IEEE P802.11  
Wireless LANs

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| TGbi Minutes Mixed Mode September interim Sessions 2024  09-13 September 2024 | | | | |
| Date: 2024-09-27 | | | | |
| Author(s): | | | | |
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Abstract

This document contains the minutes for the IEEE 802.11bi task group meetings that took place during the IEEE 802.11 Mixed Mode September session 09-13 September 2024. The on-site location for the meeting was Hawai.

Note: Highlighted text are action items.

Q – proceeds a question

A - proceeds an answer

C - proceeds a comment

Yellow highlight - action point

**Revision:**

R0: initial revision

**1rst slot : Monday September 09th 2024, 16:00 local time.**

**Chair: Carol Ansley, Cox Communications**

**Secretary: Stéphane Baron**

**Vice-chairs: Jerome Henry, Cisco; Antonio DeLaOlivaDelgado, InterDigital, Inc**

**Technical editor: Po-Kai Huang, Intel**

Chair calls meeting to order at 16:02 Local time.

Agenda slide deck: [11-24-13831r2](https://mentor.ieee.org/802.11/dcn/24/11-24-1383-02-00bi-tgbi-september-interim-agenda.pptx):

1. Reminder to do attendance

Reminder to register for the session and to not attend the virtual meeting without paying appropriate meeting fees.

1. The chair mentioned the call for essential patents
   1. No one responded to the call for essential patents
2. Review of policies and procedures.
   1. IEEE individual process slides were presented.
3. The chair covered the IEEE copyright policy and participation rules.

No questions

1. Successful Hybrid Meeting Protocols

Chair presents WebEx settings and usage for a successful hybrid meeting.

1. **Discussion of agenda 11-24-1383r1 (slide #16)**
   1. Discussion on agenda

1429r1 has a remaining SP.

3 additional submissions from Jerome on Tuesday AM1

Request to move Julien’s presentation to Tuesday AM1.

Jarkko indicates ha has only 1 contribution

* 1. Adoption of agenda by unanimous consent (17 participants online, 8 in the room).

1. **Administrative**
   1. Remaining Meetings:

* Tuesday AM1
* Tuesday AM2
* Wednesday AM2
* Thursday PM2
  1. Approval of accumulated minutes:

24/1275r0 (July Plenary), 24/1406r0 (July 31 Telecon), 24/1407r0 (August 7 Telecon), 24/1423r0 (August 14 Telecon), 24/1436r0 (August 21 Telecon), 24/1521r1 (August 28 Telecon), 24/1522r0 (Sept. 4 Telecom)

Motion #47 moved by Jerome Henry and seconded by Po-Kai Huang

Motion approved by unanimous consent.

Chair indicated that ad\_hoc meeting may be needed and a timeslot is reserved for that discussion on Thursday, assuming we will have no more material to present.

C: I think considering the speed of resolution of comment, may not need ad-hoc

A: This is why we will have this discussion on Thursday according to our progress end of week.

1. **Technical Submissions**
   1. [11-24/1581r0](https://mentor.ieee.org/802.11/dcn/24/11-24-1581-00-00bi-bss-privacy.pptx): BSS privacy: Jarkko Kneckt

Document presented by Jarkko.

This document presents a BSS privacy mechanism, introducing specificity like group address generation and using only one Epoch group to make all CPE stations and the AP changing their MAC address at the same time.

* + 1. Discussion

Q: Why only one epoch group? Do you assume AP will mandate the Epoch structure?

A: I think the stations need to change their address when AP changes its MAC address. If you see value in changing STA mac address more frequently, I am open to study it.

C: I see value where the AP respond to the Sta during association with Epoch structure.

C: I see a lot of value for an AP to hide its identity and not be recognized outside for instance.

Q: Everything is supposed to be MLD here, right?

A: I assume if we have multiple links, all the links will change their MAC address at the same time.

A: Single link is likely for mobile AP, but MLD signaling will simplified and unified the signaling.

Q: You assume that stations are configured by another mean than probing?

A: yes.

Q: How does stations discover the AP?

A: On reference slides, we indicate an encrypted beacon structure. Stations will not discover AP using beaconing. We are assuming mechanism similar to Bluetooth for instance.

C: I think we first need to go thru the discovery procedure first before going thru the MAC address change.

C: I see the change of MAC address in a different way, because there is the discovery issue.

C: In my opinion if you don’t change the SSID, you do not protect anything.

A: Idea here is not to transmit the SSID, but only a key to determine that the beacon comes from the good AP.

A: Stations are pre-configured to recognize the beacon.

Q: What about probe request and response?

A: We will only transmit encrypted frames.

C: Maybe 11-24/1306 document should be presented again?

