IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| P802.11aa MIB compilation fixes | | | | |
| Date: 2011-05-10 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Alex Ashley | NDS Ltd | One London Road, Staines, Middlesex, TW18 4EX |  | Aashley at nds dot com |
|  |  |  |  |  |

Abstract

This document contains text changes against P802.11aa D4.0 in order to make it compile without warnings at level 4 of the smitools that are required to be used during the 802.11 MEC process.

**Annex C**

(normative)

**ASN.1 encoding of the MAC and PHY MIB**

***Change the end of the "Dot11StationConfigEntry" of the "dotStationConfig TABLE" as follows:***

dot11DependentSTAType INTEGER,

dot11RobustAVStreamingImplemented TruthValue}

***Insert the following element at the end of the dot11StationConfigTable element definitions:***

dot11RobustAVStreamingImplemented 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 that the station

implementation supports robust AV streaming"

DEFVAL { false }

::= { dot11StationConfigEntry <ANA> }

***Insert the following elements at the end of the list of child objects for dot11smt object identifier:***

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

--\*Robust AV streaming

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

-- dot11AVOptionsTable::= { dot11smt <ANA>}

-- dot11AVConfigTable::= { dot11smt <ANA>}

-- dot11APCTable ::= { dot11smt <ANA>}

***Insert the following text at the end of the Station management MIB:***

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

-- \* dot11AVOptions TABLE

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

dot11AVOptionsTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11AVOptionsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"AV streaming attributes. In tabular form to allow for multiple instances on an agent. This table only applies to the interface if dot11RobustAVStreamingImplemented is true in the dot11StationConfigTable. Otherwise this table should be ignored."

::= { dot11smt <ANA> }

dot11AVOptionsEntry OBJECT-TYPE

SYNTAX Dot11AVOptionsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11AVOptionsTable. For all AV Streaming features, an Activated MIB variable is used to activate/enable or deactivate/disable the corresponding feature. An Implemented MIB variable is used for an optional feature to indicate whether the feature is implemented. A mandatory feature does not have a corresponding Implemented MIB variable. 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 }

::= { dot11AVOptionsTable 1 }

Dot11AVOptionsEntry ::=

SEQUENCE {

dot11GCRActivated TruthValue,

dot11AdvancedGCRImplemented TruthValue,

dot11AdvancedGCRActivated TruthValue,

dot11SCSImplemented TruthValue,

dot11SCSActivated TruthValue,

dot11QLoadReportActivated TruthValue,

dot11AlternateEDCAActivated TruthValue,

dot11PublicHCCATXOPNegotiationActivated TruthValue,

dot11GCRGroupMembershipAnnouncementActivated TruthValue,

dot11MeshGCRImplemented TruthValue,

dot11MeshRobustAVStreamingImplemented TruthValue,

dot11MeshGCRActivated TruthValue,

dot11PublicHCCATXOPNegotiationImplemented TruthValue,

dot11PublicHCCATXOPNegotiationActivated TruthValue,

dot11ProtectedHCCATXOPNegotiationImplemented TruthValue,

dot11ProtectedHCCATXOPNegotiationActivated TruthValue,

dot11ProtectedQLoadReportImplemented TruthValue,

dot11ProtectedQLoadReportActivated TruthValue }

dot11GCRActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

or MLME-JOIN.request primitive

This attribute, when TRUE, indicates that the station

implementation supports the GCR procedures as defined in 11.22.15.aa2 and that this has been activated."

DEFVAL { false }

::= { dot11AVOptionsEntry 1 }

dot11AdvancedGCRImplemented 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 that the station implementation supports the Advanced GCR features"

DEFVAL { false }

::= { dot11AVOptionsEntry 2 }

dot11AdvancedGCRActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

or MLME-JOIN.request primitive

This attribute, when TRUE, indicates that the station implementation supports the GCR procedures as defined in 11.22.15.aa2 and that this has been activated."

DEFVAL { false }

::= { dot11AVOptionsEntry 3 }

dot11SCSImplemented 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 that the station implementation supports the stream classification service."

DEFVAL { false }

::= { dot11AVOptionsEntry 4 }

dot11SCSActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

or MLME-JOIN.request primitive

This attribute, when TRUE, indicates that the station implementation supports the stream classification service and that this has been activated."

DEFVAL { false }

::= { dot11AVOptionsEntry 5 }

dot11QLoadReportActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the AP will perform the QLoad report procedures described in 10.aa24.1."

DEFVAL { false }

::= { dot11AVOptionsEntry 6 }

dot11AlternateEDCAActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the station can additionally use the Alternate EDCA transmit queues."

DEFVAL { false }

::= { dot11AVOptionsEntry 7 }

dot11PublicHCCATXOPNegotiationActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the AP can negotiate HCCA TXOPs using public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 8 }

dot11GCRGroupMembershipAnnouncementActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect as soon as practical in the implementation

This attribute, when TRUE, indicates that the STA will send unsolicited Group Membership Response frames when its dot11GroupAddressesTable changes."

