

HP Network Node Manager i Software

Configure NNMi to Collect Network Based Application Recognition (NBAR) Statistics Using Custom Poller Collections

Release 9.20

Follow these instructions to use the Custom Poller Collections provided by NNMi to collect Network Based Application Recognition (NBAR) Statistics for Cisco devices.

NBAR data collected gives you insight on the application protocols traversing interfaces within your network infrastructure. After the Custom Poller Collection is created, you can establish thresholds related to the NBAR statistics to generate incidents in NNMi. You can also use NNM iSPI Performance for Metrics to Graph the Custom Poller Collections.

Note: Custom Poller is not supported in a Global Network Management solution.

Contents

Introduction	3
Load the NBAR MIB	3
Configure the NNMi Custom Poller Collections	4
Create a Node Group of the Nodes to Custom Poll	6
Create Custom Poller Policies	. 10
Verify the Custom Poller Configurations	.14
Optional: Configure Thresholds for the Custom Poller Collections	. 17
Optional: Use the iSPI Performance for Metrics to Graph Custom Poller Collections	. 19
Conclusion	. 22

Introduction

This document steps you through the following procedures to configure NNMi to collect Network Based Application Recognition (NBAR) statistics using Custom Poller Collections provided by NNMi:

- 1. Load the NBAR MIB
- 2. Configure the NNMi Custom Poller Collections
- 3. Create a Node Group of the Nodes to Custom Poll
- 4. Create Custom Poller Policies
- 5. Verify the Custom Poller Configurations

It also describes the following optional procedures:

- Configure Thresholds for the Custom Poller Collections
- Use the NNM iSPI Performance for Metrics to Graph Custom Poller Collections

Load the NBAR MIB

1. Change to the following directory:

WINDOWS:

%NnmInstallDir%\misc\nnm\snmp-mibs\Vendor\Cisco

UNIX:

\$NnmInstallDir/misc/nnm/snmp-mibs/Vendor/Cisco

2. Load the Cisco NBAR MIB:

WINDOWS:

nnmloadmib.ovpl -load CISCO-NBAR-PROTOCOL-DISCOVERY-MIB.my

UNIX:

nnmloadmib.ovpl -load CISCO-NBAR-PROTOCOL-DISCOVERY-MIB.my

3. Navigate to the following directory:

WINDOWS:

%NnmInstallDir%\newconfig\HPNmsCustPoll\nbar

UNIX:

\$NnmInstallDir/newconfig/HPNmsCustPoll/nbar

- 4. Import the configuration XML files in the following order. Ignore any warnings such as, "NOTE: Could not satisfy dependency nodegroup for custpoll"
 - a.nnmconfigimport.ovpl -f nbarAuthor.xml
 - b. nnmconfigimport.ovpl -f nbarMibexpr.xml
 - c.nnmconfigimport.ovpl -f nbarCustpoll.xml

Configure the NNMi Custom Poller Collections

Tip: Use these instructions as guidelines for configuring the HP NBAR Custom Poller Collections.

- 1. From the NNMi console, open the **Configuration** workspace.
- 2. Expand the **Monitoring** folder.
- 3. Select Custom Poller Configuration.



4. Confirm that the NNMi HP NBAR Custom Poller Collections appear in the NNMi console and that the Enable Custom Poller box is checked as shown in the following example.

Custom Poller Configuration						
🕪 💾 🔄 Save and Close 🥩 🔛						
▼	Policies Custom Poller Collections	Report Group				
Note: When you save a Custom Poller Collection configuration, each associated Policy changes to Active State Suspended. To make a Policy active, access the Custom Polier Configuration: Policies tab,	A Custom Poller Collection defines the info	ormation you v	vant to gather (j	poll) as well as	how you want	NNMi to handle the results.
open each associated Policy, and change the Active State to Active.		×			e	Q Q 1-11 of 11 ♀ Q 📄
✓ Global Control	Name 🗸	Affect Node Status	Generate Incident	Export Custom Poller Collection	Compress Export File	Description
	HP NBAR Out Packets High Capacity	-	-	-	-	The packet count of outbound packets as determined by Pro
	HP NBAR Out Packets	-	-	-	-	The packet count of outbound packets as determined by Pro-
	HP NBAR Out Bytes High Capacity	-	-	-	-	The byte count of outbound octets as determined by Protoco
	HP NBAR Out Bytes	-	-	-	-	The byte count of outbound octets as determined by Protoco
	HP NBAR Out Bit Rate	-	-	-	-	The outbound bit rate as determined by Protocol Discovery
	HP NBAR In Packets High Capacity	-	-	-	-	The packet count of inbound packets as determined by Proto
	HP NBAR In Packets	-	-	-	-	The packet count of inbound packets as determined by Proto
	HP NBAR In Bytes High Capacity	-	-	-	-	The byte count of inbound octets as determined by Protocol
	HP NBAR In Bytes	-	-	-	-	The byte count of inbound octets as determined by Protocol
	HP NBAR In Bit Rate	-	-	-	-	The inbound bit rate as determined by Protocol Discovery
	DiskStorageUsed	~	~	-	-	
	Updated: 8/16/12 09:46:15 AM		Tota	l: 11 S	Selected: 0	Filter: OFF Auto refresh: OFF
Analysis - Summary - No Objects Selected						

- 5. Navigate to the **Report Groups** tab.
- 6. Confirm that the Report Group **Cisco_NBAR** appears in the table view.

