IEEE P802.11
Wireless LANs

|  |
| --- |
| Combined Spatial Reuse & MAC ad hoc group meeting minutes |
| Date: 2016-05-16 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Guido R. Hiertz | Ericsson | Ericsson Allee 151234 HerzogenrathGermany | +49-2407-575-5575 | hiertz@ieee.org |
| Jae Seung Lee | ETRI | 161 Gajeong-dong, Yuseong-gu, Daejeon, Korea | +82 42 860 1326 | jasonlee@etri.re.kr |
| Laurent Cariou | Intel |  |  |  |

Abstract

The present document contains the meeting minutes of the joint 802.11ax Spatial Reuse and MAC ad hoc group sessions. The sessions had the following Chairman and Secretary.

|  |  |  |  |
| --- | --- | --- | --- |
| Day | Session | Chairman | Secretary |
| Monday, 2016-05-16 | PM2 | Laurent Cariou | Guido R. Hiertz |
| Tuesday, 2016-05-17 | AM2 | Reza Hedayat | Jae Seung Lee |
| Wednesday, 2016-06-18 | PM1 | Guido R. Hiertz | Laurent Cariou |
| PM2 | Reza Hedayat | Chittabrata Ghosh |

# Monday PM2

At 2016-05-16T16:03-10:00 the beloved Chairman, Laurent Cariou, calls the meeting to order. The great Chairman introduces himself and introduces Guido R. Hiertz who acts as secretary during the Monday PM2 session. The great Chairman reviews the patent policy as presented in document 11-16/698r0. At 2016-05-16T16:05-10:00 he calls for potentially essential patent claims. Nobody speaks up. At 2016-05-16T16:06-10:00 the beloved Chairman reviews the agenda as outlined in document 11-16/698r0. The Chairman proposes to consider during the Monday PM2 session all Spatial Reuse related presentations. Attendees unanimously approve the agenda at 2016-05-16T16:08-10:00.

At 2016-05-16T16:09-10:00 Soma Tayamon presents submission 11-16/578r0. At 2016-05-16T16:16-10:00 she concludes her presentation. Attendees form a queue to ask questions or to comment.

* Comment: Do you have plans to study other scenarios?
* Response: No, we don’t plan to do so at the moment.

At 2016-05-16T16:18-10:00 Soma Tayamon presents submission 11-16/581r0. At 2016-05-16T16:21-10:00 she concludes her presentation. Attendees form a queue to ask questions or to comment.

* Comment: What is the term emergency services addressing?
* Response: This terminology has been introduced with previous amendments to 802.11. Please see 802.11-2012.
* Comment: What are you trying to achieve if power is dependent on Access Category?
* Response: Video and Voice are delay sensitive. Increasing the transmission power helps to make the frame transmission more robust.
* Comment: Are you saying that in the enterprise scenario this should be applied? See you previous presentation.
* Response: No, this is not related to a scenario. In some scenarios we see performance loss with power control. We just want to protect important frames from impacts.
* Comment: What is the emergency service?
* Response: Please see the base standard and 802.11u that introduced access to emergency services.
* Comment: It’s not obvious to me that your simulation results are sufficient to motivate this change.
* Response: We believe it is obvious from our previous and latest simulation results that in no case there is any loss with our proposal. We never worsen the performance. In some scenarios we increase the performance.

At 2016-05-16T16:30-10:00 Soma Tayamon asks the following straw:

“Do you agree with the changes proposed in 11-16/581r0?”

There is no discussion about the straw poll.

Result: Yes/No/Abtain: 6/9/28

This Straw Poll is recorded as A20160516001 and records the opinion of the ad hoc group.

At 2016-05-16T16:32-10:00 Bo Li presents 11-16/589r0. At 2016-05-16T16:38-10:00 he concludes his presentation.

At 2016-05-16T16:40-10:00 Po-Kai Huang presents 11-16/647r0. At 2016-05-16T16:46-10:00 he concludes his presentation.

At 2016-05-16T16:47-10:00 Po-Kai Huang asks the following Straw Poll:

“Do you agree to append SR Motion 1 in TG Specification Frame work document with the following text?

