Neptune NPT-1800

5G Ready Metro Core Transport

NPT-1800 is a high-capacity multiservice packet transport platform. A member of Ribbon's Neptune (NPT) product line, its 8RU height, 100G interfaces, and 2 Tbps switching capacity make it optimized for high-capacity metro and mobile backhaul applications.

The Neptune product line provides a powerful, flexible, and efficient end-to-end solution for metro, IoT, and mobile backhaul applications. It combines carrier-grade service assurance and control with packet efficiency and unparalleled multiservice support. The powerful Elastic MPLS engine provides future-proof evolution with converged support for MPLS (IP and TP), Ethernet (MEF CE2.0 certified), segment routing, and TDM over CES/CEP. OTN mapping and WDM interfaces allow seamless hand-off for bulk optical transport.
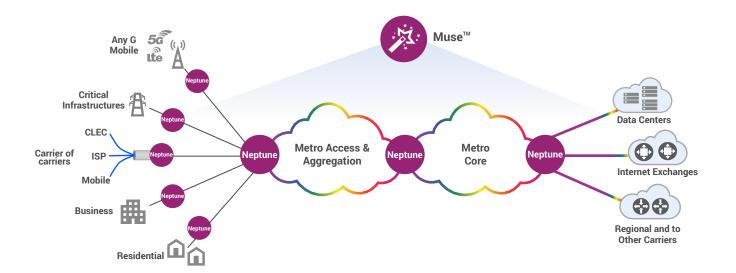
Neptune is well-suited for a wide variety of applications and networking scenarios with SDN, NFV, segment routing, FlexE, enhanced timing, and advanced operations provided by Ribbon's MUSE™ software suite. These include traditional mobile backhaul (3G and 4G), wholesale service delivery, residential multiplay, business VPNs, mission critical networks, and next-generation transport for optimized delivery of all 5G services.

| **Elastic MPLS** future-proof multiservice | **Elastic Scalability** compact, high capacity, 5G-ready | **Always-On** carrier-grade assurance and redundancy | **Fully-Managed** simplified lifecycle operation |

Technical Specifications

Packet	Switch: 1Tbps/2Tbps Services: MEF CE2.0 (E-Line, E-LAN, E-Tree, E-Access) PN and VPN based Ethernet and IP, MPLS (TP and IP), and segment routing (BE, TE, TP) Max. Interfaces (2 Tbps configuration): 300 x 100/1000 FX, 92 x 10GE OTN, 64 x 25GE, 32 x 50GE, 16/12 x 100GE/100G OTN
TDM	Services: CES (SAToP , CESoP and CEP) Max. Interfaces: 736 x E1/T1, 92 x STM-1/OC-3, 23 x STM-4/OC-12
FlexE	1T FlexE capacity, 5G granularity per channel 10 x 100GE FlexE, 20 x 50GE FlexE
WDM	CWDM, DWDM, Amplifiers
Timing and Synchronization	SyncE with ESMC, 1588v2, 8275.1, 8273.2 class C, External timing 1PPS and TOD, Internal Stratum 3E clock (holdover state), primary and secondary sources (supports SSM bits), ACR, DCR, loop timing on SAToP, TDM bits (T3/T4), and SNTP
Protection and restoration	Hardware redundancy for common units, IO Hardware protection (IOP), RSTP/MSTP, G.8032 Ethernet Ring Protection (ERP), MPLS-TP FRR, FRR with LFA (local and remote) 1:1 Linear protection, PW Redundancy (PWR), Virtual Router Redundancy Protocol (VRRP), Multisegment-PW, IEEE 802.3ad Ethernet Link Aggregation(LAG) with LACP, Multichassis LAG (MC-LAG), FlexE channel protection
OAM	Ethernet OAM (IEEE 802.1ag and ITU-T Y.1731 PM), IP/MPLS OAM (link BFD, Ping, Trace-route), MPLS-TP OAM, G8113.1, G8113.2, RFC5860, Bidirectional Forwarding Detection (BFD), LDI, LSP ping, LSP/PW LB and trace route, RFC 2544 Generator, Y.1564 -Ethernet service activation (SLA), RFC 5357 Two-Way Active Measurement Protocol (TWAMP), FlexE channel OAM
Traffic management	Traffic classification (based on Port, VLAN, Port+VLAN, IEEE 802.1p, IPv4/IPv6 TOS and DSCP), Diffserv based TM, Network wide Call Admission Control (CAC), 8 Classes of Service (CoS)
Topologies	Mesh, Dual homing , multi-ring, ring, star, linear
Security	RADIUS (client authentication), SSH 2, SW integrity checking (SHA-2), SFTP, Access Control List (ACL), IEEE802.1x, control channel HMAC-256, public key authentication, port blocked as default, MACsec
Management	MUSE software suite, MUSE LightSOFT® NMS, EMS-NPT, SNMPv2/v3, LCT, CLI, NETCONF/YANG, PCEP, BGP-LS
Power over Ethernet (PoE+)	Up to 30W
Pluggable support	Electrical, Colored C/DWDM, Tunable, Coherent, non-colored, Compact SFP (CSFP), SFP+, QSFP28 ,CFP2, CFP, and bidirectional CSFP/SFPs/ SFP+
Power input	-40 VDC to -75 VDC
Power dissipation	Typical: 1200W
Operating temperature range	-5°C to +55°C (23°F to 131°F)
Operating RH range	5% to 95%
Environmental standards	NEBS –GR-63 Core, GR-1089 Core, ETS 300 019-1-3 Class 3.2, EN55022 Radiation Emissions (class A)
Safety	EN 60950/2000, according to LVD Directive 72/23/EEC, EN 60825-1&2
EMC	EN 300 386-2, FTZ 1TR9, EN55032 radiation emissions (Class A)
Physical dimensions	H x W x D: 13.8" x 17.5" x 9.6" / 352 x 445 x 243 mm

Expansion Unit

Optics	Optical amplifiers DCFs
TDM	Max. service interfaces: CES: 48 x E1 (n x 64Kbps, FXO, FXS, 2/4W E&M, V24 (RS232), V35, V36, V11, RS422, RS449, C37.94, OMNI, CODIR, G.703 64K) over packet

Specifications subject to change without notice

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