

## WiFi Capacity Test with Layer 4

**Goal**: Use the WiFi Capacity Test plugin to emulate layer 4 traffic from ten virtual stations across an access point and report the results.

Requires 5.2.13 or later. This cookbook will go through setting up a VAP (Virtual Access Point) as an HTTP server, and creating/configuring 10 virtual stations to communicate with the VAP. It will also go through the setup of the WiFi Capacity Test LANforge-GUI plugin to have the virtual stations emulate downloading a file using Layer 4 endpoints in LANforge.

This example uses a LANforge CT523 system but the procedure should also work on a CT524, CT525 or similar system.





1. Create a VAP.

A. Verify the wiphy device used for the VAP is on your preferred channel (this test will use channel 11).

A. In the **Port Mgr** tab of the LANforge Manager, modify the wiphy device that'll be used for the VAP (wiphy0 in this test).

wiphy0 (brent-523) Configure Settings      Port Status Information      Current: LINK-DOWN NONE      Driver Info: Port Type: WIFI-Radio Driver: ath9k() Bus:	
Port Configurables           Standard Configuration         RF Patterns         Firmware	1
Enable General Interface Settings Set IF Down General Interface Settings Down Alias: MAC Addr: 00:0e:8e:4e:59:2f TX Q Len 0 Rpt Timer: medium (8 s) WiFi Settings Max-VIFs: 2048 Max-Stations: 2048 Max-APs: 8 Supports: 802.11abgn Countery, United States (840) Channel/Freq: 11 (2462 Mhz) Antenna: All (3x3) Tx-Power: DEFAULT (-1) RTS: DEFAULT Frag: 2346 Verbose Debug	
Print     View Details     Logs     Probe     Sync     Apply     QK     Ca	ncel

- I. Select your preferred channel here.
- B. Make sure the wiphy device is up.

\$	🛃 LANforge Manager Version(5.3.5) 📃 🔲 🗶													
Control	Report	ting 1	ear-Off	Info Plu	gins									
	Stop All Restart Manager Refresh HELP													
Layer-4	Layer-4 Generic Test Mgr Test Group Resource Mgr Event Log Alerts Port Mgr vAP Stations Messages													
Statu	Status Layer-3 La Endps VoiP/RIP VoiP/RIP Endps Armagedoon WanLinks Attenuators File-10													
	Disp: 192.168.100.206:0.0 Sniff Packets Clear Counters Reset Port Delete													
	Rpt Timer: medium (8 s) Vapply View Details Create Modify Batch Modify													
						All Et	hernet I	nterfaces (Por	ts) for all Re	esources				
Port	Pha	Down		IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.1.0			192.16	8.100.192	0	eth0		775,432	7,586	6	5,325	7,367,102	7,139	5
1.1.1			10.0.0.	2	0	eth1		0	0	0	0	0	0	0
1.1.2		~	0.0.0		0	wiphy0		0	0	0	0	0	0	0
1.1.3			0.0.0.0		0	wiphyl		0	0	0	0	0	0	0
1.1.4		V	0.0.0.0		0	wiphy2		0	0	0	0	0	0	0
1.1.5		V	0.0.0.0		0	wlan0	wiphy0	0	0	0	0	0	0	0
1.1.6		r	0.0.0.0		0	wlan2	wiphy2	0	0	0	0	0	0	0
1.1.7		V	0.0.0.0		0	wan1	wiphyl	0	0	0	0	0	0	0
		1												•
Logged	in to:	brent-	523:400	2 as: Ad	min									

I. If the device is down like in the above screenshot, select it and click the **Admin UP** button (also indicated in the above screenshot).

B. In the **Port Mgr** tab, select a wiphy device (wiphy0 in this test) and click **Create**.

4			Create VLANs	on Port: 1.1.2		
0	○ MAC-VLAN ○ WiFi STA  ④	○ 802.1Q-VLAN ○ Rec ● WiFi VAP ○ WiFi Monit	lirect 🔾 Bridge tor 🔾 WiFi Virtu	⊖ GRE Tunnel al Radio		
0	Shelf:	1	Resource:	1 (brent-523) 💌	Port: 2 (v	wiphy0)
8	VLAN ID:		DHCP-IPv4			
e	Parent MAC:	00:0e:8e:4e:59:2f	DHCP Client ID:	None		
	MAC Addr:	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	IP Address:	10.0.0.1/24	Global IPv6:	AUTO
	Quantity:	1	IP Mask or Bits:		Link IPv6:	AUTO
			Gateway IP:		IPv6 GW:	AUTO
	#1 Redir Name:		#2 Redir Name:			
	STA ID:	0	SSID:	layer4test	•	
	WiFi AP:		Key/Phrase:			
	WPA	WPA2	WEP			
A	Down					
-	Apply	<u>C</u> ancel		Re	ady	

