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| Minutes of IEEE 802.1 OmniRAN TG Meeting in San Antonio, TX |
| **Date: November 30th , 2016** |
| **Author(s):** |
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## Abstract

Minutes of the IEEE 802.1 OmniRAN TG meeting at the IEEE 802 Plenary Meeting in San Antonio on November 7-10, 2016

# Monday, November 7th, 2016

Chair: Max Riegel

Recording secretary: Walter Pienciak

## Call to order

* Meeting called to order by Max Riegel at 16:02 hrs.
* Meeting was guided by the slides uploaded and maintained by the chair:
<https://mentor.ieee.org/omniran/dcn/16/omniran-16-0077-00-00TG-nov-2016-f2f-meeting-slides.pptx>

## Minutes

* Walter Pienciak volunteered to take notes.

## Attendance

* IEEE 802.1 meeting IMAT page was used for recording of attendance
* Participants

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| **Name** | **Affiliation** |
| Max Riegel | Nokia Bell Labs |
| Walter Pienciak | IEEE |
| Wang Hao | Fujitsu |
| Yonggang Fang | ZTE TX |
| Roger Marks | EthAirNet Assoc. |
| Patrick Slaats | IEEE SA |
| James Lepp | Blackberry |
| AJung Kim | Sejong |
| Lily Hu | Huawei |
| Yinliang Hu | Huawei |
| Hao Chen | Huawei |
| Michael Fischer | NXP Semiconductor |
| Hyeong-Ho Lee | ETRI |
| Mick Seaman | self |

## IEEE WG Guidelines

* The chair presented the mandatory IEEE SA guideline slides and asked for anybody willing to make an IPR announcement.
* No IPR declarations were brought up.

## Agenda approval

* Agenda as proposed in the chair’s meeting was presented and discussed.
* Review of minutes
* Reports
* Result of TG ballot of P802.1CF-D0.3
* Comments’ database
* Comments’ resolution on P802.1CF-D0.3
* Revised and new P802.1CF contributions
* Contributions proposing new content
* Contributions to Industry Connections activity (5G SC Action A)
* Plan for 802.1CF-D0.4 draft
* Open issues to be addressed by next revision
* Plan and timeline for next revision
* External review of 802.1CF
* Presentation on IETF-97 (Seoul, Korea, Nov 13-18)
* Other groups
* Status report to IEEE 802 WGs
* AOB
* Agenda approved without further comments.
* In addition to its business for the week, OmniRAN TG scheduled a special session on Wednesday, November 9th, 1600-1800 for discussions on the 5G SC Action A. The special session was guided through a separate slidedeck <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0082-00-5gaa-nov-9-special-session-on-5g-sc-action-a.pptx>
* Short minutes of the special session are contained at the end of this document.

## Schedule of the topics during the week

* Group agreed to arrange the discussion topics according to the following plan over the week:

***Monday***

* Review of minutes
* Reports
* Result of TG ballot of P802.1CF-D0.3
* Comments’ database
* Comments’ resolution on P802.1CF-D0.3
* Section 7.1

***Tuesday***

* Comments’ resolution on P802.1CF-D0.3
* Contributions to Industry Connections activity (5G SC Action A)

 ***Wednesday***

* Comments’ resolution on P802.1CF-D0.3
* Revised and new P802.1CF contributions
* Contributions proposing new content

 ***Thursday***

* External review of 802.1CF
* Presentation on IETF-97 (Seoul, Korea, Nov 13-18)
* Other groups
* Comments’ resolution on P802.1CF-D0.3
* Section 8.1
* Section 8.3
* Plan for 802.1CF-D0.4 draft
* Open issues to be addressed by next revision
* Plan and timeline for next revision
* Status report to IEEE 802 WGs
* AOB

## Review of minutes

* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0075-00-00TG-oct-2016-confcall-minutes.docx>
* Chair shortly presented minutes.
* No comments raised on the minutes.

