**IEEE P802.11
Wireless LANs**

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| CC50 CRs for CIDs related to definitions in MAPC scheme |
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 **Abstract**

This submission proposes resolutions for following 19 CIDs received for TGbn CC50:

743, 744, 745, 1425, 1696, 1989, 1990, 1991, 2570, 2656, 2842, 2843, 2844, 3815, 3900, 1732, 2653, 3194, 758.

**Revisions:**

Rev 0: Initial version of the document.

Rev 1: Added 4 CIDs.

Rev 2: Modified some definitions.

***TGbn editor: The baseline for this document is P802.11bn D0.2, P802.11REVmeD7.0, and 25/0599r5 PDT MAC MAPC Signaling and Protocol Aspects.***

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbn Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbn Draft (i.e., they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbn Editor: Editing instructions preceded by “TGbn Editor” are instructions to the TGbn editor to modify existing material in the TGbn draft. As a result of adopting the changes, the TGbn editor will execute the instructions rather than copy them to the TGbn Draft.***

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| **CID** | **Clause** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 743 | 3.2 | 22/21 | The definition of "sharing AP" (P22L21) is limited to Co-TDMA. But this term is also used by other MAPC schemes such as Co-SR. | modified the definition of "sharing AP" as follows: "An AP that intends to initiate a MAPC procedure with a set of APs." | Revised.Agree in principle. TGbn editor, please make the changes tagged by CID #743 in 25/0638r2. |
| 1989 | 3.2 | 21/4 | Need to clarify the definitions of "the sharing AP", "the shared AP", "coordinated AP". Whether to add "the coordinating AP" ? | As in comment. | Revised.Agree in principle.The change has been implemented as the similar comment, CID #743.TGbn editor, please make the changes tagged by CID #743 in 25/0638r2 and replace “sharing AP” by “coordinating AP” throughout Draft0.2. |
| 745 | 3.2 | 22/17 | The terms for responder are named differently for different MAPC scheme, which leads to chaos on the definition.For example, It is "polled AP" for generalized MAPC responder (P22L17), but "Co-RTWT coordinated AP" for Co-RTWT (P21L37), and "shared AP" for Co-SR (P21L64). | Unify the definitions as follows: "coordinated AP" for generalized MAPC responder /"Co-TDMA coordinated AP" / "Co-RTWT coordinated AP" / "Co-SR coordinated AP" etc. | Revised.Agree in principle. The definition of “coordinated AP” is modified.TGbn editor, please make the changes tagged by CID #745 in 25/0638r2 and and replace “shared AP” by “coordinated AP” throughout Draft0.2. |
| 2842 | 3.2 | 22/20 | There is a definition of "sharing AP" but not of "shared AP" | As it says in the comment | Revised.Agree in principle. The term “coordinated AP” is introduced to provide a similar representation in CID #745.TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 744 | 3.2 | 21/14 | The term "coordinated AP" (P21L14) seems to be a term for generalized MAPC framework (similar to the term "polled AP" in D0.1 to some degree), but the definition here is limited to Co-TDMA.Acutally, the term "Co-TDMA coordinated AP" is used in 37.8.2.3.3 (TXOP allocation phase). | change the term "coordinated AP" to "Co-TDMA coordinated AP" to keep align with the term "Co-TDMA sharing AP". | Revised.Agree in principle. The change has been implemented as the similar comment, CID #745.TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 1425 | 3.2 | 22/21 | There is no definition for "Shared AP." | The definition of "Shared AP" should be clarified because the term shared AP is often used, including subclause 3.2. | Revised.Agree in principle. The term “coordinated AP” is introduced to provide a more generalized representation in CID #745.TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 1990 | 3.2 | 21/4 | the definition of "coordinated AP" is unclear, and is inappropriate for co-TWT. The "coordinated AP should be an AP that has been assigned an AP ID. | As in comment. | Revised.Agree in principle.The change has been implemented as the similar comment, CID #745.TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 3815 | 3.2 | 21/65 | Definition of 'shared AP' is missing | Add a definition for 'shared AP'. | Revised.Agree in principle. The term “coordinated AP” is introduced to provide a more generalized representation in CID #745.TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 3900 | 3.2 | 22/21 | Shared AP is not defined. | Add a definition for shared access point | Revised.Agree in principle. The term “coordinated AP” is introduced to provide a more generalized representation in CID #745.TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 2656 | 3.2 | 21/64 | The term "shared AP" is not a good term and should be changed. | change "shared AP" to "coordinated AP" | Revised.Agree in principle.The change has been implemented as the similar comment, CID #745TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 2653 | 3.2 | 21/13 | The definition seems only to be constrained to C-TDMA, while it applies to all MAPC schemes | broaden the definition to cover all MAPC schemes | Revised.Agree in principle.The change has been implemented as the similar comment, CID #745TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 3194 | 3.2 | 21/14 | The description for [coordinated AP] only covers when there is TXOP sharing between APs. Based on the description, it is not very clear whether an AP participating in Co-RTWT is also a coordinated AP or not, considering that there may be no TXOP sharing between Co-RTWT APs. | Add accurate descriptions for coordinated AP and specify whether an AP participating in Co-RTWT is also a coordinated AP or not. | Revised.Agree in principle.The change has been implemented as the similar comment, CID #745TGbn editor, please make the changes tagged by CID #745 in 25/0638r2. |
| 1696 | 3.22 | 22/21 | The definition of sharing AP does not consider all usages. (also for coordinated AP) | Suggest each scheme defines its own version of roles (e.g., Co-TDMA sharing AP, Co-TDMA coordinated AP, Co-RTWT responding AP, etc.). Alternatively provide a very general high level description for each term in the context of MAPC negotiation and not for specific schemes. | Revised.Agree in principle.TGbn editor, please make the changes tagged by CID #1696 in 25/0638r2. |
| 1991 | 3.2 | 22/22 | the definition of "sharing AP" is unlear.The set of APs should be coordinated APs that have been assigned AP IDs respectively | suggest to modify "...with a set of APs" as "..with a set of coordinated APs". | Revised.Agree in principle.TGbn editor, please make the changes tagged by CID #1991 in 25/0638r2. |
| 2570 | 3.2 | 21/65 | There is no definition of a "shared AP" used in "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." | Change "a shared AP" to "a coordinated AP" since "coordinated AP" was just defined on the same page (P21) and is a more appropriate name. | Revised.Agree in principle.TGbn editor, please make the changes tagged by CID #2570 in 25/0638r2. |
| 2843 | 3.2 | 22/20 | An AP either shares or it doesn't. Ditto at line 5 | Change "intends to share" to "shares" | Rejected. In MAPC scheme, the coordination initiated by the coordinating AP may not necessarily result in a successful agreement. Therefore, the use of the term “intends to share” provides a more precise and appropriate characterization. |
| 2844 | 3.2 | 22/17 | It is not clear what the difference between a "shared AP" and a "polled AP" is | As it says in the comment | Revised.Agree in principle. The polled AP is only used in the initial polling phase of a MAPC scheme.TGbn editor, please remove the definition of “polled access point (AP)” in line 17, page 24. |
| 1732 | 3.2 | 22/17 | The term "polled access point" is very general but the definition mentions only for use in MAPC and only used in Co-TDMA currently. If we define this, we cannot use it generically to mean an AP that is polled | Suggest to rename the term to "Co-TDMA polled AP" or "MAPC polled AP" if applicable to the wider MAPC context | Revised.Agree in principle. The polled AP is only used in the initial polling phase of a MAPC scheme.TGbn editor, please remove the definition of “polled access point (AP)” in line 17, page 24. |
| 758 | 3.2 | 21/10 | The definition of "Access point identifier" is "[AP ID] A value used for identifying an AP, during a Multi-AP Coordination (MAPC) transmission". it is unclear how to obtain or define the "value". In the SFD, it says that the AP ID is used for the AP to identify another AP as a coordinated AP, when necessary. it is would better to if change the text to a value assigned by an AP to identify a coordinated AP . The text "during a Multi-AP Coordination (MAPC) transmission" may lead to a understanding where the AP ID only be used for MAPC transmission. In some senarioes, the AP ID is used for MAP framwork management. it would be better if revising the text "during a Multi-AP Coordination (MAPC) transmission" to "in the Multi-AP Coordination (MAPC) framwork" | change the text " A value used for identifying an AP, during a Multi-AP Coordination (MAPC) transmission" to " A value assigned by an AP to identify a coordinated AP in the Multi-AP Coordination (MAPC) framwork" | Revised.Agree in principle.TGbn editor, please make the changes tagged by CID #758 in 25/0638r2. |

