IEEE P802.11
Wireless LANs

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| Resolution of EPCS-related CIDs in clause 4.5.13 (CC 266) |
| Date: July 8, 2022? |
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 Abstract

This submission proposes resolutions for following 14 CIDs received for TGbe CC266 dealing with EPCS:

10193, 11787, 11788, 11824, 10194, 12037, 11789, 11790, 12941, 12258, 11247, 10195, 11791, 11792

Revisions:

* Rev 0: Initial version of the document.

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

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

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

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| **CID** | **Section** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 10193 | 4.5.13 | 60.62 | The footnote includes the phrase "the Wireless Priority Services" with the last word plural. This should be singular. | Change "Services" to "Service" | Accepted |
| 11787 | 4.5.13 | 60.62 | Footnote 1: 'Add the abbreviations for 'Government Emergency Telecommunications Service' and 'Wireless Priority Service' since they are commonly known to the industry by their abbreviations. Also add 'wireline' in addition to 'commercial cellular networks' since the Government Emergency Telecommunications Service runs over wireline networks as well. | ... the Government Emergency Telecommunications Service (GETS) and the Wireless Priority Service (WPS) and run on commercial wireline and wireless cellular networks, respectively.' | Accepted |
| 11788 | 4.5.13 | 60.64 | Footnote 2: Insert 'Cellular Networks' after MPS. | Multimedia Priority Service (MPS) defined for cellular networks in 3GPP. | RevisedAgree in principle. Text adjusted to reflect this.**TGbe editor please implement changes labelled as #11788 in this doc.** |
| 11824 | 4.5.13 | 61.04 | Missing comma after subclause citatoin. Replace 35.17.3 with "35.17.3,". | As in comment. | RevisedAgree in principle. Add comma after full citation.**TGbe editor please implement changes labelled as #11824 in this doc.** |
| 10194 | 4.5.13 | 61.06 | The sentence "The service is only available to designated, authorized devices who normally represent a small fraction of the overall number of devices operating in the area" uses "who" to refer to a device, which is confusing. | Change "who" to "that". | Accepted |
| 12037 | 4.5.13 | 61.10 | Plural and singular are used in this subcaluse while singular should be preferred IMHO, e.g. "AP MLDs that have EPCS priority access activated advertise this capability in Beacon and Probe Response frames." should be replaced by "An AP MLD that has EPCS priority access activated advertises this capability in Beacon and Probe Response frames." ... and the same goes for all this subclause | Replace plural (AP MLDs, Non AP MLDs) with singular (An AP MLD, a Non-AP MLD) to keep consitency | RevisedAgree in principle. Changes made to reflect this comment**TGbe editor please implement changes labelled as #12067 in this doc.** |
| 11789 | 4.5.13 | 61.11 | Should describe how authorization information can be obtained locally | Update the sentence accordingly: 'AP MLDs authorize non-AP MLDs to use EPCS priority access either based on locally available information (which can be obtained a-priori from an NS/EP service provider) or using online information obtained through an existing service provider's authorization infrastructure such as, an SSPN interface (see 11.22.5 (Interworking procedures: interaction with SSPN))" | RevisedAgree in principle. Changes made to reflect this comment**TGbe editor please implement changes labelled as #11789 in this doc.** |
| 11790 | 4.5.13 | 61.14 | The AP MLD should also be able to use the cached information for BSS transition | Update the sentence accordingly: 'The AP MLD might cache authorization information locally to enable subsequent verification and use it to confirm authority during (re)association and BSS transition'. | RevisedAgree in principle. Incorporated BSS transition language**TGbe editor please implement changes labelled as #11790 in this doc.** |
| 12941 | 4.5.13 | 61.14 | "The AP MLD might cache authorization information locally to enable subsequent verification and use it to confirm authority during (re)association." -- first of all, not sure if this isin IEEE 802.11 spec scope to define the cache behavior; second, this caching may open up security issue. If to define this in the spec, needs a timeout as minimum counter measure for security issue. | See comment. | RejectedBase specification (2020) contains multiple descriptions of caching behavior (e.g., 4.5.9.2.4 Service information registry). There are even descriptions of caching encryption keys, suggesting this is not a security issue. This is non-normative language, so there is no need to specify a timeout. |
| 12258 | 4.5.13 | 61.15 | typo "(re)association" | change "(re)association" to "MLD (re)association" | RevisedText was removed in response to CID 11790.No further change is required. |
| 11247 | 4.5.13 | 61.24 | EPCS authorization is done after a device is associated with an AP. But what if the device is in the vicinity of an AP that it is not authorized to associate with but the device needs emergency communication service? | It would be beneficial if spec can consider such scenarios as well and provide relevant methods | RejectedThis specific use case is not in the current scope of the EPCS feature within EHT. |
| 10195 | 4.5.13 | 61.27 | The sentence "If the non-AP MLD is authorized, EPCS priority access will be enabled on all enabled links within the MLD" is out of order. This should be described after the AP MLD has sent the response message | Move the sentence "If the non-AP MLD is authorized, EPCS priority access will be enabled on all enabled links within the MLD" one sentence later in the paragraph, to the position right before the sentence in the same paragraph that starts on line 33 and begins "Alternatively, the AP MLD...". | RevisedAgree in principle. Changes made to reflect this comment**TGbe editor please implement changes labelled as #10195 in this doc.** |
| 11791 | 4.5.13 | 61.27 | EPCS priority access should only be enabled to all the links that an EPCS enabled non-AP MLD is associated within the MLD. | Change the sentence as: " If the non-AP MLD is authorized, EPCS priority access will be enabled on all enabled links that an EPCS enabled non-AP MLD is associated within the MLD." | RevisedAgree in principle. Resolved in conjunction with 10195.**TGbe editor please implement changes labelled as #10195 in this doc.** |
| 11792 | 4.5.13 | 61.30 | SSPN interface is one of the interfaces that EPCS service providers can use to obtain the authorization information. | Update the sentence as: " The AP MLD authorizes the non-AP MLD using either a locally stored verification information that was obtained from an EPCS service provider via other means or information received from an EPCS service provider using the SSPN interface (see 11.22.5 (Interworking procedures: interaction with SSPN)) and sends an EPCS Priority Access Enable Response frame (see 9.6.35.6 (EPCS Priority Access Enable Response frame format)) to the non-AP MLD." | RevisedAgree in principle. Changes made to reflect this comment**TGbe editor please implement changes labelled as #11792 in this doc.** |

