IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CR for Miscellaneous CIDs | | | | |
| Date: 2025-05-02 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Po-Kai Huang | Intel Corporation |  |  | po-kai.huang@intel.com |

Abstract

This submission proposes resolutions for multiple comments related to TGbi D1.0 with the following CIDs:

* 779, 991, 947, 929, 2, 5, 7, 141, 912, 940,
* 943, 961, 981,

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Add CID 947
* Rev 2: Revision based on the latest frame name
* Rev 3: Revision to align with latest agreement
* Rev 4: Error fix.
* Rev 5: Add CID 929
* Rev 6: Revision based on the comments during the teleconference
* Rev 7: Revision based on the discussion during the teleconference

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 TGbi Draft. This introduction is not part of the adopted material.

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

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 779 | 3.2 | 21.04 | the definition of enhanced data privacy (EDP) is unclear. | suggest to add the definition of enhanced data privacy (EDP) | Rejected –  In general, the amendment does not define project title in 3.2. For example, no VHT definition in 3.2. However, normally, there are descriptions in 4.5 Overview of the services, and 11bi already has 4.5.4.10a Enhanced Data Privacy (EDP) enhancements to further describe EDP. |
| 991 | 3.4 | 22.56 | The term "enhanced data privacy" is not defined | Add a definition in clause 3.2 | Rejected –  In general, the amendment does not define project title in 3.2. For example, no VHT definition in 3.2. However, normally, there are descriptions in 4.5 Overview of the services, and 11bi already has 4.5.4.10a Enhanced Data Privacy (EDP) enhancements to further describe EDP. |
| 947 |  | 118.47 | The amendment should have a feature to allow a non-AP MLD to change its affiliated STA address during association. | If it doesn't exist (at least I couldn't find it) add a mechansim for a non-AP MLD to change an affiliated STA address during association. | Rejected –  11bi already has frame anonymization mechanism that can allow a non-AP MLD to change affiliated STA address during association. See 10.71.5 and 10.71.6. |
| 929 | 4.5.4.19 | 24.61 | "An non-AP" uses the wrong article | Replace it with "A non-AP" | Revised –  The instance has been fixed. In D1.2, there is no more instances of “an non-AP”. |
| 2 | Annex A |  | PICS is missing, please add it | please add PICS | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |
| 5 | Annex.B | 139.01 | Annex B (PICS) is missing | Add relevant PICS. | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |
| 7 | AnnexB | 139.01 | PICS section is missing, with 11bi providing data privacy the pics should reflect it possibly under a separate subclause. | Add a new subclause B.4.40 (?) providing the high level protocol implementation conformance statement. | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |
| 141 | B.1 | 138.01 | Annex B is missing | Add Annex B | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |
| 912 | B |  | P802.11bi/D1.0 defines number of features that might be optional or conditionally mandatory. However, there is no PICS. It might be helpful to be a bit more formal with the mandatory/optional features and add PICS for EDP functionality | Add PICS for EDP. | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |
| 940 |  |  | PICS is missing | Proivide details to Annex A | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |
| 943 | Annex B | 139.01 | There are no PICS updates for this amendment. | Provide entries to the PICS for this amendment. | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |
| 961 | Annex B | 139.01 | Changes to the PICS (Annex B) are missing. | Add the changes to the PICS. | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |
| 981 | B |  | PICS proforma for the EDP functions/features is missing | Add PICS profoma questions for the EDP features. | Revised –  Agree in principle with the commenter.  TGbi editor to make the changes shown in the latest version of 11-25/0759 under all headings that include CID 2 |

**TGbi Editor: *Modify Abstract as follows(#2)***

**Abstract:** This amendment defines modifications to the medium access control (MAC) sublayer that enhance user privacy protection. (#2)

**TGbi Editor: *Modify B.4.3 as follows(#2)***

**B.2.2 General abbreviations for Item and Support columns**

***Insert the following entry in alphabetical order:***

EDPM Enhanced data privacy MAC(#2)

