

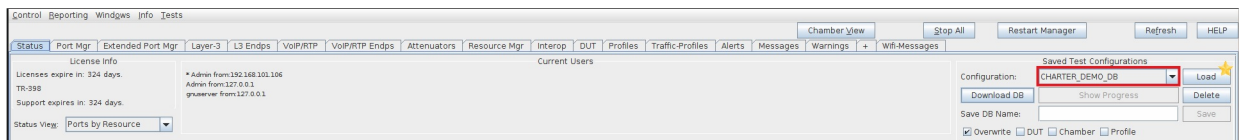
Mobile STA Mesh Test - TPUT/ROAM

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.

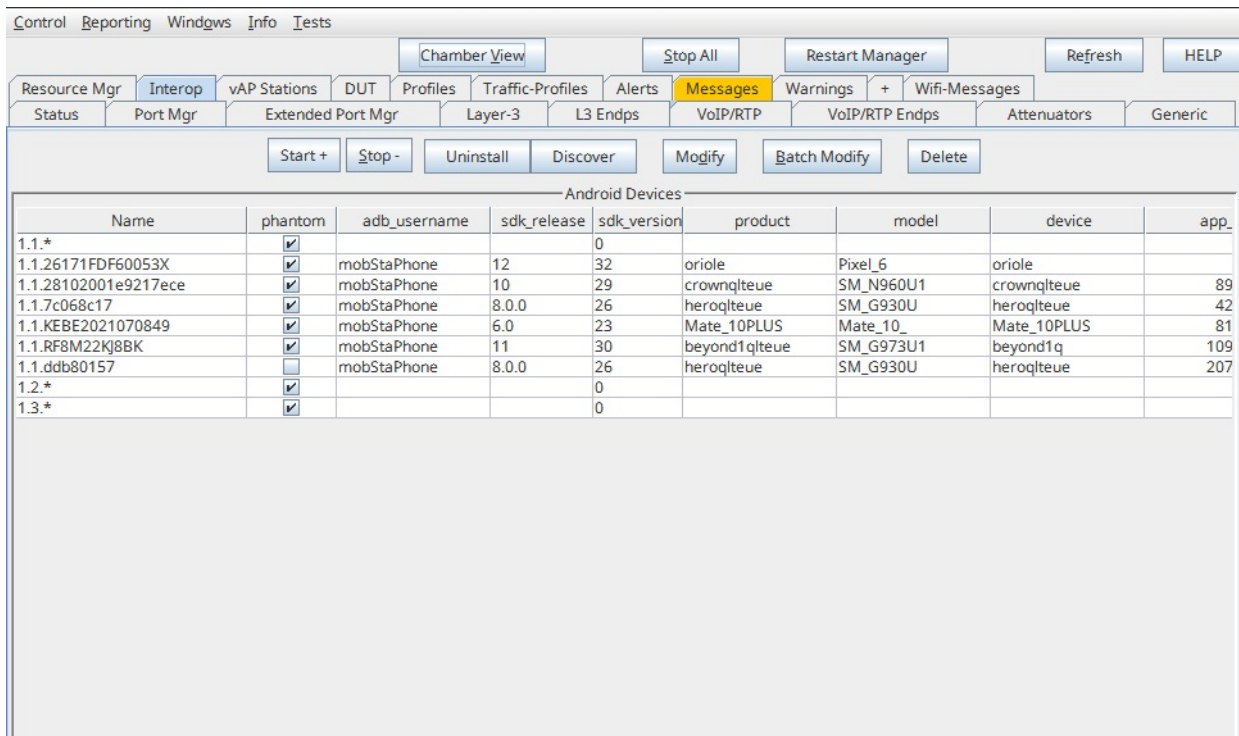
(February 10, 2023) Performed on: <https://candelatech.atlassian.net/l/cp/f5CSRysM> DUT: Samsung Galaxy S7

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.



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.

