

NSS7830-09C 400G Data Center Switch Datasheet

Overview

NSS7830-09C is a new generation 400G VxLAN spine switch designed for enterprise data center and campus LAN networks, providing high-throughput, high-density 10G/25G/40G/100G/200G/400G interfaces, larger buffer and lower latency. By using Maipu MyPowerOS software platform, NSS7830-09C provide rich data center service features and management capability.

NSS7830-09C realize large buffer of the interfaces, meeting the burst flow forwarding without packet loss; provide the M-LAG technology for virtualization scenarios; provide the modular power and fan design for high reliability. The key components adopt "overvoltage" designs to ensure that the product has the strong ability of continuous operation.

The NSS7830-09C adopts advanced hardware architecture with up to 32*400GE ports. It can work together with NSS5830/5930 VxLAN leaf switches to build a complete, scalable, virtualized fabric network that meets the data center requirements. Meanwhile, NSS7830-09C can also be deployed as aggregation or core switches for enterprise campus LAN networks.

NSS7830-09C supports 2*Control engine slots, 8*Service slots, 4*Power slots, 6*Fan slots.



NSS7830-09C 400G Data Center Switch

Key Features

High-density 10G/25G/40G/100G/200G/400G ports

The NSS7830-09C adopts advanced hardware architecture with up to 128*10/25G, 128*40/100G, 64*100/200G, 32*400G interfaces in compact 4U device. The port combination fully satisfies the interface density requirement of data center scenarios. NSS7830-09C can work with NSS5830/NSS5930 leaf switches to build a non-blocking network architecture.

• M-LAG for cross-device link aggregation

The NSS7830-09C supports multi-chassis link aggregation group (M-LAG), which enables links of multiple switches to aggregate into one to implement cross-device link backup. The rest of switches in the M-LAG group are working actively regardless any switch failure. During the upgrade, other switches in the system take over traffic forwarding to ensure uninterrupted services.

VxLAN for Layer2 Virtualized Deployment

The NSS7830-09C can work with the industry's mainstream virtualization platforms and acts a hardware gateway on an VxLAN overlay network. Virtual extensible LANs (VxLAN), a common network virtualization overlay protocol that expands the layer 2 network address space from 4,000 to 16 million. NSS7830-09C supports BGP-EVPN, which is used as the overlay control plane and provides virtual connectivity between different layer 2/3 domains over an IP or MPLS network.

RoCEv2 Lossless Ethernet Technology

The NSS7830-09C supports lossless Ethernet (RoCEv2) features such as Priority-based Flow Control (PFC) and Explicit Congestion Notification (ECN) control algorithms which can avoid packet loss and message retransmission that may occur in traditional Ethernet protocols when encountering network congestion, reduce network latency and jitter, and thus achieve higher performance and lower latency.

Telemetry for intelligent OAM

The NSS7830-09C provides telemetry technology to collect device data in real time and send the management data to customer network analyzer platform. Telemetry systems, done properly, play an important role in providing you with information about the health of your network, so you can respond intelligently to prevent hardware failure and network downtime. It can help customers to identify and analyze network problems which affect user experience.

Netconf & Restfonf API Integration

The NSS7830-09C supports NETCONF and Restconf API and can work with 3rd party SDN controller for simplified device remote configuration.

Reliable hardware design and energy-saving

The NSS7830-09C uses a standard airflow design which isolates cold air channels from hot air channels. This design improves heat dissipation efficiency and meets design requirements of data center. It adopts hot swap redundant power modules and fans which ensure hardware reliability and non-stopping operation. The fan speed can be adjusted dynamically based on system workload.

Free Licensing Policy

Maipu always insists on "One-time investment" free license policy, the standard features and advanced features will be never divided to different version. For any new firmware version, Maipu will share to customers without extra charge. Compared with other manufacturers, Maipu free license policy can better protect users' short-term and long-term investment.

