# IEEE 1914 NGFI Working Group

## Sponsored by the IEEE Communications Society

**22-24 August 2016**

**Copenhagen, Denmark**

**Minutes**

**Chair: Jinri Huang**

**Co-Chair: Tazi Abdellah**

**Chief Editor: Jouni Korhonen**

**Chair of P1914.1: Bomin Li**

**Chair of P1914.3: Jouni Korhonen**

**Secretary: Zhou Zhen**

**Meeting Recorder: Zhou Zhen**

**Day 1, Monday, 22 August 2016**

1. **Call to Order**
* The meeting was called to order at 9:00 am.
* All present introduced themselves and declared their affiliation.
* A sign in sheet captured attendance each day.
* 14 voting member attended meeting. Quorum was not reached.

## Approval of Agenda

* Chair Huang presented the agenda, [*ngfi\_1608\_agenda\_2.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/ngfi_1608_agenda_2.pdf).
* **Motion#1:**

To approve the agenda for IEEE NGFI 1914 WG meeting in August 2016 as presented in “00 201608 ver 3 Agenda for IEEE NGFI August meeting.xls”

Moved by: Jouni Korhonen

Seconded by: Bomin Li

(procedural, required >50%)

Y: 27, N:0, A:0

(the meeting had no quorum so the motion has to be ratified later with an email motion)

## IEEE Patent Policy

* Chair Huang displayed the patent slides. A call for potentially essential patents was made at 9:15 am. No potentially essential patent claims were declared, and no holders of potentially essential patents were identified.
1. **Chair’s Opening Report**
* Chair Huang displayed the Chair’s opening Report, [*ngfi\_1608\_Huang\_opening\_1*](http://sites.ieee.org/sagroups-1914/files/2016/08/ngfi_1608_Huang_opening_1.pdf).
1. **Incoming liaison from IEEE802.1**
* Chair Huang presented the incoming liaison from IEEE802.1, [*ngfi\_1608\_ils-ieee8021.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/ngfi_1608_ils-ieee8021.pdf).
* It is suggested that given the WG just starts the work, it could send further LS when the WG has some concrete results some time in the future.
1. **P1914.1 Opening Report**
* Boming Li, P1914.1 Chair, presented the Task Force Opening Report, [*tf1\_1608\_li\_opening\_1.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_li_opening_1.pdf).
1. **NGFI State-of-the-art Overview**
* Boming Li, Comcores, presented NGFI State-of-the-art Overview, [*tf1\_1608\_li\_state-of-the-art\_1.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_li_state-of-the-art_1.pdf).
1. **5G impact on FH transport & potential NGFI scenarios**
* Jingri Huang, CMRI, presented 5G impact on FH transport & potential NGFI scenarios, [*tf1\_1608\_Huang\_gap-analysis-and-scenarios\_2.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_Huang_gap-analysis-and-scenarios_2.pdf).
1. **Transport Requirements for a 5G Broadband Use Case**
* Vishwanath Ramamurthi, Verizon, presented Transport Requirements for a 5G Broadband Use Case, [*tf1\_082016\_Ramamurthi\_5GBroadbandTransportReq\_3.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_082016_Ramamurthi_5GBroadbandTransportReq_3.pdf).
1. **Practical approach to converged FH/BH network architecture and functional partitioning**
* Jouni Korhonen, Broadcom Corporation, presented Practical approach to converged FH/BH network architecture and functional partitioning, [*tf1\_1608\_korhonen\_practical\_approach\_2*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_korhonen_practical_approach_2.pdf).
1. **Next Generation Frontfaul Interface Use Cases & Scenarios**
* Lujing Cai, AT&T, presented Next Generation Frontfaul Interface Use Cases & Scenarios by teleconference system, [*tf1\_1608\_cai\_kapoulas\_tazi\_NGFI\_use\_cases\_3.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_cai_kapoulas_tazi_NGFI_use_cases_3.pdf).
1. **P1914.3 Opening Report**
* Jouni Korhonen, P1914.3 Chair, presented the Task Force Opening Report, [*tf3\_1608\_opening\_1.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf3_1608_opening_1.pdf).
1. **Resolution of D1.1 comments**
* Richard Maiden, P1914.3 Task Force Editor, presented Comments with Proposed Responses, [*tf3\_1608\_comments\_proposed*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf3_1608_comments_proposed.xlsm).
* Most of comments were resolved. Several comments were left to discuss tomorrow

The WG recessed at 6:06pm.

