

Management Frames 00

- Association Request
0000 ①
- Association Response
0001 ②
- Reassociation Request
0010 ③
- Reassociation Response
0011 ④
- Probe Request
0100 ⑤
- Probe Response
0101 ⑥
- Reserved
0110-0111
- Beacon
1000 ⑦
- ATIM
1001 (ad-hoc only)
- Disassociation
1010 ⑧
- Authentication
1011 ⑨
- Deauthentication
1100 ⑩
- Reserved
1101-1111

Information Fields and Information Elements (with IE ID)*

⑨ Authentication Algorithm Number	Fixed			2
⑨ Authentication Transaction Seq #	Fixed			2
⑥ ⑦ Beacon Interval	Fixed			2
③ Current AP MAC Address	Fixed			6
① ③ Listen Interval	Fixed			2
③ ⑩ Reason Code	Fixed			2
② ④ Association ID (AID)	Fixed			2
② ④ ⑨ Status Code	Fixed			2
⑥ ⑦ Timestamp	Fixed			8
① ③ ⑤ ⑥ ⑦ SSID	Optional	0		2 - 34
① ② ③ ④ ⑤ ⑥ ⑦ Supported Rates	Optional	1		3 - 10
① ② ③ ④ ⑤ ⑥ ⑦ Ex Supported Rates	Optional	50		3 - 257
⑥ ⑦ FH Parameter Set	Optional	2		7
⑥ ⑦ DS Parameter Set	Optional	3		3
⑥ ⑦ CF Parameter Set	Optional	4		8
⑥ ⑦ IBSS Parameter Set	Optional	6		4
① ② ③ ④ ⑤ ⑥ ⑦ Capability Information	Fixed			2
⑦ Traffic Indication Map (TIM)	Optional	5		7 - 256
⑨ Challenge Text	Optional	16		3 - 255
⑥ ⑦ ERP Information	Optional	42		3

⑨ Authentication Algorithm Number	Fixed			.11
⑨ Authentication Transaction Seq #	Fixed			.11
⑥ ⑦ Beacon Interval	Fixed			.11
③ Current AP Address	Fixed			.11
① ③ Listen Interval	Fixed			.11
③ ⑩ Reason Code	Fixed			.11
② ④ Association ID (AID)	Fixed			.11
② ④ ⑨ Status Code	Fixed			.11
⑥ ⑦ Timestamp	Fixed			.11
① ③ ⑤ ⑥ ⑦ SSID	Optional	0		.11
① ② ③ ④ ⑤ ⑥ ⑦ Supported Rates	Optional	1		.11
① ② ③ ④ ⑤ ⑥ ⑦ Ex Supported Rates	Optional	50		.11g
⑥ ⑦ FH Parameter Set	Optional	2		.11
⑥ ⑦ DS Parameter Set	Optional	3		.11
⑥ ⑦ CF Parameter Set	Optional	4		.11
⑥ ⑦ IBSS Parameter Set	Optional	6		.11
① ② ③ ④ ⑤ ⑥ ⑦ Capability Information	Fixed			.11
⑦ Traffic Indication Map (TIM)	Optional	5		.11
⑨ Challenge Text	Optional	16		.11
⑥ ⑦ ERP Information	Optional	42		.11g

⑨ Authentication Algorithm Number	Fixed			
⑨ Authentication Transaction Seq #	Fixed			
⑥ ⑦ Beacon Interval	Fixed			
③ Current AP Address	Fixed			
① ③ Listen Interval	Fixed			
③ ⑩ Reason Code	Fixed			
② ④ Association ID (AID)	Fixed			
② ④ ⑨ Status Code	Fixed			
⑥ ⑦ Timestamp	Fixed			
① ③ ⑤ ⑥ ⑦ SSID	Optional	0		
① ② ③ ④ ⑤ ⑥ ⑦ Supported Rates	Optional	1		
① ② ③ ④ ⑤ ⑥ ⑦ Ex Supported Rates	Optional	50		
⑥ ⑦ FH Parameter Set	Optional	2		
⑥ ⑦ DS Parameter Set	Optional	3		
⑥ ⑦ CF Parameter Set	Optional	4		
⑥ ⑦ IBSS Parameter Set	Optional	6		
① ② ③ ④ ⑤ ⑥ ⑦ Capability Information	Fixed			
⑦ Traffic Indication Map (TIM)	Optional	5		
⑨ Challenge Text	Optional	16		
⑥ ⑦ ERP Information	Optional	42		

Size (Octets)

2
2
2
6
2
2
2
2
8
2 - 34
3 - 10
3 - 257
7
3
8
4
2
7 - 256
3 - 255
3

Orig Standard

.11
.11
.11
.11
.11
.11
.11
.11
.11
.11
.11
.11g
.11
.11
.11
.11
.11
.11
.11g

Auth Tran Sequence #	Auth Algorithm	Status Code	Challenge Text
1	Open System	Reserved	Not Present
2	Open System	Status	Not Present
1	Shared Key	Reserved	Not Present
2	Shared Key	Status	Present
3	Shared Key	Reserved	Present
4	Shared Key	Status	Not Present

Reason Codes

- 0 - Reserved
- 1 - Unspecified Reason
- 2 - Previous authentication no longer valid
- 3 - Deauthenticated because sending station has left
- 4 - Disassociated due to inactivity
- 5 - Disassociation because the AP is overloaded
- 6 - Class 2 frame received from a non-authenticated STA
- 7 - Class 3 frame received from a non-authenticated STA
- 8 - Disassociated because sending station has left the BSS
- 9 - STA requesting (re)association is not authenticated with responding STA
- 10 - 65,535

Status Codes

- 0 - Successful
- 1 - Unspecified Failure
- 2 - 9 Reserved
- 10 - Cannot support all requested capabilities
- 11 - Reassociation denied due to inability to confirm association
- 12 - Association denied due to reason outside the standard
- 13 - Responding STA doesn't support the specified auth algorithm
- 14 - Received an authentication frame with authentication transaction sequence number out of expected sequence
- 15 - Authentication rejected because of challenge failure
- 16 - Authentication rejected due to timeout waiting for next frame in sequence
- 17 - Association denied because the AP is unable to handle additional associated STA's
- 18 - Association denied due to requesting STA not supporting all of the data rates in the BSSBasicRateSetparameter
- 19 - Association denied due to requesting station not supporting Short Preamble
- 20 - Association denied due to requesting STA not supporting PBCC
- 21 - Association denied due to requesting STA not supporting Channel Agility
- 22 - 24 Reserved
- 25 - Association denied due to requesting STA not supporting Short Time Slot
- 26 - Association denied due to requesting STA not supporting DSSS-OFDM
- 27 - 65,535 Reserved

©Copyright 2005 - GTHill.com
Comment / Questions - gene@gthill.com

Station		CF Pollable	CF-Poll Request	
		0	0	Not CF-Pollable
		0	1	CF-Pollable - not desiring to be on CF Poll list
		1	0	CF-Pollable - desiring to be on CF-Poll list
		1	1	CF-Pollable - desiring never to be polled

Access Point		CF Pollable	CF-Poll Request	
		0	0	No Point Coordinator
		0	1	Point coordinator for delivery only (does not poll)
		1	0	Point coordinator for delivery and polling
		1	1	Reserved

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ESS	IBSS	CF Poll-able	CF Poll Req	Privacy / Protected	Short Preamble	PBCC	Channel Agility	Reserved	Reserved	Short Slot Time	Reserved	Reserved	DSSS-OFDM	Reserved	Reserved

Capability Information Field Format

* Fixed fields are required to be present in their respective frame types while others are optional depending on the circumstances