Technical Specifications

Control Engine Slot Service Card Slots Power Supply Slots FAN Module Slots Management interface One Console port, one management Ethernet port, one USB interface Switching capacity 25.6Tbps Power Supply Input voltage (AC): 100V ~ 240V, 50Hz ~ 60Hz Work temperature: 0°C to 45°C Storage temperature: 40°C to 70°C Work humidity: 10% to 90%, no-condensing Humidity Storage humidity: 5% to 95%, no-condensing Dimension(W*D*H) MTBF Software specification Interface Interface Port Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel interface, Null interface, VXLAN interface Standard L2 protocol Ethernet Switching IP Protocol ARP, DHCP, DHCPP Detryo, Port Priority, LACP Load Balance, LACP Rate Monitor, LACP Debug, Port isolation, Qinq, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lile, VLAN Isolation ARP, DHCP, DHCPP6, PHCP Option82, DNS, GRE, IPIP, IPV6 over IPV4, ISATAP, IPV4 over IPV6, IPV6 over IPV6 Routing Protocol Static route for IPV48/IPV6, RIPY1/V2, RIPng, OSPFV2, OSPFV3, IS-IS, IS-ISV6, BGP, BGPv6, Policy Route, MP-BGP L2 multicast IGMP Snooping, IGMP Snooping, Router-alert Option IGMP Snooping, Router-alert Option BOSS BOSS SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic	Product Model	NSS7830-09C		
Service Card Slots Power Supply Slots FAN Module Slots Management interface One Console port, one management Ethernet port, one USB interface Switching capacity 25.6Tbps Power Supply Input voltage (AC): 100V ~ 240V, 50Hz ~ 60Hz Work temperature: 0°C to 45°C Storage temperature: 40°C to 70°C Storage temperature: 40°C to 70°C Work humidity: 10% to 90%, no-condensing Storage humidity: 5% to 95%, no-condensing Dimension(W*D*H) A42mm*680mm*175.3mm TBF Port Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel Interface, Null interface, VXLAN interface Standard L2 protocol Ethernet Switching Fort Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel Interface, Null interface, VXLAN interface For Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel Interface, Null interface, VXLAN interface Fithernet Switching For Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel Interface, Null interface, VXLAN interface Fithernet Switching For Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel Interface, Null interface, VXLAN interface Fithernet Switching For Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel Interface, Null interface, VXLAN interface Fithernet Switching For Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel Interface, Null interface, VXLAN interface Fithernet Switching For Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Null	Hardware specification			
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FAN Module Slots Management interface One Console port, one management Ethernet port, one USB interface Switching capacity Power Supply Input voltage (AC): 100V ~ 240V, 50Hz ~ 60Hz Work temperature: 0°C to 45°C Storage temperature: -40°C to 70°C Work humidity: 10% to 90%, no-condensing Dimension(W*D*H) A42mm*680mm*175.3mm MTBF Software specification Interface Port Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel interface, Null interface, VXLAN interface Standard L2 protocol Ethernet Switching LACP Link aggregation, LACP Port Priority, LACP Load Balance, LACP Rate Monitor, LACP Debug, Port isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lite, VLAN isolation ARP, DHCP, DHCPv6, DHCP Server, DHCPv6 Server, DHCPv6 Client, DHCP Relay, DHCPV6, IPv6 over IPv6, IPv6 o	Service Card Slots	8		
Management interface Switching capacity 25.6Tbps Input voltage (AC): 100V ~ 240V, 50Hz ~ 60Hz Work temperature: 0°C to 45°C Storage temperature: -40°C to 70°C Work humidity: 10% to 90%, no-condensing Dimension(W*D*H) A42mm*680mm*175.3mm MTBF Software specification Interface Port Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel interface, Null interface, VXLAN interface Standard L2 protocol Ethernet Switching IP Protocol IP Protocol Routing Protocol Routing Protocol ARP, DHCP, DHCPV6, DHCP Server, DHCPV6 Server, DHCPV6 Client, DHCP Relay, DHCPV6 Ploton82, DNS, GRE, IPIP, IPV6 over IPV4, ISATAP, IPV4 over IPV6, IPV6 over IPV6 Routing Protocol L3 multicast IGMP Snooping, IGMP Snooping over VXLAN, multicast VLAN (MVR, MVP), MLD Snooping, Router-alert Option Filter, MLD Group Filter 802.1p, DSCP, Priority MRD, PWR, WDRR, SP+WRR, SP+WRR	Power Supply Slots	4		
Switching capacity Power Supply Input voltage (AC): 100V ~ 240V, 50Hz ~ 60Hz Work temperature: 0°C to 45°C Storage temperature: -40°C to 70°C Work humidity: 10% to 90%, no-condensing Dimension(W*D*H) At2mm*680mm*175.3mm MTBF Software specification Interface Port Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel interface, Null interface, VXLAN interface LACP Link aggregation, LACP Port Priority, LACP Load Balance, LACP Rate Monitor, LACP Debug, Port isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lite, VLAN isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lite, VLAN isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lite, VLAN isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lite, VLAN isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lite, VLAN isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lite, VLAN isolation, QinQ, VLAN mapping, Super VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG, Lite, VLAN isolation, QinQ, VLAN mapping, Super VLAN, MSTP, IPV6 over IPV6, IPV6 over	FAN Module Slots	5		
