IEEE P802.11  
Wireless LANs

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Abstract

This document proposes comment resolution for the CID 2319

Revisions:

- Rev 0: Initial version of the document.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CID | Clause Number | Page/  Line | Comment | Proposed Change |
| 2319 | Several |  | National Security and Emergency Preparedness (NSEP) priority access feature is introduced in .11be amendment. Within United States, National Security and Emergency Preparedness Priority Service is deployed over Cellular and Wireline networks. Many other countries have similar services as well. While many of the existing deployment infrastructure includes Wi-Fi as last mile access, it lacks the priority access support. Therefore, it is important that NSEP priority access is also supported (e.g.. when the service is offloaded to Wi-Fi access, in particular as a part to 5G services) in current deployment. This will help service providers to provide a seamless NSEP service experience to the users while maintaining the priority and quality of service in Wi-Fi access networks. The proposal is to add the NSEP priority feature in REVme. This is viable because NSEP priority access is a MAC layer feature with no specific PHY dependencies and no reliance on 11be-specific features (e.g., MLO). | Specify NSEP features (a.k.a EPCS) in REVme, the skeleton of which is described in this document. |

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**Note:** While the clauses and the corresponding texts suggested in this document are taken from the 802.11be Draft 2.0, we can avoid the duplication of text in both amendments by deleting the non-normative clauses that do not refer to MLD behavior from the IEEE 802.11be specification if TGme accepts the incorporation of EPCS features.

**3.1 Definitions**

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

**Emergency Preparedness Communications Service (EPCS) priority access:** An on-demand capability that allows access points (APs) to authorize non-access point STAs to communicate EPCS traffic with a higher priority, as described in 11.XX. (EPCS priority access).

**Emergency Preparedness Communications Service (EPCS) traffic:** The traffic generated by an authorized non-access point STA or traffic destined for an authorized non-AP STA when the EPCS priority access is authorized and enabled for that non-AP STA.

**3.4 Abbreviations and acronyms**

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

EPCS Emergency Preparedness Communications Service

***Insert the following sub-clause in Sub-clause 4.5***

**4.5.XX EPCS priority access**

Existing national security and emergency preparedness communications services[[1]](#footnote-1) in multiple countries provide priority for voice and data exchanges on public networks. Emergency Preparedness Communications Service (EPCS) priority access is intended to provide capabilities to support such priority services on IEEE 802.11-based networks[[2]](#footnote-2).

EPCS priority access provides prioritized access to the wireless medium 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 35.15.3 (EPCS priority access procedure) in obtaining channel access and in allocation of network resources. 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.

APs that have EPCS priority access activated advertise this capability in Beacon and Probe Response frames. APs authorize non-AP STAs to use EPCS priority access based on locally available information or through a service provider’s authorization infrastructure via an SSPN interface (see 11.22.5 (Interworking procedures: interaction with SSPN)). The AP might cache authorization information locally to enable subsequent verification and use it to confirm authority during (re)association.

An AP or a non-AP STA 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.

Non-AP STAs enable EPCS priority access by sending an EPCS Priority Access Enable Request frame (see 9.6.3.XX (EPCS Priority Access Enable Request frame format) to an associated AP that advertises the capability. The AP authorizes the non-AP STA using locally stored verification information or information received from an EPCS service provider via the SSPN interface (see 11.22.5 (Interworking procedures: interaction with SSPN)) and sends an EPCS Priority Access Enable Response frame (see 9.6.3.YY (EPCS Priority Access Enable Response frame format) to the non-AP STA. Alternatively, the AP can enable EPCS priority access by sending an unsolicited EPCS Priority Access Enable Request frame (see 9.6.3.XX (EPCS Priority Access Enable Request frame format) to a non-AP STA and the non-AP STA confirms the request by sending an EPCS Priority Access Enable Response frame (see 9.6.3.YY (EPCS Priority Access Enable Response frame format).

