

Plexxi Switch 2

Affinity Networking™ Switch

The Plexxi Switch 2 delivers the next generation of innovative networking solutions designed to meet the growing needs of today's virtual and highly dynamic data center and cloud environments. The switch's advanced architecture integrates the latest in Ethernet switching technology with an innovative centralized/federated SDN-based control mechanism and a unique optical multiplexing interconnect. This replaces traditional switched hierarchies with a scalable, high bandwidth, low latency and programmatically adaptable Virtual MultiCore™ network and enables Affinity Networking, the new paradigm in cloud and data center infrastructure.

THE OPTICAL SWITCHING ADVANTAGE

Each Plexxi Switch 2 features four LightRail™ optical interfaces delivering up to 480 Gbps full-duplex bandwidth creating programmable scalable meshed networks. Plexxi Switches use wavelength division multiplexing (WDM) and optical cross-connect technologies to create a layer 1 optical mesh network between switches on a Plexxi ring that is completely controllable by software. Switch to switch cabling is greatly simplified with 2 or 4 connections per switch. Switch 2 can fully co-exist with Switch 1/1x and Plexxi optical rings can be constructed that contain any combination of Switch 1 and Switch 2 platforms.

VIRTUAL MULTICORE

The full potential of optical switching is unleashed by Plexxi's Virtual MultiCore architecture that delivers efficient network topologies to critical application workloads. The optical multiplexing technology creates a massively multipath network fabric with many direct and indirect paths between switches in a Plexxi network. The organization of these paths are managed by the Plexxi Control software, which understands specifically the relationship between resources that comprise a workload ("affinities") and specific needs or constraints between those resources or to external resources. The result is a network where individual workloads receive their own virtual core of the network, similar to how virtual machines get assigned to logical CPU cores.

AFFINITY SMARTPATH

Affinity SmartPath is an intelligent and adaptive technology that ensures workloads always get access to the most optimal network paths. Affinity SmartPath intelligently selects the best network paths for workloads that have defined explicit constraints or needs from the network. Less sensitive workloads without explicitly defined constraints are efficiently load balanced across the many direct and indirect paths created by the optical mesh. The Plexxi Control software is even smart enough to detect high traffic patterns and promote specific workload traffic to direct or high-bandwidth paths when available even without an explicit policy.

Unlike typical multipath networks, which might utilize a maximum of 16 or 32 equal cost paths between switch ports, Plexxi Control can intelligently select from hundreds of non-interfering, non-equal paths across the highly diverse Plexxi Virtual MultiCore fabric. As a result, Affinity SmartPath creates unprecedented efficiency, delivering higher performance with greater flexibility than traditional access/aggregation/core hierarchical networking solutions.



- ◆ High-density 10 GbE access
- ◆ 2.56 Tbps switching capacity
- ◆ 2RU form factor
- ◆ WDM optical inter-switch connectivity
- ◆ Redundant/hot-swappable power and fans
- ◆ SDN-based architecture using Plexxi Control
- ◆ Fully compatible with Plexxi Switch 1x



SCALE OUT, NOT UP

Plexxi Switches interconnect in a ring topology using LightRail high density optical multiplexing technology creating a full or partial mesh between switches. This creates a more cost effective and power efficient network architecture than traditional tree or spine hierarchical networks can achieve. The mesh architecture enables linear scaling, with each additional switch adding fabric capacity. Plexxi rings support networks from a few server racks in size to a large capacity cloud data center. The linear build out offers predictable economics and capacity growth.

With the introduction of 2 extra LightRail connections and a doubling of the optical fabric bandwidth, Switch 2 creates a next level of datacenter scaling. The additional connections allow the creation of concentric rings to boost intra ring bandwidth, or multidimensional rings in Torus or Manhattan grid type deployments, architectures that can scale to 1000s of switches and many 100s of thousands access ports.

