Using Cisco Medianet Performance Monitor with LiveNX



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INTRODUCTION

Cisco's Medianet Performance Monitor (PerfMon) is a variation of Flexible NetFlow (FNF) that allows the user to become aware of key media and application metrics for traffic flows. This new capability reports not only on the standard NetFlow 5-tuple (Source IP Address, Destination IP Address, Source Port, Destination Port, and IP Protocol), but also on media specific data such as Jitter, Media Rate Variation, RTP Synchronization Source (SSRC), and much more. The main goal is to grant Network Administrators the chance to detect flow performance issues before they impact the overall usability of the media application.

LiveNX serves to provide a detailed view of the reported PerfMon traffic, with an easy to understand graphical interface. Users can then further leverage Cisco's PerfMon technology, with the assistance of LiveNX, to perform troubleshooting and monitoring of critical voice and video traffic flows. This technical application note provides instructions on enabling and using PerfMon within the context of the LiveNX software.

SUPPORTED IOS

Cisco Catalyst Switches

Platform	IOS	License
Catalyst 6500-E SUP2-T	15.0(1)SY	IP Services
Catalyst 4900M	15.1(1)SG	IP Base
Catalyst 4500X	XE 3.3.0SG	IP Base
Catalyst 4500E SUP7-E	XE 3.3.0SG	IP Base
Catalyst 4500E SUP6-E	15.1(1)SG	IP Base
Catalyst 3750 / 3560	12.2(58)SE2	IP Base

Cisco Integrated Services Routers (ISR) and Aggregation Services Routers (ASR)

Platform	IOS	License
Cisco 3900 ISR	15.1(3)T	UC or Data
Cisco 2900 ISR	15.1(3)T	UC or Data
Cisco 4000 ISR	15.1 (3)T	UC or Data
Cisco 1900 ISR	15.1(3)T	Data
Cisco 880/890 ISR	15.1(3)T	Universal with Advanced IP
Cisco ASR 1001	XE 3.5	Universal with Advanced IP
Cisco ASR 1000	XE 3.5	Universal with Advanced Enterprise

For the latest information regarding Cisco Medianet, visit: <u>http://www.cisco.com/go/medianet</u>

LIVENX CONFIGURATION

Setting Up the Device

The first step to leveraging these capabilities is to add the devices to the LiveNX topology. This is accomplished through discovery, or by directly adding the devices through the File menu:

Specify IP ranges	(ex: 192.168.1.1-200)	or one IP pe	er line:	
172.16.67.107				
Specify seed devi	ce to scan			
IP Address				
Hops 1	-			
Dep 2: Specify Use the Default	SNMP settings	5 ngs		Edit
O N P Use the Default O Enter SNMP co	SNMP settings	S ngs s device	Turnet Durt	Edit
Dise the Default Tenter SNMP co SNMP Version Community Stri	SNMP settings SNMP connection settings for thi Version 2c	S ngs s device	Target Port	Edit
Dise the Default Single Community Strip	SNMP settings SNMP connection setting nection settings for thi Version 2c	S ngs s device	Target Port	Edit
EP 2: Specify Use the Defaul Enter SNMP co SNMP Version Community Stri	r SNMP settings : SVMP connection setti nnection settings for thi Version 2c	S ngs s device	Target Port	Edit
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Des the Defaul Use the Defaul Enter SNMP co SNMP Version Community Stri	SNMP settings SNMP connection settiin nection settings for thi Version 2c	S ngs s device	Target Port	Edit
Dep 2: Specify Use the Default Enter SNMP co SNMP Version Community Stri	r SNMP settings SNMP connection setti nnection settings for thi Version 2c	s device	Target Port	Edit

Then, step through the Add Device wizard entering the appropriate information for the IP address, SNMP read string, CLI login credentials, and select the appropriate interfaces:

Change	Device Connection Information	Share	(11 Settings (Configuring)
Device Connection Information Information Cut Settings (Configuring) Cut Settings (Monitoring) Select Interfaces Select VLNIs Select Floatures Review Configuration Device Updated		Device Connection Information 2. CLI Settings (Configuring) 3. CLI Settings (Monitoring) 4. Select Interfaces 5. Select NaNa 6. Select Features 7. Enable Polling 8. Review Configuration 9. Device Updated	Specify the classifier right of the set of

