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| Proposed spec texts for EDP Group Epoch Feature Activation |
| Date: 2025-01-14 |
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Abstract

This submission proposes changes to the MIB entries to track the activation of Group Epoch features.

Revision History:

* Rev 0: Initial version of the document
* Rev 1: Updated from discussion, changed to new MIB table instead of EHT STA Config table

***Discussion:***

During discussions of other EDP mechanisms, it was pointed out that there isn’t a MIB to determine if EDP epoch operation is currently active for an AP MLD or for a non-AP MLD.

There is an existing MIB that indicates group epoch operation is enabled for a station. There are also additional MIBs in the STA config table related to epoch operation.

Because we only allow epoch operation by MLDs, this MIB organization is potentially confusing. If one affiliated non-AP STA has the MIB enabled for epoch operation but another non-AP STA affiliated with the same MLD does not, then the behavior of the MLD is unclear.

This submission proposes to delete the current EDP-related station-level MIBs and move them to a new EDP station config table. It also proposes to add 1 additional MIB with the current epoch group assignment for an MLD.

***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).***

**C.3 MIB detail**

***Remove the following entries from “Dot11StationConfigEntry”.***

~~dot11EPDPKEActivated TruthValue,~~

~~dot11GroupEpochActivated TruthValue,~~

~~dot11EpochStartTimeMargin Unsigned32,~~

~~dot11EpochTransitionTime Unsigned32,~~

~~dot11EDPRobustIndividuallyAddressedManagementFrameActivated~~

 ~~TruthValue,~~

~~dot11EDPCapabilitiesAndOperationParametersRequestResponseActivated~~

 ~~TruthValue,~~

~~dot11EDPReAssociationFrameEncryptionSupportActivated TruthValue,~~

~~dot11EDPIEEE8021XAuthenticationUtilizingAuthenticationFrameActivated~~

 ~~TruthValue,~~

~~dot11EDPPMKSACachingPrivacySupportActivated TruthValue~~

***Remove the MIBs associated with the above entries from the Dot11StationConfigEntry table***

***Insert a new entry in dot11smt.***

dot11smt OBJECT IDENTIFIER ::= { ieee802dot11 1 }

--dot11EDPSTAConfigEntry ::= { dot11smt #ANA }

***Insert a new “dot11EDPStationConfigEntry” table and associated MIBs as shown below.***

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \* dot11EDPStationConfig TABLE

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

dot11EDPStationConfigTable OBJECT-TYPE

 SYNTAX SEQUENCE OF Dot11EDPStationConfigEntry

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

"Station Configuration attributes. In tabular form to allow for multiple instances on an agent."

 ::= { dot11smt #ANA }

dot11EDPStationConfigEntry OBJECT-TYPE

 SYNTAX Dot11EDPStationConfigEntry

 MAX-ACCESS not-accessible

 STATUS current

 DESCRIPTION

"An entry in the dot11EDPStationConfigTable. It is possible for there to be multiple IEEE 802.11 interfaces on one agent, each with its unique MAC address. The relationship between an IEEE 802.11 interface and an interface in the context of the Internet-standard MIB is one-to-one. As such, the value of an ifIndex object instance can be directly used to identify corresponding instances of the objects defined herein.

ifIndex - Each IEEE 802.11 interface is represented by an ifEntry. Interface tables in this MIB module are indexed by ifIndex."

INDEX { ifIndex }

 ::= { dot11EDPStationConfigTable ANA }

Dot11EDPStationConfigEntry ::= SEQUENCE

{

dot11EPDPKEActivated TruthValue,

dot11GroupEpochActivated TruthValue,

dot11EpochStartTimeMargin Unsigned32,

dot11EpochTransitionTime Unsigned32,

dot11EDPRobustIndividuallyAddressedManagementFrameActivated

 TruthValue,

dot11EDPCapabilitiesAndOperationParametersRequestResponseActivated

 TruthValue,

dot11EDPReAssociationFrameEncryptionSupportActivated TruthValue,

dot11EDPIEEE8021XAuthenticationUtilizingAuthenticationFrameActivated

 TruthValue,

dot11EDPPMKSACachingPrivacySupportActivated TruthValue

}

dot11EDPKEActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity or the SME. Changes take effect for the next MLME-START.request primitive or MLME-JOIN.request primitive.

