

Testing Station Associate and Disassociate for a WiFi Device

Goal: Setup and run a Port Reset test for an AP using the LAN forge CT523c or similar system in order to test how well the AP can handle stations connecting and disconnecting many times. This is a good test of the AP's management plane stability.

In this test scenario, the LANforge CT522 is used to create 120 stations and then have them connect and disconnect to the AP. The test will count the number of connections and related events. This example assumes you have some experience with Chamber View, and that you have a LANforge system. A programmable attenuator and two isolation chambers would add the ability to test station reconnects at different RF signal levels, but this test normally runs fine withour chambers or attenuators. This feature is in LANforge version 5.3.9 and higher.



1. Configure Chamber View for Port Reset and Similar Tests.

A. Open Chamber View by clicking on the 'Chamber View' button in the LANforge-GUI. If you have an appropriate scenario already created, then skip to the next section, otherwise you will need to build a scenario that matches your system. You can right-click in Chamber View to create various objects. If you do not have chambers or attenuators, just create the DUT object and skip the chamber setup.



B. Create a Device Under Test (DUT) Profile that matches your AP. The BSSID is important to configured so that LANforge knows when it is connected to the correct AP.

0	Create/Mo	dify DUT	\odot \otimes \otimes	
Name	jw3			
Image file	NONE		Choose Image	
SW Info		HW Info	compex 3x3, 2x2, wavel	
Model Number		Serial Number		
Serial port		WAN		
LAN		API version	0	
SSID-1	jw3-0	Password-1		
SSID-2	jw3-1	Password-2		
SSID-3		Password-3		
Mgt IP	0.0.0.0	Ant-1	0	
Ant-2	0	Ant-3	0	
BSSID-1	04:f0:21:7b:37:2a	BSSID-2	04:f0:21:f2:ea:bd	
BSSID-3	00:00:00:00:00:00	Active	AP DUT	
STA DUT	WEP	WPA	WPA2	
WPA3	Provides DHCP on LAN	Provides DHCP on WAN		
Notes				
Apply <u>O</u> K <u>C</u> ancel				

C. Configure an Upstream profile using eth1 on the LANforge system.

•	Create/Modify P	rofile		\odot \otimes \times
Name:	upstream-dhcp	Туре:	Upstream (4)	-
Mode:	Auto (0) 🗸	Antennas:	Default (0)	-
Instances:	1 (1) 🗸	Frequency:	AUTO (-1 Mhz)	-
SSID:		Password:		
Pattern:		DHCP Server	WEP	
U WPA	WPA2	WPA3	802.11r	
802.1x EAP-TTLS	Restart DHCP on Connect	Notes:		
Apply <u>Q</u> K <u>C</u> ancel				

D. Configure an STA profile on the LANforge system.

•	Create/Modify Pr	ofile	\odot
Name:	STA-AC	Туре:	STA (1)
Mode:	Auto (0) 🗸 🗸	Antennas:	Default (0)
Instances:	1 (1)	Frequency:	AUTO (-1 Mhz)
SSID:		Password:	
Pattern:		DHCP Server	WEP
WPA	WPA2	WPA3	🗌 802.11r
802.1x EAP-TTLS	☑ Restart DHCP on Connect	Notes:	
	<u>Apply</u>	<u>C</u> ancel	

E. Configure a Chamber View Scenario and add the STA profile (mapped to desired wiphyX radio and DUT). Add an upstream profile mapped to DUT LAN side (or possibly WAN side if that is more appropriate for your DUT).

•	\sim \sim				
Scenario Text Output					
Scenario Name dut-lf-br-ap Delete Scenario Create Profile Create Traffic Profile Add Row					
Del Resource Profile	Mod Amount Uses-1 Uses-2 Frequency M	1aps To			
X 1.1 ▼ STA: STA-AC ▼	● 🚳 60 (60) 💌 wiphyl 💌 AUTO 💌 AUTO (-1 Mhz) 💌 E	DUT: jw3 Radio-1 💌			
X 1.1 Vpstream: upstream-dhcp -	■ 🔊 1 (1) 💌 eth1 💌 AUTO 🐨 AUTO (-1 Mhz) 💌 E	DUT: jw3 LAN			
X 1.1 ▼ STA: STA-AC ▼	● 🚳 60 (60) 💌 wiphy0 💌 AUTO 💌 AUTO (-1 Mhz) 💌 E	DUT: jw3 Radio-2 💌			
Build New Load Scenario	Update and Save Scenario Apply and Save Scenario	Cancel			

2. Use Chamber View to run a Port Reset test.

A. Open Chamber View by clicking on the 'Chamber View' button in the LANforge-GUI. Load appropriate scenario or create a new scenario as needed. Apply the Scenario, then Build the scenario.



B. Select the **Port Reset** test and click **Run Test**. You should see the Port Reset Test configuration window pop up. By default, all of the stations will be selected to use in the reset test. You may adjust the selection at this time. If you want each station to act like a new device when it resets, select the 'Change MAC' checkbox. Make any other configuration changes:

• Port R	Reset Test 📀 🛇	×
Concurrent Ports to Reset:	Five (5)	-
Minimum Time between Resets:	10 seconds (10 s)	-
Maximum Time between Resets:	30 seconds (30 s)	Ţ
	V Rondom Port Coloction	
	Random Port Selection	
Change MAC		
Po	orts Selection	
Ports in Use	← Add Ports Free Ports	
1.1.6 sta0000	1.1.0 eth0	-
1.1.8 sta0001	1.1.1 eth1	
1.1.11 sta0002	1.1.2 eth2	
1.1.12 sta0003	1.1.3 eth3	
1.1.13 sta0004	r Sort 1.1.4 eth4	
1.1.14 sta0005	1.1.5 eth5	
1.1.15 sta0006	eave Sort 1.1.133 Wan1	
1.1.16 sta0007	1.1.137 Wanu	
1.1.1/ sta0008	1.2.0 ethu	
1.1.18 sta0009 120 Port	ts Selected 1.2.1 eth1	
1.1.19 Stabolo	1.2.2 eth2	
1.1.24 statoo11	1.2.4 etb4	
1 1 26 sta0013	1.2.5 etb5	
1.1.27 sta0014	1.1.0 eth0	
1.1.28 sta0015	1.1.1 eth1	
1.1.29 sta0016	1.1.2 eth2	
1.1.30 sta0017	1.1.3 eth3	
1.1.31 sta0018	1.1.4 eth4	
1.1.32 sta0019	1.1.5 eth5	
1.1.33 sta0020	1.1.133 wlan1	
1.1.34 sta0021	1.1.137 wlan0	
1.1.35 sta0022	1.2.0 eth0	
1.1.36 sta0023 🗨	1.2.1 eth1	-
	<u>Stop</u> <u>Close</u>	3

C. When the configuration is complete, click the **Start** button (which will change to 'Stop' once start is clicked) to start the test. An interactive report window will be created and will be updated as the test runs.



D. When the test is complete, click the **Save HTML** button to save an HTML report and generate the PDF. The PDF file will be linked from the HTML page. You can also click 'Save PDF' and the browser will be directed to open the pdf file directly. Please see this example Rate vs Range Report

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