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Under Test

LANforge File-IO with CIFS and NFS

Goal: Create a series of MAC-VLAN based clients to emulate CIFS and NFS traffic.

This cookbook connects a LANforge system to a file server with CIFS and NFS shares available. The file server in this example will be 10.26.1.3. It will be sharing smb://10.26.1.3/fileio and 10.26.1.3:/home/fileio. We will create ten readers and ten writers for each file sharing protocol. This demonstrates using the **Batch** Create tool in the FileIO tab.



1. Create initial MAC VLANS for our emulated endpoints. In the **Port Mgr** tab, highlight a a **non-management** port on your LANforge FIRE system and click **Create**.

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<u>C</u> ontrol	Repor	ting	<u>T</u> ear-Off <u>I</u> nfo <u>P</u> lu	igins									
							Stop A	I	Restart Ma	anager		Refresh	HELP
Layer-4 Status	Ger Lay	neric /er-3	Test Mgr Test L3 Endps Vo	Group	Resource VolP/R	e Mgr PF TP Endps	P-Links E Armaged	vent Log don Wa	Alerts F	ort Mgr	Messages Collisio	n-Domains	File-I0
	Disp	: 192	168.100.27:0.0		Sniff Packe	ts	Clear Cou	unters	Reset Por	t Dele	ete		
	Rpt	Timer:	medium (8 s)	-	Apply		View De	tails	Create	Mod	lify Ba	tch Modify	
		1			All Ethe	ernet Interfa	aces (Ports)	for all Res	ources. —	Create a v	irtual interf	ace of some	type
Port	Pha	Down	IP	SEC	Alias	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX	bps TX
1.1.00			192.168.100.26	0	p33p1	46,720,	54,270,	65	339,564	52,813,	55,429,	86	689,10
1.1.01			0.0.0.0	0	wiphy0	123,118	433,631	0	0	19,431,	103,820	0	=
1.1.02			0.0.0.0	0	wiphyl	7,878	54	0	0	0	0	0	
1.1.03			10.26.1.2	0	plpl	149,272	114,753	0	17	177,396	133,066	0	
1.1.04		V	0.0.0.0	0	wlan0	0	0	0	0	0	0	0	
1.1.05			0.0.0.0	0	wian1	0	0	0	0	0	0	0	
		11											
Logged	in to:	192.1	68.100.26:4002 a	as: Adm	nin								

A. Create 40 MAC VLANS with IPs starting at 10.26.1.10.

1			Create VLANs	on Port: 1.1.3			+ _ 🗆 ×
0	MAC-VLAN WiFi STA	○ 802.1Q-VLAN ○ Rei ○ WiFi VAP ○ WiFi Moni	direct 🔾 Bridge itor	○ GRE Tunnel			
2	Shelf:	1	Resource:	1 (jedtest) 💌	Port: 3	(plpl)	-
8	VLAN ID:		DHCP-IPv4				
0	Parent MAC:	00:90:0b:29:06:f9	DHCP Client ID:	-			
	MAC Addr:	00:26:*:*:*:*	IP Address:	10.26.1.10	Global IPv6:	AUTO	
	Quantity:	40	IP Mask or Bits:	255.255.255.0	Link IPv6:	AUTO	
			Gateway IP:		IPv6 GW:	AUTO	
	#1 Redir Name:		#2 Redir Name:				
	STA ID:		SSID:			-	
	WiFi AP:		Key/Phrase:				
	Use WPA	Use WPA2	Use WEP				
4	Down						
	Apply	Cancel					

- A. Select MAC-VLAN
- B. Choose either *:*:*:*:* (random) or select a starting MAC address, like 00:26:*:*:*:*
- C. Enter 10.26.1.10 and 255.255.255.0 for the IP and netmask.
- D. Set Quantity to 40.
- E. Click **Apply** to create the MAC VLANs.
- F. Click **Cancel** to close the **Create** window.

B. See the 40 MAC VLANs in the **Ports** tab.

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Control	Repor	ting]	[ear-Off Info	Plugins									
							Stop A		Restart M	anager		Refresh	HELP
							-				L		
Layer-4	Ger	neric	Test Mgr	Test Grou	p Resourc	e Mgr PF	P-Links	Event Log	Alerts	Port Mgr	Messages]	
Status	Lay	/er-3	L3 Endps	VoIP/RT	P VoIP/RT	TP Endps	Armaged	don Wa	anLinks	Attenuators	s Collisio	on-Domains	File-IO
				-									
	Disp	: 192.	168.100.27:0	.0	Shift Packet	ts	Clear Co	unters	Reset Por	t Dele	ete		
	Rot 7	Timer:	medium (8		Apply		View De	tails	Create	Mod	lify Ba	tch Modify]
10					All Ethe	met Interfe	(Derte)	for all Dec					
		-	1	1	All Ethe		aces (Forts)	TUI all Nes	Jources.		1		
Port	Pha	Down	IP	SEC	Alias	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX	bps TX
1.1.03			10.26.1.2	0	pipi	149,272	114,753	0	1/2	177,396	133,067	3	2,43
1.1.04			0.0.0.0	0	wianu	0	0	0		0	0	0	
1 1 06			10 26 1 10	0	nln1#0	0	0	0		648	8	0	12
1.1.07			10.26.1.11	0	plp1#0	0	0	0	0	648	8	0	12
1.1.08			10.26.1.12	0	plp1#2	0	0	C	0	648	8	0	12
1.1.09			10.26.1.13	0	plp1#3	0	0	C	0 0	648	8	0	12
1.1.10			10.26.1.14	0	plp1#4	0	0	C	0 0	648	8	0	12
1.1.11			10.26.1.15	0	plp1#5	0	0	C	0 0	648	8	0	12
1.1.12			10.26.1.16	0	plp1#6	0	0	C	0 0	648	8	0	12
1.1.13			10.26.1.17	0	plp1#7	0	0	C	0 0	738	9	0	14
1.1.14			10.26.1.18	0	plp1#8	0	0	C	0 0	648	8	0	12
1.1.15			10.26.1.19	0	p1p1#9	0	0	0	0	648	8	0	12
1.1.10			10.26.1.20	0	p1p1#10	0	0	0		648	8	0	12
1 1 1 8			10.26.1.22	0	pipi#11 plp1#12	0	0	0		648	8	0	12
1.1.19			10.26.1.23	0	p1p1#12	0	0	0	0	648	8	0	12
1.1.20			10.26.1.24	0	plp1#14	0	0	C	0 0	726	9	0	13
1.1.21			10.26.1.25	0	plp1#15	0	0	C	0 0	738	9	0	14
1.1.22			10.26.1.26	0	plp1#16	0	0	C	0 0	648	8	0	12
1.1.23			10.26.1.27	0	plpl#17	0	0	C	0 0	648	8	0	12=
1.1.24			10.26.1.28	0	plp1#18	0	0	C	0 0	648	8	0	12
1.1.25			10.26.1.29	0	plp1#19	0	0	C	0 0	648	8	0	12
1.1.26			10.26.1.30	0	p1p1#20	900	6	C	194	738	9	0	14
1.1.2/			10.26.1.31	0	p1p1#21	0	0	0	0	648	8	0	12
1.1.28			10.26.1.32	0	p1p1#22	0	0	0		626	8	0	12
1 1 30			10.26.1.33	0	p1p1#23	0	0	0		559	7	0	10
1.1.31			10.26.1.35	0	p1p1#24	0	0	0	0	558	7	0	10
1.1.32			10.26.1.36	0	p1p1#26	0	0	C	0 0	558	7	0	10
1.1.33			10.26.1.37	0	plp1#27	0	0	C	0	558	7	0	10
1.1.34			10.26.1.38	0	plp1#28	0	0	C	0	636	8	0	11
1.1.35			10.26.1.39	0	plp1#29	0	0	C	0 0	558	7	0	10
1.1.36			10.26.1.40	0	p1p1#30	0	0	C	0 0	558	7	0	10
1.1.37			10.26.1.41	0	p1p1#31	0	0	C	0 0	558	7	0	10
1.1.38			10.26.1.42	0	p1p1#32	0	0	C	0	558	7	0	10
1.1.39			10.26.1.43	0	p1p1#33	0	0	C	0	558	7	0	10
1.1.40			10.261.44	0	p1p1#34	0	0	0		550	7	0	10
1.1.42			10.26.1.46	0	p1p1#35	0	0	0		636	8	0	11
1.1.43			10.26.1.47	0	p1p1#30	0	0	0		558	7	0	10
1.1.44			10.26.1.48	0	p1p1#38	0	0	0	0 0	558	7	0	10
1.1.45			10.26.1.49	0	p1p1#39	0	0	C	0	726	9	0	13
100			102100100	10 0	at ho	1 004 4	15 404	1.7	10.004	44.040	24.074	20	
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For more information see GUI Users Guide

2. Create your first FileIO NFS Endpoint. In the **FileIO** tab, click **Create**.

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<u>C</u> ontrol	<u>R</u> eporting	Tear-Off	Info <u>P</u> lugir	ns					_		
						Stop All	Res	start Manager		Refresh	HELP
File-I0	Layer-4	Generic	Test Mgr	Resource M	Igr Event	Log Alerts	Port Mgr	Messages			
Sta	tus	Layer	-3	L3 Endps	ľ í	Armagedd	on	WanLink	s	Attenu	ators
Bot T	imer fast	t (1 s)	T Go	Test Manade	er all		Select All	Start	Stop	Quiesce	Clear
- npc i		(1 5)		rest Hanage			Cr <u>e</u> ate	Modify	<u>B</u> atch M	odify De	elete
				Cros	ss Connects	for Selected	Test Manag	er —			
Name	EID	Туре	Status	Read-Bps	Rx-Bps-20s	Files-Read	Buf-RD	Bytes-RD	Write-Bps	Tx-Bps-20s	Files-WR

