

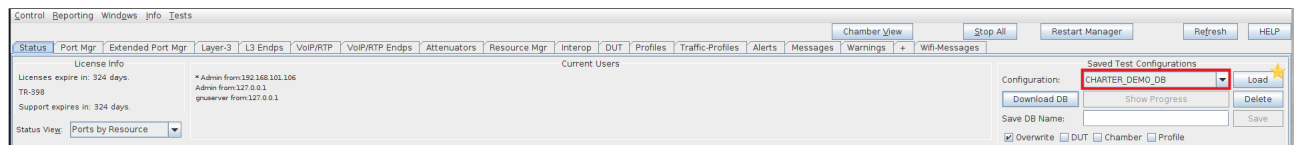
## Mobile STA Mesh Test - TPUT/ROAM

Goal: Perform a Mobile Station Mesh Test

Demonstrate that a station with the Interop app install can roam in the test environment. Requires LANforge 5.4.6.

(February 10, 2023) Performed on: <https://candelatech.atlassian.net/#!/cp/f5CSRysM> DUT: Samsung Galaxy S7

### Setting Up for the Test



The Charter-Demo database was loaded, since this is the most recently saved stable state for the test.

First, ensure the DUT is on. \*NOTE: This DUT has already been configured with the Interop app installed; as well as username/Mgmt IP set, and automatic WiFi connectivity to the test's generated SSIDs.

Control Reporting Windows Info Tests								
<div> <div>Resource Mgr</div> <div>Interop</div> <div>vAP Stations</div> <div>DUT</div> <div>Profiles</div> <div>Traffic-Profiles</div> <div>Alerts</div> <div>Messages</div> <div>Warnings</div> <div>+</div> <div>Wifi-Messages</div> </div>								
<div> <div>Status</div> <div>Port Mgr</div> <div>Extended Port Mgr</div> <div>Layer-3</div> <div>L3 Endps</div> <div>VoIP/RTP</div> <div>VoIP/RTP Endps</div> <div>Attenuators</div> <div>Generic</div> </div>								
<div> <div>Start +</div> <div>Stop -</div> <div>Uninstall</div> <div>Discover</div> <div>Modify</div> <div>Batch Modify</div> <div>Delete</div> </div>								
Android Devices								
Name	phantom	adb_username	sdk_release	sdk_version	product	model	device	app_
1.1.*	<input checked="" type="checkbox"/>			0				
1.1.26171FDF60053X	<input checked="" type="checkbox"/>	mobStaPhone	12	32	oriole	Pixel_6	oriole	
1.1.28102001e9217ece	<input checked="" type="checkbox"/>	mobStaPhone	10	29	crownglteue	SM_N960U1	crownglteue	89
1.1.7c068c17	<input checked="" type="checkbox"/>	mobStaPhone	8.0.0	26	heroqlteue	SM_G930U	heroqlteue	42
1.1.KEBE2021070849	<input checked="" type="checkbox"/>	mobStaPhone	6.0	23	Mate_10PLUS	Mate_10	Mate_10PLUS	81
1.1.RF8M22KJ8BK	<input checked="" type="checkbox"/>	mobStaPhone	11	30	beyond1qlteue	SM_G973U1	beyond1q	109
1.1.ddb80157	<input checked="" type="checkbox"/>	mobStaPhone	8.0.0	26	heroqlteue	SM_G930U	heroqlteue	207
1.2.*	<input checked="" type="checkbox"/>			0				
1.3.*	<input checked="" type="checkbox"/>			0				

My device, "ddb80157" is on and recognized by forge. If yours isn't recognized, ensure that the device is on and USB debugging is enabled. Checking ADB connectivity can be troubleshooted from the command line on your LANforge machine.

You will want to view the DUT's screen remotely in order to monitor traffic stats. To do this, select 'Batch Modify' from the Interop tab.

