



WELCOME!

Workshop: ITU-T Study Group 15, IEEE 802.1, 802.3
25 January 2020

Steve Trowbridge – Chairman, ITU-T Study Group 15
Glenn Parsons – Chairman, IEEE 802.1 Working Group
David Law – Chairman, IEEE 802.3 Working Group



Plan for the day

Workshop Programme: <https://www.itu.int/en/ITU-T/Workshops-and-Seminars/202001/Pages/programme.aspx>

08:30 - 09:00

Registration

•Opening Remarks

Steve Trowbridge, Chairman, ITU-T SG15 [[Biography](#)]

09:00 - 09:10

•Glenn Parsons, Chairman, IEEE 802.1 Working Group [[Biography](#)]

•David Law, Chairman, IEEE 802.3 Working Group [[Biography](#)]

09:10 - 10:40

•Session 1: Evolving Beyond 400G

Session Organizers: John D'Ambrosia, Futurewei, IEEE 802.3 NEA Chair [[Biography](#)], Peter Stassar, Huawei, ITU-T Q6/16 Rapporteur and WP2 Vice-Chairman [[Biography](#)]

David Lewis, Lumentum Operations: Issues for Ethernet PMDs with worst case fiber dispersion characteristics [[Biography](#)]

•Peter Pandolfo, Corning: Update on Fiber Specifications

•David Ofelt, Juniper Networks: Challenges of Higher Speed Ethernet Solutions [[Biography](#)]

•Tom Huber, ITU-T Q11/15 Associate Rapporteur, Nokia: Transport networks beyond 400G [[Biography](#)]

10:40 - 11:10

Coffee Break

11:10 - 12:40

•Session 2 : Ethernet Optical Access Technology

Session Organizers: Frank Effenberger, Futurewei, IEEE P802.3cp and ITU-T Q2/15 Rapporteur [[Biography](#)], Bill Powell, Technology Strategist, Nokia Fixed Networks CTO Group [[Biography](#)]

•Frank Effenberger, Rapporteur ITU-T Q2/15: ITU-T Q2/15 Optical Access work summary

•Curtis Knittle, President, Wired Technologies, Cable Labs, IEEE P802.3ca Chair [[Biography](#)], Claudio DeSanti, Google Fiber, IEEE P802.3cs Chair [[Biography](#)], Vince Ferretti, Senior Standards

Manager, Global Technical & Industry Standards, Corning [[Biography](#)]: IEEE 802.3 Access projects summary, and the use of fiber loss statistics

•Ed Harstead, Member of CTO, Nokia Fixed Networks [[Biography](#)], Bill Powell, Technology Strategist, Nokia Fixed Networks CTO Group [[Biography](#)], Ed Walter, Lead Solution Architect, AT&T, USA [[Biography](#)]: NG PON & SG

•Frank Effenberger, Futurewei: WDM PON & SG wireless [[Biography](#)]

12:40 - 14:00

Lunch Break

14:00 - 15:30

•Session 3 : 5G Mobile Transport

This session will include speakers on ITU-T Q11/15 Signal structures, interfaces, equipment functions, and interworking for optical transport networks, on the network time synchronization work of

ITU-T Q13/15 and IEEE 802, furthermore, on IEEE 802.1 Time-Sensitive Networking and its application for 5G. Session Organizer: János Farkas, Ericsson, Chair IEEE TSN TG

•Stefano Ruffini, ITU-T Q13/15 Rapporteur, Ericsson: ITU-T Q13/15, Network synchronization and time distribution performance

•Steve Gorshe, ITU-T Q11/15 Rapporteur, IEEE P802.3cx Task Force Chair, Microchip: Standards to Support 5G Mobile Transport: ITU-T Q11/15 Work on Transport Protocols and new IEEE 802.3cx

Work on the Required Improvements to PTP Timestamping Accuracy

•János Farkas, Chair IEEE TSN TG, Ericsson: TSN update and the use of TSN for Fronthaul

•Norman Finn, Editor IEEE P802.1CS and P802.1DC, Huawei: TSN horizons [[Biography](#)]

•Balázs Varga, Ericsson: Integration of 5G and TSN

15:30 - 16:00

Coffee Break

16:00 - 17:30

•Session 4: YANG and Data Modelling

This session will include speakers from 802.1Qcp and 802.1Qcc YANG Models for bridging and CFM and ITU-T Q14/15 Management and control of transport systems and equipment. Session

Organizer: Scott Mansfield, Q14/15 Associate Rapporteur, Ericsson

•Rodney Cummings, IEEE 1588 WG Vice Chair: IEEE 1588 YANG Update [[Biography](#)] [[Presentation](#)]