DEFVAL { false }

::= { dot11AVOptionsEntry 9 }

dot11PublicHCCATXOPNegotiationImplemented 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 that the station implementation

supports the negotiation of HCCA TXOPs using public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 10 }

dot11ProtectedHCCATXOPNegotiationImplemented 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 that the station implementation supports the negotiation of HCCA TXOPs using protected dual of public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 11 }

dot11ProtectedHCCATXOPNegotiationActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the AP can negotiate HCCA TXOPs using protected dual of public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 12 }

dot11ProtectedQLoadReportImplemented 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 that the station implementation supports the reporting of QLoad using protected dual of public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 13 }

dot11ProtectedQLoadReportActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the AP can report QLoad using protected dual of public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 14 }

dot11MeshGCRImplemented 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 that the mesh station

implementation supports the Advanced GCR features"

DEFVAL { false }

::= { dot11AVOptionsEntry 15 }

dot11MeshGCRActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

or MLME-JOIN.request primitive

This attribute, when TRUE, indicates that the mesh station

implementation supports the GCR procedures as defined in 11.22.15.aa2 and

that this has been activated."

DEFVAL { false }

::= { dot11AVOptionsEntry 16 }

dot11MeshRobustAVStreamingImplemented 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 that the mesh station

implementation supports Mesh robust AV streaming"

DEFVAL { false }

::= { dot11AVOptionsEntry 17 }

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

-- \* dot11AVConfig TABLE

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

dot11AVConfigTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11AVConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"AV streaming attributes. In tabular form to allow for multiple instances on an agent. This table only applies to the interface if dot11RobustAVStreamingImplemented is true in the dot11StationConfigTable. Otherwise this table should be ignored."

::= { dot11smt <ANA> }

dot11AVConfigEntry OBJECT-TYPE

SYNTAX Dot11AVConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11AVConfigTable. 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 }

::= { dot11AVConfigTable 1 }

Dot11AVConfigEntry ::=

SEQUENCE {

dot11GCRPolicyChangeTimeout Unsigned32,

dot11QLoadReportIntervalDTIM Unsigned32,

dot11HCCATXOPBeaconTimeout Unsigned32,

dot11GCRConcealmentAddress MacAddress,

dot11QLoadReportDelay Unsigned32,

dot11DefaultSurplusBandwidthAllowance Unsigned32,

dot11ShortDEIRetryLimit Unsigned32,

dot11LongDEIRetryLimit Unsigned32,

dot11UnsolicitedRetryLimit Unsigned32 }

dot11GCRPolicyChangeTimeout OBJECT-TYPE

SYNTAX Unsigned32(0..65535)

UNITS "100 TUs"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive or

MLME-JOIN.request primitive

This attribute indicates the interval after which a STA updates its

GCR delivery mode or retransmission policy state using the procedures defined in 11.22.15.aa2.4"

DEFVAL { 100 }

::= { dot11AVConfigEntry 1 }

dot11QLoadReportIntervalDTIM OBJECT-TYPE

SYNTAX Unsigned32 (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity. Changes take effect at the next MLMESTART.request primitive

This attribute describes the number of DTIM intervals between transmissions of Beacon frames containing a QLoadReport element"

::= { dot11AVConfigEntry 2 }

dot11HCCATXOPBeaconTimeout OBJECT-TYPE

SYNTAX Unsigned32 (1..100)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the MAC or external management entity.

In an AP or mesh STA providing GCR service, changes take effect for the next MLME-START.request primitive.

In a non-AP STA or mesh STA receiving GCR service, it is written by the MAC when it receives a DMS Response that contains a DMS Status field with a GCR Response subelement and a Response Type subfield set to Accept.

This attribute shall specify the number of beacon periods an AP defers scheduling new potentially conflicting HCCA TXOPs while performing the HCCA TXOP procedures defined in 10.aa24.3"

DEFVAL { 3 }

::= { dot11AVConfigEntry 3 }

dot11GCRConcealmentAddress OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive.

The purpose of dot11GCRConcealmentAddress is to define the locally administered group address that is used by the GCR procedures (as defined in 11.22.15.aa2.5) to conceal group addressed frames from STAs that do not support GCR"

::= { dot11AVConfigEntry 4 }

dot11QLoadReportDelay OBJECT-TYPE

SYNTAX Unsigned32 (1..60)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity. Changes take effect at the next MLMESTART.request primitive

This attribute describes the maximum number of seconds an AP will delay before sending an unsolicited QLoad Report action frame."

::= { dot11AVConfigEntry 5 }

dot11ShortDEIRetryLimit OBJECT-TYPE

SYNTAX Unsigned32 (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity.

Changes take effect as soon as practical in the implementation

This attribute indicates the maximum number of transmission attempts of a frame where the DEI subfield has the value of one, the length of which is less than or equal to dot11RTSThreshold, that is made before a failure condition is indicated. The default value of this attribute is 5."

DEFVAL { 5 }

::= { dot11AVConfigEntry 6 }

dot11LongDEIRetryLimit OBJECT-TYPE

SYNTAX Unsigned32 (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" This is a control variable.

It is written by an external management entity.

Changes take effect as soon as practical in the implementation

This attribute indicates the maximum number of transmission attempts of a frame where the DEI subfield has the value of one, the length of which is greater than dot11RTSThreshold, that is made before a failure condition is indicated. The default value of this attribute is 3."

DEFVAL { 3 }

::= { dot11AVConfigEntry 7 }

dot11UnsolicitedRetryLimit OBJECT-TYPE

SYNTAX Unsigned32 (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity.

Changes take effect as soon as practical in the implementation.