LANforge Manager IP:	NA	Encryption:	NA	Apply	
SSID:	NA	Password:	NA	Start	Stop
EAP Method:	<Custom>	EAP Identity:		EAP Password:	
Display:	192.168.100.115:1	Screen Size:	0.4	<input checked="" type="checkbox"/> Use scrcpy	Launch GUI
Log Duration:	5-min (5 min)			Show Logs	
APK Filename:	interop-5.4.6.apk	<input checked="" type="checkbox"/> Install with -g		Install	Uninstall
				Enable WiFi	Disable WiFi
					Cancel

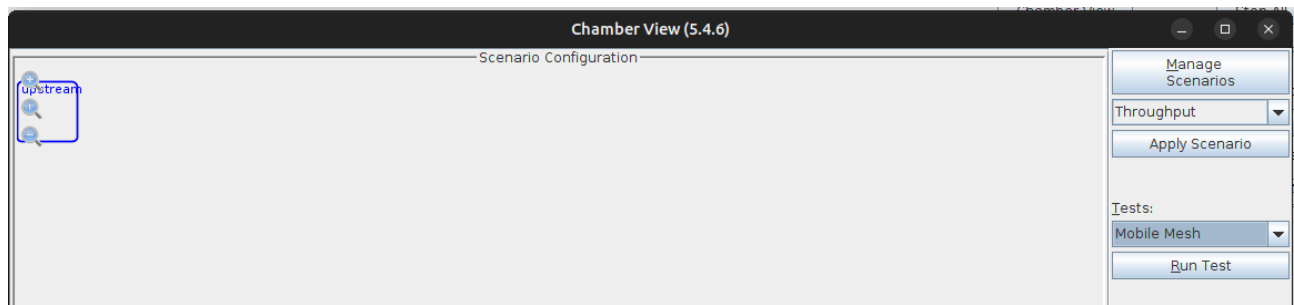
Fill in the IP of the display that you want the screen to appear on. This is likely the IP of your resource #1 LANforge machine.

In a few seconds, a window mirroring your device's screen should appear. Open the Interop app.



Alright, the DUT is ready for testing. Open Chamber View and select the Mobile Mesh test from the 'Tests'

dropdown. Then 'Run Test'.



Below are some example test configurations, along with their generated reports.

## Throughput Example:

(Bridged Scenario) (1 - 2.4GHz, 1 - 5GHz vAP per chamber) (UDP UL/DL) (Throughput)

Settings | Advanced Configuration | Report Configuration

Upstream Port: 1.2.8 br0100 ☒ Auto-Generate Upstream Port

Internet-Facing Port: 1.2.0 eth0 STA DUT Username: mobStaPhone

Internet-Facing DUT: upstream Selected STA DUT: Galaxy-S7 CONNECTION

AP Root Chamber	Node 1 Chamber	Node 2 Chamber	Node 3 Chamber	STA Chamber
RootAPCbr	Node1Cbr	Node2Cbr		MobileStationsCbr
WAN Port: 1.2.1 eth1	WAN Port: 1.3.1 eth1	WAN Port: 1.4.1 eth1	WAN Port: <Custom>	WAN Port: 1.1.1 eth1 <input checked="" type="checkbox"/> Bind STA bands
2.4Ghz Radios: 1.2.2 wiphy0	2.4Ghz Radios: 1.3.2 wiphy0	2.4Ghz Radios: 1.4.2 wiphy0	2.4Ghz Radios:	2.4Ghz Radios: 1.1.2 wiphy0
5Ghz Radios: 1.2.4 wiphy2	5Ghz Radios: 1.3.4 wiphy2	5Ghz Radios: 1.4.4 wiphy2	5Ghz Radios:	5Ghz Radios: 1.1.4 wiphy2

AP Chamber Position: Current Position  
ABC  
A-BC  
AB-C  
A-B-C  
A-B-C  
A-B-C  
A-B-C  
BAC  
B-AC  
BA-C  
B-A-C  
B-A-C  
B-A-C  
B-A-C  
ABCD