A: Agree.

C: I agree discovery problem should be resolved first.

C: I agree with your simplification direction and we should go even further for instance with multiple BSSID limitation.

Q: When do you think you will provide normative text ?

A: we may have normative text tis week.

Q: Just for clarification: We can still have normal beaconing and discovery for another scenario than mobile AP?

A: Right, for legacies we can use normal beaconing.

C: Even with legacy beaconing, already described mechanism for CPE allows privacy enhancement.

* 1. [11-24/1171r0](https://mentor.ieee.org/802.11/dcn/24/11-24-1171-00-00bi-cr-for-12-14-7.docx): CR for 12.14.7: Po-kai Huang

Document presented by Po-Kai.

This document presents comment resolution for clause 12.14.7.

Mainly editorial modifications.

* + 1. Discussion

Online friendly editorial modification (mainly typos)

Q: Is “DHss” already defined?

A: Yes, PASN is already using it, but I will check if the acronym already exists. If need we will add it to the baseline, potentially REVmf.

Q: I think you use wrong tag for CID 1154 resolution. You indicated #1143.

A: You are right.

Author made modification accordingly.

Author indicates he will not request SP today to let people read the new revision r1 created on the fly.

* 1. [11-24/1606r0](https://mentor.ieee.org/802.11/dcn/24/11-24-1606-00-00bi-cid-in-10-71-1.docx): CID in 10.71.1: Phil Hawks

Document presented by Phil.

This document presents comment resolution for editorial comments for clause 10.71.1.

* + 1. Discussion

CID1312

Q: Is there a place where 11bi indicates that CPE is only for MLD?

A: yes, I think there is a place for that, let check offline.

Q: I think we need to clarify this.

A: My understanding is that we provide a bunch of mechanism to enhance privacy. But Frame anonymization is linked to the ability of the MLD to have an OTA MAC different from the MAC address. So, FA is only supported if MLO is supported.

CID1068:

C: This is not the problem raised by CID1068. This CID says the problem is common to MLD and non MLD, only the proposed solution works for MLD devices.

A: OK, we can remove the mention to the MLD in the problem description.

Comment resolution is modified accordingly.

C: Same remark concerning the address 1 and address 2 part.

A: Agree we can just mention STA without indicating MLD.

Comment resolution is modified accordingly.

Finally, CID1068 resolution indicates “revised”, not “reject”

CID1316:

This Cid resolution is the largest text modification

Author go thru the modification but there was no time for questions due to lack of time

Author will come back to finish review the document and ask for a SP.

1. Other businesses

No other business.

1. Chair recess the meeting at 12:26 local time

**2nd slot : Tuesday September 10th 2024, 08:00 local time.**

**Chair: Carol Ansley, Cox Communications**

**Secretary: Stéphane Baron**

**Vice-chairs: Jerome Henry, Cisco; Antonio DeLaOlivaDelgado, InterDigital, Inc**

**Technical editor: Po-Kai Huang, Intel**

Chair calls meeting to order at 08:01 Local time.

Agenda slide deck: [11-24-1383r3](https://mentor.ieee.org/802.11/dcn/24/11-24-1383-03-00bi-tgbi-september-interim-agenda.pptx):

1. Reminder to do attendance

Reminder to register for the session and to not attend the virtual meeting without paying appropriate meeting fees.

1. The chair mentioned the call for essential patents
   1. No one responded to the call for essential patents
2. Review of policies and procedures.
   1. IEEE individual process slides were presented.
3. The chair covered the IEEE copyright policy and participation rules.

No questions

1. Successful Hybrid Meeting Protocols

Chair presents WebEx settings and usage for a successful hybrid meeting.

1. **Discussion of agenda 11-24-1383r3 (slide #17)**
   1. Discussion on agenda

No discussion

* 1. Adoption of agenda by unanimous consent (26 participants online, 13 in the room).

1. **Administrative**
   1. Remaining Meetings:

* Tuesday AM2
* Wednesday AM2
* Thursday PM2 : discussion of potential ad-hoc sessions

1. **Technical Submissions**
   1. 11-[24/1426r1](https://mentor.ieee.org/802.11/dcn/24/11-24-1426-01-00bi-cid-for-10-71-2-consolidation.docx): CID for 10.71.2 consolidation: Jerome Henry

New presentation after offline discussion.

Author indicated that there are alternative proposals regarding the text.

* + 1. Discussion

Q: I need to take a quick read on the R1 that is currently not uploaded

A: This is only editorial changes, typo.

C: I think this text is initial text that will change, so for me, starting with this is ok for now.

C: We discussed around the structure of this subclause to reorganize the text before voting for the document.

