

iPhone Client

Broadcast

Cisco AP 1

clientassoc_wep_wlan.pcapng

Probe Request (0x0004)

Dst	ff:ff:ff:ff:ff:ff
Src	00:56:cd:ee:f1:71
Seq	820

Beacon frame (0x0008)

BSS	84:b2:61:24:a2:00
Seq	3577
Beacon Interval	0.104448 [Seconds]
DTIM count	0

Probe Request – active scanning: client solicits responses from APs; directed (specific SSID) or wildcard (broadcast SSID); faster than passive scanning (beacon-only)

Beacon – AP announces its presence at Beacon Interval (usually 100 TU = 102.4ms); carries SSID, supported rates, DTIM count, RSN info; basis for passive scanning

Probe Response (0x0005)

Dst	00:56:cd:ee:f1:71
Src	84:b2:61:24:a2:00
BSS	84:b2:61:24:a2:00
Seq	1211
Capabilities Information	0x1431

Probe Response – AP replies with capabilities (SSID, rates, RSN, channel); client uses signal strength + capabilities to select best AP for association

Authentication (0x000b)

Dst	84:b2:61:24:a2:00
Src	00:56:cd:ee:f1:71
BSS	84:b2:61:24:a2:00
Seq	821
Auth	Shared key (1)
Auth Seq	0x0001
Status	Successful (0x0000)

802.11 Authentication – Open System (2 frames) or SAE/WPA3 (multiple rounds); must succeed before Association

ACK (0x001d)

RA	00:56:cd:ee:f1:71
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Frame 5 | 2017-01-16T02:11:05.70929Z

Authentication (0x000b)

Dst	00:56:cd:ee:f1:71
Src	84:b2:61:24:a2:00
BSS	84:b2:61:24:a2:00
Seq	3578
Auth	Shared key (1)
Auth Seq	0x0002
Status	Successful (0x0000)

802.11 Authentication – Open System (2 frames) or SAE/WPA3 (multiple rounds); must succeed before Association

Authentication (0x000b)

Dst	84:b2:61:24:a2:00
Src	00:56:cd:ee:f1:71
BSS	84:b2:61:24:a2:00
Seq	822
Len	147

802.11 Authentication – Open System (2 frames) or SAE/WPA3 (multiple rounds); must succeed before Association

Authentication (0x000b)

Dst	00:56:cd:ee:f1:71
Src	84:b2:61:24:a2:00
BSS	84:b2:61:24:a2:00
Seq	3579
Auth	Shared key (1)
Auth Seq	0x0004
Status	Successful (0x0000)

802.11 Authentication – Open System (2 frames) or SAE/WPA3 (multiple rounds); must succeed before Association


Association Request (0x0000)


Dst	84:b2:61:24:a2:00
Src	00:56:cd:ee:f1:71
BSS	84:b2:61:24:a2:00
Seq	823
Capabilities Information	0x1431
Listen Interval	0x0014

Association Request – client joins BSS; carries SSID, supported rates, RSN (WPA2/WPA3) capabilities; AP assigns AID in response







Association Response (0x0001)

Association Response – AP accepts/rejects client; Status


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 Dst	00:56:cd:ee:f1:71
 Src	84:b2:61:24:a2:00
 BSS	84:b2:61:24:a2:00
 Seq	3580
 Status	Successful (0x0000)
 AID	0x0001








0=Success; assigns AID (Association ID) used for PS-Poll and TIM bitmap addressing


 Null function (No data) (0x0024)

 Power	STA will stay up
 Dst	84:b2:61:24:a2:00
 Src	00:56:cd:ee:f1:71
 BSS	84:b2:61:24:a2:00
 Seq	824

 Null Data – no payload; used for power management signaling: PWR MGT=1 tells AP the client is going to sleep (AP buffers frames); PWR MGT=0 means client is awake

 QoS Data (0x0028)

 Dst	ff:ff:ff:ff:ff:ff
 Src	00:56:cd:ee:f1:71
 BSS	84:b2:61:24:a2:00
 Seq	0
 TID	0
 Priority	Best Effort (Best Effort) (0)
 Len	336

 802.11 QoS Data – TID (Traffic Identifier) maps to WMM Access Category: TID 0-2=Best Effort (AC_BE), 3=Background (AC_BK), 4-5=Video (AC_VI), 6-7=Voice (AC_VO)