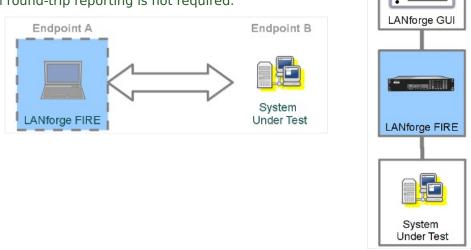


Layer-3 UDP Traffic Generator

Goal: Generate one-sided traffic to a network device with a fixed destination IP address.

This scenario is useful for testing switches, firewalls and data loggers that have to handle highly varied or very fast UDP packet streams with a fixed destination. A one-sided traffic stream is used to send packets to a network device under test when round-trip reporting is not required.



1. Configure an ethernet port.

A. On the **Port Mgr** tab, select a port within the table and click the **Modify** button.

							Stop All	F	Restart Ma	anager		Refresh	HELF
File-IO	Lav	ver-4	Generic Tes	t Mgr	Test (Group	Resource M	ar Even	t Log A	erts P	ort Mgr Me	ssages	
Status	- <u></u>	yer-3		VoIP/				nageddon			ttenuators		-Domains
Di	isp: 1	92.168	3.100.133:0.0	Sr	iff Packe	ts	Clear C	ounters	Reset	Port	Delete		
R	pt Tim	er: me	dium (8 s) 🔻		Apply		<u>V</u> iew I	Details	Cr <u>e</u> a	ite	Modify	<u>B</u> atch Mo	dify
					-All Ethe	ernet In	terfaces (Por	ts) for all	Resource	s. —			
Port	Pha	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.0			192.168.100.86	0	eth5		272,959,695	346,073	6	7,949	276,256,112	322,422	6
1.1			0.0.0.0	0	eth0		0	0	0	0	2,032	22	0
1.2			0.0.0.0	0	eth1		0	0	0	0	2,032	22	0
1.3			0.0.0.0	0	eth2 🤻		0	0	0	0	0	0	0
.1.4			0.0.0.0	0	eth3		0	0	0	0	2,032	22	0
.1.5			0.0.0.0	0	eth4		0	0	0	0	2,032	22	0

A. This example will use port eth1.

B. Assign an IP and Mask as necessary.

		9 1000bt-FD AUTO-N pe: Ethernet Drive		ntrol TSO GSO		: 2.5GT/s x1 Max: 2.5GT/s x	1
			Port Configur	ables			
Enable —— Set IF Down		General Int	erface Settings			Port Rates	Advert Rates
Set MAC Set TX Q Len	Down DHCP-IPv6	☐ Aux-Mgt ☑ DHCP Release	DHCP Vendor ID:	None	-	0 100bt-HD 0 100bt-FD 0 100bt-FD 0 1000-FD	 ✓ 10bt-FD ✓ 100bt-HD
Set MTU Set Offload	DHCP-IPv4	Secondary-IPs	DHCP Client ID: Peer IP:	None	•	O 10G-FD O 40G-FD Autonegotiate	✓ 100bt-FD✓ 1000-FD
Set Rate Info	IP Address: IP Mask:	10.26.2.1 255.255.255.0	Global IPv6:			Renegotiate	10G-FD 40G-FD
Set Rx-All/FCS	Gateway IP: Alias:	0.0.0.0	IPv6 GW: MTU:	AUT0 1500		Restart Xcvr PROMISC	Flow-Contr ──Offload
Set Bridge Info Set CPU Mask	MAC Addr: Br Cost:	00:90:0b:38:82:71	TX Q Len Priority:	1000 Ignore		RX-ALL	UFO Enable
Services — HTTP	Rpt Timer:	medium (8 s) 🔻	1	0	-	Bypass NOW!	GSO Enabl
FTP RADIUS	CPU Mask:	NO-SET	WiFi Bridge:	NONE	-	Bypass Power-DOWN	GRO Enabl

- C. Click **OK**.
- 2. Configure the Layer-3 connection.
 - A. On the **Layer-3** tab, click **Create**.

<u></u>					LANforge	Manager	Version(5.3.3)			
<u>Control</u> <u>Re</u>	eporting	<u>T</u> ea	ar-Off Info	<u>P</u> lugins							
						Stop	All	Restart	Manager	Refresh	HELP
F ¹ - 10					Ta at Cassia	V		Event Lan			
File-IO Status	Layer		Generic 1 L3 Endps	est Mgr	Test Group VolP/RTP	Resourc	e Mgr Armage	Event Log	Alerts Port Mo nLinks Attenu		-Domains
Status	Luye		ES Enaps	Von /itir	Von /itil	Enups	Annug		Attend	ators consion	Domanis
Rpt	Timer:	defa	ult (5 s)	▼ Go Te	e <mark>st Manag</mark> er	all	-	Select	All Start Sto	op Quiesce C	lear
Viev	v	0 - 2	00		▼ Go			Dis	play Cr <u>e</u> ate	Modify Delete	
		0-2								<u> </u>	
			1		-Cross Conr	ects for S	elected	Test Manag	er	1	1
Name		Туре	State	Pkt Rx A	Pkt Rx B	Bps Rx	A	Bps Rx B	Rx Drop % A Rx	Drop % B Drop Pkts	A Drop Pkts
l		_									
Logged in	nto: b	rent-	6port:4002	as: Admin							

