Optical Networking Portfolio

Network automation and management

Grow revenue and reduce TCO by using network automation to harness the intelligence, agility, programmability, and scale of open multivendor optical and IPoDWDM networks, enable new services and business models, and support end-to-end network and service lifecycle management.

Plan

Multi-vendor optical network planning
- Network design and revision control
- Configurable design templates
- Restoration and routing policies
- Synchronization planning
- BoM generation, for stand-alone, 3rd-party transponder and IPoDWDM deployments

Manage

Network and service management
- Network commissioning, provisioning and fault management
- OTDR visualization and PM reporting
- Dashboards and network KPI reports
- Security access control and connectivity
- Layer 0/1/2 services and MOFNs

Operate

SDN multi-domain and multivendor network control
- TAPI and OpenConfig open interfaces for multi-vendor and IPoDWDM networks
- Timing and synchronization management
- Flow-through planning and network control
- Advanced OTDR and fiber sensing diagnostics

Optimize

Autonomous network and performance optimization
- Predictive insights for anomaly detection
- Optical channel, spectrum and link performance, analysis, configuration and optimization
- Energy reporting and optimization

Monetize

Optical transport Network-as-a-service (NaaS)
- Hierarchical multi-tenant network virtualization
- SLA-driven service assurance
- Automated service layer definition, order fulfillment, and abstraction for optical NaaS business models

Network automation and management portfolio

WaveSuite

Transcend

Intelligent Power Manager

Low-power pluggable coherent optics

Complete portfolio of coherent pluggables 100G ZR, 200G XR, 400G ZR/ZR+/XR and 800G ZR/ZR+ for access, campus, metro, regional, long haul and subsea applications. Key features include:
- Interoperability with OIF 400ZR/800ZR, OpenZR+, and OpenROADM 6.0 with Open PCS and C-CMIS/CMIS MSAs
- Industry-standard form factors: SFP-28 (100G), CFP2 (200G, 400G), QSFP-DD (200G, 400G, 800G) and OSFP (800G)
- Vertically integrated DSP and optics technologies, module design and manufacturing
- Fully programmable modulation, launch power and more for easy deployment over existing infrastructure
- Industry-leading performance: 800G over 1,700 km, 600G over 2,000km, 400G over 3,000km and 6000km subsea



100ZR



ICE-X 100G/400G



400ZR/400 OpenZR 400G Multihaul



ICE-X 800G

Performance-optimized coherent transceivers

Performance-optimized Photonic Service Engine (PSE) and Infinite Capacity Engine (ICE)
- Maximize spectral efficiency and fiber capacity across metro, long-haul and subsea links
- 140Gbaud PSE-6s/ICE7 deliver up to 1.2Tb/s for metro DCI and extended reach for LH and subsea applications
- Integrated multi-chip module with DSP and vertically integrated optics
- Continuously tunable baud rate and high CD and SOP tolerances
- Client splitting, Layer 1 encryption and market-leading low power per bit



ICE7



PSE-6s

1830 Photonic Service Switch (PSS) family

Flexible and scalable multi-service P-OTN platforms supporting embedded and pluggable multi-service transponder/muxponders, multi-Terabit non-blocking OTN switching, end-to-end GMPLS service management, provisioning and restoration, and optical line systems, optimized for telco applications from the metro edge to long-haul core networks.

Key features include 1.2T performance-optimized transponders and thin transponders supporting 100G, 400G and 800G pluggable coherent optics, support for a wide range of client services including sub-1G to 800G Ethernet, OTN and FC clients, Integrated Packet Transport supporting Carrier Ethernet and MEF services, and Layer 1 encryption for secure transport.

1830 PSS:
- Integrated transport and DWDM line system platform
- 300mm chassis in 2RU/3RU/8RU for edge and core applications
- FOADM and 4 to 32-degree iROADM and EDFA/Raman ILA
- Modular C+L and integrated C+L
- ETR for outdoor deployments and AC power for customer prem applications

1830 PSI-L:
- open line system uses common hardware with PSS
- WDM, ROADM and ILA functions for PSS-X/PSS-HC and IPoWDM

PSS-High Capacity (PSS-HC):
- Optimized for massive multi-Tb/s scale in 600mm racks
- Extends the end-to-end capabilities of 1830 PSS



1830 PSS-4ii



1830 PSS-8



1830 PSS-16ii



1830 PSS-4hc/10hc

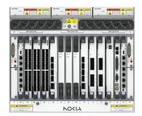


1830 PSI-4L



1830 PSI-8L

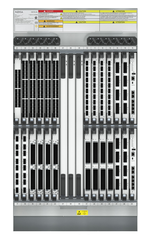
1830 PSS-X:
- Carrier-grade P-OTN switching for business and wholesale services
- Centralized non-blocking switching with ODUk granularity
- 4T, 12T 24T and 48T switching capacity
- Integrated coherent optics
- Sub-1G to 400G client aggregation
- Integrated Packet Transport for Carrier Ethernet and MEF services
- GMPLS for provisioning, protection and restoration



1830 PSS-8x



1830 PSS-12x



1830 PSS-24x

1830 Global Express (GX) family

Flexible and scalable compact modular platforms supporting embedded and pluggable transponder/muxponder, optical line system (OLS) and submarine line terminating equipment (SLTE) functions, with Open APIs and streaming telemetry, optimized for data center applications across metro/regional, long-haul and subsea applications.