A. Use the following settings to create a NFS reader writer endpoint.

<u></u>			Cr	eate/Modify	/ F	ile Endpoint				+ _	• ×			
Name:	nfs-writer	Rpt Timer:	fast	(1 s)	-	FS-Type:	NFS	-	Test Manager:	default_tm	-			
Shelf:	1	Resource:	1 (jedt	est)	-	Port:	3 (p1p	1) 🔽	Endp ID:	37				
Min-RW-Size:	2k (2 KB) 💌	Max-RW-Size:	1MB (1	MB)	-	Min File Size:	small	(10 KB) 🔽	Max File Size:	25M (25 MB)	-			
Min Read Rate:	T1 (1.544 Mbps) 🔻	Max Read Rate:	Tl	(1.544 Mbps)	-	Min Write Rate:	100M	(100 Mbps) 🔻	Max Write Rate:	1G (1 Gbps)	-			
File #:	2	Directory:	AUTO				Mount-	Dir:	AUTO					
Server:	10.26.1.3:/home/fileio Options:													
iSCSI-Volume:	/olume: Retry-Timer: Is (1 s) ▼													
Read/Write:	vrite: Write Vuiesce: 3 Vetty-Inner: Increasing Prefix: AUTO													
Sync-after-W	rite 🔲 Sync-before-Close	Use O_DIRECT	Use	e O_LARGEFILE		o-CRC 🔲 Unlink	:							
Verify-Mount	🖌 Auto-Mount 🖌 Un-Mo	unt 🔲 Lazy Unm	ount [Force Unmount	t									
Custom payload	(in HEX)													
							Г				_			
		Appl	У	OK		Batch-Create		Cancel						

- A. Enter nfs-writer for the name.
- B. Select NFS for FS-Type
- C. Use the first MAC-VLAN p1p1#0 for Port
- D. Select 2KB for the Min-RW Size
- E. Choose 1MB for the Max-RW Size
- F. For Min File Size choose 10KB
- G. Then for Max File Size choose 25MB
- H. The Min Write Rate is the minimum inbound line rate, start at 100Mbps
- I. Then set the Max Write Rate at 1Gbps
- J. Set the number of files written per connection: set File # to 2
- K. Now we specify the NFS server: set Server to 10.26.1.3:/home/fileio
- L. You can leave $\ensuremath{\text{Directory}}$, and $\ensuremath{\text{Mount-Dir}}$ at $\ensuremath{\text{AUT0}}$
- M. Click **OK** to commit the settings.

3. In the File-IO tab, select the endpoint you just created and click Modify

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<u>Control</u> <u>Reporting</u>	Tear-Off	Info <u>P</u> lugir	IS							
				Sto	op All	Restart Ma	anager	F	lefresh	HELP
File-IO Layer-4	Generic	Test Mgr	Resource M	lgr Event	Log Alerts	Port Mgr	Messages			
Status	Layer	-3	L3 Endps		Armageddon		WanLinks		Attenuators	
Rpt Timer: fast	(1 s)	Go Te	st Manager :	all	Selected Tes	Cr <u>e</u> ate	Start Modify	Stop Qu <u>B</u> atch Modi	iesce C	lear te
Name EID	Туре	Status	Read-Bps	Rx-Bps-20s	Files-Read	Buf-RD	Bytes-RD	Write-Bps	Tx-Bps-20s	Files-
nfs-writer 1.1.6.3	37 NFS	Stopped	0	0	0	0	0	0	0	
								3		•
Logged in to: 192	168.100.	26:4002 as:	Admin							

A. The File-IO Details dialog appears. Click the Batch Create button at the bottom of the screen.

🛓 🛛 😸 File-IC	Batch Creator: nfs-writer	↑ _ □ ×
nfewriter01 nfewriter	02 pfc.writer00	
Pocourcoc, 1 1 1	02 His-witter03	
Resources: 1, 1 1		
Ports: pipi#1, p	01p1#2 p1p1#9	
Quantity:	9 Number of Digits: 2	Zero Pad
Starting Name Suffix:	Name Increment: 1	1
Deserves lasers at A		1
Resource Increment A:		
Port Increment A:	1	
Directory Increment:	1	
Mount-Dir Increment:	1	
Prefix Increment:	1	
Volume Increment:	1	
	Apply Glose	

- B. Enter these values into the Batch Create dialog:
 - A. Quantity should be 9
 - B. Number of Digits should be 2
 - C. Click Apply
- C. Close the Batch Create window. You will see the new endpoints.

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Control Rep	orting <u>T</u> ea	r-Off	Info <u>P</u> lugi	ns										
					Sto	p All	Rest	art Manag	er	Refr	esh	HELP		
File-IO Lay Status	yer-4 Ger	eric ayer-3	Test Mgr	Resource L3 Endps	e Mgr Eve	nt Log Ale Armagedd	erts P on	ort Mgr W	Messages 'anLinks	A	ttenuators	6		
Rpt Timer: fa	Rpt Timer: fast (1 s) Go Test Manager all Select All Start Stop Quiesce Clear Create Modify Batch Modify Delete													
I	Cross Connects for Selected Test Manager													
Name EID Type Status Read-Bps Rx-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Buf-WR														
nfs-writer	1.1.6.37	NFS	Stopped	0	N 0	0	0	0	0	0	0	0		
nfs-writer01	1.1.7.38	NFS	Stopped	0	3 0	0	0	0	0	0	0	0		
nfs-writer02	1.1.8.39	NFS	Stopped	0	0	0	0	0	0	0	0	0		
nfs-writer03	1.1.9.40	NFS	Stopped	0	0	0	0	0	0	0	0	0		
nfs-writer04	1.1.10.41	NFS	Stopped	0	0	0	0	0	0	0	0	0		
nfs-writer05	1.1.11.42	NFS	Stopped	0	0	0	0	0	0	0	0	0		
nfs-writer06	1.1.12.43	NFS	Stopped	0	0	0	0	0	0	0	0	0		
nfs-writer07	1.1.13.44	NFS	Stopped	0	0	0	0	0	0	0	0	0		
nfs-writer08	1.1.14.45	NFS	Stopped	0	0	0	0	0	0	0	0	0		
nts-writer09	nfs-writer09 1.1.15.46 NFS Stopped 0 0 0 0 0 0 0 0 0 0 0													
•														
Logged in to	: 192.168.	100.26	:4002 as:	Admin										

4. Create initial endpoint for CIFS writer.

_			Cr	eate/Modify	F	ile Endpoint					÷ _	• ×		
Name:	cifs-writer	Rpt Timer:	fast	(l s)	•	FS-Type:	CIFS	-	Test Manager:	default	_tm	-		
Shelf:	1	Resource:	1 (jedte	est)	-	Port:	16 (pl	p1#10) Select the	file-system type. I	Used to I	help create and	d verify		
Min-RW-Size:	2k (2 KB) 💌	Max-RW-Size:	1MB (1	MB)	-	Min File Size:	small	(10 KB) 🔻	Max File Size:	100M	(100 MB)	-		
Min Read Rate:	T1 (1.544 Mbps) 🔻	Max Read Rate:	T1	(1.544 Mbps)	-	Min Write Rate:	10M	(10 Mbps) 🔻	Max Write Rate:	100M	(100 Mbps)	-		
File #:	2	Directory:	AUTO				Mount	Dir:	AUTO					
Server:	//10.26.1.3/fileio Options:													
iSCSI-Volume:	Retry-Timer: 1s (1 s)													
Read/Write:	: Write Quiesce: 3 Pattern: increasing Prefix: AUTO													
Sync-after-W	rite 🔲 Sync-before-Close	Use 0_DIRECT	Use	0_LARGEFILE		o-CRC 🔲 Unlink	:							
Verify-Mount	🖌 Auto-Mount 🖌 Un-Mo	ount 🔲 Lazy Unm	ount 🗌	Force Unmount										
Custom payload	(in HEX)													
		Appl	v	OK		Batch-Create		Cancel						
J	Apply OK Batch-Create Cancel													

- A. Name the endoint ${\tt cifs-writer}$
- B. Set FS-Type to CIFS
- C. Then set the Port to the next open MAC VLAN: p1p1#10
- D. Set the Min-RW Size and Max-RW Size to $2\,k$ and $1\,M$
- E. For the Min File Size and Max File Size enter 10KB and 100MB
- F. The Min Write Rate and the Max Write Rate should be 10 Mbps and 100 Mbps
- G. Enter //10.26.1.3/fileio for Server
- H. Supply the credentials for the CIFS mount point in **Options**. For this example, our username and password are 'lanforge' and 'lanforge'. Write them as options to the mount command: user=lanforge,passwd=lanforge
- I. Click Apply
- 5. Use Batch Create to create nine more CIFS endpoints. You do not actually need to close the **Create/Modify** window. Click on **Batch Create** directly.
 - A. In the **Batch Create** window, Enter:

🛓 🛛 File-IC	Batch Creator: cifs-writer + _ = ×
cifs-writer01, cifs-write Resources: 1, 1 1 Ports: p1p1#11,	02 cifs-writer09 p1p1#12 p1p1#19
Quantity:	9 Number of Digits: 2 Zero Pad
Starting Name Suffix:	1 Name Increment: 1
Resource Increment A:	0
Port Increment A:	1
Directory Increment:	1
Mount-Dir Increment:	1
Prefix Increment:	1
Volume Increment:	1
	Apply Close