If the SR field in the HE-SIG-A of the HE SU PPDU or HE extended range SU PPDU is set to a TBD value, the medium condition for the STA shall indicate BUSY for the duration of the HE SU PPDU or HE extended range SU PPDU. Note that the TBD value of the SR field in the HE-SIG-A of the HE SU PPDU or HE extended range SU PPDU can be set when trigger frame is carried in the HE SU PPDU or HE extended range SU PPDU or under other TBD conditions.”

There is no discussion about the straw poll.

Nobody objects to the straw poll.

This Straw Poll is recorded as R20160516001. The approval rate of this straw poll exceeds 75%. As a consequence the straw poll and the result will be reported to the 802.11ax TG.

At 2016-05-16T16:49-10:00 Po-Kai Huang asks the following Straw Poll:

 “Do you agree to append SR Motion 1 in TG Specification Frame work document with the following text?

If the SR field in the HE-SIG-A of the HE MU PPDU is set to a TBD value, the spatial reuse transmission in the HE MU PPDU is limited to within the duration of the HE MU PPDU. Note that the TBD value of the SR field in the HE-SIG-A of the HE MU PPDU can be set when trigger frame is carried in the HE MU PPDU or under other TBD conditions.”

There is no discussion about the straw poll.

Result: 31 Yes, 0 No, 4 Abstain

This Straw Poll is recorded as R20160516002. The approval rate of this straw poll exceeds 75%. As a consequence the straw poll and the result will be reported to the 802.11ax TG.

At 2016-05-16T16:50-10:00 James Wang presents 11-16/699r0. Including the great Chairman and the secretary 62 attendees are in the meeting room at 2016-05-16T16:55-10:00. At 2016-05-16T17:05-10:00 James Wang concludes his presentation. Attendees form a queue to ask questions or to comment.

* Comment: On slide 15 there is station 4 that could be interfering with others.
* Response: It is TBD how such a station should behave.
* Comment: How do you test such a behavior? There are many internal variables that you consider. How do you test that the device behaves according to the protocol?
* Response: Yes, this is very difficult to test such a protocol. We could be testing that just devices reduce power if they get closer to the AP.
* Response: We have two classes of devices in the current specification that other different accuracy resp. tolerance in RSSI measurement.
* Comment: Do you have any opinion about cascading trigger frame structures?
* Response: No this is only for trigger frame based uplink. We don’t consider anything else.

At 2016-05-16T17:14-10:00 James Wang asks the following straw poll:

“Do you support adopting the following 4 bit SR field (in SIG A) for HE Trigger-Based PPDU

* One TBD value for SR Disallow Flag, (under TBD restrictions)
* One TBD value is reserved
* Remaining 14 values for SRP
	+ SRP = TX PWRAP + Acceptable Receiver Interference LevelAP
	+ SR STA shall back-off its TX power based on
	+ TX PWRSR STA < SRP –RSSItrigger frame@SR STA”

There is no discussion about the straw poll.

Result: 17 Yes, 0 No, 8 Abstain.

This Straw Poll is recorded as R20160516003. The approval rate of this straw poll exceeds 75%. As a consequence the straw poll and the result will be reported to the 802.11ax TG.

At 2016-05-16T17:17-10:00 James Wang asks the following straw poll:

“Propose to include in SFD:

For HE trigger-based PPDU, 4 SR fields are signaled:

* For 20MHz one SR field corresponding to entire 20MHz (other 3 fields indicate identical values)
* For 40MHz two SR fields for each 20MHz (other 2 fields indicate identical values)
* For 80MHz four SR fields for each 20MHz
* For 160MHz four SR fields for each 40MHz

The exact location of each 20MHz for 80MHz BW is TBD”

There is no discussion about the straw poll.

Result: 18 Yes, 0 No, 10 Abstain

This Straw Poll is recorded as R20160516004. The approval rate of this straw poll exceeds 75%. As a consequence the straw poll and the result will be reported to the 802.11ax TG.

At 2016-05-16T17:19-10:00 James Wang asks the following straw poll:

“Propose to include in SFD:

Do you support adopting the 4 bits for SR field in SIG A of HE SU-PPDU and HE MU-PPDU, the SR field definition is TBD”

There is no discussion about the straw poll.