	Policies Custom Poller Collections Report Groups
te: When you save a Custom Poller Collection infiguration, each associated Policy changes to thive State Suspended. To make a Policy active, cess the Custom Poler Configuration: Policies tab, en each associated Policy, and change the Active ate to Active.	Report Groups are used to define which custom poller collections are reported to the NNM ISPI Performance for Metrics. Caution: Deleting a Report Group will remove all historical iSPI Performance for Metrics data associated with the Report Group.
Global Control	-
Enable Custom Poller	🖉 😽 🛃 💋 🦻 🕱 🔯 🖉 1-2of2 🕞 🕅 🖃
	Name
	Cisco_NBAR
	DiskSlorageoseu

7. Navigate to the **Policies** tab to confirm no Policies are listed for these Custom Poller Collections.

ile View Tools Actions Help					
Custom Poller Configuration					
🕏 🛛 💾 🔄 Save and Close 🛛 😂 🛛 🔛					
Note: When you save a Custom Poller Collection	Policies Custom Poller Coll	ections Report	Groups		
configuration, each associated Policy changes to Active State Suspended. To make a Policy active,	Policies define the Node Group a	ind polling interva	l vou want NNMi to	poll for a Custom Poller C	ollection.
access the Custom Poller Configuration: Policies tab, open each associated Policy, and change the Active	🗵 * 🖬 😂 🔊	🤣 🗙	©	1 - 1 of 1	
State to Active.	Orderi Name	Active State	Collection	MIB Filter	Polling Interval
 Global Control 	1 UsedDiskSPace	Active	DiskStorageUsed	*	5 minutes
	Updated: 8/16/12 09:53:04 AM	_	Total: 1 Selec	sted: 0 Filter: OFF	Auto refresh: OFF

Create a Node Group of the Nodes to Custom Poll

Next, create a Node Group that contains nodes that support the NBAR MIB and that you want to Custom Poll.

- 1. Navigate to the **Configuration** workspace.
- 2. Expand the **Object Groups** folder.
- 3. Select Node Groups.

4. Click the * (New) icon to create a new Node Group.

Network Node Manager User Name: ksmith NNMi Role: Administrator Sign Out								
File View Tools Actions Help								
👌 Incident Management 🛛 💝	Node Groups							
🔥 Topology Maps 🛛 💝	3	3) 🕫 🗟 🤊 🖓 🗙 E	×			KØ 🗐 1-	13 of 13 🕞 🖓 📄	
Monitoring ¥	Status Ne	[∥] Jame ▲	Add to	Add to	Calculate	Status Last Modified	Notes	
Troubleshooting ¥			View Filter List	Filter List	Status			
Inventory ¥	A	East	~	~	~	Jul 30, 2012 10:42:41 PM		
S Management Mode 🛛 🛠	0	Important Nodes				Ine 1, 2012 9:49:24 AM	Important Nadas such as Edes Dautars reason	
♠ Incident Browsing ¥	<u>v</u>	important vodes	•	•	-	Jun 1, 2012 6:46:24 AM	important Nodes such as Edge Routers repres	
Traffic Analysis *	O	Linux Servers	~	~	~	Aug 8, 2012 9:21:28 PM		
	0	Microsoft Windows Systems	~	-	-	Jun 1, 2012 8:48:24 AM	Any system running Microsoft Windows, inclu	
✗ Configuration ☆	0	Networking Infrastructure Devices	~	-	-	Jun 1, 2012 8:48:24 AM	Networking Infrastructure Devices	
Communication Configuration	0	NoIncidentsNodeGroup	~	-	~	Jun 20, 2012 8:57:53 AM		
Discovery	0	Non-SNMP Devices	~	-	-	Jun 1, 2012 8:48:24 AM	Nodes which have never responded to SNMP	
Monitoring Configuration	0	Routers	~	~	-	Jun 1, 2012 8:48:24 AM	Includes nodes which do routing. For routers, r	
Custom Poller Configuration	0	Switches	~	~	-	Jun 1, 2012 8:48:24 AM	Includes nodes which do switching.	
📧 🧰 Incidents	▼	USA	~	-	~	Aug 12, 2012 2:09:24 PM		
Status Configuration	0	VMware ESX Hosts	~	~	-	Jun 1, 2012 8:48:24 AM	VMware ESX Hosts	
Global Network Management	0	Virtual Machines	~	~	-	Jun 1, 2012 8:48:24 AM	Virtual Machines	
Security	V	West	~	~	~	Aug 12, 2012 2:09:24 PM		
🛨 🧰 MIBs								
m Device Profiles								
🖃 📂 Object Groups	Updated: 8/13	3/12 03:33:24 PM		Total: 13	Selecte	ed: 0 Filter: OFF	Auto refresh: 5 min	
Mode Groups	Analysis						*	
Interface Groups	Summary 🐇	3						
m RAMS Servers		No Objects Selected						
Management Stations (6.x/7.x)	L							
m NNM iSPI Performance for Traffic Le								
NNM iSPI Performance for Traffic C								
۰ ا								

- 5. Enter the Node Group name. For example, you might want to create a Node Group named **Cisco NBAR Routers**.
- 6. Navigate to the **Device Filters** tab.

