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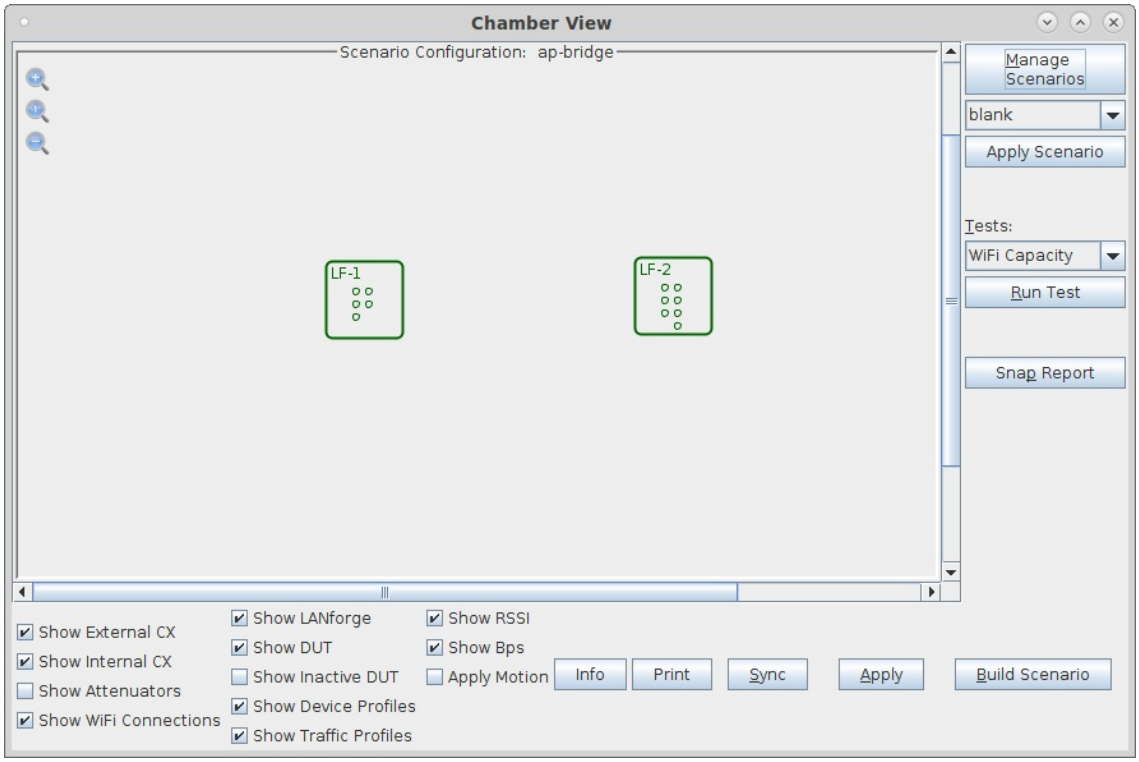
LANforge as 802.11k/v/r Access Point Cluster