- A. Select the WiFi VAP radio button.
- B. Set Quantity to 1.
- c. Set STA ID to 0.
- D. Set IP Address to 10.0.0.1/24.
- E. Set the **SSID** to **layer4test**.
- F. Click **Apply** and close the create port window.
- C. Configure the VAP.
  - A. Open **Netsmith** from the **Status** tab.

<b></b>	LANforge Manager Ver	sion(5.3.5)									
Control Reporting Tear-Off Info Pl	ugins										
Stop All Restart Manager Refresh HELP											
Layer-4         Generic         Test Group         Resource Mgr         Event Log         Alerts         Port Mgr         VAP Stations         Messages           Status         Layer-3         L3 Endps         VolP/RTP         VolP/RTP Endps         Armageddon         WanLinks         Attenuators         File-10											
License Info	Current Users	1	Test Configuration Databas	se							
Licenses expire in: 53 days.	* Admin from:192.168.100.206 gnuserver from:127.0.0.1	List:	BLANK	Load							
		Name:		Delete							
Current everyonic. 50 days		Load Behavior:	Overwrite 💌	Save							
Support expires in: 55 days.			Download DB	Show Progress							
	Virtual She	fl									
	Resource	1									
	Netsmith										
Logged in to: brent-523:4002 as: Ac	dmin										

- B. In Netsmith, right click and select **New Router**.
- C. Click **OK**.

D. Drag vap0 into the virtual router.



- E. Right click vap0 and select Modify.
- F. Check DHCP.
- G. Change DHCP Range Min to 10.0.0.10
- H. Change DHCP Range Max to 10.0.0.50
- I. Click OK.

<b></b>	Create/M	odify Connection	×
		Interface-Cost:	1
Port 1-A:	5 (vap0)	RIP-Metric:	1
		OSPF Area:	0.0.0.0
Port 1-B: 🗹 Skip	<auto create="" new="" port=""></auto>	VRRP IP:	0.0.0/24
WanLink: 🗹 Skip	<auto create="" new="" wanlink=""></auto>	VRRP ID:	1
Port 2-B: Skip	<auto create="" new="" port=""></auto>	VRRP Priority:	100
		VRRP Interval:	1
Port 2-A: 🗹 Skip	<auto create="" new="" port=""></auto>	Next-Hop:	0.0.0.0
DHCP Lease Time:	43200	Subnets (a.b.c.d/xx):	
DHCP DNS:	0.0.0.0		
DHCP Range Min:	10.0.0.10	]	
DHCP Range Max:	10.0.0.50	] [	
DHCP Domain:			
DHCPv6 DNS:		Next-Hop-IPv6:	
DHCPv6 Range Min:		IPv6 Subnets (aaa::0/xx):	
DHCPv6 Range Max:			
DHCPd Config File:			
NAT 🗹 DHCP	DHCPv6 Custom DH	CP VRRP Cand-RP	JI J

J. Click **Apply** in Netsmith then close the window.

- 2. Create 10 virtual stations.
  - A. Verify the wiphy device used for the stations (wiphy 2 in this test) is on the **AUTO** channel.

