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| Minutes of IEEE 802.1 OmniRAN TG Meeting in Atlanta, GA |
| **Date: January 31st, 2016** |
| **Author(s):** |
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## Abstract

Minutes of the IEEE 802.1 OmniRAN TG meeting at the IEEE 802 Interim Meeting in Atlanta on January 16-19, 2017

In addition to its regular business for the week, OmniRAN TG scheduled a special session on Wednesday, January 18th, 1600-1800 for discussions on the 5G SC Action A.

* The special session was guided through a separate slideset
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0003-01-5gaa-jan-18-session-on-5g-sc-action-a.pptx>
* Minutes of the special session are uploaded to mentor
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0012-00-5gaa-jan-18th-5gaa-f2f-meeting-minutes.docx>

# Monday, January 16th, 2017

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/17/omniran-17-0002-03-00TG-jan-2017-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 |
| Su Yi | Fujitsu |
| Hyeong-Ho Lee | ETRI |
| Paul Nikolich | 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
* Contributions to Industry Connections activity (5G SC Action A)
* Comments’ resolution on P802.1CF-D0.3
* Revised and new P802.1CF contributions
* Plan for 802.1CF-D0.4 draft
* Plan and timeline for next revision
* Conference calls until March F2F
* Status report to IEEE 802 WGs
* AOB
* Agenda approved without further comments.

## Schedule of the topics during the week

* Chair discussed availabilities of the contributors and preferences to discuss the various topics. The 5GAA related contribution will be discussed on Tue PM2.
* Group agreed to arrange the discussion topics according to the following plan over the week:
* ***Monday***
* Review of minutes
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0096-00-00TG-dec-13th-2016-confcall-minutes.docx>
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0090-00-00TG-nov-2016-f2f-meeting-minutes.docx>
* Reports
* Comments’ resolution on P802.1CF-D0.3
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-02-CF00-802-1cf-d0-3-collected-comments.xls>
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0073-00-CF00-virtual-access-network-instantiation.docx>
* ***Tuesday***
* Comments’ resolution on P802.1CF-D0.3
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0004-00-CF00-chapter-7-1-restructuring.docx>
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0005-00-CF00-chapter-7-1-text-revision.docx>
* Contributions to Industry Connections activity
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0008-00-CF00-p802-1cf-perspective-on-industry-connections-activity.pptx>
* ***Thursday***
* Comments’ resolution on P802.1CF-D0.3
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-02-CF00-802-1cf-d0-3-collected-comments.xls>
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx>
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0080-00-CF00-section-7-5-7-revision-proposal.docx>
* Revised and new P802.1CF contributions (Contributions proposing new content)
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0006-00-CF00-mapping-accounting-and-monitoring-to-ieee-802-technologies.docx>
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0007-00-CF00-mapping-fdm-to-ieee-802-technologies.docx>
* Plan for 802.1CF-D0.4 draft
* Plan and timeline for next revision
* Conference calls until Mar F2F
* Status report to IEEE 802 WGs
* AOB

## Review of minutes

* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0096-00-00TG-dec-13th-2016-confcall-minutes.docx>
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0090-00-00TG-nov-2016-f2f-meeting-minutes.docx>
* Chair quickly went over minutes and asked for comments.
* No comments were raised to either of the minutes.

## Reports

* IEEE 5G related actions
* Chair shortly reported about ongoing activities with IEEE SA to document 5G related standardization efforts. <http://5g.ieee.org/> was presented as common portal of IEEE SA to present its 5G related activities. P802.1CF showed up under the ongoing standardization projects.
* Paul Nikolich currently collects further details on ongoing 5G related standardization activities.

