Research Promotion Council of Kei-han-na Info-Communication Open Laboratory

Interoperability Working Group

Interoperability Working Group VI

● Projects

PJ31: Ethernet over OTN Technology
- 400Gigabit Ethernet -LANPHY Transmission Technology etc…

PJ32: Multi-Technology Transport Network Control Technology
- Multi Layer/ Multi Domain Network Control Technology
- SDTN (Software Defined Transport Network) etc…

Chair：Naoaki YAMANAKA
（Keio University）
Vice chairs：
 Akio KAWABATA (NTT)
 Satoru OKAMOTO（Keio University）
 Masatoshi SUZUKI（KDDI Research）
Members： Keio University, NTT,
KDDI Research, Anritsu, Fujitsu, HITACHI,
Mitsubishi Electric, NEC, NICT

● Testing/ Demonstration

■ *"SDN & Network Virtualization Technologies for Various Applications" at iPOP2018*

◆ The experiments of iPOP2018-Showcase focused on the efficient use of network resources via more automation (e.g. SDN, AI) and increased flexibility of the networks (e.g. virtualization) in order to mitigate CAPEX and OPEX in the communication networks. (Figure 1)

➢ 6 themes by 11 participants
1. Data-analytics-based optical performance monitoring assisted by container technique
2. Dynamic construction and control of virtual network platform utilizing OpenStack
3. Inter-carrier connection technology for vital traffic in the event of a disaster
4. Open and disaggregated transport network (ODTN)
5. Dynamic virtual machine (VM) migration with dynamic multi-layer-configuration for autonomous driving vehicles (ADV)
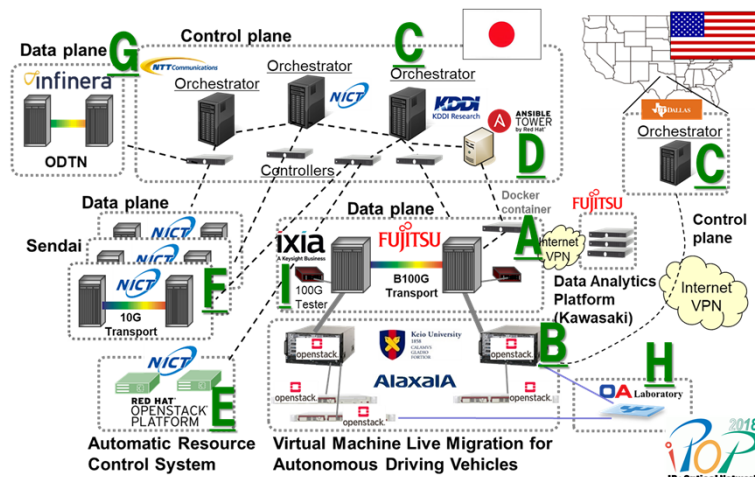6. Optical slot switching (OSS) system using ether TDM translator

Figure 1. iPOP2018 Showcase Network.

A) Beyond 100G DWDM system & Data-analytics-based optical performance monitoring (Fujitsu)
B) Reconfigurable node for autonomous driving vehicle control (Keio University, ALAXALA)
C) Network orchestrator/controller (KDDI Research, NTT Communications, UT Dallas)
D) Ansible tower & OpenStack (Red Hat)
E) Dynamic construction and control of virtual network platform (NICT)
F) Inter-carrier connection in the event of a disaster (NICT)
G) Open and disaggregated transport network (NTT Communications, Infinera)
H) Optical slot switching system (Keio University, OA Laboratory)
I) 100GbE Tester (Keysight Technologies)

● Publications

● M. Shiraiwa, N. Yoshikane, S. Xu, T. Tsuritani, N. Miyata, T. Mori, M. Miyabe, T. Katagiri, S. Yoshida, M. Tanaka, T. Hayashi, H. Sugiyama, I. Satou, M. Mikuni, S. Okamoto, N. Yamanaka, B. Jeong, Y. Awaji, N. Wada, "Experimental Demonstration of Disaggregated Emergency Optical System for Quick Disaster Recovery," IEEE/ OSA Journal of Lightwave Technology (Invited), August 2018.

