IEEE P802.11
Wireless LANs

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| LB 200 clause 4.16 comment resolution |
| Date: 2014-01-20 |
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Abstract

This submission proposes comment resolutions of the clause 4.16 from TGah Draft 1.0.

* CIDs: 1019, 1020-1024, 1366, 1823, 2062, 2064, 2082, 2329, 2363-2369, 2615-2616, 2696-2698, 2837- 2838, 2973-2976,

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** | **Page** | **Comment** | **Proposed Change** | **Resolution** |

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| 1019 | 4.16 | 5L28 | "nce by limiting number of stations within a sector" -- missing an article | "... by limiting the number ..." | Accept |
| 1020 | 4.16 | 5L29 | "Two types of sectorization scheme: group sectorization and TXOP-basedsectorization, are described in this specification. " -- curious punctuation. | Replace colon with comma. | Accept |
| 1021 | 4.16 | 5L42 | " STAs is reduced in Type 0 Sectorized BSS" -- missing article | " .. in a Type 0 .." | Accept |
| 1022 | 4.16 | 5L45 | " TXOP-based sectorization AP starts a TXOP with omni-beam transmission" -- missing articles | " A TXOP-based sectorization AP starts a TXOP with an omni-beam transmission" | Accept |
| 1023 | 4.16 | 5L52 | "simultaneous spatial orthogonal frame exchanges" -- grammar | "simultaneous spatially orthogonal frame exchanges" | Accept |
| 1024 | 4.16 | 5 | Please note the design pattern in this example. "A red STA that receives an RTS sends a CTS. The STA sends the CTS after a SIFS."The first statement includes "A/An". The second "The", which refers to the (antecedent) condition established in the first STA. The scope of this condition is usually a paragraph. (not a hard and fast rule).So "In both types of sectorization scheme, the Sectorization capable AP can learn about STA's best sector invarious ways which is beyond the scope of this specification." is wrong because the "the" has no antecedent. There's also a missing article, a that/which error, and a grammatical error ("ways" is plural, requires "are"). Also "can" can't be used here, because ways that are beyond the scope of the specification need "might".See how much fun we can have from one innocent looking sentence. | Replace with "In both types of sectorization scheme, a Sectorization capable AP might learn about a STA's best sector in various ways that are beyond the scope of this specification." | Accept |

**CID1019, 1020, 1021, 1022, 1023, 1024**

**Discussion:**

These 6 CIDs are related to editorial changes.

**Propose:**

Accept proposed changes for the 6 CDIS.

*Instruct the editor to make the following changes:*

P5L28

with the goal of reducing medium contention or interference by the limiting number of stations within a sector

P5L29

Two types of sectorization scheme, group sectorization and TXOP-basedsectorization, are described in this specification.

P5L42

STAs is reduced in a group sectorization BSS

P5L45

TXOP-based sectorization AP starts a TXOP with an omni-beam transmission

P5L52

simultaneous spatially orthogonal frame exchanges

*Instruct editor to replace the term “spatial orthogonal” to “spatially orthogonal” throughout the text.*

P5L61

In both types of sectorization scheme, a Sectorization capable AP might learn about a STA's best sector in various ways which are beyond the scope of this specification."

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 1366 | 4.16 | 5L42 | "Type 0" is mentioned only once in ths spec? | Clarify what does "Type 0" mean, or change referencing Typ 0. | Reject, see resolution to CID 1021 |
| 1823 | 4.16 | 5L27 | Cut is down and move to 4.3 | Delete everything after the first paragraph. I assume that this is covered in Clause 9.47 | Reject |
| 2062 | 4.16 | 5L20 | "transmit on both sectorized and non-sectorized beacon interval" should be "transmit in both sectorized and non-sectorized beacon intervals" | As suggested. | Accept |
| 2064 | 4.16 | 5L47 | Second "capable" is redundant | Delete second "capable" | Accept |
| 2082 | 4.16 | 5L27 | This sentence is correct, but the scope of sectorization depicted here seems to be too restricitive. This mechanism also allows to enhance battery conservation by letting some groups know that no communication is to be expected during the next beacon interval. | "with the goal of reducing medium contention or interference by limiting number of stations within a sector, allowing spatial sharing among OBSS APs or STAs, and/or enhance battery conservation by letting some groups know if communication is expected during the next interval." | Reject |

**CID1366**

**Discussion:**

Commenter is correct in pointing out that the name Type 0 is no longer used.

**Propose:**

Reject. Same resolution as in CID1021. No change is needed here.

**CID1823**

**Discussion:**

Commenter proposes to delete everything after first paragragh in this clause. However, the last three paragraghs provide a general description of the sectorization.