Steps	CLI Settings (Monitoring)	Steps	Select Interfaces
Steps Device Connection Information Configuring) Configuring) Solid Settings (Monitoring) Solid Settings (Monitoring) Solid Settings Solid S	CLI Settings (Monitoring) Specify the CLI connection information shared by all users. This information will only be used to monitor this device. Required fields are indicated with an asterisk (*). Monitor-only CLI Connection Settings Enter Connection Settings Sinter Connection Settings Get device. Use the default Monitor-only CLI connection settings Use the previous page connection settings Use the previous page connection settings Connection settings for this device Connection Type <u>SEH v</u> Port* <u>22</u> User name on Device	Steps 1. Davice Connection Information 2. CLI Softings (Configuring) 3. CLI Softings (Montorng) 4. Select Interfaces 5. Select VLNIs 6. Select Teatures 7. Enable Polling 8. Review Configuration 9. Device Updated	Select Interfaces Select Interfaces you want to monitor on this device (maximum 100 interfaces). Selected Interface Trunk IP Address Description GlyabitEthernet0/23 10.0.4.1 GlyabitEthernet0/24 172.16.57.107 NulD Vian10 Vian100 Vian1001 192.0.2.25 BRANCH-TEST-NETWO Vian101 172.16.1.10
	Password on Device* Enable Password Cancel Help		< Back Bext > Enish Cancel Help

Then enable NetFlow collection and configure any other polling options:

Steps	Select Features			Steps	Enable Polling
Steps 1. Device Connection Information 2. CLI Settings (Configuring) 3. CLI Settings (Monitoring) 4. Select Interfaces 5. Select VLNIs 6. Select Features 7. Enable Polling 8. Review Configuration	Select Features Select Features you want t in the Help section. Features on device Interface Cipabil@HomentD/23 Gipabil@HomentD/24 Vien1001	to enable on each interface warding (CEP) — must be e NBAR N/A N/A N/A	Learn more about each feature enabled to use NBAR NetFlow	Steps 1. Device Connection Information 2. CLI Settings (Configuring) 3. CLI Settings (Monitoring) 4. Select Interfaces 5. Select VL/Ne 6. Select Features 7. Enable Polling 8. Review Configuration	Enable Polling Select the features you want to actively monitor and the polling rate for all the features on this device. Learn more about polling in the Help section. Polling Rate 30 seconds Poll the following features Poll the following features QoS
9. Device Updated	< Back Next > Er	high	Cancel Help	9. Device Updated	P SLA Routing LAN LAN LAN SNMP V3, please see the User Guide on configuring LAN polling. Sec. Sec. Next > Prich Cancel Help

CONFIGURING MEDIANET WITH LIVENX

Here is the example topology we will be using for the commands:



LiveNX can assist in configuring Medianet on supported devices. The Configure Flow feature allows each device to be configured with the necessary commands.

Click Flow > Configure Flow or right click on a device in the device view and then selecting Flow > Configure Flow. This capability is available to Admin and Full-Config user roles.

After clicking on Flow > Configure Flow, LiveNX displays a Flow Configuration summary table listing all the devices discovered by LiveNX as well as its properties including Type, IP Address, Description, Tags, and several Flow Configuration Options.

Select the device(s) you wish to configure Medianet on by clicking the check box next to the device name and then click on **Configure Selected**.

Select the interfaces you wish to configure Medianet on with the check boxes under the Voice/Video Performance (Medianet) column. A hyphen mark in the column indicates that the device does not support Medianet.

Once all the selections have been made, the Save to Devices, Preview CLI, and Revert.

• **Preview CLI** – click on **Preview CLI** to review the commands that LiveNX will send to the device to re-configure flows on the selected interfaces. If configuring multiple devices, use the device table on the left to select a device in the list.

