IEEE P802.11
Wireless LANs

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| 802.11ba Teleconference Minutes June 2017 |
| Date: 06-28-2017 |
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Abstract

This document contains minutes from TG 802.11ba teleconferences in June 2017.

Rev 0: Minutes from TG 802.11ba teleconference on 5th of June, 2017.

Rev 1: Minutes from TG 802.11ba teleconference on 19th of June, 2017 added.

Rev 2: Minutes from TG 802.11ba teleconference on 26th of June, 2017 added + List of Attendance for 19th of June updated.

**Teleconference on Monday, June 5th, 2017, 10:00 – 12:00 am (ET)**

**Agenda:**

1. Call the meeting to order

2. IEEE 802 and 802.11 IPR policy and procedure

3. Attendance reminder. Please send an email to Leif Wilhelmsson (leif.r.wilhelmsson@ericsson.com)

4. Presentations (excluding the deferred SPs):

(D) Multicast wake-up packet transmit/receive operation

1. 11-17-0630-00-00ba-SFD-Proposal-on-Retransmission, Suhwook Kim (LGE) – deferred to next call

(E) Security

1. 11-17/0660, WUR Security Proposal, Yunbo Han, Huawei

2. 11-17/0411r0 consideration of WUR security, Kaiying Lv (ZTE) - deferred to next call

(F) Further optimizations (lowest priority)

1. 11-17/657, AP re-discovery in WUR, Jeongki Kim, LG Electronics- deferred to next call

2. 11-17/440, Inter-BSS Communication, Liwen Chu (Marvell)

3. 11-17/728, AP Power Saving, Xiaofei Wang (InterDigital)-deferred

5. Adjourn

The conduct of this meeting is governed by IEEE, IEEE-SA and IEEE LMSC policies, which include:
- IEEE Patent Policy
- Ethics
- 802 LMSC P&P
- 802LMSC Operations Manual (OM)

Links to the documents or web-pages describing the policies may be found here: [http://www.ieee802.org/11/Rules/rules.shtml](https://www.google.com/url?q=http%3A%2F%2Fwww.ieee802.org%2F11%2FRules%2Frules.shtml&sa=D&ust=1491933437997000&usg=AFQjCNE-17PWCzAC2xYF8DKxfjLXWLxkbQ).

The following documents provide additional information on the governing IEEE-SA policies:
- Patent FAQ ([http://standards.ieee.org/faqs/patents.pdf](https://www.google.com/url?q=http%3A%2F%2Fstandards.ieee.org%2Ffaqs%2Fpatents.pdf&sa=D&ust=1491933437997000&usg=AFQjCNElYakvis-cnJojNl7hEzF6mJNEGA))
- Affiliation FAQ ([http://standards.ieee.org/faqs/affiliation.html](https://www.google.com/url?q=http%3A%2F%2Fstandards.ieee.org%2Ffaqs%2Faffiliation.html&sa=D&ust=1491933437997000&usg=AFQjCNGCGl_y1AuN8-MG411AtQLher2awA))
- Anti-Trust FAQ ([http://standards.ieee.org/develop/policies/antitrust.pdf](https://www.google.com/url?q=http%3A%2F%2Fstandards.ieee.org%2Fdevelop%2Fpolicies%2Fantitrust.pdf&sa=D&ust=1491933437998000&usg=AFQjCNEAzvOg_Qeif1Q7n4sfNyYn_FE9Jw))

In addition, the conduct of this meeting is governed by IEEE 802.11 Operations Manual (OM), which is also linked from here: [http://www.ieee802.org/11/Rules/rules.shtml](https://www.google.com/url?q=http%3A%2F%2Fwww.ieee802.org%2F11%2FRules%2Frules.shtml&sa=D&ust=1491933437998000&usg=AFQjCNFLjG8jMHQSiHIP3Yw8mMKFS8YYaw).