This attribute indicates the maximum number of transmission attempts of a frame delivered using the GCR unsolicited retry retransmission policy."

DEFVAL { 7 }

::= { dot11AVConfigEntry 8 }

dot11DefaultSurplusBandwidthAllowance OBJECT-TYPE

SYNTAX Unsigned32 (100 .. 255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" This is a control variable.

It is written by an external management entity.

Changes take effect as soon as practical in the implementation.

This object specifies the default percentage surplus bandwidth allowance

when calculating medium time.

"

DEFVAL { 110 }

::= { dot11AVConfigEntry 9 }

***Insert the following items at the end of Dot11STAStatisticsReportEntry as follows:***

dot11STAStatisticsRprtMeasurementMode INTEGER,

dot11STAStatisticsAverageMSDUSizeVideo Unsigned32,

dot11STAStatisticsAverageMSDUSizeVoice Unsigned32,

dot11STAStatisticsAverageBitrateVideo Unsigned32,

dot11STAStatisticsAverageBitrateVoice Unsigned32}

***Insert the following two entries after the "dot11STAStatisticsRprtMeasurementMode" entry:***

dot11STAStatisticsAverageMSDUSizeVideo OBJECT-TYPE

SYNTAX Unsigned32 (0.. 7935)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a status variable.

It is written by the SME when a measurement report is completed or

by an external management entity. Changes from an external management

entity take effect as soon as practical in the implementation.

If dot11STAStatisticsMeasurementDuration is zero, this attribute indicates the value of the Average MSDU size for the Video Access Category returned from the STA in this STA Statistics Report. If dot11STAStatisticsMeasurementDuration indicates a non-zero value, this attribute indicates the difference in the referenced size over the indicated duration. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero."

DEFVAL { 1401 }

::= { dot11STAStatisticsReportEntry 52 }

**EDITORIAL NOTE⎯Last entry in STA statistics in IEEE P802.11REVmb D7.0 is dot11STAStatisticsRprtMeasurementMode with dot11STAStatisticsReportEntry 41**

dot11STAStatisticsAverageMSDUSizeVoice OBJECT-TYPE

SYNTAX Unsigned32 (0.. 7935)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a status variable.

It is written by the SME when a measurement report is completed or

by an external management entity. Changes from an external management

entity take effect as soon as practical in the implementation.

If dot11STAStatisticsMeasurementDuration is zero, this attribute indicates the value of the Average MSDU size for the Voice Access Category returned from the STA in this STA Statistics Report. If dot11STAStatisticsMeasurementDuration indicates a non-zero value, this attribute indicates the difference in the referenced size over the indicated duration. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero."

DEFVAL { 365 }

::= { dot11STAStatisticsReportEntry 53 }

dot11STAStatisticsAverageBitrateVideo OBJECT-TYPE

SYNTAX Unsigned32 (0.. 4294967295)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a status variable.

It is written by the SME when a measurement report is completed or

by an external management entity. Changes from an external management

entity take effect as soon as practical in the implementation.

If dot11STAStatisticsMeasurementDuration is zero, this attribute indicates the value of the Average PHY bitrate of MPDUs transmitted and received using the Video Access Category returned from the STA in this STA Statistics Report. If dot11STAStatisticsMeasurementDuration indicates a non-zero value, this attribute indicates the difference in the referenced size over the indicated duration. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero.

"

::= { dot11STAStatisticsReportEntry 54 }

dot11STAStatisticsAverageBitrateVoice OBJECT-TYPE

SYNTAX Unsigned32 (0.. 4294967295)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a status variable.

It is written by the SME when a measurement report is completed or

by an external management entity. Changes from an external management

entity take effect as soon as practical in the implementation.

If dot11STAStatisticsMeasurementDuration is zero, this attribute indicates the value of the Average PHY bitrate of MPDUs transmitted and received using the Voice Access Category returned from the STA in this STA Statistics Report. If dot11STAStatisticsMeasurementDuration indicates a non-zero value, this attribute indicates the difference in the referenced size over the indicated duration. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero."

::= { dot11STAStatisticsReportEntry 55 }

***Insert the following text at the end of the Station management MIB:***

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

-- \* dot11APC TABLE

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

dot11APCTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11APCEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Group contains conceptual table of attributes for MIB based HCCA TXOP Negotiation."

::= { dot11smt <ANA> }

dot11APCTableEntry OBJECT-TYPE

SYNTAX Dot11APCEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11APCTable, Indexed by dot11APCIndex."

INDEX { dot11APCIndex }

::= { dot11APCTable 1 }

Dot11APCEntry ::=

SEQUENCE {

dot11APCIndex Unsigned32,

dot11APCEntryAvoidanceDuration Unsigned32,

dot11APCEntryAvoidanceServiceInterval Unsigned32,

dot11APCEntryAvoidanceOffset Unsigned32}

dot11APCIndex OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The auxiliary variable used to identify instances of the columnar objects

in the HCCA TXOP Table."

::= { dot11APCTableEntry 1 }

dot11APCEntryAvoidanceDuration OBJECT-TYPE

SYNTAX Unsigned32 (0..131071)

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 contains the duration in 32us, of a TXOP Reservation that the AP will attempt avoid when scheduling new HCCA TXOPs."

