Exploring stateless_ha_nn.pcapng

⚫ No IP	📢 Broadcast	🖥️ WLC B	⚫ Null MAC	📡 AP wired B	📡 AP wired A	📡 AP wired C	📡 AP wired I2

📁 **stateless_ha_nn.pcapng**

🔗 DHCP Discover

Transaction ID	0x000013d5
🌐 IP	0.0.0.0
Client MAC address	84:b2:61:0e:0c:18
Client MAC address	84:b2:61:0e:0c:18
🖥️ Hostname	AP84b2.610e.0c18

💡 DHCP — client obtains IP address after 802.11 association and EAPOL key exchange complete; DORA: Discover→Offer→Request→ACK; in WLAN, DHCP may traverse CAPWAP tunnel to WLC

🔗 DHCP Offer

Transaction ID	0x000013d5
🌐 IP	10.0.40.103
Client MAC address	84:b2:61:0e:0c:18

💡 DHCP — client obtains IP address after 802.11 association and EAPOL key exchange complete; DORA: Discover→Offer→Request→ACK; in WLAN, DHCP may traverse CAPWAP tunnel to WLC

🔗 DHCP Request

Transaction ID	0x000013d5
🌐 IP	0.0.0.0
Client MAC address	84:b2:61:0e:0c:18
Client MAC address	84:b2:61:0e:0c:18
🖥️ Hostname	AP84b2.610e.0c18

💡 DHCP — client obtains IP address after 802.11 association and EAPOL key exchange complete; DORA: Discover→Offer→Request→ACK; in WLAN, DHCP may traverse CAPWAP tunnel to WLC

🔗 DHCP ACK

Transaction ID	0x000013d5
🌐 IP	10.0.40.103
Client MAC address	84:b2:61:0e:0c:18

💡 DHCP — client obtains IP address after 802.11 association and EAPOL key exchange complete; DORA: Discover→Offer→Request→ACK; in WLAN, DHCP may traverse CAPWAP tunnel to WLC

Frame 5 | 2017-01-21T13:30:33.812586Z

📦 Data (0x0020)

📱 Dst	ff:ff:ff:ff:ff:ff
📱 Src	08:cc:a7:86:55:20
📡 BSS	00:00:00:00:00:00
🔢 Seq	0

🔗 DHCP Discover

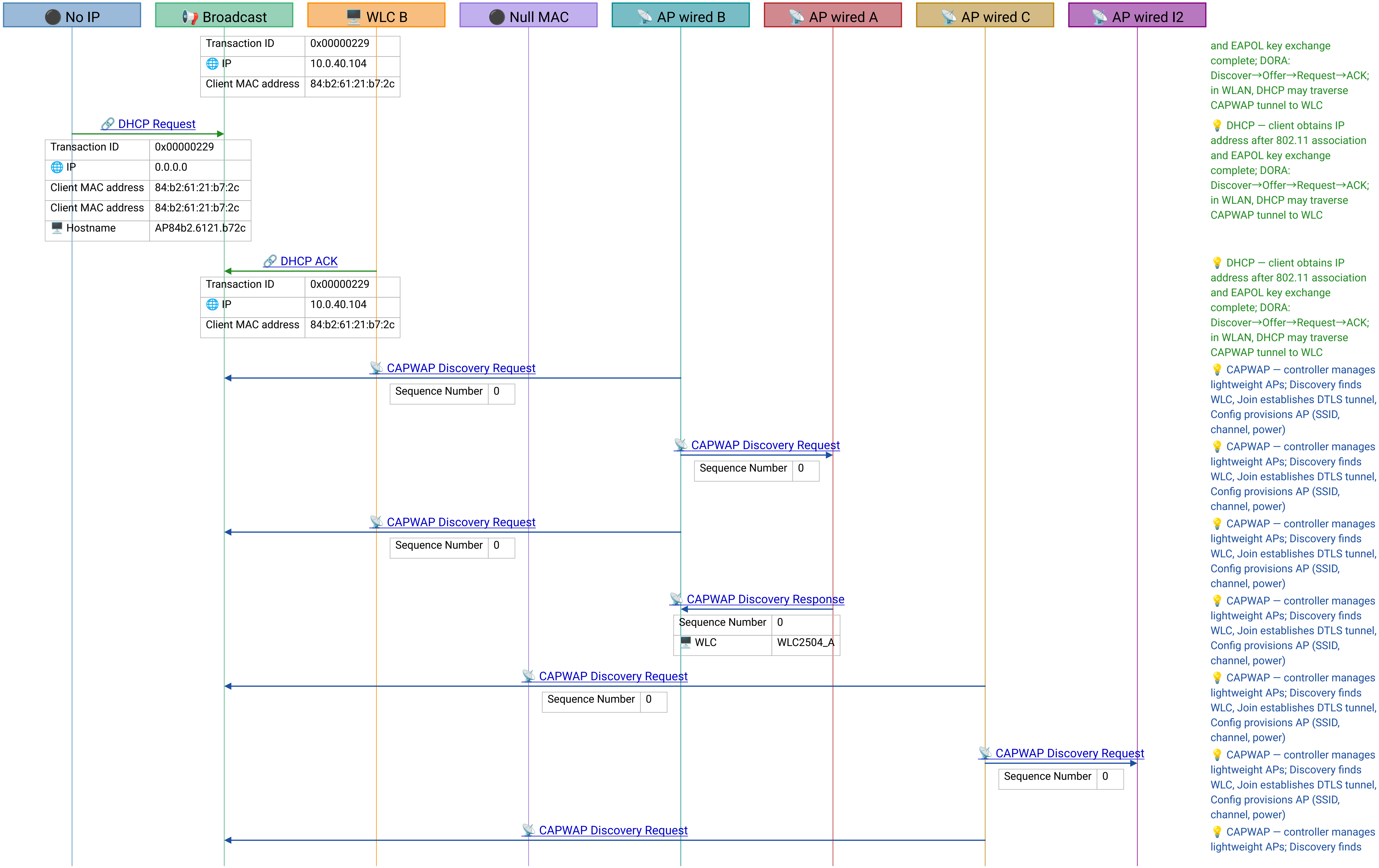
Transaction ID	0x00000229
🌐 IP	0.0.0.0
Client MAC address	84:b2:61:21:b7:2c
Client MAC address	84:b2:61:21:b7:2c
🖥️ Hostname	AP84b2.6121.b72c