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	nfgure flow									
Configuration Tal	ble									
	Davidas	Time	TO Address	Operation	Tees	Traffe Chalinking (EAE)	Analysis Deserves Top	Value Midea Desfermance (Madamat)	Traditional	Cashan
	ADN.AC.17	Catalast 6500	10.0.50.17	Circo IOS Software, C2050 Soft	100000 200000 TO AP	francistausues (river)	Application Response Tim	voice/video Perioriliarice (Pedianet)	inautorial D	Custom
	(a) ADM_AS_18	Standard	10.0.50.18	Circo IOS Software, C2960 Soft	200000, 200000, 10 Hr	0	0	0		0
0	APN_CAT 3550 10	Catalyst 3850	10.0.50.10	Cisco 105 Software, C3550E So.	WAN DC 10000	0	0	0		0
	@ APN-CAT 3560 14	Standard	10.0 50.14	Cisco IOS Software, C3560E So		0	0	0		0
	APN-DS-15	Standard	× 10.0.50.15	Cisco 105 Software, C3560C S		0	0	0	0	0
	APN-DS-16	Standard	v 10.0.50.16	Cisco IOS Software, C3560C S		0	0	0	0	0
	ASK1k-HSL-49	Standard	10.0.50.49	Cisco IOS Software, ASB 1000	WAN, Chicago, 100000	. 0	0	0	0	0
	@ c1811-ES-11	Standard	10.0.50.11	Cisco IOS Software, C181X Sof	WAN, BOS, 10000, SP2		0	0		
	(a) c1941-ES-12	Standard	× 10.0.50.12	Cisco IOS Software, C1900 Sof	WAN, CHI, 10000, Irvine		0		0	0
	@ c1941APN-212	Standard	√ 10.0.50.212	Cisco IOS Software, C1900 Sof	WAN, 10000, Main, USA	•			0	0
П	(a) c2921-ES-13	Standard	√ 10.0.50.13	Cisco 105 Software, C2900 Sof	WAN, 100000, 1000000,	. •		0	0	0
	(at2960xAPN-211	Standard	√ 10.0.50.211	Cisco IOS Software, C2960X So	1000000, Connected G0/	. 0	0	0	0	0
	(at3750APN-213	Standard	√ 10.0.50.213	Cisco IOS Software, C3560C S		0	0	0	0	0
	@ cat3850APN-214	Catalyst 3850	√ 10.0.50.214	Cisco IOS Software, IOS-XE So	100000, 1000000	0	0	0	0	0
	(esco2921APN-216	Standard	√ 10.0.50.216	Cisco IOS Software, C2900 Sof		•	•	•	0	0
Ē	(isco 3850 APN-215	Standard	× 10.0.50.215	Cisco IOS Software, IOS-XE So		0	0	0	0	0

Barbar Status Status<										
Implementation Type Pathenes Description Type Type <tht< th=""><th>nfigure the type of flow you wish to re</th><th>eceive from the interfaces</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></tht<>	nfigure the type of flow you wish to re	eceive from the interfaces								
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Chill Weard Data Description Descripion Description Descripion <th>ce .</th> <th>Type</th> <th>IP Address</th> <th>Description</th> <th>Tags</th> <th>Traffic Statistics (FNF)</th> <th>Application Response Time (</th> <th>Voice/Video Performance (Medianet)</th> <th>Traditional</th> <th>Custom</th>	ce .	Type	IP Address	Description	Tags	Traffic Statistics (FNF)	Application Response Time (Voice/Video Performance (Medianet)	Traditional	Custom
Institute(1)0 - 20.0.1 -	c2921-ES-13	Standard	✓ 10.0.50.13	Cisco IOS Software, C2900 Sof	tw WAN, 100000, 1000000, SP	. •	•		•	•
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multicity multicity multicity multicity multicity multicity multicity multicity multicity multicity multicity multicity <	FastEthernet0/1/1		192.168.46.2	201940× 101947 CH	100000, To-TimeWarner, W			U	U U	
• posterenci(2) • 123.1.1 2000.1.1 0	ClashitEthemat0/1		10, 100, 201, 15	PRIMART-AGENT-GW	100000 To Visiting WAN			H		
9 Mori - 92 Mori - </td <td>GrabitEthernet0/2</td> <td></td> <td>192.0.1.1</td> <td>able changes</td> <td>100000, To-Concast, WAN,</td> <td></td> <td></td> <td></td> <td></td> <td></td>	GrabitEthernet0/2		192.0.1.1	able changes	100000, To-Concast, WAN,					
• Work2 - 30.0.1.1 -	Van1		192, 168, 12, 1		1000000					
	9 Van12		10.0.12.1			ä	n n		n	
	Vian2		192.168.100.1			ū	Ő			

- Revert click on Revert to return your flow configuration settings back to the initial state prior to any "Save to Devices" command.
- Back click on Back to return back to the device only view of the flow configuration table.
- **Close** close the flow configuration table.
- Save to Devices LiveNX will ask you to confirm that you would like to configure the devices. If confirmed, LiveNX
 will modify the flow configuration for the selected interfaces on the device. A message will be generated to indicate
 successful re-configuration of that device or to indicate details on the errors encountered during the
 flow configuration.

