



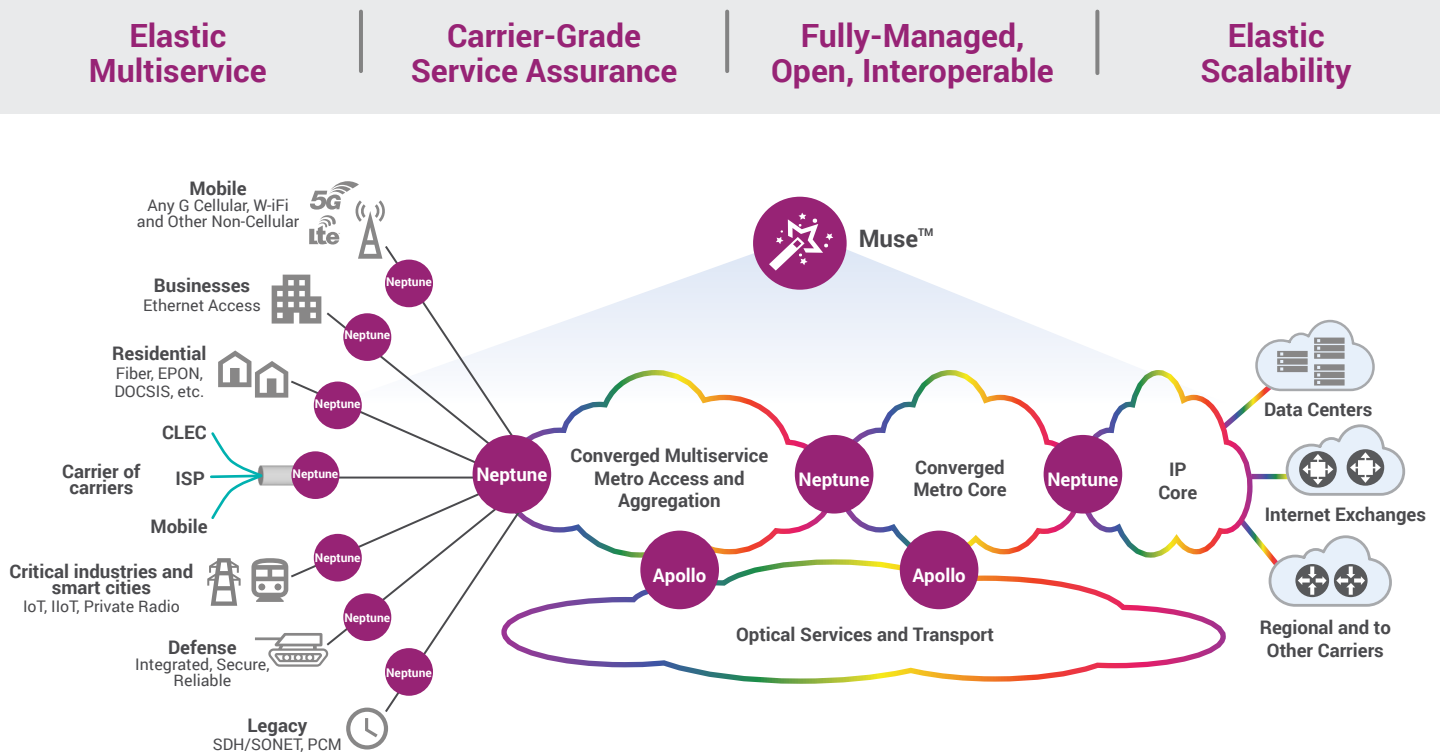
# Neptune NPT-1200

## Converged Multiservice Metro Access and Aggregation

Netptune (NPT) is a family of carrier-class MPLS-based multiservice packet-optical transport platforms, offering best-in-class Carrier Ethernet and packet transport solutions for the metro. Neptune streamlines end-to-end metro service delivery by combining carrier-grade service assurance, visibility, and control, with packet efficiency and unparalleled L1 to L3 multiservice support. Neptune offers converged support for Ethernet, MPLS, OTN, and WDM to provide a powerful, flexible solution for high-performance services and Elastic MPLS. SDN capabilities allow Neptune to evolve to meet the rapidly-changing metro environment.