● M. Shiraiwa, N. Yoshikane, S. Xu, T. Tsuritani, N. Miyata, T. Mori, M. Miyabe, T. Katagiri, S. Yoshida, M. Tanaka, T. Hayashi, H. Sugiyama, I. Satou, M. Mikuni, S. Okamoto, N. Yamanaka, Y. Awaji, and N. Wada, "First Experimental Demonstration of Disaggregated Emergency Optical System for Quick Disaster Recovery," in Proc. Optical Fiber Communication Conference (OFC2018), San Diego, CA, USA, Th2A.29, March 2018.

● S. Gao, X. Cao, Takehiro Sato, T. Miyazawa, S. Yoshida, N. Yoshikane, T. Tsuritani, H. Harai, S. Okamoto, N. Yamanaka, "Demonstration of SDN/OpenFlow-based Path Control for Large-Scale Multi-Domain/Multi-Technology Optical Transport Networks," IEICE Transactions on Communications, Vol. E99-B, No. 7, pp. 1492-1500, July 2016.

You Tube
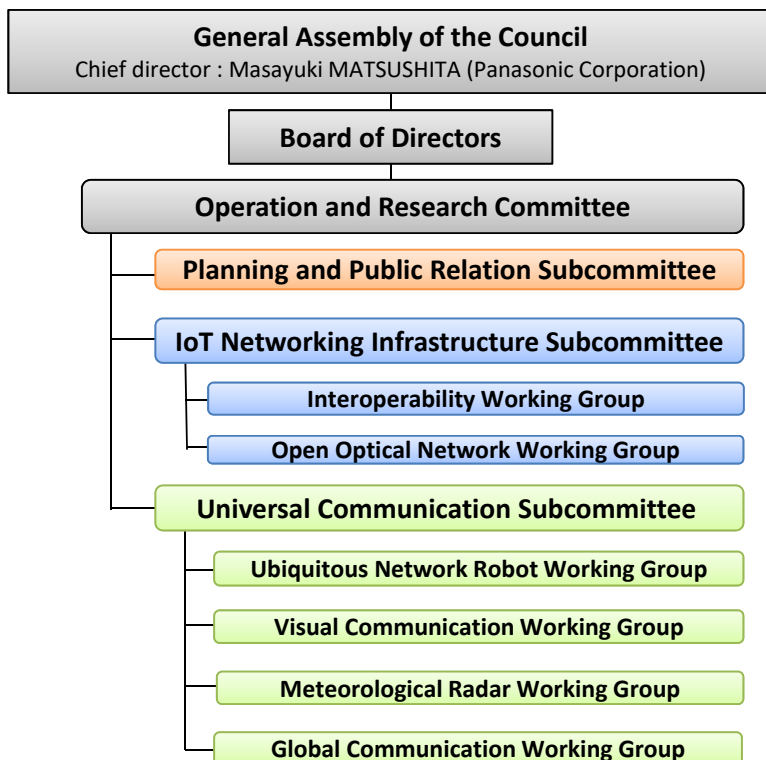*You can watch the demo movie on Kei-han-na OpenLab YouTube channel.*

The Research Promotion Council of Kei-han-na Info-Communication Open Laboratory Overview

Established to encourage research and development in the field of ICT through collaboration between industry, academia and government, and to develop new technologies, human resources and new industries, thereby fulfilling the Kansai region's role in developing the world's leading ICT economy and revitalizing the Kansai economy.

Organization

General Assembly of the Council
Chief director : Masayuki MATSUSHITA (Panasonic Corporation)

Board of Directors

Operation and Research Committee

- Planning and Public Relation Subcommittee
- IoT Networking Infrastructure Subcommittee
  - Interoperability Working Group
  - Open Optical Network Working Group
- Universal Communication Subcommittee
  - Ubiquitous Network Robot Working Group
  - Visual Communication Working Group
  - Meteorological Radar Working Group
  - Global Communication Working Group

Website

- **Website**   *URL: http://www.khn-openlab.jp/en/*

Activities

•**Seminar/ Workshop**

Subcommittee Workshop

Seminar
Visual communication for medical conference

•**Symposium**

Panel discussion

Exhibition

Kei-han-na OpenLab YouTube channel.

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