NOTE: You can modify your Medianet Policy to add other Voice and Video applications to monitor. To do this for all of your devices that have Medianet, you only need to modify one seed policy and then push that policy to the rest of your devices.

First go to your seed device and find the "LIVEACTION-CLASS-MEDIANET" and then select your match type. Below the policy is being matched to Skype using NBAR2, but you can also use access-lists to be specific about your telepresence video conversations.



After modifying your policy, you can then select to copy that policy to your other Medianet capable devices.

LIVENX PERFMON FEATURES

Medianet Flow Alerts

LiveNX's alert system affects the output of multiple views and reports in the application. Exceeding the threshold values under the Configure Alerts dialogue will trigger an alert in the In-Application Alerts window, and the corresponding flows will be highlighted in the Device View, System View, and Medianet Top Analysis Report. The following screenshots reflect the enabled alerts (percentage being greater than 1%).

System Flow Table

Under the Medianet tab, the System Flow Table will display PerfMon related statistics on the collected flows. The flows are an aggregation of all received flows handled by both the Traditional NetFlow process and the Medianet PerfMon process, with a new entry being uniquely identified by the collectable attributes of the packets. Some of the new packet attributes related to Medianet include:

- RTP SSRC = RTP Synchronization Source. A unique identifier used to differentiate stream sources using the same 5-tuple flow information.
- Packet Loss % = The largest packet loss % value received from all devices in the system during the polling period.
- Interarrival Jitter Mean = The largest RTP jitter mean value received from all devices in the system during the polling period.
- Loss Event Count = The sum of the Loss Event Counts received from all devices during the polling period.
- DSCP IPV6 Traffic = Medianet PerfMon reported DSCP value for the specific flow.

