

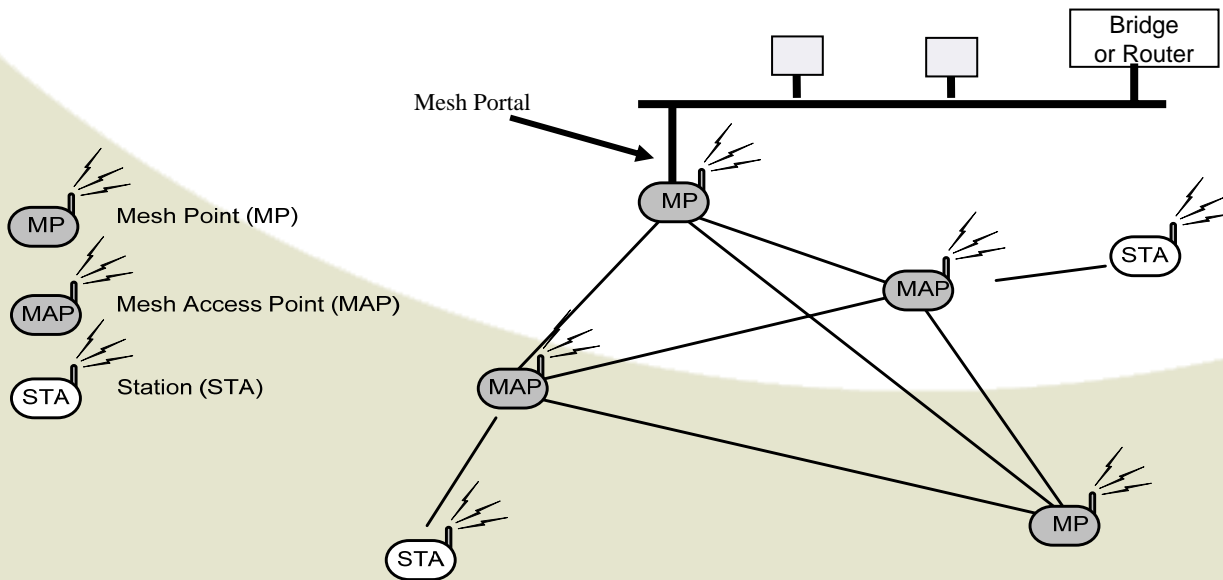


Wireless Mesh (802.11s)

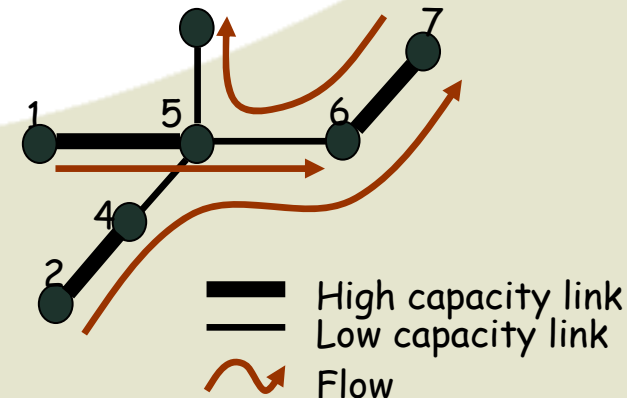
Susan Hares
CTO

Wireless Mesh (802.11s)

- WLAN Mesh Network is a group of Mesh Points (Mesh APs)
 - Securely associated to their neighbors (802.11i+) for intra-mesh transport
 - Discovered by new Information Elements (IE) in beacons and probes
 - WLAN Mesh Capability Element** – provides MAC channel and mesh protocol information
 - Mesh ID:** Name of Mesh
- Mesh services passed in additional IEs in Management Frames
 - Support **pathway calculation** for high/low capacity links via HWMP (Radio Aware AODV) or an optional Link state protocol
 - Support **enhanced MAC** functionality
- Each MP may have one or more logical radio interface (aided by 802.11n multi-radios)



Mesh control prevents
802.11e congestion



Mesh Networks to Wired Networks



- EDCA as the basis for the .11s MAC
- MAC Enhancement for mesh
 - Intra-mesh Congestion Control: Mesh Nodes monitor and signal congestion
 - Common Channel Framework (CCF) allows single and multi-channel MAC address (optional)
 - *MP with multiple radios may use separate common channel for each interfaces*
 - *Common channel (CCF) is the channel that MP may negotiate destination channel (after RTX/CTX)*
 - Mesh Deterministic Access (Optional)
 - **2 hop neighbors set-up for low contention periods via MDAOPs**
- Mesh Portal Needs beyond 802.11s
 - Best Portal for fast-fail-over of Voice (50ms) for inter-AP transitions
 - Efficient Wired topologies at Layer 2 that allow different topologies for Voice and Video
 - New 802.1 protocols may help: **802.1aq** (Shortest Path Bridging)