A: The proposal you made is a more drastic change and I propose to use this as a starting point and we can continue discussing offline.

Q: Should we describe here why we do thing that rather in an annex?

A: This is a short page of text and there was discussion on it, so I propose to keep it there.

Author ask for a straw poll

**StrawPoll#1 Initial text**:

Support the comment resolution text in 24/1426r1 for comment 1026?

**Discussion on SP#1 text:**

C: I prefer to work for this document before voting, I think this is too early to vote for this document as is.

**SP#1 result:** deferred to allow offline discussion

* 1. 11-24/1511r1: AID Suggested Text – 11-24/0796r1 AID Discussion: Carol Ansley

Second presentation by Carol regarding

* + 1. Discussion

Q: Can the PS poll can be retransmitted? Because this may create issue during transition

A: I see this is good comment.

C: I think the most severe issue comes from the trigger frame AID collision

A: are you talking about multi sta block ack.

C: I talk about all frame with a mac header

C: There is complexity on the retransmission of encrypted frames, that justify the retransmission of those frames. But this is the only one.

C: I think that is you want to use AID in retransmission you have to setup a more complex solution

Q: Can the bit be set differently per stations?

A: No, there is only one bit.

C: For the multi-STA block ack, I think the AP can indicate all new or all old.

Q: I don not see the problem if the AP finalize by sending an ack with the received AID, either old or new one.

Q: Why cannot it be independent, since the MAC address and AIDs are changing at the same time. We do not have to harmonize everything old, or everything new.

C: Maybe the solution is to avoid using multi-STA block ack during collision.

C: maybe we can just avoid allocating AID to 2 consecutive epochs.

A: The problem is that we have not enough AID if we divide by 2 the max allocatable values.

C: I preferably avoiding creating a AID collision rather than solving it.

C: When transition period is done, we can allocate the AID again.

A: this presentation is there because we may have collision in the transition period. 2007 seem large but this is not. Legacies will use some AID values also. So, we may have a very small number of AID available for MLDs.

C: I think the issue is real because AP assigns AID per range and used AID range for some type of stations.

Q: Can we solve the problem by saying that the STA do not change Aid before the ack are done.

A: In fact, one option, is to say don’t do multi-STA block ack during transition period.

C: I think stations may just avoid doing PS Poll of multi-STA block ack during the transition period.

This can be compared to beacon. When a beacon will occur station refrain doing things, and I think transition are less frequent than beacons.

C: If you have 1P° groups, then you only cut 1/10th of the AIDs.

A: We have discussions about that, and it seems useful to be hidden in the crowd so multiple small groups is not the solution.

C: Just my two cents, but I think that when stations become two numerous, AP can fragment the EDP groups to reduce the number of AIDs blocked during the transition.

C: marking the trigger frame indicating old AID indicates that those stations will go away.

C: I think when the AP face resources issues on AID it can use different methods like splitting the groups. But the AP has to be aware not to duplicate Aid space across boundaries.

C: To me it makes sense to reduce group size when resources become limited. Probably the groups size may be around one hundred. This is a question of trad-off.

Q: Should we indicate that AID and MAC addresses are changing at the same time.

A: I think so to avoid disclosing

C: I think the best is to avoid collision. This solves the problem from the beginning. One simple way maybe be to use a bunch of AIDs.

C: From a station point of view, if you gave me an AID, I can use it. The AID groups should be unusable only for the duration of the transition

Q: Regarding the TIM element. During the transition, is there a text saying that the station buffered old and new AID’s data?

A: Nothing is indicated currently.

C: AID bitmap is set by the AP. If we align Epoch on beacons, we can wait 2 or 3 beacons before changing the AID bitmap

C: Tim element is present in all beacons.

C: transition period is the most difficult technical point. Maybe alternatives solution to transition maybe setup. In that case some retransmission will fail from time to time but this is one possibility.

A: I agree this can be considered.

1. Other businesses

No other business.

1. Chair recess the meeting at 10:02 local time

**3rd slot : Tuesday September 10th 2024, 10:30:00 local time.**

**Chair: Carol Ansley, Cox Communications**

**Secretary: Stéphane Baron**

**Vice-chairs: Jerome Henry, Cisco; Antonio DeLaOlivaDelgado, InterDigital, Inc**

**Technical editor: Po-Kai Huang, Intel**

Chair calls meeting to order at 10:32 Local time.

Agenda slide deck: [11-24-13831r4:](https://mentor.ieee.org/802.11/dcn/24/11-24-1383-04-00bi-tgbi-september-interim-agenda.pptx)

1. Reminder to do attendance

Reminder to register for the session and to not attend the virtual meeting without paying appropriate meeting fees.