This attribute indicates whether or not EDPKE authentication is enabled."

DEFVAL { false }

::= { dot11EDPStationConfigEntry #ANA }

dot11EHTGroupEpochActivated OBJECT-TYPE

 SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity.

This attribute, when true, indicates that the capability of group epoch is enabled for the MLD. False indicates that the capability is present but is disabled.”

DEFVAL { false }

::= { dot11EDPStationConfigEntry #ANA }

dot11EHTEpochStartTimeMargin OBJECT-TYPE

SYNTAX Unsigned32 (1..100)

UNITS "0.1 milliseconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity.

This attribute indicates the duration when any STA affiliated with the MLD receives individually addressed frames that use next epoch anonymization parameters before an epoch boundary.”

DEFVAL { 100 }

::= { dot11EDPStationConfigEntry #ANA }

dot11EHTEpochTransitionTime OBJECT-TYPE

SYNTAX Unsigned32 (1..1000)

UNITS "TUs"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity.

This attribute indicates the duration when any STA affiliated with the MLD receives individually addressed frames that use previous epoch anonymization parameters after an epoch boundary.”

DEFVAL { 300 }

::= { dot11EDPStationConfigEntry #ANA }

dot11EHTGroupEpochCurrentGroup OBJECT-TYPE

SYNTAX Unsigned32 (0..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity.

This attribute indicates the current EDP epoch group to which the non-AP MLD is assigned. A value of zero (0) indicates the non-AP MLD is assigned to the default group. A null value indicates that the non-AP MLD is not currently assigned to an epoch group."

DEFVAL { NULL }

::= { dot11EDPStationConfigEntry #ANA }

dot11EDPRobustIndividuallyAddressedManagementFrameActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity or the SME. Changes take effect as soon as practical in the implementation.

This attribute, when true, indicates the capability to support EDP robust individually addressed Management frame is enabled. The capability is disabled otherwise."

DEFVAL { false }

::= { dot11EDPStationConfigEntry #ANA }

dot11EDPCapabilitiesAndOperationParametersRequestResponseActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity or the SME. Changes take effect for the next MLME-START.request primitive or MLME-JOIN.request primitive.

This attribute, when true, indicates the capability to support capabilities and operation parameters request and response is enabled. The capability is disabled otherwise."

DEFVAL { false }

::= { dot11EDPStationConfigEntry #ANA }

dot11EDPReAssociationFrameEncryptionSupportActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity or the SME. Changes take effect for the next MLME-START.request primitive or MLME-JOIN.request primitive.

This attribute, when true, indicates the capability to support encryption of the (Re)Association frame is enabled. The capability is disabled otherwise."

DEFVAL { false }

::= { dot11EDPStationConfigEntry #ANA }

dot11EDPIEEE8021XAuthenticationUtilizingAuthenticationFrameActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity or the SME. Changes take effect for the next MLME-START.request primitive or MLME-JOIN.request primitive.

This attribute, when true, indicates the capability to support IEEE 802.1X authentication utilizing Authentication frame is enabled. The capability is disabled otherwise."

DEFVAL { false }

::= { dot11EDPStationConfigEntry #ANA }

dot11EDPPMKSACachingPrivacySupportActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity or the SME. Changes take effect for the next MLME-START.request primitive or MLME-JOIN.request primitive.

This attribute, when true, indicates the capability to support PMKSA caching privacy is enabled. The capability is disabled otherwise."

DEFVAL { false }

::= { dot11EDPStationConfigEntry #ANA }

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \* End of dot11EDPStationConfig TABLE

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