

Mobile STA Mesh Test - TPUT/ROAM

Goal: Perform a Mobile Station Mest Test

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

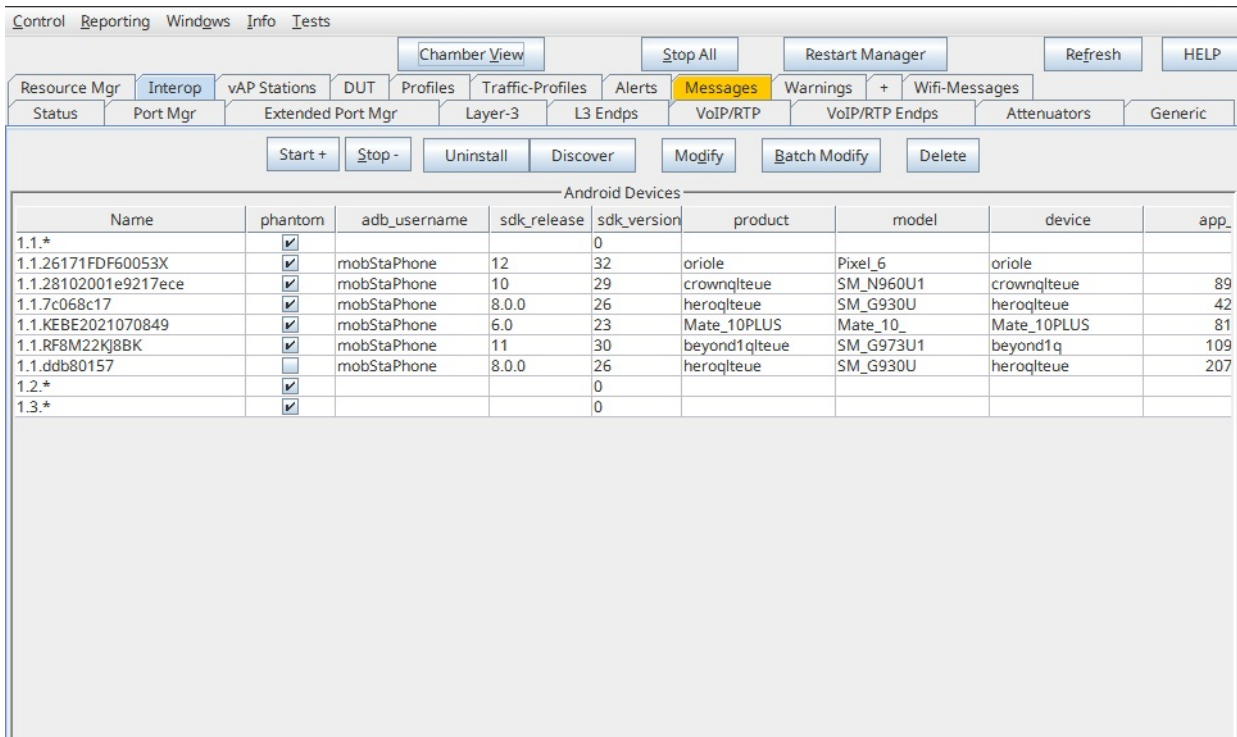
(February 10, 2023) Performed on: <https://candelatech.atlassian.net//cp/f5CSRysM> DUT: Samsung Galaxy S7

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.



My device, "ddb80157" is on and recognized by forge. If yours isn't recognized, ensure that the device is on

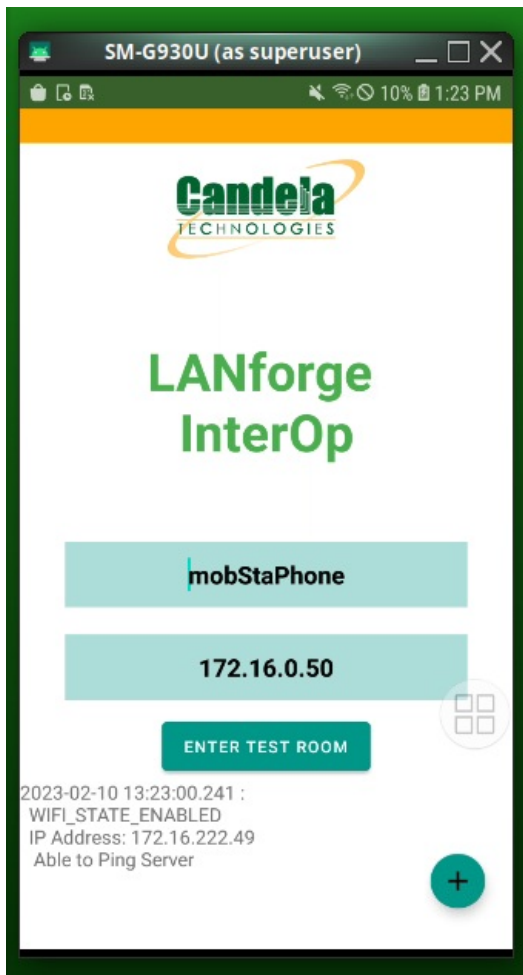
and USB debugging is enabled. Checking ADB connectivity can be troubleshooted from the command line on your LANforge machine.

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.