1. The chair mentioned the call for essential patents
   1. No one responded to the call for essential patents
2. Review of policies and procedures.
   1. IEEE individual process slides were presented.
3. The chair covered the IEEE copyright policy and participation rules.

No questions

1. Successful Hybrid Meeting Protocols

Chair presents WebEx settings and usage for a successful hybrid meeting.

1. **Discussion of agenda 11-24-1383r4 (slide #17)**
   1. Discussion on agenda

Domenico requested a timeslot presentation in AM slot

Jerome indicates he have 2 additional contributions for Thursday.

Po-kai indicated he have a SP to run

Q: Can we reserve time on Thursday to run a motion for the already approved resolutions?

A: OK, I book time on Thursday for that purpose.

* 1. Adoption of agenda by unanimous consent (24 participants online, 7 in the room).

1. **Administrative**
   1. Remaining Meetings:

* Wednesday AM2
* Thursday PM2

1. **Technical Submissions**
   1. [11-24/1440r0](https://mentor.ieee.org/802.11/dcn/24/11-24-1440-00-00bi-proposed-spec-texts-for-privacy-gtk.docx): Proposed spec texts for Privacy GTK: Julien Sevin

Document presented by Julien describing how Privacy GTK (PGTK) is created, update or distributed.

The idea of this large document is to follow same mechanism as existing keys, with the difference that PGTK is at MLD level, not at link level.

* + 1. Discussion

Q: the only use of the PGTK is to generate a random number to be added to the EDP Epoch, right?

A: Yes, it is to generate a random start time for all stations of an Epoch group.

A: It may be easy to think we can reuse GTK, but even if the concept is simple, it requires changes in many places.

Q: We anonymize frame individually but the key here is a group key, right?

A: right.

Q: So currently this is the only usage of this key. Maybe we can use this key to generate the BSS mac address.

A: Yes.

Q: do you also distribute key to generate MAC addresses?

A: Not, for the moment. We can reuse this framework, but this is not the purpose of this presentation.

Q:in chapter 12.7.1.xx you referenced 3 places, but none of those places are described in this document. Maybe modification may be needed here.

A: I agree I will check if any change is needed in the reference clauses.

C: I don’t think we need to protect against nonce reusing here, so this may simplify the modification a lot. There is no key reuse so

A: I need to check. I initially though there may be a problem, but if not, I can simplify the text.

C: For any change, you need to reference the latest draft 11be and REVme.

A: OK, I don’t think this part changed, but I will check.

C: (chat): please also delete "The generation and the distribution of the PGTK is TBD." in 10.71.2.6 to explain what this is addressing in the current draft.

C: The PGTK is in the current draft and the current draft and the contribution here solves the current TBD regarding this part in D0.6.

Author indicated that he does not request SP for now. And request SP in next session with updated version.

* 1. [11-24/1623r0](https://mentor.ieee.org/802.11/dcn/24/11-24-1623-00-00bi-cid-1057-1069-and-1070.docx): CID 1057, 1069 and 1070: Antonio de la Oliva

Document presented by Antonio related to the reorganization of the information elements related to the EDP Epoch parameters transmission.

* + 1. Discussion.

Q: you are adding a new subclause for EDP epoch settings according to the redline?

A: I see your point, the change in red line is according to the 11-24/1544r0.

Q: You add a field named group count in EDP group parameter; do you intend to sent to different groups?

A: The name may be misleading. Here I indicate the number of groups defined.

C: I think this is a great simplification.

C: Maybe we can save some bits by putting fields that goes together.

Q: Why do we need start time here?

A: The AP have to send the start time of the Sequence and the duration of each epoch that is the interval, and the range for randomness of the start time of epochs. And then stations can compute start time of each epoch based on those parameters.

No SP requested at that time

* 1. [11-24/1606r0](https://mentor.ieee.org/802.11/dcn/24/11-24-1606-01-00bi-cid-in-10-71-1.docx): CID in 10.71.1: Phil Hawk.

Document presented by Phil.

Follow up of the first presentation that was stopped due to lack of time.

* + 1. Discussion.

C: Regarding the partial ID, can we put this thing separated?

A: ok, I see. I can remove that.

C: we have CPE and BSS privacy. Here are the common parameters, right?

A: this is mostly for the CPE

Q: Can we claim this for the CPE and have similar things for the BPE?

A: yes.

C: The AID of the station is ok. The AID is used in TIM, so, I agree we shall protect TIM in any way, but I disagree listing it here.

C: if you want to list it here, you rather have to indicate TIM bitmap.

C: I think for BPE we can inherit from CPE parameters, but BPE have additional parameters to protect. So please, write this chapter as being related to CPE.

