ethernet frame / dot11 frame

ethernet frame (802.3 frame) / dot11 frame (802.11 frame)

802.3 frame

- Destination address, Source address

```
  Frame 42: 317 bytes on wire (2536 bits), 317 bytes captured (2536 bits) on interface 0
  Ethernet II, Src: Cimsys_33:44:55 (00:11:22:33:44:55), Dst: Powercom_3c:7a:00 (00:05:9a:3c:7a:00)
    Destination: Powercom_3c:7a:00 (00:05:9a:3c:7a:00)
    Source: Cimsys_33:44:55 (00:11:22:33:44:55)
    Type: IPv4 (0x0800)
```

802.11 frame

- MAC 주소 지정이 ethernet frame 보다 복잡하다.
- MAC 헤더에 네개의 주소 필드가 존재한다.

```
  IEEE 802.11 Beacon frame, Flags: .........
    Type/Subtype: Beacon frame (0x0008)
    Frame Control Field: 0x8000
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: fa:8f:ca:37:71:7c (fa:8f:ca:37:71:7c)
    Source address: fa:8f:ca:37:71:7c (fa:8f:ca:37:71:7c)
    BSS Id: fa:8f:ca:37:71:7c (fa:8f:ca:37:71:7c)
    .... .... .... 0000 = Fragment number: 0
    1000 0010 0011 .... = Sequence number: 2083
    Frame check sequence: 0xf6ef3bd0 [incorrect, should be 0x7e761ebc]
```

Authentication

Type : 0x000b (1011)

Receiver add

Detination add

Transmitter add

Source add

BSSId

Fixed parameters (6 byte)

- authentication algorithm (0x0000)
- authentication SEQ (0x0002)
- status code (0x0000)

Tagged parameters (11 byte)

- Tag Number : 0xdd
- Tag length : 0x09
- OUI : 00:10:18 (Broadcom)
- vendor OUI type : 0x02
- vendor data : ......

Association request

Type : 0x0000 (0000)

Receiver add

Detination add

Transmitter add

Source add

BSSId

Fixed parameters (4 byte)

- capabilities information : 0x0431 (2byte)
- Listen interval : 0x000a (2byte)

Association response

Type : 0x0000 (0001)

Receiver add

Detination add

Transmitter add

Source add

BSSId

Fixed parameters (6 byte)

- capabilities information : 0x0431 (2byte)
- status code : (2byte)
- association id : 0x01c0 (2byte)