- A. Quantity is 9
- B. Number of Digits is 2
- C. Then click Apply

C. In the File-IO tab, you will see ten more endpoints.

Control Beporting Tear-Off Info Plugins Stop All Restart Manager Refresh HELP Layer-4 Generic Test Mgr Test Group Resource Mgr PPP-Links Event Log Alerts Port Mgr Messages Status Layer-3 L3 Endps VolP/RTP VolP/RTP VolP/RTP VolP/RTP Collision-Domains File-IO Ret Timer: fast (1 s) Go Test Manager all Select All Stat Stat Stat Select All Stat Stat Delete Cross Connects for Selected Test Manager EID Name Type Status Read-Bps Rv-Bps-20s Files-RD Write-Bps Tx-Bps-20s Files-WR Buf-WR Bytes-WR 1.1.16.47 cifs-writer01 CIFS Stopped 0 <th>4</th> <th colspan="15">LANforge Manager Version(5.2.11) + - 🗆 ×</th>	4	LANforge Manager Version(5.2.11) + - 🗆 ×														
Stop All Restart Manager Refresh HELP Layer-4 Generic Test Mgr Test Group Resource Mgr PPP-Links Event Log Alerts Port Mgr Messages Status Layer-3 L3 Endps VolP/RTP VolP/RTP Event Log Alerts Port Mgr Messages Rpt Timer: fast (1 s) Go Test Manager all Select All Start Stop Quiesce Clear Cross Connects for Selected Test Manager Cross Connects for Selected Test Manager Modify Buf-WR Bytes-WR 1.1.1.7.48 Cifs-writer02 CIFS Stopped 0	Control Re	eporting <u>T</u> ea	r-Off I	nfo <u>P</u> lugii	ns											
Layer-4 Generic Test Mgr Test Group Resource Mgr PPP-Links Event Log Alerts Port Mgr Messages Status Layer-3 L3 Endps VolP/RTP VolP/RTP Armageddon WanLinks Attenuators Collision-Domains File-IO Rept Timer: fast (1 s) Imaged Go Go WanLinks Attenuators Collision-Domains File-IO Status fast (1 s) Imaged Go Go Go Go Create Modify Delete Cross Connects for Selected Test Manager EID Name Type Status Read-Bps Rv-Bps-20s Files-WR Buf-WR Bytes-WR A (ifs-writerO1 CIFS Stopped 0							Sto		Res	tart Manag	er	Re	fresh	HELP		
Layer-4 Generic Test Mgr Test Group Resource Mgr PPP-Links Event Log Alerts Port Mgr Messages Status Layer-3 L3 Endps VoIP/RTP VoIP/RTP Armageddon WanLinks Attenuators Collision-Domains File-10 Ret Timer: fast (1 s) Go Test Manager all Create Modify Delete Cross Connects for Selected Test Manager EID Name Type Status Read-Bps Rv-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Bytes-WR 1.1.16.47 cifs-writer01 CIFS Stopped 0							0.0		1,00	care manag		110	irean			
Status Layer-3 L3 Endps VolP/RTP VolP/RTP Endps Armagedon WanLinks Attenuators Collision-Domains File-IO Rpt Timer: fast (1 s) Go Test Manager all Select All Statu Status Select All Status Status Class	Laver-4	Generic Te	est Mar	Test G	TOUD Res	ource Mar	PPP-Links	Event	Log Ale	rts Port I	Mar Messa	ages				
Rpt Timer: fast (1 s) Go Test Manager all Select All Start Stop Quiesce Clear Create Modify Batch Modify Delete Create Modify Batch Modify Delete Create Modify Batch Modify Delete Create Manager EID Name Type Status Read-Bps Rx-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Bytes-WR 1.1.16.47 cifs-writer01 CIFS Stopped 0	Status	Laver-3	3 End	VolP	BTP VO	IP/RTP Endp	Armag	eddon	WanLink	s Atten	uators (Collision-D	omains	File-IO		
Rpt Timer: fast (1 s) Go Test Manager all Select All Start Stop Quiesce Clear Create Modify Batch Modify Delete Cross Connects for Selected Test Manager Create Modify Batch Modify Delete L1.16.47 cifs-writer CIFS Stopped 0	- ototao -	20,90.0				in your Endp	o vanag	- aaon					- Internet			
Rpt Timer: fast (1 s) Go Test Manager Cross Connects for Selected Test Manager EID Name Type Status Read-Bps Rv-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Buf-WR Bytes-WR 1.1.16.47 cifs-writer01 CIFS Stopped 0 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>S</td><td>elect All</td><td>Start</td><td>Stop</td><td>Quiesce</td><td>Cle</td><td>ear</td></t<>								S	elect All	Start	Stop	Quiesce	Cle	ear		
EID Name Type Status Read-Bps Rx-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Buf-WR Bytes-WR 1.1.16.47 cifs-writer01 CIFS Stopped 0	Rpt Ti	mer: fast	(1 s)	G	Test Man	ager all	-		Consta	14- diff.	Detek 1	4	Delete			
EID Name Type Status Read-Bps Rx-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Buf-WR Bytes-WR 1.1.16.47 cifs-writer CIFS Stopped 0		Cross Connects for Selected Test Manager														
EID Name Type Status Read-Bps Rx-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Buf-WR Bytes-WR 1.1.16.47 cifs-writer01 CIFS Stopped 0		Cross Connects for Selected Test Manager														
EID Name Type Status Read-Bps Rx-Bps-20s Filles-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Filles-WR Buf-WR Bytes-WR 1.1.16.47 cifs-writer01 CIFS Stopped 0		EID Name Type Status Read-Bps Rx-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Buf-WR Bytes-WR														
11.16.47 clfs-writer CIFS Stopped 0<	EID	EID Name Type Status Read-Bps Rx-Bps-20s Files-Read Buf-RD Bytes-RD Write-Bps Tx-Bps-20s Files-WR Buf-WR Bytes-WR														
11.10.47 Cirswriter01 CIFS Stopped 0 <td< td=""><td colspan="15">Lib Hane Hype Hada bys Hada bys</td></td<>	Lib Hane Hype Hada bys Hada bys															
11.11.40 cifs-writer02 CIFS Stopped 0 <t< td=""><td colspan="15">1.1.16.47 cifs-writer CIFS Stopped 0</td></t<>	1.1.16.47 cifs-writer CIFS Stopped 0															
Initiality Clips Stopped O	I.1.10.4/ Cits writer01 CitS Stopped 0 <															
1.1.20.51 cifs-writer04 CIFS Stopped 0 <	1.1.17.48 cifs-writer01 CIFS Stopped 0 <th< td=""></th<>															
1.1.21.52 cifs-writer05 CIFS Stopped 0 <	1.1.18.49 cifs-writer02 CIFS Stopped 0 <th< td=""></th<>															
1.1.22.53 cifs-writer06 CIFS Stopped 0 <th< td=""><td>1.1.21.52</td><td>cifs-writer05</td><td>CIFS</td><td>Stopped</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>	1.1.21.52	cifs-writer05	CIFS	Stopped	0	0	0	0	0	0	0	0	0	0		
1.1.23.54 clfs-writer07 CIFS Stopped 0 <	1.1.22.53	cifs-writer06	CIFS	Stopped	0	0	0	0	0	0	0	0	0	0		
1.1.24.55 cifs-writer08 CIFS Stopped 0 <th< td=""><td>1.1.23.54</td><td>cifs-writer07</td><td>CIFS</td><td>Stopped</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>	1.1.23.54	cifs-writer07	CIFS	Stopped	0	0	0	0	0	0	0	0	0	0		
1.1.25.56 clfs-writer09 CIFS Stopped 0 <th< td=""><td>1.1.24.55</td><td>cifs-writer08</td><td>CIFS</td><td>Stopped</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>	1.1.24.55	cifs-writer08	CIFS	Stopped	0	0	0	0	0	0	0	0	0	0		
1.16.37 nfs-writer NFS Stopped 0 <td>1.1.25.56</td> <td>cifs-writer09</td> <td>CIFS</td> <td>Stopped</td> <td>0</td>	1.1.25.56	cifs-writer09	CIFS	Stopped	0	0	0	0	0	0	0	0	0	0		
1.1.7.38 Infs-writer01 INFS Stopped 0	1.1.6.37	nfs-writer	NFS	Stopped	0	0	0	0	0	0	0	0	0	0		
1.18.39 nfs-writer02 NFS Stopped 0	1.1.7.38	nfs-writer01	NFS	Stopped	0	0	0	0	0	0	0	0	0	0		
1.1.9.40 Infs-writer03 NFS Stopped 0	1.1.8.39	nfs-writer02	NFS	Stopped	0	0	0	0	0	0	0	0	0	0		
1.1.10.41 Infs-writer04 NFS Stopped 0	1.1.9.40	nfs-writer03	NFS	Stopped	0	0	0	0	0	0	0	0	0	0		
I.1.1.1.42 Infs-writerOS NFS Stopped 0 <th< td=""><td>1.1.10.41</td><td>nfs-writer04</td><td>NFS</td><td>Stopped</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>	1.1.10.41	nfs-writer04	NFS	Stopped	0	0	0	0	0	0	0	0	0	0		
I.1.12.43 Inswriter00 NFS Stopped 0<	1.1.11.42	nts-writer05	NES	Stopped	0	0	0	0	0	0	0	0	0	0		
I.1.1.5.44 Inswriter07 Introduction Instruction	1.1.12.43	nis-writer06	NEC	Stopped	0	0	0	0	0	0	0	0	0	0		
1111445 instanterop NFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 4 45	nfs-writer07	NEC	Stopped	0	0	0	0	0	0	0	0	0	0		
	1 1 15 46	nfs-writer00	NES	Stopped	0	0	0	0	0	0	0	0	0	0		
	4	In a writer ba	par o	locopped		0					0	0				
	J-															
Logged in to: 192.168.100.26:4002 as: Admin	Logged in	to: 192.168.1	00.26	:4002 as:	Admin											

- 6. We will proceed to creating the same number of **NFS reader endpoints** by using a writer as a template for a reader:
- 7. Open the Modify window of the endpoint nfs-writer

<u></u>				Creat	e/Modif	y Fi	le Endpoint						+	- 6	×
Name:	nfs-reader	Rpt Timer:	fast	(1 s	s)	-	FS-Type:	NFS		•	Test Manager:	defau	ılt_tm		-
Shelf:	1	Resource:	1 (jedt	est)		-	Port:	26 (pl	pl#20)	•	Endp ID:	37			
Min-RW-Size:	2k (2 KB)	Max-RW-Size:	1MB (1	MB)		-	Min File Size:	small	(10 KB)	•	Max File Size:	25M	(25 MB)		-
Min Read Rate:	10M (10 Mbps) 💌	Max Read Rate:	100M	(100	0 Mbps)	-	Min Write Rate:	100M	(100 Mbps)	-	Max Write Rate:	1G	(1 Gbps)	-
File #:	2	Directory:	AUTO					Mount-	Dir:		AUTO				
Server:	ver: 10.26.1.3:/home/fileio Options:														
iSCSI-Volume:	SI-Volume: Retry-Timer: 1s (1 s)														
Read/Write:	Ad/Write: Read Vuiesce: 3 Pattern: Is (1 s) Arrived Ar														
Sync-after-W	rite 🔲 Sync-before-Close	Use O_DIRECT	Us	e O_LA	RGEFILE		o-CRC 🔲 Unlink	c					The pr	efix th will us	hat se: í
Verify-Mount	🖌 Auto-Mount 🖌 Un-Mo	ount 🔲 Lazy Unm	ount [Forc	e Unmoun	t									
Custom payload	l (in HEX)														
		Appl	У		UK		Batch-Create		Cancel						