7. Click the * (New) icon.

 Basics 	Device Filters Additional Filters Additional Nodes Child Node Grou	ips Status
Name Cisco NBAR Routers	·	
Calculate Status	Device Filters enable you to determine Node Group members by Device	Category, Vendor, Family,
Add to View Filter List	Device Frome. If you configure multiple Device Filters, nodes must m Device Filters and pass any Additional Filters to belong to this Node Gro	atch at least one of the oup.
Notes		
You can filter Node Groups using Device Filters, Additional Filters, Additional Nodes, and Child Node Groups. If you use Device Filters and Additional Filters, Nodes must match at le one Device Filter and the Additional Filters specifications to belong to this Node Group. Nodes that are specified as	ast	
You can filter Node Groups using Device Filters, Additional Filters, Additional Nodes, and Child Node Groups. If you use Device Filters and Additional Filters, Nodes must match at le one Device Filter and the Additional Filters specifications to belong to this Node Group. Nodes that are specified as Additional Nodes and Child Node Groups <i>always</i> are membe this Node Group. See Help → Using the Node Group form. Fo test your Node Group definition, select File → Save, then Actions → Node Group Details → Preview Members (Curren Broup Only).	ast rs of	
You can filter Node Groups using Device Filters, Additional Filters, Additional Nodes, and Child Node Groups. If you use Device Filters and Additional Filters, Nodes must match at le one Device Filter and the Additional Filters specifications to belong to this Node Group. Nodes that are specified as Additional Nodes and Child Node Groups <i>always</i> are membe this Node Group. See Help → Using the Node Group form. To test your Node Group definition, select File → Save, then Actions → Node Group Details → Preview Members (Currer Group Only).	ast rs of	
You can filter Node Groups using Device Filters, Additional Filters, Additional Nodes, and Child Node Groups. If you use Device Filters and Additional Filters, Nodes must match at le one Device Filter and the Additional Filters specifications to belong to this Node Group. Nodes that are specified as Additional Nodes and Child Node Groups <i>always</i> are membe this Node Group. See Help → Using the Node Group form. To test your Node Group definition, select File → Save, then Actions → Node Group Details → Preview Members (Curren Group Only). • NNM iSPI Performance Jsed by NNM iSPI Performance for Metrics and NNM iSPI for Traffic.	ast rs of	

8. In the Device Category drop-down menu, select **Router.**

9. In the Device Vendor drop-down menu, select **Cisco**.

Tip: You can choose to narrow your selection using the Device Family, Device Profile, or Additional Filters

2	
File View Tools Actions Help	
Node Device Filter *	
😼 📋 🎦 Save and Close 💋 🗶 Delete Node Device Filter	· 🖼
Changes are not committed until the top-level form is saved!	
	٦ [
•	
Device Category Router	
Device Vendor Cisco Vendor	
Device FamilyChoose One 🔻	
Device Profile	

10. Click **Save and Close** to save your changes and close the Node Device Filter form.

11. Click **Save and Close** to save your changes and close the Node Group form.

Basics		Device Filters	Additional Filters	Additional Nodes	Child Node Grou	ps Status
Name	Cisco NBAR Routers	-				
Calculate Status Status Add to View Filter List	No Status	Device Filter or Device Pr Device Filter	s enable you to deter ofile. If you configure s and pass any Addi	mine Node Group m multiple Device Filte tional Filters to belor	embers by Device ers, Nodes must ma ng to this Node Gro	Category, Vendor, Fam atch at least one of the pup.
Notes		* 🖬	Ø 🗙	🔯 🍳 1-1o	f1	
You can filter Node Groups Filters, Additional Nodes, a Device Filters and Addition one Device Filter and the / belong to this Node Group	s using Device Filters, Additional and Child Node Groups. If you use al Filters, Nodes must match at least Additional Filters specifications to Nodes that are energified as	Device Ca	dego y Device Ve dese Cisco	endor Device	e Family	Device Model
You can filter Node Group Filters, Additional Nodes, a Device Filters and Addition one Device Filter and the <i>A</i> belong to this Node Group. Additional Nodes and Child this Node Group. See Help To test your Node Group De Group Only).	s using Device Filters, Additional and Child Node Groups. If you use lal Filters, Nodes must match at least Additional Filters specifications to . Nodes that are specified as ! Node Groups <i>always</i> are members o → Using the Node Group form. !efinition, select File → Save, then ttails → Preview Members (Current	f	ategory Device Vo		e Family	Device Model
You can filter Node Group Filters, Additional Nodes, a Device Filters and Addition one Device Filter and the / belong to this Node Group. Additional Nodes and Child this Node Group. See Help To test your Node Group de Actions → Node Group De Group Only).	s using Device Filters, Additional and Child Node Groups. If you use al Filters, Nodes must match at least Additional Filters specifications to . Nodes that are specified as I Node Groups <i>always</i> are members o \rightarrow Using the Node Group form. lefinition, select File \rightarrow Save, then that \rightarrow Preview Members (Current	f	ategory Device Vo	endor Device	e Family	Device Model
You can filter Node Group Filters, Additional Nodes, a Device Filters and Addition one Device Filter and the / belong to this Node Group. Additional Nodes and Child this Node Group. See Help To test your Node Group De Group Only). ▼ NNM iSPI Performance Used by NNM iSPI Perform Traffic.	s using Device Filters, Additional and Child Node Groups. If you use val Filters, Nodes must match at least Additional Filters specifications to Nodes that are specified as Node Groups <i>always</i> are members o → Using the Node Group form. lefinition, select File → Save, then tails → Preview Members (Current	f	ategory Device Vo r ^{데마마} Cisco		e Family	Device Model

This Node Group will be used with the HP NBAR Custom Poller Collections.