C: I think this is preferable to indicate those parameters are the one we are dealing with rather than saying those are the all the problematic parameters.

C: regarding the AID, we also have STAID in addition to the partial. I wonder if we need to list all the AIDs.

A: ok, let’s indicate “AID and field derived from AID”.

Chair: My recommendation is to take what we changed today, and represent it again before we can straw poll it. I can put this document on the agenda for tomorrow AM2.

1. Other businesses

No other business.

1. Chair recess the meeting at 12:28 local time

**4th slot : Wednesday September 11th 2024, 10:30 local time.**

**Chair: Carol Ansley, Cox Communications**

**Secretary: Stéphane Baron**

**Vice-chairs: Jerome Henry, Cisco; Antonio DeLaOlivaDelgado, InterDigital, Inc**

**Technical editor: Po-Kai Huang, Intel**

Chair calls meeting to order at 10:30 Local time.

Agenda slide deck: [11-24-1383r6:](https://mentor.ieee.org/802.11/dcn/24/11-24-1383-06-00bi-tgbi-september-interim-agenda.pptx)

1. Reminder to do attendance

Reminder to register for the session and to not attend the virtual meeting without paying appropriate meeting fees.

1. The chair mentioned the call for essential patents
   1. No one responded to the call for essential patents
2. Review of policies and procedures.
   1. IEEE individual process slides were presented.
3. The chair covered the IEEE copyright policy and participation rules.
   1. No questions
4. Successful Hybrid Meeting Protocols

Chair presents WebEx settings and usage for a successful hybrid meeting.

1. **Discussion of agenda 11-24-1383r6 (slide #16)**
   1. Discussion on agenda

Request from Phil to go at the end of the session.

Antonio request to present again before creation of D0.6

* 1. Adoption of agenda by unanimous consent (16 participants online, 8 in the room).

1. **Administrative**
   1. Remaining Meetings:

* Thursday PM2

1. **Technical Submissions**
   1. [**11-24/1171r1**](https://mentor.ieee.org/802.11/dcn/24/11-24-1171-01-00bi-cr-for-12-14-7.docx) **:** CR for 12.14.7 **:** Po-Kai Huang

SP from previous session

Po-kai request a SP after past presentation since no comments was received.

* + 1. Discussion

No discussion

SP is the run:

**StrawPoll#1 Initial text**:

Support the comment resolutions in 24/1171r1:

1032, 1033, 1150, 1474, 1475, 1476, 1477, 1478, 1479, 1480,

1481, 1482, 1483, 1034, 1124, 1151, 1152, 1153, 1484, 1486,

1402, 1485, 1147, 1154

**Discussion on SP#1 text:**

No discussion

**SP#1 result:** unanimous consent.

* 1. [11-24/1619r1](https://mentor.ieee.org/802.11/dcn/24/11-24-1619-01-00bi-tid-anonymization-discussion.pptx): TID anonymization discussion: Domenico Ficara

Document presented by Domenico.

* + 1. Discussion

Q: In your proposal, you do not change the MAC address, how does it solve anonymization issue

A: Traffics shows station identity even when MAC address changes.

Q: I think this proposal goes beyond current 11bi. This is more profiling rather than ID obfuscation?

A: right

C: I think more frequent epoch change goes is this direction

A: I guess many of the problem can be solved il the epochs are shorts.

C: I prefer adding offsets rather than encrypting to have faster change. So, I globally agree with your global direction.

C: My proposal would be to put an offset on all the TIDs to have faster change.

A: Ok, got it.

C: I agree TIF leaks information. Unless everybody has same Traffic profile, it is easy to identify a STA using traffic profile. But I think the danger is to expose across epoch boundaries. Even changing TID will still allow traffic profiling but make it difficult.

C: Globally I like this idea and even prefer it to the SN obfuscation.

C: Not sure this is feasible from implementation point of view. I don’t like going of the MAC a header encryption.

C: I think this is difficult to determine the frame orders in wireless transmission due to transmission error. So, I think there is an issue to apply it per frame or n frames. I see per epoch, not per frames.

A: I think we can connect it to the packet number.

Q: packet number is huge; how can we store the TIDs accordingly, because you don’t know how many frames will be generated by the remote. Maybe there is a memory problem here.

C: general comment is that 11bi cannot claim we leak nothing, but we improve situation.

C: Anonymizing traffic pattern is a good think if it is feasible. Then remember that the time upon reception is short and complex operations are not realistic. So, I cannot support this specific proposal.

C: We have requirement on the TID protection. We have the anonymization per epoch that are linked to the MAC address change, but we should do our best to address the requirement.

