Neptune 2032

Data Center Switch

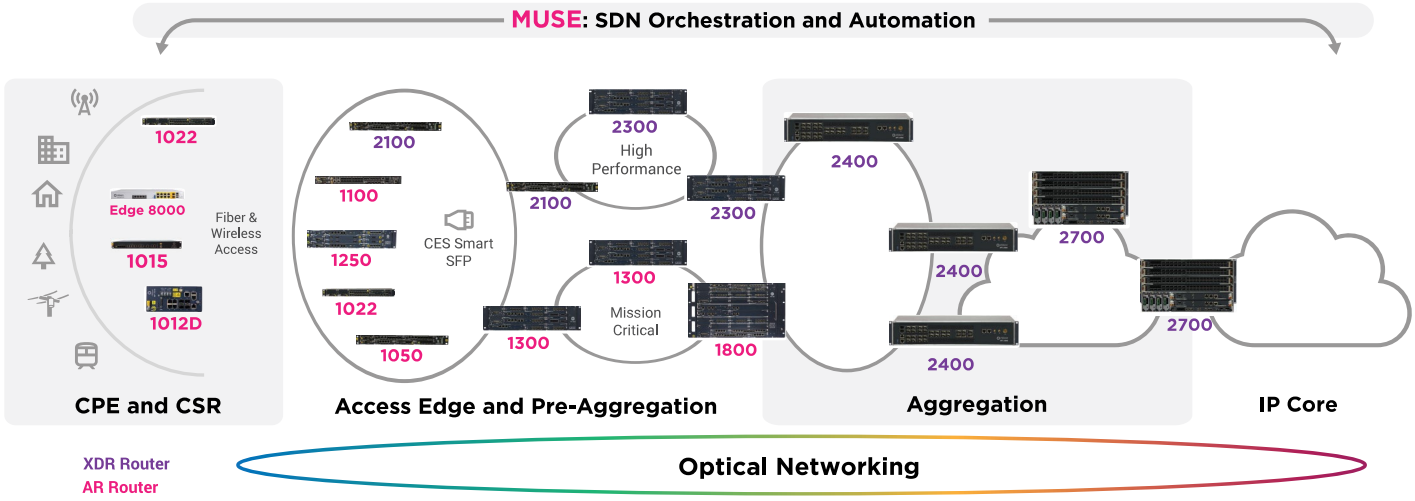
The Neptune 2032 is a compact, energy efficient, feature–rich datacenter switch. It is a perfect fit for operators looking for IP Clos Data Center solution running on a commercial SONiC distribution that provides a full set of Layer 3 functionality and a fully integrated hardware and software solution.

The Neptune 2032 uses NOS based on fully supported commercial open-source SONiC distribution. Ribbon integrate this with an OCP Accepted Whitebox from Edge-Core Networks, which uses Broadcom Trident 3 silicon to provide highly scalable, low power switching capacity.

OCP ACCEPTED

The Neptune 2032 provides 3.2Tbps capacity, supporting 32 QSFP28 ports which can be configured to provide 100GbE, 40 GbE, 2x50 GbE, 4x25 GbE and 4x10 GbE interfaces. The Neptune 2032 is agile enough to support multiple deployment options such as top-rack leaf switch (TOR), border-leaf deployments, End of row (EOR), spine. Neptune 2032 have interchangeable front-to-back and back-to-front fan and PSU options, so it can be deployed in both server racks and aggregation/routing/networking racks. The Neptune 2032 is optimized to provide BGP EVPN-VXLAN in a IP CLOS datacenter architecture and has the flexibility to be deployed in configurations varying from fully non-blocking through to 15:1 oversubscription (downlink:uplink).

Ribbon's integrated solution is end-to-end system tested and validated. Training, installation and ongoing operational support and expertise is provided by our extensive support teams who offer a tailorable set of white-glove services able to meet every customers needs. For customers considering disaggregated networking datacenter solutions, Ribbon can offer validation services for 3rd party hardware running SONiC NOS.



