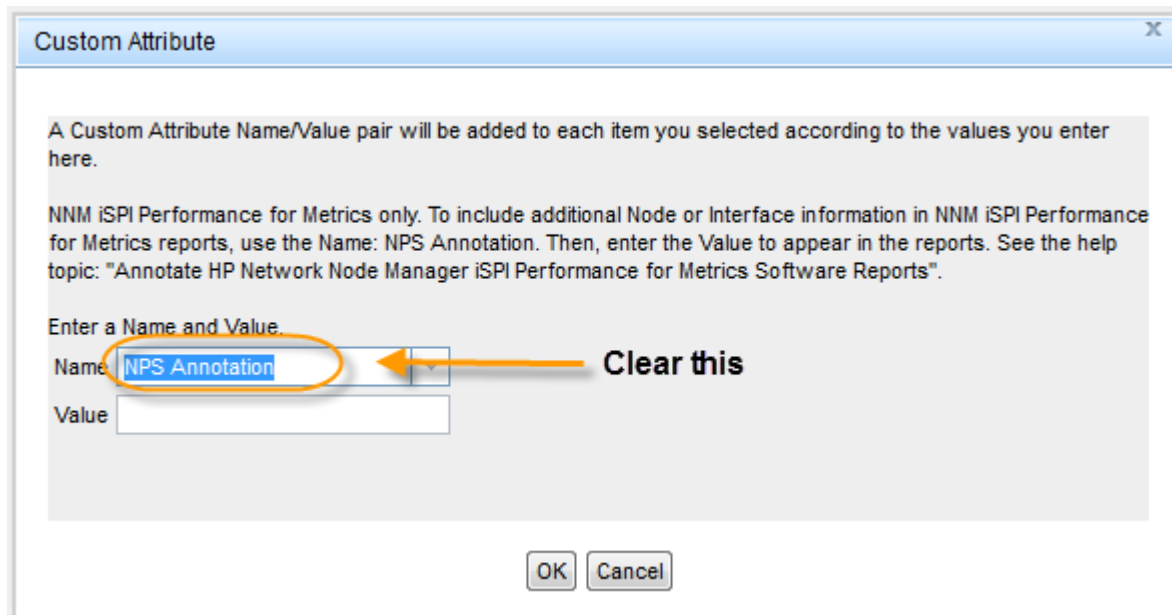
1. With the interface form open, go to **Actions** -> **Custom Attributes** -> **Add...** as shown in Figure 9.

**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**

Custom Attribute

A Custom Attribute Name/Value pair will be added to each item you selected according to the values you enter here.

NNM iSPI Performance for Metrics only. To include additional Node or Interface information in NNM iSPI Performance for Metrics reports, use the Name: NPS Annotation. Then, enter the Value to appear in the reports. See the help topic: "Annotate HP Network Node Manager iSPI Performance for Metrics Software Reports".

Enter a Name and Value.

Name ForcePoll

Value 1

OK Cancel

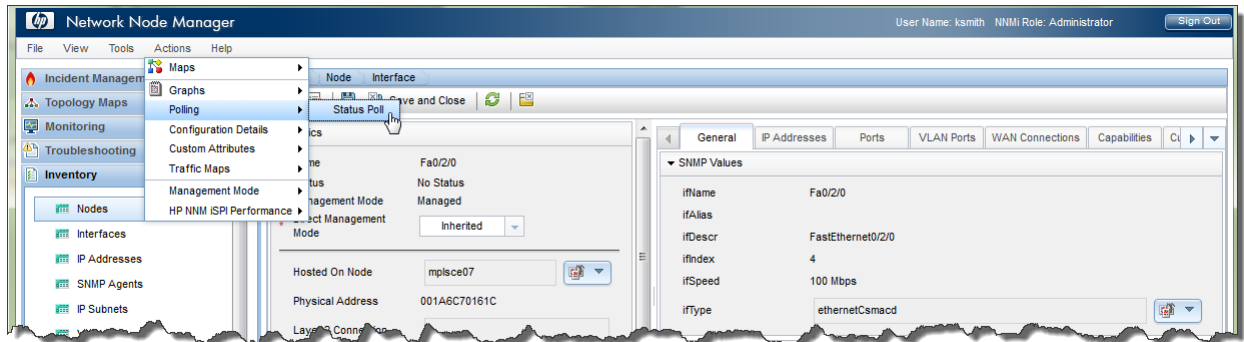
4. Click **OK** for the next dialog box as well.