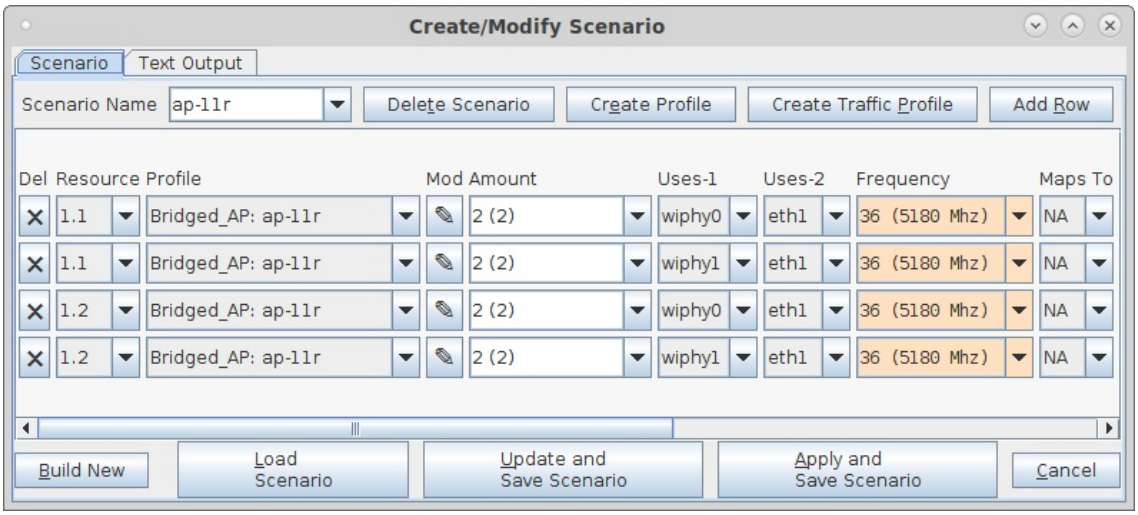
Goal: Create 8 LANforge APs supporting 802.11k, v, and r in bridged mode using Chamber View

In this test scenario, two LANforge CT522 systems are used to create 8 APs. The APs can be used for 802.11k/v/r roaming and related testing. No external radius server is needed. The 'eth1' interfaces on the two LANforges should be connected to the same LAN. NOTE: As of this writing, there is a bug when 802.11w (MFP) is enabled. We are not currently clear whether it is an AP issue or a Station issue.

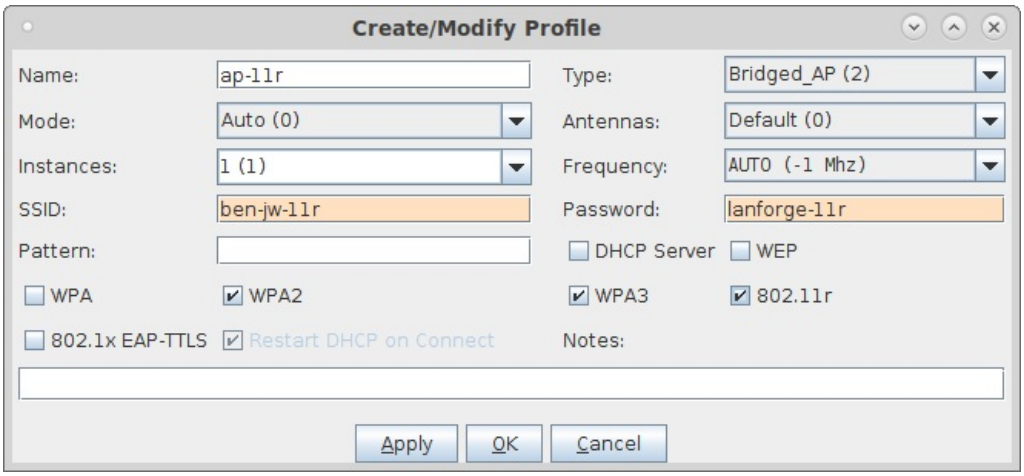
1. Configure Chamber View to create 802.11r Access Points.
   A. Open Chamber View by clicking on the 'Chamber View' button in the LANforge-GUI. You can right-click in Chamber View to create various objects. The LANforge system(s) should show up as green boxes in Chamber View.



