IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CR for Clause 3.2 | | | | |
| Date: 2021-04-12 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Xiaofei Wang | InterDigital Inc. |  | 607-592-2727 | Xiaofei.wang@interdigital.com |
| Hanqing Lou |  |  |  |
| Mahmoud Kamil |  |  |  |
| Ying Wang |  |  |  |
| Joseph Levy |  |  |  |
| Rui Yang |  |  |  |
|  |  |  |  |  |

Abstract:

This document proposes resolution to the following CC50 CIDs (changes are based on 802.11bn draft 0.2):

Rev0: initial version

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 279 | Sigurd Schelstraete | 3.2 | 22.21 | "An AP that intends to share a portion of its obtained TXOP" may not be a defintiion that applies to all types of coordinated operation. For coBF or coSR, the full TXOP is shared since both devices work in parallel. | Improve definition to cover all forms of coordinated operation | Rejected: Even for CoBF and Co-SR, a part of the obtained TXOP is used for polling so the shared TXOP is only a portion of the obtained TXOP. |
| 460 | Peshal Nayak | 3.2 | 21.64 | The term multi-AP technique is vague. A clear definition of multi-AP technique is needed. | A definition for multi-AP technique should be added. | Revised:  Changes are made to the definition of Co-SR.  TGbn editor, please make changes tagged #460 in 11-25/646r0. |
| 909 | Mikael Lorgeoux | 3.2 | 21.27 | The indicated acronym in parenthesis seems not correct | Suggest to replace (TWT) by (Co-RTWT) | Revised:  The first acronym (TWT) is updated to (R-TWT), however that acronym should not be updated to (Co-RTWT) since Co-RTWT is already included.    TGbn editor, please make changes tagged #909 in 11-25/646r0. |
| 1026 | Weiyi Li | 3.2 | 22.09 | Missing separation among successive entries | Add separation. | Accepted |
| 1785 | Junichi Iwatani | 3.2 | 21.10 | "Multi-AP Coordination" should be "Multi-AP coordination" considering the definition of "Multi-AP coordination: [MAPC]" in page 22. | As in comment. | Accepted |
| 1965 | Michael Grigat | 3.2 | 22.13 | "a" framework | "A" framework | Revised:  “a” changed to “A”. This is a duplicate CID for 2841 |
| 2652 | Xiaofei Wang | 3.2 | 21.10 | Comma is not necessary | remove comma | Accepted  Instruction to TGbn editor, the comma has already been removed in 802.11bn D0.2, no further changes are necessary |
| 2654 | Xiaofei Wang | 3.2 | 21.27 | "and/or" should be removed from definition since this is a procedure that enables an AP to do one or more of the things, it does not mean that it mandates the AP do all things. | replace "/or" with " to" | Accepted |
| 2657 | Xiaofei Wang | 3.2 | 21.64 | The definition of CO-SR is not clear; for example PSR can be interpreted as CO-SR under this definition. | provide a clear definition that should at least clearly distinguish from PSR | Revised:  The definition is updated.  TGbn editor, please incorporate changes in 11-25/646r0 under tag 2657. |
| 2841 | Mark RISON | 3.2 | 22.13 | "a framework" -- definitions should start with an uppercase letter | As it says in the comment | Accepted |
| 3814 | Abhishek Patil | 3.2 | 21.64 | The definition doesn't accurately capture the intention of Co-SR. It seems to indicate that multiple APs are allowed to go together - which is the case today when APs are spread out and cannot hear each other. | Update the definition to clarify that these are non-collocated APs that can hear each other and the TXOP is owned by one AP (the sharing AP) and the shared AP are required to apply power control to meet the conditions stated by the sharing AP. | Revised:  The definition has been updated as suggested.  TGbn editor, please make changes tagged #3814 in 11-25/646r0. |

***TGbn editor: Please modify Clause 3.2 of 802.11bn D0.2 as follows:***

**3.2 Definitions specific to IEEE 802.11**

***Insert the following definitions (maintaining alphabetical order):***

**Access point identifier:** [AP ID] A value used for identifying an AP during a Multi-AP coordination

(MAPC) transmission. #1785 #2652

**Coordinated access point (AP):** [coordinated AP] An AP with which a sharing AP shares a portion of its

obtained TXOP.