B. Assign port eth1 to Endpoint-A.

\$	udpgen - Cre	eate/	/Modify Cross Connect		_ . ×
+ - All	Display Sy	nc	Batch-Create	Appl	y OK Cancel
CX Name: CX Type:	Cross-Connect Judpgen LANforge / UDP			•	
	Endpoint A		Endpoint B		
Resource:	1 (brent-6port)	-	1 (brent-6port)	-	
Port:	2 (eth1)	T	5 (eth4)	-	
Min Tx Rate:	New Modem (56 Kbps)	-	New Modem (56 Kbps)	-	
Max Tx Rate:	Same	-	Same	-	
Min PDU Size:	AUTO	-	AUTO	-	
Max PDU Size:	Same	-	Same	-	
IP ToS:	Best Effort (0)	-	Best Effort (0)	-	
Pkts To Send:	Infinite	-	Infinite	-	

- A. You will not need to assign ${\bf Endpoint-B}$ because that will become unmanaged.
- C. Configure the attributes in section 1:

4	udpgen - Crea	ite/	Modify Cross Connec	3			
+ - All	Display Syn	с	Batch-Create	Ар	oly	ок	Cancel
CX Name: CX Type:	Cross-Connect Judpgen LANforge / UDP			-			
Resource:	Endpoint A 1 (brent-6port)	•	Endpoint B 1 (brent-6port)	-			
Port:	2 (eth1)	•	5 (eth4)	-			
Min Tx Rate:	1G (1 Gbps)	•	Zero (0 bps)	-			
Max Tx Rate:	Same	•	Same	-			
Min PDU Size:	UDP Pld (1,472 B)	-	AUTO	-			
Max PDU Size:	Same	-	Same	-			
IP ToS:	Best Effort (0)	-	Best Effort (0)	-			
Pkts To Send:	Infinite	•	Infinite	-			

- A. Endpoint-A Min Tx Rate: 1Gbps
- B. Endpoint-**B** Min Tx Rate: Zero (0 bps)
- c. Endpoint-A Min PDU Size: UDP Pld (1,472 B)

D.	Use th	ne All	button	at	the	top	to	expand	to	the	last	detail	level.
----	--------	--------	--------	----	-----	-----	----	--------	----	-----	------	--------	--------

\$			udpgen - Create/M	odify Cross Connec	t					-0
+ - All				Display Sy	nc	Batch-Create		Apply	ОК	Cancel
CX Name: CX Type:	Cross-Connect Udpgen LANforge / UDP			Report Timer:		oss-Connect fault (5 s)				-
ch i jpei			•		End	dpoint A		Endpoint		
	Endpoint A		Endpoint B	Pld Pattern	inc	reasing	-	increasi	ng	-
Resource:	1 (brent-6port)	-	1 (brent-6port) 🔻	Min IP Port:	AUT	0	-	AUTO		-
Port:	2 (eth1)	-	5 (eth4) 🔻	Max IP Port:	Sam	ie	-	Same		-
Min Tx Rate:	1G (1 Gbps)	-	Zero (0 bps) 💌	Min Duration:	For	rever	-	Forever		-
Max Tx Rate:	Same	-	Same 💌	Max Duration:	Sam	le	-	Same		-
Min PDU Size:	UDP Pld (1,472 B)	•	AUTO 💌	Min Reconn:	0	(0 ms)	-	0 (0	ns)	-
Max PDU Size:	Same	-	Same 💌	Max Reconn:	Sam	ie	-	Same		•
IP ToS:	Best Effort (0)	-	Best Effort (0) 💌	Multi-Conn:	Nor	mal (0)	-	Normal (3)	-
Pkts To Send:	Infinite	-	Infinite 💌			Script			Script	
						Thresholds	_	Т	resholds	
						Threaddad			in contorida	
2	Cross-Connect				End	dpoint A		Endpoint	в	
Test Manager	default_tm		▼	Snd Buff Size:	0S	Default	-	OS Defau	lt	-
Quiesce:	3 (3 sec)		•	Rcv Buff Size:	0S	Default	-	OS Defau	lt	-
	Endpoint A		Endpoint B	Send Bad FCS	zer	°o (0%)	-	zero (O%)	-
IP Addr:	AUTO	-	AUTO	Src MAC:	00:	00:00:00:00:00	-	00:00:00	:00:00:00	-
	Replay File		Replay File			Jse-Proxy		Use-P	roxy	
	Loop		Соор	Proxy Addr:						
	Dest Mac		Dest Mac	Proxy Port:						
Filename:				Socket Priority	:0			0		
Dest MAC:		-	•			Payload			Payload	