**TGbi Editor: *Modify B.4.3 as follows(#2)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * IUT configuration | | | | |
| Item | IUT configuration | References | Status | Support |
|  | What is the configuration of the IUT? |  |  |  |
| … |  |  |  |  |
| … |  |  |  |  |
| CFEDPCPE | EDP features for client privacy enhancements | 9.4.2.240 (RSNXE), 10.71 (Frame anonymization), 12.16 (Client Privacy Enhancement) | O | Yes  No  N/A  |
| CFEDPBPE | EDP features for basic  service set (BSS) privacy enhancements | 9.4.2.240 (RSNXE), 10.71 (Frame anonymization), 12.16 (Client Privacy Enhancement) | O | Yes  No  N/A  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * MAC frames | | | | |
| Item | MAC frame | References | Status | Support |
|  | Is transmission of the following MAC frames supported? | 9 (Frame formats) |  |  |
| … |  |  |  |  |
| FT77 | Protected EHT Action | 9.6.38 | CFEHT: O | Yes  No  N/A |
| … | …. | …. | …. | …. |
| FR77.13 | Link Reconfiguration Response frame | 9.6.38.14 | CFEHTMLD-nonAP AND EHTM10.14.3:M | Yes  No  N/A |
| FR77.14 | Protected EHT Compressed Beamforming/CQI frame | 9.6.38.15 | EDPM2.2: M | Yes  No  N/A |
| …. | …. | …. | … | …. |
| FT96 | DMG Sensing Poll frame | 9.6.7.59  ((Protected)  Sensing  Measurement  Termination  frame format) | CFDSSTA: M | Yes  No  N/A |
| FT97 | EDP Action | 9.6.42 (EDP Action frame details) |  | Yes  No  N/A |
| FT97.1 | EDP Capabilities And Operation Parameters Request frame | 9.6.42.2 (EDP Capabilities And Operation Parameters Request frame format) | EDPM3: M | Yes  No  N/A |
| FT97.2 | EDP Capabilities And Operation Parameters Response frame | 9.6.42.3 (EDP Capabilities And Operation Parameters Response frame format) | EDPM3: M | Yes  No  N/A |
| FT97.3 | EDP Groups Parameter frame | 9.6.42.4 (EDP Groups Parameter frame format) | EDPM9.1: M | Yes  No  N/A |
| FT97.4 | EDP Epoch Request frame | 9.6.42.5 (EDP Epoch Request frame format) | EDPM9.1: M | Yes  No  N/A |
| FT97.5 | EDP Epoch Response frame | 9.6.42.6 (EDP Epoch Response frame format) | EDPM9.1: M | Yes  No  N/A |
| FT97.6 | EDP Epoch Assignment frame | 9.6.42.7 (EDP Epoch Assignment frame format) | EDPM9.1: M | Yes  No  N/A |
| FT97.7 | OTA MAC Collision Notification frame | 9.6.42.8 (OTA MAC Collision Notification frame format) | EDPM9.1: M | Yes  No  N/A |
| FT97.8 | OTA MAC Collision Response frame | 9.6.42.9 (OTA MAC Collision Response frame format) | EDPM9.1: M | Yes  No  N/A |
| FT97.9 | AID Assignment frame | 9.6.42.10 (AID Assignment frame format) | EDPM9.1: M | Yes  No  N/A |
| FT97.10 | AID Assignment Response frame | 9.6.42.11 (AID Assignment Response frame format) | EDPM9.1: M | Yes  No  N/A |
| FT98 | Privacy Beacon frame | 9.3.4.4 (Privacy Beacon frame format) | EDPM9.7: M | Yes  No  N/A |
|  | Is reception of the following MAC frames supported? | Clause 9 (Frame formats) |  |  |
| … |  |  |  |  |
| FR97 | DMG Sensing Poll frame | 9.3.1.26  (TDD  Beamforming  frame  format) | CFDSSTA: M | Yes  No  N/A  |
| FR98 | EDP Action | 9.6.42 (EDP Action frame details) |  | Yes  No  N/A |
|  |  |  |  |  |
| FR98.1 | EDP Capabilities And Operation Parameters Request frame | 9.6.42.2 (EDP Capabilities And Operation Parameters Request frame format) | EDPM3: M | Yes  No  N/A |
| FR98.2 | EDP Capabilities And Operation Parameters Response frame | 9.6.42.3 (EDP Capabilities And Operation Parameters Response frame format) | EDPM3: M | Yes  No  N/A |
| FR98.3 | EDP Groups Parameter frame | 9.6.42.4 (EDP Groups Parameter frame format) | EDPM9.1: M | Yes  No  N/A |
| FR98.4 | EDP Epoch Request frame | 9.6.42.5 (EDP Epoch Request frame format) | EDPM9.1: M | Yes  No  N/A |
| FR98.5 | EDP Epoch Response frame | 9.6.42.6 (EDP Epoch Response frame format) | EDPM9.1: M | Yes  No  N/A |
| FR98.6 | EDP Epoch Assignment frame | 9.6.42.7 (EDP Epoch Assignment frame format) | EDPM9.1: M | Yes  No  N/A |
| FR98.7 | OTA MAC Collision Notification frame | 9.6.42.8 (OTA MAC Collision Notification frame format) | EDPM9.1: M | Yes  No  N/A |
| FR98.8 | OTA MAC Collision Response frame | 9.6.42.9 (OTA MAC Collision Response frame format) | EDPM9.1: M | Yes  No  N/A |
| FR98.9 | AID Assignment frame | 9.6.42.10 (AID Assignment frame format) | EDPM9.1: M | Yes  No  N/A |
| FR98.10 | AID Assignment Response frame | 9.6.42.11 (AID Assignment Response frame format) | EDPM9.1: M | Yes  No  N/A |
| FR99 | Privacy Beacon frame | 9.3.4.4 (Privacy Beacon frame format) | EDPM9.7: M | Yes  No  N/A |