💡 DHCP — client obtains IP address after 802.11 association and EAPOL key exchange complete; DORA: Discover→Offer→Request→ACK; in WLAN, DHCP may traverse CAPWAP tunnel to WLC

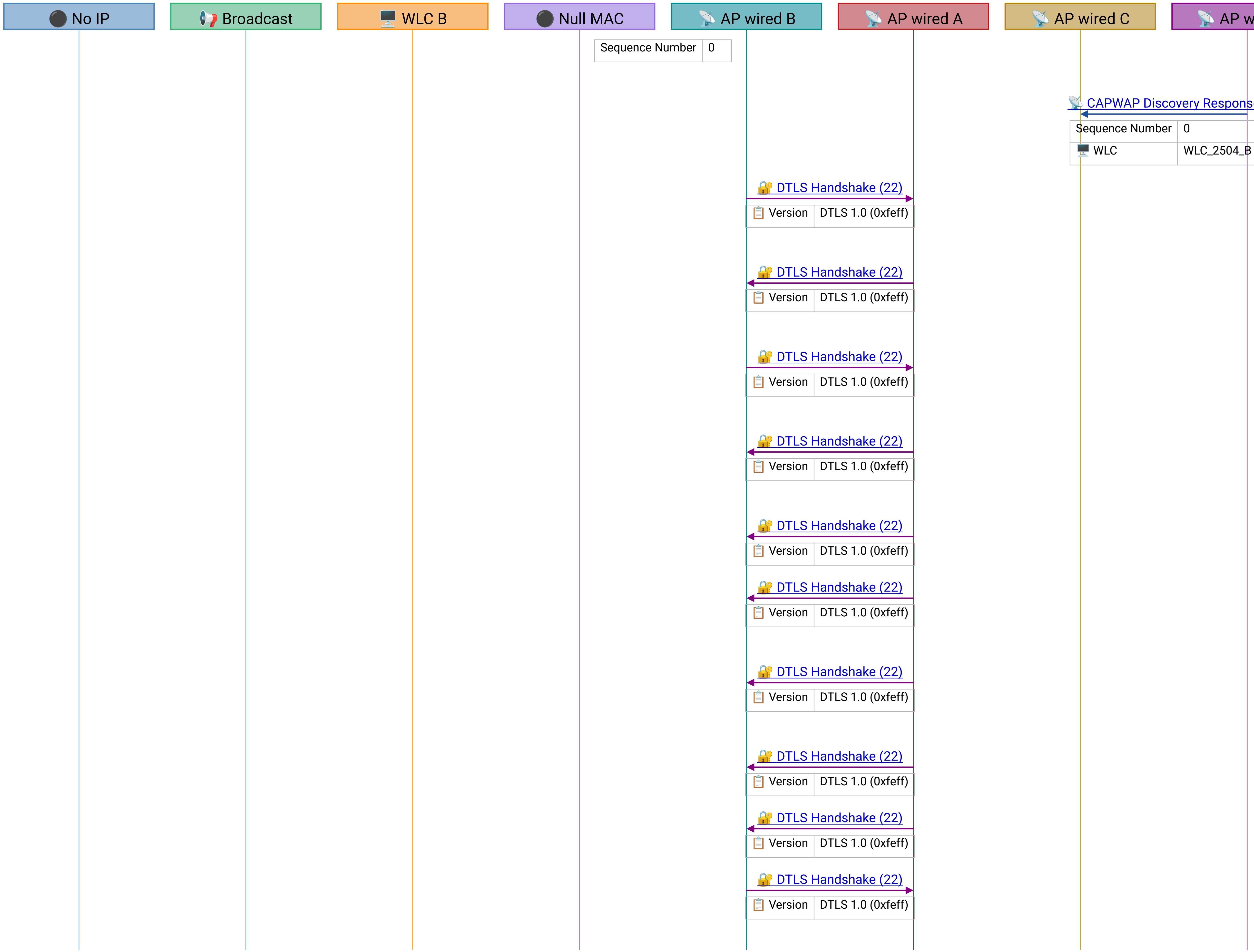
🔗 DHCP Offer

💡 DHCP — client obtains IP address after 802.11 association

Exploring stateless_ha_nn.pcapng



Exploring stateless_ha_nn.pcapng



WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)

💡 CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)

💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport

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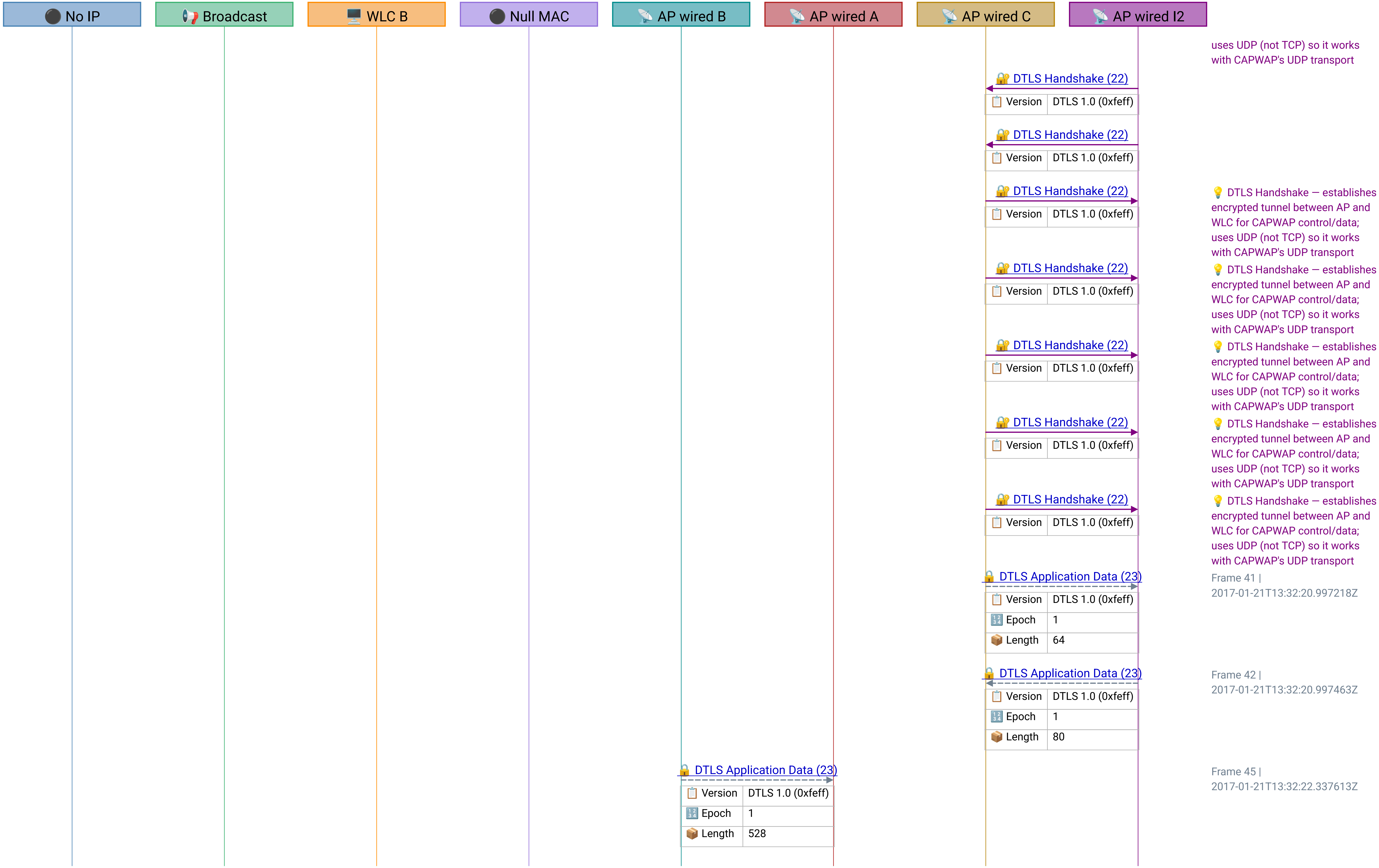
💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport

💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works

Exploring stateless_ha_nn.pcapng


⚫ No IP
📢 Broadcast
🖥️ WLC B
⚫ Null MAC
📡 AP wired B
📡 AP wired A
📡 AP wired C
📡 AP wired I2
uses UDP (not TCP) so it works with CAPWAP's UDP transport
🔐 DTLS Handshake (22)
📋 Version | DTLS 1.0 (0xfeff)
🔐 DTLS Handshake (22)
📋 Version | DTLS 1.0 (0xfeff)
🔐 DTLS Handshake (22)
📋 Version | DTLS 1.0 (0xfeff)
💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport
🔐 DTLS Handshake (22)
📋 Version | DTLS 1.0 (0xfeff)
💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport
🔐 DTLS Handshake (22)
📋 Version | DTLS 1.0 (0xfeff)
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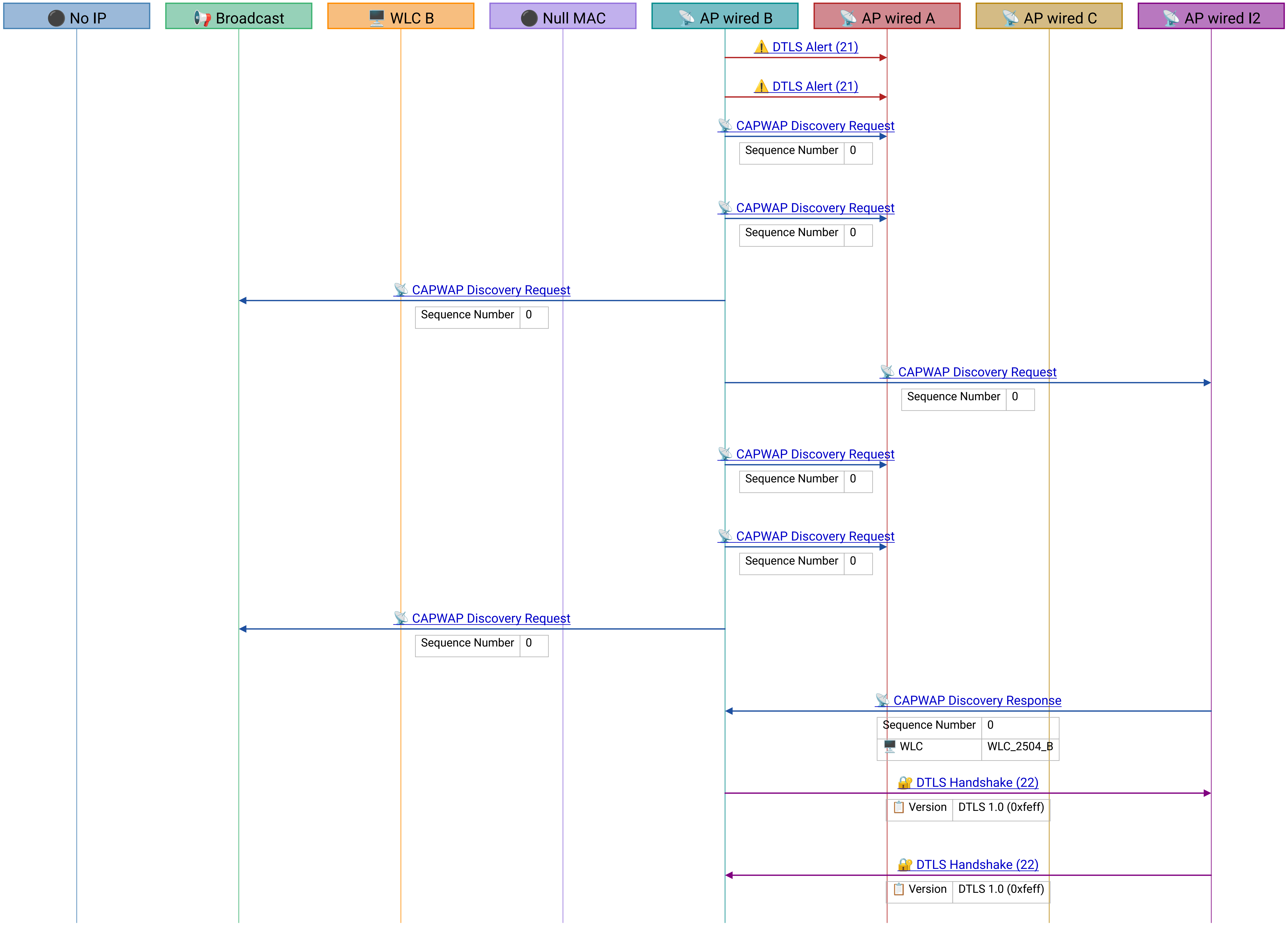
🔐 DTLS Handshake (22)
📋 Version | DTLS 1.0 (0xfeff)
💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport
🔐 DTLS Handshake (22)
📋 Version | DTLS 1.0 (0xfeff)
💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport
🔒 DTLS Application Data (23)
📋 Version | DTLS 1.0 (0xfeff)
🔢 Epoch | 1
📦 Length | 64
Frame 41 | 2017-01-21T13:32:20.997218Z
🔒 DTLS Application Data (23)
📋 Version | DTLS 1.0 (0xfeff)
🔢 Epoch | 1
📦 Length | 80
Frame 42 | 2017-01-21T13:32:20.997463Z
🔒 DTLS Application Data (23)
📋 Version | DTLS 1.0 (0xfeff)
🔢 Epoch | 1
📦 Length | 528
Frame 45 | 2017-01-21T13:32:22.337613Z

Exploring stateless_ha_nn.pcapng



Frame 69 | 2017-01-21T13:32:31.337495Z

Frame 70 | 2017-01-21T13:32:31.337495Z

💡 CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)

💡 CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)