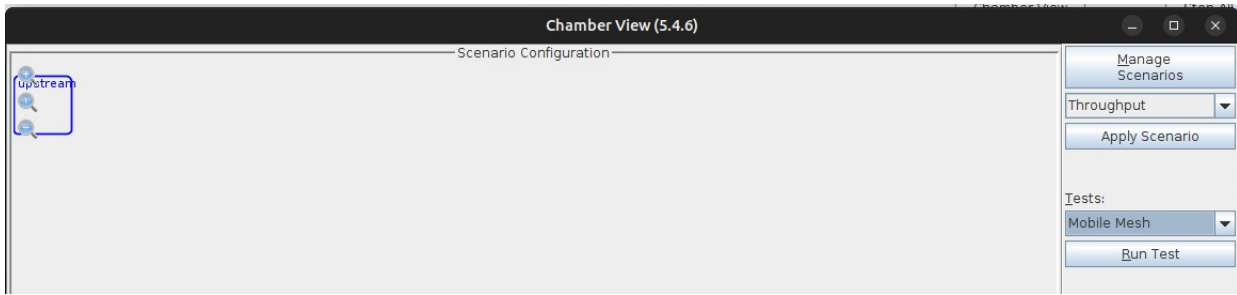
The screenshot shows the LANforge Manager configuration window for Interop. The 'Display' field is set to '192.168.100.115:1' and the 'Launch GUI' button is highlighted with a red box. Other fields include LANforge Manager IP: NA, Encryption: NA, SSID: NA, Password: NA, EAP Method: <Custom>, EAP Identity: (empty), EAP Password: (empty), Screen Size: 0.4, Use scrpcy: checked, Log Duration: 5-min (5 min), Show Logs, APK Filename: interop-5.4.6.apk, Install with -g: checked, Install, Uninstall, Enable WiFi, Disable WiFi, and 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.



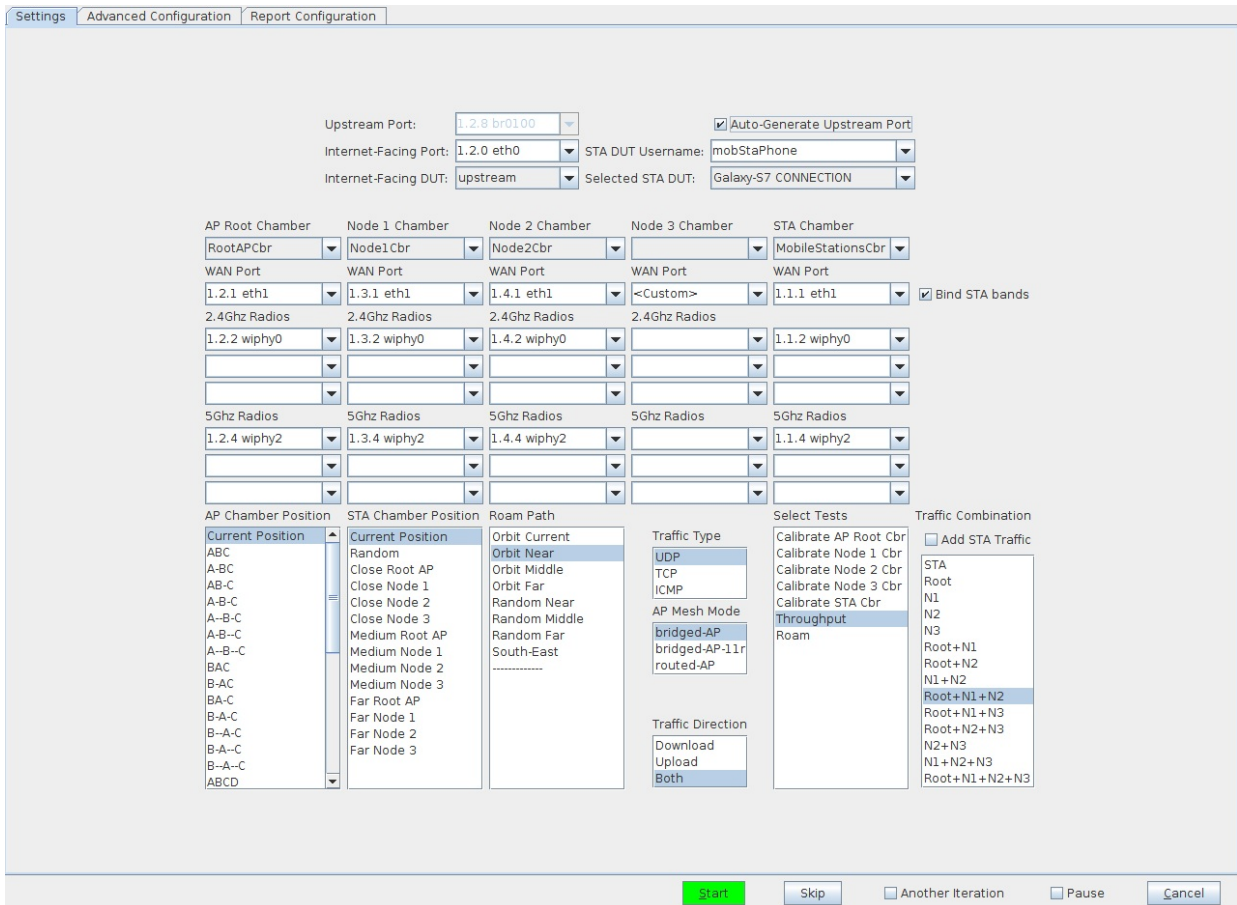
Alright, the DUT is ready for testing. Open Chamber View and select the Mobile Mesh test from the 'Tests' dropdown. Then 'Run Test'.



