Standardized Wavelength Services

Delivering the scale, capacity, and resilience to handle the most demanding applications

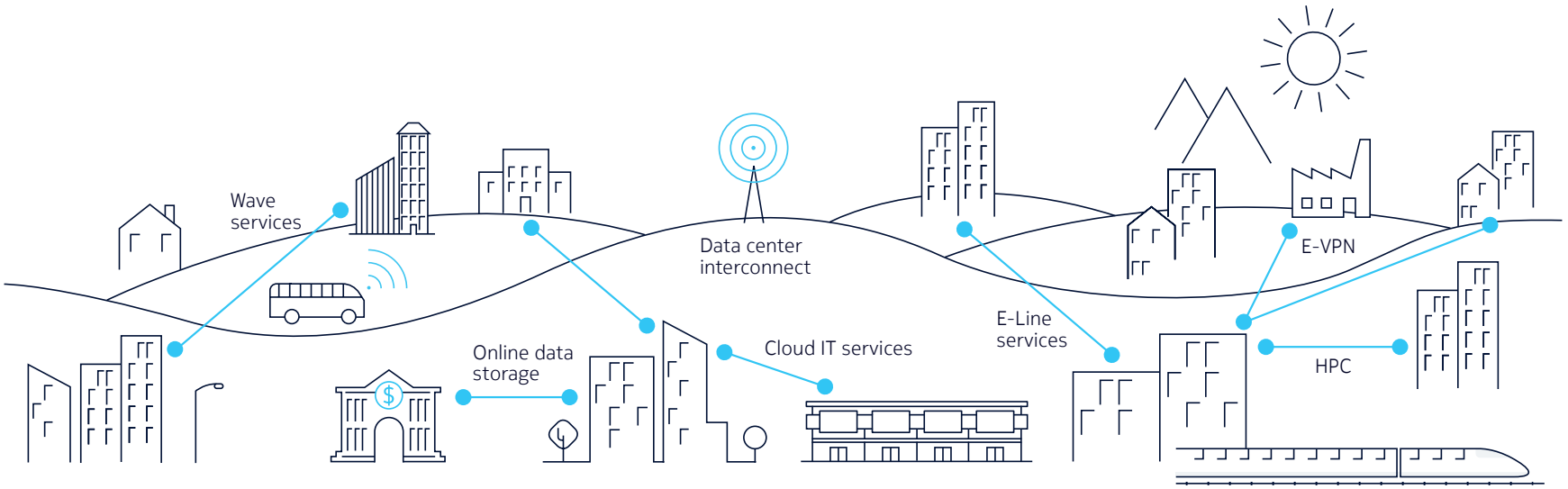
Growing broadband demand is dictating the need for high capacity interconnectivity solutions. The Nokia optical portfolio supports standards based wavelength services through rapidly deployable and cost-optimized systems having minimal footprint and power consumption. The portfolio also supports Carrier Ethernet services, allowing for wavelength and/or Carrier Ethernet services deployment flexibility and the creation of complementary service offers.

Keeping up with demand for Wavelength and Ethernet services

With the explosion of content creation and consumption in an always connected world, the demand for high-performance, low-latency carrier-grade connectivity continues to grow. From enterprises and universities to smart city infrastructure and cloud service providers, the growth of bandwidth-intensive applications is driving the need for standardized Wavelength and Ethernet services.

For enterprises, the advantages of these services are clear. Wavelength and Ethernet services enable reliable and secure access to cloud-based applications and storage, high capacity and low latency connectivity between sites, as well as access to collocation facilities. These advantages all come with high service assurance and high performance backed by SLA guarantees.

For their part, service providers benefit from being able to offer ultra-high speed, dedicated point-to-point services with improved service velocity and automation. They also gain from better use of existing fiber assets, the ability to easily scale services from <1Gbps to 100Gbps and beyond, and from being able to offer MEF compliant differentiated services with high availability and resiliency.



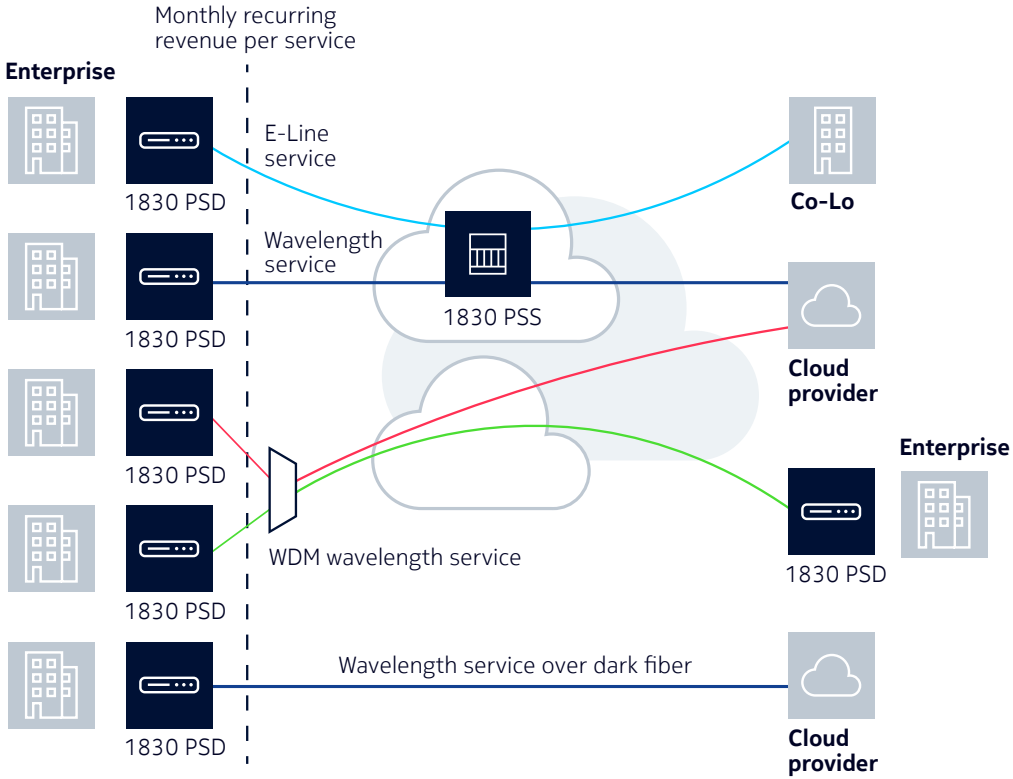
End-to-end service visibility and fast activation