 Result: 22 Yes, 0 No, 8 Abstain

This Straw Poll is recorded as R20160516005. The approval rate of this straw poll exceeds 75%. As a consequence the straw poll and the result will be reported to the 802.11ax TG.

At 2016-05-16T17:21-10:00 Bo Li presents 11-16/588r0. Bo Li concludes his presentation at 2016-05-16T17:27-10:00. Attendees form a queue to ask questions or to comment.

* Comment: Is this random access for OFDMA?
* Response: No, applies also for SU random access.

At 2016-05-16T17:29-10:00 Bo Li presents 11-16/590r0. Bo Li concludes his presentation at 2016-05-16T17:33-10:00. Attendees form a queue to ask questions or to comment.

At 2016-05-16T17:37-10:00 Alfred Asterjadhi presents 11-16/616r1. At 2016-05-16T17:55-10:00 he concludes his presentation.

At 2016-05-16T17:55-10:00 Alfred Asterjadhi asks the following straw poll:

“Do you support to add to the 11ax SFD the following mapping for the FN subfield of BA frames?

”

There is no discussion about the straw poll.

 Result: 30 Yes, 0 No, 6 Abstain

This Straw Poll is recorded as R20160516006. The approval rate of this straw poll exceeds 75%. As a consequence the straw poll and the result will be reported to the 802.11ax TG.

At 2016-05-16T17:56-10:00 Alfred Asterjadhi asks the following straw poll:

“Do you support to add to the 11ax SFD:

* The BA Bitmap length of BA frames generated during a BA session is negotiated during the BA setup
	+ If the negotiated buffer size is within [1, X] then a BA Bitmap length of X bits will be used during the BA session for the negotiated TID
	+ If the negotiated buffer size is within [X+1, Y] then a BA Bitmap length of Y bits will be used during the BA session for the negotiated TID
	+ Note: X and Y correspond to the agreed BA Bitmap lengths of the respective BA frame (e.g., 32, 64, etc.)
	+ Per-PPDU BA selection rules within a BA session for the BA Bitmap length of the BA frames is TBD for <RA, TA, TID>”

There is no discussion about the straw poll.

 Result: 29 Yes, 0 No, 4 Abstain

This Straw Poll is recorded as R20160516007. The approval rate of this straw poll exceeds 75%. As a consequence the straw poll and the result will be reported to the 802.11ax TG.

At 2016-05-16T17:58-10:00 Alfred Asterjadhi asks the following straw poll:

“Do you support to add to the 11ax SFD:

* The maximum number of TIDs of MPDUs that an originator can aggregate in a multi-TID A-MPDU is indicated in the HE Capabilities element sent by the recipient
	+ A nonzero value also indicates that the recipient supports reception of multi-TID A-MPDUs
		- Note: A multi-TID A-MPDU allows the aggregation of an Action Ack frame as well
* A STA that transmits a trigger-based PPDU as an immediate response to the Basic variant Trigger frame follows the indication of max number of TIDs contained in the Trigger Dependent Per User Info field of the Trigger frame addressed to the STA (i.e., AID of the Per User Info field is that of the STA) and can transmit an A-MPDU that contains a number of aggregated TIDs in the A-MPDU that is up to that value.”

There is no discussion about the straw poll.

 Result: 27 Yes, 0 No, 4 Abstain

This Straw Poll is recorded as R20160516008. The approval rate of this straw poll exceeds 75%. As a consequence the straw poll and the result will be reported to the 802.11ax TG.

At 2016-05-16T18:00-10:00 the supreme Chairman recesses the session.

# Tuesday AM2

At 2016-05-17T10:33 the beloved Chairman, Reza, calls the meeting to order. The great Chairman introduces himself. The great Chairman reviews the patent policy as presented in document 11-16/698r0. At 2016-05-17T10:35 he calls for potentially essential patent claims. Nobody speaks up. At 2016-05-17T10:36 the beloved Chairman reviews the agenda as outlined in document 11-16/698r1. Attendees unanimously approve the agenda at 2016-05-17T10:40.

Alfred continues straw polls in the document 11-16-616r2.

Alfred asks audience if there is any objection to change “MDPUs” to “QoS Data frames” in his third straw poll. No objection from the audience.