While the EPCS priority access is enabled, all traffic to and from the non-AP STA is treated with a higher priority, as described in 11.XX.3 (EPCS priority access procedure)). Either the AP or the non-AP STA can tear down EPCS priority access by transmitting an EPCS Priority Access Teardown frame (see 9.6.3.ZZ (EPCS Priority Access Teardown frame details)).

***Insert the following sub-clause in sub-clause 6.3***

**6.3.XX EPCS priority access**

TBD

**9.4.1.9 Status Code field**

***Insert the following new rows in Table 9-78 (Status codes) while maintaining the numerical order and updating the reserved range:***

**Table 9-78—Status codes**

|  |  |  |
| --- | --- | --- |
| Status Code | Name | Meaning |
| <ANA> | EPCS\_DENIED\_UNAUTHORIZED | EPCS priority access denied because the non-AP STA is not authorized to use the service. |
| <ANA> | EPCS\_DENIED\_OTHER\_REASON | EPCS priority access denied due to reason outside the scope of this standard |
| <ANA> | EPCS\_DENIED\_VERIFICATION\_FAILURE | EPCS priority access is temporarily denied because the receiving AP is unable to verify that the non-AP STA is authorized for an unspecified reason. |

**9.4.2.26 Extended Capabilities element**

***Insert the following new row in Table 9-190 (Extended Capabilities field) in an available bit location and update the reserved range:***

**Table 9-190— Extended Capabilities field**

|  |  |  |
| --- | --- | --- |
| Bit | Information | Notes |
| TBD | EPCS Priority Access Support | The EPCS Priority Access Support field indicates whether EPCS priority access is supported. The EPCS Priority Access Support field is set to 1 if dot11EPCSPriorityAccess Activated is true (see 11.XX (EPCS priority access)). The EPCS Priority Access Supported field is set to 0 otherwise. |

**9.6.3 QoS Action frame details**

**9.6.3.1 General**

***Insert the following new rows in Table 9-430 (QoS Action field values) in an available bit location and update the reserved range:***

Table 9-430— QoS Action field values

|  |  |
| --- | --- |
| QoS Action field value | Meaning |
| TBD | EPCS Priority Access Enable Request |
| TBD+1 | EPCS Priority Access Enable Response |
| TBD+2 | EPCS Priority Access Teardown |

***Insert the following sub-clause in sub-clause 9.6.3***

**9.6.3.XX EPCS Priority Access Enable Request frame format**

The EPCS Priority Access Enable Request frame is a QoS Action frame. It is transmitted by an initiating AP or non-AP STA to request that EPCS priority access be enabled. The Action field of the EPCS Priority Access Enable Request frame contains the information shown in Table 9-XXX (EPCS Priority Access Enable Request frame Action field format).

**Table 9-XXX—EPCS Priority Access Enable Request frame Action field format**

|  |  |
| --- | --- |
| Order | Meaning |
| 1 | Category |
| 2 | QoS Action |
| 3 | Dialog Token |
| 4 | EDCA Parameter Set element |
| 5 | MU EDCA Parameter Set element |

The Category field is defined in 9.4.1.11 (Action field).

The QoS Action field is defined in 9.6.3.1 (General).

The Dialog Token field is defined in 9.4.1.12 (Dialog Token field) and set by the requesting STA.

The EDCA Parameter Set element is defined in 9.4.2.28 (EDCA Parameter Set element). The EDCA Parameter Set element is optional and is only transmitted by an AP.

The MU EDCA Parameter Set element is defined in 9.4.2.251 (MU EDCA Parameter Set element). The MU EDCA Parameter Set element is optional and is only transmitted by an AP.

**9.6.3.YY EPCS Priority Access Enable Response frame format**

The EPCS Priority Access Enable Response frame is a QoS Action frame. It is transmitted in response to an EPCS Priority Access Enable Request frame. The Action field of the EPCS Priority Access Enable Response frame contains the information shown in Table 9-YYY (EPCS Priority Access Enable Response frame Action field format).