Author then request a SP.

**StrawPoll#2 Initial text**:

Do you support a mechanism where TIDs are obfuscated with different mappings within the same EDP epoch (i.e.: within the same EDP epoch, different frames of the same traffic flow can have different OTID values) ?

**Discussion on SP#2 text:**

C: Mechanism is not clear. I would prefer to have something indicating continuing discussing on enhance TID protection

C: You indicate in the same Epoch, but we already have a mechanism and you propose to have a different way. At this point I don’t see how does it work.

C: At this point I cannot support a SP that do not provide convincing solution

C: The point is to know how much effort we can put to obtain privacy. Adding complex mechanism on TID needs also to go further for the other like PN / SN. SO here we have to decide if we do something or not on TID that has so small different values.

C: If we go in obfuscating traffic, TID will not be enough, we can also speak about the frame length.

**SP#2 result:** SP deferred

* 1. [11-24/1606r2](https://mentor.ieee.org/802.11/dcn/24/11-24-1606-02-00bi-cid-in-10-71-1.docx) : CID in 10.71.1: Phil Hawkes

New presentation by Phil, following last session presentation and taking into account received comments.

* + 1. Discussion

Q: On AID, “other” seems a quite vague term. Just delete this word is ok.

A: OK.

Author create the r3 to incorporate latest modification and ask for a SP on this r3 version for the resolution of CIDs 1068, 1312, 1313, 1314, 1316, 1503

**StrawPoll#3 Initial text**:

Support the resolutions in 24/1606r3 for comments: 1068, 1312, 1313, 1314, 1316, 1503

**Discussion on SP#3 text:**

No discussion

**SP#3 result:** passed with unanimous consent.

* 1. [11-22/1306r3](https://mentor.ieee.org/802.11/dcn/22/11-22-1306-03-00bi-bpe-beaconing-and-discovery-requirements.pptx) : BPE Beaconing and Discovery Requirements: Jarkko Knecht

Presentation to refresh people minds on this 2 years old contribution.

* + 1. Discussion

Q: Why do you need to change beacon interval?

A: If you send beacon at the same predictable interval, it is easy to know this is the same AP.

C: I think this is good to have beacon as small as possible and then have mechanism to request element.

Q: how does varying TBTT will impact sleeping stations.

A: We maintain the TBTT for the duration of the Epoch, and have a mechanism to compute TBTT duration for each epoch. I think this is better approach than varying it at each beacon.

Q: How does the STA know the key in advance to compute hash?

A: This is not in the scope of this amendment. This is received by another mean. Bluetooth is using similar identification mechanism.

Considering remaining time (20min), document 11-24/1620r0 is presented.

* 1. [11-24/1620r0](https://mentor.ieee.org/802.11/dcn/24/11-24-1620-00-00bi-ds-mac-collision-warning.pptx) : DS MAC collision warning: Jerome Henry

.Presented by Jerome.

* + 1. Discussion

Q: This is not only a DS MAC problem. This is a problem even before 11be. A station randomized its MAC address. If we apply it only to 11bi, this will only solve the problem for 11bi.

A: Maybe then, we can go to REVmf.

C: This problem exists since 11aq, so I wonder if 11bh address this problem?

A: No.

C: So REVmf may be the right place to solve the issue.

C: I think this is an interesting proposal.

1. Other businesses

Q: 11-24/1544r0’s author asks if he should present his document 1544r0 related to the CID on IEs tomorrow, because another contribution (11-24/1623) will redesign the IE elements.

C: Tech editor: I understand 1544 goes first and straw poll it, then studies 1623 document.

A: Chair: OK, so, present first 1544, then 1623 document.

1. Chair recess the meeting at 12:26 local time

**5th slot : Thursday September 12th 2024, 16:00 local time.**

**Chair: Carol Ansley, Cox Communications**

**Secretary: Stéphane Baron**

**Vice-chairs: Jerome Henry, Cisco; Antonio DeLaOlivaDelgado, InterDigital, Inc**

**Technical editor: Po-Kai Huang, Intel**

Chair calls meeting to order at 16:05 Local time.

Agenda slide deck: [11-24-1383r8](https://mentor.ieee.org/802.11/dcn/24/11-24-1383-08-00bi-tgbi-september-interim-agenda.pptx):

1. Reminder to do attendance

Reminder to register for the session and to not attend the virtual meeting without paying appropriate meeting fees.

1. The chair mentioned the call for essential patents
   1. No one responded to the call for essential patents
2. Review of policies and procedures.
   1. IEEE individual process slides were presented.
3. The chair covered the IEEE copyright policy and participation rules.
   1. No questions
4. Successful Hybrid Meeting Protocols

Chair presents WebEx settings and usage for a successful hybrid meeting.