At 2016-05-17T10:41 Alfred Asterjadhi asks the following straw poll:

 “Do you support to add to the 11ax SFD:

* Multi STA BA frames shall be supported if either UL MU or multi-TID A-MPDU operation is supported
* Originator indicates support for reception of ALL ACK signaling (Ack Type subfield set to 0 when responding to the soliciting A-MPDU) in Multi STA Block Ack frame that is sent as a response to the A-MPDU via a capability bit”

 Result: Yes 26, No 0, Abstain 6 🡪 Passes

At 2016-05-17T10:45 Alfred Asterjadhi asks the following straw poll:

“Do you support to add to the 11ax SFD:

* HE STAs follow the solicitation/response rules listed in slides 17-20.” (Document 11-16-616r2)

 Result: Yes 21, No 0, Abstain 7 🡪 Passes

At 2016-05-17T10:48 Alfred Asterjadhi asks the following straw poll:

“Do you support to add to the 11ax SFD:

* A STA shall not send a Multi TID BAR to a STA that has not indicated support for multi-TID A-MPDU.
* Also applicable to each BAR information carried in the MU BAR variant Trigger frame”

 Result: Yes 29, No 0, Abstain 8 🡪 Passes

At 2016-05-17T10:50 Gudio R. Hiertz presents 11-16/583r0.

* Comment: Question on slide 8. Why the result looks like this? How did you calculate this collision probability?
* Response: We have a simulation tool. From the simulation tool we have looked the whole runtime. We have calculated the number of collided frames.

Guido notes that his straw polls are not intended to be included in the SFD. Just for getting some feedback from the group.

At 2016-05-17T11:09 Gudio R. Hiertz asks the following straw poll:

* Do you believe that scheduled medium access should be prioritized over sensing based medium access?
	+ Yes 25
	+ No 3
	+ Abstain 15

At 2016-05-17T11:16 Gudio R. Hiertz asks the following straw poll:

* Do you believe the method proposed in this contribution is a suitable remedy to achieve fairness between scheduled and sensing based access?
	+ Yes 5
	+ No 14
	+ Abstain 18

At 2016-05-17T11:18 Gudio R. Hiertz presents 11-16/584r0.

* Comment: Question on usefulness of the fragmentation
* Response: The fragmentation is done very seldom, but extra burden of impleemtation.
* Discussion on the gain from replacing padding with fragmentation.
* Response: If you do fragmentation instead of padding, it incurs overhead. Signaling overhead to indicate that the frame is fragemeted, etc.
* Discussion on unequal allocation.

Guido notes that his straw polls are not intended to be included in the SFD. Just for getting some feedback from the group.

At 2016-05-17T11:38 Gudio R. Hiertz asks the following straw poll:

* **Do you believe the option of fragmentation should be removed from the ax specification?**
	+ Yes 6
	+ No 21
	+ Abstain 12

At 2016-05-17T11:40 Jayh hyunhee Park presents 11-16/627r0.

At 2016-05-17T11:57 Jayh hyunhee Park asks the following straw poll:

* **Do you agree to add the following text to the 11ax Specification Frame work document clause 6.3 Power save?**

For each of the ROMI parameters Rx NSS and Rx BW, the following rules are used:

* + when the HE STA changes a parameter from higher to lower, it should make the change for that parameter only after receiving the ACK for the ROMI packet.
	+ when the HE STA changes a parameter from lower to higher, it should make the change for that parameter right after the ACK timeout or receiving the ACK for the ROMI packet.

Yes 24 No 0 Abstain 10 🡪 passes

At 2016-05-17T12:00 Jayh hyunhee Park presents 11-16/628r1.

At 2016-05-17T12:06 Jayh hyunhee Park asks the following straw poll:

* **Do you agree to add the following text to the 11ax Specification Frame work document:**
	+ An HE STA may send the buffer status report (BSR) in the HE variant HT Control field for one or more queues (whether content of queue is per TID or per AC is TBD) when the AP supports its reception
		- A new Control ID value of the HE variant HT Control field identifies a BSR
		- One or more (number is TBD) Queue Size subfields report the queue size
		- Identifier of AC/TID (and for which) is currently TBD

 Yes 27 No 0 Abstain 7 🡪 passes

At 2016-05-17T12:09 Geonjung Ko presents 11-16/640r0.