**Table 9-YYY—EPCS Priority Access Enable Response frame Action field format**

|  |  |
| --- | --- |
| Order | Meaning |
| 1 | Category |
| 2 | QoS Action |
| 3 | Dialog Token |
| 4 | Status Code |
| 5 | EDCA Parameter Set element |
| 6 | MU EDCA Parameter Set element |

The Category field is defined in 9.4.1.11 (Action field).

The QoS Action field is defined in 9.6.3.1 (General).

The Dialog Token field is defined in 9.4.1.12 (Dialog Token field). The Dialog Token field value is copied from the Dialog Token field in the corresponding EPCS Priority Access Enable Request frame.

The Status Code field values are defined in Table 9-78 (Status codes).

The EDCA Parameter Set element is defined in 9.4.2.28 (EDCA Parameter Set element). The EDCA Parameter Set element is optional and is only transmitted by an AP.

The MU EDCA Parameter Set element is defined in 9.4.2.251 (MU EDCA Parameter Set element). The MU EDCA Parameter Set element is optional and is only transmitted by an AP.

**9.6.3.ZZ EPCS Priority Access Teardown frame format**

The EPCS Priority Access Teardown frame is a QoS Action frame. It is transmitted by an AP or non-AP STA to disable EPCS priority access. The Action field of the EPCS Priority Access Teardown frame contains the information shown in Table 9-ZZZ (EPCS Priority Access Teardown Action field format).

**Table 9-ZZZ—EPCS Priority Access Teardown frame Action field format**

|  |  |
| --- | --- |
| Order | Meaning |
| 1 | Category |
| 2 | QoS Action |

The Category field is defined in 9.4.1.11 (Action field).

The QoS Action field is defined in 9.6.3.1 (General).

**11.24.1 General**

**11.24.1.2 Default QMF policy**

***Insert a new row to Table 11-18 (Default QMF policy) as follows:***

TBD

***Insert the following sub-clause in Clause 11***

**11.XX EPCS priority access**

**11.XX.1 General**

EPCS priority access is a mechanism that aims to provide prioritized access to the wireless medium for authorized users to increase their probability of successful communication during periods of network congestion.

An AP or non-AP STA that is capable of invoking EPCS priority access shall have a value of true for dot11EPCSPriorityAccessActivated and shall set to 1 the EPCS Priority Access Supported subfield of the Extended Capabilities element that it transmits. An AP or non-AP STA that is not capable of invoking EPCS priority access shall have a value of false for dot11EPCSPriorityAccessActivated and shall set to 0 the EPCS Priority Access Supported subfield of the Extended Capabilities element that it transmits.

During the (re)association process, the AP obtains information required to verify the authority of the non-AP STA to use EPCS priority access. An AP that has dot11SSPNInterfaceActivated equal to true may use the interworking procedures described in 11.22.5 (Interworking procedures: interactions with SSPN) to retrieve permission for a non-AP STA to use the EPCS priority access from an external service provider via the SSPN interface during association by the non-AP STA. To support this exchange, a non-AP STA with dot11EPCSPriorityAccessActivated equal to true shall provide the home realm information of the EPCS provider and necessary authentication parameters as described in 11.22.5 (Interworking procedures: interactions with SSPN). While other methods of obtaining this authorization information are possible, they are outside the scope of this standard.

An AP that successfully obtains permission for a non-AP STA to use EPCS priority access shall update the dot11EPCSPriorityAccessAuthorized for the non-AP STA in the dot11InterworkingEntry. The authorization information included in the dot11InterworkingEntry is passed from the prior AP to the new AP in the same ESS during reassociation as described in 11.22.5.3 (Reporting and session control with SSPN).

**11.XX.2 EPCS priority access operation**

**11.XX.2.1 General**

EPCS priority access is established at the MAC by the initiation of the SME. The EPCS priority access between an AP and its associated non-AP STA can be in one of the following two states: enabled or torn down. The protocols to enable and tear down EPCS priority access are described in this subclause.