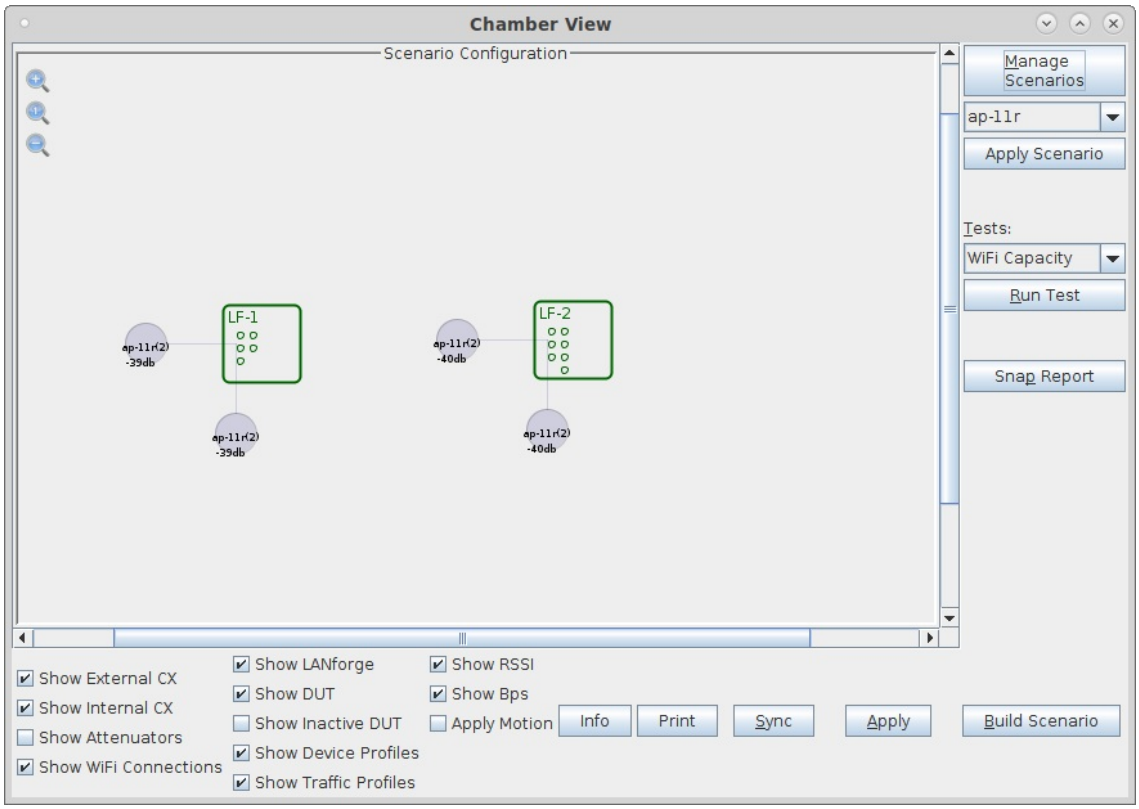
B. Configure a Chamber View Scenario and add the AP profiles.