olor	Protocol	Src IP	Src Port Src Countr	/ Dst IP	Dst Port Dst Country	App Name	DSCP	Total Bytes	RTP SSRC	Packet Loss %	Interarrival Jitter Mean	Loss Event Count	DSCP	IPV6
	TCP	192 168 15 200	57 943 -	192 168 12 2	80 -	httn*	0 (BE)	34 MB	0	0.00 %	0.00 ms			
	TCP	192, 168, 15, 200	58,192 -	192, 168, 12, 2	80 -	http*	0 (BE)	40 MB	0	0.00 %	0.00 ms			
	ICMP	192, 168, 15, 200		192, 168, 12, 2	2.048 -	unknown	0 (BE)	51 MB	0	0.00 %	0.00 ms			
	TCP	192.168.12.2	8.797 -	192.168.15.200	4.085 -	PeopleSoftPayroll**	0 (BE)	48 MB	0	0.00 %	0.00 ms	4090		
	ICMP	192.168.12.2		192.168.15.200		unknown	0 (BE)	22 MB	0	0.00 %	0.00 ms	0		
	UDP	192.168.15.200	23.030 -	192.168.12.2	55,542 -	PeopleSofl GL**	0 (BE)	56 MB	1347903890	0.00 %	300.25 ms			
	UDP	192.168.15.200	1,729 -	192.168.12.2	2,342 -	RTP**	0 (BE)	53 MB	0	0.00 %	0.00 ms			
	UDP	10.254.20.88	2,091 -	10.254.100.2	5,004 -	RTP-CAMPUS-VIDEO3**	0 (BE)	26 MB	2221342720	0.00 %	83.81 ms			
	UDP	10.254.20.88	23,030 -	10.254.100.2	55,542 -	RTP-CAMPUS-VOICE2**	0 (BE)	2 MB	1347903890	0.00 %	445.25 ms			
	UDP	10.254.100.2	55,542 -	10.254.20.88	23,030 -	RTP-CAMPUS-VOICE2**	0 (BE)	1 MB	4080166714	15.21 %	261.10 ms	342		
	UDP	192.168.12.2	52,761 -	11.11.11.11	5,004 States	CiscoRTP-Video**	0 (BE)	10 MB	2778728223	0.00 %	3.63 ms	0		
	UDP	192.168.12.2	54,628 -	11.11.11.11	5,004 states	CiscoRTP-Video**	0 (BE)	8 MB	616057781	0.00 %	1.86 ms			
	UDP	192.168.12.2	55,105 -	11.11.11.11	5,004 States	CiscoRTP-Video**	0 (BE)	3 MB	4051806226	0.00 %	2.65 ms			
	UDP	192.168.12.2	2,342 -	192.168.15.200	1,729 -	RTP**	0 (BE)	9 MB	1921471849	0.00 %	105.90 s			
	UDP	192.168.15.200	24,404 -	192.168.12.2	24,576 -	RTP**	46 (EF)	5 MB	1699594607	0.00 %	98.88 ms			
	UDP	10.254.100.2	55,542 -	John-Doe (10	23,030 -	RTP-CAMPUS-VOICE2**	0 (BE)	283 KB	4080166714	16.94 %	164.89 ms	106		
	UDP	10.254.20.88	24,404 -	10.254.100.2	24,576 -	RTP-CAMPUS-VOICE**	46 (EF)	120 KB	1699594607	0.00 %	101.68 ms	0		
	UDP	10.254.100.2	24,576 -	10.254.20.88	24,404 -	RTP-CAMPUS-VOICE**	0 (BE)	115 KB	1929191128	0.00 %	101.25 ms			
	UDP	10.254.100.2	24,576 -	John-Doe (10	24,404 -	RTP-CAMPUS-VOICE**	0 (BE)	115 KB	1929191128	0.00 %	94.22 ms			
	UDP	10.254.100.2	55,542 -	10.254.20.88	23,030 -	RTP-CAMPUS-VOICE2**	0 (BE)	2 KB	0	0.00 %	0.00 ms			
	UDP	10.254.100.2	55,542 -	John-Doe (10	23,030 -	RTP-CAMPUS-VOICE2**	0 (BE)	2 KB	0	0.00 %	0.00 ms			
	UDP	10.254.20.88	23,030 -	10.254.100.2	55,542 -	RTP-CAMPUS-VOICE2**	0 (BE)	2 KB	0	0.00 %	0.00 ms			
	UDP	10.254.100.2	24,576 -	John-Doe (10	24,404 -	RTP-CAMPUS-VOICE**	0 (BE)	480 B	0	0.00 %	0.00 ms			
	UDP	10.254.100.2	24,576 -	10.254.20.88	24,404 -	RTP-CAMPUS-VOICE**	0 (BE)	480 B	0	0.00 %	0.00 ms			
	UDP	10.254.20.88	24,404 -	10.254.100.2	24,576 -	RTP-CAMPUS-VOICE**	46 (EF)	480 B	0	0.00 %	0.00 ms			
	UDP	10.254.20.88	24,404 -	10.254.100.2	24,576 -	RTP-CAMPUS-VOICE**	0 (BE)	08	0	0.00 %	0.00 ms			

NOTE: Since the System Flow Table deals with aggregated data, some of the PerfMon fields are not displayed. The Device Flow Table includes a more detailed view of various PerfMon attributes.

Medianet Path Analysis

LiveNX can help quickly determine a problematic location with easy to understand color differentiation. Green indicates no issue while red will help determine an issue, like packet loss. It will also help in tracking down the path a conversation takes across the network.

Device Flow Table

LiveNX's Device Flow Table only outputs device-specific Medianet flow data in contrast to the aggregated flow data displayed by the System Flow Table. This allows for a more in-depth view into the media flow and projects a wider range of flow metrics. Utilizing the configured alert threshold shows the offending media flow highlighted in pink, while the attribute is highlighted in red. The main purpose of the Device Flow Table is to provide real-time monitoring capability to the user.