Create Custom Poller Policies

Next, create a Policy for each of the HP NBAR Custom Poller Collections you want to use. For example, if you are interested in collecting HP NBAR In Packets and HP NBAR Out Packets, then you must create a policy for each of these Custom Poller Collections.

Before you begin, you need to obtain a list of the NBAR protocol names on the router. To do so, you can use the SNMP walk command against the router as show in the following example:

```
nnmsnmpwalk.ovpl -c <comm_str> <node_name> .1.3.6.1.4.1.9.9.244.1.2.1.1.2.N
```

In the previous command line, \mathbf{N} is the ifIndex of an interface that has NBAR enabled.

The following table shows the resulting protocol number and name obtained from a CISCO device using the SNMP walk command:

Protocol Number	Protocol Name
1	ftp
2	http
3	egp
4	gre
5	icmp
6	eigrp
7	ipinip
8	ipsec
9	ospf
10	bgp
11	cuseeme
12	dhcp
13	dns
14	finger
15	gopher
16	secure-http
17	imap
18	secure-imap
19	irc
20	secure-irc
21	kerberos
22	l2tp
23	ldap
24	secure-Idap
25	sqlserver
26	netbios
27	nfs
28	nntp
29	secure-nntp
30	notes
31	ntp
32	pcanywhere
33	рор3
34	secure-pop3
35	pptp
36	rip
37	rsvp
38	smtp
39	snmp
40	socks
41	ssh
42	syslog
43	telnet
44	secure-telnet
45	secure-ttp
46	xwindows
47	printer
48	novadigm
49	l tftp

50 exchange 51 vdolive 52 sqlnet 53 rcnd 54 netshow 55 surpc 56 streamwork 57 citrix 58 fastrack 59 gnutella 60 kazac2 61 custom-01 62 custom-02 63 custom-03 64 custom-04 65 custom-07 68 custom-07 68 custom-07 68 custom-07 68 custom-07 68 custom-07 69 custom-07 70 custom-08 69 custom-07 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey	Protocol Number	Protocol Name
51 vdolive 52 sqlnet 53 rcmd 54 netshow 55 surrpc 56 streamwork 57 citrix 58 fasttrack 59 gnutella 60 kazaa2 61 custom-01 62 custom-02 63 custom-04 65 custom-04 65 custom-07 66 custom-08 69 custom-07 68 custom-07 68 custom-08 69 custom-10 71 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	50	exchange
52 sqlnet 53 rcmd 54 netshow 55 sumpc 56 streamwork 57 citrix 58 fasttrack 59 gnutella 60 kazao2 61 custom-01 62 custom-02 63 custom-03 64 custom-04 65 custom-07 68 custom-07 68 custom-07 68 custom-08 69 custom-07 68 custom-07 68 custom-07 68 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bitorrent	51	vdolive
53 rcmd 54 netshow 55 sunrpc 56 streamwork 57 citrix 58 fasttrack 59 gnutella 60 kazao2 61 custom-01 62 custom-02 63 custom-03 64 custom-04 65 custom-05 66 custom-07 68 custom-07 68 custom-07 68 custom-07 67 custom-07 70 custom-07 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bitforrent 81 directonnect 82 skype 83 unkrown	52	sqlnet
54 netshow 55 surpc 56 streamwork 57 citrix 58 fastrack 59 gnutella 60 kazaa2 61 custom-01 62 custom-02 63 custom-03 64 custom-05 66 custom-05 66 custom-06 67 custom-07 68 custom-07 68 custom-08 69 custom-07 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype	53	rcmd
55 sunrpc 56 streamwork 57 citrix 58 fasttrack 59 gnutella 60 kazaa2 61 custom-01 62 custom-03 64 custom-03 65 custom-04 65 custom-07 66 custom-07 68 custom-07 68 custom-08 69 custom-08 69 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bitorrent 81 directconnect 82 skype 83 unknown	54	netshow
56 streamwork 57 citrix 58 fastrack 59 gnutella 60 kazaa2 61 custom-01 62 custom-02 63 custom-04 65 custom-04 65 custom-05 66 custom-07 68 custom-07 68 custom-07 68 custom-07 68 custom-07 70 custom-07 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	55	sunrpc
57 citrix 58 fasttrack 59 gnutella 60 kazaa2 61 custom-01 62 custom-02 63 custom-03 64 custom-04 65 custom-05 66 custom-06 67 custom-07 68 custom-07 68 custom-07 68 custom-07 70 custom-07 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bitorrent 81 directconnect 82 skype 83 unknown	56	streamwork
58 fasttrack 59 gnutella 60 kazao2 61 custom-01 62 custom-02 63 custom-03 64 custom-04 65 custom-05 66 custom-07 68 custom-08 69 custom-09 70 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	57	citrix
59 gnutella 60 kazaa2 61 custom-01 62 custom-02 63 custom-03 64 custom-04 65 custom-05 66 custom-07 68 custom-07 68 custom-07 68 custom-07 68 custom-09 70 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	58	fasttrack
60 kazaa2 61 custom-01 62 custom-02 63 custom-03 64 custom-04 65 custom-05 66 custom-07 68 custom-08 69 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	59	gnutella
61 custom-01 62 custom-02 63 custom-03 64 custom-04 65 custom-05 66 custom-07 68 custom-09 70 custom-09 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	60	kazaa2
62 custom-02 63 custom-03 64 custom-04 65 custom-05 66 custom-06 67 custom-07 68 custom-09 70 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	61	custom-01
63 custom-03 64 custom-04 65 custom-05 66 custom-07 68 custom-08 69 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype	62	custom-02
64 custom-04 65 custom-05 66 custom-06 67 custom-07 68 custom-08 69 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	63	custom-03
65 custom-05 66 custom-06 67 custom-07 68 custom-08 69 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype	64	custom-04
66 custom-06 67 custom-07 68 custom-08 69 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bitforrent 81 directconnect 82 skype 83 unknown	65	custom-05
67 custom-07 68 custom-08 69 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype	66	custom-06
68 custom-08 69 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	67	custom-07
69 custom-09 70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	68	custom-08
70 custom-10 71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	69	custom-09
71 rtsp 72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	70	custom-10
72 rtp 73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	71	rtsp
73 mgcp 74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	72	rtp
74 skinny 75 h323 76 sip 77 rtcp 78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	73	mgcp
75h32376sip77rtcp78edonkey79winmx80bittorrent81directconnect82skype83unknown	74	skinny
76sip77rtcp78edonkey79winmx80bittorrent81directconnect82skype83unknown	75	h323
77rtcp78edonkey79winmx80bittorrent81directconnect82skype83unknown	76	sip
78 edonkey 79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	77	rtcp
79 winmx 80 bittorrent 81 directconnect 82 skype 83 unknown	78	edonkey
80 bittorrent 81 directconnect 82 skype 83 unknown	79	winmx
81 directconnect 82 skype 83 unknown	80	bittorrent
82 skype 83 unknown	81	directconnect
83 unknown	82	skype
	83	unknown