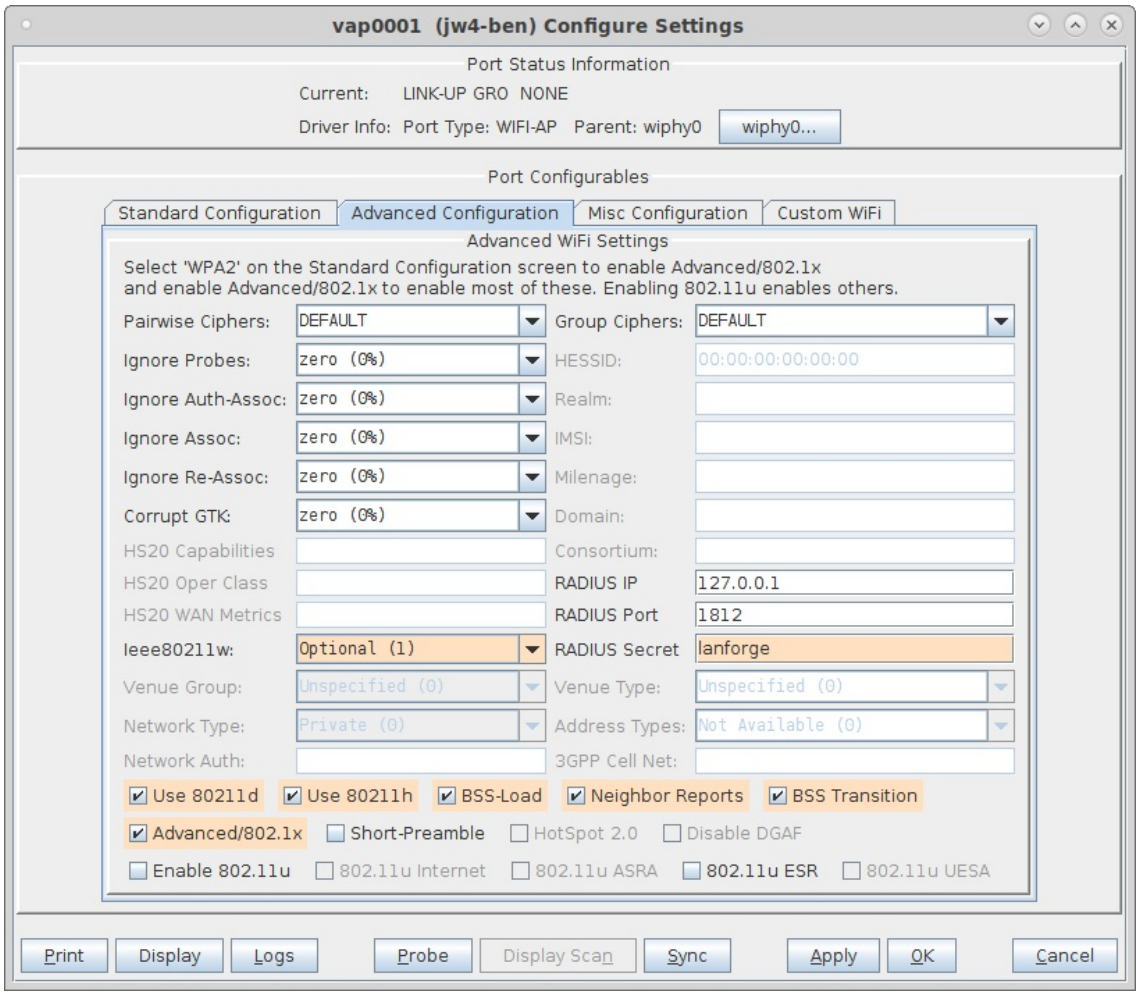
C. This example uses one 802.11r AP profile for all APs.



