**IEEE 802.1 OmniRAN TG**

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| **Minutes of IEEE 802.1 OmniRAN TG Meeting in Berlin, Germany** |
| **Date:** March 09 - 12, 2015 |
| **Author(s):** |
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**Abstract**

Minutes of the IEEE 802.1 OmniRAN TG meeting from face to face meeting in Berlin, Germany.

**Monday, March 9th, 2015**

Chair: Max Riegel

Recording secretary: Walter Pienciak

**Call to order**

* Meeting called to order by Max Riegel at 15:00 hrs (CET).

**Attendance**

* Attendance was recorded by registering to the IEEE 802.1 meeting IMAT page.
* It was noted that IMAT structure is not well aligned to the wireless groups making it difficult for OmniRAN participants to claim reciprocal attendance credits in wireless groups.
	+ Max will discuss with 802.1 chair how better alignment in IMAT can be created.
* Roll call

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| **Name** | **Affiliation** |
| Max Riegel | Nokia Networks |
| Juan Carlos Zuniga | InterDigital |
| Walter Pienciak | IEEE-SA |
| Yonggang Fang | ZTE |
| Roger Marks | EthAirNet Associates |
| Hesham Elbakoury | Huawei |
| Glenn Parsons | Ericsson |
| Antonio de la Oliva | UC3M |
| Charlie Perkins | Futurewei |
| Xuaowu Zhao | ZTE |
| Lu Huang | China Mobile |
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**IEEE WG Guidelines**

* The chair presented the mandatory IEEE SA guideline slides and asked for anybody willing to make an IPR announcement.
* No IPR declaration was raised.

**Minutes taker**

* Walter Pienciak volunteered to take notes.

**Agenda approval**

* Agenda as proposed in the chair’s meeting slides:
	+ <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0011-00-00TG-mar-2015-f2f-meeting-slides.pptx>
		- Review of minutes
		- Reports
		- SDN & NFV status update
		- P802.1CF contributions
			* Network reference model
			* Backhaul representation
			* Fronthaul representation
			* SDN Abstraction
			* Functional design and decomposition
		- Project planning
		- Publicity activities
		- Status report to IEEE 802 WGs
		- AOB
	+ The proposed agenda was approved. However it was agreed not to follow the listed sequence but to rearrange the sequence to accommodate the availabilities of the presenters and interested participants.
	+ Topic arrangements over the week
		- Mo PM2: Network reference model
		- Tue PM1: Privacy engineered access networks
		- Tue PM2: SDN status update
		- Wed PM2: SDN abstraction and AN set-up
		- Thu AM2: Project planning, publicity, status report, closing
	+ To allow for participation in the Local Address SG comment resolution, the OmniRAN Wed PM1 session was canceled.

**P802.1CF Network reference model**

* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0008-02-CF00-nrm-refinements.pptx>
	+ No final conclusion about the content of the R8c/R1c reference point in relation to the R1d reference point
		- What functionality belongs to the “data path” reference point?
	+ Agreement reached that R1 and R3 should become symmetric, as both may be either wired or wireless
		- No conclusion about which label should be used for R3c; group did not like the idea to introduce 2-digit reference point indices, i.e. R10c
* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0014-00-CF00-revision-proposal-of-omniran-14-0083.docx>
	+ Edits presented to the group, but no final conclusion was reached, as no conclusion was reached either for treating the reference points between TEC – ANC – CNC, nor on replacement of term “Core Network”
	+ Introductory section appreciated, as well as presentation of fewer variations. More details required on treating control interfaces as well as definition of functional content of data path interfaces.
* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0013-00-CF00-r9c-reference-point-discussion.pptx>
	+ Usage of “Core network” for the endpoint of the data path leads to ambiguities regards location of CIS
		- Chair proposed to look for other term replacing “Core Network,” e.g. by “Network Service”
	+ It remains unclear to which 802.19.1 interface the R9c reference point refers. Further clarifications necessary.
* Meeting recessed at 17:50 hrs (CET)

**Tuesday, March 10th, 2015**

* Meeting reconvened at 13:40 hrs (CET)

**Review of minutes**

* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0007-00-00TG-january-2015-f2f-meeting-minutes.docx>
	+ No comments brought up on the meeting minutes of the Jan 2015 F2F meeting.
* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0010-00-00TG-february-10th-confcall-meeting-minutes.docx>
	+ No comments brought up on the meeting minutes of the Feb 10th conference call.

**Reports**

* Introduction of OmniRAN to WBA (<http://www.wballiance.com/>)
	+ <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0012-00-00TG-omniran-p802-1cf-introduction-to-wba.docx>
	+ Max provided some background information about the WBA project, to which the OmniRAN description was contributed.
	+ The presented document is a revision of an initial contribution addressing comments from WBA on relation to generic SDN models, applicability and mapping of reference points to Wi-Fi hotspot networks, and usability despite keeping the IP layer out of scope.
* Introduction of OmniRAN to IEEE 1904.2 (<http://www.ieee1904.org/index.shtml>)
	+ <http://www.ieee1904.org/2/meeting_archive/2015/02/tf2_1502_elbakoury_3.pdf>
	+ Hesham introduced his presentation to 1904.2, explaining that 1904.2 is seeking a network model to describe its functionality in a more generic way
	+ OmniRAN model may fit, as both efforts are addressing networks with Ethernet user plane
	+ Questions regards operator approval and operator involvement were answered
		- Participants affiliated with operators have participated in the establishment of P802.1CF and are participating in the discussions.
		- Operators may participate in the approval process of the specification by following the usual IEEE SA procedures. However, OmniRAN is aimed for a generic approach for all kind of access networks including home, enterprise, and operator. Therefore it’s not directed only at operators.