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

* Chair brought up latest status of comments database to check for remaining open comments.
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-02-CF00-802-1cf-d0-3-collected-comments.xls>
* Chair explained that comments related to section 7.1 might be closed as part of presentation and discussion of restructured and revised text. Remaining open comments should be discussed and resolved during the meeting.
* Discussion of text proposal to address deficiencies of section 8.3
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0073-00-CF00-virtual-access-network-instantiation.docx>
* Proposed text contributed by Yonggang was brought up for presentation and discussion. Text was reviewed and jointly edited to reach consensus on the scope and description of the section 8.3 on AN instantiation.
* Terminology was modified per consensus document of previous meeting:
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0071-01-CF00-key-concepts-of-an-instantiation.pptx> was discussed and agreed in the previous F2F meeting.
* Recommendation was made to introduce the basic terminology on virtual AN vs. virtualized AN, as well as the concept of an instance created from a template.
* Hao Wang noted, that there was agreement in the November meeting not to address subnetwork instances, as mentioned in the NGMN whitepaper on network slicing. The slides also confirmed, that network functions denote entities of the NRM which carry forward Ethernet frames, i.e. TE, NA, BH, and AR.
* Consensus was reached that instantiation is initiated out of the OSS of the AN operator, and instantiation is performed by an Orchestrator, which might reside outside of the domain of the AN operator. When issuing the instantiation of a new AN, the AN operator establishes an NMS, to which the newly created AN instance in associated with, and which initiates the network initialization as defined in chapter 7.1
* Running out of time for further edits to the document, it was concluded to stop the discussion on the contribution and to come back later, when the schedule allows for it.
* The chair offered to create a text proposal for the addition of the definitions to chapter 6.7, as well as to create alternative version of the figure on slide 14 of omniran-16-0071-01-CF00-key-concepts-of-an-instantiation.pptx showing more functional details within the Infrastructure Provider.

Recessed by chair at 18:05

# Tuesday, January 17th, 2017

Reconvened at 13:35

* Call for IPR: No response

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

* Wrap-up of previous day’s discussions on Virtualized network instantiation
* Max brought up the revision of the chapter 6.7 incorporating the essential basic architectural conclusions of the Monday’s discussions:
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0009-00-CF00-chapter-6-7-network-virtualization-amendment.docx>
* Discussion showed that most aspects have been well covered by the amendments to the text and by insertion of the roles figure. Some further refinements are necessary to describe the communication between Orchestrator and CIS, to allow for dynamic changes to the resource allocations. A likely solution would be to pull-in the CIS to the BSS/OSS.
* Max was asked for creating a revision to address the open issues.
* Revision of chapter 7.1
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0004-00-CF00-chapter-7-1-restructuring.docx>
* Max presented the document and showed how the text of chapter 7.1 was moved to arrange for the new outline as discussed and agreed through the presentation in the November F2F:
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0079-00-CF00-chapter-7-1-restructuring.pptx>.
* Max explained that he introduced no further edits but only moved text portions to their new locations.
* The group agreed with the restructured text but acknowledged that the text needs a revision for cleaning up.
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0005-00-CF00-chapter-7-1-text-revision.docx>
* Following the acceptance of the new arrangements, Max presented his proposed revision to the text as highlighted in the document. The first subsections setting the scene for the description of the detailed procedures underwent major rewriting, while the later subsections with the specific details could be kept with only the change from ASA to TV WS.
* Hao Wang remarked that Use cases and Functional requirements require further rearrangements. Content in the use cases effectively belong to the functional requirements, while the description of the use cases is ambiguous. Only 3 use cases should be listed (Initialization without modifications to the radio settings, Operation in unlicensed spectrum with automatic channel selection, and Operation in TV WS.
* Hao Wang will create a further revision introducing the discussed refinements and further edits. The new revision will be reviewed on Thursday morning for inclusion in the next draft.

## Revised and new P802.1CF contributions (Contributions proposing new content)

* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0006-00-CF00-mapping-accounting-and-monitoring-to-ieee-802-technologies.docx>
* Hao Wang presented his document with amendments for the subsection on mapping to IEEE 802 technologies. The very comprehensive text was highly appreciated by the group, and the editor was asked to represent the multi-columns table in landscape format to avoid breaking of the MIB attribute names.
* The text was agreed for inclusion in the next revision.

