IEEE P802.11
Wireless LANs

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| CID 4219, 4220, 4225 |
| Date: 2019-03-14 |
| Author(s): |
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Abstract

This submission proposes resolutions to CID 4219, 4220, and 4225.

The CID is in reference to Comment database on Draft IEEE 802.11ay/D3.0.

Revision 0: Initial proposal

Revision 1: Added more suggested resolution to fix discrepancy in MIB usage.

Revision 2: Added dot11EDMGScheduledRDImplemented.

Revision 3: Refined text based on feedback from task group member.

Revision 3: Removed suggested resolution to fix discrepancy in MIB usage. Refined resolution to CID4220 and 4225.

# Comment:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **PP.LL** | **Comment** | **Proposed Change** | **Suggested Resolution** |
| 4219 | 351.08 | According to at 11.2.7.2.2, there is a sentence "A non-AP EDMG STA may set the Triggered Unscheduled PS subfield to one..." Sounds like this is optional for non-AP EDMG STA to use Triggered Unscheduled PS. It would be preferrable to define a MIB variable to control the use of Triggered Unschduled PS. | Please consider the following changes:1. Add dot11EDMGTriggeredUnscheduledPSActivated entry to Annex C.2. Define dot11EDMGTriggeredUnscheduledPSActivated as control variable, written by an external management entity.3. Use dot11EDMGTriggeredUnscheduledPSActivated variable to express the STA is operating the feature. | REJECT:The triggered unscheduled PS is defined as a part of the 802.11ad. The comment should go to REVmd instead of TGay. |

# Discussion:

The commenter is asking to add MIB variable to control Triggered Unscheduled PS operation. However, the feature is defined in 802.11ad and if we implement the suggested change, the change would span greater area than what we have in 802.11ay draft specification. The comment should go to REVmd instead of TGay.

# Proposed resolution:

Reject.

The triggered unscheduled PS is defined as a part of the 802.11ad. The comment should go to REVmd instead of TGay.

# Comment:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **PP.LL** | **Comment** | **Proposed Change** | **Suggested Resolution** |
| 4220 | 741.10 | There is no MIB variable associated with Scheduled RD feature. | Add MIB variable for Scheduled RD enablement | REVISED: Adopt changes proposed in doc11-19/471 |

# Discussion:

The commenter is asking to add MIB variable to control Scheduled RD enablement. Scheduled RD is automatically enabled when the STA supports MU-MIMO. In addition, Scheduled RD can be enabled when the STA implements the feature. Probably, it is better to define a new MIB variable that represents Scheduled RD support status.

# Proposed resolution:

**9.4.2.250.6 MAC Capabilities subelement**

***To TGay Editor: Change the 4th paragraph of the 9.4.2.250.6 as follows:***

The Scheduled RD Supported field indicates if the EDMG STA supports the scheduling procedure of the RD protocol described in 10.30.3 and 10.30.4. This field is set to 1 if dot11EDMGScheduledRDImplemented is true. Otherwise, this field is set to 0. When dot11EDMGMIMOSupport is either muAndSuMimo (2) or reciprocalMuMimoAndSuMimo (3), dot11EDMGScheduledRDImplemented is always true.

**10.30.3 Rules for RD initiator**

***To TGay Editor: Change the 3rd paragraph of the 10.30.3 as follows:***

If an RD initiator and an RD responder are EDMG STAs with the Scheduled RD Supported field in their EDMG Capabilities element equal to 1, then the RD initiator may set the ack policy of MPDUs contained in A-MPDU transmitted within an RDG PPDU to Scheduled Ack. In this case, the RD initiator shall include at least one Block Ack Schedule frame with Response Offset and Response Duration fields set to nonzero values in an A-MPDU transmitted within the RDG PPDU. If an A-MPDU is transmitted not as a part of an EDMG MU PPDU, the RD initiator shall set the value of the Response Offset field in the Block Ack Schedule frame equal to SIFS.

**10.30.5 Reverse direction for EDMG DL MU-MIMO**

***To TGay Editor: Change the 1st paragraph of the 10.30.5 as follows:***

An EDMG STA with dot11EDMGScheduledRDImplemented equal to true shall support the reverse direction for EDMG DL MU-MIMO mechanism described in this subclause.

**C.3 MIB Detail**

***To TGay Editor: Change the definition of “Dot11EDMGSTAConfigEntry” in C.3 as follows:***

Dot11EDMGSTAConfigEntry ::=

SEQUENCE {

dot11EDMGOptionImplemented TruthValue,

dot11AMPDUwithMultipleTIDOptionImplemented TruthValue,

dot11EDMGScheduledRDImplemented TruthValue

}

***To TGay Editor: Insert the definition of the new MIB variable (dot11EDMGScheduledRDImplemented) to the end of dot11EDMGSTAConfigTable in C.3 as follows:***

dot11EDMGScheduledRDImplemented OBJECT-TYPE

 SYNTAX TruthValue

 MAX-ACCESS read-only

 STATUS current

 DESCRIPTION

 "This is a capability variable.

 Its value is determined by device capabilities.