**Propose:**

Reject.

**CID2062**

**Discussion:**

Commenter suggests a grammatical correction.

**Propose:**

Accept.

*Instruct the editor to make the following changes in P5L42.*

to transmit in both sectorized and non-sectorized beacon interval.

**CID2064**

**Discussion:**

Commenter is correct in pointing out that the “capable” is redundant.

**Propose:**

Accept.

*Instruct the editor to make the following changes in P5L47*

sectorization and STAs not supporting TXOP-based sectorization in order to set up the NAV and

**CID2082**

**Discussion:**

The commenter indicates that the desribed mechanism also allows to enhance battery conservation by letting some groups know that no communication is to be expected during the next beacon interval.

While commenter’s statement is true, but the enhance battery conservation is indirect consequence of the mechanism.

**Propose:**

Reject.

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 2329 | 4.16 | 5 | "Type 0 Sectorization" is not an understood term, or appropriate for this high-level description in clause 4. | Change, "Type 0 Sectorized BSS" to "group sectorized BSSs" | Reject, see resolution to CID1021 |
| 2363 | 4.16 | 5 | What is a "sectorised beacon"? | Clarify (is it simply a Beacon with a SOE?); make sure "Beacon" is uppercase where it refers to the MMPDU | counter |
| 2364 | 4.16 | 5 | What is a "Type 0 Sectorized BSS"? | Clarify (there are no other references to "Type 0" in the document) | Reject, see resolution to CID1021 |
| 2365 | 4.16 | 5 | "STAs supporting TXOP-based sectorization capable and STAs not supporting TXOP-based sectorization capable" has too much capability | Delete the two "capable"s | Reject, see resolution to CID2064 |
| 2366 | 4.16 | 5 | What is "Spatial Orthogonal frame exchange"? | Clarify (there are no other references to "Spatial Orthogonal frame" in the document) | Counter |
| 2367 | 4.16 | 5 | "STA's" has the apostrophe in the wrong place (assuming there is more than one) | Change to "STAs'" | Accept |
| 2368 | 4.16 | 5 | What is "Sector ID"/"sector ID"? | Clarify (probably by making more general, e.g. "allow feedback-capable STAs to report sectorisation information back to the AP") | Accept |
| 2369 | 4.16 | 5 | "With the sectorized beam transmission andreception, the hidden node problems are mitigated in TXOP-based sectorization BSS operation" over-eggs the pudding and doesn't actually justify the claim | Change to "The hidden node problems are mitigated since [...]" as in the previous para | Accept |

**CID2329, CID2364**

**Discussion:**

Commenter is correct in pointing out that the name Type 0 is no longer used.

**Propose:**

Reject. See the same resolution as in resolution of CID1021. No change is needed here.

**CID2363**

**Discussion:**

Commenter asked to define the term “sectorized beacon”. The sectorized beacon is defined as beacon transmitted through the sectorized beam.

**Propose:**

*Instruct the editor to modify the following text in P5L35.*

By transmitting a sectorized Beacon, i.e., beacon transmitted through a sectorized beam, carrying the Sectorized Operation element, AP initiates a sectorized beacon interval

**CID2365**

**Discussion:**

Commenter is correct in pointing out that the two capable should be deleted.

**Propose:**

Reject. See resolution to CID 2064. No change is needed here.

**CID2366**

**Discussion:**

Commenter asked to clarify the meaning of spatially orthogonal frame exchange. Note the text in P5 L52 refers to 9.47.4 and the term “spatially orthogonal frame exchange” is defined in the P199L8.

**Propose:**

Counter.

*Instruct the editor to make the following changesP199L8:*

the OBSS station or OBSS AP can reset its NAV and RID to initiate a new frame exchange starting with a nonbeamformed RTS/CTS. The new frame exchange as described is called a spatially orthogonal frame exchange.

**CID2367**

**Discussion:**

Editorial change in P5L60.

**Propose:**

Accept.

*Instruct the editor to make the following change in P5L60.*

AP can learn about STAs’ best sector

**CID2368**

**Discussion:**

Commenter ask to clarify the Sector ID/sector ID and suggest to change to a more descriptive text.

**Propose:**

Accept.

*Instruct the editor to make the following text change in P5L64.*

to allow feedback capable STAs to report sectorization information back to the AP.

**CID2369**

**Discussion:**

Commnter suggests to modify the text in P5L54 to prevent over-eggs the pudding and doesn't actually justify the claim.

**Propose:**

Accept.

With the sectorized beam transmission and reception, the hidden node problems are mitigated since the number of contending STAs is reduced in TXOP-based sectorization BSS operation.