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		Brable Poling 🐺 Par	se Display Mediane		DefaultFilterGroup	v 🥐 Displa	y Filter Colors	End Points: IP Addre	15 v 🚯 Play	back NetFlow Colle	tor Polling : 10 secon	źs				
	Search Exam	ple: (site = Honolulu si	te = Chicago) & wan I	flow.app = webex	meeting										×	•
Home	Protocol	A1 Src IP Addr	Src Port	Dist IP Addr	Dist Port	Application	Sec Country	Dat Country	RTP SSRC	Direction	Forwarding Sta	as Media Event	Media Event Stop DSCP	IP TTL	Pack	ort Ex
CiscoLiveDemo	LOP	192.168.12.2	54,643	11.11.11.11	5,004	CiscoRTP-Video**		US Aurited St	948935097	INCRESS	Forwarded	Normal	0.0 (86)		127	
DC DC	LIDP	192.168.12.2	\$4,643	11.11.11.11	5,004	CiscoRTP-Video**		us/United St	948935097	INGRESS	Forwarded	Normal	0.0 (88)		127	
HSL	UDP	192. 168. 15. 200	1,729	192.168.12.2	2,342	RTP**			0	EGRESS	Forwarded	Normal	0 0 (BE)		125	
L2_Campus	000	192.168.15.200	1,729	192.168.12.2	2,342	RTP			0	EGRESS	Pormarded	Normal	00(88)		125	
N. California	100	192-168-12-2	2,342	192.158.15.200	1,729	RIP"			1000504607	ECOECO	Forwarded	Normal	0.000		12/	
Ploy the Viset	LOP	192, 168, 15, 200	24,404	192,158,12.2	24,575	RIPAS	2		1599594607	EGRESS	Forwarded	Normal	0.46(27)		60	
+2	UDP	192.158.12.2	24,575	192.158.15.200	24,404	RTP**	-		1929191128	INGRESS	Forwarded	Normal	00(00)		127	
-Fast	LOP	192.168.12.2	31.195	192.158.15.200	19.420	unknown proto			2539225492	INGRESS	Forwarded	Normal	0 46 (EF)		63	
z-West	¢															
APN-CAT 3550 14																
									8	analar a						
	Color Mappi Vieb Intrame Network 1988 Vieles Network 9 Network 9 N	g By Display Filter Color K. Hansgament Androtation (14 finas Half Services Y. Feerforn essential energy J. To finas	•			o	un de la companya de									

Historical Playback

Another functionality specific to the Device View is the ability to perform Historical Playback on flows traversing the device. This is not limited to Medianet PerfMon flows, but also includes Basic Flows, AVC, Firewall, Wireless, PfR, and other unspecified flow types. Historical Playback provides the ability to inspect the changes to flow behavior within a given timeframe, with a scrollbar. The following screenshots represent the time period before and after the addition of RTP traffic into the network.

II Playback Pastest earch Example: (site = Honolulu site ime	 Date: Nov 6, e = Chicago) & wan 					and so secon	tos v permane										
earch Example: (site = Honolulu site me ^3 Protocol v 5, 2036 6:59 UDP v 5, 2036 6:59 UDP	e = Chicago) & wan	1010 - 07.00	2:30 PM				05:00:00 PM 07:0	2:30 PM									
ne ^1 Protocol / 5, 2016 6:59 UDP / 5, 2016 6:59 UDP		& fow.app = web	ex-meeting														x -
v 5, 2016 6:59 UDP v 5, 2016 6:59 UDP	Src IP Addr	Src Port	Dist IP Addr	Ost Port	Application	Src Country	Dist Country	RTP SSRC	Direction	Forwarding Status	Media Event	Media Event Stop	DSCP	IP TTL	Pack	et Expecte F	acket Loss
v 5, 2016 6:59 UDP	192.168.12.2	61,845	11.11.11.11	5,004	CiscoRTP-Video**		US/United St	2464272166	INGRESS	Forwarded	Normal	0	0 0 (BE)		127	1,155	
	192.168.15.200	1,729	192.168.12.2	2,342	RTP**			0	EGRESS	Forwarded	Normal	0	0 0 (55)		125	N/A	
ev 5, 2016 6:59 UDP	192.168.12.2	2,342	192, 168, 15, 200	1,729	RTP			1921471849	DIGRESS	Forwarded	Normal		0 (88)		127	2,798	
ov 5, 2016 6:59 UDP	192, 168, 15, 200	24,404	192.168.12.2	29,576	RUP			15995594607	ECRESS	Porwarded	Normal		3.46 (89)		60	4,878	
N 5 2016 6:59 100	192.168.12.2	31,156	192, 168, 15, 200	26,404	proto			1020101128	THURSDO THURSDO	Forwarded	Normal		0.000		127	4 690	
5 5 2016 5 59 UCP	102 168 12 2	2 3.42	102 100 15 200	1 730	010**			0	THURSON DECK	Executed	Normal		0 (85)		127		
W 5 2016 5-50 LICP	192 168 15 200	26.404	192 168 12 2	24.525	PTD**	1		0	RCDRCC	Permanded	Normal		0.45 (99)		60	N/A	
ov 5, 2016 6:59 LIDP	192, 168, 12, 2	24.576	192, 168, 15, 200	24.404	STP**			0	TACKETSS.	Forwarded	Normal		0.045		127	N/A	
ry 5, 2016 6:59 UDP	192, 168, 12, 2	31,196	192, 168, 15, 200	19,420	unknown proto			0	TYCRESS	Forwarded	Normal	0	0.46 (EF)		63	N/A	
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LiveAction