1. **Discussion of agenda 11-24-1383r8 (slide #16)**
   1. Discussion on agenda

No Discussion

* 1. Adoption of agenda by unanimous consent (18 participants online, 12 in the room).

1. **Administrative**
   1. Future teleconferences:

Teleconferences: October 2, 9, 16, 23, 30 –

Assuming we stick with Wednesday, and may be superseded by Ad Hoc session

October 16th is removed to avoid conflict with another organization meeting.

* 1. Discussion on ad-hoc meeting

Discussion of potential Ad Hoc session

Aside from latest CID resolutions approved, we have about 200 comments left (41%)

Discusion:

C: If an adhoc is created, mixed mode is mandatory because scheduling a intercontinental travel now requires additional budget. So, webex usage is mandatory.

Q: Do you have a proposal for the date?

A: Oct 28th to Oct 30th

Q: Where will it be located?

A: location needs to be confirmed but current hypothesis is Atlanta. Chair will try to confirm location as soon as possible.

Q: When will be run the motion to authorization to organize an ad-hoc?

A: Motion should be run during the closing plenary on Friday morning.

* 1. Motions

**Motion#48 Initial text**:

Approve directing the Editor to create a Draft 0.6 with the texts and CID resolutions that have reached consensus within the group during this plenary.

Specifically:

**11-24/1121r3: (58 CIDs):** 1155, 1426, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1181, 1390, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1183, 1129, 1179, 1182, 1193, 1195, 1036, 1037, 1038, 1039, 1040, 1207, 1208, 1209, 1130, 1047, 1196, 1197, 1220, 1210, 1211, 1212, 1403, 1213, 1214, 1215, 1216, 1219, 1221, 1226, 1194, 1149, 1228

**11-24/1359r1: (12 CIDs):** 1328, 1011, 1077, 1079, 1012, 1081, 1021, 1330, 1168, 1063, 1020, 1332

**11-24/1371r2: (15 CIDs):** 1333, 1334, 1335, 1336, 1019, 1074, 1075, 1171, 1082, 1076, 1337, 1113, 1513, 1338, 1339

**11-24/1128r3: (39 CIDs):** 1488, 1442, 1125, 1127, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1126, 1128, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1463, 1464, 1512, 1067, 1131, 1234, 1508, 1509, 1510, 1143, 1144, 1462, 1511, 1035

**11-24/1397r1: (10 CIDs)**: 1341, 1065, 1093, 1343, 1344, 1172, 1345, 1094, 1346, 1173

**11-24/1402r1: (7 CIDs):** 1132, 1133, 1134, 1135, 1136, 1222, 1223

**11-24/1181r3: (2 CIDs):** 1225, 1392

**11-24/1291r2: (5 CIDs):** 1362, 1363, 1364, 1365, 1366

**11-24/1429r1: (6 CIDs):** 1054, 1078, 1105, 1269, 1270, 1271

**11-24/1418r3: (26 CIDs):** 1236, 1087, 1099, 1053, 1056, 1159, 1238, 1239, 1100, 1237, 1072, 1240, 1241, 1262, 1261, 1098, 1102, 1048, 1123, 1243, 1101, 1263, 1264, 1000, 1258, 1027

**11-24/1171r1: (24 CIDs):** 1032, 1033, 1150, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1034, 1124, 1151, 1152, 1153, 1484, 1486, 1402, 1485, 1147, 1154

**11-24/1606r3: (6 CIDs):** 1068, 1312, 1313, 1314, 1316, 1503

**Motion#48:** **Moved** by Jerome Henry **and seconded** by Po-kai Huang.

**Motion#48: Discussion on the motion**

No discussion

**Motion#48** **results**: Passes with unanimous consent.

Chair then indicated the plan for submissions for the end of the session:

* First, a short presentation from Jerome, then correlated presentation from Antonio
* Then the 2 contributions on the BSS privacy.

1. **Technical Submissions**
   1. [11-24/1618r0](https://mentor.ieee.org/802.11/dcn/24/11-24-1618-00-00bi-frame-padding-proposal.pptx): Frame Padding Proposal: Jerome Henry

Document presented by Jerome.

Document describes a mechanism to add variable padding to improve the privacy.

* + 1. Discussion

C: I am not super supportive of having this mechanism at MAC level. I think this a more high-level mechanism at application level.

A: I n other mechanism MAC SEC already implement such kind of mechanism

C: Today is in the frame body. I pretty sure this will request hardware change to change the frame on the fly.

C: Our goal is not to decrease performance. I am not sure we have to do all those stuff in the 11bi scope.