A non-AP STA shall not send an EPCS Priority Access Enable Request frame to an associated AP unless RSNA with management frame protection (see 12.2.7 (Requirements for management frame protection) and 12.6 (RSNA security association management)) have been successfully negotiated and the AP is capable of supporting EPCS priority access.

An AP shall not send an EPCS Priority Access Enable Request frame to a non-AP STA unless RSNA with management frame protection (see 12.2.7 (Requirements for management frame protection) and 12.6 (RSNA security association management)) has been successfully negotiated and the non-AP STA is capable of supporting EPCS priority access.

An EPCS non-AP STA is a non-AP STA with dot11EPCSPriorityAccessActivated equal to true.

An EPCS AP is an AP with dot11EPCSPriorityAccessActivated equal to true.

**11.XX.2.2 Setup procedures for EPCS priority access**

**11.XX.2.2.1 General**

EPCS priority access shall be in a torn down state upon the completion of a (re)association procedure. Either an EPCS AP or an EPCS non-AP STA can initiate the process to enable EPCS priority access on demand when instructed to do so by a higher layer function. When EPCS is enabled, both the initiator and the responder apply the priority access treatment to EPCS traffic. Either the EPCS AP or the EPCS non-AP STA can tear down EPCS priority access. The procedures for enabling and tearing down the EPCS priority access are described in the following subclauses.

**11.XX.2.2.2 Procedures at the initiating non-AP STA**

An EPCS non-AP STA may initiate the process to enable EPCS priority access and the process to tear down EPCS priority access as described in this subclause.

When instructed to do so by a higher layer function and upon receipt of an MLME-EPCSPRIACCESSENABLE.request primitive, an EPCS non-AP STA with EPCS priority access in the torn down state shall follow the procedure below to request that the EPCS priority access state be changed to enabled.

1. The initiating EPCS non-AP STA shall transmit an EPCS Priority Access Enable Request frame (9.6.3.XX (EPCS Priority Access Enable Request frame format)) to its associated EPCS AP.
2. If the initiating EPCS non-AP STA receives an EPCS Priority Access Enable Response frame (9.6.3.YY (EPCS Priority Access Enable Response frame format)) with a matching dialog token and a value of SUCCESS in the Status Code field, then the initiating EPCS non-AP STA shall issue an MLME-EPCSPRIACCESSENABLE.confirm primitive with a value of SUCCESS in the Status Code field indicating that EPCS priority access is in an enabled state. The initiating EPCS non-AP STA shall enable EPCS priority access so that subsequently transmitted traffic receives EPCS priority access treatment using the procedure defined in 11.XX.3 (EPCS priority access procedure).
3. If the initiating EPCS non-AP STA receives an EPCS Priority Access Enable Response frame (9.6.3.YY (EPCS Priority Access Enable Response frame forma)) with a matching dialog token and a value not equal to SUCCESS in the Status Code field, then the initiating non-AP STA shall issue an MLME-EPCSPRIACCESSENABLE.confirm primitive with the status code from the response frame indicating the failure to change EPCS priority access to an enabled state. In this case, the initiating EPCS non-AP STA shall not apply EPCS priority access procedure. The higher layer function that triggers the EPCS priority access is responsible for managing reattempts after receiving responses with a value other than SUCCESS.

When instructed to do so by a higher layer function and upon receipt of an MLME-EPCSPRIACCESSTEARDOWN.request primitive, an EPCS non-AP STA with EPCS priority access in an enabled state shall use the following procedure for changing EPCS priority access to a torn down state.

NOTE 1—An EPCS non-AP STA can initiate the teardown procedure regardless of whether an EPCS AP or the EPCS non-AP STA initiated the process to enable EPCS priority access.

1. The initiating EPCS non-AP STA shall transmit an EPCS Priority Access Teardown frame (9.6.3.ZZ (EPCS Priority Access Teardown frame details)) to its associated EPCS AP. The EPCS non-AP STA shall change the EPCS priority access to the torn down state so that subsequently transmitted traffic does not receive EPCS priority access treatment.