To create a Custom Poller Policy:

- 1. Select the **Configuration** Workspace.
- 2. Expand the **Monitoring** folder.
- 3. Select Customer Poller Configuration.
- 4. Navigate to the **Policies** tab.

5. Click the * (New) icon.

File View Tools Actions Help		Ś
Custom Poller Configuration		
Image: Image of the second close Image: Image of the second close Image: Image of the second close Image: Image of the second close	Policies Custom Poller Collections Report Groups	
Note: When you save a Custom Poller Collection configuration, each associated Policy changes to Active State Suspended. To make a Policy active, access the Custom Poller Configuration: Policies tab, open each associated Policy, and change the Active State to Active.	Policies define the Node Group and polling interval you want NNMi to poll for a Custom Poller Collection.	
▼ Global Control	Orden ame Active State Collection MIB Filter	Polling
Enable Custom Poller	1 New iskSpace Active DiskStorageUsed *	5 minute
	Jan and a start and a start and a start	

Enter the information for each policy as shown in the example that follows.

Tip: Use an ordering of 100 for all your policies. This will leave you room to modify ordering in the future.

Note the following when selecting the MIB Filter:

- The MIB Filter requires that you use protocol names. You MUST use the names of the protocols that appear in the output list of the snmpwalk.ovpl command as shown in the previous example (for example, **snmp**, **icmp** or **http**).
- If you want to use more than one protocol, enter the protocol values as a comma separated list as shown in the example that follows.
- Do not use * as the filter. When using an asterisk (*) as the MIB Filter, NBAR routers return an instance even if the value of traffic is zero. This creates too many collections per node.

Tip: The name of the Policy does not need to be the same as the Custom Poller Collection.

6. Click **Save and Close** to save your changes and close the Custom Poller Policy form.

7. Click **Save and Close** to save your changes and close the **Custom Poller Configuration** form.



Verify the Custom Poller Configurations

Use the **Monitoring** workspace to confirm the HP NBAR statistics are collected.

- 1. Navigate to the **Monitoring** workspace.
- 2. Select Custom Node Collections.

3. Confirm that NNMi has created **Custom Node Collections** for the nodes in the Node Group that you associated with the Custom Poller Collection.

🕼 Network Node Manager						User Name:	ksmith NNMi Role: Administra	tor Sign O
File View Tools Actions Help								
👌 Incident Management 🛛 😵	Custom Node	Collections						
🔥 Topology Maps 🛛 🕹	🗵 📑	C 🗟 🖉	💎 🖴				1 - 2 of 2	
Monitoring *	Status▽	Node	Active State	Status Last Modified 🔻	Custom Poller Poli	Discovery State	Discovery State Last Mod	Discovery State Info
Non-Normal Node Components	0	peoriape1	Active	Aug 13, 2012 3:42:54 PM	HP NBAR In Bit Rate	Completed	Aug 13, 2012 3:42:53 PM	
m Non-Normal Cards	0	mplspe01	Active	Aug 13, 2012 3:42:54 PM	HP NBAR In Bit Rate	Completed	Aug 13, 2012 3:42:54 PM	
m Non-Normal Interfaces								
m Non-Normal Nodes								
Mon-Normal SNMP Agents								
m Not Responding Addresses								1
Interface Performance								}
Eard Redundancy Groups								
m Router Redundancy Groups								
m Node Groups								
Custom Node Collections								e e e e e e e e e e e e e e e e e e e
Custom Polled Instances								
	Law, a			-				

Next, confirm the instances that are polled on these nodes.