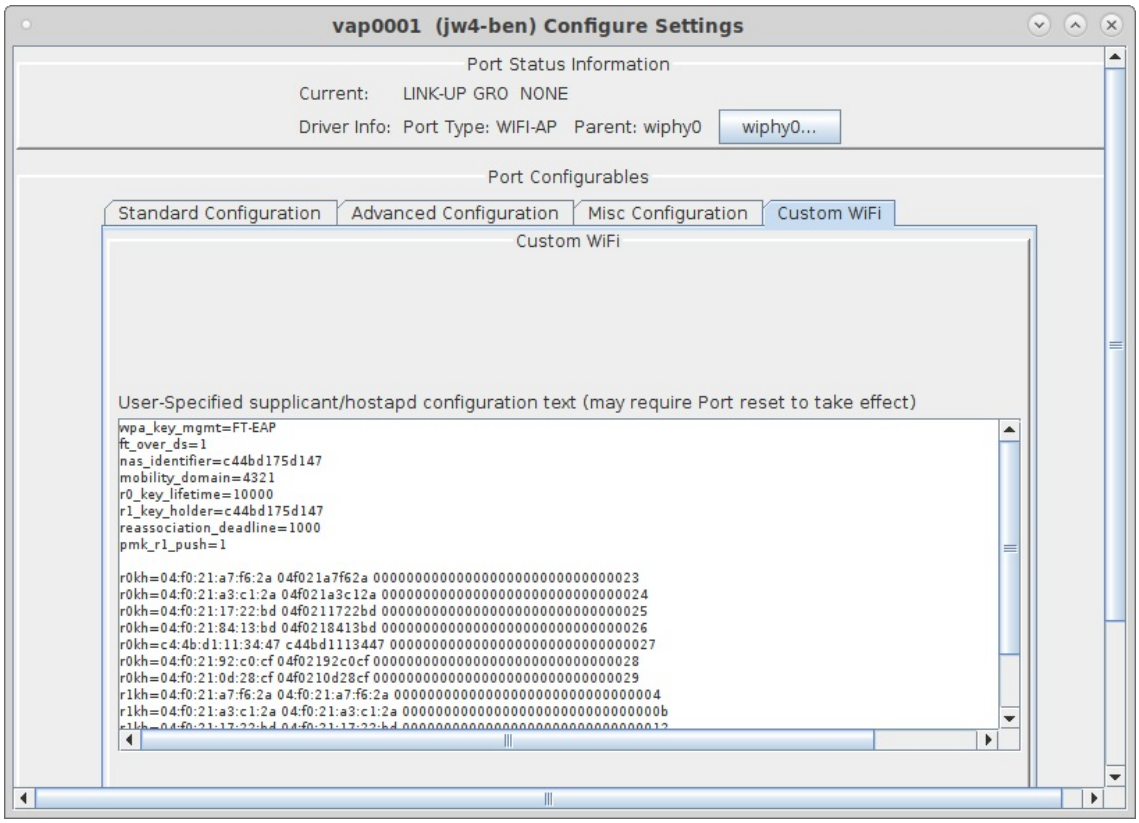
D. Once you have saved and selected the Scenario, click **Apply Scenario** and then click **Build Scenario**. The APs will be created, bridge devices will be created and will contain the APs and the Ethernet ports selected in the scenario. A radius server will be created and started. The Access Point devices will be started as part of the build process, so the system is now ready to be used. You can also make further modifications to the AP configuration by modifying the vap interfaces in the Port-Mgr tab of the LANforge GUI.



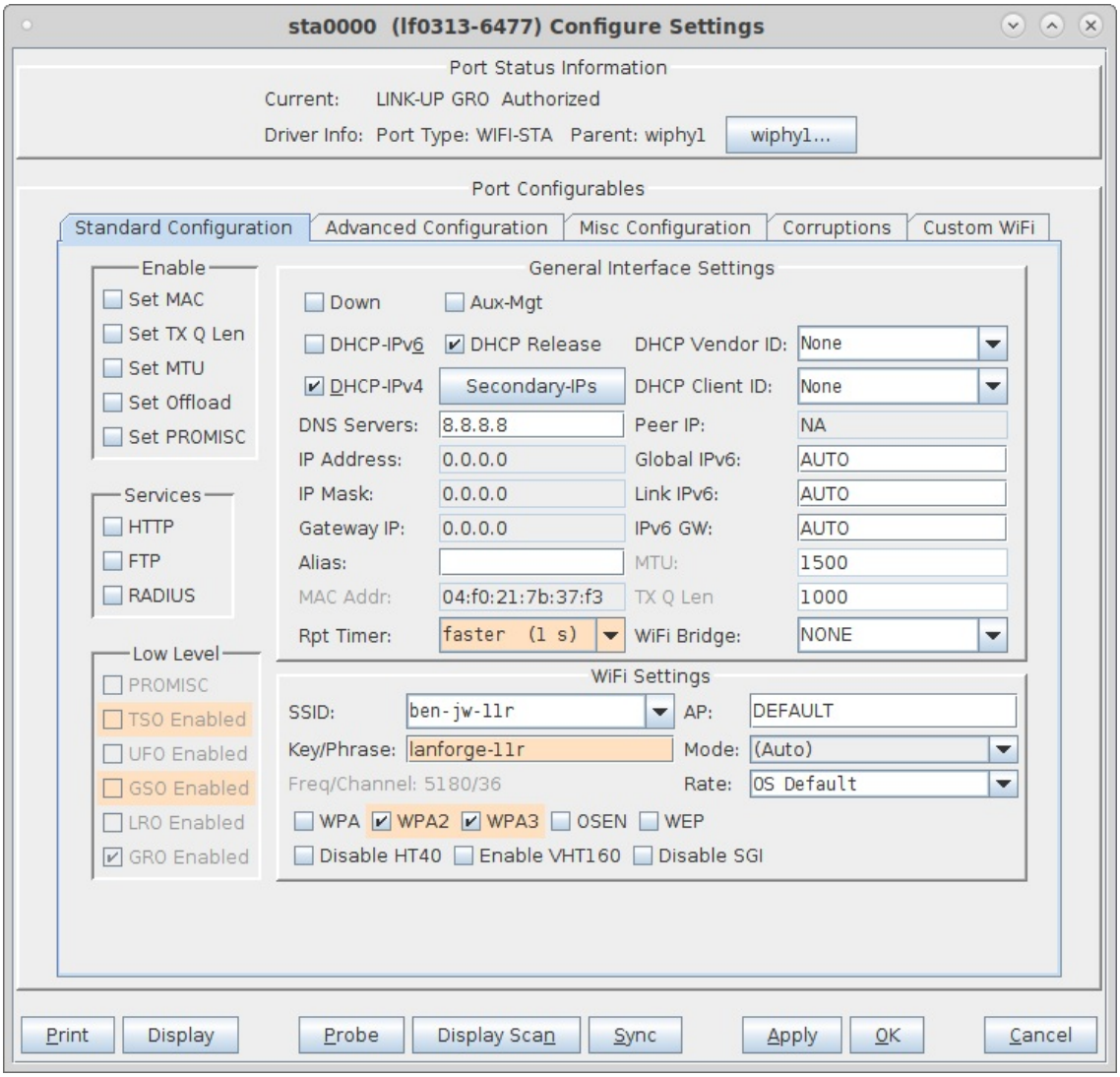
E. To give you some idea of the underlying configuration, please see this VAP configuration window.