**Proposed Texts:**

**3.2 Definitions specific to IEEE 802.11**

***TGbn editor, please insert the following changes and apply the revised definitions:***

**Access point identifier**: [AP ID] A value assigned by an AP to identify a coordinated AP in the multi-AP Coordination (MAPC) framework.(758)

**coordinated access point (AP)**: [coordinated AP] An AP that either adjusts the duration of its obtained transmission opportunity (TXOP) to extend protection of a requesting AP, or with which a coordinating AP shares a portion of its obtained TXOP by allocating time portions to it or permitting concurrent transmissions as part of a multi-AP coordination (MAPC) procedure.(#745).

**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 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-access point (AP) coordination (MAPC) technique where multiple APs perform concurrent transmissions through transmit power control of the coordinated AP by the coordinating AP.(#2570)

**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 coordinated APs.(#1991)

**coordinating access point (AP):** [coordinating AP] An AP that has obtained a transmission opportunity (TXOP) and intends to share its obtained TXOP with a set of coordinated APs by either allocating time portions to them or permitting concurrent transmissions as part of a multi-AP coordination (MAPC) procedure.(#743)

**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) requesting AP**: [MAPC requesting AP] An AP that initiates a MAPC procedure with a MAPC responding AP for one or more MAPC schemes.(#1696)

**Multi-AP coordination (MAPC) responding AP**: [MAPC responding AP] An AP that responds to a MAPC requesting AP.

**Multi-AP coordination**: [MAPC] a framework that includes a set of schemes (Co-BF, Co-SR, Co-TDMA, and Co-RTWT) and procedures in which APs operating their BSSs on the same primary 20 MHz channel coordinate to reduce interference levels and to improve network performance such as medium utilization efficiency, communication reliability, and latency.