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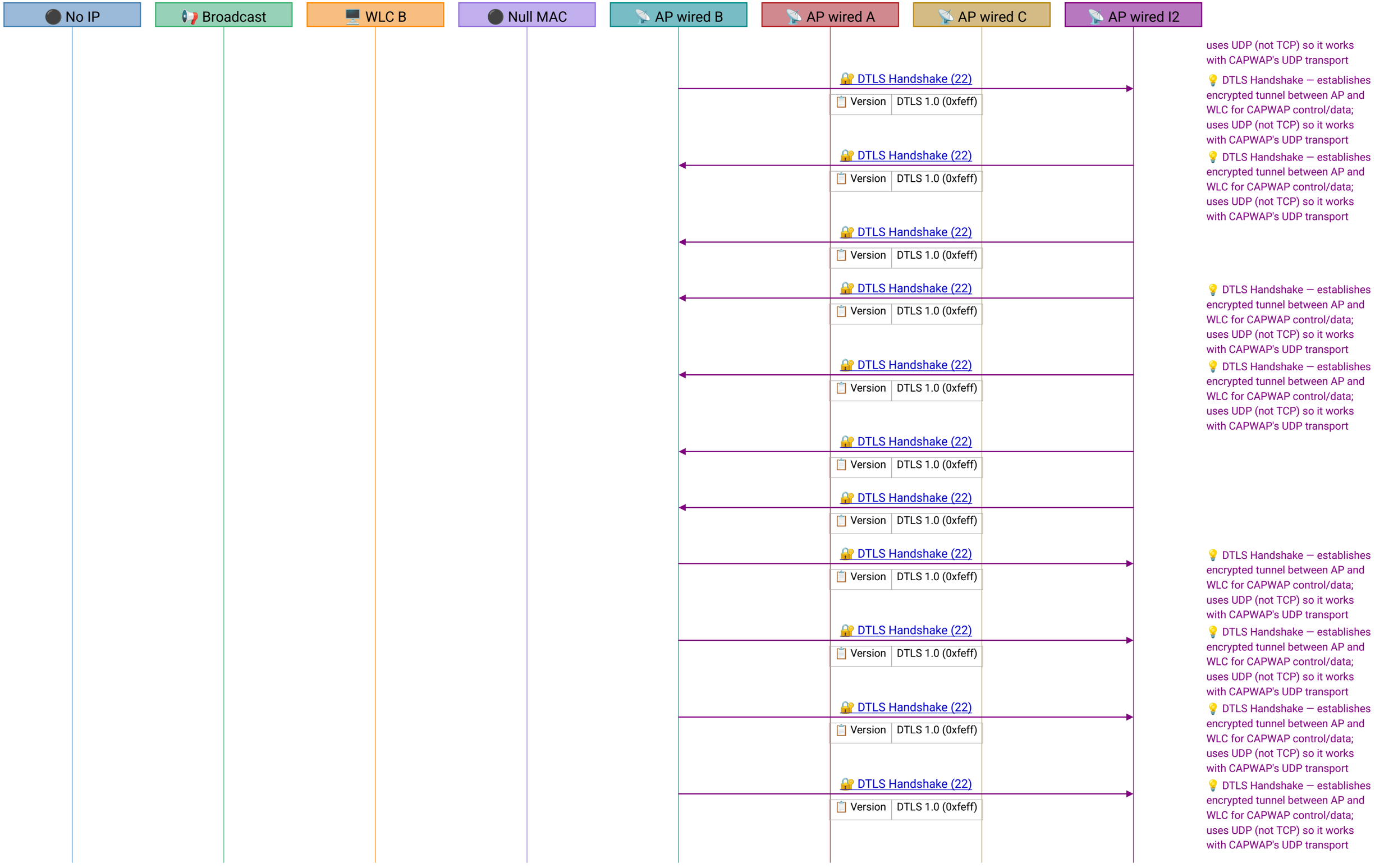
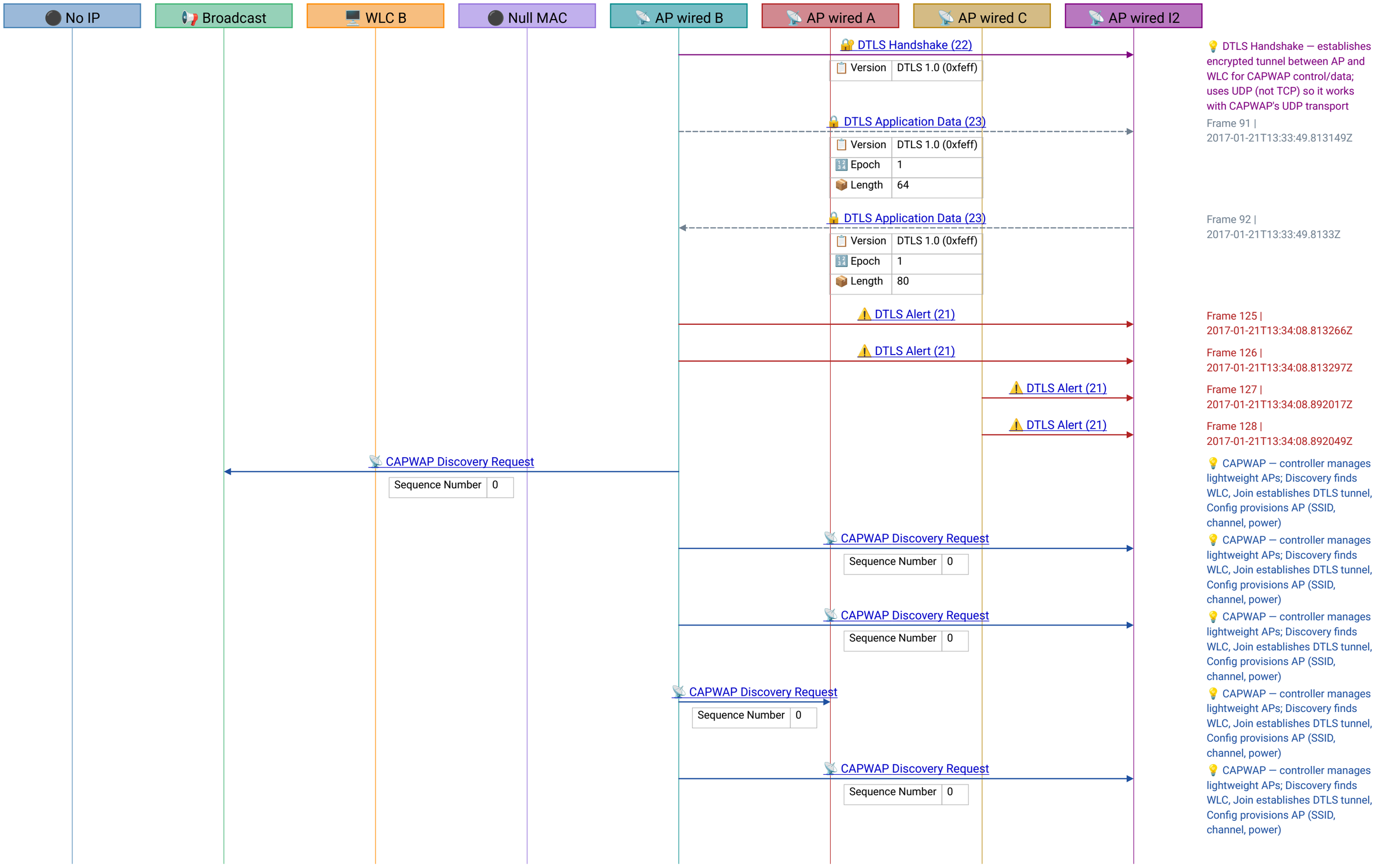
💡 CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)

💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport

💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data;


⚫ No IP
📢 Broadcast
🖥️ WLC B
⚫ Null MAC
📡 AP wired B
📡 AP wired A
📡 AP wired C
📡 AP wired I2
🔐 DTLS Handshake (22)
📋 Version
DTLS 1.0 (0xfeff)
uses UDP (not TCP) so it works with CAPWAP's UDP transport
💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport



💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport

Frame 91 | 2017-01-21T13:33:49.813149Z

Frame 92 | 2017-01-21T13:33:49.8133Z

Frame 125 | 2017-01-21T13:34:08.813266Z

Frame 126 | 2017-01-21T13:34:08.813297Z

Frame 127 | 2017-01-21T13:34:08.892017Z

Frame 128 | 2017-01-21T13:34:08.892049Z

💡 CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)

💡 CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)

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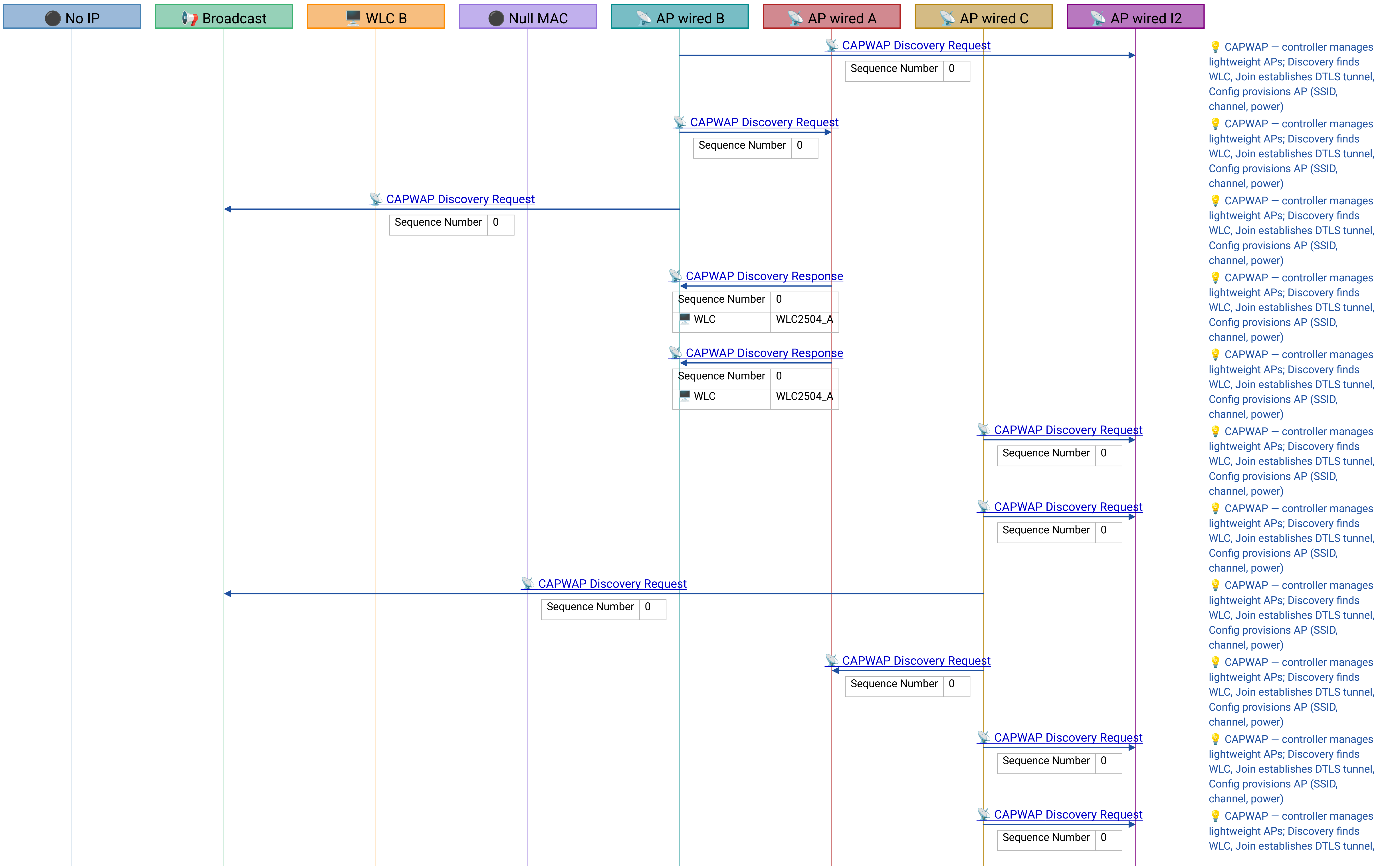
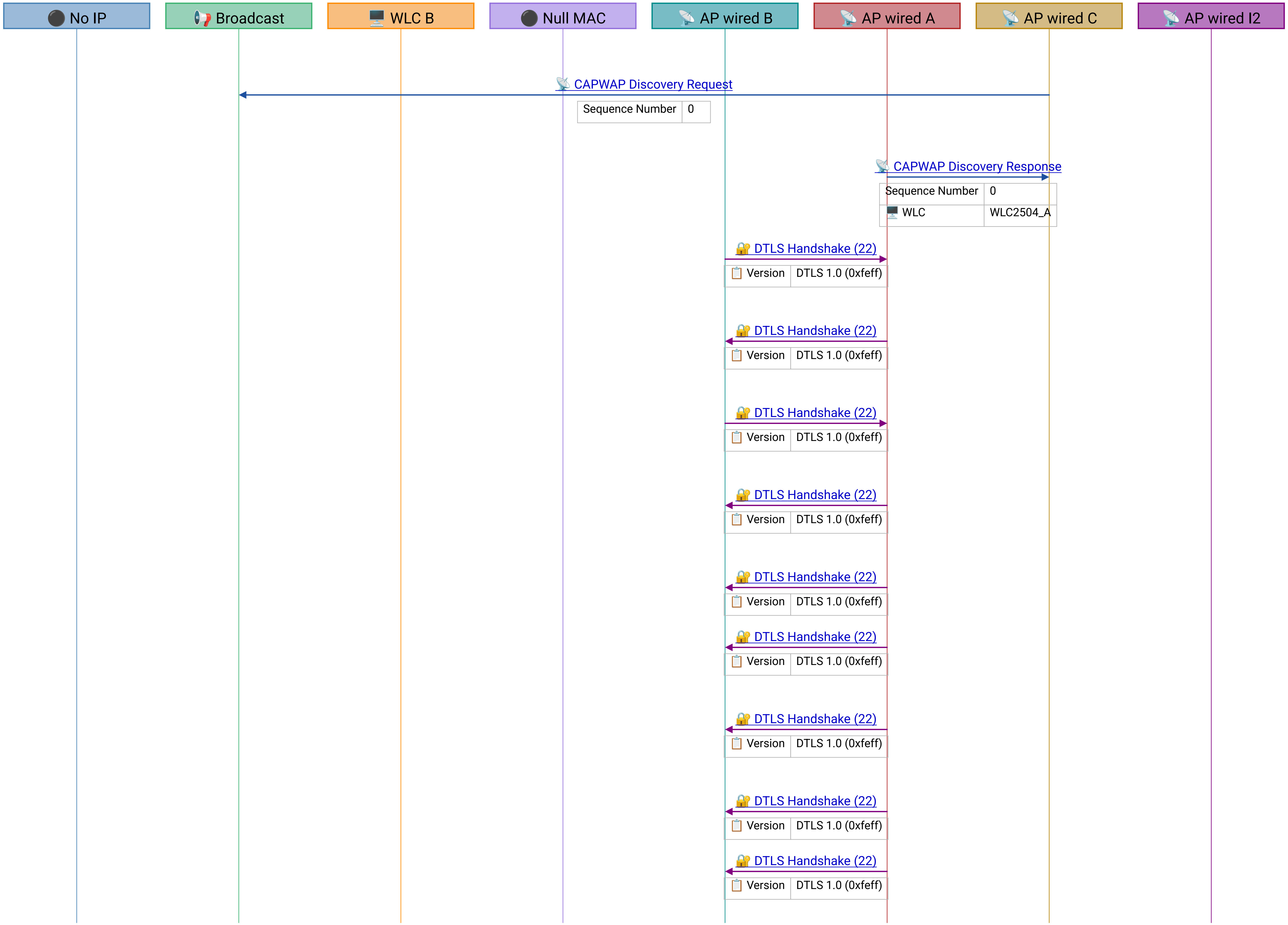

