Source: **IEEE 1914 Next Generation Fronthaul Interface (NGFI) Working Group**[1]

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Subject: **Liaison to ITU-T JCA-IMT2020 on 5G-related activity update**

Dear Colleagues,

IEEE 1914 Next Generation Fronthaul Interface (NGFI) Working Group would like to update ITU-T JCA-IMT2020 group on the status of the NGFI projects' development within the group.

IEEE 1914 Next Generation Fronthaul Interface (NGFI) Working Group is devoted to specifying the architecture, requirements and solutions to 5G Fronthaul transport networks. There are currently two ongoing projects within 1914 WG, namely, 1914.1 and 1914.3a respectively. While the 1914.1 project is to develop the NGFI transport architecture and requirements, the 1914.3a is an enhancement of 1914.3 that defines the specification of radio signal encapsulation into Ethernet packets. The 1914.3 standard was published in October 2018.

The 1914.1 project has successfully passed Sponsor Ballot and we expect to have it published by the end of 2019. Meantime, the 1914.3a project, has developed the initial draft and is going through the Working Group ballot process.

More details on our WG could be found on: https://sagroups.ieee.org/1914/.

Below is an overview of IEEE 1914 projects.

Activity domain	Stage (topic)	Area	Entity	Title of deliverable
5G	Use cases, Architecture, Requirements	Fronthaul transport	IEEE 1914 WG-1914.1 project	Standard for Packet-based Fronthaul Transport Networks
5G	Protocol	Fronthaul transport	IEEE 1914 WG-1914.3 project	Standard for Radio over Ethernet Encapsulations

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[1] This document solely represents the views of the IEEE 1914 Working Group, and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE Communications Society.

				and Mappings
5G	Protocol	Fronthaul transport	IEEE 1914 WG-1914.3a project	Amendment to Standard for Radio over Ethernet Encapsulations and Mappings

Scope of deliverable	Current status	Starting date	Target date
P1914.1 standard specifies: 1) Architecture for the transport of mobile fronthaul traffic (e.g., Ethernet-based). 2) Requirements and definitions for the fronthaul networks, including data rates, timing and synchronization, and quality of service and so on. The standard also analyzes functional partitioning schemes between Remote Radio Units (RRUs) and Base-Band Units (BBUs) that improve fronthaul link efficiency and interoperability on the transport level, and that facilitate the realization of cooperative radio functions, such as massive Multiple-Input-Multiple-Output (massive MIMO) operational modes, Coordinated Multi-Point (CoMP) transmission and reception.	Sponsor Ballot passed. Expected to be published by the end of 2019. Meantime, 1914.1 phase 2 is under planning.	2016.02	2019.12
P1914.3 standard specifies: 1) The encapsulation of digitized radio In-phase Quadrature (IQ) payload, possible vendor specific and control data channels/flows into an encapsulating Ethernet frame payload field. 2) The header format for both structure-aware and structure-agnostic encapsulation of existing digitized radio transport formats. The structure-aware encapsulation has detailed knowledge of the encapsulated digitized radio transport format content. The structure-agnostic encapsulation is only a container for the encapsulated digitized radio transport frames. 3) A structure-aware mapper for Common Public Radio Interface (CPRI) frames and payloads to/from Ethernet encapsulated frames. The structure-agnostic encapsulation is not restricted to CPRI.	Published in October 2018.	2015.01	Already published
P1914.3a standard adds the following to the IEEE 1914.3-2018 standard: 1. Specifications for mapping with UDP/IPv4 and UDP/IPv6 encapsulation layers. 2. Specification of more parameters, control messages, and mechanisms to improve OAM functions. 3. Specification of a management model.	First draft specification finished. WG ballot started. Expected to start	2018.12	2020.06

4. Specification of a mechanism for segmenting big messages. 5. Extension of CPRI structure-aware mapping to the frequency domain. 6. Elaboration on how the rbMap function can be used to send data with different priorities. 7. Clarification on the relationships between all parameters of the standard.	Sponsor Ballot by the end of 2019.		

We look forward to more communication and collaboration with you in the future.

Truly yours,

Jinri Huang, Chair, IEEE 1914 Next Generation Fronthaul Interface Working Group