•Kam Lam, CICT, Q14/15 Rapporteur: ITU-T Information & Data Modeling and status [[Biography](#)]

•Mark Holmes, Product Line Architect, Ciena, Editor IEEE 802.1Qcc: Introduction to IEEE 802.1Q Bridging and Connectivity Fault Management YANG Data Model [[Biography](#)] [[Presentation](#)]

•Kam Lam, ITU-T Q14/15 Rapporteur, CICT: Overview of G.8052.1 and its connection to the IEEE YANG [[Biography](#)]

•Italo Busi, Principal Research Engineer, Huawei Milan Research Institute, Italy: Overview of G.8052.2 and its connection to the IEEE YANG [[Biography](#)]

•Discussion (all)

17:30 - 18:00

Wrap-up, Takeaways, Closing

Moderator: Steve Trowbridge, Glenn Parsons, David Law, with organizers of the four sessions

Morning and Afternoon
Coffee Breaks sponsored by
IEEE 802.3 and Nokia
(outside of Popov)

Montbrillant Cafeteria
will be open for lunch

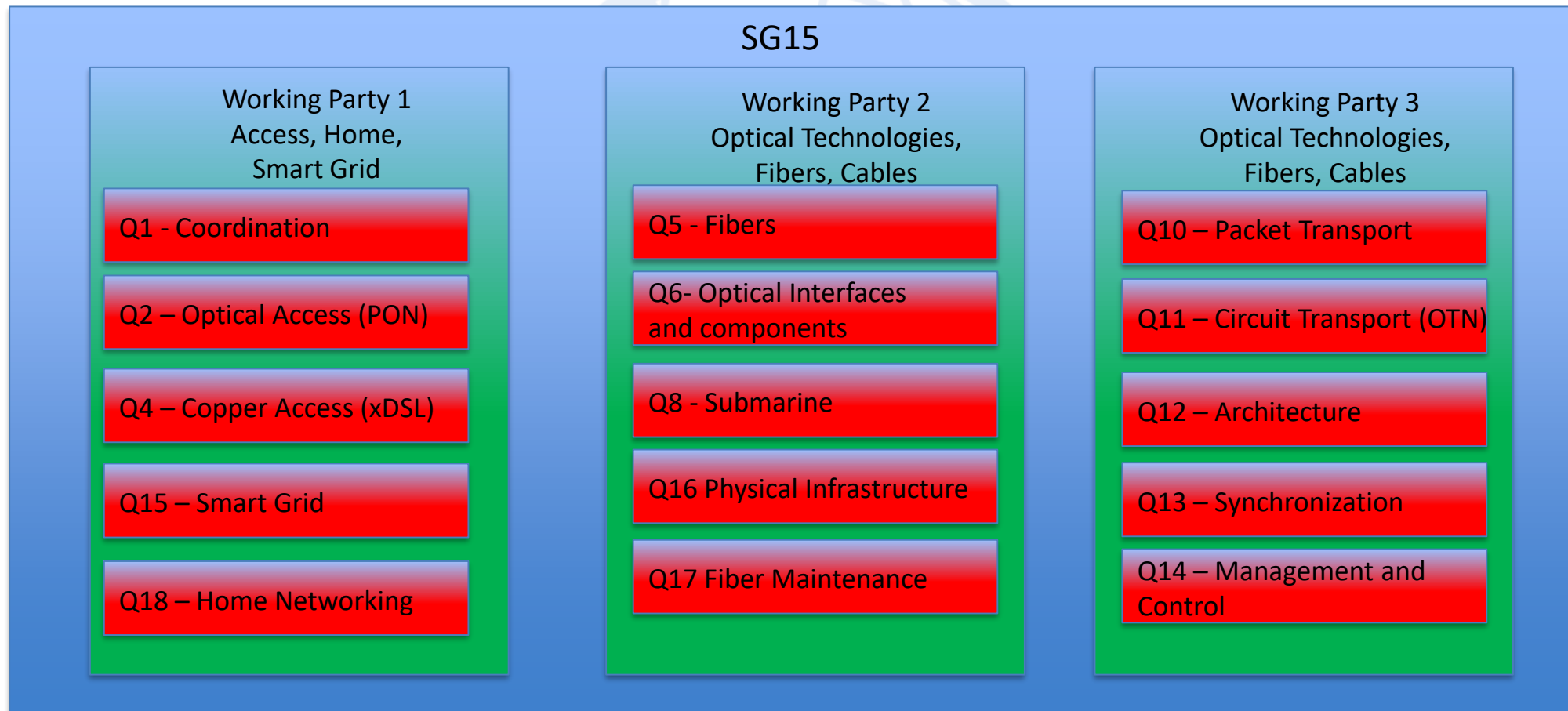


ITU-T Study Group 15

Networks, Technologies and Infrastructures for Transport, Access and Home

- ITU is a Specialized UN Agency
- Three sectors: Development (ITU-D), Radiocommunication (ITU-R), Telecommunication Standardization (ITU-T), plus General Secretariat
- ITU-T Study Group 15 is one of Eleven Study Groups in the Telecommunication Sector
- Organized in persistent groups on functional areas of the technology (rather than project-based)
- The Study Group meets in plenary as a whole once every 8-9 months, and this is where we can take decisions, e.g., starting the approval process for Recommendations
- Individual Study “questions” (working groups) have one or more standalone interim meetings between plenaries.
- Membership:
 - Member States (193)
 - Sector Members (261)
 - Associates (163)
 - Academia (164)

Study Group 15 Organization



IEEE 802.1 working group

- Chair: Glenn Parsons
- Vice Chair: John Messenger
- 802 Architecture and “higher layer” interworking between 802 technologies
 - Time Sensitive Networking (TSN) Task Group:
 - Bridges and Bridged Networks (802.1D, 802.1Q)
 - Discovery mechanisms, Link aggregation
 - Time synchronization
 - Stream reservation, Enhanced queuing
 - Congestion management
 - TSN profiles for mobile fronthaul, industrial, automotive and service provider networking
 - Local Address usage including protocols for local address acquisition
 - Security Task Group:
 - Secure frame transmission, Key management and Secure device identity
 - Port authentication
 - Privacy
 - Maintenance Task Group