\$		wiphy2 (brent-523) Configure Set	ttings	
		Port Status Information		1
		Current: LINK-DOWN NONE		
		Driver Info: Port Type: WIFI-Radio Driver	: ath9k() Bus:	
		Port Configurables		
	Standard Configura	ion [ RF Patterns   Firmware		
	Enable	General Interfac	e Settings	
	Set IF Down	Down		
	Set PROMISC	Alias:	J	
		MAC Addr: 00:0e:8e:56:bb:43	TX Q Len 0	
		Rpt Timer: medium (8 s) 🔻		
		WiFi Setti	ngs	
		Max-VIFs: 2048 Max-Stations: 2048 Max	-APs: 8 Supports: 802.11abgn	
		Country: United States (040)	-	
		Channel Freq: AUTO (-1 Mhz)	• )	
		Antenna: Air (3x3)	Tx-Power: DEFAULT (-1)	-
		RTS: DEFAULT	Frag: 2346	
		Verbose Debug		
Pr	int <u>V</u> iew Details	Logs <u>P</u> robe Sync	<u>Apply</u>	<u>C</u> ancel

## B. Make sure wiphy2 is up.

\$	🛃 LANforge Manager Version(5.3.5)													
Control	<u>Control Reporting Tear-Off</u> Info <u>P</u> lugins													
								Stor	D All	Restart	Manager		Refresh	HELP
Layer-4         Generic         Test Mgr         Test Group         Resource Mgr         Event Log         Alerts         Port Mgr         vAP Stations         Messages           Status         Layer-3         L3 Endps         VolP/RTP         VolP/RTP         Armagedon         WanLinks         Attenuators         File-IO														
Disp: 192.168.100.206:0.0 Sniff Packets La Clear Counters Reset Port Delete														
	Rpt Ti	mer:	nedium	(8 s) 🔻		Apply		J ⊻ie	w Details	Cre	ate	Mo <u>d</u> ify	<u>B</u> atch Modi	fy
			2			All Et	thernet I	nterfaces (Por	ts) for all Re	esources				
Port	Pha	Down		IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.1.0			192.16	8.100.184	0	eth0		36,547,296	166,113	11	10,971	188,474,567	176,484	14
1.1.1			10.0.0.	2	0	eth1		0	0	0	0	0	0	0
1.1.2			0.0.0.0		0	wiphy0		116,015,471	573,229	67	121,375	725,466,970	482,062	0
1.1.3		1	0.0.0.0		0	wiphyl		0	0	0	0	0	0	0
1.1.4			0.0.0.0	l	0	wiphy2		840,600,879	788,150	32	58,540	5,829,035	66,934	0
1.1.5		Y	10.0.0.	1	0	vap0	wiphy0	4,317,546	64,881	0	2	723,896,010	478,186	0
1	1.1.3       Image: Constraint of the second se													
														,
Logged	in to:	brent-	523:400	2 as: Adr	nin									

C. In the **Port Mgr** tab, select a wiphy device (wiphy2 in this test) and click **Create**.

4			Create VLANs	on Port: 1.1.4		
0	<ul><li>○ MAC-VLAN</li><li>● WiFi STA</li></ul>	○ 802.1Q-VLAN ○ Rec ○ WiFi VAP ○ WiFi Monit	lirect O Bridge tor O WiFi Virtu	⊖ GRE Tunnel al Radio		
0	Shelf:	1	Resource:	1 (brent - 523) 💌	Port: 4 (	wiphy2)
8	VLAN ID:		DHCP-IPv4			
e	Parent MAC:	00:0e:8e:56:bb:43	DHCP Client ID:	None 💌		
	MAC Addr:	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	IP Address:		Global IPv6:	AUTO
	Quantity:	10	IP Mask or Bits:		Link IPv6:	AUTO
			Gateway IP:		IPv6 GW:	AUTO
	#1 Redir Name:		#2 Redir Name:			
	STA ID:	0	SSID:	layer4test	-	
	WIFI AP:		Key/Phrase:			
	WPA	WPA2	WEP			
4	Down					
-	Apply	<u>C</u> ancel		R	eady	

- A. Select the **WiFi STA** radio button.
- B. Set Quantity to 10.
- c. Set STA ID to 0.
- D. Select DHCP-IPv4.
- E. Set the **SSID** to **layer4test**.
- F. Click **Apply** and close the create port window.
- D. Make sure the 10 staX ports get IPs.