Full NPT Portfolio

Neptune 2032 Key Product Highlights

- Cost-effective, open network switch for data center fabric
- Fully integrated solution with open-source Pure SONiC NOS and OCP certified hardware
- Designed for use in RFC 7938 IP CLOS architecture
- Energy efficient with low power industry leading Trident 3 merchant silicon from Broadcom
- Layer 2 or Layer 3 forwarding of 3.2 Tbps (full duplex).
- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.
- All ports on front; PSUs and fans accessible from rear.
- Hot-swappable, load-sharing, redundant AC or -48V DC PSUs.
- 5+1 redundant, hot-swappable fan modules.
- Tailorable white glove services 24/7/365

ribbon

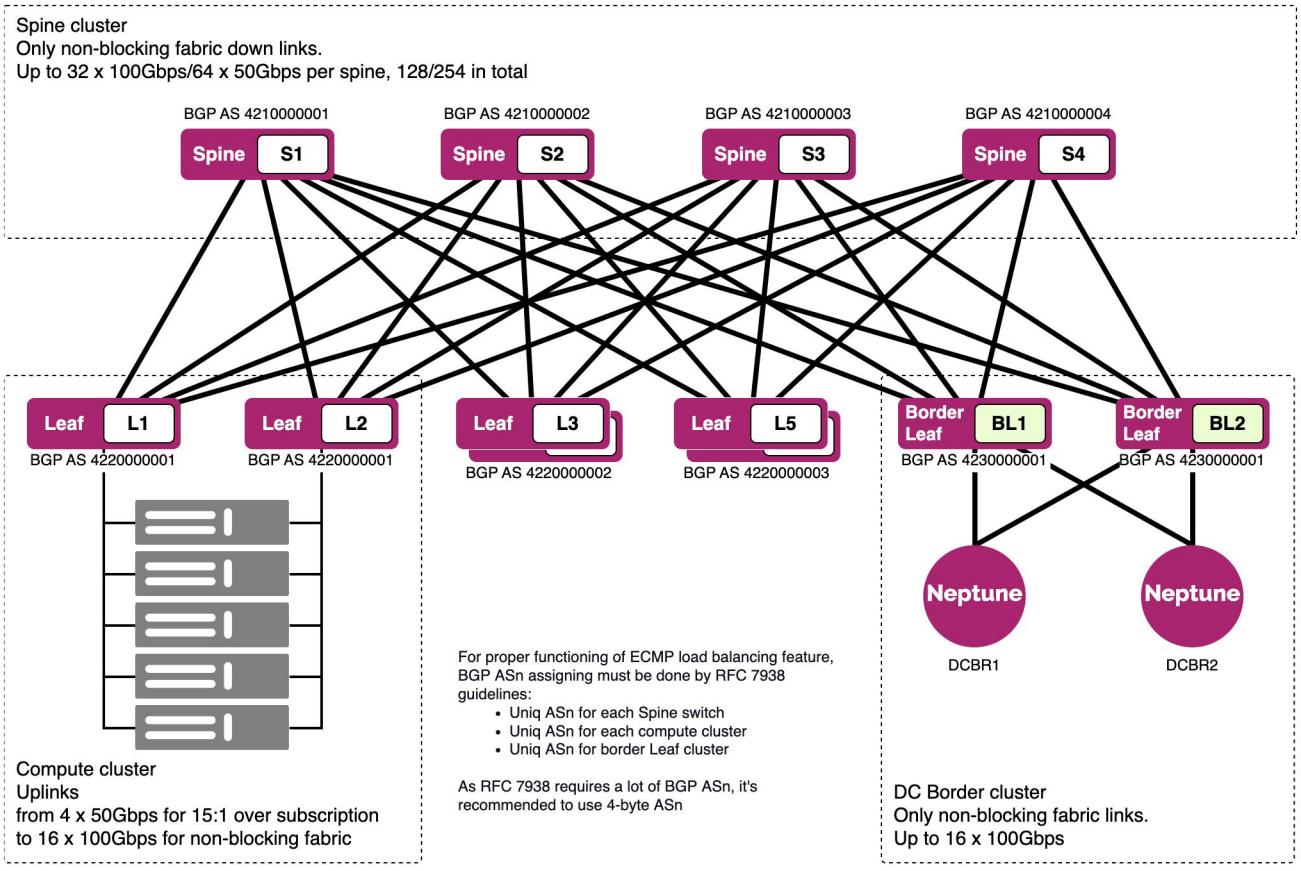
Integration and Support

SONiC

Whitebox Hardware and Merchant Silicon

Simple 2-Tier Data Center Architecture IP CLOS Overlay with BGP EVPN-VXLAN

Ideal approach for medium sized telco deployments and enterprises such as financial datacenter silos, campus datacenters and Utelco private datacenters. Provides both Layer 2 and Layer 3 transport between the compute clusters with BGP EVPN-VXLAN.



