mDNS Implementation

Laerdal Medical
Cisco WLC AirOS

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1   Deployment Considerations

Bonjour protocol operates on service announcements and service queries which allow devices to ask and advertise specific applications such as:

- SimMan3G
- Patient Monitor
- LinkBox
- Session Viewer
- iTunes Wireless iDevice Syncing
-

Each query or advertisement is sent to the Bonjour multicast address for delivery to all clients on the subnet. Apple's bonjour protocol relies on mDNS operating at UDP port 5353 and each query or advertisement are sent to the following reserved group addresses:

- IPv4 Group Address – 224.0.0.251
- IPv6 Group Address – FF02::FB

The addresses used by the Bonjour protocol are link-local multicast addresses and thus are only forwarded on the local L2 domain. Routers cannot use multicast routing to redirect the traffic because the time to live (TTL) is set to one, and link-local multicast is meant to stay local by design.
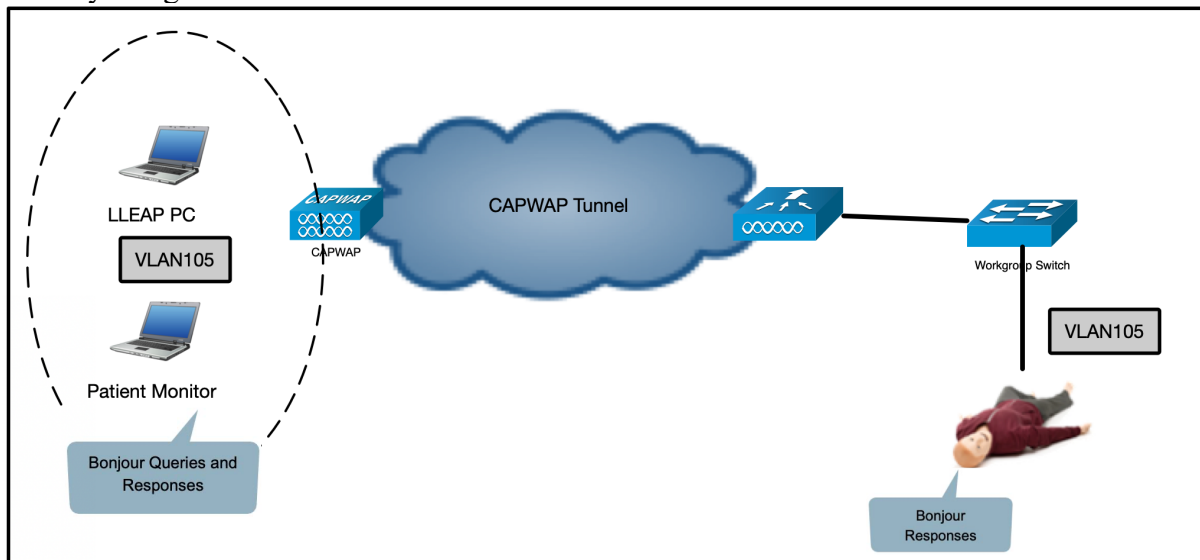
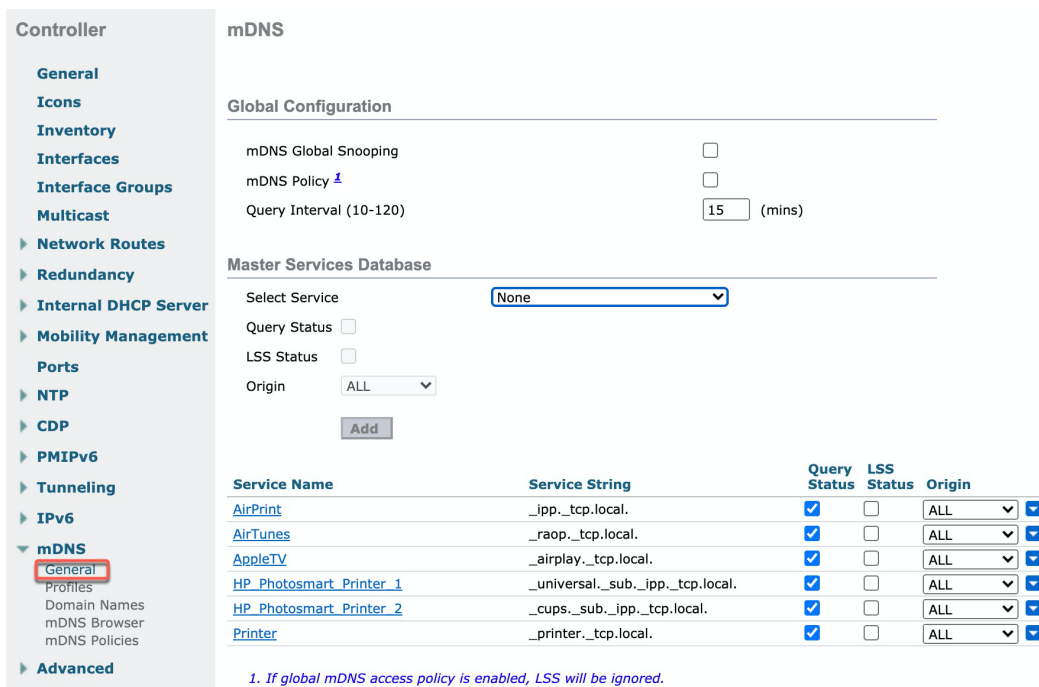## 1.1 Cisco Wireless LAN Controller (WLC)