When delivering Wavelength or Ethernet services, service providers must be able to maintain SLAs that define end-to-end service parameters between themselves and end customers. This entails separating the service provider's network domain from that of the end customer through a network demarcation mechanism — usually termed a network interface device (NID). This enables the service provider to test and monitor its network all the way to the customer's premises. As a result, the service provider can manage the network or service and ensure that end-to-end SLA performance requirements are met.

Managed network demarcation

The Nokia Network Interface Devices (NIDs), including the Nokia 1830 Photonic Service Demarcation (PSD), allows service providers to capitalize on the business opportunity represented by the explosive growth in demand.

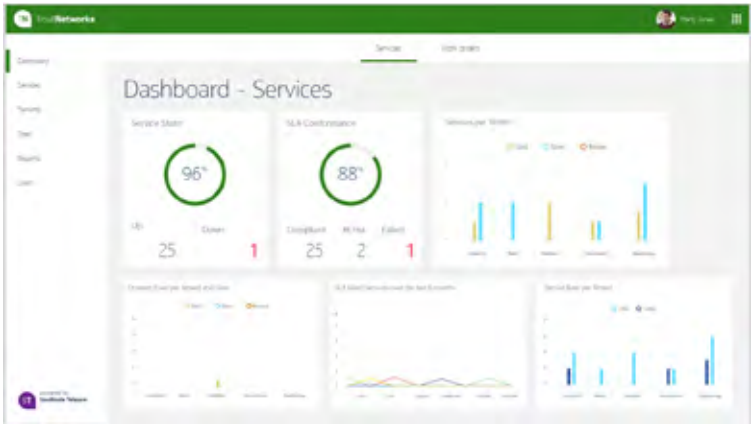
By extending the network to customer premises sites, NIDs provide a chargeable, managed service for cloud-based applications and storage, enterprise point-to-point connectivity, as well as collocation connectivity. This helps service providers monetize deployed networks, third-party service agreements, or dark fiber assets.



Rapid service deployment with full assurance instrumentation

The NIDs and customer located equipment (CLE) are supported by a set of Nokia WaveSuite software applications for rapid equipment and service deployment, as well as fully instrumented service assurance:

- Service providers can use WaveSuite Service Enablement applications to monitor the performance of their Wavelength/ Ethernet services, defining different service tiers, monitoring adherence to SLAs, and identifying any trouble spots.
- End customers, optionally, can be given access to dedicated WaveSuite Service Enablement portals to monitor performance of their services.
- High capacity, sub-rate wavelength services can be supported using bandwidth utilization reports. These services can be used to complement existing Carrier Ethernet services.



WaveSuite Service Enablement dashboard view

WaveSuite Service Enablement geographical view of services

WaveSuite Service Enablement SLA monitoring of MEF Subscriber L1 wavelength service and Carrier Ethernet metrics to provide visibility for:

- Availability
- Utilization
- Round-Trip Delay

Challenges

To enable high capacity connectivity for business retail/wholesale, Data Center Interconnect (DCI) and cloud applications

To deliver end-to-end service assurance over any optical network infrastructure

To provide cost-effective network extension to customer premise sites

Solution

The Nokia Optical portfolio delivers:

- Carrier-class systems that support MEF-specified wavelength and Carrier Ethernet services
- Compact and power efficient high capacity demarcation devices with support for high availability service deployment
- Fast turn-up with automated commissioning and service activation
- Fully instrumented assurance dashboards and reports

Benefits

Supports standardized and comparable Wavelength and Ethernet services

- Delivers low cost per bit service deployment
- Assures high availability with built-in redundancy for business-critical applications
- Enables low latency and high scalability – from from <1 to 100Gbps, and beyond
- Supports fractional wavelength service offers via precise utilization reports

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With our commitment to innovation and technology leadership, driven by the award-winning Nokia Bell Labs, we deliver networks at the limits of science across mobile, infrastructure, cloud, and enabling technologies.

Adhering to the highest standards of integrity and security, we help build the capabilities we need for a more productive, sustainable and inclusive world.

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