4. From the Monitoring workspace, select Custom Polled Instances.

5. Verify the instances that are polled on these nodes.

🕼 Network Node Manager							Us	er Name: ksmith	NNMi Role: Ad	ministrator	Sign Out
File View Tools Actions Help											
♠ Incident Management ¥	Custom Polled	nstances									
\Lambda Topology Maps 🛛 💝	🗵 📴 🕃 💀 🌮 🔛										
Monitoring *	Status	State Last State Change	MIB Expression	MIB Ir	Filter	Displa	Node	Custom Po	ller Collection	Active State	State Last
Non-Normal Node Components	Ø	0	hp_cnpdAllStatsInBitRate	.41.5	icmp	icmp	peoriape1	HP NBAR In I	Bit Rate	Active	Never
m Non-Normal Cards	0	0	hp_cnpdAllStatsInBitRate	.25.5	icmp	icmp	peoriape1	HP NBAR In	Bit Rate	Active	Never
m Non-Normal Interfaces	0	0	hp_cnpdAllStatsInBitRate	.1.39	snmp	snmp	peoriape1	HP NBAR In	Bit Rate	Active	Never
m Non-Normal Nodes	0	0	hp_cnpdAllStatsInBitRate	.1.5	icmp	icmp	peoriape1	HP NBAR In	Bit Rate	Active	Never
Mon-Normal SNMP Agents	0	0	hp_cnpdAllStatsInBitRate	.41.39	snmp	snmp	peoriape1	HP NBAR In	Bit Rate	Active	Never
Not Responding Addresses	0	0	hp_cnpdAllStatsInBitRate	.25.39	snmp	snmp	peoriape1	HP NBAR In	Bit Rate	Active	Never
Interface Performance	0	0	hp_cnpdAllStatsInBitRate	.41.5	icmp	icmp	mplspe01	HP NBAR In	Bit Rate	Active	Never
Card Redundancy Groups	0	O	hp_cnpdAllStatsInBitRate	.8.39	snmp	snmp	mplspe01	HP NBAR In	Bit Rate	Active	Never
Router Redundancy Groups	0	Ø	hp_cnpdAllStatsInBitRate	.8.5	icmp	icmp	mplspe01	HP NBAR In	Bit Rate	Active	Never
m Node Groups	0	O	hp_cnpdAllStatsInBitRate	.41.39	snmp	snmp	mplspe01	HP NBAR In	Bit Rate	Active	Never
Custom Node Collections											
Custom Polled Instances											
< III									•		
	Updated: 8/13/	12 03:44:21 PM	Tota	al: 10		Selec	ted: 1	Filter: ON		Auto re	fresh: 3 min
	Analysis										۸
	Custom Polled	Instance Summary : .41.5	peoriape1 C	ustom P	olled Ins	stance (Gauge 😗 🛛 Cu	stom Poller 🔂	Collected Node	e peoriape1 🔂	
▲ Troubleshooting ¥	Name	peoriape1	HP NBA	R In	Bit R	ate			1		
Inventory ¥	Status	Normal	E Status: Defa	utResult	Status	Succes	sful: true				
Search Management Mode 🛛 🕹	State Last	Normal									
🇞 Incident Browsing 🛛 😵	Modified	Never									
🐺 Traffic Analysis 🛛 😜	MIB Expressi MIB Instance	n hp_cnpdAllStatsInBitRate									
$<\!$	Filter Value	icmp	-								
	•	III	•								

Optional: Configure Thresholds for the Custom Poller Collections

You might also want to configure thresholds for these Custom Poller Collections:

- 1. From the Custom Poller Configuration form, navigate to Custom Poller Collections tab.
- 2. Double -click the Custom Poller Collection; for example, **HP NBAR in Bit Rate**.

stom Poller Configuration													
Save and Close													
		Pol	licie	s	Cust	om Polle	Collect	tions	Report	Groups			
te: When you save a Custom Poller Collection configuration, each		•						-					
sociated Policy changes to Active State Suspended. To make a licy active, access the Custom Poller Configuration: Policies tab, open ch associated Policy, and change the Active State to Active.		A Cu hand	usto dle f	om Po the re	oller Col esults.	llection d	efines	the in	formation	you want to ga	ther (poll) as w	vell as how you	want NNMi to
Global Control	-	Z	ן נ	*		8	5	P	× k	🔄 🗳 🚺 - 11	of 11	(> 🕅 🖻
Enable Custom Poller 🛛 🔽		Na	am	Ð			•	Af No St	fect ode atus	Generate Incident	Export Custom Poller Collection	Compress Export File	Description
		Di	iskS	torag	eUsed			~		~	-	-	
		HF	P NE	BAR	n Bit Ra	ate		~	,	~	-	-	The inbound t
		HF	P NE	BAR	n Bytes	5		-		-	-	-	The byte cour
		HF	P NE	BAR	n Bytes	s High C	pacity	-		-	-	-	The byte cour
		HF	P NE	BAR	n Pack	ets		-		-	-	-	The packet of
		HF	P NE	BAR	n Pack	ets High	Capaci	t -		-	-	-	The packet c
		HF	P NE	BAR	Dut Bit	Rate		-		-	-	-	The outbound
					Out Bud	es		-		-	-	-	The byte cou
		HF	P NE	MR	Jul Dyi								
		HF	p ne P ne	BAR	Out Byt	tes High	Capacit	ð -		-	-	-	The byte cour
		HF HF	p ne p ne p ne	BAR	Dut Byt Dut Pac	tes High ckets	Capacit	- 6		-	-	-	The byte cour The packet co

