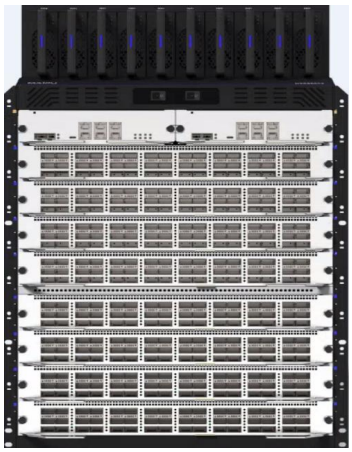
NSR8000X-08 Enterprise MPLS Core Router Datasheet

Overview

The NSR8000X Router is a new generation of high-end routers launched by Maipu, featuring an advanced orthogonal backplane CLOS architecture. It employs a sophisticated three-plane separation structure for control, forwarding, and management to ensure uninterrupted business data switching. Its multi-core processing, combine with the state-of-the-art ATCA structural design, delivers a high-performance solution for the backbone networks of party and government organizations, financial institutions, and large enterprise users. The design is geared towards achieving comprehensive dual or multiple redundancy within the system, providing enterprise-grade high reliability.

Equipped with the MyPower-R software, the router supports an extensive array of routing options, backup possibilities, network security services, IP multicast, and network management functionalities. It is fully capable of supporting BGP/MPLS/SRv6 functions, making it an ideal core component within corporate networks.



NSR8000X Core Router

The NSR8000X series excels in deployment at provincial-level connection points, core nodes of backbone networks for enterprise WAN network. It is engineered with dual main control slots, six switching fabric slots, and eight service slots, offering a distributed forwarding architecture along with support for a variety of interfaces, including 100G, 10G, and 1G options. Additionally, it provides tailored configuration schemes to meet diverse needs. These features enable the NSR8000X series routers to flexibly meet changing business demands and provide seamless data processing and routing capabilities at critical network junctures, ensuring continuous operation and high efficiency.

Key Features

- **The CLOS Architecture**

NSR8000X series core router incorporates an advanced distributed multi-core architecture and CLOS non-blocking switching architecture, with an orthogonal backplane-free design. The chassis utilizes an independent switching switching fabric and control engine, with control, forwarding, and management planes physically separated, meeting users' hardware architecture requirements for the equipment.

- **Comprehensive SRv6**

The NSR8000X series core router fully supports SRv6 segment routing technology, including advanced features such as IFIT in-band flow monitoring, FlexE network slicing, and channelized sub-interfaces. It also supports the optimization capabilities of SRv6 Policy based on latency, bandwidth, and packet loss, as well as the functionality of SRv6 Policy failover to SRv6 BE.

- **Flexible Uplinks**

NSR8000X series core router support four kinds of high-performance multi-core SPU module for customers real requirements; meanwhile, NSR8000X uplink supports various mainstream WAN access link technologies, such as 1G/10G/100G Ethernet, E1/CE1, POS/CPOS, etc.

- **Eight Expansion Slots**

NSR8000X series core router is modular design which has rich expansion slots. The whole device supports 8 extended slots totally. The strong expansion ability can provide high-density access and protect customer investment. All the modules of NSR8000X support hot-swap.

- **Pay as You Grow**

NSR8000X series core router supports high performance and the configured ACL, QoS, have small influence for the forwarding performance. And customer can also upgrade the performance by changing SPU service engines.

- **Advanced Secure Service**

NSR8000X series core router has high performance VPN aggregation function. Meanwhile, the device data can be transmitted in the secure MPLS/VPLS, IPsec, GRE, L2TP, VxLAN tunnel, preventing the data from being accessed and tampered and providing the higher security for the application over the network.

- **Rich QoS Features**

NSR8000X series core router provides rich QoS features and supports the queue management policies, such as FIFO, PQ, CQ, FQ, WFQ, CBWFQ, and LLQ. NSR8000X also provides hierarchical QoS function to ensure the high priority of the key services.

- **Rich Management Modes**

NSR8000X series core router supports complete management modes, including SNMPv1/v2c/v3, CLI, USB drive deployment, MIB, RMON, SYSLOG, TR069, IPFIX, Netconf etc. Combine with Maipu SNMP Management Platform, it can provide the simple and easy-to-use remote network management.