**Chair Minyoung Park (Intel) calls the meeting to order at 10:00 (ET).**

Minyoung goes through the agenda and asks if there is anything that should be added to the agenda. No discussion on the agenda, so the proposed agenda will be used.

Minyoung reviewes the IEEE 802 and 802.11 Policy and Procedure, and direct them to the links provided in call for this meeting in case of questions. Minyoung asks if there is any potentially essential patent that people are aware of and if there are any questions.

No potentially essential patents reported and no questions asked.

Minyoung confirms that the Secretary is on the call and reminds about recording attendance by sending an email to the secretary.

Minyoung explains that of the six remaining presentations, four have been deferred to a later teleconference and only two have been scheduled for this one. Minyoung asks if the two presenters are on the call. Yunbo Han is, but Liwen Chu is not.

**Presentation:**

**11-17/0660r0, “WUR Security Proposal,” Yunbo Han, Huawei:** The contribution discusses means to address malicious attacks on a WUR device. Essentially the idea is that the AP should determine whether the WUR is under attack by being able to determine what woke up the WUR. If the AP determines that the WUR is under attack, additional steps can then be performed to mitigate potential repeated attacks.

No questions on the presentation.

**Meeting is adjourned at 10:14 (ET).**

**List of Attendees:**

|  |  |  |
| --- | --- | --- |
|  | Name | Affiliation |
| 1 | Minyoung Park | Intel |
| 2 | Leif Wilhelmsson | Ericsson |
| 3 | Jinsoo Ahn | Yonsei University |
| 4 | John Notor | Notor Research/ARM Inc. |
| 5 | Jason Lee | ETRI |
| 6 | Sue Leicht | NSA |
| 7 | Woojin Ahn | WILUS |
| 8 | Yunbo Han | Huawei |
| 9 | Junghoon Suh | Huawei |
| 10 | Alphan Sahin | InterDigital |

**Teleconference on Monday, June 19th, 2017, 5:00 –7:00 pm (ET)**

**Agenda:**

1. Call the meeting to order

2. IEEE 802 and 802.11 IPR policy and procedure

3. Attendance reminder. Please send an email to Leif Wilhelmsson (leif.r.wilhelmsson@ericsson.com)

4. Presentations (excluding the deferred SPs):

(D) Multicast wake-up packet transmit/receive operation

1. 11-17-0630-00-00ba-SFD-Proposal-on-Retransmission, Suhwook Kim (LGE)

(E) Security

2. 11-17/0411r0 consideration of WUR security, Kaiying Lv (ZTE)

(F) Further optimizations (lowest priority)

1. 11-17/657, AP re-discovery in WUR, Jeongki Kim, LG Electronics

2. 11-17/440, Inter-BSS Communication, Liwen Chu (Marvell)

3. 11-17/728, AP Power Saving, Xiaofei Wang (InterDigital)

5. Adjourn

The conduct of this meeting is governed by IEEE, IEEE-SA and IEEE LMSC policies, which include:
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Links to the documents or web-pages describing the policies may be found here: [http://www.ieee802.org/11/Rules/rules.shtml](https://www.google.com/url?q=http%3A%2F%2Fwww.ieee802.org%2F11%2FRules%2Frules.shtml&sa=D&ust=1491933437997000&usg=AFQjCNE-17PWCzAC2xYF8DKxfjLXWLxkbQ).

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- Affiliation FAQ ([http://standards.ieee.org/faqs/affiliation.html](https://www.google.com/url?q=http%3A%2F%2Fstandards.ieee.org%2Ffaqs%2Faffiliation.html&sa=D&ust=1491933437997000&usg=AFQjCNGCGl_y1AuN8-MG411AtQLher2awA))
- Anti-Trust FAQ ([http://standards.ieee.org/develop/policies/antitrust.pdf](https://www.google.com/url?q=http%3A%2F%2Fstandards.ieee.org%2Fdevelop%2Fpolicies%2Fantitrust.pdf&sa=D&ust=1491933437998000&usg=AFQjCNEAzvOg_Qeif1Q7n4sfNyYn_FE9Jw))

In addition, the conduct of this meeting is governed by IEEE 802.11 Operations Manual (OM), which is also linked from here: [http://www.ieee802.org/11/Rules/rules.shtml](https://www.google.com/url?q=http%3A%2F%2Fwww.ieee802.org%2F11%2FRules%2Frules.shtml&sa=D&ust=1491933437998000&usg=AFQjCNFLjG8jMHQSiHIP3Yw8mMKFS8YYaw).