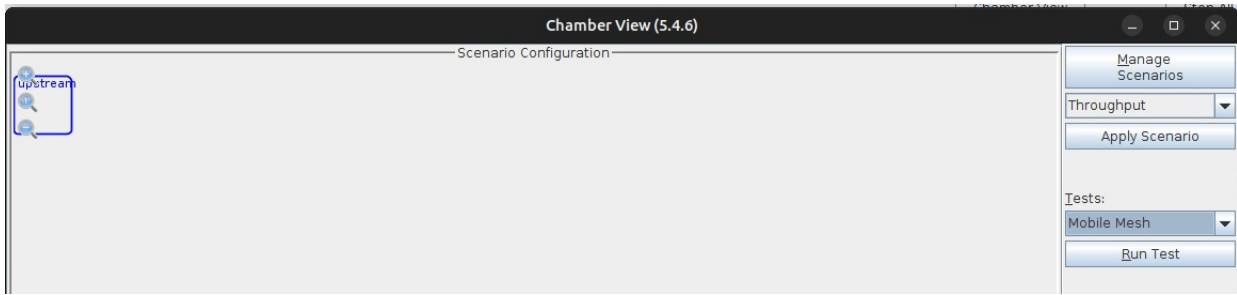
LANforge Manager IP:	NA	Encryption:	NA	Apply	
SSID:	NA	Password:	NA	Start	Stop
EAP Method:	<Custom>	EAP Identity:		EAP Password:	
Display:	192.168.100.115:1	Screen Size:	0.4	<input checked="" type="checkbox"/> Use scrpcpy	Launch GUI
Log Duration:	5-min (5 min)			Show Logs	
APK Filename:	interop-5.4.6.apk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



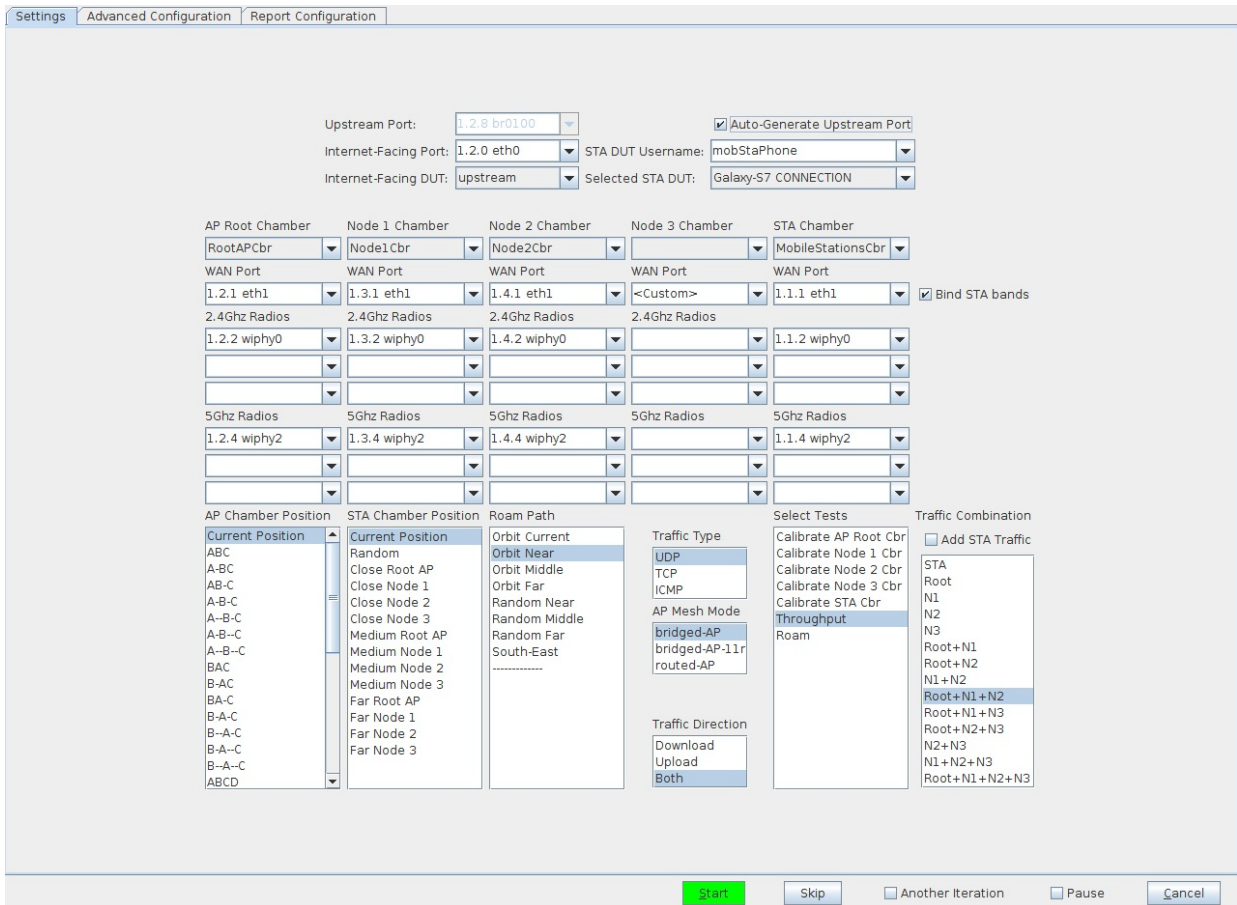
Alright, the DUT is ready for testing. Open Chamber View and select the Mobile Mesh test from the 'Tests' dropdown. Then 'Run Test'.



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 | Report 1 x

Show Config

Import Config

Save

DEFAULT

Load

DEFAULT

Delete

DEFAULT

IP ToS: Best Effort (0) Multi-Conn: One (1) Auto-Helper

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

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: Current Position: ABC, A-BC, AB-C, A-B-C, A--B-C, A-B--C, A--B--C, BAC, B-A-C, 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, Root+N1, 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. 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)

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Auto-Helper

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