This attribute, when true, indicates the STA supports Scheduled Reverse Direction. This attribute, when false, indicates the STA does not support Scheduled Reverse Direction. "

 DEFVAL { false }

 ::= { dot11EDMGSTAConfigEntry 3 }

***To TGay Editor: Change the definition of “dot11EDMGComplianceGroup” in C.3 as follows:***

dot11EDMGComplianceGroup OBJECT-GROUP

OBJECTS {

dot11EDMGOptionImplemented,

dot11AMPDUwithMultipleTIDOptionImplemented,

dot11EDMGScheduledRDImplemented

}

STATUS current

DESCRIPTION

"Attributes that configure the EDMG Group for IEEE 802.11."

::= { dot11Groups <ANA> }

**B.4.34 Enhanced directional multi-gigabit (EDMG) features**

**B.4.34.1 EDMG MAC features**

***To TGay Editor: Change the PICS table in B.4.34.1 as follows:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| \*EDMG-M16.3 | Reverse direction for MU-MIMO | 10.29.5 | EDMG-M9.2: M  | Yes  No  N/A  |
| EDMG-M16.4 | Scheduled reverse direction |  | CFEDMG: OEDMG-M16.3: M  | Yes  No  N/A  |

# Comment:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **PP.LL** | **Comment** | **Proposed Change** | **Suggested Resolution** |
| 4225 | 236.07 | The sentence reads "The RD protocol shall be supporeted by an EDMG STA." However, it is likely that EDMG STA that uses TDD Channel Access does not use this feature. | 1. Replace "The RD protocol shall be supporeted by an EDMG STA." with "When dot11DMGTDDModeActivated (or something that controls TDD mode operation) is false, EDMG STA shall support RD protocol."2. Remove "For an EDMG STA, dot11RDResponderOptionImplemented shall always be set to true." at 236.14 | REVISED: Adopt changes proposed in doc11-19/471 |

# Discussion:

The language in clause 10.30.1 could be improved.

# Proposed resolution:

**10.30.1 General**

The RD protocol may be supported by an HT STA and by a DMG STA that is not an EDMG STA. The RD protocol shall be supported by an EDMG STA, when dot11DMGChannelAccessScheme is either dmgChannelAccessOnly (0) or dmgAndTddMixedChannelAccess (2). A STA receiving an RDG is never required to use the grant. The RD protocol defined in this subclause applies to ~~both types of~~ HT STAs and DMG STAs.

A DMG STA indicates support of the RD protocol feature using the Reverse Direction subfield of the DMG STA Capability Information field of the DMG Capabilities element. A STA shall set the Reverse Direction subfield to 1 in frames that it transmits containing the DMG Capabilities element if dot11RDResponderOptionImplemented is true. Otherwise, the STA shall set the Reverse Direction subfield to 0. For an EDMG STA, dot11RDResponderOptionImplemented shall always be set to true, when dot11DMGChannelAccessScheme is either dmgChannelAccessOnly (0) or dmgAndTddMixedChannelAccess (2). In a DMG STA, the RDG/More PPDU subfield and the AC Constraint subfield are present in the QoS Control field.

**C.3 MIB details**

***To TGay Editor: Add a new entry to the definition of “Dot11DMGOperationEntry” in C.3 as follows:***

Dot11EDMGOperationEntry ::=

SEQUENCE {

...

dot11DMGNavSync Unsigned32,

dot11DMGChannelAccessScheme INTEGER

}

***To TGay Editor: Insert the definition of the new MIB variable (dot11DMGChannelAccessScheme) to the end of dot11DMGOperationTable in C.3 as follows:***

dot11DMGChannelAccessScheme OBJECT-TYPE

 SYNTAX INTEGER ( dmgChannelAccessOnly (0), tddChannelAccessOnly (1), dmgAndTddMixedChannelAccess (2) }

 MAX-ACCESS read-write

 STATUS current

 DESCRIPTION

 "This is a control variable.

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

This attribute indicates which channel access scheme the STA activates. "

 DEFVAL { 0 }

 ::= { dot11DMGOperationEntry 21 }

***To TGay Editor: Change the definition of “dot11DMGComplianceGroup” in C.3 as follows:***

dot11DMGOperationsComplianceGroup OBJECT-GROUP

OBJECTS {

...

dot11DMGNavSync,

dot11DMGChannelAccessScheme

}

STATUS current

DESCRIPTION

"Attributes that configure the DMG Group for IEEE 802.11."

::= { dot11Groups 65 }

**B.4.34 Directional multi-gigabit (DMG) features**

**B.4.24.1 DMG MAC features**

***To TGay Editor: Change the PICS table in B.4.24.1 as follows:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| \*DMG-M7 | DMG channel access |  |  |  |

**B.4.34 Enhanced directional multi-gigabit (EDMG) features**

**B.4.34.1 EDMG MAC features**

***To TGay Editor: Change the PICS table in B.4.34.1 as follows:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EDMG-M16  | Reverse direction protocol  |  |  | Yes  No  N/A  |
| EDMG-M16.1 | Reverse direction for SU-SISO  | 10.29 | (CFEDMG & DMG-M7): M  | Yes  No  N/A  |
| EDMG-M16.2 | Reverse direction for SU-MIMO  | 10.29 | EDMG-M9.1: M  | Yes  No  N/A  |
| \*EDMG-M16.3 | Reverse direction for MU-MIMO | 10.29.5 | EDMG-M9.2: M  | Yes  No  N/A  |
| EDMG-M16.4 | Scheduled reverse direction |  | CFEDMG: OEDMG-M16.3: M  | Yes  No  N/A  |

# Reference:

[1] Draft P802.11REVmd D3.0

[2] 11-19/297 “Comments on 11ay/D3.0”