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 | Report 1 x

Show Config

Import Config

Save

DEFAULT

Load

DEFAULT ▼

Delete

DEFAULT ▼

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 running...

Stop

Skip

Another Iteration

Pause

Cancel

SM-G930U (as superuser)

8% 12:41 PM

LANforge InterOp

LIVE_DATA SYS_INFO CHARTS VIDEO

SPEED (↓↑) 666.67 Kbps/2.00 Mbps

IP	172.16.222.49
SSID	"bridged-AP"
BSSID	00:0a:52:61:4d:6c
Signal	-41 dBm
LinkSpeed	57 Mbps
Channel	2437 MHz
CPU util	44.09 %
DNS1	8.8.8.8
DNS2	0.0.0.0
DHCP Server	172.16.0.1
Gateway	172.16.0.1
LeaseDuration	600 Sec
WIFI Congested	YES
Cellular Congested	NO

+



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

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	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 <input checked="" type="checkbox"/> Bind STA bands
2.4Ghz Radios	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	STA Chamber Position	Roam Path	Traffic Type	Select Tests	Traffic Combination
Current Position	Current Position	Orbit Current	UDP	Calibrate AP Root Cbr	<input type="checkbox"/> Add STA Traffic
ABC	Random	Orbit Near	TCP	Calibrate Node 1 Cbr	STA
A-B-C	Close Root AP	Orbit Middle	ICMP	Calibrate Node 2 Cbr	Root
AB-C	Close Node 1	Orbit Far	AP Mesh Mode	Calibrate Node 3 Cbr	N1
A-B-C	Close Node 2	Random Near	bridged-AP	Calibrate STA Cbr	N2
A--B-C	Close Node 3	Random Middle	bridged-AP-11r	Throughput	N3
A-B--C	Medium Root AP	Random Far	routed-AP	Roam	Root+N1
A--B--C	Medium Node 1	South-East			Root+N2
BAC	Medium Node 2				N1+N2
B-A-C	Medium Node 3				Root+N1+N2
BA-C	Far Root AP				Root+N1+N3
B-A-C	Far Node 1				Root+N2+N3
B--A-C	Far Node 2				N2+N3
B-A--C	Far Node 3				N1+N2+N3
ABCD					Root+N1+N2+N3

Traffic Direction: Download, Upload, Both

Test is complete. Another Iteration Pause

Settings **Advanced Configuration** Report Configuration Report 1 ✖ Report-2 1 ✖

Show Config Import Config

Save DEFAULT

Load DEFAULT

Delete DEFAULT

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

Auto-Helper

Test is complete. **Start** Skip Another Iteration Pause Cancel