Action complete for 1 of 1 Items.

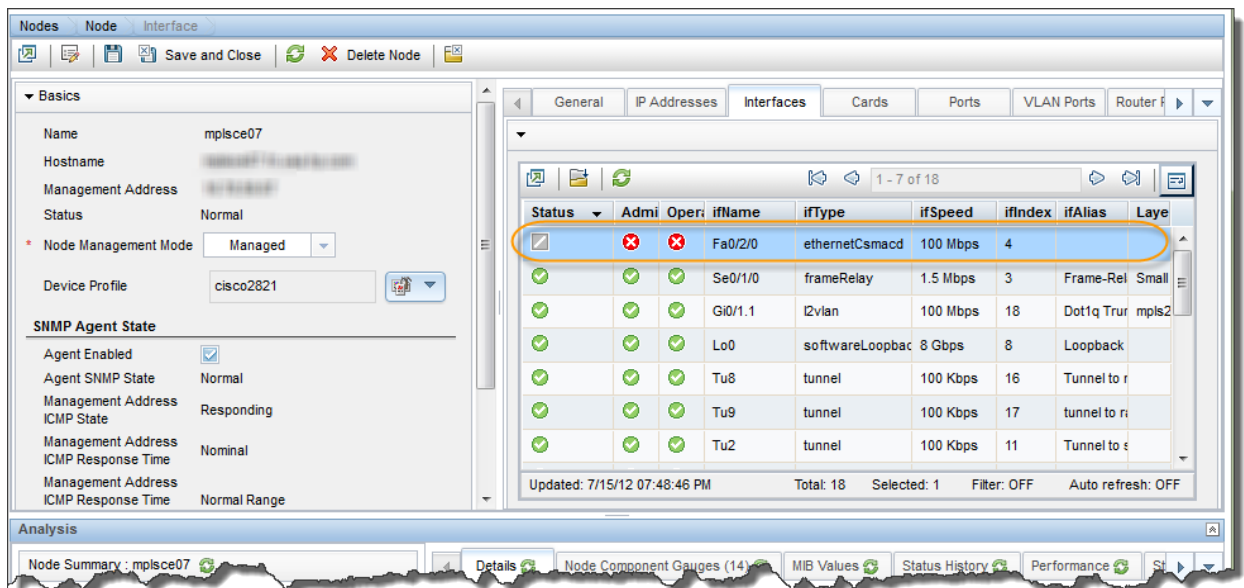
OK

August 2012

- 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 Fa0/2/0 has been polled.