::= { dot11APCTableEntry 2 }

dot11APCEntryAvoidanceServiceInterval 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 or the SME.

Changes take effect as soon as practical in the implementation.

This attribute contains the duration, in ms, of the period between successive HCCA TXOPs. When zero, no period has been reserved."

::= { dot11APCTableEntry 3 }

dot11APCEntryAvoidanceOffset OBJECT-TYPE

SYNTAX Unsigned32 (0..131071)

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 contains the offset, in TUs, from the scheduled start of the Beacon transmission until the start of the time period for a TXOP Reservation that the AP will attempt avoid when scheduling new HCCA TXOPs."

::= { dot11APCTableEntry 4 }

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

-- \* End of dot11APC TABLE

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

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

-- \* Groups - units of conformance – AVS

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

dot11AVSBase OBJECT-GROUP

OBJECTS {

dot11RobustAVStreamingImplemented,

dot11GCRActivated ,

dot11AdvancedGCRImplemented ,

dot11AdvancedGCRActivated ,

dot11SCSImplemented ,

dot11SCSActivated ,

dot11QLoadReportActivated ,

dot11AlternateEDCAActivated ,

dot11PublicHCCATXOPNegotiationActivated ,

dot11GCRGroupMembershipAnnouncementActivated ,

dot11MeshGCRImplemented ,

dot11MeshRobustAVStreamingImplemented ,

dot11MeshGCRActivated ,

dot11PublicHCCATXOPNegotiationImplemented ,

dot11PublicHCCATXOPNegotiationActivated ,

dot11ProtectedHCCATXOPNegotiationImplemented ,

dot11ProtectedHCCATXOPNegotiationActivated ,

dot11ProtectedQLoadReportImplemented ,

dot11ProtectedQLoadReportActivated ,

dot11QLoadReportIntervalDTIM,

dot11HCCATXOPBeaconTimeout,

dot11GCRConcealmentAddress,

dot11GCRPolicyChangeTimeout,

dot11QLoadReportDelay,

dot11DefaultSurplusBandwidthAllowance,

dot11ShortDEIRetryLimit,

dot11LongDEIRetryLimit,

dot11UnsolicitedRetryLimit ,

dot11STAStatisticsAverageMSDUSizeVideo ,

dot11STAStatisticsAverageMSDUSizeVoice ,

dot11STAStatisticsAverageBitrateVideo ,

dot11STAStatisticsAverageBitrateVoice }

STATUS current

DESCRIPTION

"The AVSBase package is a set of attributes that are present if the STA supports the robust audio video streaming features."

::= { dot11Groups <ANA> }

dot11AVSAPCGroup OBJECT-GROUP

OBJECTS {

dot11APCEntryAvoidanceDuration ,

dot11APCEntryAvoidanceServiceInterval ,

dot11APCEntryAvoidanceOffset

}

STATUS current

DESCRIPTION

"The AVSAPCGroup package is a set of attributes that are present if the STA supports HCCA TXOP negotiation."

::= { dot11Groups <ANA> }

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

-- \* Compliance Statements - AVS

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

dot11AVSCompliance MODULE-COMPLIANCE

STATUS current

DESCRIPTION

" This object class provides the objects from the IEEE 802.11

MIB required to robust AV streaming

functionality. Note that additional objects for managing this

functionality are located in the IEEE 802.11 AVS MIB."

MODULE -- this module

MANDATORY-GROUPS { dot11AVOptionsTable, dot11AVConfigTable, dot11APCTable }

-- OPTIONAL-GROUPS { dot11AVSAPCGroup }

GROUP dot11AVSBase

DESCRIPTION "At least the dot11RobustAVStreamingImplemented object is

required from dot11StationConfigEntry"

OBJECT dot11RobustAVStreamingImplemented

DESCRIPTION "Required object"

::= { dot11Groups <ANA> }

**References:**

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

-- \* IEEE 802.11 MIB

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

IEEE802dot11-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, OBJECT-TYPE, NOTIFICATION-TYPE,

Integer32, Counter32, Counter64, Unsigned32, TimeTicks, Gauge32

FROM SNMPv2-SMI

DisplayString , MacAddress, RowStatus, TruthValue,

TEXTUAL-CONVENTION FROM SNMPv2-TC

MODULE-COMPLIANCE, OBJECT-GROUP, NOTIFICATION-GROUP FROM SNMPv2-CONF

ifIndex, InterfaceIndex FROM IF-MIB;

-- \* MODULE IDENTITY

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

ieee802dot11 MODULE-IDENTITY

-- Editor Note: The following line will be updated during publication

LAST-UPDATED "200908030000Z"

ORGANIZATION "IEEE 802.11"

CONTACT-INFO

"Chair: Bruce Kraemer(#1586)

Postal: 517 La Costa Court

Melbourne, FL 32940, USA

Tel: +1 321 427 4098

Fax: +1 321 751 3988

E-mail: bkraemer@ieee.org

Editor: Adrian P Stephens

E-mail: adrian.p.stephens@ieee.org"

DESCRIPTION

"The MIB module for IEEE 802.11 entities.

iso(1).member-body(2).us(840).ieee802dot11(10036)"

-- Editor Note: The following two lines will be updated during publication

REVISION "200908030000Z"

DESCRIPTION "Draft Revision MB of the 802.11 Standard"

::= { us 10036 }

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

-- \* Tree Definition

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

member-body OBJECT IDENTIFIER ::= { iso 2 }

us OBJECT IDENTIFIER ::= { member-body 840 }

dot11smt OBJECT IDENTIFIER ::= { ieee802dot11 1 }

dot11Conformance OBJECT IDENTIFIER ::= { ieee802dot11 5 }

dot11Groups OBJECT IDENTIFIER ::= { dot11Conformance 1 }

dot11Compliances OBJECT IDENTIFIER ::= { dot11Conformance 2 }

dot11StationConfigTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11StationConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Station Configuration attributes. In tabular form to allow for

multiple instances on an agent."

