

Ph-EX (APN-I) enabling E2E direct connection of optical paths

IOWN Evolution On-Demand Type All-Photonics Network



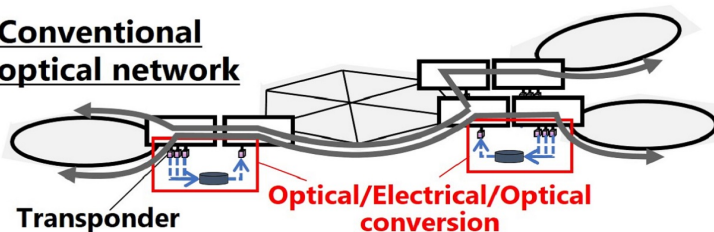
Background

We, NTT Labs., are promoting R&D toward realizing all-photonics network (APN) as an element of IOWN concept. In APN, end-to-end direct paths are provided by eliminating the path termination and electrical processing currently required at some of intermediate nodes, which reduces power consumption.

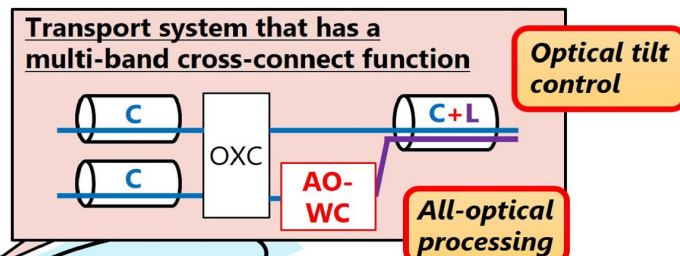
Summary

We have demonstrated the optical node that realizes 1) direct connection in a mixed fiber network enabled by wavelength conversion, and 2) long-haul multi-band transmission enabled by optical tilt control. This can lead to power saving and the early adoption of APN services over existing fibers.

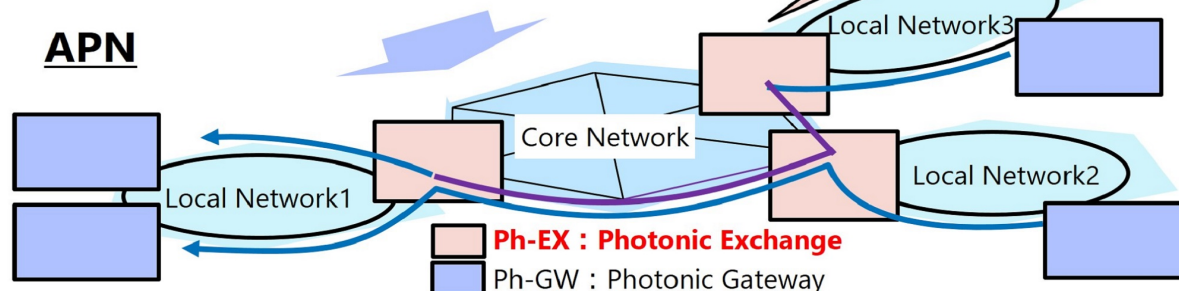
Conventional optical network



Transport system that has a multi-band cross-connect function



APN



Benefits

- Lower power consumption
- Space saving

Features

- An all-optical wavelength band conversion technology that converts optical signals into transmission wavelength bands in order to realize an E2E optical direct connection path
- A solution that compensates for optical signal quality degradation simply by calculating appropriate optical power from transmission line information and controlling the signal

Future_benefits

We can provide a communication environment that supports data-rich applications such as XR and HD video distribution, as well as dynamic high-speed connections between DC.

Exhibiting Company

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