**Figure 13: Polling Interface Fa0/2/0**

August 2012

6. Using a new, 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**

Status	Admin	Oper	Hosted On Node	ifName	ifType	ifSpeed	ifIndex	ifDescr	ifAlias	Status Last Modified	State Last
✗	✗	✗	nortel5510	ifc5 (Slot: 1 P	ethernetCsmacd	1 Gbps	5	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc6 (Slot: 1 P	ethernetCsmacd	1 Gbps	6	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc7 (Slot: 1 P	ethernetCsmacd	1 Gbps	7	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc8 (Slot: 1 P	ethernetCsmacd	1 Gbps	8	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc9 (Slot: 1 P	ethernetCsmacd	1 Gbps	9	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc10 (Slot: 1	ethernetCsmacd	1 Gbps	10	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc11 (Slot: 1	ethernetCsmacd	1 Gbps	11	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc12 (Slot: 1	ethernetCsmacd	1 Gbps	12	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc13 (Slot: 1	ethernetCsmacd	1 Gbps	13	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc14 (Slot: 1	ethernetCsmacd	1 Gbps	14	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc15 (Slot: 1	ethernetCsmacd	1 Gbps	15	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc16 (Slot: 1	ethernetCsmacd	1 Gbps	16	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc17 (Slot: 1	ethernetCsmacd	1 Gbps	17	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc18 (Slot: 1	ethernetCsmacd	1 Gbps	18	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc19 (Slot: 1	ethernetCsmacd	1 Gbps	19	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	nortel5510	ifc20 (Slot: 1	ethernetCsmacd	1 Gbps	20	Nortel Ethernet		Jun 12, 2012 2:22:44 PM	Never
✗	✗	✗	drail	eth2	ethernetCsmacd	1 Gbps	7			Jun 12, 2012 2:22:38 PM	Never
✗	✗	✗	drail	eth3	ethernetCsmacd	1 Gbps	8	eth3		Jun 12, 2012 2:22:38 PM	Never
✗	✗	✗	dc6509-2	Gi1/1	ethernetCsmacd	1 Gbps	1	GigabitEtherne		Jun 12, 2012 2:22:43 PM	Never
✗	✗	✗	hp2626-1	25	ethernetCsmacd	1 Gbps	25	25		Jun 12, 2012 2:22:41 PM	Never
✗	✗	✗	ntc6kgw2	Gi1/1	ethernetCsmacd	1 Gbps	1	GigabitEtherne		Jun 12, 2012 2:22:49 PM	Never

Updated: 7/15/12 07:52:41 PM Total: 1792 Selected: 3 Filter: ON Auto refresh: 10 min

Analysis - Summary - Multiple Objects Selected

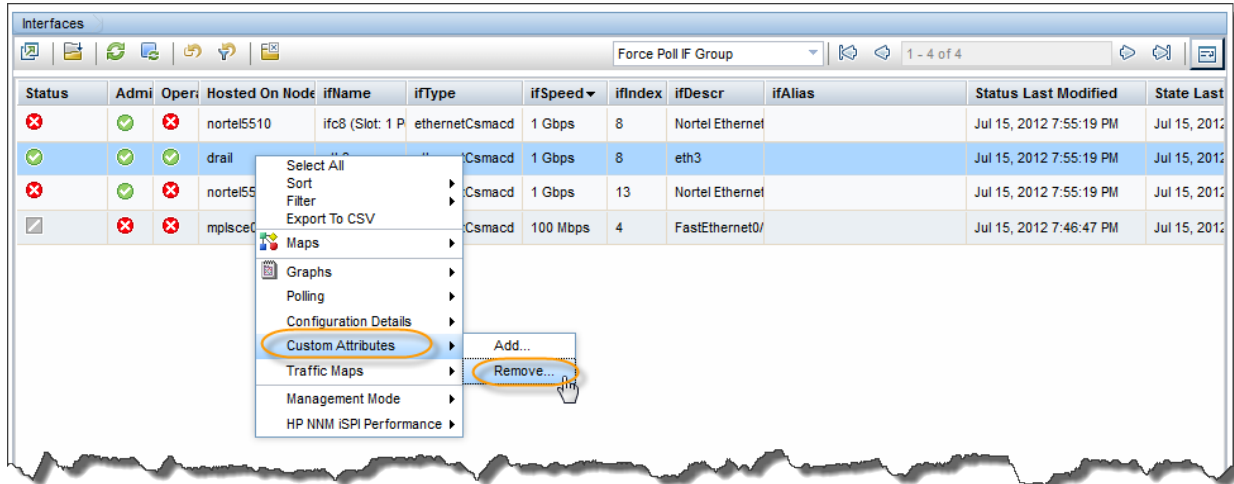
7. If you want to see all the interfaces that you have forced to be polled, go to **Inventory** > **Interfaces** and choose **Force Poll IF Group** from the pull down menu as shown in Figure 15.