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Storage humidity: 5% to 95%, no-condensing	Humidity		Work humidity: 10% to 90%, no-condensing	
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Interface	Dimension(W*D*H)		442mm*680mm*175.3mm	
Interface Port Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel interface, Null interface, VXLAN interface Ethernet Switching LACP Link aggregation, LACP Port Priority, LACP Load Balance, LACP Rate Monitor, LACP Debug, Port isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Errordisable, GVRP, MLAG, MLAG Lite, VLAN isolation ARP, DHCP, DHCPv6, DHCP Server, DHCPv6 Server, DHCPv6 Client, DHCP Relay, DHCPv6 Relay, DHCP Option82, DNS, GRE, IPIP, IPv6 over IPv4, ISATAP, IPv4 over IPv6, IPv6 over IPv6 Routing Protocol Static route for IPv4&IPv6, RIPv1/v2, RIPng, OSPFv2, OSPFv3, IS-IS, IS-ISv6, BGP, BGPv6, Policy Route, MP-BGP L2 multicast IGMP Snooping, IGMP Snooping over VxLAN, multicast VLAN (MVR, MVP), MLD Snooping, Router-alert Option IGMPv1/v2/v3, MLDv1/v2, PIM-SM, PIM-DM, PIM-SSM, IPv6 PIM-SM, IPv6 PIM-SSM, MSDP, IGMP Group Filter, MLD Group Filter 802.1p, DSCP, Priority Mapping, SP, WRR, WDRR, SP+WRR, SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic	MTBF		>100, 000 hours	
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Ethernet Switching Rate Monitor, LACP Debug, Port isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-disable, GVRP, MLAG, MLAG Lite, VLAN isolation ARP, DHCP, DHCPv6, DHCP Server, DHCPv6 Server, DHCPv6 Client, DHCP Relay, DHCP Relay, DHCP Option82, DNS, GRE, IPIP, IPv6 over IPv4, ISATAP, IPv4 over IPv6, IPv6 over IPv6 Routing Protocol Static route for IPv4&IPv6, RIPv1/v2, RIPng, OSPFv2, OSPFv3, IS-IS, IS-ISv6, BGP, BGPv6, Policy Route, MP-BGP L2 multicast IGMP Snooping, IGMP Snooping over VxLAN, multicast VLAN (MVR, MVP), MLD Snooping, Router-alert Option IGMPv1/v2/v3, MLDv1/v2, PIM-SM, PIM-DM, PIM-SSM, IPv6 PIM-SM, IPv6 PIM-SSM, MSDP, IGMP Group Filter, MLD Group Filter 802.1p, DSCP, Priority Mapping, SP, WRR, WDRR, SP+WRR, SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic	Standard L2 protocol	Interface		
Standard L3 protocol DHCP Relay, DHCPv6 Relay, DHCP Option82, DNS, GRE, IPIP, IPv6 over IPv4, ISATAP, IPv4 over IPv6, IPv6 over IPv6 Routing Protocol Static route for IPv4&IPv6, RIPv1/v2, RIPng, OSPFv2, OSPFv3, IS-IS, IS-ISv6, BGP, BGPv6, Policy Route, MP-BGP L2 multicast IGMP Snooping, IGMP Snooping over VxLAN, multicast VLAN (MVR, MVP), MLD Snooping, Router-alert Option IGMPv1/v2/v3, MLDv1/v2, PIM-SM, PIM-DM, PIM-SSM, IPv6 PIM-SM, IPv6 PIM-SSM, MSDP, IGMP Group Filter, MLD Group Filter 802.1p, DSCP, Priority Mapping, SP, WRR, WDRR, SP+WRR, SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic		Ethernet Switching	Rate Monitor, LACP Debug, Port isolation, QinQ, VLAN mapping, Super VLAN, PVLAN, Voice VLAN, STP, MSTP, Loopback-detection, Error-	
IS-ISv6, BGP, BGPv6, Policy Route, MP-BGP L2 multicast L3 multicast L3 multicast L3 multicast Routing Protocol IS-ISv6, BGP, BGPv6, Policy Route, MP-BGP IGMP Snooping, IGMP Snooping over VxLAN, multicast VLAN (MVR, MVP), MLD Snooping, Router-alert Option IGMPv1/v2/v3, MLDv1/v2, PIM-SM, PIM-DM, PIM-SSM, IPv6 PIM-SM, IPv6 PIM-SSM, MSDP, IGMP Group Filter, MLD Group Filter 802.1p, DSCP, Priority Mapping, SP, WRR, WDRR, SP+WRR, SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic	Standard L3 protocol	IP Protocol	DHCP Relay, DHCPv6 Relay, DHCP Option82, DNS, GRE, IPIP, IPv6	
MVP), MLD Snooping, Router-alert Option MUlticast L3 multicast L3 multicast B02.1p, DSCP, Priority Mapping, SP, WRR, WDRR, SP+WRR, SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic		Routing Protocol		
L3 multicast IGMPv1/v2/v3, MLDv1/v2, PIM-SM, PIM-DM, PIM-SSM, IPv6 PIM-SM, IPv6 PIM-SSM, MSDP, IGMP Group Filter, MLD Group Filter 802.1p, DSCP, Priority Mapping, SP, WRR, WDRR, SP+WRR, SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic	Multicast	L2 multicast	. •	
SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic		L3 multicast		
	QoS & ACL	QoS	SP+WDRR, WRED, Flow classification, Traffic monitoring, Traffic shaping, Congestion management, Congestion avoidance, Flow-based	
ACL Standard IP ACL, extended IP ACL, standard MAC ACL, extended MAC ACL, extended Hybrid ACL, Standard IPv6 ACL, extended IPv6 ACL		ACL		
VXLAN VXLAN, EVPN	Data center feature	VxLAN	VXLAN, EVPN	
Lossless Ethernet ECN, ETS, PFC, etc.		Lossless Ethernet	ECN, ETS, PFC, etc.	
MPLS BGP MPLS MPLS LDP, MPLS GR, M-VRF, MPLS L3VPN, MPLS OAM, IPv6 MPLS	MPLS	BGP MPLS	MPLS LDP, MPLS GR, M-VRF, MPLS L3VPN, MPLS OAM, IPv6 MPLS	