::= { dot11smt 1 }

dot11StationConfigEntry OBJECT-TYPE

SYNTAX Dot11StationConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11StationConfigTable. 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 }

::= { dot11StationConfigTable 1 }

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

-- \* Radio Measurement Reports(#1704)

-- \* Report tables contain measurement reports received by this STA or

-- \* results of measurements performed by this STA.

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

dot11RadioMeasurement OBJECT IDENTIFIER ::= { dot11smt 14 }

dot11RMReport OBJECT IDENTIFIER ::= { dot11RadioMeasurement 2 }

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

-- \* dot11STAStatisticsReport TABLE

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

dot11STAStatisticsReportTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11STAStatisticsReportEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table contains the current list of STA Statistics reports that

have been received by the MLME. The report tables are(#1452) maintained as

a FIFO to preserve freshness, thus the rows in this table can be deleted

for memory constraints or other implementation constraints determined by

the vendor. New rows (#1452)have different RprtIndex values than those

deleted within the range limitation of the index. One easy way is to monotonically

increase RprtIndex for new reports being written in the table."

::= { dot11RMReport 5 }

dot11STAStatisticsReportEntry OBJECT-TYPE

SYNTAX Dot11STAStatisticsReportEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11STAStatisticsReportTable Indexed by

dot11STAStatisticsReportIndex."

INDEX { dot11STAStatisticsReportIndex }

::= { dot11STAStatisticsReportTable 1 }

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

-- \* Start of P802.11aa MIB objects

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

Dot11StationConfigEntry ::= SEQUENCE

{

dot11RobustAVStreamingImplemented TruthValue

}

dot11RobustAVStreamingImplemented 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 that the station

implementation supports robust AV streaming"

DEFVAL { false }

::= { dot11StationConfigEntry 137 }

--- 137 = First available number in 11/270r3

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

--\*Robust AV streaming

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

--- 27 = First available number in 11/270r3

-- dot11AVOptionsTable::= { dot11smt 27}

-- dot11AVConfigTable::= { dot11smt 28}

-- dot11APCTable ::= { dot11smt 29}

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

-- \* dot11AVOptions TABLE

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

dot11AVOptionsTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11AVOptionsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"AV streaming attributes. In tabular form to allow for multiple instances on an agent. This table only applies to the interface if dot11RobustAVStreamingImplemented is true in the dot11StationConfigTable. Otherwise this table should be ignored."

::= { dot11smt 27 }

dot11AVOptionsEntry OBJECT-TYPE

SYNTAX Dot11AVOptionsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11AVOptionsTable. For all AV Streaming features, an Activated MIB variable is used to activate/enable or deactivate/disable the corresponding feature. An Implemented MIB variable is used for an optional feature to indicate whether the feature is implemented. A mandatory feature does not have a corresponding Implemented MIB variable. 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 }

::= { dot11AVOptionsTable 1 }

Dot11AVOptionsEntry ::=

SEQUENCE {

dot11GCRActivated TruthValue,

dot11AdvancedGCRImplemented TruthValue,

dot11AdvancedGCRActivated TruthValue,

dot11SCSImplemented TruthValue,

dot11SCSActivated TruthValue,

dot11QLoadReportActivated TruthValue,

dot11AlternateEDCAActivated TruthValue,

dot11PublicHCCATXOPNegotiationActivated TruthValue,

dot11GCRGroupMembershipAnnouncementActivated TruthValue,

dot11MeshGCRImplemented TruthValue,

dot11MeshRobustAVStreamingImplemented TruthValue,

dot11MeshGCRActivated TruthValue,

dot11PublicHCCATXOPNegotiationImplemented TruthValue,

dot11PublicHCCATXOPNegotiationActivated TruthValue,

dot11ProtectedHCCATXOPNegotiationImplemented TruthValue,

dot11ProtectedHCCATXOPNegotiationActivated TruthValue,

dot11ProtectedQLoadReportImplemented TruthValue,

dot11ProtectedQLoadReportActivated TruthValue }

dot11GCRActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

or MLME-JOIN.request primitive

This attribute, when TRUE, indicates that the station

implementation supports the GCR procedures as defined in 11.22.15.aa2 and that this has been activated."

DEFVAL { false }

::= { dot11AVOptionsEntry 1 }

dot11AdvancedGCRImplemented 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 that the station implementation supports the Advanced GCR features"

DEFVAL { false }

::= { dot11AVOptionsEntry 2 }

dot11AdvancedGCRActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

or MLME-JOIN.request primitive

This attribute, when TRUE, indicates that the station implementation supports the GCR procedures as defined in 11.22.15.aa2 and that this has been activated."

DEFVAL { false }

::= { dot11AVOptionsEntry 3 }

dot11SCSImplemented 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 that the station implementation supports the stream classification service."