- A. Change the Name to nfs-reader
- B. Set the Port to the next unused MAC VLAN, p1p1#20
- C. Change Read/Write to Read
- D. Set the Min Read Rate and Max Read Rate to 10 Mbps and 100 Mbps
- E. To match this reader to a writer, set the **Prefix** field to **nfs-writer**
- F. Click Apply
- 8. Before closing the Modify windows we can use Batch Create to create nine more NFS endpoints:
- 9. Click on the Batch Create window of the endpoint nfs-reader

🛓 File-	IO Batch C	reator: nfs-reade	er	+ _ = ×
nts-readerul, nts-read	eruz nts-re	ader09		
Resources: 1, 1 1				
Ports: plp1#21,	plp1#22	plp1#29		
Prefix: nfs-writer()1, nfs-writer0	2 nfs-writer09		
Quantity:	9	Number of Digits:	2	Zero Pad
Starting Name Suffix:	1	Name Increment:	1	
Resource Increment A:	0			
Port Increment A:	1	1		
Directory Increment:	1			
Mount-Dir Increment:	1			
Prefix Increment:	1			
Volume Increment:	1			
	Apply	Close		

- A. Change the Quantity to 9
- B. Set the Number of Digits to 2
- C. Click Apply
- D. Click **Close**
- E. In the **Modify** window, click **Cancel**
- 10. And we now create the same number of CIFS reader endpoints. Start by using cifs-writer as a template:

Control Reporting Tear-Off Info Plugins
Stop All Restart Manager Refresh HELP
etep / iterest integer
File-10 Layer-4 Generic Test Mgr Test Group Resource Mgr PPP-Links Event Log Alerts Port Mgr Messages
Status Layer-3 L3 Endps VoIP/RTP VoIP/RTP Endps Armageddon WanLinks Attenuators Collision-Domains
Pet Times fast (1 c) Tot Manager all Select All Start Stop Quiesce Clear
Recentler: Tast (1's) Go Test Manager and Create Modify Batch Modify Delete
Cross Connects for Selected Test Manager
FID Name Type Status Read-Res Ry, Brs. 206 Files, Read Rift, RD Bytes, RD Write, Res Ty, Res. 206 Files, WR Bufs, WR Do Fail
Lib Name Type Status Read-bps Thebraded bull-to bytes-to white-bps Thebraded bull-to bytes-to white-bps Thebraded bull-to bytes-to white-bps Thebraded bull-to bytes-to the bull-to bytes-to bytes-
1.1.16.47 cifs-writer CIFS Stopped 📐 0 0 0 0 0 0 0 0 0 0 0 0 0
1.1.17.48 cifs-writer01 CIFS Stopped 🍢 0 0 0 0 0 0 0 0 0 0 0 0
1.1.18.49 cifs-writer02 CIFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0
1.1.19.50 cifs-writer03 CIFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0
1.1.20.51 cifs-writer04 (CIFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0
1.1.21.52 cifs-writer05 CIFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0
1.1.22.53 cifs-writer06 CIFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0 0
1.1.23.54 cifs-writer07 CIFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0
1.1.24.55 cifs-writer08 CIFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0 0
1.1.25.56 cifs-writer09 CIFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0 0
1.1.26.57 nfs-reader NFS Stopped 0 0 0 0 0 0 0 0 0 0 0 0 0
Logged in to: 192.168.100.26:4002 as: Admin

A. Open the Modify window of the endpoint cifs-writer

<u>ن</u>			(Create/Modi	fy F	ile Endpoint				÷ -	□ ×			
Name:	cifs-reader	Rpt Timer:	fast	(1 s)	-	FS-Type:	CIFS		Test Manager:	default_tm	-			
Shelf:	1	Resource:	1 (jedte	est)	-	Port:	36 (pl	p1#30) 🔽	Endp ID:	67				
Min-RW-Size:	2k (2 KB) 💌	Max-RW-Size:	1MB (1	MB)	-	Min File Size:	small	(10 KB) 🗸	Max File Size:	100M (100 MB)	-			
Min Read Rate:	10M (10 Mbps) 👻	Max Read Rate:	100M	(100 Mbps)	-	Min Write Rate:	10M	(10 Mbps) 🔻	Max Write Rate:	100M (100 Mbps)	-			
File #:	2 💌	Directory:	AUTO				Mount-	Dir:	AUTO					
Server:	//10.26.1.3/fileio					Options:	user=la	anforge,passwd=la	nforge					
iSCSI-Volume:						Retry-Timer:	ls	(1 s) 🔽]					
Read/Write:	Read 🗸	Quiesce:	3		-	Pattern:	increas	sing 🗸	Prefix:	cifs-writer				
Sync-after-W	rite 🔲 Sync-before-Close	Use 0_DIRECT	Use	0_LARGEFILE		Do-CRC 🔲 Unlink	c							
Verify-Mount	🖌 Auto-Mount 🖌 Un-Mo	unt 🔲 Lazy Unm	ount [Force Unmou	nt									
Custom payload	In Read Rate: 10M (10 Mbps) Wax Read Rate: 100M (100 Mbps) Win Write Rate: 10M (10 Mbps) Wax Write Rate: 100M (100 Mbps) Win Write Rate: 10M (10 Mbps) Wax Write Rate: 100M (100 Mbps) Win Write Rate: 10M (10 Mbps) Wax Write Rate: 100M (100 Mbps) Win Write Rate: 100M (100 Mbps) Write Rate: 100M (100													
					_									
		Appl	У	OK		Batch-Create		Cancel						

- A. Change the $\ensuremath{\texttt{Name}}$ to $\ensuremath{\texttt{cifs-reader}}$
- B. Set the Port to the next unused MAC VLAN, p1p1#30
- C. Change Read/Write to Read
- D. Set the Min Read Rate and Max Read Rate to 10 Mbps and 100 Mbps
- E. To match this reader to a writer, set the **Prefix** field to **cifs-writer**
- F. Supply the credentials for the CIFS mount point in **Options**. For this example, our username and password are 'lanforge' and 'lanforge'. Write them as options to the mount command: user=lanforge,passwd=lanforge
- G. Click Apply
- B. Before closing the Modify windows we can use Batch Create to create nine more CIFS reader endpoints:
- C. Click on the Batch Create window of the endpoint cifs-reader

🛓 File-	IO Batch Creator: cifs-reader	+ _ □ ×
cifs-reader01, cifs-rea Resources: 1, 1 1 Ports: p1p1#31, Prefix: cifs-writer	der02 cifs-reader09 p1p1#32 p1p1#39 01, cifs-writer02 cifs-writer09	
Quantity: Starting Name Suffix:	9 Number of Digits: 2 1 Name Increment: 1	🗷 Zero Pad
Resource Increment A: Port Increment A:	0	
Directory Increment: Mount-Dir Increment:		
Prefix Increment:		
	Apply Close	

- A. Change the Quantity to 9
- B. Set the Number of Digits to 2
- C. Click Apply
- D. Click Close
- E. In the Modify window, click Cancel
- 11. In the File-IO tab, we see our newly created reader endpoints.

٤	_	_	LAN	forge Ma	nager Ve	rsion(5.2.1	1)	_	_	_	+ _ □ ×
Control Repor	ting Tear-Off	Info	Plugins								
	-		-		Stop All	Re	start Ma	nager	[Refresh	HELP
File-IO Laye Status Lay	er-4 Generic yer-3 L3 End	Test ps	Mgr Te VolP/RTP	st Group VoIP/RTF	Resource M Endps	gr PPP-Lir Armageddon	nks Ev War	vent Log ILinks /	Alerts P Attenuators	Port Mgr M Collision	essages I-Domains
Rpt Timer: fast	(1 s)	▼ Go	Test Man	ager all	-	Sele	ct All	Start	Stop	Quiesce	Clear
			-			C	r <u>e</u> ate	Modify	Batch	Medity	Delete
				Cross Conn	ects for Sele	cted Test M	anager-				
EID	Name	Туре	Status	Read-Bps	Rx-Bps-20s	Files-Read	Buf-RD	Bytes-RD	Write-Bps	Tx-Bps-20s	Files-WF
1.1.16.67	cifs-reader	CIFS	Stopped	0	0	0	0	0	0	0	
1.1.17.68	cifs-reader01	CIFS	Stopped	0	0	0	0	0	0	0	(
1.1.18.69	cifs-reader02	CIFS	Stopped	0	0	0	0	0	0	0	0
1.1.19.70	cifs-reader03	CIFS	Stopped	0	0	0	0	0	0	0	(=
1.1.20.71	cifs-reader04	CIFS	Stopped	0	0	0	0	0	0	0	C
1.1.21.72	cifs-reader05	CIFS	Stopped	0	0	0	0	0	0	0	(
1.1.22.73	cifs-reader06	CIFS	Stopped	0	0	0	0	0	0	0	C
1.1.23.74	cifs-reader07	CIFS	Stopped	0	0	0	0	0	0	0	C
1.1.24.75	cifs-reader08	CIFS	Stopped	0	0	0	0	0	0	0	C
1.1.25.76	cifs-reader09	CIFS	Stopped	0	0	0	0	0	0	0	C
1.1.16.47	cifs-writer	CIFS	Stopped	0	0	0	0	0	0	0	(
1.1.17.48	cifs-writer01	CIFS	Stopped	0	0	0	0	0	0	0	(
1.1.18.49	cifs-writer02	CIFS	Stopped	0	0	0	0	0	0	0	(
1.1.19.50	cifs-writer03	CIFS	Stopped	0	0	0	0	0	0	0	
1 1 20 51	cife-writer0/	CIES	Stonned	r r	0	0	0	0	0	0	
Logged in to:	192.168.100.2	6:4002	2 as: Adm	iin							