**Day 2, Tuesday, 23 August 2016**

The WG reconvened at 9:05am. Introductions by all attendees were made.

Boming Li, P1914.1 Chair, resumed P1914.1 meeting.

1. **NG Fronthau Network Requirements and Architecture**
* Tony Tam, Fujitsu Network Communications, presented NG Fronthau Network Requirements and Architecture, [*tf1\_1608\_Tam\_NGFI-Requirements-and-Architecture\_2.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_Tam_NGFI-Requirements-and-Architecture_2.pdf).
1. **Fronthaul architecture towards 5G**
* Aleksandra Checko, MTI, presented Fronthaul architecture towards 5G, [*tf1\_1608\_Checko\_FronthaulConsiderations\_2.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_Checko_FronthaulConsiderations_2.pdf).
1. **Considerations on synchronization in CRAN fronthual architecture**
* Lu Yang, RITT, presented Considerations on synchronization in CRAN fronthual architecture, [*tf1\_1608\_lu\_Sync-in-CRAN\_2.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_lu_Sync-in-CRAN_2.pdf).
1. **Latency requirements and analysis**
* Jian Yang, ZTE, presented Latency requirements and analysis, [*tf1\_1608\_yang\_Latency-requirements-and-analysis\_1*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_yang_Latency-requirements-and-analysis_1.pdf).
1. **The impact of 5G air interfaces on converged fronthaul/backhaul**
* Jens Bartelt, TU Dresden, presented The impact of 5G air interfaces on converged fronthaul/backhaul, [*tf1\_1608\_Bartelt\_5GFronthaul\_2.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_Bartelt_5GFronthaul_2.pdf).
1. **Towards a unified BH/FH data plane: 5G-Crosshaul**
* Andres Garcia Saavedra, NEC Laboratories Europe, presented Towards a unified BH/FH data plane: 5G-Crosshaul, [[*tf3\_1604\_bross\_1pps\_1.pdf*](http://www.ieee1904.org/3/meeting_archive/2016/04/tf3_1604_bross_1pps_1.pdf)](http://www.ieee1904.org/3/meeting_archive/2016/04/tf3_201604_korhonen_ptk_type_1.pdf).
1. **Resolution of D1.1 comments**
* Richard Maiden, P1914.3 Task Force Editor, presented Comments with Proposed Responses, [*tf3\_1608\_comments\_proposed*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf3_1608_comments_proposed.xlsm).
* All comments were resolved.
1. **P1914.3 Closing Report**
* Jouni Korhonen, Task Force 3 Chair, presented P1914.3 closing report, [*tf3\_1608\_closing\_1.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf3_1608_closing_1.pdf) .
* **Motion#2:**

Authorize the Editor to incorporate the resolved comments from the August 2016 1914.3 TF meeting as recorded in [tf3\_1608\_comments\_resolved.pdf](http://sites.ieee.org/sagroups-1914/files/2016/08/tf3_1608_comments_resolved.pdf) and produce draft IEEE P1914.3/D1.2. Editor has a license to resolve conflicts and apply editorial changes as needed.

Moved: Richard Maiden

Seconded: Boming Li

 Yes: 11 No: 0 Abstain: 0 (tech. >= 2/3)

 (chair did not vote)

 (the meeting had no quorum so the motion has to be ratified later with an email motion)

The WG recessed at 5:45pm.

**Day 3, Wendesday, 24 August 2016**

The WG reconvened at 9:00am.

Boming Li, P1914.1 Chair, resumed P1914.1 meeting.