**Coordinated beamforming:** [Co-BF] A Multi-AP technique where multiple APs coordinate to acquire CSI

from OBSS STA(s) and apply beamforming vectors to perform concurrent transmissions to each AP’s associated

STA(s) while minimizing interference to the recipient STA(s) in the OBSS(s).

**Coordinated channel recommendation:** [Co-CR] A procedure that enables an AP to coordinate with

another AP that does not belong to the same ESS to advertise the same channel for peer-to-peer (P2P) communication.

**Coordinated restricted target wake time (R-TWT):** [Co-RTWT] A procedure that enables an AP to coordinate its R-TWT schedule(s) with OBSS AP(s) to extend protection to R-TWT schedule(s) of OBSS AP(s). #909 #2654

**Coordinated restricted target wake time (Co-RTWT) agreement:** [Co-RTWT agreement] An agreement established via a successful Co-RTWT negotiation between a Co-RTWT requesting AP and a Co-RTWT responding AP.

**Coordinated restricted target wake time (Co-RTWT) coordinated access point (AP):** [Co-RTWT coordinated AP] An AP that extends protection to the R-TWT schedule(s) that are requested by a Co-RTWT requesting AP.

**Coordinated restricted target wake time (Co-RTWT) negotiation:** [Co-RTWT negotiation] A procedure that enables a Co-RTWT requesting AP to establish Co-RTWT agreement(s) with a Co-RTWT responding AP.

**Coordinated restricted target wake time (Co-RTWT) requesting access point (AP):** [Co-RTWT

requesting AP] An AP that requests protection for one or more of its R-TWT schedules.

**Coordinated restricted target wake time (Co-RTWT) responding access point (AP):** [Co-RTWT

responding AP] An AP that responds to a Co-RTWT requesting AP that initiates a Co-RTWT negotiation.

**Coordinated restricted target wake time (Co-RTWT) service period (SP):** [Co-RTWT SP] A period of time during which Co-RTWT coordinated APs extend protection to a corresponding R-TWT schedule of a Co-RTWT requesting AP.

**Coordinated restricted target wake time (Co-RTWT) service period (SP) start time:** [Co-RTWT SP

start time] The value of the timing synchronization function (TSF) at the beginning of a Co-RTWT SP.

**Coordinated spatial reuse:** [Co-SR] A Multi-AP procedure in which multiple non-colocated APs perform coordinated concurrent transmissions through transmit power control of the shared AP by the sharing AP. #490 #2657 #3814

**Coordinated time division multiple access (TDMA)**: [Co-TDMA] A procedure that enables an AP that

has obtained a TXOP to share a time portion of the obtained TXOP with a set of APs.

**Coordinated time division multiple access (Co-TDMA) sharing access point (AP)**: [Co-TDMA sharing

AP] A sharing AP that intends to share a time portion of its obtained TXOP with a set of APs as part of Co-

TDMA operation.

**Initial control frame (ICF):** [ICF] A Control frame that is sent to poll one or more STAs to determine their

availability and/or willingness to participate during the TXOP. A STA’s participation might require transitioning

to a different mode of operation.

**Multi-AP coordination:** [MAPC] A framework that includes a set of coordination schemes (such as Co-BF,

Co-SR, Co-TDMA, Co-RTWT) and procedures for OBSS APs to coordinate their transmissions and

improve communications reliability. #1965 #2841

**Polled access point (AP)**: [polled AP] An AP polled by a sharing AP in the ICF that is transmitted as part of

a Multi-AP coordinated operation.

**Sharing access point (AP)**: [sharing AP] An AP that intends to share a portion of its obtained TXOP with a

set of APs.