🛃 LANforge Manager Version(5.3.5) 🗕 🗖 🗙													
<u>C</u> ontrol	Repor	ting :	<u>T</u> ear-Off <u>I</u> nfo <u>P</u> lu	igins									
							Sto	p All	Restart	Manager		Refresh	HELP
Layer-4	Layer-4 Generic Lest Mgr Lest Group Resource Mgr Event Log Alerts Port Mgr VAP Stations Messages												
Statu	6	Layer-	-3 L3 Endps		VoIP/RTP	Vo	P/RTP Endps	Arma	ageddon	Wanl	inks Att	enuators	File-IO
	Disp:     192.168.100.206:0.0     Sniff Packets     1     Clear Counters     Reset Port     Delete												
	Rpt Ti	imer:	nedium (8 s) 🗖	-	Apply		Į <u>V</u> ie	w Details	Cr <u>e</u>	ate	Mo <u>d</u> ify	Batch Modif	iy 🛛
				100	All E	thernet Ir	terfaces (Por	ts) for all Re	esources				
Port	Pha	Dowr	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.1.00			192.168.100.192	20	eth0		46.812.745	95.852	8	7.049	64.012.518	76,741	14
1.1.01			0.0.0.0	0	eth1	+ +	0	0	0	0	0	0	0
1.1.02			0.0.0.0	0	wiphy0		85,790,508	400,112	83	144,894	237,614	1,490	0
1.1.03		~	0.0.0.0	0	wiphy1		0	0	0	0	0	0	0
1.1.04			0.0.0.0	0	wiphy2		2,315,229	10,998	78	133,398	19,313	214	0
1.1.05			10.0.0.1	0	vap0	wiphy0	11,030	73	0	0	27,134	140	0
1.1.06			10.0.0.13	0	sta0	wiphy2	9,944	64	0	0	1,622	9	0
1.1.07			10.0.0.16	0	stal	wiphy2	10,622	71	0	0	1,198	7	0
1.1.08			10.0.0.14	0	sta2	wiphy2	10,532	70	0	0	1,198	7	0
1.1.09			10.0.0.10	0	sta3	wiphy2	10,532	70	0	0	1,198	7	0
1.1.10			10.0.0.17	0	sta4	wiphy2	10,364	68	0	0	1,296	8	0
1.1.11			10.0.0.19	0	sta5	wiphy2	10,694	69	0	0	1,560	8	0
1.1.12			10.0.0.12	0	sta6	wiphy2	10,352	68	0	0	1,198	7	0
1.1.13			10.0.0.15	0	sta7	wiphy2	10,172	66	0	0	1,198	7	0
1.1.14			10.0.0.18	0	sta8	wiphy2	10,082	65	0	0	1,198	7	0
1.1.15			10.0.0.11	0	sta9	wiphy2	9,914	63	0	0	1,296	8	0
•		11											•
Logaed	in to:	brent-	523:4002 as: Ad	min									

3. Create a file for the layer 4 endpoint to use.

A. In a terminal on the LANforge system, run the below command to generate a 10MB file in **/home/lanforge**.

**Note:** The smaller a file is, the harder it is to reach higher rates. Therefore it is recommended to use a larger file for these tests.

dd if=/dev/urandom of=/home/lanforge/large-file.bin bs=1k count=10240



B. For the webserver to serve the file we created, it needs to know where to find it. Run the below command in a terminal on the LANforge system to link the file.

Mate Terminal 

 File Edit View Search Terminal Help

 [lanforge@brent-523 /]\$ sudo ln -s /home/lanforge/large-file.bin /usr/local/lanforge/nginx/html

 [sudo] password for lanforge:

 [lanforge@brent-523 /]\$

ln -s /home/lanforge/large-file.bin /usr/local/lanforge/nginx/html

- A. Before starting HTTP on vap0, the Apache service may need to be disabled.
  - A. Stop and disable httpd (Apache) in the LANforge terminal with the below commands.
    - sudo systemctl stop httpd.service
      sudo systemctl disable httpd.service
    - sudo systemctl daemon-reload

Mate Terminal 📀 🔕 🗴
File Edit View Search Terminal Help
<pre>[lanforge@brent-523 /]\$ sudo systemctl stop httpd.service [sudo] password for lanforge: [lanforge@brent-523 /]\$ [lanforge@brent-523 /]\$ [lanforge@brent-523 /]\$ sudo systemctl disable httpd.service Removed symlink /etc/systemd/system/multi-user.target.wants/httpd.service. [lanforge@brent-523 /]\$ [lanforge@brent-523 /]\$ [lanforge@brent-523 /]\$ sudo systemctl daemon-reload [lanforge@brent-523 /]\$</pre>

