

01:08

IEEE 802.11 Wi-Fi Frame Format



Frame Control:

- ★ It is a 2 bytes starting field composed of 11 subfields. It contains control information of the frame.
- ★ It has 11 subfields.

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Protocol Version:

- ★ The first sub-field is a two – bit field set to 00. It has been included to allow future versions of IEEE 802.11 to operate simultaneously.

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Type:

- ★ It is a two-bit subfield that specifies whether the frame is a data frame, control frame or a management frame.

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Subtype:

- ★ It is a four – bit subfield states whether the field is a Request to Send (RTS) or a Clear to Send (CTS) control frame. For a regular data frame, the value is set to 0000.

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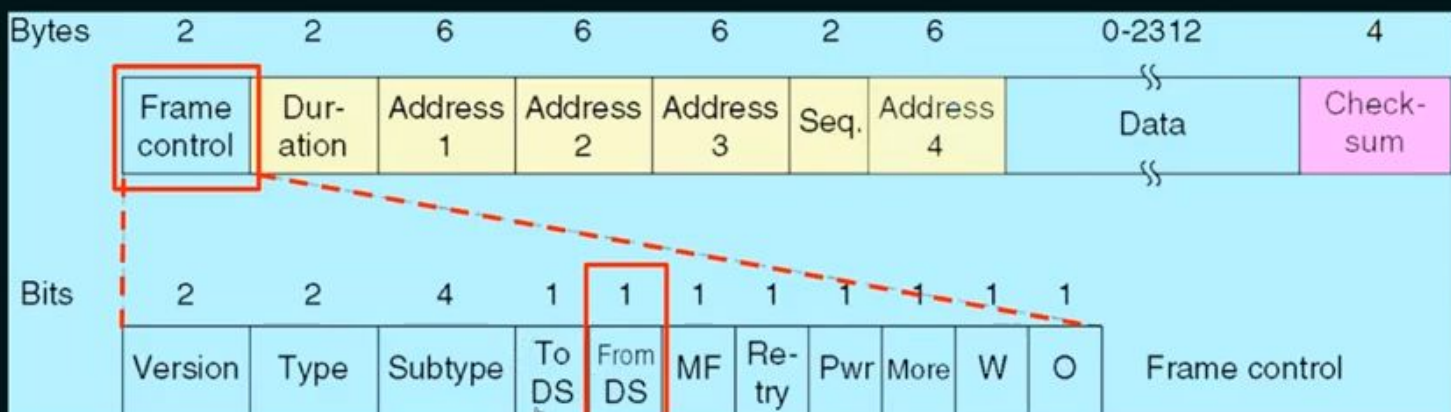
To DS:

- ★ A single bit subfield indicating whether the frame is going to the access point (AC), which coordinates the communications in centralised wireless systems.

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From DS:

- ★ A single bit subfield indicating whether the frame is coming from the Access point.

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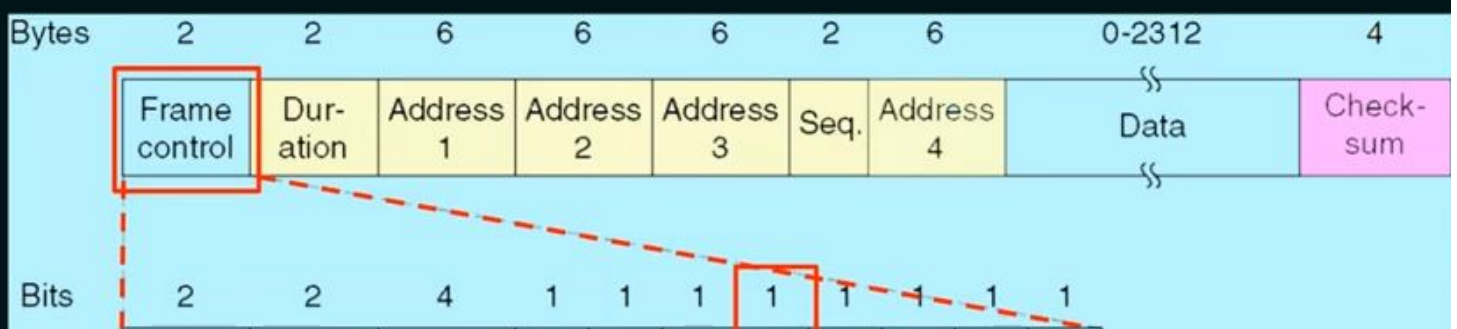
More Fragments:

- ★ A single bit subfield which when set to 1 indicates that more fragments would follow.