**P802.1CF Functional design and decomposition**

* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0015-00-CF00-privacy-engineered-access-network.pptx>
	+ Presentation was well received, and led to discussion how this proposal relates to the aims of the PRIV ECSG to establish generic privacy efforts in each and any IEEE 802 standard
	+ Juan-Carlos asked for presentation in PRIV ECSG to show other participants how individual projects may address privacy issues.
	+ There was unanimous agreement that P802.1CF should follow the proposed procedure, in particular as necessary work can be added toward the end of the project within an annex.

**SDN & NFV status update**

* SDN Practice of China Mobile
	+ <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0016-00-wsdn-sdn-practice-of-china-mobile.pdf>
	+ Presentation introduced deployment of SDN within the network of CMCC and raised the question whether OmniRAN would fill the need for models for access, backhaul, and data-center networks.
	+ The chair responded that OmniRAN will fully address the missing model for access, and potentially also for major portions of backhaul, as P802.1CF embeds backhaul as an opaque container into its access network model.
	+ CMCC is welcome to contribute its requirements and specification proposals to the P802.1CF project
* ONF update by Charlie Perkins
	+ <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0021-00-CF00-onf-wmwg-update.pptx>
	+ Charlie provided an update on ONF explaining the current shift of focus and reorganization as a consequence to the fact that OpenFlow has not been deployed yet in any real network. Furthermore one of the founders publically explained that OpenFlow is not well suited for carrier networks due to its origin in the data center networking.

* Meeting recessed at 17:30 hrs (CET)

**Wednesday, March 11th, 2015**

* Meeting reconvened at 16:00 hrs (CET)

**SDN Abstraction**

* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0019-00-CF00-omniran-sdn-chapter-contribution-slides.pptx>
* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0018-00-CF00-omniran-sdn-chapter-contribution.docx>
	+ Antonio introduced first the basic concepts by making use of the slides and subsequent presented the text proposal.
	+ Participants showed confidence with the presented material, but further review will be necessary for final acceptance.

**Functional design and decomposition**

* <https://mentor.ieee.org/omniran/dcn/14/omniran-14-0078-02-CF00-updated-text-for-an-setup.docx>
	+ Yonggang presented the new revision of the text on access network set-up.
	+ New revision follows the generic chapter structure but still exposes some repeated material on the network reference model.
	+ No conclusion was reached on the scope of the section. It was raised that AN setup may comprise much more than just dynamic spectrum assignment.
	+ Furthermore extensive discussions took place about the mapping of 802.19.1 on the NRM without final conclusion.
* Meeting recessed at 17:50 hrs (CET)

**Thursday, March 12th, 2015**

* Meeting reconvened at 10:30 hrs (CET)

**P802.1CF Network Reference Model**

* Architectural alignment between OmniRAN and split MSO network models
	+ Hesham was seeking for information regards MSO architectural alignment
	+ <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0017-00-CF00-distributed-access-architectures.pptx>
	+ Max explained how the OmniRAN P802.1CF NRM would be used to model the various MSO architectural models. However P802.1CF is not directly applicable as MSO networks deploy non-IEEE 802 technologies for the transport of Ethernet frames.

**Project planning**

* Compile first draft at May Interim (May 20th-21st)
	+ Walter Pienciak volunteered to take over editor.
		- Confirmed by 802.1 chair Glenn Parsons
* 2 conference calls in preparation
	+ May 8th, 10AM (US/Eastern time)
	+ April 16th, 10AM (US/Eastern time)
* 1 conference call between May and July
	+ June 30th, 10AM (US/Eastern time)
* Outlook: LB estimate March 2016, SD estimate March 2017

**Publicity activities**

* OmniRAN introduction to WBA
	+ <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0012-00-00TG-omniran-p802-1cf-introduction-to-wba.docx>
* More documentation should be created to facilitate better understanding of P802.1CF value
	+ Work toward informative annex on mapping of P802.1CF to real networks
		- Wi-Fi hotspot networks
		- MSO architectures
		- DSL network
		- Virtualized networks (e.g., China Mobile model)
* Get OmniRAN listed on sdn.ieee.org
	+ Walter will help to get in contact with the people maintaining the IEEE SDN web portal
* Set up a wiki page listing public references to OmniRAN (articles, papers)
	+ Chair will set up a wiki page listing references to papers and documents mentioning OmniRAN TG activities.
		- Juan-Carlos and Antonio provided links to be listed on the OmniRAN publicity wiki page.

**Status report to IEEE 802 WGs**

* Chair drafted a couple of slides presenting the main achievements of the meeting.
* <https://mentor.ieee.org/omniran/dcn/15/omniran-15-0020-00-00TG-mar-2015-report-to-802wgs.pptx>
	+ Agreed by group

**AOB**

* Nothing brought up.

**Adjourn**

* Chair adjourned meeting at 12:10 hrs (CET)