**11.XX.2.2.3 Procedures at the initiating AP**

An AP may initiate the process to enable EPCS priority access and the process to tear down EPCS priority access as described in this Sub-clause.

When instructed to do so by a higher layer function triggered via an external interface, and upon receipt of an MLME-EPCSPRIACCESSENABLE.request primitive, an EPCS AP shall follow the procedure below to request the change of the EPCS priority access for an associated non-AP STA to the enabled state.

NOTE 2—The definition of the external interface is out of the scope of this standard.

1. The EPCS AP shall transmit an EPCS Priority Access Enable Request frame (9.6.3.XX (EPCS Priority Access Enable Request frame format)) to the corresponding EPCS non-AP STA with EPCS priority access in the torn down state.
2. If the initiating EPCS AP receives an EPCS Priority Access Enable Response frame (9.6.3.YY (EPCS Priority Access Enable Response frame format)) with a matching dialog token and a value of SUCCESS in the Status Code field, then the initiating EPCS AP shall issue an MLME-EPCSPRIACCESSENABLE.confirm primitive with a value of SUCCESS in the Status Code field indicating successful transition of EPCS priority access to the enabled state. The initiating EPCS AP shall change EPCS priority access to the enabled state so that subsequently transmitted traffic receives EPCS priority access treatment using the procedure defined in 11.XX.3 (EPCS priority access procedure).
3. If the initiating EPCS AP receives an EPCS Priority Access Enable Response frame (9.6.3.YY (EPCS Priority Access Enable Response frame format)) with a matching dialog token and a value not equal to SUCCESS in the Status Code field, then the initiating EPCS AP shall issue an MLME-EPCSPRIACCESSENABLE.confirm primitive with the status code from the response frame indicating the failure to change EPCS priority access to the enabled state. The initiating EPCS AP shall not apply the EPCS priority access procedure. The external interface that triggers the EPCS priority access is responsible for managing reattempts after receiving responses with a value other than SUCCESS.

When triggered via an external interface, and upon receipt of an MLME-EPCSPRIACCESSTEARDOWN.request primitive, an AP with dot11EPCSPriorityAccessActivated equal to true shall use the following procedure for changing the EPCS priority access state to torn down.

NOTE 3—An AP can initiate the teardown procedure regardless of whether the AP or the non-AP STA initiated the process to enable EPCS priority access.

1. The initiating EPCS AP shall transmit an EPCS Priority Access Teardown frame (9.6.3.ZZ (EPCS Priority Access Teardown frame details)) to an EPCS non-AP STA with EPCS in the enabled state. The originating AP shall change the EPCS priority access state to torn down for the indicated EPCS non-AP STA.

**11.XX.2.2.4 Procedures at the receiving AP**

Upon receipt of an EPCS Priority Access Enable Request frame (9.6.3.XX (EPCS Priority Access Enable Request frame format)), an EPCS AP shall use the following procedure to enable EPCS priority access for the initiating EPCS non-AP STA.

1. The AP receiving the enable request shall issue an MLME-EPCSPRIACCESSENABLE.indication primitive.
2. Upon receipt of the MLME-EPCSPRIACCESSENABLE.response primitive, the receiving EPCS AP shall reply to the initiating EPCS non-AP STA with an EPCS Priority Access Enable Response frame (9.6.3.YY (EPCS Priority Access Enable Response frame format)) using the following procedure:
   1. If the dot11EPCSPriorityAccessAuthorized in the dot11InterworkingEntry for the initiating EPCS non-AP STA is set to true, the receiving EPCS AP shall set the Status Code field to a value of SUCCESS.
   2. If the dot11EPCSPriorityAccessAuthorized in the dot11InterworkingEntry for the initiating EPCS non-AP STA is set to false, the receiving EPCS AP shall set the Status Code field to a value of EPCS\_DENIED\_UNAUTHORIZED.
   3. If the receiving EPCS AP cannot support EPCS priority access for the initiating EPCS non-AP STA for any other reason, the receiving EPCS AP shall set the Status Code field with a value of EPCS\_DENIED\_OTHER\_REASON as defined in 9.4.1.9 (Status Code field).
   4. If the receiving EPCS AP is unable to verify that the initiating EPCS non-AP STA is authorized for any reason, such as a communication failure or overload condition, the receiving EPCS AP shall set the Status Code field with a value of EPCS\_DENIED\_VERIFICATION\_FAILURE as defined in 9.4.1.9 (Status Code field).

