

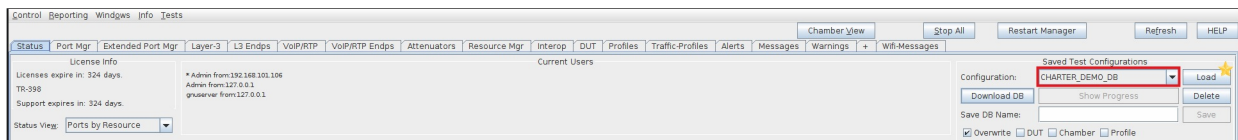
Mobile STA Mesh Test - TPUT/ROAM

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/issue/CP-5589> 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								
Resource Mgr Interop vAP Stations DUT Profiles Traffic-Profiles Alerts Messages Warnings + Wifi-Messages								
Status Port Mgr Extended Port Mgr Layer-3 L3 Endps VoIP/RTP VoIP/RTP Endps Attenuators Generic								
Start + Stop - Uninstall Discover Modify Batch Modify Delete								
Android Devices								
Name	phantom	adb_username	sdk_release	sdk_version	product	model	device	app_
1.1.*	☒			0				
1.1.26171FDF60053X	☒	mobStaPhone	12	32	oriole	Pixel_6	oriole	
1.1.28102001e9217ece	☒	mobStaPhone	10	29	crownglteue	SM_N960U1	crownglteue	89
1.1.7c068c17	☒	mobStaPhone	8.0.0	26	heroqlteue	SM_G930U	heroqlteue	42
1.1.KEBE2021070849	☒	mobStaPhone	6.0	23	Mate_10PLUS	Mate_10_	Mate_10PLUS	81
1.1.RF8M22KJ8BK	☒	mobStaPhone	11	30	beyond1qlteue	SM_G973U1	beyond1q	109
1.1.ddb80157	☒	mobStaPhone	8.0.0	26	heroqlteue	SM_G930U	heroqlteue	207
1.2.*	☒			0				
1.3.*	☒			0				

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

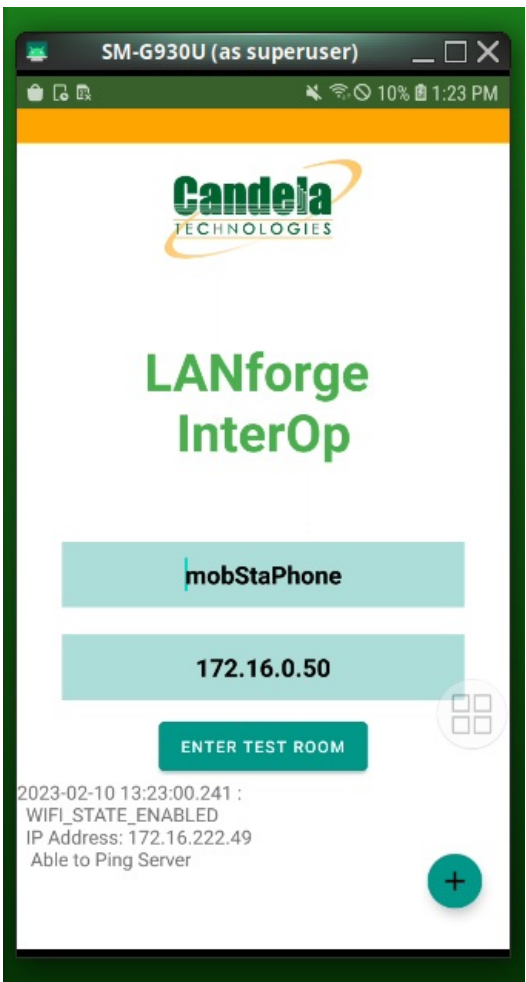
and USB debugging is enabled. Checking ADB connectivity can be troubleshooted from the command line on your LANforge machine.

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.