ribbon

Key Neptune 2032 Product Specifications

Platform

Description	Specification
Switch Silicon	• Broadcom BCM56870 Trident III 3.2 Tbps
CPU	• Intel® Xeon® D-1518 processor quad-core 2.2 GHz DDR4: SO-DIMM 8 GB x 2
Memory	• 2 x SPI Flash: 16 MB • m.2 SSD: 64 GB MLC
Switch ports	• 32 x QSFP28 ports. Each port supports 1 x 40/100 GbE or • 2 x 50 GbE or 4 x 10/25 GbE per port using breakout cables
Management Ports on the Port side	• 1 x RJ-45 serial console • 1 x RJ-45 1000BASE-T management 2 x SFP+ 10G management ports • 1 x USB Type A storage
Power	• PSUs: 2 redundant, load-sharing, hot-swappable AC or -48 VDC • AC input range: 100 V~240 VAC • DC input range: -36~-75 VDC • Power Consumption: 550 Watts maximum • Redundant, current sharing, PG
Physical Specification	• Dimensions: 43.84 (W) x 51.5(D) x 4.35 cm(H) (17.25 x 20.27 x 1.71 in.)
Weight	• 10.87 kg (23.96 lb), with two installed PSUs

Software features provided by the SONiC NOS

Description	Specification
Ethernet Support	• Ethernet • IEEE 802.1Q Virtual LAN (VLAN) Tagging • IEEE 802.1p Class-of-Service Prioritization and Tagging • IEEE 802.1v VLAN Classification by Protocol • IEEE 802.1AB Link Layer Discovery Protocol (LLDP) • IEEE 802.3x Flow Control (Pause Frames) • IEEE 802.1X
Software Capabilities	• Layer 2 and Layer 3 Protocols • EVPN-VxLAN L2 and L3 VxLAN Symmetric and Asymmetric • Anycast gateways • Border Gateway Protocol (BGP) (v4, v6) • BGP EVPN Control Plane (Type 2, 3, and 5) • BGP Route Reflector • OSPFv2 • Layer 3 Access Control Lists (ACL) • Bidirectional Forwarding Detection (BFD) • 64-Way Equal-cost Multi-path (ECMP) • Virtual Routing and Forwarding (VRF) Lite • Virtual Router Redundancy Protocol (VRRP) (IPv4/IPv6) • IPv4/IPv6 Dual Stack • Internet Control Message Protocol (ICMP) v6 Route-Advertisement • Wire-speed routing for IPv4 and IPv6 • Multi-chassis LAG (MCLAG) • PVST • RPVST+ • IEEE 802.1S Multiple Spanning Tree Protocol (MST) • Network Address Translation (NAT) • CoPP (Control Plane Policing) • Policy Based Routing for IPv4 and IPv6 • Routed subinterfaces • IPv4 unnumbered interfaces

Standards Compliance

Description	Specification
NEBS	• NEBS GR63-CORE (Pre-test)
Safety	• CB • UL • CCC • BSMI
EMI	• CE Mark • EN55032 Class A • EN55024 • EN61000-3-2 • EN61000-3-3 • FCC Part 15, Subpart B Class A VCCI Class A • CCC • BSMI
WEEE Standards	• Waste Electrical and Electronic Equipment (WEEE Directive 2002/96/EC)
RoHS	• RoHS-2.0 Compliant

Environmental

Description	Specification
Operating Temperature	• 0°C to 45°C (32°F to 113°F)
Storage Temperature	• -40°C to 70°C (-40°F to 158°F)
Operating Humidity	• 5% to 95% non-condensing

Specifications subject to change without notice

Contact Us Contact us to learn more about Ribbon solutions.