3. Enter the threshold value.

4. Click **Save and Close** to save your changes and close the form.

File View Tools Actions Help									
Custom Poller Configuration Custom Poller Collection *									
🔯 🛅 🐴 🖾 Save and Close 😂 💢 Delete Custom Poller Collection 🔛									
▼ Basics	Threshold Comparison Maps								
When modifying an existing Custom Poller Collection, all associated Policies will be suspended when the modifications are saved.	•								
Name HP NBAR In Bit Rate Affect Node Status Export Custom Poller Collection	Optional. The Threshold allows you to specify conditions that can change the Polled Instance State based upon the value of the MIB Expression that is polled. You must specify a minimum and or a maximum value for the MIBExpression. You must also choose count-based or time-based thresholds. For count-based thresholds you specify the number of times that the polled value must fall outside the range. For time-based thresholds you specify the amount of time that the polled value must fall outside the range over								
Compress Export File Generate Incident Incident Custom Polled Instance	a skiing duration window. Threshold Setting Type Count								
Variable	High State Major -								
MIB Expression hp_cnpdAllStatsInBitRate 👻 🎲 🔻	High Value Rearm 4								
Required for multiple instance (repeating) MIB Variables only. The MIB Filter Variable is the MIB variable whose value you want to use as a filter to determine which instances of the MIB Expression to Custom Poll You	High Trigger Count 1 * High Duration 0.00 Seconds								
must also specify a MIB Filter value when creating the associated Policy. MIB Filter Variable cnpdAllStatsProtocolName	* High Window Duration 0.00 Seconds 🗸								
	Low StateChoose One								
	Low Value Rearm								
	Low Duration 0.00 Seconds								
	* Low Window Duration 0.00 Seconds v								
Annual Sollection Summary : HP NBAR In Bit Rate - Na	Conclosed An StatsInBitRate								

Optional: Use the iSPI Performance for Metrics to Graph Custom Poller Collections

If you have the iSPI Performance for Metrics license, you can graph these collections.

Note: You MUST have iSPI Performance for Metrics 9.10, Patch 1 or higher to perform these steps.

- 1. Navigate to the **Actions** menu.
- 2. Select HP NNM iSPI Performance.
- 3. Select Reporting Report Menu.

Network Node Manager		User Name: ksmith NNM Role: Administrator Sign Out									
File View Tools Actions Help											
Incident Managem Node Actions Interface Actions P Address Actions) ଅନ୍ତ ହୋ 🗶 🛯	Last Week 👻 <empty filter="" group=""> 🔍 🔯 🔿 1 - 6 of 9 🖉 🖓 🖂</empty>									
Monitoring Maps	st Occurrence-Ti Assigned Tr Source Node	Source Object Cater Famil Origin Corre Message									
Troubleshooting Source Node Inventory Source Object	3/12 4:00:00 PM peoriape1	smp 🎄 🕽 🐁 Vit CustomPoledinistance out of range in CustomNodeCollection HP NBAR In Bit Rate									
Node Group Members	3/12 12:12:16 PM losangeles-pe1	VI49 🔊 🐉 🛂 🔀 High input utilization on interface VI49. The inUtilizationState transitioned from NOMINA									
Caraph Custom Poler Results Node Access	3/12 12:05:36 PM losangeles-pe1	CPU 🔊 🖗 💆 CPU on losangeles-pet utilization is too high 🗉									
Traffic Analysis Traffic Maps	V12 9:15:03 AM core6509-1	VI1 🔊 Traffk 🗐 🕺 High traffic ingress volume reported through an interface VI1 on the node core6509-1									
A Integration Module Delete	V12 9:15:03 AM core6509-1	commune and a Traffic 🕲 🏹 One or more interfaces on node: core6509-1.fc.usa.hp.com has breached the traffic									
Seconfiguration Change Lifecycle	 712 3:01:02 PM deployts; 	I deploybe 🔢 📲 📱 🧏 HP NNMi Integration Module for Netcool Software license expired on Sun Jul 29 23:59									
Assign Communicatio	V12 3:00:22 PM deploytx	l deplovi 📑 🖹 ங k HP Network Node Manager iSPI Network Engineering Toolset Software license expire 🔻									
Discovery Incident Configuration Reports	Sync Interface and Node Group	Total: 9 Selected: 1 Filter: ON Auto refresh: 30 sec									
Employed State Employed		A									
Monitoring 🖉 Run Diagnostics (iSPI NET only) (Evaluation) omPolledInstanceOutOfRange 🚭	Details 😨 Custom Attributes 😰 peoriape1 MB Values 🤁 Source Node peoriape1 🚱									
Custom Poller Configuration Performance Data	Mon Aug 13 16:04:14 MDT 2012	cia.custompoller.collection (String) HP NBAR In Bit Rate									
+ incidents	CustomPolledInstance out of range in	cia.custompoller.instanceDisplayValue snmp									
Status Configuration	CustomNodeCollection HP NBAR In Bit Rate	cia.custompoller.instanceFilterValue (String) snmp									
Global Network Management Lifecycle State	Registered	cia.custompolier.lastValue (String) 11									
📧 🧰 User Interface RCA Active	true	cia.custompolier.neiicv (String) .20.39									
E Security Source Object	snmp (Custom Polled Instance)	cia.custompoller.state (String) MAJOR									
H D MBs	8/13/12 04:00 PM (Open for 4.2 minutes)	cia.custompoller.variable.description (String) The inbound bit rate as determined by Protocol Discovery									
Device Profiles		cia.custompoler.variable.expression (String) cnpdAllStatsInBitRate									
🖃 🗁 Object Groups		cia threshold(CurrentValue (String) NP_CNPGAIIStatSINBITKATE									
m Node Groups		cia.thresholdLowerBound (String) 5									
m Interface Groups		cia.thresholdMeasuredValue (String) 11									
RAMS Servers		cia.thresholdUpperBound (String) Infinity									
Management Stations (6.x/7.x)		com.np.ov.nms.apa.symptom (string) PolledinstanceMajor									
m NNM iSPI Performance for Traffic Le											
NNM iSPI Performance for Traffic Ci											
۲											