Note: Given temporary nature of this condition, the higher layer function might attempt to invoke the enable operation again after a suitable delay.

1. If the Status Code in the MLME-EPCSPRIACCESSENABLE.response primitive is equal to SUCCESS, the receiving EPCS AP shall set the state of the EPCS priority access to enabled for the initiating EPCS non-AP STA.
2. If the Status Code in the MLME-EPCSPRIACCESSENABLE.response primitive is equal to a value other than SUCCESS, the receiving EPCS AP shall leave EPCS priority access in the torn-down state for the initiating EPCS non-AP STA.

Upon receipt of an EPCS Priority Access Teardown frame (9.6.3.ZZ (EPCS Priority Access Teardown frame details)), a receiving EPCS AP shall use the following procedure to tear down EPCS priority access.

1. The receiving EPCS AP shall issue an MLME-EPCSPRIACCESSTEARDOWN.indication primitive.
2. The receiving EPCS AP shall change the EPCS priority access state to torn down for the initiating EPCS non-AP STA.

**11.XX.2.2.5 Procedures at the receiving non-AP STA**

Upon receipt of an EPCS Priority Access Enable Request frame (9.6.3.XX (EPCS Priority Access Enable Request frame format), a receiving EPCS non-AP STA with EPCS priority access in torn down state shall use the following procedure to enable EPCS priority access.

1. The receiving EPCS non-AP STA shall issue an MLME-EPCSPRIACCESSENABLE.indication primitive.
2. Upon receipt of the MLME-EPCSPRIACCESSENABLE.response primitive, the receiving EPCS non-AP STA shall reply to the initiating EPCS AP with an EPCS Priority Access Enable Response frame (9.6.3.YY (EPCS Priority Access Enable Response frame format)). The receiving EPCS non-AP STA should set the Status Code field to a value of SUCCESS unless it is unable to support EPCS priority access for any reason. In that case, the receiving EPCS non-AP STA shall set the Status Code field to a value of EPCS\_DENIED\_OTHER\_REASON as defined in 9.4.1.9 (Status Code field).
3. If the Status Code in the MLME-EPCSPRIACCESSENABLE.response primitive is equal to SUCCESS, the receiving EPCS non-AP STA shall change the state of the EPCS priority access to enabled so that subsequently transmitted traffic receives EPCS priority access treatment using the procedure defined in 11.XX.3 (EPCS priority access procedure).
4. If the Status Code in the MLME-EPCSPRIACCESSENABLE.response primitive is equal to a value other than SUCCESS, the receiving EPCS non-AP STA shall leave the EPCS priority access in the torn down state so it does not only apply to subsequently transmitted traffic.

Upon receipt of an EPCS Priority Access Teardown frame (9.6.3.ZZ (EPCS Priority Access Teardown frame details)), a receiving EPCS non-AP STA and with EPCS priority access enabled shall use the following procedure to tear down EPCS priority access.

1. The receiving EPCS non-AP STA shall issue an MLME-EPCSPRIACCESSTEARDOWN.indication primitive.
2. The receiving EPCS non-AP STA shall change the EPCS priority access state to torn down so that subsequently transmitted traffic does not receive EPCS priority access treatment.