***TGbe editor: Please note baseline is 11be D2.0***

**4.5.13 EPCS priority access**

**TGbe Editor: Please revise the footnotes in this sub-clause as follows:**

1 For example, EPCS services in the United States is called National Security and Emergency Preparedness (NS/EP) service that includes the Government Emergency Telecommunications Service (GETS) and the Wireless Priority Service[10193] (WPS) and run on commercial wireline and cellular networks, respectively [11787]. in multiple countries provide priority for voice and data exchanges on public networks. EPCS priority access is intended to provide capabilities to support such priority services on IEEE 802.11-based networks.

2 Priority access capabilities to support these services in other types of networks are defined in appropriate international standards, (e.g., the Multimedia Priority Service (MPS) was defined in 3GPP for use in wireless cellular networks [11788]).

**TGbe Editor: Please revise the text in this sub-clause as follows:**

Existing national security and emergency preparedness communication services in multiple countries provide priority for voice and data exchanges on public networks. EPCS priority access is intended to provide capabilities to support such priority services on IEEE 802.11-based networks.

EPCS priority access provides prioritized access to system resources for authorized devices to increase their probability of successful communication during periods of network congestion. Priority access involves treating the EPCS traffic with a higher priority, as described in 35.17.3 (EPCS priority access procedure), [11824] in obtaining channel access and in allocation of network resources. The service is only available to designated, authorized devices ~~who~~that [10194] normally represent a small fraction of the overall number of devices operating in the area.

[12037] An AP MLD that has EPCS priority access activated advertises this capability in Beacon and Probe Response frames. The AP MLD authorizes a non-AP MLD to use EPCS priority access based on locally available informa­tion (which can be obtained *a priori* from an NS/EP service provider) or using online information obtained [11789]through a service provider’s authorization infrastructure, which might be accessed via an SSPN interface (see 11.22.5 (Interworking procedures: interaction with SSPN)). The AP MLD might cache authorization information locally to enable subsequent verification and use it to confirm authority during BSS transition [11790].

An AP MLD or a non-AP MLD invokes EPCS priority access on-demand when instructed to do so by a higher layer function, such as an authorized user or a managed service provider that detects the need for priority. The process for detecting the need for EPCS priority access by the higher layer function is outside the scope of this standard.

[12037] A non-AP MLD enables EPCS priority access by sending an EPCS Priority Access Enable Request frame (see 9.6.35.5 (EPCS Priority Access Enable Request frame format)) to an associated AP MLD that advertises the capability. A non-AP MLD can send the request on any available enabled link between the non-AP MLD and the AP MLD. [10195]The AP MLD authorizes the non-AP MLD using [11792] either locally stored verification information or information [11792] obtained from an EPCS service provider via [11792] other means, such as the SSPN interface (see 11.22.5 (Interworking procedures: interaction with SSPN)), and sends an EPCS Priority Access Enable Response frame (see 9.6.35.6 (EPCS Priority Access Enable Response frame format)) to the non-AP MLD. If the non-AP MLD is authorized, EPCS priority access will be enabled on all links the non-AP MLD has set up with the AP MLD [10195]. Alternatively, the AP MLD can enable EPCS priority access by sending an unsolicited EPCS Priority Access Enable Request frame (see 9.6.35.5 (EPCS Priority Access Enable Request frame format)) to a non-AP MLD and the non-AP MLD confirms the request by sending an EPCS Priority Access Enable Response frame. An AP MLD can send the request on any available enabled link between the AP MLD and non-AP MLD and EPCS priority access will be enabled on all links within the MLD.

While the EPCS priority access is enabled, all traffic to and from the non-AP MLD is treated with a higher priority, as described in 35.17.3 (EPCS priority access procedure). EPCS priority access is applied individually for each link within an MLD. Either the AP MLD or the non-AP MLD can tear down EPCS priority access by transmitting an EPCS Priority Access Teardown frame (see 9.6.35.7 (EPCS Priority Access Teardown frame details)).