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

* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0008-00-CF00-p802-1cf-perspective-on-industry-connections-activity.pptx>
* Max presented his thoughts regarding the scope and targets of the Industry Connections activity. He brought up the potentials of IEEE SA support to determine enhanced engagement in IEEE 802 by consumers of IEEE 802 technologies from vertical applications.
* Paul requested to deliver for approval of the ICAID a proof of concept for finding new engagements in IEEE 802 standardization.
* Max opposed by bringing up that such proof of concept would be the task of the Industry Connections.
* Patrick mentioned that such cross-linking between standardization domains is a new, but promising concept for IEEE SA, and has much likelihood to delivery good results.
* Roger brought up, that the ICAID should define a kind of project with well-defined deliverables and a defined life-time. Patrick was more in favor of establishing an ongoing activity, which would manage engagement out of the verticals over longer time.
* Paul wondered, who would be able to lead the IC, in particular, act as evangelist to motivate all the involved parties to openly cooperate with each other’s.
* Max brought up a couple of questions, what special role P802.1CF would play in the Industry Connections activity, and which additional efforts would be necessary to create supporting marketing material for P802.1CF.
* Hao wondered whether the presented slides will be presented in Wednesday’s special session.
* Max responded that the special session is aimed for ICAID discussions. The presented slides were created to initiate looking-ahead discussions in P802.1CF.

Recessed by chair at 18:00

# Thursday, January 19th, 2017

Reconvened at 8:10

* Call for IPR: No response

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

* [https://mentor.ieee.org/omniran/dcn/17/omniran-17-0009-01-CF00-chapter-6-7-network-virtualization-amendment.docx](https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx)
* Max presented his revision to the amendment proposal to section 6.7 on virtualized access network instantiation. Main modification was pulling in CIS into BSS/OSS of the AN operator in the figure on roles of network instantiation. The revised figure better fits with the conceptual assumption that CIS is the interface changes to resource allocations.
* The revised text was agreed for inclusion into D0.4.
* [https://mentor.ieee.org/omniran/dcn/17/omniran-17-0005-02-CF00-chapter-7-1-text-revision.docx](https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx)
* Hao explained his amendments to the revision text for chapter 7.1. Even the acronym ‘ASA’ does not exist anymore, there is no full consistency yet, when to use ‘authorized shared access’ and when to use ‘TV WS’.
* A few small modifications were introduced to the text during the discussions to provide better clarity, but a final clean-up of the terminology is still pending.
* [https://mentor.ieee.org/omniran/dcn/17/omniran-17-0005-03-CF00-chapter-7-1-text-revision.docx](https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx)
* Furthermore, the Use Cases section still requires further input after Hao moved out all text belonging to functional requirements to that section. Currently two use cases on network initialization and on network reconfiguration are mentioned, but Max proposed to add network teardown to the use cases, as a multistep procedure is required for orderly switching off the access network.
* It was agreed to include version -03 of the text revision to the draft D0.4 to establish a sound base for further comments.
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0080-00-CF00-section-7-5-7-revision-proposal.docx>
* Max presented his proposal for the specification of the detailed procedures for data path setup, relocation and teardown. Establishment directly follows the access authentication procedure with the authorization message from the SS providing the configuration details for the data path.
* Max confirmed to Hao, that in the case of 802.11 there are not many configuration parameters as most of the data path (link) is configured as part of AN initialization. However, for technologies like 802.16 with ptp links for each of the terminals, much more configuration data is propagated from SS to ANC.
* Only make-before-break has to be addressed for relocation the data path, as break-before-make is just a data path teardown followed by a data path set-up. The presented relocation procedure assumes that the target NA can be reached through the established link to the previous NA. Presented procedure should be checked against 802.11r and 802.16, which both provides the possibility for make-before-break.
* Inclusion of the text into draft D0.4 was agreed.
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx>
* The document submitted by Antonio addressing all the comments to chapter 8.1 were jointly reviewed.
* Comments have been addressed as agreed in the December 6 conference call, however the last figure still demands some more edits to sufficiently address Mick Seaman’s comment.
* A note was added to the proposed text revision to not forget the further modifications to the last figure.
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-01-CF00-answer-to-chapter-8-1-comments.docx>
* It was agreed to adopt the document with the note will be adopted to the draft D0.4.
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-02-CF00-802-1cf-d0-3-collected-comments.xls>
* The comments spreadsheet was reviewed after going through all contributions containing major changes to the specification text.
* With the acceptance of all the contributions mentioned before, the comments on D0.3 are completely resolved, which was documented in a revision to the comments spreadsheet.
* [https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-03-CF00-802-1cf-d0-3-collected-comments.xls](https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx)