1. **Flexible Ethernet Fronthaul**
* Philippos Assimakopoulos, University of Kent, presented Flexible Ethernet Fronthaul, [*tf1\_1608\_Assimakopoulos\_Flexible-Ethernet-Fronthaul\_2.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_Assimakopoulos_Flexible-Ethernet-Fronthaul_2.pdf).
1. **Proposed options for functional splits for CRAN and fronthaul**
* Andres Garcia Saavedra, NEC Laboratories Europe, presented Proposed options for functional splits for CRAN and fronthaul, [*tf1\_1608\_garcia-saavedra\_RAN-split\_1.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_garcia-saavedra_RAN-split_1.pdf).
1. **L1 offload demonstration of NGFI downlink**
* Rami Al-obaidi, Comcores, presented L1 offload demonstration of NGFI downlink, [*tf1\_1608\_al-obaidi\_l1-offload\_1.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_al-obaidi_l1-offload_1.pdf).
1. **Functional Split Impact on RRU Power Consumption**
* Khalid Al-Mufti, CommScope, presented Functional Split Impact on RRU Power Consumption, [*tf1\_1608\_almufti\_energyEffeciencyWithNGFI\_1.pptx*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_almufti_energyEffeciencyWithNGFI_1.pptx.pdf).
1. **P1914.1 Closing Report**
* Boming Li, P1914.1 Chair, presented the Task Force Closing Report, [*tf1\_1608\_closing\_1.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/tf1_1608_closing_1.pdf).
1. **Future meeting discussion**
* WG planned to have next meeting on October 26-28thin San Jose, hosted by Microsecmi.
* Teleconference meeting schedule was discussed. It is decided that P1914.1 will hold bi-weekly telco meetings. And Bomin Li will set up a doodle poll to investigate the meeting date&time. The WG will have WG-level telco once per month yet the date&time is flexible, up to Chair to choose.
1. **WG Closing Report**
* Chair Huang presented the WG Closing Report, [*ngfi\_1608\_closing\_1.pdf*](http://sites.ieee.org/sagroups-1914/files/2016/08/ngfi_1608_closing_1.pdf).
1. **Any other Business**
* No other business was brought before the WG.

1. **Adjourn**
* The WG adjourned at 12:22 am.

**Attendance Record**

|  |  |  |  |
| --- | --- | --- | --- |
| **FirstName**  | **LastName** | **Affiliation** | **Attendance** |
| **Monday August 22, 2016** | **Tuesday, August 23, 2016** | **Wednesday****August 24, 2016** |
| Aleksandra | Checko | MTI Radiocomp | **x** | **x** | **x** |
| Andres | ARJONA | Nokia | **x** | **x** | **x** |
| Andres | Garcia Saavedra | NEC | **x** | **x** | **x** |
| Bomin | Li | Comcores | **x** | **x** | **x** |
| Filippos | Asimakopoulos | University of Kent  | **x** | **x** | **x** |
| Hans | Sjostrand | Infinera | **x** | **x** | **x** |
| Jens | Bartelt | TU Dresden | **x** | **x** | **x** |
| Jian | Yang | ZTE | **x** | **x** | **x** |
| Jinri | Huang | CMRI | **x** | **x** | **x** |
| Jonathan | Goldberg | IEEE Standards Association | **x** | **x** | **x** |
| Jouni | Korhonen | Broadcom Corporation | **x** | **x** | **x** |
| Kari | Vierimaa | Sarokal Test Systems | **x** | **x** | **x** |
| Khalid | Al-Mufti | CommScope | **x** | **x** | **x** |
| Leon | Bruckman | IP Light | **x** | **x** | **x** |
| Luca | Cominardi | InterDigital Europe | **x** | **x** | **x** |
| Massimo | Tornatore | SMOptics | **x** | **x** |  |
| Natasha | Alvarado | IEEE | **x** | **x** | **x** |
| Ofir | Mahazri | ASOCS | **x** | **x** | **x** |
| Peter Kwangho | Cho | Actus Networks | **x** | **x** | **x** |
| Rami | Al-obaidi | Comcores | **x** | **x** | **x** |
| Sassan | Ahmadi | Xilinx | **x** | **x** | **x** |
| Stefano | Barbagallo | Xilinx | **x** | **x** | **x** |
| Steinar | Bjørnstad | Transpacket | **x** | **x** |  |
| Stuart | Whitehead | Anritsu | **x** | **x** | **x** |
| Tien-Shou | Chang | Hon Hai Precision Ind. Co. | **x** | **x** | **x** |
| Tony (Shau-Chia) | Tam | Fujitsu Network Communications | **x** | **x** | **x** |
| Vishwanath | Ramamurthi | Verizon | **x** | **x** | **x** |
| Yang | Lu | RITT | **x** | **x** | **x** |
| Yanwei | Wu | ZTE | **x** | **x** | **x** |
| Zhen | Zhou | Fiberhome | **x** | **x** | **x** |