IEEE P802.11
Wireless LANs

|  |
| --- |
| Minutes of the Extremely High Throughput (EHT) Study Group (SG) November 2018 meetings |
| Date: 2018-11-20 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Dennis Sundman | Ericsson |  |  | dennis.sundman@ericsson.com  |
|  |  |  |  |  |

Abstract

This document contains the meeting minutes of the 2 sessions of the EHT SG held in November 2018 IEEE 802.11 plenary meeting. There was 3 sessions allocated, but the last session was cancelled due to collision with TGax. Instead a teleconference will be held.

**Monday 12 November 2018, PM 1 Session**

**Introduction**

1. The chairman, Michael Montemurro (BlackBerry), calls the meeting to order and asks attendees for potentially essential patents. Nobody speaks up. There are around 150-200 people in the room.
2. Main objective of the November meeting is to produce a draft on the PAR and CSD.
3. The chairman asks if there in any objection to approve the agenda. The agenda approved.
4. The chairman asks if there in any objection to approve the minutes from the September meeting. Minutes approved.
5. The chairman asks if the target is still to have a swift process.

**C:** We don’t need to go faster, but we need to constrain the scope. My vision is that we can start a new TG in parallel, maybe halfway through the process.

**C:** Before we decide the timeline, we should discuss what the amendment should entail. I would like to spend some more time on the technical discussion.

**C:** What should EHT solve? Before we know that we cannot set the scope and not the time.

**Presentation**

1. At 13:46 “EHT should adopt a single, technology neutral PAR & CSD”, 18/1896r0 – Brian Hart (Cisco)

**Summary:** There are several ideas to implement a two-year cadence concept: a limited scope, and multiple PAR/CSDs. There are problems with both of them. EHT should be developed using the traditional model.

**C:** I think the 802.11aa PAR was actually very good. The only problem was that the PAR made it forced to fulfil all these tasks.
**A:** The challenge is that we need time to discuss technology back and forth. I explain my view of a feature, and you explain another. Finally we can agree.

**C:** To me a PAR is more like an agenda.

**C:** I agree with you that the idea with two parallel TG/PARs is not going to work. We should have some goal, for example data rate. In that way we are not limiting any technology. I prefer a goal oriented PAR rather than technology oriented.

**C:** If it is in the PAR you don’t have to do it. But you cannot do things that are not in the par. It acts as an upper bound.

**C:** I strongly agree on some things you are saying. But I think we have rather had a new technology every 10th year. So I think what we need is more technical discussion. If we try to force schedules, we will just have a “minor” technology.

**C:** We need to know what the theme of the next thing is. What should EHT be?

**C:** I like what you put on the slides. But my problem is the prioritization of the features.

**C:** We want to rank features and select. Do we have an objective metric? With which metric are we going to measure progress. I would like to have some measurable metrics in the PAR.

1. At 14:22 “Discussion on the EHT Timeline and PAR definition”, 18/1938r0 – Kome Oteri (InterDigital)

**Summary:** Proposals for changes to speed up EHT timeline: Early contribution submissions, better use of e-mail reflector, teleconferences, objective platform (simulation platform). Discussion on the PAR scope: we should have requirements/goals on peak performance, latency, etc, but not entail features.

**C:** We spent 1 year on simulation evaluation for 802.11ax, and to the best of my knowledge this was never used. I am reluctant to do the same effort again, without some idea of how to enforce it.

**C:** Do you have any idea on how much your ideas on speed up changes could speed up the process? Because some of these things have already been tried without success.

**C:** We are entering an era where it is harder to put metrics on our features. How to measure that we improve the sounding?

**C:** I agree that we should have simulation calibration.

**C:** I would prefer not to have priority list in the PAR.

**C:** I agree that not everything has a metric. But you could have metrics on a new feature that includes a specific technology (like for example the sounding).

**C:** There is a part in the PAR where we talk about technical feasibility. This is the first step.

**C:** We should have a high level neutral PAR.

1. At 14:55 “FD TIG summary report to EHT”, 18/1941r2 – James Gilb (GA-ASI, USD, GenXcomm)

**Summary:** The document summarizes all discussion that has been ongoing in the FD TIG.

**C:** I think FD is too soon. There are intermediate steps we should take before the market is ready.

**C:** Is it feasible from a non-AP STA point of view to run FD? I believe the FD group should join the EHT effort, to get all people in the same room.

**Thursday 15 November 2018, PM 1 Session**

**Introduction**

1. The chairman reminds the group that the main objective is to draft a PAR and CSD.
2. Around 150 people in the room.

**PAR and CSD**

1. “PAR Draft”, 11-18/1231r0 – Laurent Cariou (Intel)

**Summary:**

Scope: 18/30 Gbps, operation in 1-7.125 GHz bands. Backwards compatibility with devices in those bands.

Need for the project: VR, AR, gaming, remote office, cloud computing, real-time delay.

Features: 320 MHz BW, Multi-band/multi-channel aggregation and operation, 16 SS, Multi-ap coordination, enhanced link adaptation (i.e., HARQ), eventual adaption to 6 GHz spectrum, refinements of 802.11ax features.

Discussion on PAR. Mostly questions about how to phrase things, but also values themselves.

1. “CSD Draft”, 11-18/1233r0 – Laurent Cariou (Intel)

**Summary:**

 Market: Internet traffic grows, need to meet these needs.

Discussions about technical features and how that should be mentioned.

Straw poll in 11-18/1723r5 “Do you support: 1231r1 and 1233r1 as the baseline draft for the EHT PAR and CSD submissions.”

Yes: 106

No: 1

Abstain: 4

**Presentations:**

1. “Discussion on EHT PAR Construction”, 11-18/1912r1 – Yusuke Tanaka (Sony)

Summary: They believe 6 GHz support, Multi-AP coordination.

No discussion

Outroduction:

1. The chairman explains the plan going forward. No particular preparation for January. In January we should try to motion PAR and CSD.

C: I would like to cancel the next meeting and have a teleconference instead.

C: How many meeting slots in January are planned?

A: I will synchronize with Osama and pick as many as possible non-overlapping with AX.

1. The meeting slot on PM2 is cancelled and the chairman will call for a teleconference instead.

Meeting ajorned.