IEEE P802.11
Wireless LANs

|  |
| --- |
| CR for Clause 3.2 |
| Date: 2025-05-11 |
| 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 |  |  |  |
| Laurent Cariou | Intel |  |  |  |

Abstract:

This document proposes resolution to the following CC50 CIDs (changes are based on 802.11bn draft 0.2): 870 1451 1452 1453 1454 1456 1457 1492 1744 2655 2658 2659 2812 2813 2830 2839 2840 3157 3613 3817

Rev0: initial version

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 870 | Tomoko Adachi | 3.2 | 0.00 | It is better to describe NPCA, DUO, and PUO in 3.2. | As in comment. |  Revised: the definition of NPCA, DUO and PUO have been added. Tgbn editor: please incorporate changes in 11-25/657r0 under tag #870. |
| 1451 | Akira Kishida | 3.2  | 21.37 | If a Co-RTWT SP doesn't have the functionality to set TXOP, the term "protection" should not be used. | Change the term to "operation" or "coordination." |  Discussion needed  |
| 1452 | Akira Kishida | 3.2  | 21.55 | If a Co-RTWT SP doesn't have the functionality to set TXOP, the term "protection" should not be used. | Change the term to "operation" or "coordination." |  Discussion needed |
| 1453 | Akira Kishida | 3.2  | 22.09 | Regarding the ICF, there is no definition of what to participate in. | For instance, objectives such as "operations/features/functions defined in this amendment" should be clarified. |  Revised: ICF definition has been removed and ICF has been added to 3.4 as an acronym.TGbn editor: please incorporate changes in 11-25/657r0 under tag #1453 |
| 1454 | Akira Kishida | 3.2  | 22.16 | Regarding the definition of the MAPC, it is not necessarily the case that all MAPC schemes can improve reliability. Specific schemes such as Co-BF aim to enhance spectrum efficiency. | Consider deleting the sentence "andimprove communications reliability." |  Revised:The definition of MAPC has been revised based on the CID.TGbn editor, please incorporate the changes in 11-25/657r0 under tag #1454 |
| 1456 | Akira Kishida | 3.2  | 22.08 | There is no line break. | Insert a line break. | Revised: insert a line break at 24.08 (TGbn D0.2)Note to TGbn editor: there are multiple CIDs on the same issue.  |
| 1457 | Akira Kishida | 3.2  | 22.17 | There is no line break. | Insert a line break. |  Revised: insert a line break at 24.17 (TGbn D0.2)Note to TGbn editor: there are multiple CIDs on the same issue. |
| 1492 | Kotaro NAGANO | 3.2  | 22.15 | "for OBSS APs to coordinate their transmissions and improve communications reliability" : The effect of MAPC seems to be limited to improve communications reliability. | Effectiveness and targets such as speed enhancement and coverage expansion should also be described. |  Revised: the definition of MAPC has been updated to be more general.TGbn editor: please incorporate changes in 11-25/657r0 under tag #1492 |
| 1744 | Gaius Wee | 3.2 | 22.08 | The term initial control frame is very general but has been defined for MAPC use. If we use this term, it cannot be used to refer to a first of multiple control frames in a general context. | Rename ICF based on the features e.g., MAPC ICF, etc. |  Revised: ICF definition has been removed and ICF has been added to 3.4 as an acronym.TGbn editor: please incorporate changes in 11-25/657r0 under tag #1744 |
| 2655 | Xiaofei Wang | 3.2 | 21.60 | this definition is not necessary and not clear. It is a given once a coordinated RTWT SP is known. No need for a separate definition. | delete the definition |  Accepted |
| 2658 | Xiaofei Wang | 3.4 | 22.29 | MAPC is already defined under 3.2 and no need to do it again under 3.4 | remove MAPC entry from 3.4 |  Accepted |
| 2659 | Xiaofei Wang | 3.2 | 22.13 | Not sure whether communication reliability will be increased under MAPC, in particular, reliability may be worse under Co-SR or Co-BF due to extra interference. The definition is not correct. | remove "improve communications reliability" |  Revised: the definition of MAPC has been revised to address this issue. TGbn editor: please incorporate changes in 11-25/657r0 under tag #2659 |
| 2812 | Ying Wang | 3.2 | 22.16 | Does "reliability" also cover latency and throughput in "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 andimprove communications reliability.", or should they be explicitly stated here? | Also list throughput and latency in addition to reliability. |  Revised: the definition of MAPC has been revised to address this issue. TGbn editor: please incorporate changes in 11-25/657r0 under tag #2812 |
| 2813 | Ying Wang | 3.2 | 22.19 | No need to capitalize "multi" in "a Multi-AP coordinated operation". | Change to "a multi-AP coordinated operation". |  AcceptedTGbn editor, please incorporate changes in 11-25/657r0 under tag #2813 |
| 2830 | Mark RISON | 3.2 | 0.00 | Terms being defined should not start with an uppercase letter | As it says in the comment |  Revised: agree with the comment.Instruction to the editor, please change the first uppercase letter of the terms being defined to lower case.  |
| 2839 | Mark RISON | 3.2 | 22.08 | "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." is confusing because the ICF is also used to cause the receiver to change state | As it says in the comment |  Revised: ICF definition has been removed and ICF has been added to 3.4 as an acronym.TGbn editor: please incorporate changes in 11-25/657r0 under tag #2839 |
| 2840 | Mark RISON | 3.2 | 22.14 | Is "OBSS AP" defined? | As it says in the comment |  Rejected: OBSS and AP have both been defined.  |
| 3157 | Yunbo Li | 3.2 | 22.08 | duplicated acronyms of ICF | remove the first one. |  Revised: ICF definition has been removed and ICF has been added to 3.4 as an acronym. |
| 3613 | James Yee | 3.2 | 22.10 | Since ICF is used in several places for different purposes, it is better to not define it here for a small set features. | Delete the definition and instea just introduce the acronym ICF in 3.4. |  Accepted |
| 3817 | Abhishek Patil | 3.2 | 22.09 | Add ICF to the abbreviation list and replace all occurrences of 'initial Control frame' [case independent] in the TGbn spec with ICF. | As in comment |  Revised:Deleted ICF definition and add ICF to abbreviation list in 3.4. TGbn editor: please replace “initial control frame” [case independent] in TGbn spec with ICF except the first occurrences of the term where the term should be expanded.  |