**CID 2615**

**Discussion:**

Commenter asks to clarify in P5L47 which STAs setup the NAV protection. Those that support TXOP based sectorization, or those who don't, or all of them. Note that in the statement P5L47 already indicates it is for both STAs supporting TXOP-based sectorization capable and STAs not supporting TXOP-based sectorization to set up the NAV protection.

**Propose:**

Reject.

**CID 2616**

**Discussion:**

Commenter asks what is Type 0 sectorization. Note that this has been resolved in CID1021.

**Propose:**

Reject.

Note that no change is needed here.

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 2696 | 4.16 | 5 | Sentence "The hidden node problems are mitigated since the number of active STAs is reduced in Type 0 Sectorized BSS during the sectorized beacon intervals." refers to Type 0 sectorization and also makes little sense. | Re-word to use new "group sectorization" terminology, consider removing sentence entirely. | Reject |
| 2697 | 4.16 | 5 | Sentence "TXOP-based sectorization, on the other hand, is a TXOP-based operation." is redundant. | Remove the sentence"TXOP-based sectorization, on the other hand, is a TXOP-based operation." is redundant. | Counter |
| 2698 | 4.16 | 5 | The following sentence:"The spatial re-use of the wireless medium is accomplished through the Spatial Orthogonal frame exchange and significant increase of the overall network capacity can be achieved in any level of OBSS interferences without requiring any AP to AP coordination." contains too much marketing fluff and little technical information. | Rewrite as:The spatial re-use of the wireless medium is accomplished through the Spatial Orthogonal frame exchange. | Counter |
| 2837 | 4.16 | 5 | Type 0 Sectorized BSS is not defined prior to the first time use. Clarify what is ithe Type 0 Sectorized. | Clarify what is Type0 Sectorized BSS. | Reject. See resolution to CID1021 |
| 2838 | 4.16 | 5 | The sectiorization contains two types: Group based and TXOP based. Group ID is used for the Group based sectorization. What ID is used for TXOP based sectorization?What is the new term of Sector ID used for?. Need to clarify. | Clarify the conception of Sector ID before it's used. | Reject. See resolution to CID2368 |

**CID 2696**

**Discussion:**

Commenter indicates that Type 0 Sectorization should be changed to Group Sectorization. Please refer to CID1021.

**Propose:**

Reject. No changes are needed here.

**CID 2697**

**Discussion:**

Commenter points out that the statement in P5L44 is redundant and suggests to remove it. Note that the sentence means to clarify that TXOP-based sectorization operation occurs within the duration of a TXOP as opposed to Group sectorization which occurs within the duration of a beacon interval.

**Propose:**

Counter.

*Instruct the editor to make the following changes in P5L44.*

TXOP-based sectorization, on the other hand, is a sectorization operation which occurs within the duration a TXOP.

**CID 2698**

**Discussion:**

The commenter indicates that P5L54 statement contains too much marketing fluff and little technical information and suggests to cut off the second part of the sentence.

Agreed with commenter that some part of the statement is not needed.

**Propose**

Counter

*Instruct the editor to make the following changesin P5L54:*

The spatial re-use of the wireless medium is accomplished through the Spatial Orthogonal frame exchange which can lead to significant increase of the overall network capacity .

**CID 2837**

**Discussion:**

This CID has been addressed in resolution to CDI1021.

**Propose**

Reject. No change is needed here.

**CID 2838**

**Discussion:**

This CID has been addressed in CID 2368.

**Propose**

Reject. No changes are needed here.

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 2973 | 4.16 | 5 | typo | "capable" should be changed to "capability" | Counter |
| 2974 | 4.16 | 5 | typo | "Type 0" should be changed to group | Reject |
| 2975 | 4.16 | 5 | typo | 2 occurances "capable" in this line should be removed | Reject |
| 2976 | 4.16 | 5 | typo | "OBSS" should be removed | Reject |

**CID 2973**

**Discussion:**

Commenter suggests to change capable to capability in P5L40. Note that the statement already says “A STA which does not support group sectorization”. The word “capable” is not needed in this sentence.

**Propose**

Counter.

*Instruct the editor to make the following change in P5L40.*

A STA which does not support group sectorization

**CID 2974**

**Discussion:**

Please refer to the resolution for CID1021.

**Propose**

Reject. No change is needed here.

**CID 2975**

**Discussion:**

Please refer to the resolution for CID2064.

**Propose**

Reject. No change is needed here.

**CID 2976**

**Discussion:**

Commenter suggests to remove the word “OBSS”. Note that this is not true since only OBSS AP or STA can start a spatially orthogonal frame exchange. This is also clarified in CID2847.

**Propose**

Reject.