12. Start the reader/writer testing.

A. In the File-IO tab, begin by starting the NFS writers

<u>ی</u>			LAN	forge Manag	er Version(5.2.11)			^	- 🗆 ×
<u>Control</u> <u>R</u> epo	rting <u>T</u> ear-Off	Info	<u>P</u> lugins							
				9	Stop All	Restart N	4anager		Refresh	HELP
File-IO Laye	er-4 Generic	Test	: Mgr Te	st Group Res	ource Mgr P	PP-Links	Event Log	Alerts Por	t Mgr Messa	ges
Status La	yer-3 🕴 L3 End	lps	VoIP/RTP	VoIP/RTP End	dps Armage	ddon Wa	anLinks	Attenuators	Collision-Dom	nains
						Coloct All	htert	Chan	Outinena	Clear
Rot Timer: fast	t (1s)	▼ Go	Test Man	ager all	-	Select All	Ran	Stop	Quiesce	clear
	- ()					Cr <u>e</u> ate	Modi	fy <u>B</u> atch M	odify Dele	ete
				Cross Connects	for Selected T	est Manade	r			
	1				Tor beleeted I	cochanago				
EID	Name	Туре	Status	Read-Bps	Rx-Bps-20s	Files-Read	Buf-RD	Bytes-RD	Write-Bps	1
1.1.50.07	CISTEADE	ULEA	STODDED							
1.1.37.86	cifs-reader01	CIFS	Stopped	0	0	0	0	0	0	
1.1.38.87	cifs-reader02	CIFS	Stopped	0	0	0	0	0	0	
1.1.39.88	cifs-reader03	CIFS	Stopped	0	0	0	0	0	0	
1.1.40.89	cifs-reader04	CIFS	Stopped	0	0	0	0	0	0	
1.1.41.90	cifs-reader05	CIFS	Stopped	0	0	0	0	0	0	
1.1.42.91	cifs-reader06	CIFS	Stopped	0	0	0	0	0	0	_
1.1.43.92	cifs-reader07	CIES	Stopped	0	0	0	0	0	0	_
1.1.44.93	cits-reader08	CIES	Stopped	0	0	0	0	0	0	_
1,1,45,94	cifs-writer	CIES	Stopped	0	0	0	0	0	0	_
1 1 1 7 77	cifs-writer01	CIES	Stopped	0	0	0	0	0	0	
1.1.18.78	cifs-writer02	CIES	Stopped	0	0	0	0	0	0	
1.1.19.79	cifs-writer03	CIFS	Stopped	0	0	0	0	0	0	
1.1.20.80	cifs-writer04	CIFS	Stopped	0	0	0	0	0	0	
1.1.21.81	cifs-writer05	CIFS	Stopped	0	0	0	0	0	0	
1.1.22.82	cifs-writer06	CIFS	Stopped	0	0	0	0	0	0	
1.1.23.83	cifs-writer07	CIFS	Stopped	0	0	0	0	0	0	
1.1.24.84	cifs-writer08	CIFS	Stopped	0	0	0	0	0	0	
1.1.25.85	cifs-writer09	CIFS	Stopped	0	0	0	0	0	0	
1.1.26.57	nfs-reader	NFS	Stopped	0	0	0	0	0	0	
1.1.27.58	nfs-reader01	NFS	Stopped	0	0	0	0	0	0	_
1.1.28.59	nfs-reader02	NES	Stopped	0	0	0	0	0	0	
1.1.29.60	nts-reader03	NES	Stopped	0	0	0	0	0	0	_
1 1 31 62	nfs-reader04	NES	Stopped	0	0	0	0	0	0	_
1 1 32 63	nfs-reader06	NES	Stopped	0	0	0	0	0	0	
1.1.33.64	nfs-reader07	NFS	Stopped	0	0	0	0	0	0	
1.1.34.65	nfs-reader08	NFS	Stopped	0	0	0	0	0	0	
1.1.35.66	nfs-reader09	NFS	Stopped	0	0	0	0	0	0	
1.1.6.37	nfs-writer	NFS	Stopped	0	0	0	0	0	0	
1.1.7.38	nfs-writer01	NFS	Stopped	0	0	0	0	0	0	
1.1.8.39	nfs-writer02	NFS	Stopped	0	0	0	0	0	0	
1.1.9.40	nfs-writer03	NFS	Stopped	0	0	0	0	0	0	
1.1.10.41	nfs-writer04	NFS	Stopped	0	0	0	0	0	0	
1.1.11.42	nfs-writer05	NFS	Stopped	0	0	0	0	0	0	
1.1.12.43	nfs-writer06	NES	Stopped	0	0	0	0	0	0	
1.1.13.44	Info-writer07	NEC	Stopped	0	0	0	0	0	0	
1,1,14,45	nfs-writer08	NES	Stopped	0	0	0	0	0	0	_
4	In S-writer 09	IN S	ocopped	0	0	0	0	0	0	
Logged in to:	192.168.100.2	6:4002	2 as: Adm	in						

A. Click on the **Name** column header to sort the rows of readers and writers

B. You can use **control-left-click** and drag to select the group of writers

C. Click the **Start** button at the top.

B. Next, start the CIFS writers

4			LAN	lforge Manag	er Version(5.2.11)			+ _	• ×
Control Repor	ting <u>T</u> ear-Off	Info	<u>P</u> lugins							
	-			0	top All	Postart N	lanagor		Pofrach	
					втор Ап	Restart	Manager		Kerresti Hi	ELF
Eile-IO Lave	r-4 Generic	Test	Mar	st Group Res		PP-Linke	Evention	Alerts Port	Mar Message	20
Status Laye	or 2 12 End	ne	VAID/DTD	VolD/DTD End		ddon W	aplinks	Attopustors	Collicion Domo	inc
Status Lay		ps	VUIF/NIF	VOIP/RTF EIIC	ips Annage		dillinks	Attenuators	Collision-Doma	1115
			-			Select All	Strart	Stop	Quiesce Cl	ear
Rpt Timer: fast	: (1 s)	▼ Go	Test Mar	nager all	-					
			-			Cr <u>e</u> ate	Modify	Batch Mo	dify Delete	e
				Cross Connects	for Selected T	est Manage	r			
EID	Name	Туре	Status	Read-Bps	Rx-Bps-20s	Files-Read	Buf-RD	Bytes-RD	Write-Bps	1
1.1	UISTEAUEI	VIED	STODDED							
1.1.37.86	cifs-reader01	CIFS	Stopped	0	0	0	0	0	0	
1.1.38.87	cifs-reader02	CIFS	Stopped	0	0	0	0	0	0	-
1.1.39.88	cifs-reader03	CIFS	Stopped	0	0	0	0	0	0	-
1.1.40.89	cifs-reader04	CIFS	Stopped	0	0	0	0	0	0	
1.1.41.90	cifs-reader05	CIFS	Stopped	0	0	0	0	0	0	
1.1.42.91	cifs-reader06	CIFS	Stopped	0	0	0	0	0	0	=
1.1.43.92	cifs-reader07	CIFS	Stopped	0	0	0	0	0	0	
1.1.44.93	cifs-reader08	CIFS	Stopped	0	0	0	0	0	0	
1.1.45.94	cifs-reader09	CIFS	Stopped	0	0	0	0	0	0	
1.1.16.47	cifs-writer	CIFS	Run	0	0	0	0	0	0	
1.1.17.77	cifs-writer01	CIFS	Run	0	0	0	0	0	0	
1.1.18.78	cifs-writer02	CIFS	Run	0	0	0	0	0	0	
1.1.19.79	cifs-writer03	CIES	Run	0	0	0	0	0	0	
1.1.20.80	cifs-writer04	CIES	Run	0	0	0	0	0	0	
1.1.21.01	cifs writer05	CIES	Run	0	0	0	0	0	0	- !!
1.1.22.02	cifs-writer00	CIES	Run	0	0	0	0	0	0	-
1 1 24 84	cifs_writer08	CIES	Run	0	0	0	0	0	0	
1.1.25.85	cifs-writer09	CIES	Run	0	0	0	0	0	0	
1.1.26.57	nfs-reader	NFS	Stopped	0	0	0	0	0	0	
							-			
										-
Logged in to:	192.168.100.2	6:4002	2 as: Adm	iin						

