IEEE P802.11
Wireless LANs

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| January 2018 Coexistence Standing Committee meeting minutes |
| Date: 2018-01-23 |
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Abstract

This document contains the minutes of the January 2018 meetings of the IEEE 802.11 Coexistence Standing Committee (SC).

# Wednesday, 2018-01-17, PM1

At 2018-01-17T13:31-08:00 the chairman of the Coexistence Standing Committee (SC) calls the meeting to order. Andrew Myles acts a chairman of the Coexistence SC. Guido R. Hiertz acts as secretary of Coexistence SC.

At 2018-01-17T13:32-08:00 the chairman introduces document 11-17/1891r4. Version 11-17/1891r3 is on the server and revision 11-17/1891r4 will contain all potential modifications that might be developed during this meeting.

At 2018-01-17T13:33-08:00 the chairman introduces page four of 11-17/1891r4. At 2018-01-17T13:35-08:00 the chairman asks for approval of the proposed agenda on pages seven and eight of 11-17/1891r4. The Coexistence SC unanimously approves the proposed agenda.

At At 2018-01-17T13:36-08:00 the Coexistence SC approves the minutes of its November 2017 meetings contained in 11-17/1801r0 by unanimous consent.

The chairman continues from page eleven of his submission 11-17/1891r4. At 2018-01-17T13:44-08:00 the chairman reaches page 19 of his presentation.

1. What does it mean that further discussions are needed?
2. This is a direct copy from the ETSI TC BRAN meeting minutes. It means that TC BRAN had no consensus.
3. “It was noted” means it was presented but not approved.
4. It means that TC BRAN noted that the document exists.
5. The document is not endorsed. TC BRAN has seen (noticed) it. That’s all.

Guido R. Hiertz volunteered to ask the WG Chairman to copy the latest version of TC BRAN submissions to the 802.11 members section.

At 2018-01-17T13:46-08:00 the chairman continues from page 21 of his presentation. The chairman also presents a few pages of document [BRAN(17)096008r2](http://www.ieee802.org/11/private/ETSI_documents/BRAN/05-CONTRIBUTIONS/2017/BRAN%2817%29096008r2_Proposed_changes_to_adaptivity_clause_in_EN_301_893.pptx). At 2018-01-17T13:56-08:00 the chairman reaches page 23 of his presentation.

1. During TC BRAN’s last meeting, a third option was mentioned. This option describes generic conditions that permit applying an exceptional high ED threshold. It is inherently technology neutral, therefore.
2. Has this been formalized already?
3. No.
4. Currently, LAA would defer at −62 dBm to Wi-Fi and Wi-Fi would defer very often to itself at −82 dBm then. Thus, a common preamble should be used.
5. We want that everybody is forced implementing the 802.11 preamble.

At 2018-01-17T14:03-08:00 the chairman continues from page 24 of his presentation. At 2018-01-17T14:10 -08:00 the chairman stops at page 30 of his presentation.

1. What is the definition of blocking energy?
2. Some call it a reservation signal. I call it blocking energy. It’s necessary because of the frame boundaries.
3. Why is it needed for synchronization?
4. I wasn’t using the term synchronization right. What I mean is that the frame boundary needs to be met.
5. The pure technical reason is to keep control of the channel until a data exchange begins.
6. We have talked to eNB vendors that told us they will perform a backoff. Once the backoff expired they will wait and do a quick check from before the subframe boundary starts.
7. Reservation signals are neither defined nor ruled out by the 3GPP specification.
8. The 3GPP specification does not say that the eNB must not send a reservation signal.
9. Why do LAA devices need this reservation signal?
10. It is needed to improve performance. LAA can only transmit at fixed slot boundaries.
11. You are right, I was wrong on the use of the word synchronization.
12. The reservation signal is not standardized so the UEs cannot make use of it.

At 2018-01-17T14:18-08:00 the chairman continues presenting from page 31 of his submission. At 2018-01-17T14:31-08:00 the chairman reaches page 41.

1. When is the TC BRAN activity to end?
2. There is no fixed schedule. The current Work Item completes until it is approved. However, there is no schedule attached with it.
3. They have the means to always create an n+1 version.
4. It would be nice to have a set of long term standing rules. Continuous modifications of rules and testing procedures harm the industry.
5. We need reliability. Our industry does not want continuously changing regulatory requirements.
6. The Harmonized Standard [e.g. EN 301 893] could have an infinite lifetime.
7. The bands themselves are changing therefore modifications are required.
8. The only constant in life is change.

At 2018-01-17T14:38-08:00 the chairman continues from page 42 of his presentation. At 2018-01-17T14:41-08:00 attendees discuss page 46.