E. Configure the Layer-3 connection to the *system under test* (Endpoint-B) by following these steps:

<u>ی</u>			udpgen - Create/	Mo	dify Cross Conr	nect					
+ - All					Display	Sync	Batch-Create	1	Apply	ок	Cance
1	Cross-Connect				9		Cross-Connect				
CX Name:	udpgen				Report Tim	er:	slow (10 s)				-
CX Type:	LANforge / UDP			-			Endpoint A		Endpoir	nt B	
	Endpoint A		Endpoint B		Pld Patterr	n	increasing	-	increas		-
Resource:	1 (brent-6port)	-	0	~	Min IP Port		AUTO	-	9999		-
Port:	2 (eth1)	-	0		Max IP Por		Same	-	Same		
Min Tx Rate:	1G (1 Gbps)	-	Zero (0 bps)	-	Min Durati		Forever	-	Forever		
Max Tx Rate:	Same	-	Same	-	Max Durati		Same	-	Same		-
Min PDU Size:	UDP Pld (1,472 B)	-	AUTO		Min Recon		0 (0 ms)	-	0 (0	ms)	-
Max PDU Size:	Same	-	Same	-	Max Recon		Same	-	Same		
IP ToS:	Best Effort (0)	-	Best Effort (0)		Multi-Conn		Normal (0)	-	Normal	(0)	-
Pkts To Send:	Infinite	-	Infinite				Script			Script	
							Thresholds	-		Threshold	19
2	Cross-Connect						Endpoint A		Endpoi	nt B	
Test Manager	default_tm		•	•	Snd Buff Si	ize:	1MB (1 MB)	-	OS Defa	ult	-
Quiesce:	3 (3 sec)		•	-	Rcv Buff Siz	ze:	OS Default	-	OS Defa	ult	-
	Endpoint A		Endpoint B		Send Bad F	FCS:	zero (0%)	-	zero (0	%)	
IP Addr:	AUTO	-	198.105.254.11	•	Src MAC:		00:00:00:00:00:00	-	00:00:0	0:00:00:0	0 🔻
	Replay File		🗌 Replay File				Use-Proxy		Use-	Proxy	
	Loop		Loop		Proxy Addr	:					
	Dest Mac		Dest Mac		Proxy Port:	:					
Filename:		_			Socket Pric	ority:	0		0		
Dest MAC:		-		-		,	Payload			Payload	
										,	
8	Endpoint A		Endpoint B			E	ndpoint A	E	ndpoint	В	
Conn Timeout:	10s (10 s)	-	10s (10 s)	-			Do Checksum		Do Che		
TCP MSS:	OS Default	-	OS Default						UnMar	-	
TCP M55:	US Default		05 Derautt				Duration Quiesce			on Quieso	
							Quiesce-After-Range			e-After-R	ange
							TCP_NODELAY		TCP_N		
							Concurrent IP Addrs	1	_	rrent IP A	
							Clear-Port-On-Start			Port-On-S	tart
							Linear-IP-Ports	L	Linear	-IP-Ports	
					Endp Name:		idpgen-A		udpgen-B		
						-					

- A. In section 5, on the right side, Endpoint-B (blue), select **UnManaged**. This will gray-out most of the Endpoint-B options.
- B. In section 2, set the Report Timer to slow (10 s). Also, set the Endpoint-B Min IP port: 9999. If you have a *service under test* this port should match, if not, this setting still needs to be present to generate valid traffic.
- c. In section 3, set the Endpoint-B IP to the *system under test* IP address. Our example shows 198.105.254.11.
- D. In section 4, set the send buffer size (Snd Buff Size) to 1MB.
- E. Click \mathbf{OK} at the top to commit the changes.
- 3. Start generating traffic.

ontrol <u>R</u> epo	rting <u>T</u> ea	ar-Off Info	Plugins							
					Stop All	Restart M	lanager		Refresh	HELP
	/			est Group	Resource Mgr			t Mgr Mes	ssages	
Status L	ayer-3	L3 Endps	VoIP/RTP	VoIP/RTP	Endps Armage	ddon Wani	inks Atte	enuators	Collision-D	omains
View	0 - 2	ult (5 s)	▼ Go Te	st Manager ▼ Go	ects for Selected	Displ	ay Cr <u>e</u> at	e <u>M</u> odify	Delete	
		1	1	cross com	ects for selected	rest Manager	1		1	
	1									
Name	Туре	State	Pkt Rx A	Pkt Rx B	Bps Rx A	Bps Rx B	Rx Drop % A	Rx Drop % B	Drop Pkts A	Drop Pk
Name udpgen	-	State Stopped	Pkt Rx A	Pkt Rx B	Bps Rx A 0	Bps Rx B				Drop Pk

- A. In the Layer-3 tab, select the connection udpgen.
- B. Click Start.

Candela Technologies, Inc., 2417 Main Street, Suite 201, Ferndale, WA 98248, USA www.candelatech.com | sales@candelatech.com | +1.360.380.1618