Separation of CAPWAP Control and Data Plane: draft-zhang-opsawg-capwap-cds-00

What is the problem

Local MAC Mode (diagram)

Control Channel | Data Channel

Access Controller (aka WLC)

Locally bridged traffic

WTP (Wi-Fi AP)

Local MAC Mode

Split MAC Mode (diagram)

Control Channel | Data Channel

Access Controller (aka WLC)

WTP (Wi-Fi AP)
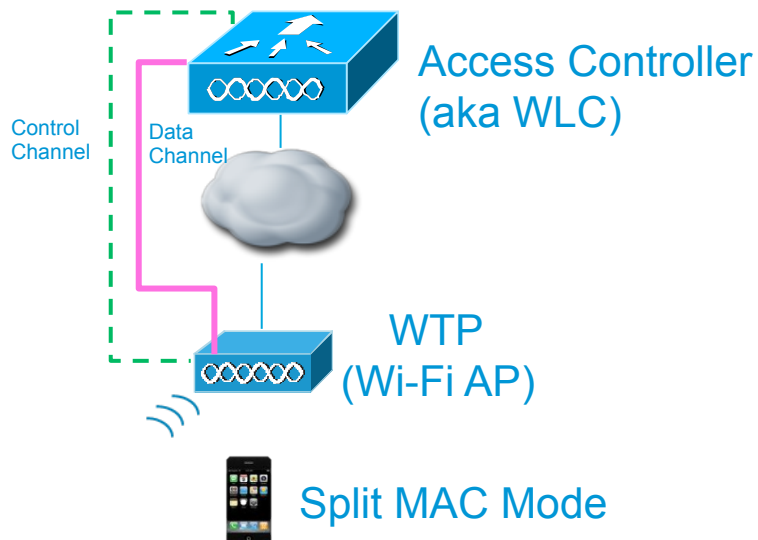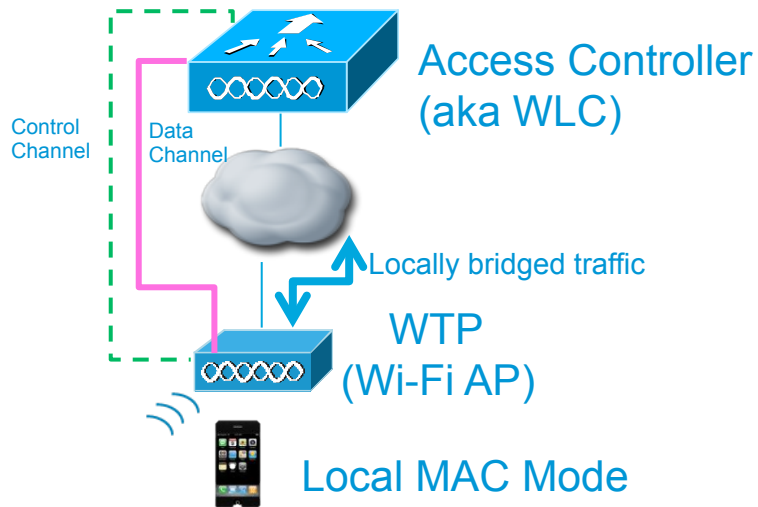
Split MAC Mode

- CAPWAP used widely in WLAN deployments

- Two modes
  - Local MAC mode
  - Split MAC mode

- Mainly interested in Split MAC mode

- CAPWAP assumes control and data plane are co-located on the Access Controller

- No mechanism to specify different IP address for data tunnel to carry user traffic
  - No way to split CP and DP in Split-MAC mode

Proposed Solution

- Split AC (access controller) into two parts
  - AC-CP (Control Plane)
  - AC-DP (Data Plane)

- WTP created two sets of tunnels
  1. Control and Data Channel to AC-CP
  2. Data Channel to AC-DP

- AC-CP handles
  - CAPWAP Control Chanel: Control/ Management of AP
  - CAPWAP Data Channel: User generated Management traffic (security, action frames, etc)

- AC-DP handles
  - CAPWAP Data Channel:
    - User generated traffic (non – management traffic)

AC-CP

AC-DP

Control Channel

Data Channel

WTP

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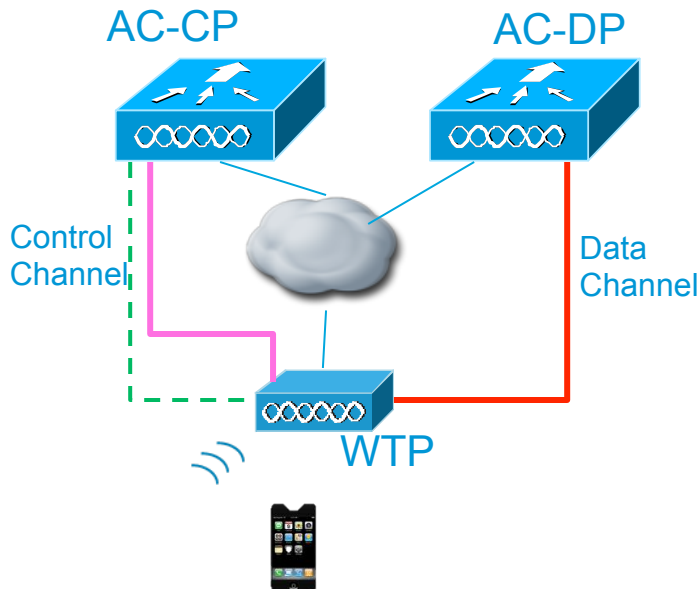
Next Steps

- Adopt draft draft-zhang-opsawg-capwap-cds-00 as working group document