Medianet Reports

While the Device View displays real-time flow data, the Medianet Report section provides historical data on a specific device. The user can specify the various flow types and time periods for which to run the report. By default, a report for the last 15 minutes is selected, but a Custom time range can also be used which spans across multiple days, weeks, or even months.

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NOTE: A larger time frame requires LiveNX to process more flows, which will take longer to process.

Other reports are also available for the user under the Medianet Reports section. This allows historical visibility for the Jitter/Loss and Round Trip Time related data for any specific device. Reports can also be scheduled, which allows for storage and email notification of reports in a centralized location. Both Time Series and Aggregation modes can be selected as well as flow direction.



CAVEATS AND LIMITATIONS

Catalyst 3750/3560 Egress Interface Index

The Catalyst 3560/3750 platforms suffer from a known limitation which does not properly display the exit interface. This prevents LiveNX from properly drawing and connecting the flow lines between devices participating in PerfMon and is depicted by an Out IF value of NullO.



cat3560X-67_107#show performance monitor status | include (output|Match)

Match: ipv4 src addr = 192.0.2.35, ipv4 dst addr = 10.0.2.25, ipv4 prot = udp, trns src port = 3446, trns dst port = 5004, SSRC = 2221342720

interface output : NA

APPENDIX A

Notes on Catalyst 3750/3560 NetFlow Operation

Performance Monitor imparts a CPU and memory performance impact. Test the impact for your specific environment in the lab before wide scale deployments. Performance Monitor impact depends on factors such as number of flows monitored and the complexity of the classification. As an estimate, you can budget about:

- 3% CPU utilization for every 200 flows
- 5 MB initial memory usage and about 3 MB for every 500 flows monitored

CONCLUSION

Cisco's PerfMon is a helpful tool for Network Administrators in modern networks who are asked to deliver high-quality voice and video conversations. Using LiveNX to configure PerfMon simplifies the procedure for these capabilities. By leveraging PerfMon within LiveNX, an administrator is able to gain insight into key metrics via visualization and reporting that were previously unavailable.

MORE INFORMATION

Network Performance Monitoring

For further details about network performance monitoring, check out LiveNX's Product Page.

SaaS/Cloud Performance Monitoring

Find out why—and how—SaaS/Cloud Monitoring can accelerate problem resolution and simplify your application performance monitoring challenges.

Upcoming Webinars

Check out our updated webinar schedule—gain insights from our special presenters about topics like QoS, Hybrid WAN Management, Capacity Planning and more.

Additional Resources

Case studies, white papers, eBooks and more are available for your learning on the LiveAction resources page.

LiveNX and LiveUX Downloads

Free downloads of <u>LiveNX</u> and <u>LiveUX</u> are available now. Visit our webpage to discover more details and benefits of LiveNX and LiveUX.

ABOUT LIVEACTION

LiveAction provides comprehensive and robust solutions for Network Performance Management. Key capabilities include Cisco Intelligent WAN visualization and service assurance, best-practice QoS policy management, and application-aware network performance management. LiveAction software's rich GUI and visualization provide IT teams with a deep understanding of the network while simplifying and accelerating management and troubleshooting tasks.

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