**11.XX.3 EPCS priority access procedure**

As part of the EPCS priority access procedure, an EPCS non-AP STA shall manage its EDCA parameter sets as follows:

* During the process of enabling EPCS priority access, the EPCS non-AP STA shall
  + update its CWmin[AC], CWmax[AC], AIFSN[AC], and TXOP Limit [AC] state variables of each access category to
    - the values carried in the EDCA Parameters Set element in the EPCS Priority Access Enable Request or EPCS Priority Access Enable Response frame sent by the EPCS AP, if the EDCA Parameters Set element is present or,
    - the default EDCA parameter values found in Table 9-192 (Default EDCA Parameter Set element parameter values if dot11OCBActivated is false or the STA is a non-sensor STA) otherwise.
  + update the dot11MUEDCATable to the values from the corresponding fields in the MU EDCA Parameter Set element in the EPCS Priority Access Enable Request or EPCS Priority Access Enable Response frame sent by the EPCS AP, if the MU EDCA Parameter Set element is present.
* While EPCS priority access is enabled, the EPCS non-AP STA shall
  + use the latest EDCA parameter set values and MU EDCA parameter set value contained in the EPCS Priority Access Enable Request or EPCS Priority Access Enable Response frame sent by the EPCS AP, and
  + ignore the part of the procedures defined in 10.2.3.2 (HCF contention based channel access (EDCA)) that concerns the update of the EDCA parameters and the part of the procedures defined in 26.2.7 (EDCA operation using MU EDCA parameters) that concerns the update of the MU EDCA parameters that are sent by the corresponding AP in its Beacon and Probe Response frames.
  + follow the rules defined in 26.2.7 (EDCA operation using MU EDCA parameters), except that
    - update the dot11MUEDCATable to the values from the corresponding fields in the MU EDCA Parameter Set element in the EPCS Priority Access Enable Request or EPCS Priority Access Enable Response frame sent by the EPCS AP, if the MU EDCA Parameter Set element is present.
    - if the MUEDCATimer[AC] of the STA reaches 0, either by counting down or due to a reset following the reception of an MU EDCA Reset frame, the STA shall
      * update CWmin[AC], CWmax[AC], and AIFSN[AC] to the values that are contained in the EDCA Parameters Set element in the EPCS Priority Access Enable Request or EPCS Priority Access Enable Response frame sent by the EPCS AP. if the EDCA Parameters Set element is present or,
      * the default EDCA parameter values found in Table 9-192 (Default EDCA Parameter Set element parameter values if dot11OCBActivated is false or the STA is a non-sensor STA) otherwise.

After the EPCS priority access is torn down, the EPCS non-AP STA shall

* update its CWmin[AC], CWmax[AC], AIFSN[AC], and TXOP Limit [AC] state variables following the procedures in 10.2.3.2 (HCF contention based channel access (EDCA)).
* update the dot11MUEDCATable following the procedures in 26.2.7 (EDCA operation using MU EDCA parameters).

An EPCS AP manages the EDCA parameter set and the MU EDCA parameter set for EPCS non-AP STA with the EPCS priority access in the enabled state and non-EPCS non-AP STAs as follows:

* If EPCS priority access is in the enabled state for at least one associated EPCS non-AP STA, then
  + if the EDCA parameters previously sent out by the EPCS AP in Management frames it transmits (see 10.2.3.2 (HCF contention based channel access (EDCA))) do not result in higher priority for the EPCS STA(s) with EPCS in the enabled state, the EPCS AP shall announce EDCA parameters in Management frames that result in higher priority for the EPCS STA(s) with EPCS priority access in the enabled state;
* Otherwise,
  + an EPCS AP with EPCS priority access set to the torn down state for all its associated STAs announces the EDCA parameter set in Management frames (e.g., Beacon or Probe Response) that it transmits following the procedure in 10.2.3.2 (HCF contention based channel access (EDCA)).

1. For example, national security and emergency preparedness communications services in the United States, including the Government Emergency Telecommunications Service and the Wireless Priority Service, run on commercial cellular networks. [↑](#footnote-ref-1)
2. Priority access capabilities to support these services in other types of networks are defined in appropriate international standards, (e.g., Multimedia Priority Service (MPS) in 3GPP). [↑](#footnote-ref-2)