DEFVAL { false }

::= { dot11AVOptionsEntry 4 }

dot11SCSActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

or MLME-JOIN.request primitive

This attribute, when TRUE, indicates that the station implementation supports the stream classification service and that this has been activated."

DEFVAL { false }

::= { dot11AVOptionsEntry 5 }

dot11QLoadReportActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the AP will perform the QLoad report procedures described in 10.aa24.110.aa24.1."

DEFVAL { false }

::= { dot11AVOptionsEntry 6 }

dot11AlternateEDCAActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the station can additionally use the Alternate EDCA transmit queues."

DEFVAL { false }

::= { dot11AVOptionsEntry 7 }

dot11PublicHCCATXOPNegotiationActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the AP can negotiate HCCA TXOPs using public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 8 }

dot11GCRGroupMembershipAnnouncementActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect as soon as practical in the implementation

This attribute, when TRUE, indicates that the STA will send unsolicited Group Membership Response frames when its dot11GroupAddressesTable changes."

DEFVAL { false }

::= { dot11AVOptionsEntry 9 }

dot11PublicHCCATXOPNegotiationImplemented 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 that the station implementation

supports the negotiation of HCCA TXOPs using public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 10 }

dot11ProtectedHCCATXOPNegotiationImplemented 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 that the station implementation supports the negotiation of HCCA TXOPs using protected dual of public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 11 }

dot11ProtectedHCCATXOPNegotiationActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the AP can negotiate HCCA TXOPs using protected dual of public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 12 }

dot11ProtectedQLoadReportImplemented 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 that the station implementation supports the reporting of QLoad using protected dual of public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 13 }

dot11ProtectedQLoadReportActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

This attribute, when TRUE, indicates that the AP can report QLoad using protected dual of public action frames."

DEFVAL { true }

::= { dot11AVOptionsEntry 14 }

dot11MeshGCRImplemented 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 that the mesh station

implementation supports the Advanced GCR features"

DEFVAL { false }

::= { dot11AVOptionsEntry 15 }

dot11MeshGCRActivated OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive

or MLME-JOIN.request primitive

This attribute, when TRUE, indicates that the mesh station

implementation supports the GCR procedures as defined in 11.22.15.aa2 and

that this has been activated."

DEFVAL { false }

::= { dot11AVOptionsEntry 16 }

dot11MeshRobustAVStreamingImplemented 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 that the mesh station

implementation supports Mesh robust AV streaming"

DEFVAL { false }

::= { dot11AVOptionsEntry 17 }

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

-- \* dot11AVConfig TABLE

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

dot11AVConfigTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11AVConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"AV streaming attributes. In tabular form to allow for multiple instances on an agent. This table only applies to the interface if dot11RobustAVStreamingImplemented is true in the dot11StationConfigTable. Otherwise this table should be ignored."

::= { dot11smt 28 }

dot11AVConfigEntry OBJECT-TYPE

SYNTAX Dot11AVConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11AVConfigTable. 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 }

::= { dot11AVConfigTable 1 }

Dot11AVConfigEntry ::=

SEQUENCE {

dot11GCRPolicyChangeTimeout Unsigned32,

dot11QLoadReportIntervalDTIM Unsigned32,

dot11HCCATXOPBeaconTimeout Unsigned32,

dot11GCRConcealmentAddress MacAddress,

dot11QLoadReportDelay Unsigned32,

dot11DefaultSurplusBandwidthAllowance Unsigned32,

dot11ShortDEIRetryLimit Unsigned32,

dot11LongDEIRetryLimit Unsigned32,

dot11UnsolicitedRetryLimit Unsigned32 }

dot11GCRPolicyChangeTimeout OBJECT-TYPE

SYNTAX Unsigned32(0..65535)

UNITS "100 TUs"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive or

MLME-JOIN.request primitive

This attribute indicates the interval after which a STA updates its

GCR delivery mode or retransmission policy state using the procedures defined in 11.22.15.aa2.4"

DEFVAL { 100 }

::= { dot11AVConfigEntry 1 }

dot11QLoadReportIntervalDTIM OBJECT-TYPE

SYNTAX Unsigned32 (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity. Changes take effect at the next MLMESTART.request primitive

This attribute describes the number of DTIM intervals between transmissions of Beacon frames containing a QLoadReport element"

::= { dot11AVConfigEntry 2 }

dot11HCCATXOPBeaconTimeout OBJECT-TYPE

SYNTAX Unsigned32 (1..100)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the MAC or external management entity.

In an AP or mesh STA providing GCR service, changes take effect for the next MLME-START.request primitive.

In a non-AP STA or mesh STA receiving GCR service, it is written by the MAC when it receives a DMS Response that contains a DMS Status field with a GCR Response subelement and a Response Type subfield set to Accept.

This attribute shall specify the number of beacon periods an AP defers scheduling new potentially conflicting HCCA TXOPs while performing the HCCA TXOP procedures defined in 10.aa24.310.aa24.3"

DEFVAL { 3 }

::= { dot11AVConfigEntry 3 }

dot11GCRConcealmentAddress OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by the SME or external management entity.

Changes take effect for the next MLME-START.request primitive.

