Asterfusion CX11008-N Series Switch

✧ CX11008-N-S   128 x 100G QSFP28
✧ CX11008-N-E   64x 100G QSFP28 + 16 x 400G QSFP-DD
✧ CX11008-N-A   32 x 400G QSFP-DD

Highlights

- Compact 4RU standards-based open network switch with SONiC enterprise distribution AsterNOS software preloaded

- Deployment-proven Innovium Teralynx switching ASIC and Intel Multi-core X86 as control CPU

- Industry leading ultra-low latency capability.

- 3+1Redundant Power Supply

- 3+1Redundant Fan Modules

- Supports VXLAN, EVPN, DCTCP ,DCQCN features for large data centers and large enterprise networks.

Product Overview

The Asterfusion CX11008-N series switch is an advanced best-in-class, open-source network platform that provides high-capacity, standards-based L2/L3 switching ability to stay ahead of evolving service demands driven by cloud computing requirements for large-scale data centers and enterprise network,as well as private cloud,storage and AI interconnecting scenarios.

Built on the deployment-proven Innovium Teralynx switching ASIC, this open network switch is preloaded with AsterNOS, a feature-rich and high quality assured enterprise NOS distribution of SONiC.

CX11008-N-E can be deployed as a leaf switch supporting 400G/100G spine interconnects and support 10/25GbE to servers with 40/100GbE; CX11008-N-S/CX11008-N-A can be deployed as a spine switch supporting 40/100GbE spine interconnects.

The Asterfusion CX11008-N series switch supports complete Layer 3 IPv4 and IPv6 routing protocols as well as functions such as VXLAN and EVPN for virtual network expansion.

In addition to advanced data center functions, DCB (Data Center Bridging), ECN (Explicit Congestion Notification), RoCE (RDMA over Converged Ethernet), DCTCP (Data Center TCP), and DCQCN (Data Center Quantized Congestion Notification) are provided to deliver low-latency, zero packet loss, non-blocking Ethernet.

Furthermore, it supports features like INT to provide end to end network visibility and BFD to provide fast failure detection which simplifies network operation even under heavy traffic usage.

Operating System- AsterNOS

Enabling simple, plug-and-play deployments, the Asterfusion CX11008-N switch is delivered as an integrated, turnkey solution that is shipped with AsterNOS operating system, a feature-rich and high-quality enterprise NOS distribution of SONiC. It provids a container based application development and deployment which makes the switch easy to expand new functionalities even by customers. AsterNOS also provides full set of RESTful APIs for switch daily configurations and operations which helps any applications can integrate the hardware gear as easy as software based virtual switches.

Asteria Fabric Controller (AFC)

The Asteria Fabric Controller (AFC) is a Cloud SDN Controller designed and developed by Asterfusion for seamless integration into OpenStack based cloud OS or standalone deployment turning clusters of switches into a single virtual fabirc .

In-band Network Telemetry

To help customers build a "never fail" data center network, theCX11008-N series switch supports INT(In-band Network Telemetry) which can generate accurate and comprehensive real-time telemetry data including switch chip resource utilization, packet drop record with reason and time stamps etc. to artificial intelligence platforms for further analytic to realize self-driven and self-healing networks.

Industry-leading ultra-low latency

The Asterfusion CX11008-N series offers industry-leading low latency switching capabilities as low as ~500ns in most application scenarios . Allowing it to more than satisfy the requirements of latency-sensitive applications, such as NVM EoF, high-frequency trading, big data analysis machine learning and etc.

Automate installation and Easy Deployment

The Asterfusion CX11008-N series switch Supports ZTP (Zero Touch Provisioning), which be able to retrieve configuration files from local or remote file servers and then load the configurations into the switches automatically.
In addition,ONIE(open network intall environment)is also preloaded on the switch.With ONIE, it can automatically install, upgrade and manage different versions of network operating system software. This combination of ZTP and ONIE would allow data center administrators to cut down the OAM workload and hence significantly reduce the overall operational cost.

Warranty

The AsterfusionCX11008-N series switch is backed by a 2 year limited hardware warranty. Multiple extended support options, including advanced replacement and 24x7 support services, are available. Contact us for complete details.

CX11008-N Series Switch Technical Specification

|		
Switching	**Chip**	Innovium Teralynx
	CPU	Multi-core x86
	Ports	CX11008-N-S 128 x 100G QSFP28 CX11008-N-E 64* 100G QSFP28 + 16 x 400G QSFP-DD CX11008-N-A 32 x 400G QSFP-DD
	Forwarding Rate	8000Mpps
	Packet Buffer	70MB
	Capacity	25.6 Tbps
	Latency	460ns
CPU	**Memory/ GB**	16G, maximum 128GB
	SSD /GB	64GB, maximum 512， m.2 SATA
Management Port	**USB（Type A）**	1
	Serial Console（RJ-45）	1/1
	Management　Port	1 x RJ45 Ethernet 1G/100M
Power	**Input Voltage(W)**	800/800 (AC/DC)
	Max. Power Consumption(W)	1130/2045
Physical and Environmental	**Dimensions (HxWxD, mm)**	440/176/470
	Rack Space	4RU
	Fan	3+1, hot pluggable
	Hot-swappable PSU	1+1 hot pluggable
	Operating Temperature	0°C to 40°C
	Operating Humidity	5% to 90%(non- condensing)
Warranty	**Warranty**	2 years
Approvals	**Certificate**	CCC/CE