On the Cisco Wireless LAN Controller the Bonjour services are not advertised by default on access points that are configured in the mode local. In order for the WLC to advertise the mDNS services that the Laerdal Medical simulation devices advertise. The custom mDNS strings must be added to the WLC configuration.

The following outlines how to add mDNS strings to the WLC:
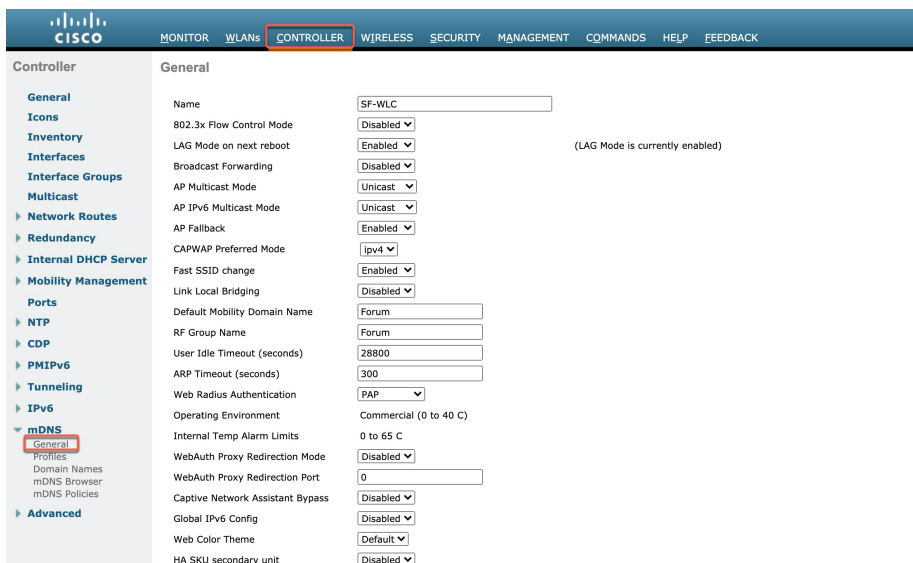
1.2 General Panel

Under the General Panel custom mDNS service strings can be added.

Select other from the drop down menu and enter the custom mDNS service information.

To enable mDNS advertisements "mDNS Global Snooping" must be enabled.

Note: Origin by default is set to "ALL" which includes wired and wireless connections.

1. If global mDNS access policy is enabled, LSS will be ignored.

Important Note: All mDNS service strings that are entered on the WLC must include the ".local." ending to be consider a valid service string.