**Figure 15: Listing the "Forced Polled" Interfaces**

Status	Admin	Oper	Hosted On Node	ifName	ifType	ifSpeed	ifIndex	ifDescr	ifAlias	Status Last Modified	State Last
✗	✓	✗	nortel5510	ifc8 (Slot: 1 P	ethernetCsmacd	1 Gbps	8	Nortel Ethernet		Jul 15, 2012 7:55:19 PM	Jul 15, 2012
✓	✓	✓	drail	eth3	ethernetCsmacd	1 Gbps	8	eth3		Jul 15, 2012 7:55:19 PM	Jul 15, 2012
✗	✓	✗	nortel5510	ifc13 (Slot: 1	ethernetCsmacd	1 Gbps	13	Nortel Ethernet		Jul 15, 2012 7:55:19 PM	Jul 15, 2012
✗	✗	✗	mplscc07	Fa0/2/0	ethernetCsmacd	100 Mbps	4	FastEthernet0/		Jul 15, 2012 7:46:47 PM	Jul 15, 2012

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.

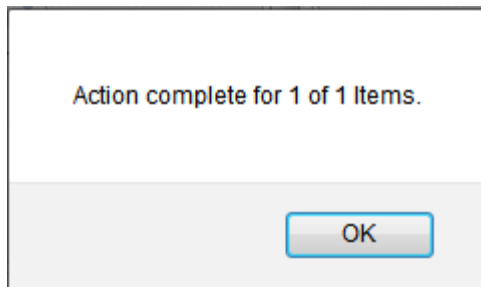
**Figure 16: Removing an Interface from Forced Polling**



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



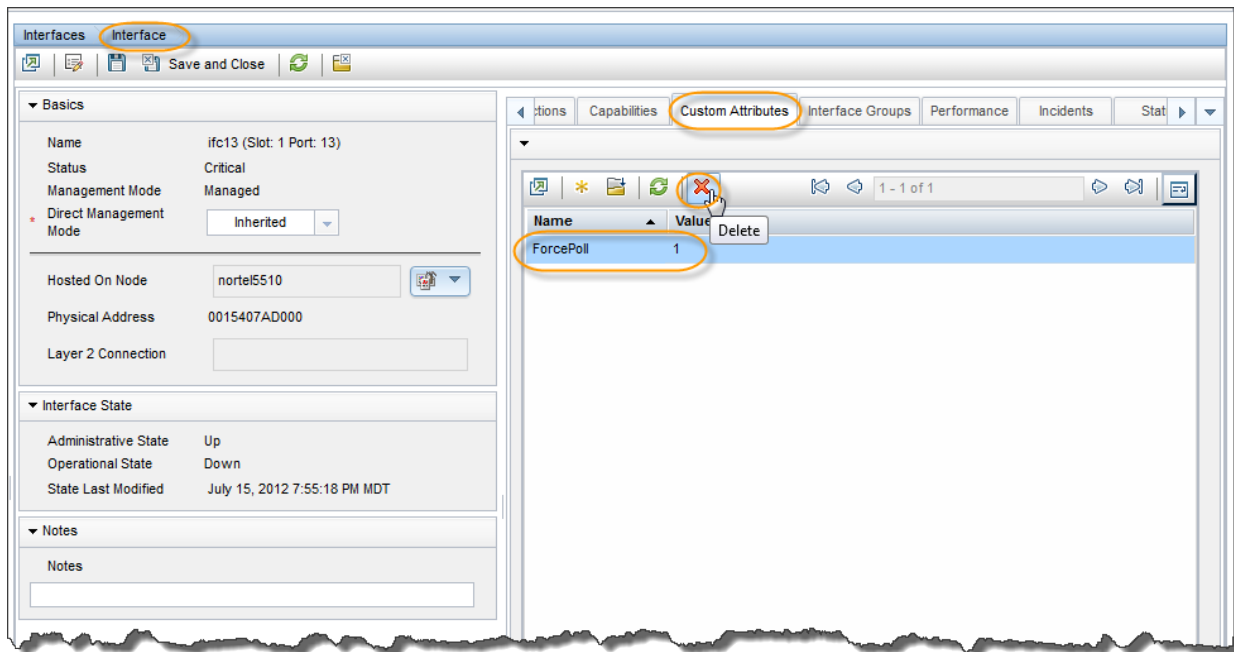
10. Click **OK** in the next dialog box.



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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### Acknowledgements

This product includes software developed by the Apache Software Foundation.

(<http://www.apache.org>)

This product includes software developed by the Indiana University Extreme! Lab.

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