FEATURES

L2 Switching	**VLAN**	4096 VLAN/4K VLAN / Access mode / Trunk mode / VLAN-based MAC learning
	LAG/LACP	Maximum 256 aggregation groups / Maximum 128 interfaces per aggregation group
	MAC	Max120K/ Dynamic learn /Static deploy / Table priority / Age / Shift
	LLDP	Neighbor Discovery &Aging / Layer 2 mode /Layer 3 mode/ Transceiver / Single Receive / Single Shot / Custom TLV
	Spanning Tree	STP / MSTP
	Jumbo Frame	9K
L3 Switching	**IPv4 / IPv6**	Forwarding / IPv6 NDP / IPv6 ND Proxy
	ARP	Static ARP /Dynamic ARP / Age / Update /Free ARP / ARP Proxy
	Routing Protocols	Static routing/BGP / MP-BGP / OSPF
	Multipath	Hash/ ECMP / Up to 64 channels / Elasticity Hash
	DHCP	DHCPv4 / DHCPv6 / DHCPv4/v6 Server / DHCPv4/v6 Relay
	Multi VRF	256 VRF
Virtualization	**VXLAN**	Encapsulation/ De-encapsulation /VTEP Overlay L2 forward/L3 gateway/ Distributed gateway / ARP suppression
	BGP EVPN	VXLAN tunnel automatic establishment / virtual network routing dynamic propagation distributed gateway / symmetry IRB /ARP suppression/ VM migration
High Reliability	**System**	Container based Feature Deployment Runtime Data in Database
	VLAG / MC-LAG	Virtual Tunnel-Based Multi-Chassis LAG Physical Link -Based Multi-Chassis LAG
	BFD	Static Routing/BGP / OSPF
	Network Quality Analysis	SLA INT Meta Data, Mirror-on_Drop
Security Protection Policies	**ACL**	ACL for IPv4/v6 / DSCP Mapping, labeling, Classification /ACL on Ingress / ACL on Egress
	Control Plane Protection	IPv4 CoPP / IPv6 CoPP /Traffic shipping
	AAA	TACACS+
QoS	**Basic**	Multi-Queue / DSCP Mapping Queue / Bandwidth Guarantee / Tail Drop /WRED etc.
	Data Center Network	PFC / ECN / ETS / DCBX
	Advancing Data Center Function	QCN / DCQCN / DCTCP/RoCEv2

Easy Network Maintenance	Management UI	CLI / RESTful API /gRPC SDN Controller
	DevOps	Ansible / Python
	Easy Management	RJ45 Management ports/ BMC for System status monitoring /System information monitoring ONIE Install/ZTP/SONiC inline Upgrade/Warm Reboot / Fast Reboot/ NTP/SNMP
	Monitoring	SPAN / ERSPAN / Syslog / CRM

- **Front Panel**
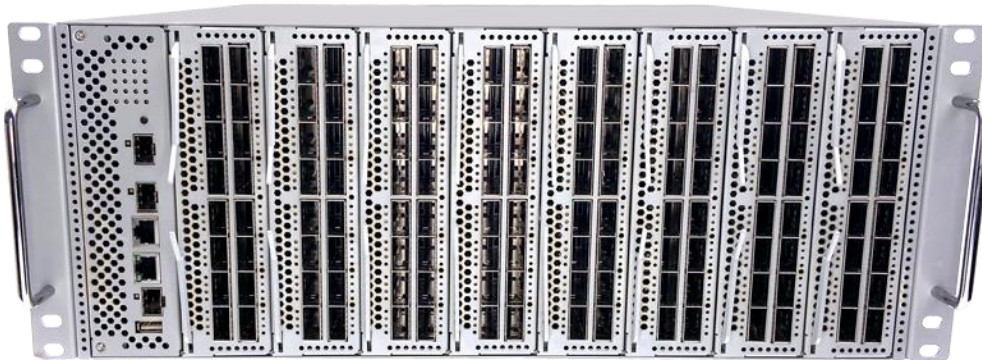
- **Rear Panel**

About Asterfusion

Asterfusion Networks is the leading provider of Open Networking infrastructure solutions. We provide an open, disgregated, and highly programmable network fabric for next generation data centers with simplified management and white-box economics. The company is committed to developing supported and trusted cloud and programmable hardware switches based on Innovium,Marvell and Tofino Chips for data centers, as well as to offering the SONiC & P4 based network operating systems. We also developed for the 10G-100G hardware box and smart NIC by DPU in-house.Both are inspired by and based on open-source community frameworks and projects, enabled as feature-rich commercial, secure, and fully supported solutions, with a high level of quality assurance.Based on our proprietary technology, highly software-defined architectures, open and transparent operating systems, and hardware platforms that break through traditional limitations to enable networks to be more open, agile, and programmable. .For more information on Asterfusion's products and solutions, please visit https://cloudswit.ch. For sales inquiries, please send an email to sales@asterfusion.com