Neptune NPT-1200

Metro Access And Aggregation Transport For Packet and TDM

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 and NFV capabilities allow Neptune to evolve to meet the rapidly-changing metro environment.
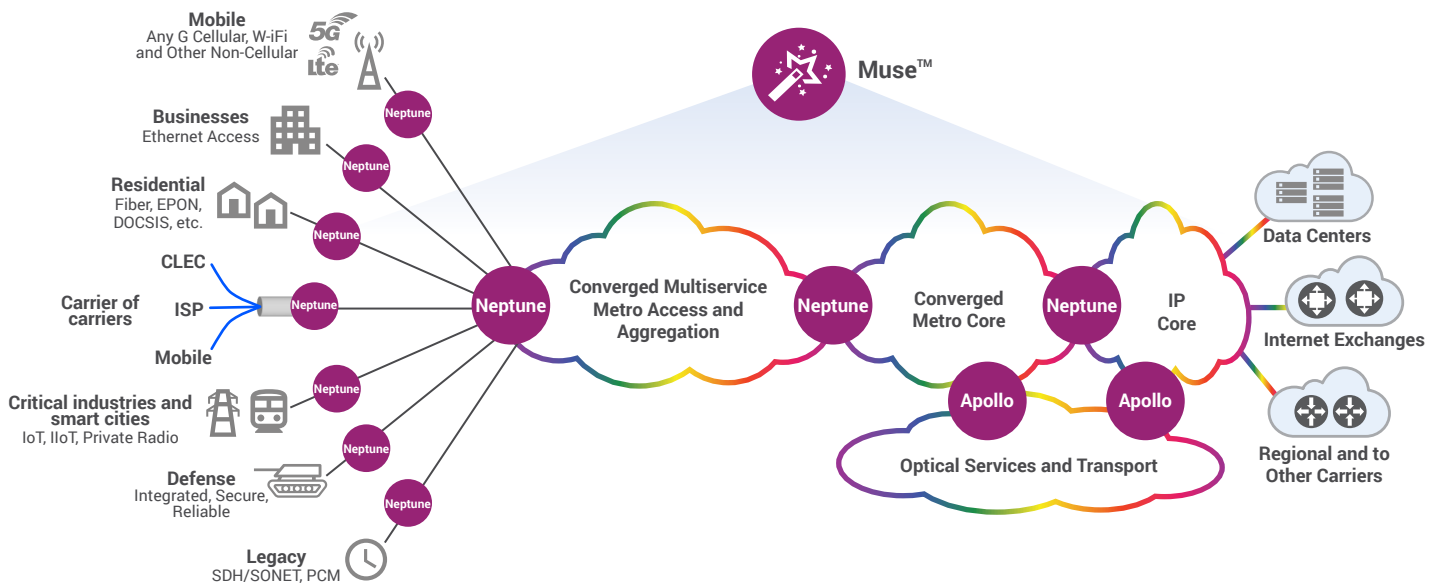
NPT-1200 is a compact high-capacity packet transport platform, ideal for operators looking for a future-proof platform to provide converged transport of new and legacy services. It is 2RU in height and supports Ethernet, TDM, and MPLS-TP with a 320Gbps packet switch and a 40Gbps TDM matrix. Native TDM and TDM over CES/CEP allow operators to evolve their legacy TDM network. 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. Like all Ribbon's transport products, NPT-1200 is managed by Ribbon's Muse™ software suite.

Elastic Multiservice	Carrier-Grade Service Assurance	Fully-Managed Across TDM and Packet	Elastic Scalability

Technical Specifications

Packet	Switch: 100 Gbps/320 Gbps Services: MEF CE2.0 (E-Line, E-LAN, E-Tree, E-Access) PN and VPN based Ethernet and IP, MPLS-TP, Ethernet over SDH (EoS), MPLS over Transport (MoT) Max. Interfaces (100 Gbps configuration): 48 x 100/1000 FX, 10 x 10GE OTN Max. Interfaces (320 Gbps configuration): 64 x 100/1000 FX, 32 x 10GE OTN
TDM	Matrix: 40 Gbps with 4/3/1 connectivity (100% LO granularity) Services: Native TDM, CES (SAToP, CESoPSN, and CEP) Max. Native Interfaces: 2 x STM-64, 15 x STM-16, 36 x STM-4, 36 x STM-1, 21 x DS3/E3, 441 x E1 Max. CES Interfaces: 196 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, PW Redundancy (PWR), Multi Segment-PW, IEEE 802.3ad Ethernet Link Aggregation (LAG) with LACP, Multi Chassis LAG (M-LAG)
OAM	Ethernet OAM (IEEE 802.1ag and ITU-T Y.1731 PM), MPLS-TP OAM (G8113.2), RFC 5860, Bidirectional Forwarding Detection (BFD), LDI, LSP-Ping, LSP Trace-route, RFC 2544 Generator
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, Private/Public key authentication, Port blocked as default
Management	MUSE software suite, MUSE LightSOFT® NMS, EMS-NPT, SNMPv2/v3, LCT
Power over Ethernet (PoE+)	Up to 30W
Pluggable support	Electrical, colored C/DWDM, tunable, non-colored, Compact SFP (CSFP), SFP+, and bidirectional SFPs/SFP+
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)
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), EN55022 radiation emissions (Class A), 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	Services: Ethernet, storage, video, SDH/SONET Max. Service interfaces: 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 Max. transport interfaces: 24 x OTU-1, 3 x OTU-2, 3 x OTU-2e
Packet	Max. service interfaces: 36 x 100/1000 FX, 36 x 1GE
TDM	Max. Service interfaces: • Native: 189 x E1, 9 x E3/DS, 12 x STM-1/OC-3 • CES: 96 x E1 • Native or CES: 72 x (n x 64Kbps, FXO, FXS, 2/4W E&M, V24 (RS232), V35, V36, V11, RS422, RS449, C37.94, OMNI, CODIR, G.703 64K) over TDM or 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

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