Standardization in ITU-T Study Group 15

Networks, Technologies and Infrastructures for Transport, Access and Home

Hiroshi OTA
ITU

OFC   IEEE ComSoc™ IEEE Communications Society   IEEE Photonics Society   OSA® The Optical Society | 100 Since 1916

Study Group 15 (SG15) mandate

SG15 is responsible for the development of **standards** on:

optical transport network

access network

home network and power utility network infrastructures

systems

equipment

maintenance

instrumentation and measurement techniques

management

optical fibres and cables and their related installation

test

control plane technologies

to enable the evolution toward intelligent transport networks, including the support of smart-grid applications.

SG15 Working Parties (WPs)

- WP1/15: Transport aspects of access, home and smart grid networks
- WP2/15: Optical technologies and physical infrastructures
- WP3/15: Transport network characteristics
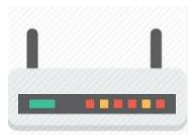
WP1 – Broadband Access

G.FAST — Broadband access up to 2 Gbps

G.mgfast — Next generation G.fast targeting 5-10 Gbps

DTA — G.fast dynamic time assignment (DTA) – downstream/upstream bit-rates responsive to customer traffic

Continue collaboration with **broadband forum**

G.RoF — Radio over fiber for mobile fronthaul

NG-PON2 — Next generation of converged fiber access going to higher speeds
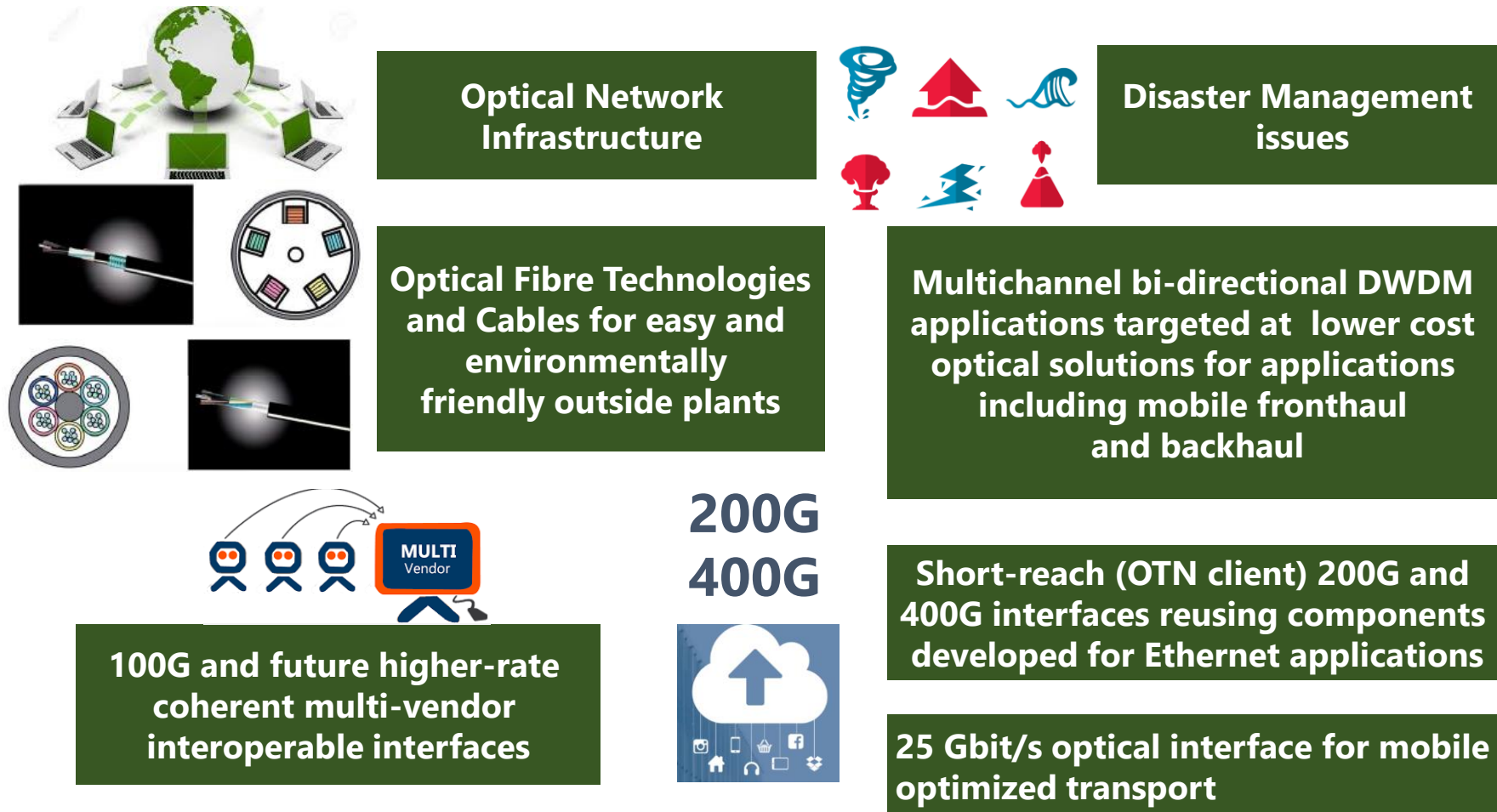
Visible Light Communication for home networking

Powerline communication (PLC)

G.Hn — G.hn and G.hn2 home networking over indoor phone, power, and coax wires >2 Gbps

4

WP2 – Optical Technologies

Optical Network Infrastructure

Disaster Management issues

Optical Fibre Technologies and Cables for easy and environmentally friendly outside plants

Multichannel bi-directional DWDM applications targeted at lower cost optical solutions for applications including mobile fronthaul and backhaul

200G 400G

100G and future higher-rate coherent multi-vendor interoperable interfaces

Short-reach (OTN client) 200G and 400G interfaces reusing components developed for Ethernet applications

25 Gbit/s optical interface for mobile optimized transport

WP3 – Optical Transport Networks

Transport and synchronization supporting 5G mobile fronthaul and backhaul

Synchronization of packet networks and future OTN networks, e.g., beyond 100G

G.mtn (metro transport network) for 5G optimized transport

Network survivability (protection and restoration)

Architecture and other Transport SDN Aspects

New "B100G" OTN interfaces, including the use of coherent G.698.2 interfaces

Management aspects of control and transport planes

Equipment & management specifications for OTN, Ethernet and MPLS-TP

Core Information model enhancement for management of synchronization and optical media

Meetings

- Past meetings since 2017
  - Geneva, 19 – 30 June 2017
  - Geneva, 29 January – 9 February 2018
  - Geneva, 8-19 October 2018
  - Geneva, 1 – 12 July 2019
  - Geneva, 27 January – 7 February 2020
- Future SG15 meeting
  - Geneva, 7-18 September 2020

Presentations

- Q2 Optical Access Networks - Work program review, *Dr Frank Effenberger (Futurewei), Rapporteur, Q2/15*

- Optical Multi-Vendor Interoperable Specifications in ITU-T SG15/Q6, *Dr Fabio Pittalà (Huawei)*

- Transport Network Evolution, *Dr Steve Trowbridge (Nokia), Chairman, ITU-T Study Group 15*