F. And the 'custom' magic that makes the .11r cluster talk to itself.



G. Normally you would configure your own Station device to connect to this AP cluster. In this case, LANforge stations were used. Here is a screenshot of the config window to give some idea of how to configure your own stations.


sta0000 (lf0313-6477) Configure Settings
Port Status Information
Current: LINK-UP GRO Authorized
Driver Info: Port Type: WIFI-STA Parent: wiphy1
wiphy1...
Port Configurables
Standard Configuration
Advanced Configuration
Misc Configuration
Corruptions
Custom WiFi
Enable
Set MAC
Set TX Q Len
Set MTU
Set Offload
Set PROMISC
Services
HTTP
FTP
RADIUS
Low Level
PROMISC
TSO Enabled
UFO Enabled
GSO Enabled
LRO Enabled
GRO Enabled
General Interface Settings
Down
Aux-Mgt
DHCP-IPv6
DHCP Release
DHCP Vendor ID:
None
DHCP-IPv4
Secondary-IPs
DHCP Client ID:
None
DNS Servers:
8.8.8.8
Peer IP:
NA
IP Address:
0.0.0.0
Global IPv6:
AUTO
IP Mask:
0.0.0.0
Link IPv6:
AUTO
Gateway IP:
0.0.0.0
IPv6 GW:
AUTO
Alias:
MTU:
1500
MAC Addr:
04:f0:21:7b:37:f3
TX Q Len
1000
Rpt Timer:
faster (1 s)
WiFi Bridge:
NONE
WiFi Settings
SSID:
ben-jw-11r
AP:
DEFAULT
Key/Phrase:
lanforge-11r
Mode:
(Auto)
Freq/Channel: 5180/36
Rate:
OS Default
WPA
WPA2
WPA3
OSEN
WEP
Disable HT40
Enable VHT160
Disable SGI
Print
Display
Probe
Display Scan
Sync
Apply
OK
Cancel

H. The Station advanced screen shows the EAP-TTLS config and key management. Note that 802.11w is disabled in this test to work around some bug.