* Comment: Question on the chane of color collision.
* Response: We do not have the simulation result, but if we choose color randomly, there is a chance for the BSS color collision.

At 2016-05-17T12:24 Geonjung Ko asks the following straw poll:

* + Do you agree to add the following text into 11ax SFD ?

5.1 When a STA that receives HE PPDU identifies RA and TA fields, the STA shall determine whether the frame is an inter-BSS or an intra-BSS frame by using the address fields.

* + Yes 7
	+ No 3
	+ Abstain 16

At 2016-05-17T12:33 the supreme Chairman recesses the session.

# Wednesday PM1

At 2016-05-18, 1:30pm the beloved Chairman, Guido R. Hiertz, calls the meeting to order. The great Chairman introduces himself and introduces Laurent Cariou who acts as secretary during the Wednesday PM1 session. The great Chairman reviews the patent policy as presented in document 11-16/698r0. He calls for potentially essential patent claims. Nobody speaks up. He reviews the agenda as outlined in document 11-16/698r0. Attendees unanimously approve the agenda.

1:34pm Woojin Ahn presents submission 11-16/641r1. Presentation ends at 1:43.

* Question: clarify?
* Response: There is an ambiguity between level 2 and level 3

At 1:45 Woojin Ahn asks the following straw poll:

* **Do you support to add the following to the 11ax SFD:**
	+ **25.3.1 General**
		- **The spec shall provide a mechanism that indicates the fragmentation level of A-MPDU**

Any questions:

* Comment: SFD already allows negociation.
* Response: believe the spec is not precise enough
* Comment: Propose to modify the SP text to clarify the differences with the current SFD
* Comment: Same question
* **Do you support to add the following to the 11ax SFD:**
	+ **25.3.1 General**
		- **The spec shall provide a mechanism that indicates the fragmentation level for each A-MPDU**

SP is delayed, and there will be an opportunity to come up with a modified SP during PM2 session.

1:54pm Liwen Chu presents submission 11-16/643r0.

At 2:07 Liwen Chu asks the following straw poll:

* Do you support to add the following text to 11ax SFD:
	+ The HE A-Control field for UL acknowledgement through OFDMA (acknowledgement through MU MIMO and MUMIMO in OFDMA are not supported) is defined as following:
		- 5-bit UL PPDU Length indicates OFDMA symbols of the Data field.
		- 5-bit DL TX Power indicates the transmission power of the Trigger frame in unit of 2db.
		- 5-bit Target UL RX Power indicates the target RX power in unit of 2dB.
		- 8-bit RU Allocation which is same as Trigger frame.
		- 2-bit MCS indicates the MCS of the UL acknowledgement, MCS 0 to 3.
		- One SS is used for UL acknowledgement
		- The STAs that are the receivers of HE A-Control don’t do CCA sensing before sending UL MU acknowledgement.
		- One HE LTF is used for UL acknowledgement
		- Spatial reuse is disallowed.
		- The CP+LTF Type is TBD.
		- The other missed parameters are same or derived from related parameters in DL MU transmission or some default value



* + Yes 32
	+ No 0
	+ Abstain 9

Liwen Chu asks the following straw poll:

* Do you support to add the following text to 11ax SFD?
	+ HE A-Control field for UL acknowledgement is optional in RX
* Question: clarification
* Response: STA can say that it doesn’t support that option.
	+ Yes 30
	+ No 0
	+ Abstain 5

2:16pm Liwen Chu presents submission 11-16/644r0.

Liwen Chu asks the following straw poll:

* Do you support to add the following text in 11ax SFD?
	+ SS Allocation in Per User Info field is defined by Starting Spatial Stream (3 bits) and Spatial Stream Number (3 bits)
	+ Yes 32
	+ No 0
	+ Abstain 8

2:21pm Liwen Chu presents submission 11-16/645r0.

Liwen Chu asks the following straw poll:

* Do you support to add the following text to 11ax SFD?
	+ Trigger frame includes a two-bits MPDU MU Spacing Factor subfield in trigger-dependent per user info subfield within per-User Info field in the basic variant of trigger frame?

Question: what are those 2 bits ?