***Instruction to the editor, please change the first letter (that are currently in uppercase in TGbn D0.2) of the terms being defined in 3.2 to lower case, for example, change “Access point identifier” to “access point identifier” at 23.10***

***TGbn editor: In addition, please modify Clause 3.2 of 802.11bn draft 0.2 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.

**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 (TWT):** [Co-RTWT] A procedure that enables an AP to coordinate its R-TWT schedule(s) with OBSS AP(s) and/or extend protection to R-TWT schedule(s) of OBSS AP(s).

**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.

 #2655**Coordinated spatial reuse:** [Co-SR] A Multi-AP technique where multiple APs perform concurrent transmissions through transmit power control of the shared AP by the sharing AP.

**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.

**dynamic unavailability operation**: [DUO] A mechanism for a non-AP STA to include unavailability information to its associated AP in some control frames. #870

 #3157 #3817 #3617 #1453 #1744 #2839

**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 in which OBSS APs coordinate their transmissions to improve network performance such as medium utilization, communications reliability, and latency. #1454 #2659 #1492 #2812

**non primary channel access**: [NPCA] A mechanism for peer STAs to dynamically switch operation from a BSS primary channel to an NPCA primary channel when the BSS primary channel is occupied by an OBSS. #870

**periodic unavailability operation**: [PUO] A mechanism for a non-AP STA to indicate to its associated AP that the STA will be unavailable during periodic service periods. #870

**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. #2813

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

**3.4 Abbreviations and acronyms**

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

DSO dynamic subband operation

ICF initial control frame #3817 #3617 #1453 #1744 #2839

UHR ultra high reliability