**TGbi Editor: *Modify B.4.4 as follows(#2)***

B.4.42 Enhanced data privacy (EDP) features

B.4.42.1 EDP MAC features

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Protocol capability | References | Status | Support |
|  | Are the following MAC protocol features supported? |  |  |  |
| EDPM1 | Contents of Probe Request frame | 12.16.2 Contents of Probe Request frame | CFEDPCPE: O | Yes  No  N/A  |
| EDPM2 | EDP Robust Individually Addressed Management Frames and Robust Individually  Addressed Beamforming/CSI/CQI Frames |  |  |  |
| EDPM2.1 | EDP Robust Individually Addressed Management Frames | 12.16.3 EDP Robust Individually Addressed Management Frames and Robust Individually  Addressed Beamforming/CSI/CQI Frames | PC34 AND CFEDPCPE: O | Yes  No  N/A  |
| EDPM2.2 | EDP Robust Individually  Addressed Beamforming/CSI/CQI Frames | 12.16.3 EDP Robust Individually Addressed Management Frames and Robust Individually  Addressed Beamforming/CSI/CQI Frames | PC34 AND CFEDPCPE: O | Yes  No  N/A  |
| EDPM3 | Capabilities and operation parameters request and response procedure | 12.16.4 Capabilities and operation parameters request and response procedure | PC34 AND CFEDPCPE: O | Yes  No  N/A  |
| EDPM4 | IEEE 802.1X authentication utilizing Authentication frames | 12.16.5 IEEE 802.1X authentication utilizing Authentication frames | PC34 AND CFEDPCPE: O | Yes  No  N/A  |
| EDPM5 | (Re)Association Request/Response Frame Encryption | 12.16.6 (Re)Association Request/Response Frame Encryption | PC34 AND CFEDPCPE: O | Yes  No  N/A  |
| EDPM6 | PMKSA caching privacy | 12.16.7 PMKSA caching privacy | PC34 AND CFEDPCPE: O | Yes  No  N/A  |
| EDPM7 | Key derivation with Authentication frame exchange | 12.16.8 Key derivation with Authentication frame exchange | PC34 AND CFEDPCPE: O | Yes  No  N/A  |
| EDPM8 | Enhanced Data Privacy Key Exchange | 12.16.9 Enhanced Data Privacy Key Exchange | PC34 AND CFEDPCPE: O | Yes  No  N/A  |
| EDPM9 | Frame anonymization | 10.71 (Frame anonymization) |  |  |
| EDPM9.1 | EDP epoch operation | 10.71.2 (EDP epoch operation) | PC34 AND CFEHTMLD AND CFEDPCPE: O  PC34 AND CFEHTMLD AND CFEDPBPE: M | Yes  No  N/A  |
| EDPM9.2 | Establishing frame anonymization parameter sets | 10.71.3 (Establishing frame anonymization parameter sets) | PC34 AND CFEHTMLD AND CFEDPCPE: O  PC34 AND CFEHTMLD AND CFEDPBPE: M | Yes  No  N/A  |
| EDPM9.3 | Establishing BPE frame anonymization parameter sets | 10.71.4 (Establishing BPE frame anonymization parameter sets) | PC34 AND CFEHTMLD AND CFEDPBPE: M | Yes  No  N/A  |
| EDPM9.4 | MAC header anonymization and transmitting functions | 10.71.5 (MAC header anonymization and transmitting functions) | PC34 AND CFEHTMLD AND CFEDPCPE: O  PC34 AND CFEHTMLD AND CFEDPBPE: M | Yes  No  N/A  |
| EDPM9.5 | MAC header anonymization and receiving functions | 10.71.6 (MAC header anonymization and receiving functions) | PC34 AND CFEHTMLD AND CFEDPCPE: O  PC34 AND CFEHTMLD AND CFEDPBPE: M | Yes  No  N/A  |
| EDPM9.6 | Frame anonymization and AID | 10.71.7 (Frame anonymization and AID) | PC34 AND CFEHTMLD AND CFEDPCPE: O  PC34 AND CFEHTMLD AND CFEDPBPE: M | Yes  No  N/A  |
| EDPM9.7 | BSS Privacy Operations | 10.71.8 (BSS Privacy Operations) | PC34 AND CFEHTMLD AND CFEDPBPE: M | Yes  No  N/A  |
| EDPM9.7.1 | BPE AP MLD Discovery | 10.71.8.1 (BPE AP MLD Discovery) | EDPM9.7: M | Yes  No  N/A  |
| EDPM9.7.2 | BPE AP MLD beaconing | 10.71.8.2 (BPE AP MLD beaconing) | EDPM9.7: M | Yes  No  N/A  |
| EDPM9.7.3 | Group addressed frames anonymization | 10.71.8.3 (Group addressed frames anonymization) | EDPM9.7: M | Yes  No  N/A  |