4. Confirm the Custom Collection section appears in the Reports list.



5. Next, access the report of your choice and select the metrics you want.

For example, the report in the following example shows the TopN traffic for a specific node (all NBAR interfaces aggregated) over the previous hour. Only SNMP and ICMP traffic is shown because the example MIB Filter included only **snmp** and **icmp**.

		<mark>.</mark> ₽K
Current Status	MNM iSPI Performance	Cisco NBAR - Cisco NBAR-CustomPollMetrics - Top N
Username: system	Ontions Show Bookmark, Holp	
Package: Cisco_NBAR		
Folder: CustomPollMetrics	May 31, 2011 2:55:00 PM - May 31, 2011 3:55:00 PM (Last 1 Hour), Node Name = r	peoriane 1
Report: Top N Status: Ready	,,,,,, ,,	
	Scrouped by: Node Name : Display Attribute	
Reports		
	Rank Node Name Display HP NBAR In	Percent of ALL for HP NBAR HP NBAR Out Bar Chart for HP NBAR In
Refresh Open separately	Attribute Bytes_hp_cnpdAllStatsInBytes	In Bytes_hp_cnpdAllStatsOutBytes Bytes_hp_cnpdAllStatsInBytes
🗄 🧰 Self Monitoring (admin users only)	(sum) By	(sum) (sum)
🗄 🧰 iSPI Metrics	1 peoriape1	96.85% 2,817,788
🖃 🗁 Custom Collection	2 peoriape1. tume.tw.com icmp 80,950	3.15% 139,348
- 🗁 Cisco NBAR	<u>Others</u> 0	0.00%
Cisco_NBAR-CustomPollMetric	Hide Chart	
Calendar		
Chart Detail	Details for Top 10 Node Nar	me : Display Attribute
Heat Chart	E 300,000	
Managed Inventory		
Most Changed	\$ 250,000	peoriape1 is an inj.com : icmp
Peak Period	gt i	
Threshold Sleeve	31 200,000	
Top N		
Top N Chart	- 130,000 	
_	ນີ້ 100,000	
	Byt	
	50,000	
	T 0 13:15 13:20 13:25 13:30 13:35 13:40 13:45 13:50	13:55 14:00 14:05 14:10
	Generated at : 4:03:18 PM (Server Time)	
Report History		

The following report shows the TopN traffic (SNMP and ICMP only) on multiple nodes on specific interfaces.

Tip: The specific interface index is the leftmost number in the Index field. The rightmost number represents the protocol.



Conclusion

This document described how to use NNMi Custom Poller Collections to collect Network Based Application Recognition (NBAR) Statistics for Cisco devices. It also described the following optional procedures:

- Configure thresholds for the Custom Poller Collections
- Use NNM iSPI Performance for Metrics to graph Custom Poller Collections

Use these procedures when you want information about the application protocols traversing interfaces within your network infrastructure.

Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notices

© Copyright 2009–2012 Hewlett-Packard Development Company, L.P.

Trademark Notices

Adobe® is a trademark of Adobe Systems Incorporated.

HP-UX Release 10.20 and later and HP-UX Release 11.00 and later (in both 32 and 64-bit configurations) on all HP 9000 computers are Open Group UNIX 95 branded products.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

Oracle and Java are registered trademarks of Oracle and/or its affiliates.

UNIX® is a registered trademark of The Open Group.

Oracle Technology - Notice of Restricted Rights

Programs delivered subject to the DOD FAR Supplement are 'commercial computer software' and use, duplication, and disclosure of the programs, including documentation, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement. Otherwise, programs delivered subject to the Federal Acquisition Regulations are 'restricted computer software' and use, duplication, and disclosure of the programs, including documentation, shall be subject to the restrictions in FAR 52.227-19, Commercial Computer Software-Restricted Rights (June 1987). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

For the full Oracle license text, see the license-agreements directory on the NNMi product DVD.

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.

(http://www.extreme.indiana.edu)

Support

Visit the HP Software Support web site at:

www.hp.com/go/hpsoftwaresupport

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support web site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To register for an HP Passport ID, go to:

http://h20229.www2.hp.com/passport-registration.html

To find more information about access levels, go to:

http://h20230.www2.hp.com/new_access_levels.jsp