## Reports

* 5G Action A preparation
* Chair shortly explained the preparations and intentions for progressing the 5G SC Action A. A special session is planned for Wed PM2 providing further details on Industry Connections.

## Result of TG ballot of P802.1CF-D0.3

* 13 responses,
* 1 approve, 5 disapprove with comments, 7 abstain
* Comments’ database
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-00-CF00-802-1cf-d0-3-collected-comments.xls>
* 48 comments,
* 23 editorial, 25 technical

## Comments’ resolution on P802.1CF-D0.3

* Chair proposed to start comment resolution at chapter 7.1 due to limited availability of original author Yonggang only in Mo PM2 session. No opposition was raised.
* Max presented the presentation related to the overall restructuring of 7.1
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0079-00-CF00-chapter-7-1-restructuring.pptx>
* Group agreed with the approach proposed in the slides asking Max for submission of restructured text proposal
* Comment resolution continued with section 7.1 comments of Wang Hao. Results covered in the comments spreadsheet
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-01-CF00-802-1cf-d0-3-collected-comments.xls>

Recessed by chair at 18:05

# Tuesday, November 8th, 2016

Reconvened at 16:03

* Call for IPR: No response

## Contributions to Industry Connections activity (5G SC Action A)

* Chair presented draft meeting slides prepared for the Wed PM2 special session to receive feedback from the group on the proposed statements.
* Group supported the presented approach and provided proposals for enhancements to the meeting slides. Revised slides were uploaded to the mentor after the session including also links to the supporting documents prepared for the special session.
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0082-00-5gaa-nov-9-special-session-on-5g-sc-action-a.pptx>

## Comments’ resolution on P802.1CF-D0.3

* Group continued comment resolution starting from comment 1
* Resolutions captured in the updated comments spreadsheet
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-01-CF00-802-1cf-d0-3-collected-comments.xls>
* Hao Wang recommended to arrange for an additional session on Thu AM1 to enable to cover more of the submitted comments during the F2F meeting. The chair offered to get in contact with the meeting organizers to arrange the additional session.

Recessed by chair at 18:00

# Wednesday, November 9th, 2016

Reconvened at 13:30

* Call for IPR: No response
* Chair informed the group that there is another session on Thu AM1 in Travis CD and proposed to make use of the session to conclude on the slideset for the IETF-97 the following week in Seoul, Korea.

## Comments’ resolution on P802.1CF-D0.3

* Wang Hao presented his findings regarding cognitive spectrum management capabilities of IEEE 802.22
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0085-00-CF00-investigation-report-on-802-22-2011.pptx>
* Having better understanding of the spectrum management capabilities in 802.22 the group continued comment resolution on section 7.1.2
* Resolutions captured in the updated comments spreadsheet
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-01-CF00-802-1cf-d0-3-collected-comments.xls>

Recessed by chair at 15:30

# Thursday, November 10th, 2016

Reconvened at 8:10

* Call for IPR: No response

## External review of 802.1CF

* Presentation on IETF-97 (Seoul, Korea, Nov 13-18)
* Chair provided introduction to the background of the P802.1CF presentation to the IETF in Seoul and brought up a prepared draft for review and revision.
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0087-00-00TG-brief-introduction-to-p802-1cf.pptx>
* The group went over the slides and proposed a number of edits for enhancement and clarification. The agreed result was uploaded to mentor under
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0087-01-00TG-brief-introduction-to-p802-1cf.pptx>
* Other groups
* The group discussed potential other groups to share the draft with for receiving further comments. The following groups were mentioned during the discussion:
* MEF when backhaul representation is more matured
* ONF - ???
* ETSI NFV – when virtualization section is more matured
* IEEE SDN initiative – get in closer contact to learn about latest status

## Comments’ resolution on P802.1CF-D0.3

* With Mick available in the session, his comment on the flaws regards authentication addressed an example message flow given for IEEE 802.11 in the SDN chapter. The chair invited Mick to review the normative section 7.4 on authentication and trust establishment, and provide comments for that section. Max will try to arrange a dedicated meeting with Mick in the upcoming interim meeting to go over the section 7.4.