1. It may well be that this group promotes using a reference to IEEE 802.11 in EN 301 893.
2. The reference itself would not specify a preamble.
3. The reference would relate to a clause in our standard that defines everything.
4. Yes, the easiest and simplest way is to point at a single clause of 802.11.
5. The referred clause also includes the SIGNAL field in the 802.11 OFDM PHY preamble.
6. My hope is at the next ETSI TC BRAN meeting we start having consensus for inclusion of the reference to the 802.11 standard.
7. This should permit for the successful introduction of 802.11ax in Europe.

At 2018-01-17T14:47 -08:00 the chairman continues from page 47 of his presentation. At 2018-01-17T14:53-08:00 attendees discuss page 48 of the presentation.

1. There was no debate of additional starting positions in 3GPP.
2. Currently this is no discussion item.
3. Will an autonomous uplink also use a reservation signal?
4. No.
5. Because they use OFDMA a reservation signal is also not helpful in uplink direction.
6. For me the topic of adaptivity is more important than enforcing my wanted position on the topic of blocking energy. Although I believe that blocking energy is anti-social.

At 2018-01-17T14:58-08:00 the group discusses page 50 of the chairman’s presentation.

1. NR-U is much more flexible than LAA LTE.
2. If NR-U also uses the paused COT concept it’s much more flexible than 802.11 and this will be unfair.
3. NR-U will have an advantage as we need to carry all the legacies with us.
4. Does MuLTEfire also have benefits over LAA LTE?
5. No, NR-U is totally new. MuLTEfire is like LAA. It’s based on LTE.
6. NR-U is the worst case. It becomes the most aggressive scheme in the band.
7. Currently LAA is restricted to millisecond boundaries. NR-U may use shorter packets. Thus, the 1 ms bottleneck no longer holds.
8. It’s not only the duration of a transmission. It’s also the channel access granularity that we need to look at.
9. They were only trying to do it for feLAA.
10. In principle, NR-U can access the wireless medium on a level of 2 µs.
11. I expect submissions on the paused COT topic for our March meeting.

At 2018-01-17T15:05-08:00 the chairman continues from page 51 of his presentation. At 2018-01-17T15:08-08:00 attendees discuss this page.

1. Comment: There are economic aspects with the introduction of a single, universal preamble.
2. Should a new preamble be generated and use of this preamble would become mandatory for operating in the 6 GHz band, the inventor of the preamble would have created an IPR gold mine. Anybody operating in 6 GHz would need to pay royalties to this inventor.
3. We want to quickly enter this band with 802.11 technology. With a mandatory, new preamble, many of our 802.11 designs would need to be modified. This will take tremendous amount of time.
4. Once 6 GHz becomes available, we should use it quickly. 802.11p is a bad example. They had spectrum assigned that FCC is about taking away as the spectrum is not being used for more than 15 years.
5. A new preamble might prevent that existing products will receive a firmware update for operating in 6 GHz. Thus, we could not bring quickly bring products to the band.
6. The 802.11g design took two more years than needed because of competition.
7. It will take very long to agree on a single preamble design if using this design becomes mandatory for operating in the band.
8. A new preamble has the benefit of getting away with legacies. Currently, there is a lot of overhead that 802.11 carries around.

At 2018-01-17T15:14-08:00 the chairman declares the meeting to be in recess.

# Thursday, 2018-01-18, PM1

At 2018-01-18T13:33-08:00 the chairman of the Coexistence Standing Committee (SC) calls the meeting to order. Andrew Myles acts a chairman of the Coexistence SC. Guido R. Hiertz acts as secretary of Coexistence SC.

At 2018-01-18T13:34-08:00 the chairman introduces presents page 50 of 11-17/1891r5. Revision 11-17/1891r5 is on the server and revision 11-17/1891r6 will contain all potential modifications that might develop out of this meeting.

At 2018-01-18T13:39-08:00 Sindhu Verma begins presenting her submission 11-18/257r0. At 2018-01-18T13:46-08:00 attendees discuss the first section of the presented document.

1. Have there been simulations of autonomous uplink?
2. No. It has been intuitively decided that this back to back transmission would be unfair.
3. What do you mean with intuitively?
4. There has been no hard evidence. We just felt that this is wrong.
5. We said that there should not be more than 6 ms without backoff update.
6. If there is a collision then the colliding node should react in time. However, for LAA it is much better to delay because of the control overhead.
7. Whether you gain or not from delaying the CW update is situation depending.
8. There cannot be reasonable conclusions from intuition.

At 2018-01-18T13:51-08:00 Sindhu continues from clause 2 of her submission 11-18/257r0. At 2018-01-18T14:01-08:00 attendees discuss clause 3.