After the custom service has been added to the WLC. The next step is to add the mDNS service to a mDNS profile. This mDNS profile must be associated to the wireless network that will be used by the simulation devices.

| Service Name	Service String	Query Status	LSS Status	Origin	
AirPrint	_ipp._tcp.local.	☑	☐	ALL ▾	▾
AirTunes	_raop._tcp.local.	☑	☐	ALL ▾	▾
AppleTV	_airplay._tcp.local.	☑	☐	ALL ▾	▾
HP_Photosmart_Printer_1	_universal._sub._ipp._tcp.local.	☑	☐	ALL ▾	▾
HP_Photosmart_Printer_2	_cups._sub._ipp._tcp.local.	☑	☐	ALL ▾	▾
Printer	_printer._tcp.local.	☑	☐	ALL ▾	▾
Screen_Capture	_http._tcp.local.	☑	☐	ALL ▾	▾

1.3 mDNS Profile

Select profile link under mDNS. On the profile panel you can add the custom mDNS services to an existing or create a new mDNS profile.

	MONITOR	WLANs	CONTROLLER	WIRELESS	SECURITY	MANAGEMENT	COMMANDS	HELP	FEEDBACK

Controller

- General
- Icons
- Inventory
- Interfaces
- Interface Groups
- Multicast
- ▶ Network Routes
- ▶ Redundancy
- ▶ Internal DHCP Server
- ▶ Mobility Management
- Ports
- ▶ NTP
- ▶ CDP
- ▶ PMIPv6
- ▶ Tunneling
- ▶ IPv6
- ▼ mDNS
  - General
  - Profiles
  - Domain Names
  - mDNS Browser

mDNS Profiles

Number of Profiles 2

Profile Name	No. Of Services	
SimProfile	0	▾
default-mdns-profile	6	

Select the mDNS Profile link to open it. Then select the custom mDNS service from the dropdown menu then click add. Repeat this process until all the services you would like advertised on the network have been added to the mDNS profile.
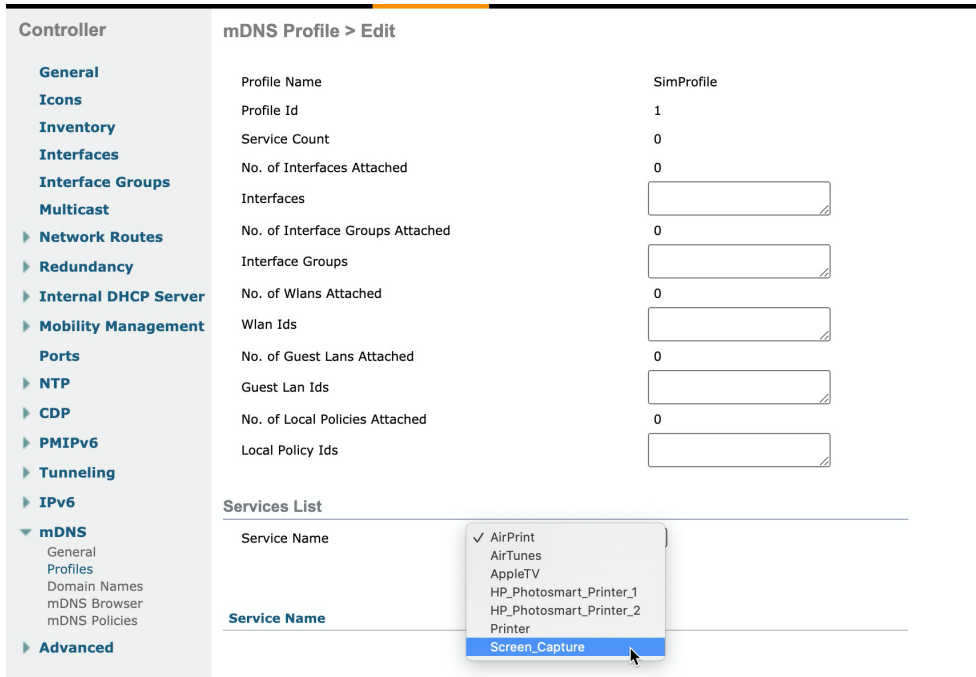
1.4   Associate mDNS Profile with SSID

The final step is to select WLAN ->SSID->Advanced tab and in the mDNS section select the correct mDNS profile to add it to the wireless SSID.

Click save to save the settings.