Product Specifications

Product Model	NSR8000X-08	
Hardware Specification		
Architecture	CLOS	
Flash (Default)	8G	
Memory (Default/Max.)	8G/64G	
Control Engine Slots (MPU)	2	
Switching Fabric Slots (SFU)	6	
Service Module Slots (SPU)	8 (32*Sub Slots)	
Total Throughput (1400Byte)	280Gbps (8*SPU05)	800Gbps (8*SPU20)
Power Supply Slots	10	
Fan Slots	3	
Dimension (mm)	W*H*D: 442*690*830mm(15U)	
Input Voltage	AC 100-240V 50-60HZ	
Temperature	Work temperature: 0-50℃	
	Storage temperature: -40-70℃	
Humidity	Work humidity: 10%-95%	
	Storage humidity: 5%-95%	
Cooling	Forced air cooling	
Software Features		
Link-layer Protocol	PPP, PPPoE, Frame-Relay, Bridge, HDLC, VLAN, QinQ, LLDP	
TCP/IP Protocol	IPv4/IPv6 Dual Stack, DHCPv4/DHCPv6, DDNS/DNS	
Routing Protocol	Static Route/Static Routev6, RIP/RIPng, OSPFv2/OSPFv3, BGP/BGP4+, IS-IS/IS-ISv6, IRMP, PBR	
SRv6 Protocol	ISIS for SRv6, OSPFv3 for SRv6, BGP for SRv6, SRv6 BE, SRv6-TE Policy, IFIT in-flow detection	
Network Slicing	Flexible Ethernet (FlexE), Channelized Subinterface Technology	
Security Protocol	Support ACL security filtering, PPP encryption, CPU protection, Port security, AAA, IKE, PKI, Anti-attack, NAT/NAT64/NAT66	
VPN Protocol	MPLS, LDP, L2VPN, L3VPN, MPLS QoS, MPLS OAM, 6PE, GRE/GREv6, IPsec, L2TPv2, L2TPv3, VRF, IPIP, VxLAN, EVPN	
QoS Protocol	FIFO, PQ, FQ, WFQ, CBWFQ, LLQ, RSVP, CAR, H-QoS, traffic shaping, Rate Limitation	
Multicast Protocol	IGMP, MLD, PIM-SM/SSM, PIM-DM/SDM PIMv6-SM/SSM, MSDP, MVPN, NG-MVPN	
Virtualization	Flexible Network Service (FNS), Multi-Active Detection (MAD)	
Reliability	Backup interface, VRRP/VRRPv3, VBRP, Track, IP/IPv6/LDP/TE FRR, BFD For Static/OSPF/BGP/ISIS/VRRP/LDP/TE, Forward Error Correcting (FEC)	
Management & Monitoring	Keepalive gateway, NTP, Mirroring, RMON, CWMP, Netconf, CLI, SSH, SNMP V1/V2/V3, Telnet, PING, Trace Route, FTP/TFTP, IPFIX, IP-SLA	

Order Information

NSR8000X-08	
Product Model	**Description**
NSR8000X-08	NSR8000X-08 Chassis, 2 control engine slots, 6 switching fabric slots, 8 line card slots, 3 Fan slots, 10 power slots
Fan Module	
FAN-16A-01B	FAN Module for NSR8000X-08
Power Module	
AD3000M-HS0F	3000W AC Power Module for NSR8000X-08
Control Engine (MPU)	
NRM8-MPU	NSR8000X-08 Control engine, one console port, one DC0 management Ethernet port, one USB port
Switching Fabric (SFU)	
NRM8-SFU-08A	Switching Fabric for NSR8000X-08
Service Mother Board (SPU)	
NRM8-SPU05	NSR8000X-08 Standard Service processing module, support 4*NRM8 daughter module slots
NRM8-SPU20	NSR8000X-08 Enhanced Service processing module, support 4*NRM8 daughter module slots
NRM8 WAN Daughter Module (Need to insert into SPU mother board)	
NRM8-10GET	10-port 1000M Base-T WAN Module (Note: need insert into SPU mother board)
NRM8-10GEF	10-port 1000M SFP WAN Module (Note: need insert into SPU mother board)
NRM8-4XGEF	4-port 1/10G SFP+ WAN Module (Note: need insert into SPU mother board)
NRM8-10XGEF	10-port 1/10G SFP+ WAN Module (Note: need insert into SPU mother board)
NRM8-1QFP	1-port 40/100G QSFP28 WAN Module (Note: need insert into SPU mother board)
NRM8-8E1	8-port non-channelized E1 WAN Module (Note: need insert into SPU mother board)
NRM8-8CE1	8-port channelized E1 WAN Module (Note: need insert into SPU mother board)
NRM8-4POS-OC3	4-port OC3 non-channelized POS WAN Module (Note: need insert into SPU mother board)
NRM8-4POS-OC12	4-port OC12 non-channelized POS WAN Module (Note: need insert into SPU mother board)
NRM8-2POS-OC48	2-port OC48 non-channelized POS WAN Module (Note: need insert into SPU mother board)
NRM8-1CPOS-OC3	1-port OC3 channelized POS WAN Module (Note: need insert into SPU mother board)
NRM8-2CPOS-OC3	2-port OC3 channelized POS WAN Module (Note: need insert into SPU mother board)

Maipu values and appreciates comments you may have concerning our products or this document. Please address comments to:

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