Overview

Bonjour is Apple's version of Zeroconf - it is mDNS with DNS-SD. Apple devices will advertise their services via IPv4 and IPv6 simultaneously (IPv6 link local and Globally Unique).

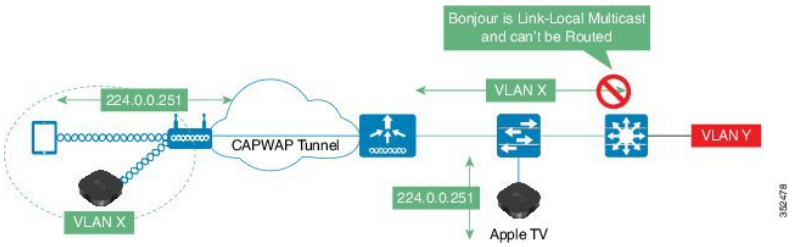
The Bonjour protocol operates on service announcements and service queries which allow devices to ask and advertise specific applications such as:

- Printing Services
- File Sharing Services
- Remote Desktop Services
- iTunes Wireless iDevice Syncing (in Apple iOS v5.0 - v7.0)
- AirPlay offering the following streaming services:
    - Music broadcasting in iOS v4.2 – v7.0
    - Video broadcasting in iOS v4.3 – v7.0
    - Full screen mirroring in iOS v5.0 – v7.0 (iPad2, iPhone4S or later)

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 (Multicast DNS) operating at UDP port 5353 and 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.


Bonjour is Link-Local Multicast and can't be Routed
224.0.0.251
CAPWAP Tunnel
VLAN X
VLAN Y
224.0.0.251
VLAN X
Apple TV
352478