Response: propose to modify the SP text

* Do you support to add the following text to 11ax SFD?
	+ Trigger frame includes a two-bits MPDU MU Spacing Factor subfield in trigger dependent per-user info subfield within per-User Info field of the basic variant of trigger frame
		- A STA uses *Minimum MPDU Start Spacing (in AP’s HT Capabilities element) \* (*MPDU MU Spacing Factor +1*)* as the MU minimum MPDU start spacing in UL MU transmission.
	+ Yes 31
	+ No 0
	+ Abstain 7

2:37pm Liwen Chu presents submission 11-16/646r1.

Liwen Chu asks the following straw poll:

* Do you support to add the following text in 11ax SFD:
	+ The HE beamformer shall have the supported MPDU size large enough to avoid fragmentation except when 11,454 is reached assuming that RU, MCS, and PPDU length for beamforming feedback are large enough?

Comment: Propose to modify the SP to be clearer

The SP is modified as follows:

* Do you support to add the following text in 11ax SFD?
	+ The HE beamformer shall have the supported MPDU size large enough to avoid fragmentation except if the MPDU size 11,454 B is reached assuming that RU, MCS, and PPDU length for beamforming feedback are large enough
	+ Yes 27
	+ No 0
	+ Abstain 8

Liwen Chu asks the following straw poll:

* Do you support to add the following text in 11ax SFD?
	+ The BRP variant of the Trigger frame includes 8-bit Feedback Segment Retransmission Bitmap in Per STA Info.
	+ Yes 26
	+ No 0
	+ Abstain 7

2:54pm Jinsoo Ahn presents submission 11-16/673r0.

* Question: what happens in case of collisions
* Response: new backoff
* Question: clarifications on slide 9. Don’t understand how this works?
* Comment: no need to specify how AP competes for trigger frame
* Response: would be good to specify how often the trigger can be sent.

Jinsoo Ahn asks the following straw poll:

* **Do you agree to add to the TG Specification Frame work document?**
	+ Define a virtual queue for UL MU contention based channel access procedure and its EDCA parameters (TBD) for trigger frame channel access
* Question: there was already a SP that passed yesterday, and AP can choose any AC to send trigger frame. How is this new SP relates to the previous SP
* Response: Believe it is different.
* Question: the SP is not clear. For instance, what is a virtual queue?
* Question: as we have TWT, we can not ignore that and this SP currently ignores this

The SP is modified as follows

* **Do you agree to add to the TG Specification Frame work document?**
	+ Define a virtual queue which is based on BSR (buffer status report) information for trigger frame channel access procedure
* Yes 10
* No 18
* Abstain 16

# Wednesday PM2

The Chair read the patent related policies and the links from the docment 11-16/0698r3

* No body spoke up on the LOA or about holding essential patent claims

The Chair reviewed the agenda

Speaker mentioned about a pending SP;

**EIFS excess problem of Acknowledgement for UL MU procedure** – Hanseul Hong at 4:09pm, document number 11-16/0674r1

Question: The SFD text already has the All ACK Indication

Answer: Group ID is proposed to be used for all ACK indication of MPDUs with all multiple TIDs;

Question: TXOP field in SIG-A would set the NAV; not a wise proposal to use RTS and CTS and should be used only for protection and not be mandated

Question on SP: SP text provide something new, spec text already provides mechanism to reduce BA length; for example, OFDMA BA and M-BA optimization mechanism; multi-TID aggregation limit to shorten the M-BA length

Response: TXOP is understood only by HE STAs and not legacy STAs; so, that may not be a full solution as expressed in question above;

**Do you agree to add to the TGax Specification Framework document?**

* Spec shall include mechanisms to avoid the EIFS excess during the Acknowledgement for UL MU PPDU(s)
	+ Y: 8
	+ N: 8
	+ A: 13

Straw poll fails

**11-16/0657r0: In-device Multi-radio Coexistence and UL MU operation** – Robert Stacey at 4:30pm

* **Do you support adding the following to the SFD:**
	+ The Receive Operating Mode A-Control field shall include an UL MU Disable field that allows an HE STA to suspend and resume being scheduled by a Trigger frame or UL MU resource scheduling A-Control field

Passes without objection

**Do you support adding the following to the SFD?**

* **The Receive Operating Mode A-Control field shall include the following transmit operating parameters: max Tx NSS and max Tx power**
	+ Editorial note: we may want to change the name since it would now include transmit operating parameters