**Chair Minyoung Park (Intel) calls the meeting to order at 5:00 pm (ET).**

Minyoung goes through the agenda and asks if there is anything that should be added to the agenda or is there are any questions. No discussion on the agenda, so the proposed agenda will be used.

Minyoung reviewes the IEEE 802 and 802.11 Policy and Procedure, and direct people to the links provided in call for this meeting in case of questions. Minyoung asks if there is any potentially essential patent that people are aware of and if there are any questions.

No potentially essential patents reported and no questions asked.

Minyoung goes through the announced presentations to check so that the presenters are on the call. None of the five presenters are on the call.

**Meeting is adjourned at 5:05 pm (ET).**

**List of Attendees:**

|  |  |  |
| --- | --- | --- |
|  | Name | Affiliation |
| 1 | Minyoung Park | Intel |
| 2 | Leif Wilhelmsson | Ericsson |
| 3 | Yunsong Yang | Huawei |
| 4 | Edward Au  | Huawei |
| 5 | Alan Zeleznikar | Arris |
| 6 | John Notor | Notor Research/ARM Inc. |

**Teleconference on Monday, June 26th, 2017, 11:00 pm –1:00 am (ET)**

**Agenda:**

1. Call the meeting to order

2. IEEE 802 and 802.11 IPR policy and procedure

3. Attendance reminder. Please send an email to Leif Wilhelmsson (leif.r.wilhelmsson@ericsson.com)

4. Presentations (excluding the deferred SPs):

        (A) Basic unicast wake-up packet transmit/receive operation

        1. 11-17/0936r0 Integration of WUR to Power Save Mode, Enrico Rantala (Nokia) - confirmed

(D) Multicast wake-up packet transmit/receive operation

1. 11-17-0630-00-00ba-SFD-Proposal-on-Retransmission, Suhwook Kim (LGE) - confirmed

(E) Security

2. 11-17/0411r0 consideration of WUR security, Kaiying Lv (ZTE) - confirmed

(F) Further optimizations (lowest priority)

1. 11-17/657, AP re-discovery in WUR, Jeongki Kim, LG Electronics - confirmed

2. 11-17/440, Inter-BSS Communication, Liwen Chu (Marvell)

3. 11-17/728, AP Power Saving, Xiaofei Wang (InterDigital)

5. Adjourn

The conduct of this meeting is governed by IEEE, IEEE-SA and IEEE LMSC policies, which include:
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Links to the documents or web-pages describing the policies may be found here: [http://www.ieee802.org/11/Rules/rules.shtml](https://www.google.com/url?q=http%3A%2F%2Fwww.ieee802.org%2F11%2FRules%2Frules.shtml&sa=D&ust=1491933437997000&usg=AFQjCNE-17PWCzAC2xYF8DKxfjLXWLxkbQ).

The following documents provide additional information on the governing IEEE-SA policies:
- Patent FAQ ([http://standards.ieee.org/faqs/patents.pdf](https://www.google.com/url?q=http%3A%2F%2Fstandards.ieee.org%2Ffaqs%2Fpatents.pdf&sa=D&ust=1491933437997000&usg=AFQjCNElYakvis-cnJojNl7hEzF6mJNEGA))
- Affiliation FAQ ([http://standards.ieee.org/faqs/affiliation.html](https://www.google.com/url?q=http%3A%2F%2Fstandards.ieee.org%2Ffaqs%2Faffiliation.html&sa=D&ust=1491933437997000&usg=AFQjCNGCGl_y1AuN8-MG411AtQLher2awA))
- Anti-Trust FAQ ([http://standards.ieee.org/develop/policies/antitrust.pdf](https://www.google.com/url?q=http%3A%2F%2Fstandards.ieee.org%2Fdevelop%2Fpolicies%2Fantitrust.pdf&sa=D&ust=1491933437998000&usg=AFQjCNEAzvOg_Qeif1Q7n4sfNyYn_FE9Jw))