The purpose of dot11GCRConcealmentAddress is to define the locally administered group address that is used by the GCR procedures (as defined in 11.22.15.aa2.5) to conceal group addressed frames from STAs that do not support GCR"

::= { dot11AVConfigEntry 4 }

dot11QLoadReportDelay OBJECT-TYPE

SYNTAX Unsigned32 (1..60)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity. Changes take effect at the next MLMESTART.request primitive

This attribute describes the maximum number of seconds an AP will delay before sending an unsolicited QLoad Report action frame."

::= { dot11AVConfigEntry 5 }

dot11ShortDEIRetryLimit OBJECT-TYPE

SYNTAX Unsigned32 (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity.

Changes take effect as soon as practical in the implementation

This attribute indicates the maximum number of transmission attempts of a frame where the DEI subfield has the value of one, the length of which is less than or equal to dot11RTSThreshold, that is made before a failure condition is indicated. The default value of this attribute is 5."

DEFVAL { 5 }

::= { dot11AVConfigEntry 6 }

dot11LongDEIRetryLimit OBJECT-TYPE

SYNTAX Unsigned32 (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" This is a control variable.

It is written by an external management entity.

Changes take effect as soon as practical in the implementation

This attribute indicates the maximum number of transmission attempts of a frame where the DEI subfield has the value of one, the length of which is greater than dot11RTSThreshold, that is made before a failure condition is indicated. The default value of this attribute is 3."

DEFVAL { 3 }

::= { dot11AVConfigEntry 7 }

dot11UnsolicitedRetryLimit OBJECT-TYPE

SYNTAX Unsigned32 (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity.

Changes take effect as soon as practical in the implementation.

This attribute indicates the maximum number of transmission attempts of a frame delivered using the GCR unsolicited retry retransmission policy."

DEFVAL { 7 }

::= { dot11AVConfigEntry 8 }

dot11DefaultSurplusBandwidthAllowance OBJECT-TYPE

SYNTAX Unsigned32 (100 .. 255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" This is a control variable.

It is written by an external management entity.

Changes take effect as soon as practical in the implementation.

This object specifies the default percentage surplus bandwidth allowance

when calculating medium time.

"

DEFVAL { 110 }

::= { dot11AVConfigEntry 9 }

Dot11STAStatisticsReportEntry ::=

SEQUENCE {

dot11STAStatisticsReportIndex Unsigned32,

dot11STAStatisticsAverageMSDUSizeVideo Unsigned32,

dot11STAStatisticsAverageMSDUSizeVoice Unsigned32,

dot11STAStatisticsAverageBitrateVideo Unsigned32,

dot11STAStatisticsAverageBitrateVoice Unsigned32}

dot11STAStatisticsReportIndex OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Index for STA Statistics Report elements in

dot11STAStatisticsReportTable, greater than 0."

::= { dot11STAStatisticsReportEntry 1 }

dot11STAStatisticsAverageMSDUSizeVideo OBJECT-TYPE

SYNTAX Unsigned32 (0.. 7935)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a status variable.

It is written by the SME when a measurement report is completed or

by an external management entity. Changes from an external management

entity take effect as soon as practical in the implementation.

If dot11STAStatisticsMeasurementDuration is zero, this attribute indicates the value of the Average MSDU size for the Video Access Category returned from the STA in this STA Statistics Report. If dot11STAStatisticsMeasurementDuration indicates a non-zero value, this attribute indicates the difference in the referenced size over the indicated duration. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero."

DEFVAL { 1401 }

::= { dot11STAStatisticsReportEntry 42 }

dot11STAStatisticsAverageMSDUSizeVoice OBJECT-TYPE

SYNTAX Unsigned32 (0.. 7935)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a status variable.

It is written by the SME when a measurement report is completed or

by an external management entity. Changes from an external management

entity take effect as soon as practical in the implementation.

If dot11STAStatisticsMeasurementDuration is zero, this attribute indicates the value of the Average MSDU size for the Voice Access Category returned from the STA in this STA Statistics Report. If dot11STAStatisticsMeasurementDuration indicates a non-zero value, this attribute indicates the difference in the referenced size over the indicated duration. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero."

DEFVAL { 365 }

::= { dot11STAStatisticsReportEntry 43 }

dot11STAStatisticsAverageBitrateVideo OBJECT-TYPE

SYNTAX Unsigned32 (0.. 4294967295)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a status variable.

It is written by the SME when a measurement report is completed or

by an external management entity. Changes from an external management

entity take effect as soon as practical in the implementation.

If dot11STAStatisticsMeasurementDuration is zero, this attribute indicates the value of the Average PHY bitrate of MPDUs transmitted and received using the Video Access Category returned from the STA in this STA Statistics Report. If dot11STAStatisticsMeasurementDuration indicates a non-zero value, this attribute indicates the difference in the referenced size over the indicated duration. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero.

"

::= { dot11STAStatisticsReportEntry 44 }

dot11STAStatisticsAverageBitrateVoice OBJECT-TYPE

SYNTAX Unsigned32 (0.. 4294967295)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a status variable.

It is written by the SME when a measurement report is completed or

by an external management entity. Changes from an external management

entity take effect as soon as practical in the implementation.