A: As soon as we will have traffic analysis, hide the header will not be sufficient to protect privacy.

C: traffic pattern discloses application behavior, not the identity of the station. Lots of different devices will not have so regular traffic.

C: to make it more incentive for station, consider the power consumption du to the extra activity. Those mechanisms are a big change an may request a hardware modification.

C: I think finish 11bi first and then think to the next step that may be the traffic hiding.

C: If you have two stations none of this works until you have a significant number of stations changes in an epoch.

C: In the example of the voice call, as soon as a station stops the voice call it is lost.

A: Even if there is no call you can determine pattern.

C: On one hand I think there are some traffic that are inelastic but I agree that the main concern may be the power cost. I think this could be a challenge for a future amendment.

C: We do not have to go that far that having AO spoofing station. There are other things we can do. I think traffic shaping will definitely help to track people even in a crowd by reducing the number of candidates.

C: This is a very interesting presentation. In 11bi group we focus in the MAC header hiding and they are other aspects, like hardware hiding. In some case like IEEE 802.11 meetings, lots of people have same traffic profile by doing WebEx, but in other situation like at home, traffic profile hiding may be very useful.

* 1. [11-24/1544r1](https://mentor.ieee.org/802.11/dcn/24/11-24-1544-01-00bi-cids-on-clause-9-4-2-339.docx): CIDs on clause 9.4.2.339: Jerome Henry

Document presented by Jerome addressing comment resolution on EGPA element

This document solves some comment and then another contributor starts from here to solve additional comment.

* + 1. Discussion

Q: A resolution for CID #1057 is also present in another comment resolution document so can you remove it ?

A: I think we can have this document approved first so that our tech editor can includes those modification and then you can go with your document.

C: I think that indicating the number of stations in a group can be seen as a privacy violation. I would recommend to change the name and indicate this is a recommended number of STA by the AP.

A: I agree, we cannot give exact number.

C: I think you should put the justification on the reason why this field is important in a note, this is not normative text.

A: Agree.

C: I think this is by far not the final version of the draft, so we can straw poll this text and then comment it on the next round.

No SP run at this time.

* 1. [11-24/1623r1](https://mentor.ieee.org/802.11/dcn/24/11-24-1623-01-00bi-cid-1057-1069-and-1070.docx): CID 1057, 1069 and 1070: Antonio De La Oliva

Document presented by Antonio is basically a cleaning of the EDP Epoch parameters structure.

* + 1. Discussion

C: page 4: can you also change also "next epoch start time present" to "first epoch start time present"

A: OK.

Check with tech editor is done live to check instruction to editor are correct.

Tehc editor confirm he can handle the instructions as they are.

C: regarding the number of sta, the number of affiliated station count has been added.

A: I think this is a good indication for a station to determine the level of privacy.

C: This is problematic from privacy point of view.

A; If you don’t want to send it you can.

C: this is on AP decision; I would prefer another content for this field.

A: Ok, I understand. Let put it in the draft and have a discussion on it after.

Chair requested author to post a new revision integrating received comments to straw poll it.

Tech editor indicates that he will first implement first document (11-24/1544r1), then will implement document 11-24/1623r2 on top of it.

CID 1057 resolution has been removed from the first document list since same resolution is applied in the second one.

Chair then request to run a motion to authorize technical editor to include 1544r1 and 1623r2 in the draft D0.

**Motion #49** initial text:

Approve directing the Editor to include the following texts and CID resolutions that have reached consensus within the group during this interim. Editor is directed to incorporate 1544r1 first, then modify the text based on 1623r2.

Specifically:

11-24/1544r1: 1276, 1055, 1057, 1016, 1158, 1137, 1275, 1272, 1277, 1278, 1279, 1138, 1161, 1280, 1017, 1088, 1139, 1140, 1282, 1283, 1273, 1274, 1107

11-24/1623r2: 1057, 1069, 1070

**Motion#49** Moved by Jerome Henry and seconded by Antonio De La Oliva

**Motion#49:** Discussion on the motion

No Discussion

**Motion#49** passes with unanimous consent.

1. Other businesses

The Chair then request a motion to request an ad-hoc meeting in Atlanta between Oct. 28th and Oct. 30th

**Motion #50** Initial Text:

Approve a TGbi ad-hoc meeting on Oct. 28-30 in Atlanta, TBC, for the purposes of comment resolutions and consideration of document submissions.

**Motion #50**: moved by Jerome Henry and Seconded by Joseph Levy

**Motion #50**: Discussion on the motion

No discussion

**Motion#50 results**: Motion#50 passes with Unanimous consent (13 present, 16 remote)

1. Chair adjourn the meeting at 17:50 local time