B. Modify **vap0** in the LANforge **Port Mgr** tab.

*		vap0 (bre	ent-523) Configure	e Settings								
	Port Status Information Current: LINK-UP GRO NONE Driver Info: Port Type: WIFI-AP Parent: wiphy0											
	Port Configurables											
	Standard Configuration Advanced Configuration Misc Configuration Custom WiFi											
	Enable		General In	terface Settings	1							
	Set IF Down	Down	Aux-Mgt									
	Set MAC	DHCP-IPv6	DHCP Release	DHCP Vendor ID:	None 💌							
	Set TX Q Len	DHCP-IPv4	Secondary-IPs	DHCP Client ID:	None							
	Set Offload	DNS Servers:	BLANK	Peer IP:	NA							
	Set PROMISC	IP Address:	10.0.0.1	Global IPv6:	AUTO							
		IP Mask:	255.255.255.0	Link IPv6:	AUTO							
		Gateway IP:	0.0.0.0	IPv6 GW:	AUTO							
/	Services	Alias:		MTU:	1500							
(	HTTP	MAC Addr:	00:0e:8e:48:1f:2f	TX Q Len	1000							
	FTP	Rpt Timer:	medium (8 s) 🔻	WiFi Bridge:	NONE							
			WiF	i Settings								
	Low Level	SSID: layer	4test	AP:	DEFAULT							
		Key/Phrase:		Mode:	(802.11abqn-AC) 💌							
	TS0 Enabled	Freq/Channel: 2462	2/11	Rate:	OS Default 💌							
	UFO Enabled	DTIM-Period: 2		Max-STA:	2007							
	GS0 Enabled	Beacon: 240										
	LRO Enabled	WPA WPA2	OSEN WEP	Disable HT40 🔲 🛛	Disable HT80 🔲 Disable SGI							
	GR0 Enabled	Verbose Debug										
Print	<u>V</u> iew Details	Logs Prot	Display Sca	n Sync		<u>C</u> ancel						

I. Enable the **HTTP** checkbox.

II. Click **OK**.

A. In the Layer-4 tab, click **Create**.

4		Create/Modi	fy L4Endpoint				
Name:	l4-http	Rpt Timer:	default (5 s)	🔻 Те	est Manager:	default_tm	-
Shelf: 1 🔻 F	Resource: 1 (brent-523)	▼ Port: 6 (	sta0)	▼ IP	Addr:	AUTO	•
Endp Name:	0	URLs per 10m:	100	Ma	ax Speed:	Infinite	-
Quiesce:	3 (3 sec) 💌	URL Timeout:	10000		NS Cache Timeout:	60	•
TFTP Block Size:	Default (512 B) 💌						
Proxy Port:		Proxy Server:					
Proxy Auth:							
Proxy Auth Types:	🔲 Basic 🔲 Digest 🔲 NTLM	1					
HTTP Compression:	🗌 Gzip 🔲 Deflate						
HTTP Auth Types:	🗌 Basic 📃 Digest 📃 GSS	-Negotiate 🔲 N	TLM				
SSL Cert:	ca-bundle.crt						
SMTP-From:							
Agent/RCPT-TO:							
UL/DL:	Download 💌	₽ IPv4	IPv6				
URL:	http://10.0.0.1/large-file.bir	1					
Source/Dest File:	/dev/null						
Get-URLs-From-F	ile 🗌 Authenticate Server	Use-Proxy	Allow-Reuse		ow-Cache 📃 Ena	ble 4XX 🔲 Show	Headers
Bind DNS	TP PASV I FTP EPSV						
	Apply	<u>0</u> K	Batch-Create		<u>C</u> ancel		

- A. Set the Name to l4-http
- B. Set the **Port** to **sta0**.
- c. The URL will point to the VAP's IP: http://10.0.0.1/large-file.bin

**Note:** This is where you can specify an IP of an AP you wish to test. LANforge also supports other layer 4 protocols, for more information you can view a tooltip by hovering over the URL text box.

- D. Set the **Source/Dest File** to **/dev/null**
- E. Click **OK**.
- 6. Set up and run a WiFi Capacity test.

