Transport SDN Infrastructure

The 100G / 400G transponder, ODU-Aggregation card, and small form-factor shelf have been added to DW7000 lineup. These newly introduced cards provide space-saving as well as support numerous interfaces and are built on ecological design (Extremely compact, Low-power consumption, High-performance).

**New features in the SpectralWave™ DW7000**

### Space-saving

- DW7000 6U and 3U shelf have been added in lineup as well as current 13.5U shelf. These are mainly targeted for metro network.
- Newly introduced 6U shelf provides 2 times higher density comparing to current 13.5U shelf system.
- For example, 6U shelf can be configured as typical 2-directional ROADM for metro network which consists of 1GbE x 16p and 10GbE x 8p in redundant.

![DW7000 6U shelf](image)

### Various interface support

ODU Aggregation card (ODU-AGR) provides variety of client interfaces. This card integrates both ODU cross-connect and WDM Transponder functions into a single card. It provides flexible multiplexing features, and improves the wavelength usage in WDM networks. This allows operators to accommodate legacy as well as expansion services.

**Client Interface**
- Ethernet: FE, GbE, 10GbE, 40GbE, 100GbE
- SDH/SONET: STM-1,4,16,64,256/OC-3,12,48,192,768
- PDH: E1
- OTN: OTU1, OTU2, OTU3, OTU4
- SAN: FC-100/200/400/800/1200
- Infiniband: IB-QDR/SDR/DDR
- CPRI: Option 1/2/3/4/5/6/7
- Video: DVB-ASI

**WDM interface**
- 100G OTU4x 2(at maximum)
- 10G OTU2x 10(at maximum)*
  * with 10G Pluggable WDM modules.

### Ecological design transponder

**Small 100GbE x2port Transponder**

* 1/4@Size

**Small 10G x10port Transponder**

* 1/2@Size

**Extremely compact**
- High density and compact 100G ports.

**Low-power**
- 38% power consumption saving.
  Contributes to eco-friendly network build.

**High-performance**
- 1.4 times further reach with compact and low-power design.
- Supports 400G transmission technology, which provides 25.6 Tbps per fiber capacity and CAPEX reduction.
NEC Corporation is a leader in the integration of IT and network technologies that benefit businesses and people around the world. NEC offers one-stop system integration for all major aspects of microwave, IP and optical transport networks from delivery and installation to integration and maintenance.

Open, Interoperable Transport SDN Infrastructure

- **Multi-vendor Packet and Optical Network Infrastructure**
  
  NEC Corporation has partnered with Juniper Networks to deliver *End-to-End* packet and optical layer transport network infrastructure solutions across core, metro and access networks that support multiple devices across multiple vendors.

  NEC’s extremely compact DW7000 system, provides broad, long distance optical communication with low power consumption. Juniper’s MX and ACX router series seamlessly integrate with the DW7000 to guarantee network connectivity between the customer site, the data centers, and across the data center inter-connections. These devices are managed as a single integrated network to efficiently monitor performance and quickly resolve network failures.

  This open, Packet-Optical network infrastructure is designed to support NFV and 5G. The network service will be dynamically instantiated and maintained on our multi-vendor network infrastructure.

- **Transport SDN controller**
  
  Today’s transport network infrastructure faces the challenge of managing network complexity in multi-layered and multi-domain configurations.

  Our Transport SDN controller automates the complex and manual network infrastructure management operations. The topology service collects network topology and status across multiple layers. Then the connectivity service instantiates End-to-End connectivity across this multi-domain network infrastructure.

  The controller supports a set of open Transport SDN APIs (TAPI) as defined by the Open Networking Foundation (ONF). These APIs have also been confirmed to interoperate across 5 service providers and 11 transport network vendors in the Optical Internetworking Forum (OIF)*. Our open architecture has been peer reviewed by the NFV community.


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NEC Corporation
7-1, Shiba 5-chome Minato-ku, Tokyo, 108-8001, Japan