If dot11STAStatisticsMeasurementDuration is zero, this attribute indicates the value of the Average PHY bitrate of MPDUs transmitted and received using the Voice Access Category returned from the STA in this STA Statistics Report. If dot11STAStatisticsMeasurementDuration indicates a non-zero value, this attribute indicates the difference in the referenced size over the indicated duration. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero. Changes by an external management entity are ignored when dot11STAStatisticsMeasurementDuration is non-zero."

::= { dot11STAStatisticsReportEntry 45 }

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

-- \* dot11APC TABLE

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

dot11APCTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11APCEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Group contains conceptual table of attributes for MIB based HCCA TXOP Negotiation."

::= { dot11smt 29 }

dot11APCTableEntry OBJECT-TYPE

SYNTAX Dot11APCEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in the dot11APCTable, Indexed by dot11APCIndex."

INDEX { dot11APCIndex }

::= { dot11APCTable 1 }

Dot11APCEntry ::=

SEQUENCE {

dot11APCIndex Unsigned32,

dot11APCEntryAvoidanceDuration Unsigned32,

dot11APCEntryAvoidanceServiceInterval Unsigned32,

dot11APCEntryAvoidanceOffset Unsigned32}

dot11APCIndex OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The auxiliary variable used to identify instances of the columnar objects

in the HCCA TXOP Table."

::= { dot11APCTableEntry 1 }

dot11APCEntryAvoidanceDuration OBJECT-TYPE

SYNTAX Unsigned32 (0..131071)

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 contains the duration in 32us, of a TXOP Reservation that the AP will attempt avoid when scheduling new HCCA TXOPs."

::= { dot11APCTableEntry 2 }

dot11APCEntryAvoidanceServiceInterval 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 or the SME.

Changes take effect as soon as practical in the implementation.

This attribute contains the duration, in ms, of the period between successive HCCA TXOPs. When zero, no period has been reserved."

::= { dot11APCTableEntry 3 }

dot11APCEntryAvoidanceOffset OBJECT-TYPE

SYNTAX Unsigned32 (0..131071)

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 contains the offset, in TUs, from the scheduled start of the Beacon transmission until the start of the time period for a TXOP Reservation that the AP will attempt avoid when scheduling new HCCA TXOPs."

::= { dot11APCTableEntry 4 }

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

-- \* End of dot11APC TABLE

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

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

-- \* Groups - units of conformance – AVS

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

dot11AVSBase OBJECT-GROUP

OBJECTS {

dot11RobustAVStreamingImplemented,

dot11GCRActivated ,

dot11AdvancedGCRImplemented ,

dot11AdvancedGCRActivated ,

dot11SCSImplemented ,

dot11SCSActivated ,

dot11QLoadReportActivated ,

dot11AlternateEDCAActivated ,

dot11PublicHCCATXOPNegotiationActivated ,

dot11GCRGroupMembershipAnnouncementActivated ,

dot11MeshGCRImplemented ,

dot11MeshRobustAVStreamingImplemented ,

dot11MeshGCRActivated ,

dot11PublicHCCATXOPNegotiationImplemented ,

dot11PublicHCCATXOPNegotiationActivated ,

dot11ProtectedHCCATXOPNegotiationImplemented ,

dot11ProtectedHCCATXOPNegotiationActivated ,

dot11ProtectedQLoadReportImplemented ,

dot11ProtectedQLoadReportActivated ,

dot11QLoadReportIntervalDTIM,

dot11HCCATXOPBeaconTimeout,

dot11GCRConcealmentAddress,

dot11GCRPolicyChangeTimeout,

dot11QLoadReportDelay,

dot11DefaultSurplusBandwidthAllowance,

dot11ShortDEIRetryLimit,

dot11LongDEIRetryLimit,

dot11UnsolicitedRetryLimit ,

dot11STAStatisticsAverageMSDUSizeVideo ,

dot11STAStatisticsAverageMSDUSizeVoice ,

dot11STAStatisticsAverageBitrateVideo ,

dot11STAStatisticsAverageBitrateVoice }

STATUS current

DESCRIPTION

"The AVSBase package is a set of attributes that are present if the STA supports the robust audio video streaming features."

::= { dot11Groups 63 }

---63 = first available in 11/270r3

dot11AVSAPCGroup OBJECT-GROUP

OBJECTS {

dot11APCEntryAvoidanceDuration ,

dot11APCEntryAvoidanceServiceInterval ,

dot11APCEntryAvoidanceOffset

}

STATUS current

DESCRIPTION

"The AVSAPCGroup package is a set of attributes that are present if the STA supports HCCA TXOP negotiation."

::= { dot11Groups 64 }

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

-- \* Compliance Statements - AVS

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

dot11AVSCompliance MODULE-COMPLIANCE

STATUS current

DESCRIPTION

" This object class provides the objects from the IEEE 802.11

MIB required to robust AV streaming

functionality. Note that additional objects for managing this

functionality are located in the IEEE 802.11 AVS MIB."

MODULE -- this module

MANDATORY-GROUPS { dot11AVOptionsTable, dot11AVConfigTable, dot11APCTable }

-- OPTIONAL-GROUPS { dot11AVSAPCGroup }

GROUP dot11AVSBase

DESCRIPTION "At least the dot11RobustAVStreamingImplemented object is

required from dot11StationConfigEntry"

OBJECT dot11RobustAVStreamingImplemented

DESCRIPTION "Required object"

::= { dot11Groups 65 }

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

-- \* End of 802.11 MIB

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

END