## Plan for creation of P802.1CF-D0.4 draft

* Open issues to be addressed by next revision
* The chair provided his views on the maturity of the draft for going WG ballot. He explained that the current draft has considerable ambiguities and opens regards the definition of the attributes, as well as the references to the existing IEEE 802 standards.
* Various ways to provide references were discussed and there was agreement that the example available in section ‘7.3 Association and Deassociation’ may be the most appropriate to provide meaningful information with a reasonable effort to determine the references. Discussion also brought up that stating the references to particular editions of the standards may be most robust. Standards may change any time through amendments and revisions potentially leading to renumbering of the sections.
* Plan and timeline for next revision
* Potential timeline for resolving of the most severe issues was discussed and the group came to the conclusion that creation of D0.4 after the Atlanta interim may be the earliest date.
* Concerns were raised that the current timeline for the project may lapse by a couple of months.

## Revised and new P802.1CF contributions

* Network instantiation
* Max presented a revision of his slides containing an introduction of the network slicing requirements of NGMN.
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0071-01-CF00-key-concepts-of-an-instantiation.pptx>
* During discussion it become evident that the NGMN terminology is not appropriate for IEEE 802 and better terminology was discussed and agreed.
* There was consensus that the NGMN requirement of sub-network instances being able to serve multiple network instances should not pursued for the time being.
* The concept of sub-networks serving multiple network instances could be realized by Provider Bridging, however specification such capabilities requires further discussions.
* The principles propose in the presentation were agreed to become base of the network instantiation chapter
* Deployment scenarios for home networks
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0067-02-CF00-deployment-scenarios-for-home-network.docx>
* Hao Wang presented the changes introduced in the latest revision to accommodate the comments raised in last conference call.
* Group agreed that revised version reflect expectations and contribution is ready for inclusion in next revision of draft.

## Status report to IEEE 802 WGs

* Chair drafted slides for review and agreement within the group. The reviewed and revised slides were uploaded by the chair after the session:
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0088-00-00TG-nov-2016-report-to-802-wgs.pptx>

## AOB

* Motion to the closing 802.1 plenary
* The following motions to the 802.1 closing plenary were unanimously agreed by the group:
* Conference calls on Dec 6th (5GAA) and Dec 13th (P802.1CF)
* Further conference calls between Jan and Mar with 10 days prior announcement on the 802.1 mailing list.

Meeting adjourned by chair at 12:37.

# Special session on 5G SC Action A

# Wednesday, November 9th, 2016

Chair: Max Riegel

Notes: Hao Wang

## Call to order

* Chair called meeting to order at 16:00
* Chair used guiding slideset for introduction and entertaining the discussions: <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0082-00-5gaa-nov-9-special-session-on-5g-sc-action-a.pptx>
* Attendance
	+ IEEE 802.1 meeting IMAT page was used for recording of attendance
* Roughly 20 people in the room. No remote participation enabled.

## IEEE WG Guidelines

* The chair presented the mandatory IEEE SA guideline for pre-PAR activities.

## Agenda approval

* Agenda for the special session as proposed in the guiding slides was introduced by the chair. He pointed out that Paul Nikolich asked for a timeslot to discuss the 3GPP response to the IEEE 802 liaison.
* Introduction
* 5G SC Action ‘A’ (Max)
* (4:15pm) 3GPP response to IEEE 802 liaison letter (Paul)
* Update on IEEE 5G initiative (Patrick)
* IEEE SA Industry Connections (John)
* Industry Connections Activity Initiation Document (ICAID)
* Going forward
* AoB
* There was no opposition to adopt the agenda for the session.

