IEEE P802.11
Wireless LANs

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| LB 203 Comment Resolution for Clause 9.3.2.4 |
| Date: 2014-07-14 |
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Abstract

This submission proposes resolutions for comments in clause 9.3.2.4 of TGah Draft 2.0 with the following CIDs (11 CIDs):

* 3757, 3890, 3891, 3892, 3893, 3894, 4028, 4139, 4205, 4206, 4207

Revisions:

* Rev 0: Initial version of the document
* Rev 1: Added “S1G” qualifier to the NOTE in P4.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGah Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGah Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGah Editor: Editing instructions preceded by “TGah Editor” are instructions to the TGah editor to modify existing material in the TGah draft. As a result of adopting the changes, the TGah editor will execute the instructions rather than copy them to the TGah Draft.***

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 3757 | 224.54 | 9.3.2.4 | Shouldn't NAV update per NDP CTS/Ack/PS-Poll-Ack etc. also consider whether the Duration value is bigger than the NAV value? | Change the text accordingly. | Revised –Agree with the commenter. Proposed resolution accounts for the suggested change. TGah editor to make changes shown in 11/14/0964r1 under all headings that include CID 3757. |
| 3890 | 224.24 | 9.3.2.4 | many of the spaces between a period and the start of the next sentence are missing in this paragraph | restore spaces where they belong after the periods of sentences | Accepted |
| 3891 | 224.46 | 9.3.2.4 | the NDPTxTime calculation is actually found in 9.3.2.4a.1, not in 9.3.2.4a - technically, I suppose that 9.3.2.4a.1 is inside of 9.3.2.4a, but still, it would be nice to change the reference | consider changing the cited reference and a few more similar references, from 9.3.2.4a to 9.3.2.4a.1 | Revised –Agree with the commenter.TGah editor: Replace “9.3.2.4a (Setting and resetting the RID)” with 9.3.2.4a.1 (RID update) in P224L47, P225L19, P229L29, and P238L01. |
| 3892 | 224.50 | 9.3.2.4 | this paragraph looks to be redundant to existing material describing the basic NAV mechanism | delete this redundant paragraph | Accepted |
| 3893 | 224.54 | 9.3.2.4 | better wording possible | change "An S1G STA shall also update its NAV" to "In addition to the normal NAV update rules described in this subclause, an S1G STA shall update its NAV" change "of a frame of type:" to "of frames of types:" | Revised –Agree with the commenter. Proposed change is accounted for in the proposed resolution in this document.TGah editor to make changes shown in 11/14/0964r1 under all headings that include CID 3893. |
| 3894 | 225.2 | 9.3.2.4 | not certain if there is a conflict here - an S1G STA does not set its NAV based on a Beacon DUR field value if the TIM for that STA is 1, but it does set the NAV if it is not included in an RPS in the beacon with a RAW that appears immediately after the beacon - these can contradict and it is not clear what the STA does when they do conflict | Create a rule to resolve the identified contradiction in prescribed STA behavior | Revised –Agree in principle with the commenter. Proposed change is to clarify the two conditions by making them mutualy exclusive.TGah editor to make changes shown in 11/14/0964r1 under all headings that include CID 3894. |
| 4028 | 224.19 | 9.3.2.4 | How does the receiver of Short frames and Short Management frames in particular set the NAV since Short frames do not carry the duration information. | Please clarify | Revised –Short frames and certain NDP frames do not include a valid Duration field, and as such the receiving STA does not update its NAV. For better clarity we specify this by adding a note in this subclause.TGah editor to make changes shown in 11/14/0964r1 under all headings that include CID 4028. |
| 4139 | 224.50 | 9.3.2.4 | redundant material | delete paragraph | Accepted |
| 4205 | 224.46 | 9.3.2.4 | the NDPTxTime calculation is actually found in 9.3.2.4a.1, not in 9.3.2.4a - technically, I suppose that 9.3.2.4a.1 is inside of 9.3.2.4a, but still, it would be nice to change the reference | consider changing the cited reference and a few more similar references, from 9.3.2.4a to 9.3.2.4a.1 | Revised –Agree with the commenter (this comment seems to be a duplicate of CID 3891).TGah editor: Replace “9.3.2.4a (Setting and resetting the RID)” with 9.3.2.4a.1 (RID update) in P224L47, P225L19, P229L29, and P238L01. |
| 4206 | 224.50 | 9.3.2.4 | Redundant paragraph to existing material describing the basic NAV mechanism | Delete this redundant paragraph | Accepted |
| 4207 | 225.2 | 9.3.2.4 | not certain if there is a conflict here - an S1G STA does not set its NAV based on a Beacon DUR field value if the TIM for that STA is 1, but it does set the NAV if it is not included in an RPS in the beacon with a RAW that appears immediately after the beacon - these can contradict and it is not clear what the STA does when they do conflict | Create a rule to resolve the identified contradiction in prescribed STA behavior | Revised –This comment seems to be a duplicate of CID 3894.TGah editor to make changes shown in 11/14/0964r1 under all headings that include CID 4207. |