C. Then the NFS readers

Type	Plugins File-IO L er-3 Rpt 1	.ayer-4 Gene L3 Timer: fast	ric Test Mgr Endps (1 s) 💌	Test Gro	up Re VolP/RTI	source Mgr PPf	P-Links Event	Log Alerts	Stop All Port Mgr	Messa	Restart Manager	-		Refresh	HELP														
Type	File-IO I er-3 Rpt ⁻	.ayer-4 Gene L3 Timer: fast	ric Test Mgr Endps (1 s) 🔻	Test Gro	up Re VoiP/RTi	source Mgr PPF	P-Links Event	Log Alerts	Stop All Port Mgr	Messa	Restart Manager ges	-		Refresh	HELP														
Type	File-IO L er-3 Rpt 1	ayer-4 Gene L3 Timer: fast	ric Test Mgr Endps (1 s) 🔻	Test Gro	voiP/RT	source Mgr PPF	P-Links Event	Log Alerts	Port Mgr	Messa	ges																		
Type	File-IO I er-3 Rpt 1	Layer-4 Gene L3 Timer: fast	ric Test Mgr Endps (1 s) 💌	Test Gro	VoIP/RT	source Mgr PPF	P-Links Event	Log Alerts	Port Mgr	Messa	ges																		
Type NFS	er-3 Rpt "	L3 Timer: fast	Endps (1 s) 💌		VoIP/RT	• /	VolP/R	50 E I	V																				
Type NFS	Rpt "	Timer: fast	(1 s) 🔻	_	Select All Mistari Stop Quiesce Clear																								
Type NFS	Rpt '	Timer: fast	(1 s) 🔻	Rot Timer: fast (1 s) Go Test Manager all Select All Start Stop Quiesce Clear																									
Type NFS	Charlow	Inner. Inst	Rpt Timer: fast (1 s) 🛡 Go Test Manager all 👻 Create Modify Batch Modify Delete																										
Type NFS			Crgate Modify Batch Modify Delete																										
Type NFS	Chathan	Cross Connects for Selected Test Manager																											
Type NFS	Charles	1		1	- Cross	onnects for Selec	ted lest Mana	ger-		-			-																
NFS	STaffie	Read-Ros	Ry-Ros-20s	Files.Read	Buf-BD	Bytes-RD	Write-Bos	Ty-Bos-20s	Files-WR	Buf-WB	Bytes.WR	IO Fail	BC Fail	Min-RW-S7	May-R ¹														
NFS	Status	ricua opo	100 000 200	Theo Read	Barno	byccond	white ops	11 Dp5 205	THES WIT	Dur mit	bytes mit	io run c	arte i un	Children OL	Picarette														
NES	Run	0	0	0	0	0	84,798,986	67,750,124	182	4,898	2,503,446,293	0	0	2,048	1,04														
1.1.2	Run	0	0	0	0	0	80,111,598	75,492,716	177	4,653	2,379,514,742	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	78,159,749	56,074,204	172	4,523	2,317,622,209	0	0	2,048	1.04														
NFS	Run	0	0	0	0	0	84,934,263	64,517,225	192	4,919	2,517,908,077	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	83,771,507	82,106,898	180	4,862	2,485,730,987	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	85,548,436	82,844,860	175	4,974	2,539,697,811	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	84,031,635	58,227,702	178	4,885	2,490,729,181	0	0	2,048	1.04														
NFS	Run	0	0	0	0	0	80,542,426	73,085,678	171	4,656	2,379,303,832	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	85,890,064	77,248,204	183	4,963	2,537,901,085	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	88,212,731	61,166,724	198	5,112	2,622,134,473	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1.04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1.04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
NFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	27,003,432	28,589,822	6	586	317,752,769	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	19,192,507	18,890,990	3	427	227,282,469	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	27,322,461	31,211,766	5	600	324,382,506	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	17,580,963	16,063,070	3	392	210,052,955	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	20,550,998	25,887,050	4	464	244,921,657	0	0	2,048	1.04														
CIFS	Run	0	0	0	0	0	31,235,097	35,927,108	5	676	361,932,790	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	19,583,524	23,666,647	3	445	234,157,752	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	17,909,626	25,633,750	3	399	212,864,862	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	17,093,196	10,296,858	3	378	203,720,993	0	0	2,048	1,04														
CIFS	Run	0	0	0	0	0	21,981,955	26,039,648	4	496	262,546,976	0	0	2,048	1,04														
LOIDO	Stonned	0																											
UIFS	ocopped	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
CIES	Stopped	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1,04														
	NFS NFS NFS NFS NFS NFS NFS NFS NFS CIFS CIFS CIFS CIFS CIFS CIFS CIFS CI	NFS Run CIFS Run	NFS Run 0 CIFS Run 0	NFS Run 0 0 CIFS Run 0 0	NFS Run 0 0 0 CIFS Run 0 0 0 CIFS	NFS Run 0 <td>NFS Run 0<td>NFS Run 0 0 0 0 0 0 0 0 98,890.064 NFS Run 0 0 0 0 0 98,212.731 NFS Run 0 0 0 0 0 0 0 0 NFS Run 0</td><td>NFS Run 0 0 0 0 85,90,064 77,248,204 NFS Run 0 0 0 89,212,731 61,165,724 NFS Run 0 0 0 0 89,212,731 61,165,724 NFS Run 0 <</td><td>NFS Run 0<td>NFS Run 0 0 0 0 890,064 77,248,204 183 4,963 NFS Run 0 0 0 0 88,212,731 61,164,204 183 4,963 NFS Run 0</td><td>NFS Run 0<td>NFS Run 0 0 0 0 0 890,064 77,248,024 183 4,963 2,357,901,065 0 NFS Run 0 0 0 0 98,212,731 61,166,724 198 5,112 2,622,134,473 0 NFS Run 0<td>NF5 Run 0<td>NFS Run 0 0 0 0 0 0 0 0 2,048 NFS Run 0 0 0 0 0,892,12,731 0 2,622,134,473 0 2,048 NFS Run 0</td></td></td></td></td></td>	NFS Run 0 <td>NFS Run 0 0 0 0 0 0 0 0 98,890.064 NFS Run 0 0 0 0 0 98,212.731 NFS Run 0 0 0 0 0 0 0 0 NFS Run 0</td> <td>NFS Run 0 0 0 0 85,90,064 77,248,204 NFS Run 0 0 0 89,212,731 61,165,724 NFS Run 0 0 0 0 89,212,731 61,165,724 NFS Run 0 <</td> <td>NFS Run 0<td>NFS Run 0 0 0 0 890,064 77,248,204 183 4,963 NFS Run 0 0 0 0 88,212,731 61,164,204 183 4,963 NFS Run 0</td><td>NFS Run 0<td>NFS Run 0 0 0 0 0 890,064 77,248,024 183 4,963 2,357,901,065 0 NFS Run 0 0 0 0 98,212,731 61,166,724 198 5,112 2,622,134,473 0 NFS Run 0<td>NF5 Run 0<td>NFS Run 0 0 0 0 0 0 0 0 2,048 NFS Run 0 0 0 0 0,892,12,731 0 2,622,134,473 0 2,048 NFS Run 0</td></td></td></td></td>	NFS Run 0 0 0 0 0 0 0 0 98,890.064 NFS Run 0 0 0 0 0 98,212.731 NFS Run 0 0 0 0 0 0 0 0 NFS Run 0	NFS Run 0 0 0 0 85,90,064 77,248,204 NFS Run 0 0 0 89,212,731 61,165,724 NFS Run 0 0 0 0 89,212,731 61,165,724 NFS Run 0 <	NFS Run 0 <td>NFS Run 0 0 0 0 890,064 77,248,204 183 4,963 NFS Run 0 0 0 0 88,212,731 61,164,204 183 4,963 NFS Run 0</td> <td>NFS Run 0<td>NFS Run 0 0 0 0 0 890,064 77,248,024 183 4,963 2,357,901,065 0 NFS Run 0 0 0 0 98,212,731 61,166,724 198 5,112 2,622,134,473 0 NFS Run 0<td>NF5 Run 0<td>NFS Run 0 0 0 0 0 0 0 0 2,048 NFS Run 0 0 0 0 0,892,12,731 0 2,622,134,473 0 2,048 NFS Run 0</td></td></td></td>	NFS Run 0 0 0 0 890,064 77,248,204 183 4,963 NFS Run 0 0 0 0 88,212,731 61,164,204 183 4,963 NFS Run 0	NFS Run 0 <td>NFS Run 0 0 0 0 0 890,064 77,248,024 183 4,963 2,357,901,065 0 NFS Run 0 0 0 0 98,212,731 61,166,724 198 5,112 2,622,134,473 0 NFS Run 0<td>NF5 Run 0<td>NFS Run 0 0 0 0 0 0 0 0 2,048 NFS Run 0 0 0 0 0,892,12,731 0 2,622,134,473 0 2,048 NFS Run 0</td></td></td>	NFS Run 0 0 0 0 0 890,064 77,248,024 183 4,963 2,357,901,065 0 NFS Run 0 0 0 0 98,212,731 61,166,724 198 5,112 2,622,134,473 0 NFS Run 0 <td>NF5 Run 0<td>NFS Run 0 0 0 0 0 0 0 0 2,048 NFS Run 0 0 0 0 0,892,12,731 0 2,622,134,473 0 2,048 NFS Run 0</td></td>	NF5 Run 0 <td>NFS Run 0 0 0 0 0 0 0 0 2,048 NFS Run 0 0 0 0 0,892,12,731 0 2,622,134,473 0 2,048 NFS Run 0</td>	NFS Run 0 0 0 0 0 0 0 0 2,048 NFS Run 0 0 0 0 0,892,12,731 0 2,622,134,473 0 2,048 NFS Run 0														