Passes without objection

**11-16/0684r2: Channel Access Efficiency – Evgeny Khorov** at 4:43pm

Clarification question: Like EDCA moderation but random access is mainly for far away STAs and not for throughput enhancements;

Question: Change EDCA parameters for HE STAs would prevent AP in scheduling UL MU transmissions;

Answer: Not agreeing with the commenter, modify the parameters to prioritize the MU access increasing the system throughput

Question: Clarification of STA scheduled in a Trigger frame should have lower priority over SU contention-based access;

Answer: STA receiving RUs in last 10s should have the second set of EDCA parameters, while others not scheduled use the first set of EDCA parameters

Question: Benefit of SU mode with small number of STAs, while with larger number of STAs, scheduled transmissions yield higher throughput;

Answer: Idea is aligned with the proposal in this contribution

Question: Comment on SU and MU modes of EDCA operation

* **Do you agree to add the following text in SFD?**

**x.y.z The spec shall define a mechanism that allows an AP to assign another set of EDCA parameters to STAs being scheduled by the AP.**

Note: For example, these STAs can be

* + the STAs which were scheduled recently during some time interval or
	+ the STAs explicitly listed by the AP.

Question: Concern on the text with the “note.” The presenter removed the note;

* **Do you agree to add the following text in SFD?**

**x.y.z The spec shall define a mechanism that allows an AP to assign another set of EDCA parameters to STAs being scheduled by the AP.**

Y: 4, N: 5, A: 26

Straw poll fails

* **Do you agree to add the following text in SFD?**

**x.y.z The spec shall define a mechanism that allows an AP to assign another OCWmin to STAs being scheduled by the AP.**

Note: For example, these STAs can be

* + the STAs which were scheduled recently during some time interval or
	+ the STAs explicitly listed by the AP.

Y: 1 N: 10 A: 23

Straw poll fails

11-16/675r0 – **TGax D0.1 Comment Resolution for CID 2383** – Yonggang Fang at 5:14pm

Question: Comment to delete the word “random” in first line

Question: Comment on including “one or multiple STAs” in second line of the resolution

Question: The original text was clear than the modified text; propose to keep the original text; suggested text is to delete “commenced from the Trigger frame”

11-16/0641r2: **Regarding HE fragmentation – Woojin Ahn;** revision 1of 641was presented earlier

Question: Clarification on whether the capability is already in the specification

Answer: Negotiation exists on fragmentation level, but to enhance efficiency of BA compression, the proposal is needed

* **Do you support to add the following to the 11ax SFD:**
	+ 25.3.1 General
		- The spec shall provide a mechanism for negotiating the fragmentation level of A-MPDU during the BA setup

Y: 9 N: 6 A: 12

Straw poll fails

11-16/640r2: **BSS Color Collision – Geonjung Ko; intend to re-rn the SP**

Question: TDLS STAs with RA and TA would not classify for inter-BSS PPDUs; the proposed text does not apply to such STAs;

Answer: The To DS and From DS fields could identify TDLS frames;

Question: Request for deferral of this SP since not discussed for TDLS STAs;

Answer: The SP excludes the case of TDLS frames;

Question: Suggestion provided on using existing rules with respect to RA and TA fields; it was answered that the intention of the SP was in that direction suggested

Question: Slide 4 mentions the various conditons of defining inter or intra-BSS frame; the presenter is identifying the case when one of the criteria in Slide 4 passes but the other criteria fails;

* Do you agree to add the following text into 11ax SFD ?

5.1 When a STA, that receives an HE PPDU with the same BSS Color as the BSS Color announced by its associated AP, identifies from RA and TA fields that the frame is an inter-BSS frame, the STA shall treat the frame as an inter-BSS frame after the FCS has been verified, unless the frame is identified as TDLS frame

Y: 12 N: 0 A: 20

Straw poll passes

11-16/675r0 – **TGax D0.1 Comment Resolution for CID 2383** – Yonggang Fang

Suggestion on resource unit(s) instead of resource units in second line of the resolution and HE STA(s) instead of HE STAs

Do you agree to the proposed resolution presented in 11-16/675r1 for CID 2383?

Straw poll passes without objection