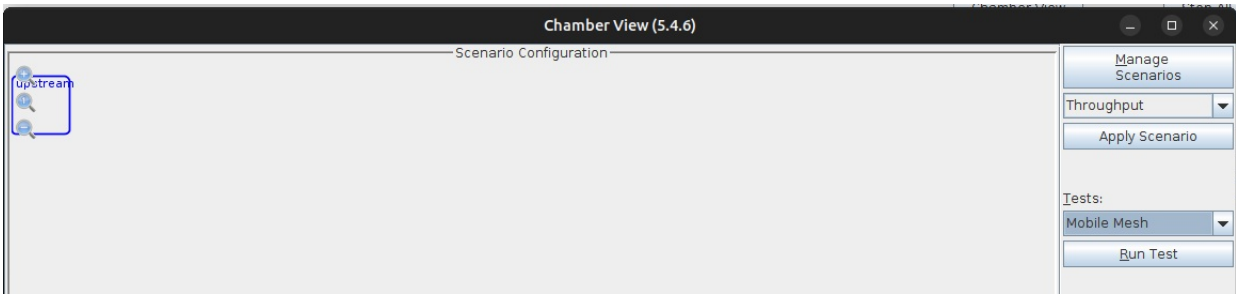
LANforge Manager IP:	NA	Encryption:	NA	Apply	
SSID:	NA	Password:	NA	Start	Stop
EAP Method:	<Custom>	EAP Identity:		EAP Password:	
Display:	192.168.100.115:1	Screen Size:	0.4	☒ Use scrpcpy	Launch GUI
Log Duration:	5-min (5 min)			Show Logs	
APK Filename:	interop-5.4.6.apk	☒ Install with -g		Install	Uninstall
				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	WAN Port	WAN Port	WAN Port	WAN Port
1.2.1 eth1	1.3.1 eth1	1.4.1 eth1	<Custom>	1.1.1 eth1
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

☒ Bind STA bands

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	☐ 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
A-B-C	Close Node 1	Orbit Far		Calibrate Node 3 Cbr	N1
A-B-C	Close Node 2	Random Near		Calibrate STA Cbr	N2
A-B-C	Close Node 3	Random Middle		Throughput	N3
A-B-C	Medium Root AP	Random Far	AP Mesh Mode	Roam	Root+N1
A-B-C	Medium Node 1	South-East	bridged-AP		Root+N2
A-B-C	Medium Node 2		bridged-AP-11r		N1+N2
A-B-C	Medium Node 3		routed-AP		Root+N1+N2
A-B-C	Far Root AP				Root+N1+N3
A-B-C	Far Node 1		Traffic Direction		Root+N2+N3
A-B-C	Far Node 2		Download		N2+N3
A-B-C	Far Node 3		Upload		N1+N2+N3
ABCD			Both		Root+N1+N2+N3

Start Skip ☐ Another Iteration ☐ Pause Cancel

SettingsAdvanced ConfigurationReport ConfigurationReport ↑ ×

Show Config

Save

Load

Delete

Import Config

DEFAULT

DEFAULT

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

☒ Auto-Helper

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)

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

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

Random

Orbit Current

UDP

Calibrate AP Root Cbr

STA

A-B-C

Close Root AP

Orbit Near

TCP

Calibrate Node 1 Cbr

Root

A-B-C

Close Node 1

Orbit Middle

ICMP

Calibrate Node 2 Cbr

N1

A-B-C

Close Node 2

Orbit Far

AP Mesh Mode

Calibrate Node 3 Cbr

N2

A-B-C

Close Node 3

Random Near

bridged-AP

Calibrate STA Cbr

N3

A-B-C

Medium Root AP

Random Middle

bridged-AP-11r

Throughput

Root+N1

A-B-C

Medium Node 1

Random Far

routed-AP

Roam

Root+N2

A-B-C

Medium Node 2

South-East

Root+N1+N2

BAC

Medium Node 3

Root+N1+N3

B-A-C

Far Root AP

Root+N2+N3

B-A-C

Far Node 1

N2+N3

B-A-C

Far Node 2

N1+N2+N3

B-A-C

Far Node 3

Root+N1+N2+N3

ABCD

Test is complete.

Start

Skip

Another Iteration

Pause

Cancel

Settings

Advanced Configuration

Report Configuration

Report 1

Report-2 1

Show Config

Save

Load

Delete

Import Config

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