No IP
Broadcast
WLC B
Null MAC
AP wired B
AP wired A
AP wired C
AP wired I2
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Response
Sequence Number 0
WLC WLC2504_A
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Response
Sequence Number 0
WLC WLC2504_A
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)
CAPWAP Discovery Request
Sequence Number 0
CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel,

Exploring stateless_ha_nn.pcapng



Config provisions AP (SSID, channel, power)

💡 CAPWAP — controller manages lightweight APs; Discovery finds WLC, Join establishes DTLS tunnel, Config provisions AP (SSID, channel, power)

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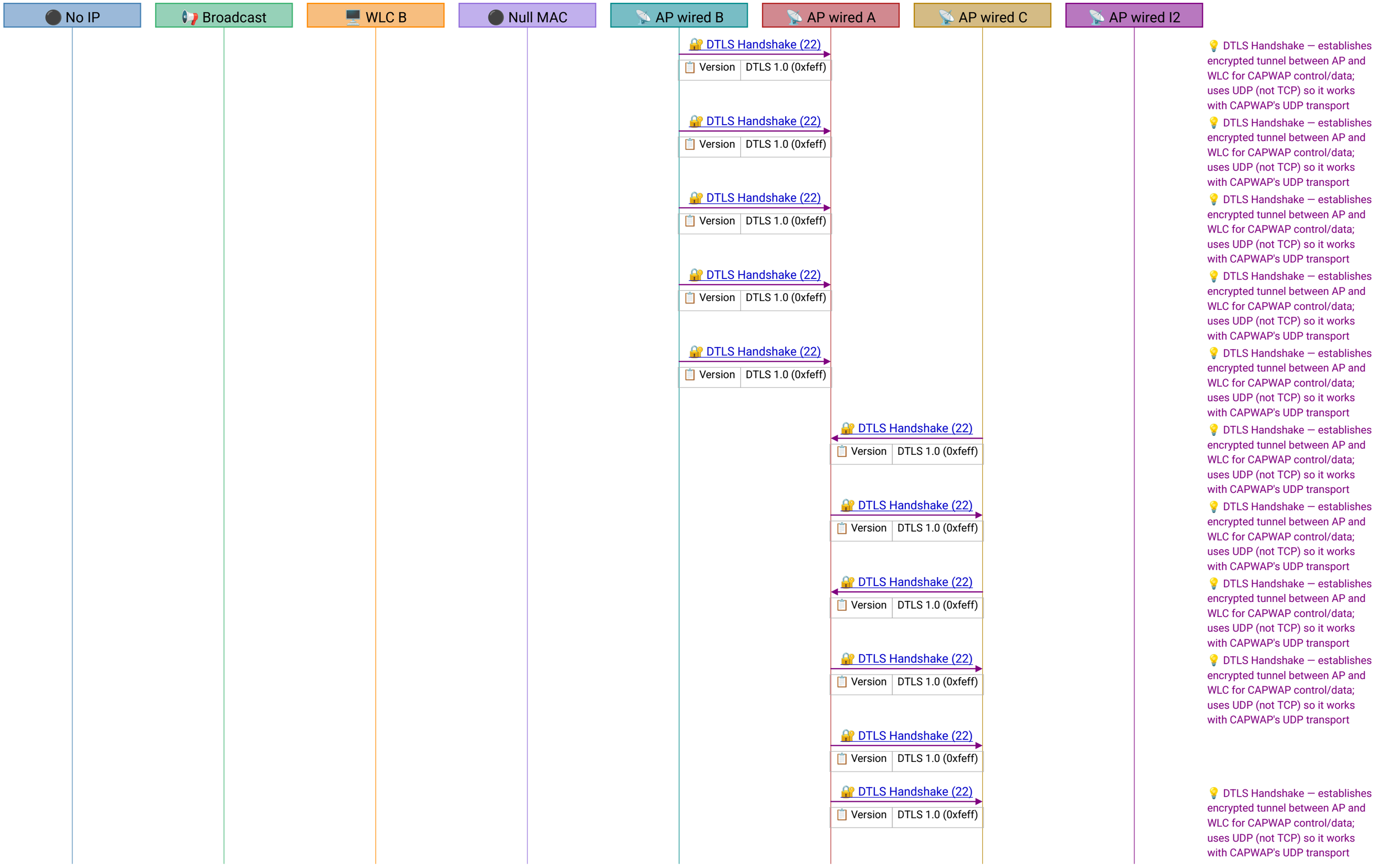
⚫ No IP
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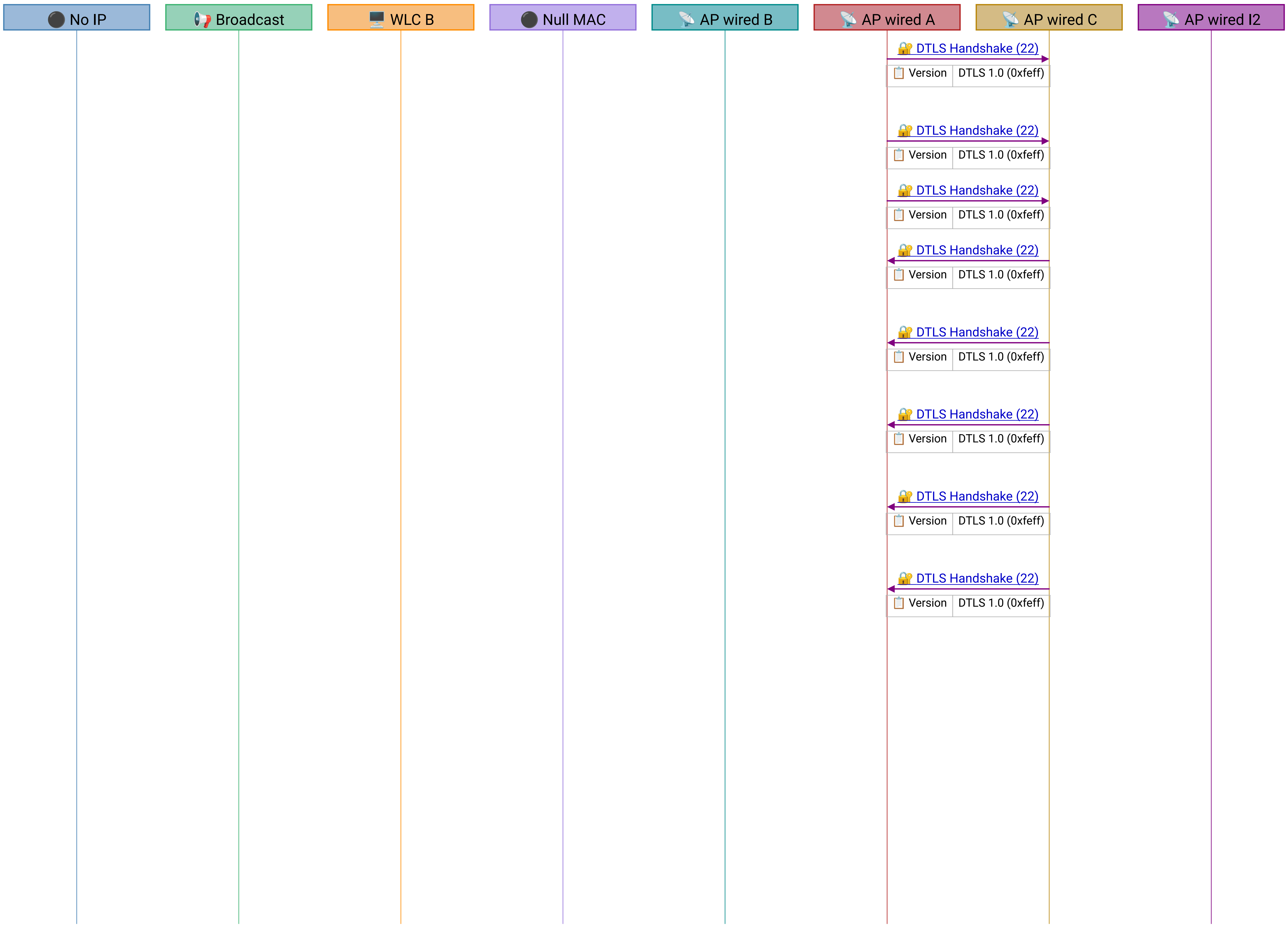
📡 AP wired C
📡 AP wired I2
🔐 DTLS Handshake (22)
📋 Version
DTLS 1.0 (0xfeff)
💡 DTLS Handshake — establishes encrypted tunnel between AP and WLC for CAPWAP control/data; uses UDP (not TCP) so it works with CAPWAP's UDP transport

Exploring stateless_ha_nn.pcapng



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