 - Maintain requests for changes to published standards
 - YANGsters
 - Network Management Data Modelling
 - 802 NENDICA - Network Enhancements for the Next Decade
 - Data Center Networks
 - Flexible Factory IOT

IEEE 802.1 and ITU-T SG15 cooperation

- IEEE Std 802.1ag and ITU-T Rec Y.1731
 - Joint development resulting in shared code space for CFM
 - Current discussion of YANG modelling
- IEEE Std 802.1Q and ITU-T Rec G.8021, G.8010, G.8031, G.8032
 - Discussions on bridging architecture, carrier Ethernet, protection, ...
 - Cross-referencing of functionality
- IEEE Std 1588 synchronization profile coordination
 - IEEE Std 802.1AS and Telecom Profile
- Liaison relationship
 - For over 20 years, recently including updates to OTNT SWP
- Joint Workshops
 - [2006](#), [2007](#), [2010](#), [2013](#), [2018](#), [2020](#)

IEEE 802.3 Ethernet Working Group

Pre-Study Group

IEEE 802.3 New Ethernet Application Industry Connections Activity

Study Group

IEEE 802.3 Greater than 10 Gb/s Automotive Ethernet Electrical PHYs Study Group

IEEE 802.3 Multi Gigabit Automotive Optical PHY Study Group

IEEE 802.3 10Mb/s Single Pair Ethernet Multidrop Enhancements Study Group

IEEE 802.3 100 Gb/s Wavelength Short Reach PHYs Study Group

Task Force

IEEE P802.3cw 400 Gb/s over DWDM systems Task Force

IEEE P802.3cx Improving PTP Timestamping Accuracy Task Force

IEEE P802.3ck 100 Gb/s, 200 Gb/s, and 400 Gb/s Electrical Interfaces

IEEE P802.3cp Bidirectional 10 Gb/s, 25 Gb/s, and 50 Gb/s Optical Access PHYs

IEEE P802.3ct 100 Gb/s over DWDM systems Task Force

IEEE P802.3cv Maintenance #15: Power over Ethernet Task Force

IEEE P802.3cs Increased-reach Ethernet optical subscriber access (Super-PON)

IEEE P802.3cu 100 Gb/s and 400 Gb/s over SMF at 100 Gb/s per Wavelength Task Force

IEEE P802.3cr Isolation (Maintenance #14) Task Force

IEEE P802.3ca 25 and 50 Gb/s Passive Optical Networks Task Force

IEEE P802.3ch Multi-Gig Automotive Ethernet Task Force

See: <http://ieee802.org/3/>

IEEE 802.3 and ITU-T SG15 cooperation

- IEEE Std 802.3ae-2002 10 Gb/s Ethernet
 - LAN PHY
 - WAN PHY
- IEEE Std 802.3ba-2010 onward
 - “Provide appropriate support for OTN”
- Liaison relationship
 - For over 20 years, another six liaison letters generated this week
 - ANT, HNT and OTNT Standardisation workplans, bidirectional optical for access, passive optical network, Ethernet operation over a DWDM system
- Joint Workshops
 - [2006](#), [2007](#), [2010](#), [2013](#), [2018](#), [2020](#)