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Version	Type	Subtype	To DS	From DS	MF	Re-try	Pwr	More	W	O	Frame control
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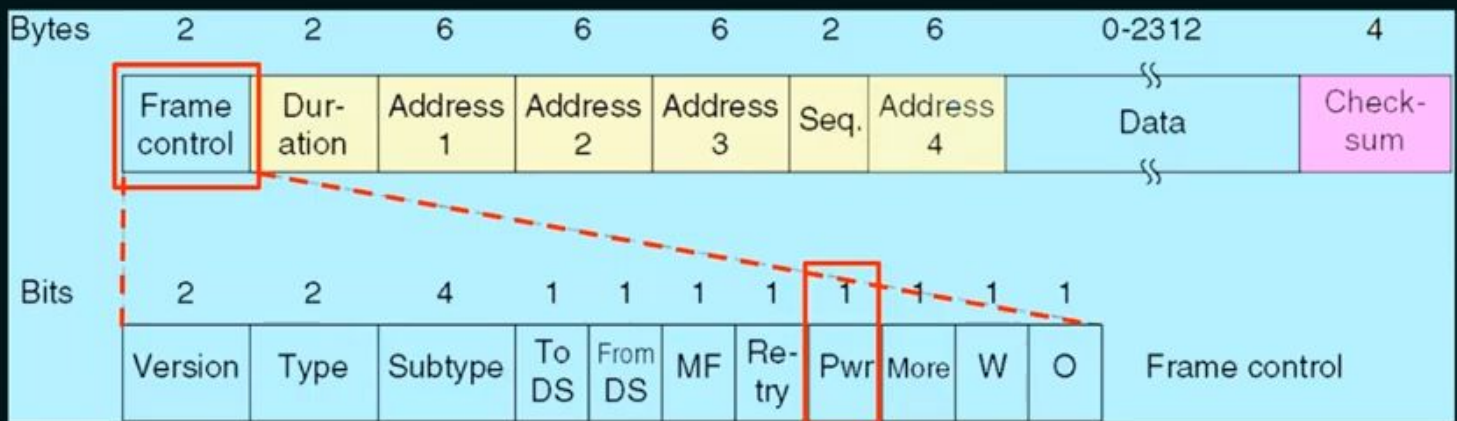
Retry:

- ★ A single bit subfield which when set to 1 specifies a retransmission of a previous frame.

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Power Management:

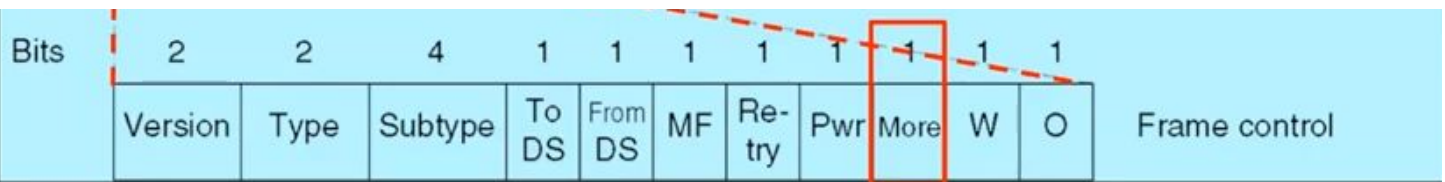
- ★ A single bit subfield indicating that the sender is adopting power-save mode.

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More Data:

- ★ A single bit subfield showing that sender has further data frames for the receiver.

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Duration:

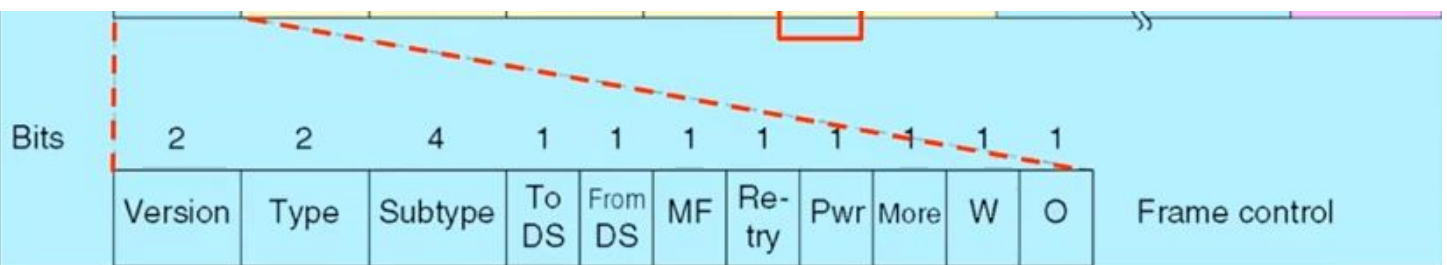
- ★ It is a 2-byte field that specifies the time period for which the frame and its acknowledgement occupy the channel.

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Sequence:

- ★ It is a 2 bytes field that stores the frame numbers. It detects duplicate frames and determines the order of frames for higher layers. Among the 16 bits, the first 4 bits provide identification to the fragment and the rest 12 bits contain the sequence number that increments with each transmission.

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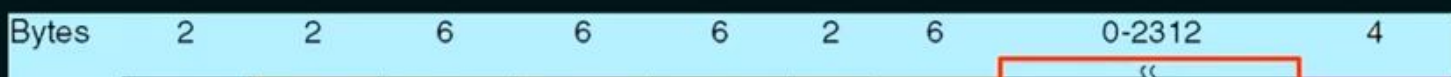


Checksum:

- ★ It is a 4-byte field for error detection purpose.

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Data:

- ★ This is a variable sized field that carries the payload from the upper layers. The maximum size of data field is 2312 bytes.