Transponders
- 800G and 1.2T performance-optimized transponders
- Thin transponders with 400G/800G pluggables coherent optics
- multi-rate OTN switchponders from 200G to 2.4T
- Up to 4.8T client + 4.8T line capacity per RU
- Client splitting for cost-efficient transport
- Layer 1 encryption



1830 GX G31



1830 GX G32/G32E

Optical line system
- chassis options for 300mm and 600mm racks
- FOADM and 9 to 32-degree ROADM and EDFA/Raman ILA
- C+L and Super C/L band options
- Layer 0 protection and restoration



1830 GX G32/G32E



1830 GX G32c



1830 GX G34c/G34Xc



1830 GX G4L

Submarine line terminating equipment (SLTE)
- High density fully-featured SLTE functionality
- Performance-optimized and thin transponders
- 20-degree WSS
- ASE loading and spectrum sharing support
- High-resolution Optical Channel Monitor (OCM)
- Intelligent Power Management (IPM) automation
- C+L and Super-C+L terrestrial backhaul



1830 GX G32



1830 GX G42

1830 Photonic Service Demarcation

The 1830 PSD is a compact, low-power and carrier-grade customer premises demarcation device supporting wide range of <1G to 100G FC, Ethernet, OTN, Carrier Ethernet and wave services, AC or DC power supply, ETR and encryption.



1830 PSD / PSD-2



1830 PSD-200

1830 Security Management Server

The 1830 SMS serves as a centralized, symmetric cryptographic key management solution for secure optical transport. Certified by ANSSI, CC, FIPS, and NATO, the 1830 SMS provides trusted key orchestration for classic physics-based SKI or QKD architectures, delivering quantum-safe connectivity.



1830 SMS

1830 Network Demarcation Unit

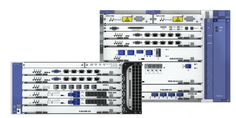
The 1830 NDU supports demarcation unit between ICE-X 100G, 20G and 400G XR optics and IP routing layer supporting point-to-multipoint aggregation in access applications.



ICE-X NDU

1830 FlexILS

Flexible-grid open optical line system supporting C+L band, ROADMs with C, CD and CDC add drop options, CW idlers for compensated subsea cable, optical protection and Intelligent Power Management (IPM).



1830 FlexILS MTC-6/9

1830 Link Extender

The 1830 LX provides extended reach amplification for unrepeatered terrestrial and subsea links up to 500km using high power booster amps, Raman amps and remotely optically pumped amplifiers (ROPA), integrated with 1830 GX and PSS.



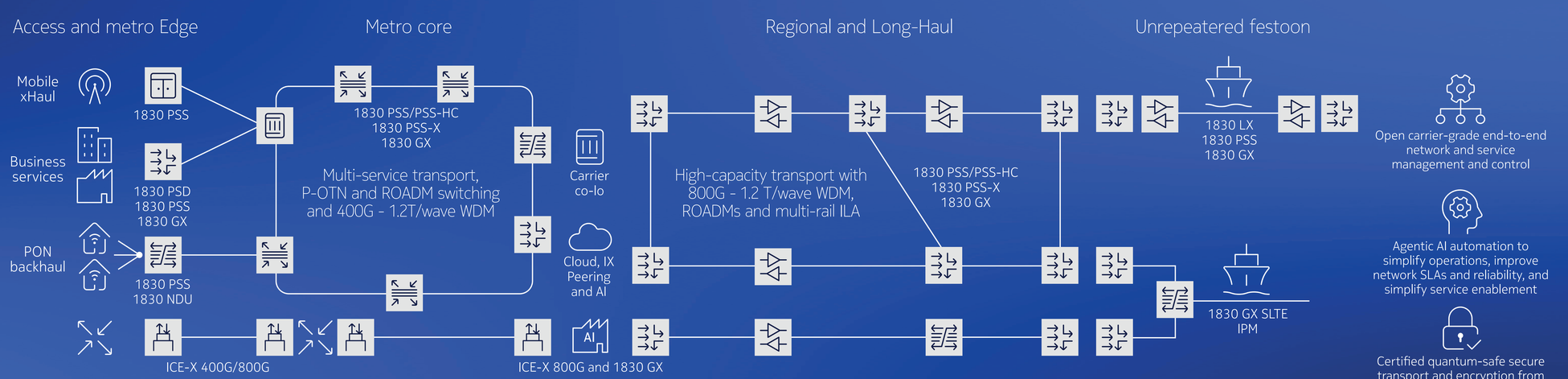
1830 LX

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NOKIA

Nokia Optical Networking solutions enable new frontiers in scale, performance and sustainability, to provide cost effective and secure connectivity for telecommunications providers, cloud and AI providers and mission-critical enterprises.

Explore the Nokia Optical Networking portfolio



Open carrier-grade end-to-end network and service management and control

Agentic AI automation to simplify operations, improve network SLAs and reliability, and simplify service enablement

Certified quantum-safe secure transport and encryption from edge to core