FLEXXPOR TS

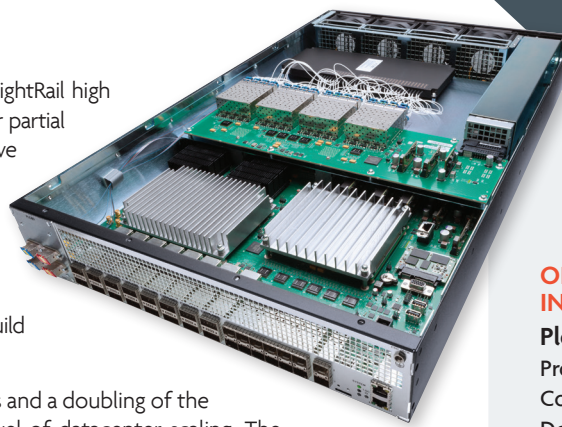
Switch 2 provides up to 28 FlexxPorts (4 QSFP+, 12 SFP+). FlexxPorts are access ports that are directly connected to the Plexxi optical fabric. At speeds of up to 11Gbit/sec, they can provide transparent, non-Ethernet transport across the Plexxi optical fabric to any other FlexxPort in a Plexxi ring. FlexxPorts also allow fabric connections to be remapped to access ports to enable long reach or DWDM optics for Data Center Interconnect solutions.

LATEST SWITCHING TECHNOLOGY

Plexxi Switch 2 is based on the latest available commercial switching technology providing line rate forwarding. It provides up to 288,000 L2 and up to 112,000 L3 IPv4 host entries, 480 nanosecond latency, full Data Center Bridging support and increased packet buffer allocation capabilities leading to improved congestion performance. This latest technology also provides full support for VXLAN and NVGRE overlay networks, with the ability to perform overlay to traditional network gateway functions, as well as optimized packet distribution algorithms based on VXLAN and NVGRE packet formats.

PLEXXI SWITCH 2 SPECIFICATIONS

	Switch 2	Switch 2s
Chassis	2 RU Form Factor Redundant Hot Swappable Power Supplies Hot swappable fans Console, RJ45	
Access Interfaces	Total of 48 x 10GbE: 12 x QSFP+ (1x40GbE, 4x10GbE) 4 x QSFP+ FlexxPorts 12 x SFP+ FlexxPorts	Total of 72 x 10GbE: 16 x QSFP+ (1x40GbE, 4x10GbE) 8 x SFP+ (1x10GbE) 4 x SFP+ FlexxPorts
Switching Capacity	2.56 Tpbs (1.92 Tpbs User Capacity)	
LightRail™ Interfaces	4 keyed MPO Connectors 48 x 10GbE Wavelengths	2 keyed MPO Connectors 24 x 10GbE Wavelengths
Power Consumption	Maximum Power Draw 500W Typical Power Draw 400W	Maximum Power Draw 400W Typical Power Draw 250W
Dimensions	19.00"W x 28.00"D x 3.375"H	
Weight	41.65 Lbs	
Safety	UL/CSA/EN 60950	
Emissions	EMI: FCC Part 15 Class A (US), VCCI Class A (Japan), ICES-003 Class A (Canada), EN 55022 Class A (EU)	
Other	ROHS-6	
Product Laser Classification	Class 1 laser product	



ORDERING INFORMATION

Plexxi Switch

Product: Switch2
Code: PX-S2-R and PX-S2-F
Description: Plexxi Switch 2, 16xQSFP+ (12 Access, 4 Flexx), 12 SFP+ (Flexx), 2 power supplies, 2 IEC-60320-C14 To IEC-60320-C13 power cords power cords, 4 fan trays front to rear airflow (fans cold aisle) - PX-S2-R rear to front airflow (fans hot isle) – PX-S2-F

Product: Switch 2s
Code: PX-S2S-R and PX-S2S-F
Description: Plexxi Switch 2s, 16xQSFP+ (Access), 12 SFP+ (8 Access, 4 Flexx), 2 power supplies, 2 IEC-60320-C14 To IEC-60320-C13 power cords, power cords, 4 fan trays front to rear airflow (fans cold aisle) - PX-S2S-R rear to front airflow (fans hot isle) – PX-S2S-F

Accessories

Product: Rack Mount Kit
Code: PX-ACC-RCKMNT-S2-A
Description: Rack Mounting Kit for Switch 2/2s

Control

Product: Control
Code: PX-C1-1
Description: Unlimited RTU license for 1 Plexxi Switch, includes 1 Tier 1 Plexxi Connector

Product: Control Connector Tier 1
Code: PX-CT-1
Description: Unlimited RTU for 1 Tier 1 Plug-in

Product: Control Connector Tier 2
Code: PX-CT-2
Description: Unlimited RTU 1 Tier 2 Plug-in



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