In addition, the conduct of this meeting is governed by IEEE 802.11 Operations Manual (OM), which is also linked from here: [http://www.ieee802.org/11/Rules/rules.shtml](https://www.google.com/url?q=http%3A%2F%2Fwww.ieee802.org%2F11%2FRules%2Frules.shtml&sa=D&ust=1491933437998000&usg=AFQjCNFLjG8jMHQSiHIP3Yw8mMKFS8YYaw).

**Chair Minyoung Park (Intel) calls the meeting to order at 11:00 pm (ET).**

Minyoung confirms that the secretary is on the call.

Minyoung goes through the agenda and asks if there is anything that should be added to the agenda or is there are any questions. No discussion on the agenda, so the proposed agenda will be used.

Minyoung reviewes the IEEE 802 and 802.11 Policy and Procedure, and direct people to the links provided in call for this meeting in case of questions. Minyoung asks if there is any potentially essential patent that people are aware of and if there are any questions.

No potentially essential patents reported and no questions asked.

Minyoung reminds about sending an email to the secretary to record the attendance.

Minyoung goes through the announced presentations to check so that the presenters are on the call. Enrico, Suhwook, and Jeongki confirm they are on the call.

**Presentations:**

**11-17/0936r0 “Integration of WUR to Power Save Mode,” Enrico Rantala (Nokia):** The presentation is concerned with how to integrate the WUR with the power management scheme already available in 802.11.

**Question/Comment (Q):** Referring to page 5, the STA needs to send a power management switch frame every time it switches state?

**Answer (A):** Yes, but this is not expected to happen very often. If a STA has the WUR capability, it is expected to be in the PS WUR ON state.

**Q:** Just a comment. We had a related presentation in the May meeting.

**11-17/0630r0 “SFD proposal on retransmission,” Suhwook Kim (LG):** The contribution is about retransmissions in case the wake-up packet is for multiple WURs. Because a lack of response to a wake-up packet can be either because the wake-up signal was not received or because the packet to the main radio fails (Trigger frame of PS-poll), one may choose to retransmit either the wake-up packet or the Trigger frame. The proposal is to retransmit the wake-up packet.

**Q:** On page 15 you state that this is about reduce latency as well as power consumption, but I do not believe this is about latency.

**A:** I agree.

**11-17/0657r1 “AP re-discovery by WUR STA,” Jeongki Kim (LG):** The presentation is about what a STA should do when it has not received any wake-up packets for a specific period.

**Q:** I believe the procedure you describe is already allowed, so it is not clear if we need to specify anything.

**Meeting is adjourned at 0:10 am (ET).**

**List of Attendees:**

|  |  |  |
| --- | --- | --- |
|  | Name | Affiliation |
| 1 | Minyoung Park | Intel |
| 2 | Leif Wilhelmsson | Ericsson |
| 3 | Yunsong Yang | Huawei |
| 4 | Jinsoo Ahn | Yonsei University |
| 5 | John Notor | Notor Research/ARM Inc. |
| 6 | Jason Lee | ETRI |
| 7 | Peter Loc | Huawei |
| 8 | Enrico-Henrik Rantala | Nokia |
| 9 | Woojin Ahn | WILUS |
| 10  | Po-Kai Huang | Intel |
| 11 | Jeongki Kim | LG |
| 12 | Suhwook Kim | LG |
| 13 | Eunsung Park | LG |
| 14 | Hanseul Hong  | Yonsei University |
| 15 | Lei Huang | Panasonic |
| 16 | Rojan Chitrakar | Panasonic |