		L3VPN
Virtualization	Stacking	H-VST, M-VST, M-LAG
	MAD	MAD LACP, MAD BFD, MAD Fast-hello
Security & Network Reliability	Security	ARP Check, AARF, AARF ARP-Guard, CPU Protection, Port Security, IP Source Guard, IPv6 Source Guard, ND-Snooping, DHCP Snooping, DHCPv6 Snooping, Dynamic ARP Inspection, AARF, Host Guard, PPPoE+, AAA, 802.1x, Portal Authentication, Anti-attack detect drop flood log, URPF
	Network Reliability	HA, ULFD, ERPS, ULPP, Monitor Link, VRRP, VRRPv3, VBRP, BFD, EEP, CPU protection
Management	Network Management	SNMP v1/v2/v3, MIB, RMON, SYSLOG, DNS, CLI, Telnet, FTP/TFTP, Debug, NTP, Keepalive, Openflow
	Network Monitoring	SPAN, RSPAN, ERSPAN, VLAN SPAN, IPFIX, sFlow, LLDP, IP-SLA, CWMP, Telemetry, Netconf, BSM, MOD

Order Information

Product model	Description			
NSS7830-09C Series Host				
NSS7830-09C	NSS7830-09C chassis, 2*Control engine slots, 8*Service slots, 5*Fan slots, 4*Power slots			
Service Card				
NSM7-16MQS	16-Port 100GE QSFP28 Interfaces line card			
	(Note: it can configure to 4-Port 400GE QSFP112 or 8-Port 200GE QSFP56)			
NSM7-16FP	16-Port 10/25GE SFP28 interfaces line card			
Power Modules				
AD1300M-HV1B	CPRS AC Power Supply, AC input 100-127V/12A, output 12V/1000W or AC input 200-240V/8A, output 12V/1300W, current sharing, supporting hot-swap, Air front in rear out.			
DD1300M-5V1B	CPRS DC Power Supply, DC input 40-72V/40-22A, output 12V/106A current sharing, supporting hot-swap, Air front in rear out.			
FAN Modules				
FAN-04A-01B	FAN-04A-01B FAN Module, Hot-swappable, Air front in rear out			

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