STA Chamber Position: Current Position  
Random  
Close Root AP  
Close Node 1  
Close Node 2  
Close Node 3  
Medium Root AP  
Medium Node 1  
Medium Node 2  
Medium Node 3  
Far Root AP  
Far Node 1  
Far Node 2  
Far Node 3

Roam Path  
Orbit Current  
Orbit Near  
Orbit Middle  
Orbit Far  
Random Near  
Random Middle  
Random Far  
South-East  
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Traffic Type  
UDP  
TCP  
ICMP  
AP Mesh Mode  
bridged-AP  
bridged-AP-11r  
routed-AP

Traffic Direction  
Download  
Upload  
Both

Select Tests  
Calibrate AP Root Cbr  
Calibrate Node 1 Cbr  
Calibrate Node 2 Cbr  
Calibrate Node 3 Cbr  
Calibrate STA Cbr  
Throughput  
Roam

Traffic Combination  
☐ Add STA Traffic  
STA  
Root  
N1  
N2  
N3  
Root+N1  
Root+N2  
N1+N2  
Root+N1+N2  
Root+N1+N3  
Root+N2+N3  
N2+N3  
N1+N2+N3  
Root+N1+N2+N3

Start Skip ☐ Another Iteration ☐ Pause Cancel

Show Config	Import Config		
Save	DEFAULT		
Load	DEFAULT ▼		
Delete	DEFAULT ▼		
IP ToS:	Best Effort (0) ▼	Multi-Conn:	One (1) ▼
<input checked="" type="checkbox"/> Skip DHCP on Reconnect	<input checked="" type="checkbox"/> Skip Scenario Rebuild	<input checked="" type="checkbox"/> Auto-Helper	
<input type="checkbox"/> Skip 2.4Ghz Tests	<input type="checkbox"/> Skip 5Ghz Tests		
<input type="checkbox"/> Show TX MCS Graph	<input type="checkbox"/> Show RX MCS Graph		
<input checked="" type="checkbox"/> Precise TPUT Calculation			
Duration:	1-min (1 min) ▼		
Tx Rate:	Mid DSL (768 Kbps) ▼	Rx Rate:	2000000 (2 Mbps) ▼
Chamber Path Velocity:	Medium (100) ▼	Path Loops:	1 (1) ▼
Background Scan Module:	Disabled ▼	Short Interval:	30 ▼
Long Interval:	300 ▼	RSSI Threshold:	-60 ▼

Test running...

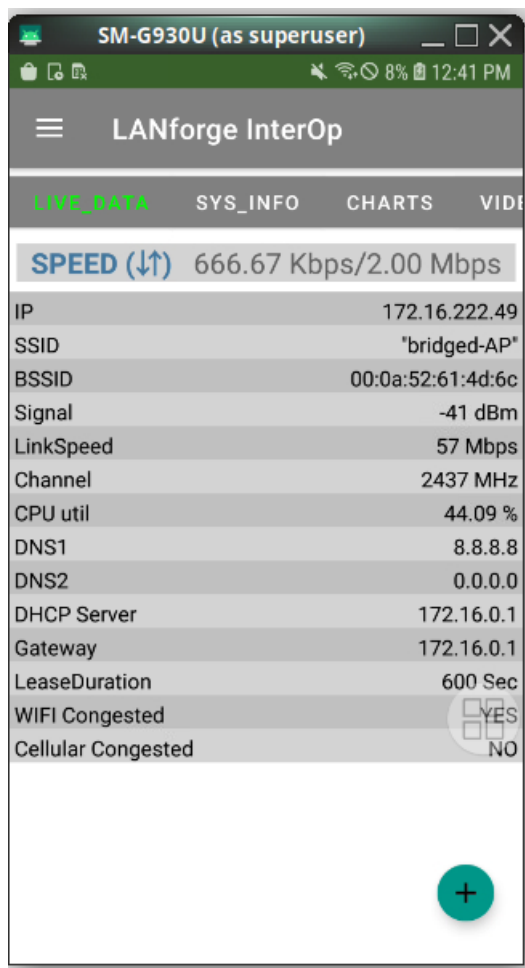
Stop

Skip

☐ Another Iteration

☐ Pause

Cancel



## Roam Example:

(Bridged Scenario) (1 - 2.4GHz, 1 - 5GHz vAP per chamber) (UDP UL/DL) (Roam)

