IEEE P802.11
Wireless LANs

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| LB 200 comment resolution |
| Date: 2014-05-11 |
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Abstract

This submission proposes comment resolutions of the clause 9.47 from TGah Draft 1.0.

* CIDs:1058,1135,1536,1537,1538

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** | **Clause Number(C)** | **Page****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 1058 | 9.47.3 | 197.26 | "Stations in different sectors may be allowed to transmit at the same time if more than one sector is active at one moment. "I think this statement carries huge implications for behaviour that is not adequately expressed. | Add details of:1. Sectorized NAV operation at the AP2. How the AP signals to multiple sectors simultaneously.3. Rules for multiple sector selection. Consideration of what happens if STAs can receive multiple sectors simultaneously.4. Rules for alignment of different entities within a sector operation. For example, can a switch of sector take place within a RAW?Or delete the cited text. | Revise.1. Add text to clarify how the STA set the NAV for the beginning of the sector.
2. This is implementation specific from sectorized antenna to MIMO beamforming
3. Add text to clarify the case.
4. The RAW and the sectorization are independent features in the same system.

Instruct the TGah editor to make the changes as indicated in document 11-14-0644-03 |
| 1135 | 8.4.2.170f | 94.62 | ".. the duration of the current sector transmissions and it is measured in 10 milliseconds time units."Somewhat awkward. Also doesn't follow style for a value/unit pair. | Replace with " the duration of the current sector transmissions, in units of 10 ms"Change 94.45 to match. | Accept |
| 1536 | 9.47.2 | 196.29 | It is not clear if the sectorization is completely optional for STAs not supporting the feature. | Clarify what is the behaviour of STAs not supporting sectorization. | Revise. The text should change as per suggested in the resolution of CID 1539. . Instruct the TGah editor to make the changes as indicated in resolution of CID 1539. |
| 1537 | 9.47.2 | 196.29 | sectorization may increase the "hidden node" issue when there are STAs in the BSS that are not supporting it. Note that those STAs are not aware of sectorized procedure and will no hear the AP downlink transmission, so they can easily transmit UL data on top of AP DL transmission. Also how will the CCA be done? | Address the coexistance of the STAs not supporting sectorization with those supporting it in the same BSS. | Reject. The sectorization does not increase the hidden node. By reducing allowable of simultaneous transmissions, it will reduce the hidden node. All the stations hear the DL transmission from an AP under good coverage. |
| 1538 | 9.47.2 | 196.49 | "If an AP is a sectorized beam-capable AP, it sets the AP SectorizedBeam-Capable field to 1, 2 or 3." | add "as described below" or something at the end of the sentence. And replace the paragraph with the paragraph following | Revised. Instruct the TGah editor to make the changes as indicated in document 11-14-0644-03 |

**CID 1058**

**Discussion**

The reviewer suggested adding:

* Sectorized NAV operation at the AP,
* How the AP signals to multiple sectors simultaneously
* Rules for multiple sector selection. Consideration of what happens if STAs can receive multiple sectors simultaneously.
* Rules for alignment of different entities within a sector operation. For example, can a switch of sector take place within a RAW?

**Resolution**

How the AP signal to multiple sectors simultaneously is beyond the scope of this document and and is left to the implementation. Therefore the second bullet is rejected. The other three suggestions are accepted as revised.

*Instruct the editor to change the text in 9.47.3 p 197 as follows*

“A sectorized capable STA that receives a sectorized beacon from its AP, which does not contain ~~the~~ its sector group ID in the sector operational element shall set its NAV to the end of the sector interval indicated by the sectorized beacon.”

“When a STA receives concurrently sectorized beacons from multiple sectors in the same BSS, the STA ~~it~~ is allowed to transmit if at least one sectorized beacon indicates that STA’s group is allowed to transmit during that sector interval.”

“The RAW feature and Group Sectorization are independent features that can be configurated separately. The STA will not transmit if either the RAW scheduling or the sectorized beacon does not allow transmissions for its group in a particular time interval.”

**CID 1135**

**Discussion**

The reviewer suggests to replace with “the duration of the current sector transmissions, in units of 10 ms.” Change 94.45 to match.

**Resolution**

Accept as proposed.

*Instruct the editor to change the text in p 94. 62*: “the duration of the current sector transmissions, in units of 10 ms.”

*Change 94.45 to match.*

**CID 1536**

**Discussion**

The comment is similar to CID 1539.

**Resolution**

Revised as indicated in CID 1539 resolution.

**CID 1537**

**Discussion**

The reviewer claims that the sectorization increases the hidden node problem. However, by reducing the number of stations that transmit at one moment to stations from a single sector the sectorization actually reduces the number of hidden node. As specified in the text the stations that do not support this feature may transmit anytime during any sector interval. Only the stations that support sectorization feature shall follow the permission indicated in the sectorized beacon, as specified in the text.

**Resolution**

Reject. The coexistence between the stations that do not support sectorization and those that support is clearly explained in the text.

**CID 1538**

**Discussion**

The reviewer proposes to add "as described below" or something at the end of the sentence. And replace the paragraph with the paragraph following.

**Resolution**

Revise.

*Instruct the editor to add in clause 9.47.2 page 196 line 49 “as described below” and replace the paragraph with the paragraph following* in line 51 page 196

“ If an AP is a sectorized beam-capable AP, it sets the AP Sectorized Beam-Capable *as described below*.

.

If an AP or STA does not support the sectorized operation, it sets the AP Sectorization Beam Capable field

in the S1G Capabilities element to 0 or the STA Sectorization Beam Capable field in the S1G Capabilities

element to 0, respectively.

When the AP Sectorized Beam-Capable field is set to 3, group sectorization and TXOP-based sectorization

may be optionally used at the same time if the AP intends to apply TXOP-based sectorization during the

omni-beacon interval or the sectorized beacon interval to STAs with the corresponding Sector ID.”