D. Finally, start the CIFS readers

2						LA	Nforge	Manager Ver	sion(5.2.11)								* - 1
ontrol <u>R</u> epo	orting Tear-Off	Info	Plugins														
											Stop Al		Restart Manage	r		Refresh	HE
ttenuators	Collision-Dor	nains	File-IO	Layer-4 Gene	ric Test Mgr	Test Gro	up Re	esource Mgr PPI	P-Links Event	Log Alerts	Port Mgr	Messag	jes				
Status	s	Lay	er-3	L3	Endps	Y	VoIP/RT	P	VoIP/RT	P Endps	r		Armageddon		Y T	WanLinks	s
					(1.)	-	1		Select All	Start	Stop	Quiesce	e Clear				
			Rpt	Timer: Tast	(1 s) V	GO Test Ma	anager	all	Croate	Modify	Patch	Modify	Delete				
									cigate	Modily	Daten	Moully	Delete				
							-Cross	Connects for Sele	cted Test Manag	ler							
		_									-						
EID	Name	Type	Status	Read-Bps	Rx-Bps-20s	Files-Read	But-RD	Bytes-RD	Write-Bps	Tx-Bps-20s	Files-WR	But-WR	Bytes-WR	IO Fail	CRC Fail	Min-RW-SZ	Max-H
.1.7.38	nrs-writeru1	NF5	Run	U	U		0	U	83,412,167	59,261,700	197	5,325	2,729,673,606	0	0	2,048	1.07
1.6.37	nfs-writer	NFS	Run	0	0	0	0	0	86,156,569	58,547,724	211	5,443	2,790,859,002	0	0	2,048	1,0
1.35.66	nfs-reader09	NFS	Run	48,262,735	53,547,082	26	283	144,546,893	0	0	0	0	0	0	0	2,048	3 1,0
1.34.65	nfs-reader08	NFS	Run	54,766,403	57,332,646	190	306	160,164,347	0	0	0	0	0	0	0	2,048	3 1,0
1.33.64	nfs-reader07	NFS	Run	23,766,778	24,355,354	23	133	69,502,972	0	0	0	0	0	0	0	2,048	3 1.0
1.32.63	nfs-reader06	NFS	Run	23,548,642	24,043,150	7	124	68,567,760	0	0	0	0	0	0	0	2,048	3 1,0
1.31.62	nfs-reader05	NFS	Run	23,173,845	23,945,204	16	124	67,763,220	0	0	0	0	0	0	0	2,048	3 1,0
1.30.61	nfs-reader04	NFS	Run	23,712,476	24,087,000	35	137	69,516,089	0	0	0	0	0	0	0	2,048	3 1.0
1.29.60	nfs-reader03	NFS	Run	48,861,298	57,016,308	16	279	145,930,377	0	0	0	0	0	0	0	2,048	3 1.0
1.28.59	nfs-reader02	NFS	Run	22,552,753	22,828,259	65	137	67,077,527	0	0	0	0	0	0	0	2,048	3 1,0
1.27.58	nfs-reader01	NFS	Run	22,449,453	22.622.993	12	124	66,767,481	0	0	0	0	0	0	0	2.048	1.0
1.26.57	nfs-reader	NFS	Run	50,775,338	58,383,575	21	287	147.800.663	0	0	0	0	0	0	0	2.048	1.0
1.25.85	cifs-writer09	CIFS	Run	0	0	0	0	0	25,098,421	14,054,825	6	696	373,624,517	0	0	2,048	3 1,0
1.24.84	cifs-writer08	CIFS	Run	0	0	0	0	0	17.308.423	10,264,226	4	489	258.879.928	0	0	2.048	1.0
1.23.83	cifs-writer07	CIFS	Run	0	0	0	0	0	24,406,634	9,960,396	6	678	363.835.795	0	0	2.048	1.0
1.22.82	cifs-writer06	CIFS	Run	0	0	0	0	0	17,755,472	19,758,886	4	493	262,454,742	0	0	2.048	1.0
1.21.81	cifs-writer05	CIES	Run	0	0	0	0	0	21,669,662	29,415,953	5	598	323.040.488	0	0	2.048	1.0
1.20.80	cifs-writer04	CIFS	Run	0	0	0	0	0	138.255	28,611,490	8	874	463.399.512	0	0	2.048	1.0
1.19.79	cifs-writer03	CIFS	Run	0	0	0	0	0	21.537.880	32,505,763	5	600	322,152,854	0	0	2.048	1.0
1.18.78	cifs-writer02	CIFS	Run	0	0	0	0	0	16,498,178	11.188.422	3	461	245,117,556	0	0	2,048	3 1.0
1.17.77	cifs-writer01	CIES	Run	0	0	0	0	0	16.041.831	11,482,263	3	443	234,519,538	0	0	2.048	1.0
1.16.47	cifs-writer	CIFS	Run	0	0	0	0	0	22.511.927	12.854.347	5	619	334.189.557	0	0	2.048	1.0
1.45.94	cifs-reader09	CIES	Run	0	0	0	0	0	0	0	0	0	0	0	0	2.048	3 1.0
1,44,93	cifs-reader08	CIES	Run	0	0	0	0	0	0	0	0	0	0	0	0	2.048	1.0
1.43.92	cifs-reader07	CIFS	Run	0	0	0	0	0	0	0	0	0	0	0	0	2.048	1.0
1.42.91	cifs-reader06	CIES	Run	0	0	0	0	0	0	0	0	0	0	0	0	2.048	1.0
1.41.90	cifs-reader05	CIES	Run	0	0	0	0	0	0	0	0	0	0	0	0	2.048	1 1
1 40 89	cifs-reader04	CIES	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1.0
1 39 88	cife-reader03	CIES	Rup	0	0	0	0	0	0	0	0	0	0	0	0	2.048	1 0
1 38 87	cifs-reader02	CIES	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1 1
1 37 86	cifs-reader01	CIES	Run	0	0	0	0	0	0	0	0	0	0	0	0	2,040	1 1 0
1 36 67	cife-reader	CIES	Rup	0	0	0	0	0	0	0	0	0	0	0	0	2,048	1.0
Access of the second se	cho reauer	0110	110011	0				0	0		0	0				2,040	1.0

- 13. We can inspect the traffic in the Dynamic Report window and the File-IO tab:
 - A. Select a group of endpoints and right click on them, select Dynamic Report

<u></u>	LANForge Manager Version(5.2.11) + >														+ _ = ×		
Control Repo	orting Tear-Off	Info	Plugins				_							_			
	· _										Stop All		Portort Managar			Rofrach	LIELD
											Stop All		Nestait Manager			Refresh	neur
Attenuators	Collision-Dom	aine	FileJO	aver-1 G	eneric Test Ma	Test Gr		asource Mar PPI	Pulinks Event	Log Alerts	Port Mar	Massan	ac .				
Statu	ie Compion Don	Lav	or-2	ujer 4 0	12 Endos	T TOST OT	VolP/PT		VolP/PT	E Endre	TORTING	Theody	Armageddon		-Y	WanLinks	
Juli	10	Lay	61-5		Lo Linupo		V011 /111		0011711	iii Eilupa			Annageddon			WORLINKS	· · · · · ·
						_			Select Al	I Start	Stop	Quiesce	Clear				
			Rpt '	Timer: fast	: (1 s) 🔻	Go Test M	anager	all 🔻			1						
									Create	e <u>M</u> odify	Batch	Modify	Delete				
							-Cross	Connects for Sele	cted Test Manag	ger	-						
EID	Name	Туре	Status	Read-Bp	s Rx-Bps-20s	Files-Read	Buf-RD	Bytes-RD	Write-Bps	Tx-Bps-20s	Files-WR	Buf-WR	Bytes-WR	IO Fail	CRC Fail	Min-RW-SZ	Max-R'
1.1.7.38	nts-writeru	NES	RUD		0 0			0	81,850,555	85.157.555	1 330	8.741	4 455 266 192	- 0	- 0	2.048	E UA
1.1.6.37	nfs-writer	NFS	Run		0 0	0	0	0	84,895,036	84,387,524	351	9.060	4.615.552.098	0	0	2.048	1.04
1.1.35.66	nfs-reader09	NFS	Stopped	24,641,6	7,868,550	86	551	262,910,907	0	(0 0	0	0	1,096	0	2,048	1,04
1.1.34.65	nfs-reader08	NFS	Stopped	40,729,7	709 34,507,982	284	499	254,764,336	0	(0 0	0	0	1,105	0	2,048	1.04
1.1.33.64	1.13.5.4 Infs-readerO NFS Stopped 17.949.246 5.022.042 188 430 204.699.265 0 0 0 0 1.051.0 2.048 1.04 1.13.26.3 Infs-readerO NFS Stopped 15.758.849 5.501.70 77 390 179.221.182 0 0 0 0 0.048 0.04																
11.12.63 fr-eader06 MFS Stopped 16,778.849 5,920.170 77 390 179.221.82 0 0 0 0 0 0 0 0.0484 1.04 1.04 1.04 1.04 1.04 0.054 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0															1,04		
1.1.31.62	nfs-reader05	NFS	Stopped	18,936,3	Start Selected			177,296,453	0	(0 0	0	0	1,054	0	2,048	1,04
1.1.30.61	nfs-reader04	NFS	Stopped	19,886,4	Chan Calastad			119,338,802	0	(0 0	0	0	1,071	0	2,048	1.04
1.1.29.60	nfs-reader03	NFS	Stopped	25,581,8	stop selected			276,651,881	0	(0 0	0	0	1,142	0	2,048	1.04
1.1.28.59	nfs-reader02	NFS	Stopped	15,752,8	Clear Selected			95,481,894	0	(0 0	0	0	1,098	0	2,048	1,04
1.1.27.58	nfs-reader01	NFS	Stopped	15,773,4	Modify Selected			173,715,355	0	(0 0	0	0	1,118	0	2,048	1,04
1.1.26.57	nfs-reader	NFS	Stopped	27,127,7	Dynamic Report			261,739,027	0	(0 0	0	0	1,142	0	2,048	1.04
1.1.25.85	cifs-writer09	CIFS	Stopped		Table Report	2		0	23,506,141	17,949,132	2 7	818	427,620,779	1,122	0	2,048	1.04
1.1.24.84	cifs-writer08	CIFS	Stopped		Count Selected	•		0	18,907,273	28,158,644	1 6	812	418,722,832	1,129	0	2,048	1,04
1.1.23.83	cifs-writer07	CIFS	Stopped		Calaulatiana			0	24,472,917	27,814,367	7 7	839	439,010,489	1,096	0	2,048	1,04
1.1.22.82	cifs-writer06	CIFS	Stopped		calculations			0	18,417,358	24,697,813	. 5	621	330,752,736	1,063	0	2,048	1.04
1.1.21.81	cifs-writer05	CIFS	Stopped		View Logs			0	19,016,929	12,225,040	7	773	404,592,315	1,022	0	2,048	1.04
1.1.20.80	cifs-writer04	CIFS	Stopped		Add/Remove Tabl	e Columns		0	31,219,319	27,151,284	1 9	1,069	561,218,005	1,082	0	2,048	1,04
1.1.19.79	cifs-writer03	CIFS	Stopped		Add/Remove Tabl	e Report Co	lumns	0	20,612,307	19,034,982	2 5	732	379,021,683	1,068	0	2,048	1.04
1.1.18.78	cifs-writer02	CIFS	Stopped		Save Table Lavou			0	17,160,858	16,797,544	1 5	704	369,844,393	1,115	0	2,048	1.04
1.1.17.77	cits-writer01	CIFS	Stopped		Save Table Layou			0	16,907,704	8,240,832	2 5	739	382,746,053	1,075	0	2,048	1,04
1.1.16.47	cits-writer	CIFS	Stopped		Reset Table Layo	ut		0	20,671,007	10,961,905	6	701	371,458,002	1,079	0	2,048	1,04
1.1.45.94	cifs-reader09	CIFS	Run	20,112,5	Auto-Resize Colur	nns		440,190,741	0	(0 0	0	0	0	0	2,048	1,04
1.1.44.93	cits-reader08	CIFS	Run	28,121,2	12,855,337	10	1.165	615,114,012	0	(0 0	0	0	0	0	2,048	1.04
1.1.43.92	cits-reader07	CIFS	Run	27,148,1	.88 11,333,184	11	1,123	593,825,905	0		0 1	0	0	0	0	2,048	1.04
1.1.42.91	cits-reader06	CIES	Kun	25,554,5	10,648,233	14	1,054	558,964,494	0	(0 1	0	0	0	0	2,048	1,04
1.1.41.90	cits-reader05	LIFS	Kun	22,741,3	17,281,215	15	936	497,426,871	0	(0	0	0	0	0	2,048	1.04
1.1.40.89	cits-reader04	CIES	KUN	25,011,1	.19 31,341,051	9	1.037	547,387,106	0	(0	0	0	0	0	2,048	1.04
1.1.39.88	cirs-reader03	CIES	RUN	35,888,4	2/ 34,330,205	12	1,490	/85,436,181	0	(0	U	0	0	0	2,048	1,04
1.1.38.87	cirs-reader02	CIEC	Run	28,745,9	41,568,572	9	1,194	029,110,213	0	(0	0	0	0	0	2,048	1,04
1.1.37.86	urs-reader01	CIEC	RUN	21,076,2	13,690,550	6	863	462,579,658	0	(0	U	0	0	0	2,048	1.04
1.1.30.0/	jurs-reader	ICIES.	nun	34,942,8	24,419,/38	22	1.468	/64.295.888	0	(<u>л 0</u>	U	0	0	0	2,048	1.04
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C. In the File-IO window, we can watch for Files Written and IO Errors:

4					L	ANforge M	lanage	r Version(5.2.	.11)							+ = =
Control Rep	orting Tear-Off	Info	Plugins													
										Stop	All	Restart M	anager	Ref	fresh	HELP
Collision-Dor	mains File-IO	Layer	-4 Gene	ric Test Mgr	Test Group	Resource	Mgr	PPP-Links Even	t Log Ale	erts	Port Mgr Me	ssages				
Status	Layer	-3	L	B Endps	VoIP/RTP		Vo	IP/RTP Endps		Arm	nageddon		WanLink	s A	ttenuat	ors
										C1 - 1		0				
		Rot	Timer: fas	t (1.s)	GO Test N	lanager all		Sei	ect All	Start	Stop	Quiesce	Cle	ar	S	
						and an Inter			Cr <u>e</u> ate	Modif	fy <u>B</u> atch N	lodify	Delete			
-						-Cross Co	nnects f	or Selected Test I	Manager-							
EID	Name	Туре	Status	Read-Bps	Rx-Bps-20s	Files-Read	Buf-RD	Bytes-RD	Write-B	ps	Tx-Bps-20s	Files-WR	Buf-WR	Bytes-WR	IO Fail	CRC Fail
1126.67	sife reador	CIEC	Rup	25.041.202	22.056.000	201	16.067	9 9 9 9 9 9 9 4 5 4		0	0	0	0		0	0
1.1.37.86	cifs-reader01	CIES	Run	28,286.071	14.503.130	331	18,607	9.676.279.819		0	0	0	0			0
1.1.38.87	cifs-reader02	CIFS	Run	25,675,793	44,278,014	747	17,188	8,783,659,977		0	0	0	0	(0 0	0
1.1.39.88	cifs-reader03	CIFS	Run	27,594,195	24,030,192	357	18,168	9,438,222,103		0	0	0	0	0	0 0	0
1.1.40.89	cifs-reader04	CIFS	Run	26,060,901	27,351,881	228	17,123	8,912,460,367		0	0	0	0	(0 0	0
1.1.41.90	cifs-reader05	CIFS	Run	28,310,079	29,781,046	354	18,639	9,684,835,795		0	0	0	0	(0 0	0
1.1.42.91	cifs-reader06	CIFS	Run	26,734,750	18,958,957	236	17,586	9,145,577,151		0	0	0	0	(0 0	0
1.1.43.92	cifs-reader07	CIFS	Run	25,631,059	15,824,970	880	17,351	8,765,450,813		0	0	0	0	(0 0	0
1.1.44.93	cits-reader08	CIES	Run	28,755,631	13,630,115	/84	19,257	9,835,806,246		0	0	0	0	(0 0	0
1.1.45.94	cits-reader09	CIES	Run	25,3/5,1/1	32,458,818	0/1	16,914	8,678,251,608	24 5 0 2	060	20 241 044	150	16 200	0.450.614.614		0
1.1.10.47	cife writer01	CIES	Run	0	0	0	0	0	24,302	500	12 250 644	150	16,000	0,430,014,014	7 0	0
1 1 1 8 78	cife-writer02	CIES	Run	0	0	0	0	0	23 573	31.8	11 204 775	150	15,612	8 104 713 265	5 0	0
1 1 1 9 7 9	cifs-writer03	CIES	Run	0	0	0	0	0	23,373	964	10.028.251	160	15 364	7 975 953 149		0
1.1.20.80	cifs-writer04	CIES	Run	0	0	0	0	0	25,282	407	20.389.431	166	16,760	8.691.800.799	9 0	0
1.1.21.81	cifs-writer05	CIFS	Run	0	0	0	0	0	23.829	723	9,727,229	167	15,771	8,192,858,495	5 0	0
1.1.22.82	cifs-writer06	CIFS	Run	0	0	0	0	0	25,771	019	28,708,930	170	17,075	8,860,672,626	6 0	0
1.1.23.83	cifs-writer07	CIFS	Run	0	0	0	0	0	24,227	740	14,016,350	168	16,043	8,326,962,238	3 0	0
1.1.24.84	cifs-writer08	CIFS	Run	0	0	0	0	0	24,148	403	20,125,470	167	15,975	8,301,508,644	1 0	0
1.1.25.85	cifs-writer09	CIFS	Run	0	0	0	0	0	23,940	453	17,748,442	157	15,865	8,231,221,802	2 0	0
1.1.26.57	nfs-reader	NFS	Run	25,519,784	18,538,109	1,901	17,457	8,705,493,994		0	0	0	0	(0 0	0
1.1.27.58	nfs-reader01	NFS	Run	26,988,912	50,637,873	2,160	18,571	9,206,646,759		0	0	0	0	(0 0	0
1.1.28.59	nts-reader02	NFS	Run	24,737,794	17,466,818	1,863	16,964	8,439,348,051		0	0	0	0	(0 0	0
1.1.29.60	nts-reader03	NES	Run	31,585,354	58,091,747	2,406	21,668	10,775,011,883		0	0	0	0	(0 0	0
1.1.30.61	nts-reader04	NES	Run	24,496,473	30,221,523	1,528	10,594	8,356,751,497		0	0	0	0			0
1.1.31.02	nfs-reader05	NEC	Run	23,204,042	26 605 102	2,039	10 060	0.023,379,172		0	0	0	0	(0
1.1.33.64	nfs-reader07	NES	Run	25,605,000	40.952.544	1,667	17.381	8,735,184,445		ő	0	0	0		0 0	0
1.1.34.65	nfs-reader08	NFS	Run	26,896,961	10.219.038	1,977	18,415	9,175,259,779		Ő	0	0	0	(0 0	0
1.1.35.66	nfs-reader09	NFS	Run	26,340,784	33,699,461	1,793	17,976	8,988,170,532		0	0	0	0	0	o o	0
1.1.6.37	nfs-writer	NFS	Run	0	0	0	0	0	69,072	346	70,775,166	1,794	46,540	23,694,232,453	8 0	0
1.1.7.38	nfs-writer01	NFS	Run	0	0	0	0	0	69,224	662	94,370,884	1,810	46,626	23,746,845,433	8 0	0
1.1.8.39	nfs-writer02	NFS	Run	0	0	0	0	0	68,307	607	66,255,251	1,805	45,962	23,428,826,152	2 0	0
1.1.9.40	nfs-writer03	NFS	Run	0	0	0	0	0	69,525	951	68,162,006	1,805	46,808	23,850,182,538	3 0	0
1.1.10.41	nfs-writer04	NFS	Run	0	0	0	0	0	68,217	295	82,009,505	1,799	45,947	23,396,988,910	0 0	0
1.1.11.42	nts-writer05	NFS	Run	0	0	0	0	0	69,222	734	60,897,830	1,851	46,601	23,746,140,829	0 0	0
1.1.12.43	nts-writer06	NES	Run	0	0	0	0	0	69,879	015	68,930,863	1,836	47.020	23,965,121,851	0	0
1.1.13.44	nis-writer0/	NEC	Run	0	0	0	0	0	69,080	202	/2,513,302 69,100,536	1,798	40,927	23,909,105,809	7 0	0
1 1 15 46	nfs-writer08	NES	Run	0	0	0	0	0	60 702	357	20123252	1,000	45,967	23,434,407,397	3 0	0
1.1.1.0.40	phis-writer 09	141.0	r var i	0	0	0	0	0	05,702		55,051,620	1,023	+0,522	20,010,000,000	. 0	
4)
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Advanced File-IO Tunings

CIFS clients:

- 15. Tuning network card ring-buffers
 - A. Network cards often have tunable memory buffers that can be modified using ethtool
 - B. Read the available capacities using ethtool -g eth1
 - C. Adjust the tx and rx parameters using ethtool -G eth1 tx 4096 rx 4096
 - D. This feature depends on the card driver and system state. Not all cards are tunable.
 - E. The efficacy of this technique is difficult to measure, but is some manufacturer's websites show this step being done in their white papers.
- 16. Matching buffer sizes to negotiated transfer size
 - A. NFS mount parameters can be inspected using either of two commands:
 - B. mount | grep nfs Or grep nfs /proc/mounts
 - C. Notice the rsize and wsize parameters might not match your request values in the Modify Properties box for the mount point.
 - D. Setting your Min/Max Read and Min/Max Write sizes to these negotiated values will maximize efficiency by reducing memcpy activity in the kernel.
- 17. Tuning TCP window sizes
 - A. While you can modify Layer 3 TCP window size and buffers, you cannot directly change those settings using the LANforge GUI for the system. This Discussion on NFS4 performance is worth a read.
 - B. The commands below are suggested to increase your buffer sizes to 8-16 megabytes: sysctl net.core.rmem_default=8388608
 - sysctl net.core.rmem_max=16777216
 - sysctl net.core.wmem_default=8388608
 - sysctl net.core.wmem_max=16777216

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