**Discussion:** *None.*

**Instructions to TGah Editor: *Change this subclause as follows:***

* **Setting and resetting the NAV**

***Change the 2nd paragraph of the subclause as follows:***

A STA that receives at least one valid frame in a PSDU can update its NAV with the information from any valid Duration field in the PSDU. When the received frame's RA is equal to the STA's own MAC address, the STA shall not update its NAV. But for all other received frames the STA shall update its NAV when the received Duration is greater than the STA's current NAV value. Upon receipt of a PS-Poll frame, a STA, except for an S1G STA for which the RXVECTOR parameter RESPONSE\_INDICATION of the received PS-Poll frame is NDP Response, shall update its NAV settings as appropriate under the data rate selection rules using a duration value equal to the time, in microseconds, required to transmit one Ack frame plus one SIFS, but only when the new NAV value is greater than the current NAV value. If the calculated duration includes a fractional microsecond, that value is rounded up to the next higher integer. Various additional conditions may set or reset the NAV, as described in 9.4.3.3 (NAV operation during the CFP). When the NAV is reset, a PHY-CCARESET.request primitive shall be issued. This NAV update operation is performed when the PHY-RXEND.indication primitive is received.

NOTE—A S1G STA that receives a valid frame that does not include a valid Duration field does not update its NAV. However, it updates its RID as described in 9.3.2.4a (Setting and resetting the RID).

***Insert the following three paragraphs immediately after the 2nd paragraph :***

An S1G STA that receives a PS-Poll frame with the RXVECTOR parameter RESPONSE\_INDICATION equal to NDP Response shall update its NAV using a duration value equal to NDPTxTime plus one SIFS interval, but only when the new NAV value is greater than the current NAV value and the RA is not equal to the MAC address of the S1G STA. The NDPTxTime is calculated according to additional RXVECTOR parameters as described in 9.3.2.4a (Setting and resetting the RID).

An S1G STA that receives an PS-Poll+BDT frame shall update its NAV using the value of the Duration/ID field in the received frame, but only when the new NAV value is greater than the current NAV value and the RA is not equal to the MAC address of the STA.

In addition to the NAV update rules described in this subclause, an S1G STA shall also update its NAV to a new NAV value if it is greater than the current NAV value, with the information received in the Duration field of frames of type: NDP CTS, NDP Ack, NDP\_2M PS-Poll-Ack, and S1G Beacon, except when the received frame is an:

* NDP CTS that is either addressed to the S1G STA, or that has the Address Indicator field equal to 1 and the RA/PBSSID field equal to the AP with which the S1G STA is associated (see 9.3.2.7 (CTS and DMG CTS procedure)).
* NDP Ack that is either addressed to the S1G STA, or that has the Idle Indication field equal to 1 (see 9.3.2.9 (Ack procedure)).
* NDP\_2M PS-Poll-Ack that is either addressed to that S1G STA, or that has the Idle Indication field equal to 1 (see 9.3.2.9 (Ack procedure)).
* S1G Beacon frame that includes at least one TIM element in which there is an indication of available BUs for the receiving STA in at least one of the TIM elements.
* S1G Beacon frame that includes at least one TIM element and at least one RPS element that indicate that:
* There is no indication of available BUs for the receiving STA in any of the TIM elements
* The receiving S1G STA is allowed to access the first RAW immediately following the S1G Beacon frame as specified in at least one of the RPS elements.

***Change the 4th paragraph of the subclause as follows:***

A STA that used information from an RTS frame as the most recent basis to update its NAV setting is permitted to reset its NAV if no PHY-RXSTART.indication primitive is detected from the PHY during a period with a duration of (2aSIFSTime) + (CTS\_Time) + aRxPHYStartDelay + (2aSlotTime) starting at the PHY-RXEND.indication primitive corresponding to the detection of the RTS frame. For a non-S1G STA, ~~T~~the “CTS\_Time” shall be calculated using the length of the CTS frame and the data rate at which the RTS frame used for the most recent NAV update was received. For an S1G STA, the "CTS\_Time" shall be calculated using the time required to transmit an NDP CTS frame that is equal to NDPTxTime as calculated in 9.3.2.4a (Setting and resetting the RID).