Settings	Advanced Configuration	Report Configuration	Report 1	Report-2
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Upstream Port: 1.2.8 br0100

Internet-Facing Port: 1.2.0 eth0

Internet-Facing DUT: upstream

Auto-Generate Upstream Port

STA DUT Username: mobStaPhone

Selected STA DUT: Galaxy-S7 CONNECTION

AP Root Chamber	Node 1 Chamber	Node 2 Chamber	Node 3 Chamber	STA Chamber
RootAPCbr	Node1Cbr	Node2Cbr		MobileStationsCbr
WAN Port	WAN Port	WAN Port	WAN Port	WAN Port
1.2.1 eth1	1.3.1 eth1	1.4.1 eth1	<Custom>	1.13.2 p2p0
2.4Ghz Radios	2.4Ghz Radios	2.4Ghz Radios	2.4Ghz Radios	
1.2.2 wiphy0	1.3.2 wiphy0	1.4.2 wiphy0		1.1.2 wiphy0
5Ghz Radios	5Ghz Radios	5Ghz Radios	5Ghz Radios	5Ghz Radios
1.2.4 wiphy2	1.3.4 wiphy2	1.4.4 wiphy2		1.1.4 wiphy2

AP Chamber Position

Current Position

ABC

A-BC

AB-C

A-B-C

A--B-C

A-B--C

BAC

B-AC

BA-C

B-A-C

B--A-C

B-A--C

ABCD

STA Chamber Position

Current Position

Random

Close Root AP

Close Node 1

Close Node 2

Close Node 3

Medium Root AP

Medium Node 1

Medium Node 2

Medium Node 3

Far Root AP

Far Node 1

Far Node 2

Far Node 3

Roam Path

Orbit Current

Orbit Near

Orbit Middle

Orbit Far

Random Near

Random Middle

Random Far

South-East

-----

Traffic Type

UDP

TCP

ICMP

AP Mesh Mode

bridged-AP

bridged-AP-11r

routed-AP

Traffic Direction

Download

Upload

Both

Select Tests

Calibrate AP Root Cbr

Calibrate Node 1 Cbr

Calibrate Node 2 Cbr

Calibrate Node 3 Cbr

Calibrate STA Cbr

Throughput

Roam

Traffic Combination

Add STA Traffic

STA

Root

N1

N2

N3

Root+N1

Root+N2

N1+N2

Root+N1+N2

Root+N1+N3

Root+N2+N3

N2+N3

N1+N2+N3

Root+N1+N2+N3

Test is complete.

Start

Skip

Another Iteration

Pause

Cancel

Settings	Advanced Configuration	Report Configuration	Report 1	Report-2
----------	------------------------	----------------------	----------	----------

Show Config

Import Config

Save

Load

Delete

DEFAULT

DEFAULT

DEFAULT

Auto-Helper

IP ToS: Best Effort (0)

Multi-Conn: One (1)

Skip DHCP on Reconnect

Skip Scenario Rebuild

Skip 2.4Ghz Tests

Skip 5Ghz Tests

Show TX MCS Graph

Show RX MCS Graph

Precise TPUT Calculation

Duration: 1-min (1 min)

Tx Rate: Mid DSL (768 Kbps)

Rx Rate: 2000000 (2 Mbps)

Chamber Path Velocity: Medium (100)

Path Loops: 1 (1)

Background Scan Module: Disabled

Short Interval: 30

Long Interval: 300

RSSI Threshold: -60

Test is complete.

Start

Skip

Another Iteration

Pause

Cancel