## Revised and new P802.1CF contributions (proposing new content)

* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0007-00-CF00-mapping-fdm-to-ieee-802-technologies.docx>
* Hao presented his proposal to fill in text for the mapping to 802 technologies for the FDM section.
* The first table contains references to the sections in the various specifications comprising procedures, functions and attribute definitions for FDM. A second table lists the main MIB attributes of the various specifications related to FDM. The editor was asked to represent the second table in landscape format to avoid the breaking of the MIB attribute names.
* Hao’s proposal was well received and it was agreed to add it to the draft D0.4.

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

* After completion of review of all contributions of the week, the content to be added to the 802.1CF-D0.4 draft was discussed and agreed.
* The following contributions are ready to be adopted to draft D0.4:
* [https://mentor.ieee.org/omniran/dcn/16/omniran-16-0081-03-CF00-802-1cf-d0-3-collected-comments.xls](https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx)
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0067-02-CF00-deployment-scenarios-for-home-network.docx>
* [https://mentor.ieee.org/omniran/dcn/17/omniran-17-0009-01-CF00-chapter-6-7-network-virtualization-amendment.docx](https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx)
* [https://mentor.ieee.org/omniran/dcn/17/omniran-17-0005-03-CF00-chapter-7-1-text-revision.docx](https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-00-CF00-answer-to-chapter-8-1-comments.docx)
* <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0080-00-CF00-section-7-5-7-revision-proposal.docx>
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0001-01-CF00-answer-to-chapter-8-1-comments.docx>
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0006-00-CF00-mapping-accounting-and-monitoring-to-ieee-802-technologies.docx>
* Landscape for MIB attribute table
* <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0007-00-CF00-mapping-fdm-to-ieee-802-technologies.docx>
* Landscape for MIB attribute table
* Timeline for 802.1CF-D0.4 draft
* Ready for internal review in the next P802.1CF conference call (February 7th)
* Walter collects issues during the editing process and will bring up the list of issues during the call for resolution. The final version will become available a few days after the call.
* Recirculation going into Vancouver meeting
* Comments submission deadline on March 9th
* Envisioned input to P802.1CF to be addressed at the Vancouver meeting:
* Further contributions on the mapping to 802 technologies
* Comments on D0.4
* Step into discussions about data modeling (UML, YANG)

## Conference calls until Mar F2F

* The group discussed the topics and timeline of forthcoming conference calls
* Call on ICAID: January 31st
* Call was already agreed in ICAID conference call on December 6th.
* To have a fall-back solution for the case that the discussion on the ICAID text cannot be concluded on January 31st, the group decided to have another call shortly after with ICAID discussions on the proposed agenda.
* If ICAID discussions conclude as planned on January 31st, only a report on the ICAID conclusion will be given in the second call.
* Call on ICAID leftover & D0.4 editorial review: February 7th
* Tuesday, 09:30AM ET, 90 mins
* The chair will send out invitations for both calls on the IEEE 802.1 mailing list, as well as provide the information on the OmniRAN TG Wiki page on mentor.

## 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/17/omniran-17-0011-00-00TG-jan-2017-report-to-802-wgs.pptx>

##  AOB

* None.

Meeting adjourned by chair at 12:28.