1. Was there any recognition of our discussion?
2. There is disagreement about the EN 301 893 definition of the term grant and what it means.
3. There is contention within ETSI BRAN what the right interpretation is.
4. There is a realization at 3GPP that there can be an unfairness issue with too many starting positions.
5. It remains to be seen if multiple starting position make it any worse for 802.11.
6. Changing the number of attempts from “n” to a single (1) will need more work and input.
7. We are only few companies in 3GPP. We need more support over there.
8. Both industries do not get along very well.
9. It is important to discuss unemotionally.
10. It harms us if we play that “trust” game. Remember that ETSI TC BRAN agreed on a documented compromise that includes harmonizing all technologies to a single ED threshold of −72 dBm.
11. We don’t gain anything from making accusations if we simultaneously claim that documented aspects of the EN 301 893 are non-existent of that we would not have known them.
12. That doesn’t build trust. Then, we cannot complain about trusting others.
13. I agree we have to do the right thing.
14. It’s the question of documenting our decisions.

At 2018-01-18T14:10-08:00 Sindhu continues from clause 4 of her submission 11-18/257r0.

1. Please explain the issue you are explaining here.
2. In LAA there are reports via the licensed carrier. Such messages report the conditions in the license-exempt band. Thus, the report might help the eNB to potentially perform abuse because the eNB might request a station to perform a backoff if that station is in an area that experiences less contention. Once the station successfully performed backoff it could hand the right to transmit over to the eNB. Thus, the eNB would easily receive a TXOP although conditions at its location are much more loaded.
3. To me this sounds as you are making up a story.
4. There are two ways of access. One is full backoff and the other is passing over the access right.
5. This is going way further because it passes on and on the right to transmit.

At 2018-01-18T14:26-08:00 Sindhu continues from clause 5 of her submission 11-18/257r0. At 2018-01-18T14:33-08:00 Sindhu closes her speech.

1. We must not be dogmatic. In the past, we had this tendency to call for exactly the same behavior as we have always done it. However, we don’t know if this is the best way of doing things. We need to learn from others.
2. I agree, we need to be pragmatic. Instead of using a backoff for every queue that has packets we should probably look at making our technology more efficient.
3. Maybe we can combine packets from lower QoS categories with transmissions of higher QoS categories. That will reduce the 802.11 protocol overhead.
4. I am skeptical because of fairness.
5. We need thinking out of box. What can we learn from others to make our standard better?
6. What is the timescale of NR-U?
7. It will start in February 2018. It is then that we to start getting involved.
8. Channel access will be a key aspect.
9. NR-U will borrow from NR’s channel access.
10. Is it a good idea to send a liaison or letter from 802.11 to 3GPP?
11. It is important for IEEE to participate in 3GPP. It has to be done before a specification has been written down. There process is only achieved when consensus is reached. Thus, it is almost impossible to change things afterwards.
12. A workshop like the coexistence process is a one-time event.
13. We need a continuous process. We need continuous input, not just once.
14. The workshop failed because it was too late.
15. The work on NR runs like a steam train. It might be too late already.
16. We need to participate there. We did the same with them, when we told them to come here and work here if they want a PAR or a feature.
17. Once decisions are taken at 3GPP they are very difficult to revert.
18. These guys at 3GPP are designing at the microphone as they go. Thus, we need to be there.

At 2018-01-18T14:44-08:00 the chairman presents slide 53 of his presentation. He then displays document 11-17/1853r0.

1. Has 3GPP considered the WFA liaison at all?
2. The Lisbon meeting did not address this letter.
3. I will report to the 802.11 WG chairman that we will not take action and wait for 3GPP to respond or WFA to handle it.
4. It would not harm if we support the WFA position.
5. This would not add any statements about the tests or their content.
6. Companies in 3GPP realized that the tests are effective and might reveal results they don’t like to become public. Thus, they prefer the tests to not to be performed.
7. We could just create a letter that says we support the position of WFA.

At 2018-01-18T14:58-08:00 the following motion is called:

The 802.11 Coexistence SC requests the IEEE 802.11 WG to express support for the LS from WFA to 3GPP RAN as document in 11-17/1853r0.

* Moved: Shubhodeep Adhikari
* Seconded: Alan Zeleznikar

It is noted that the material in this LS is aligned with previous LS from IEEE 802 to 3GPP.

Yes: 10 No: 0 Abstain: 6

There were 17 people in the room.

At 2018-01-18T15:00-08:00 the chairman continues from page 56 of 11-17/1891r6.

1. My intuition is that the deterministic backoff should not work so well in scenarios with hidden nodes.
2. I am working on analyzing this.
3. I am contact with a university on this issue.
4. I will send you my insights via e-mail
5. Why don’t you share the information about the e-mail reflector? Then, everybody could participate in the debate and have access to the source of findings.
6. Okay, I will send out the information over the 802.11 list server.

The chairman agreed to send an e-mail regarding the deterministic backoff to the IEEE 802.11 e-mail reflector.

At 2018-01-18T15:04-08:00 the chairman declares the meeting of the Coexistence SC to be adjourned.