IEEE P802.11
Wireless LANs

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| Individual constrained TWT agreements |
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Abstract

The submission enables the requesting STA to indicate in the TWT setup signaling the times when the requesting STA is not able to receive or transmit or when it has limited capability to transmit or receive.

The constrained periods allow the responding STA to know which times should be avoided if the responding STA proposes an alternative schedule. Also, the responding STA may use the information in its scheduling logic.

Submission 11-17-1339r0 contains the presentation slides for this normative text.

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**3.2 Definitions specific to IEEE802.11**

**Constrained period:** A period of time specified by an individual constrained TWT agreement when the requesting STA has limited possibility to transmit or receive. The responding STA avoids to create TWT SPs during the constrained periods.

* TWT element

Instructions to the ax Editor; make the changes to clause 9 as shown below.

Change Figure 9–589aw(Control field format). as follows.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | NDP Paging Indicator | Responder PM Mode | Broadcast | Wake TBTT Negotiation | Constrained  | Reserved |
| Bits: | 1 | 1 | 1 | 1 | 1 | ~~6~~3 |

Instructions to ax Editor; Insert the following paragraph after the 7th paragraph (“The Wake TBTT Negotiation subfield...”):

The Constrained subfield indicates that the TWT element defines constrained periods when the requesting STA cannot operate or has limited operating capabilities as described in 27.7.2.1(Individual constrained TWT agreements).

* TWT operation

**27.7.1 General**

***Instructions to the ax Editor; add the following text as the new third paragraph.***

An HE STA can negotiate individual constrained TWT agreements to establish constrained periods during which the requesting STA has limited transmission and reception capabilites. The TWT responding STA should avoid creating TWT SPs during the constrained periods.

* Individual TWT agreements

Instructions to the ax Editor; make the changes to clause 27.7.2 as shown below.

An HE STA may negotiate individual TWT agreements with another HE STA as defined in 10.43.1(TWT overview), except that the STA:

* May set the TWT Protection field to 1 to indicate that TXOPs within the TWT SPs shall be initiated with a NAV protection mechanism, such as (MU) RTS/CTS, or CTS-to-self frame; otherwise it shall set it to 0.
* May set the Constrained subfield to 1 to indicate the setup of an individual constrained TWT agreement as described in 27.7.2.1(Individual constrained TWT agreements).
* A successful TWT agreement whose Constrained subfield in the TWT response is 1 establishes a constrained TWT agreement; otherwise a TWT agreement is established.

**27.7.2.1 Individual constrained TWT agreements**

***Instructions to the ax Editor; add the new clause as shown.***

In individual constrained TWT agreement the TWT requesting STA and the TWT responding STA establish constrained periods during which the requesting STA is not able to operate, or has limited possibility to operate. The responding STA and the requesting STA should not setup broadcast TWT or individual TWT agreements which TWT SPs overlap with the constrained periods.

The requesting STA requests to establish an individual constrained TWT agreement, when it sets the Constrained subfield to 1 in the Control field of the TWT element and the Broadcast subfield to 0 in the Control field of the TWT element.

The responding STA may accept or reject an individual constrained TWT agreement. If the individual constrained TWT is accepted, the requesting STA shall update the parameters of the individual constrained TWT agreement, if it no longer needs the individual constrained TWT agreement, or if it should change the schedule of the constrained agreement.