NPT-1200 is a compact, fully-redundant, modular, MPLS-based (IP and TP) multiservice packet transport platform. Equipped with 560Gbps packet switching and 100G interfaces in just 2RU, NPT-1200 is optimized for high-capacity metro aggregation. Support for Ethernet, TDM (CES), and MPLS make NPT-1200 ideal for operators wanting a converged transport platform for new and legacy services. With such a rich and robust feature set, NPT-1200 is well-suited for a wide variety of applications and networking scenarios. These include; CES for TDM migration, mobile backhaul, wholesale services, residential multiplay, business VPNs, and mission-critical service delivery. Neptune NPT-1200 is managed by Ribbon's Muse™ software suite.



## Technical Specifications

Packet	<b>Switch:</b> 100 Gbps/320 Gbps/560 Gbps <b>Services:</b> MEF CE2.0 (E-Line, E-LAN, E-Tree, E-Access) PN and VPN based Ethernet and IP, MPLS (TP and IP), segment routing <b>Max. Interfaces (100 Gbps configuration):</b> 48 x 100/1000 FX, 10 x 10GE OTN <b>Max. Interfaces (320 Gbps configuration):</b> 64 x 100/1000 FX, 32 x 10GE OTN <b>Max. Interfaces (560 Gbps configuration):</b> 4 x 100G, 60 x 100/1000 BaseX, 32 x 10GE OTN
TDM	<b>Services:</b> CES (SATO, CESoPSN and CEP) <b>Max. Interfaces:</b> 320 x E1/T1, 24 x STM-1/OC-3, 6 x STM-4/OC-12
WDM	CWDM, DWDM, muxponder, amplifiers
Timing and Synchronization	SyncE with ESMC, 1588v2, 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	HW redundancy for common units, IO hardware protection (IOP), RSTP/MSTP, G.8032 Ethernet Ring Protection (ERP), MPLS-TP FRR, Dual FRR, 1:1 Linear protection, FRR with LFA (local and remote), PW Redundancy (PWR), Virtual Router Redundancy Protocol (VRRP), Multi Segment-PW, IEEE 802.3ad Ethernet Link Aggregation (LAG) with LACP, Multi Chassis LAG (MC-LAG)
OAM	Ethernet OAM (IEEE 802.1ag and ITU-T Y.1731 PM), IP/MPLS OAM (link BFD, Ping, Trace-route), MPLS-TP OAM G8113.2, RFC5860, Bidirectional Forwarding Detection (BFD), LDI, LSP ping, LSP trace route, RFC 2544 Generator, Y.1564 -Ethernet service activation (SLA), RFC 5357 Two-Way Active Measurement Protocol (TWAMP)
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, 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, non-colored, Compact SFP (CSFP), SFP+, bidirectional SFPs/SFP+ and QSFP28
Power input	-40 VDC to -72 VDC, 110 VAC to 230 VAC
Power dissipation	Typical: 300W
Operating temperature range	-25°C to +70°C (-13°F to 158°F) – 100G, -5°C to +50°C (23°F to 122°F) - 320G/560G
Operating RH range	5% to 95%
Environmental standards	NEBS –GR-63 Core, GR-1089 Core, ETS 300 019-1-3 Class 3.3 (100G) Class 3.2 (320G,560G), IEEE 1613 (electric utility substations), IEC 61850-3 (electric utility substations), EN 61000-6-5 (Immunity for substations)
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: 3.5" x 18.3" x 9.6" / 88 x 465 x 243 mm

## Expansion Unit

OTN	<b>Services:</b> Ethernet, storage, video, SDH/SONET <b>Max. Service interfaces:</b> 48 x 1GE, 3 x 10GE, 24/12/8/3/3 x FC-1/2/4/8/10, 9 x (SDI, HD-SDI, DVB-ASI), 30 x (STM-1/4/16, OC-3/12/48), 3 x STM-64/OC-192, 24 x OTU-1, 3 x OTU-2 <b>Max. transport interfaces:</b> 24 x OTU-1, 3 x OTU-2, 3 x OTU-2e Optical amplifiers DCFs
Packet	<b>Max. service interfaces:</b> 36 x 100BaseFX, 36 x 10/100BaseFE
TDM	<b>Max. service interfaces:</b> 96 x E1/T1, 72 x (n x 64Kbps, FX0, FXS, 2/4W E&M, V24 (RS232), V35, V36, V11, RS422, RS449, C37.94, OMNI, CODIR, G.703 64K) over packet
Physical dimensions	H x W x D: 3.5" x 17.4" x 9.6" / 88 x 443 x 243 mm

Specifications subject to change without notice

Contact Us

We are here to help. Contact us about our IP Wave solutions.