Joint IEEE 802 and ITU-T Study Group 15 workshop “Building Tomorrow’s Networks”
Geneva, Switzerland, 27 January 2018

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- This workshop focused on topics including optical interfaces, passive optical network (PON), mobile fronthaul, 5G mobile transport, management and YANG modeling.
- The workshop featured presentations by numerous experts from the IEEE 802.1 and 802.3 working groups and ITU-T Study Group 15. The workshop programme and links to the presentations can be found here.
- The workshop took place concurrent with meetings of the IEEE 802.1 and 802.3 working groups the week of 22-26 January, and the meeting of ITU-T Study Group 15 from 29 January to 9 February 2018 in Geneva.

Session 1: New High-Speed and Long Reach Optical Interfaces

Takeaways and Conclusions

1. IEEE 802.3 and ITU-T SG15 should avoid duplication of work and try to minimize any divergence of their specifications.
2. The specification methodology being developed for coherent 100G interfaces in G.698.2 provides a good starting point for 100G and above Ethernet interfaces if they are intended for type 5 optical links (see session presentation page 17).

Suggestions

- ❑ Q6/15 should consider including Ethernet rates in its optical signal class definitions to facilitate re-use of specifications.
- ❑ IEEE 802.3 B10k SG should weigh the implications of moving away from a comprehensive “plug-and-play” specification to one where the detail of how to engineer the “black link” to meet the transfer specifications is not provided by the standard.

Session 2: Passive Optical Networking

Takeaways and Conclusions

1. Regarding optical access networks, 802.3 and Q2/15 have closely related work items.
2. Many of these projects share a common architecture and design elements, and this similarity is growing.

Suggestions

- ❑ Q2/15 and 802.3 should work to converge the specifications of future PON systems.
- ❑ 802.3 and Q2/15 should work to collaborate on a project to specify higher speed bidirectional access optics.

Session 3: Mobile fronthaul, 5G mobile transport

Takeaways and Conclusions

1. IEEE 802.1 TSN is applicable to 5G transport, e.g., 802.1CM TSN for Fronthaul

2. ITU-T Q13/15 is enhancing Synchronous Ethernet and the Telecom Profiles of the Precision Time Protocol to address 5G requirements

Suggestions

- ❑ ITU-T SG 15 should continue to collect 5G/IMT2020 requirements
- ❑ ITU-T Q13/15 in cooperation with 3GPP and CPRI should continue to collect synchronization requirements for 5G
- ❑ Applicability of SG15 technologies to 5G transport should be considered
- ❑ Applicability of TSN to 5G applications beyond fronthaul should be studied

Session 4: Management, YANG, and Data Modeling

Takeaways and Conclusions

1. YANG has multiple touch points
2. ITU-T and IEEE Coordination on YANG is key to successful management ecosystem
3. There are distinct areas related to YANG modeling of Ethernet that require tight coordination

Suggestions

- ❑ Continue information exchange between ITU-T Q14/15, IEEE 802.1, and IEEE 802.3
- ❑ Leverage UML as a mechanism for communication of models
- ❑ ITU-T should leverage the IEEE 802.1 and 802.3 YANG work when building YANG for ITU-T specific aspects of Ethernet-based Transport Equipment