## 5G SC Action A

* The chair provided a short introduction into the history and scope of the activity by going through the slides contained in the guiding meeting slides and providing a recap of the 5G SC conclusions.
* He brought up on slide 8 a statement to describe better the target of the 5G SC Action A. Several edits were introduced during the discussion of the statement in the group spelling out that the intention is to create specifications for 5G-like communications outside of the domain of 3GPP. The agreed text:
* *“IEEE next generation communication infrastructure specifications that support enhanced broadband, massive machine type communication and ultra-reliable and low latency communications not belonging to mobile networks”*
* The promising features in scope of the future specification should not limited by the mentioned three. These are just used as a basis to provide a clear vision for the customers.
* No conclusion was reached for an attractive abbreviation. The proposed ‘IEEE ngci’ did not find unanimous consent.
* Potential customers for this initiative may be MSOs, FNOs, or hotspot operators, but there would be also an option to focus more on verticals as such segmentation has already been done by IEEE SA among the widespread standardization topics in IEEE SA. The initiative should not address those requirement coming from the mobile operators who are using WLAN as offload. The ‘vertical’ applications will be considered in high priority in IC, because these industries already use IEEE techniques in business. Most of the vertical segments as listed on slide 9 already mention IEEE 802 as potential networking technology.
* Updated meeting slides capturing the discussions were uploaded after the call: <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0082-01-5gaa-nov-9-special-session-on-5g-sc-action-a.pptx>

## Update on IEEE 5G Initiative

* Patrick provided a short update on the IEEE 5G initiative by presenting <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0086-00-5gaa-report-on-5g-initiative-activities-for-omniran.pptx>
* He explained that currently, there is no time frame for 5G initiative activities.

## IEEE SA Industry Connections

* John presented his slides and provided a thourough introduction into Industry Connections as used by 802.3
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0083-00-5gaa-use-of-industry-connections-in-ieee-802.pptx>
* In particular he pointed out:
* Deliverable could be quite general in the ICAID document.
* The method to get industry involved is quite flexible; various options like summit, workshops and even tutorial session in plenary or interim could work. According to agreement in IEEE 802, such activities have to be individual based.
* In order to get clear requirements from IC, the scope of the topic addressed by IC should not be too broad.
* Usually, the big contributors from industry will be used to follow the standardization process to submit their requirements. Finally, it is up to IEEE 802 to decide which requirements will be addressed and how to do that.
* Information retrieved from IC may also be useful for other WGs.

## 3GPP response to IEEE 802 liaison letter

* Paul stepped in and entertained a discussion on the response of 3GPP received in response to the IEEE 802 liaison letter. This discussion did not directly address the 5G SC Action A, but was held for the purpose to have all the potentially interested people in the loop.
* Some key points raised in the discussion:
* Paul will draft a response and present in January F2F meeting.
* 3GPP is an entity based organization, while IEEE is individual based, it will be tricky to send reprehensive to 3GPP meetings on behalf of 802 and it will too much travel for the responsible person.
* 3GPP doesn’t allow person to speak with multiple identities, they must speak for their company.

## Industry Connections Activity Initiation Document (ICAID)

* An draft ICAID was made available by the chair based on input from former 802.3 initiated ICAIDs:
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0084-00-5gaa-draft-icaid-for-5g-sc-action-a.doc>
* John provided a commented revision of the ICAID pointing out issues and concerns for further discussion:
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0084-01-5gaa-draft-icaid-for-5g-sc-action-a.doc>
* Due to running out of time, discussion of the draft ICAID was postponed to the next meeting.

## Next steps

* A teleconference will be scheduled to progress discussions
* December 6th, 9:30-11am ET
* Topics:
* IEEE SA presentation on Industry Connections
* Progress ICAID text proposal
* Next F2F meeting: Atlanta, Jan 2017
* Session as usual on Wed, PM2

## AOB

* None

The chair adjourned the meeting at 18:02.