IEEE P802.11
Wireless LANs

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| Resolution for CIDs 1356, 1358 RTS/CTS  |
| Date: 2018-04 |
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Abstract

This submission proposes resolutions for CIDs 1356, 1358

Green indicates material agreed to in the group,

yellow material to be discussed, red material rejected by the group and

cyan material not to be overlooked.

The “Final” view should be selected in Word.

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| CID | Commenter | Clause  | Page  | Line | Comment | Proposed |
| 1356 | Mark Rison | 10.3.5 | 1612 | 40 | "A STA may also use an RTS/CTS exchange for individually addressed frames when it is necessary to distribute the NAV or when it is necessary to establish protection (see 10.26 (Protection mechanisms))." -- it may use it for other reasons, e.g. to use dynamic bandwidth selection, or for coex with non-802.11 devices" | Change the last two sentences of the first para of 10.3.5 to "A STA may also use an RTS/CTS exchange for other purposes." |

**10.3.5 Individually addressed MPDU transfer procedure**

A STA using the DCF shall use an RTS/CTS exchange for individually addressed frames when the length of

the PSDU is greater than the length threshold indicated by dot11RTSThreshold. **A STA may also use an RTS/**

**CTS exchange for individually addressed frames when it is necessary to distribute the NAV or when it is**

**necessary to establish protection (see 10.27 (Protection mechanisms))**. Otherwise a STA using the DCF shall

not use the RTS/CTS exchange.

Also

**10.23.3.5.3 Use of RTS/CTS**

**In order to provide improved NAV protection**, a STA may send an RTS frame as the first frame of any frame

exchange sequence (#65)without regard for dot11RTSThreshold.

Discussion:

The commenter is right that RTS/CTS is used for a plethoria of reasons. We see them cropping up all the time. The cited section does use the term “may” when referring to NAV and protection so it is not an exhaustive list.

If we replace

“A STA may also use an RTS/ CTS exchange for individually addressed frames when it is necessary to distribute the NAV or when it is necessary to establish protection (see 10.27 (Protection mechanisms)). Otherwise a STA using the DCF shall not use the RTS/CTS exchange.”

with

“A STA may also use an RTS/CTS exchange for other purposes.”

I am concerned that we will get comments along the lines of “what other purposes”?

I do however, agree that the final sentence “Otherwise a STA using the DCF shall not use the RTS/CTS exchange” is introducing a condition that is difficult to define and seems to say a STA shall not use RTS/CTS for anything other than NAV or protection, yet I am sure it is.

Hence I would propose that this condition be removed.

Resolution for CID 1147 is reused.

**RESOLUTION**

**REVISED**

At 1612.39 make following changes

**10.3.5 Individually addressed MPDU transfer procedure**

A STA using the DCF shall use an RTS/CTS preceding a frame exchange including an individually addressed data or management frame when the length of the PSDU is greater than the length threshold indicated by dot11RTSThreshold. A STA may also use an RTS/CTS exchange for individually addressed frames when it is necessary to distribute the NAV or when it is necessary to establish protection (see 10.27 (Protection mechanisms)). A STA may also use an RTS/CTS exchange for other purposes.

If dot11RTSThreshold is 0, an RTS/CTS exchange shall precede all frame exchanges including an individually addressed data or management frame..

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| CID | Commenter | Clause  | Page  | Line | Comment | Proposed |
| 1358 | Mark Rison | 10.3.1 | 1573 | 37 | "The use of the RTS/CTS mechanism is under control of dot11RTSThreshold. This attribute may be set on aper-STA basis." -- no, there is no support for a different dot11RTSThreshold for each peer STA in the MIB, it's just a single attribute | Delete the second sentence of the cited text at the referenced location |

*“The use of the RTS/CTS mechanism is under control of dot11RTSThreshold. This attribute may be set on a*

*per-STA basis. This mechanism allows STAs to be configured to initiate RTS/CTS either always, never, or*

*only on frames longer than a specified length.”*

3765.37

dot11RTSThreshold OBJECT-TYPE

SYNTAX Unsigned32 (0..65536)

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 number of octets in a PSDU, below which an

RTS/CTS handshake is not performed, except as RTS/CTS is used as a cross

modulation protection mechanism as defined in 10.27 (Protection mechanisms).

An RTS/CTS handshake is performed at the beginning of any frame

exchange sequence where the PSDU is with the Type subfield equal to Data

or Management, the PSDU has an individual address in the Address 1 field,

and the length of the PSDU is greater than this threshold. Setting this

attribute to be larger than the maximum PSDU size has the effect of turning

off the RTS/CTS handshake for frames of Data or Management type transmitted

by this STA. Setting this attribute to 0 has the effect of turning

on the RTS/CTS handshake for all frames of Data or Management type transmitted

by this STA."

DEFVAL { 65536 }

::= { dot11OperationEntry 2 }

As I read it, each STA may set its own RTSThreshold value, but, I think the commenter is saying, “per-STA basis” could be interpreted as a STA setting an RTSThreshold for each STA in the BSS (peer STA). This is not true, so I am inclined to accept the proposed.

See 10.3.5 changes for RTSThreshold

RESOLUTION

REVISED

At P1573.37 Make following changes:

“The use of the RTS/CTS mechanism under control of dot11RTSThreshold is described in 10.3.5.