A. Select the 10 created stations, then open WiFi Capacity Test from the Plugins menu.

🛃 LANforge Manager Version(5.3.5) 🗕 🗆 🗙									
<u>Control</u> <u>Reporting</u> <u>Tear-Off</u> Info	Plugins								1200 Co.
	Groovy Scripting		Sto	D All	Restart	Manager		Refresh	HELP
	Attenuator Motion Test								
Layer-4 Generic Test Mgr	Test Mgr Create Simple VolP		r   Event Log   Alerts   Port Mgr   vAP Stations   Messages						
🎽 Status 🎽 Layer-3 🎽 L3 En	Check Updates		olP/RTP Endps   Armageddon   WanLinks   Attenuators   File						File-IO
Disp: 192.168.100.206:0	Enforce Fairness		1 Clea	r Counters	Reset	Port	Delete		
Port Bringup Test								_	
Rpt Timer: medium (8 s	Port Monitor		Į <u>V</u> ie	w Details	Cr <u>e</u>	ate	Mo <u>d</u> ify	Batch Modif	У
	Port Reset Test		Interfaces (Por	ts) for all Re	esources				
	Table Report Builde	r	t		_				
Port Pha Down IP	VoIP Reporting		RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps IX
1.1.00 192.168.100	WiFi Capacity Test		58.089.638	230.816	23	15.746	747,416,246	557,764	88 1.
1.1.01 0.0.0.0	WiFi Mobility		0	0	0	0	0	0	0
1.1.02 0.0.0.0	0 wiphy0		172,821,133	809,344	83	142,230	501,540	3,102	0
1.1.03 🔲 🗹 0.0.0.0	0 wiphy1		0	0	0	0	0	0	0
1.1.04 0.0.0.0	0 wiphy2		75,996,943	361,512	68	114,976	77,518	2,053	0
1.1.05	0 vap0	wiphy(	24,426	281	0	0	51,242	233	0
1.1.06 10.0.0.13	0 sta0	wiphy.	2 20,638	111	0	0	3,396	30	0
1.1.07 10.0.0.16	0 stal	wiphy.	2 20,974	117	0	0	2,972	28	0
1.1.08 10.0.0.14	0 sta2	wiphy.	2 20,458	113	0	0	3,096	30	0
1.1.09	0 sta3	wiphy.	2 21,506	117	0	0	2,828	26	0
1.1.10 10.0.0.17	0 sta4	wiphy:	2 20,374	113	0	0	3,070	29	0
1.1.11 10.0.0.19	0 sta5	wiphy.	2 20,704	114	0	0	3,334	29	0
1.1.12 10.0.0.12	0 sta6	wiphy:	2 20,984	114	0	0	2,828	26	0
1.1.13 _ 10.0.0.15	0 sta7	wiphy:	2 20,908	114	0	0	3,034	29	0
1.1.14 🗌 🗌 10.0.0.18	0 sta8	wiphy?	2 20,050	109	0	0	3,034	29	0
1.1.15	0 sta9	wiphy	2 20,888	110	0	0	2,926	27	0
									Þ
Logged in to: brent-523:4002 as: Admin									

B. Go to the Settings tab.

📓 WiFi Capacity Test 📃								
Select Ports Settings PDU Mix Settings Advanced Se	ttings Select Output Notes							
Station Increment:	Single (1) ▼ [?]							
Loop Iterations:	Single (1)							
Duration:	60000							
Protocol:	Layer-4							
Layer-4 Endpoint:	I4-http							
Payload Size:	AUTO							
Total Rate:	10M (10 Mbps)							
Total Upload Rate: 👻	Zero (0 bps)							
Percentage TCP Rate:	10% (10%)							
<u>Start</u> <u>Close</u>								

- A. Set Station Increment to 1.
- B. Set the Protocol to **Layer-4**. **Note:** This should automatically be set if you first select a Layer-4 Endpoint.
- c. Select your Layer-4 Endpoint (**l4-http** in this test). The capacity test will use this as a template for each of the ten stations.
- D. **Total Rate** can stay at 10Mbps. **Note:** This rate can represent either upload or download traffic depending on how you have your layer 4 endpoint configured.

C. Run the Capacity test by clicking Start.



A. The test will now make a copy of the selected layer-4 endpoint for each station. Note: You may notice that URLs per 10m is set to a high rate, this is to ensure the maximum amount of URLs are processed as WiFi Capacity adjusts the Max Speed.

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