# NSR7500X-04E MPLS Core Router Datasheet

Overview

NSR7500X-04E MPLS core router further implements "multicore power" on the basis of the leading "dual-core power". Based on the ATCA structure design and meeting the users' high-performance requirements, it provides the most complete dual-redundancy or multi-redundancy design for the whole system, providing users with the high reliability of enterprise-class.

With unified MyPower-R software, NSR7500X-04E core router provides abundant routing, backup, network security services, IP multicast, QoS, network management, and other functions, supports a variety of network layer and link layer protocols, supports BGP border gateway protocol and MPLS function, and can play the PE node function in enterprise network.
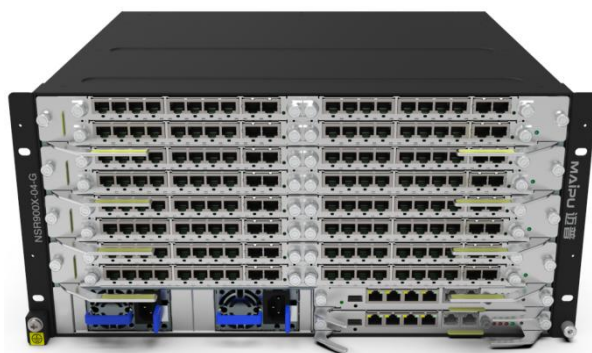
NSR7500X-04E Core Router

As a multi-purpose universal data processing and routing platform, NSR7500X-04E core router can cooperate with a full range of Maipu routers to provide operators, government, finance, energy, transportation, education, military and other industrial users and large/medium-sized enterprise users with a full range of WAN solutions, widely applied at the core backbone layer and core aggregation layer of the above industries. NSR7500X-04E core router is the next generation version of NSR7500X which was widely deployed in many countries.

NSR7500X-04E core router has two models. It has two main control slots, two switching fabric slots, 4 service slots, adopts the multi-core processor to realize the distributed forwarding architecture, and supports 40G/10G/1G and E1/CE1/POS/CPOS TDM interfaces.

Key Features

- **Flexible uplink link**

NSR7500X-04E core router support four kinds of high-performance multi-core SPU module for customers real requirements; meanwhile, NSR7500X uplink supports various mainstream WAN access link technologies, such as 1G/10G/40G Ethernet, E1/CE1, POS/CPOS, etc.

- **More than eight expansion slots**

NSR7500X-04E core router is modular design which has rich expansion slots. The whole device supports 4 extended slots totally. The strong expansion ability can provide high-density access and protect customer investment.

- **High performance**

NSR7500X-04E 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**

NSR7500X-04E core router has high performance VPN aggregation function. Meanwhile, the device data can be transmitted in the secure MPLS/VPLS, IPsec, GRE, L2TP tunnel, preventing the data from being accessed and tampered and providing the higher security for the application over the network.

- **Segment routing technologies**

NSR7500X-04E core router fully supports SRv6 segment routing technology, supports IFIT in-flow detection, FlexE network slicing, channelized sub-interfaces, and other advanced SRv6 features. It also supports the tuning capabilities of SRv6 Policy based on latency, bandwidth, and packet loss rate, as well as the function of SRv6 Policy fault escape to SRv6 BE.

- **Rich software features**

NSR7500X-04E core router provides rich software features; supports various application technologies, such as IPv4/IPv6, VPN, MPLS, multicast, ACL, MAC address binding, access control, bandwidth limitation, MSTP, and NAT; supports RSVP resource reserving protocol and CAR; provides hierarchical QoS function to ensure the high priority of the key services; support the queue management policies, such as FIFO, PQ, CQ, FQ, WFQ, CBWFQ, and LLQ.

- **Rich Management modes**

NSR7500X-04E core router supports complete management modes, including SNMPv1/v2c/v3, CLI, USB drive deployment, MIB, RMON, SYSLOG, TR069, IPFIX, etc. Combine with Maipu SNMP Management Platform, it can provide the simple and easy-to-use remote network management.

Product Specifications

Hardware specification	NSR7500X-04E
Architecture	Distribution
Flash (Default)	8G
Memory (Default)	8G
Control Engine Slots (MPU)	2
Switching Fabric Slots (SFU)	2
Service Module Slots (SPU)	4 (16*Sub Slots)
SPU Performance (1400Byte)	SPU05: 35Gbps
Total Throughput (1400Byte)	140Gbps (4*SPU05)
IPsec VPN Tunnel	3000-4000
Power Supply Slots	2
Fan Slots	2
Dimension (mm)	W*H*D: 444*440*222mm(5U)
Input Voltage	AC 100-240V 50-60HZ
Temperature	Work temperature: 0-50°C
	Storage temperature: -40-70°C
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

Product Model	Description
NSR7500X-04E	V1 Version: NSR7500X-04E Chassis, 2 control engine slots, 2 switching fabric slots, 4 line card slots, 2 Fan slots, 2 power slots
Fan Module	
FAN-05A-01B	FAN Module for NSR7500X-04E
Power Module	
AD800M-HV1F	800W AC Power Module for NSR7500X-04E
Control Engine (MPU)	
NRM7-MPU-E	NRM7-MPU-E Control engine, one console port, one DC0 management Ethernet port, one USB port
Switching Fabric (SFU)	
NRM7-SFU-04E	V2 Version: Switching Fabric for NSR7500X-04E
Service Mother Board (SPU)	
NRM7-SPU05-E	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 slots 1/2/3)
NRM8-10GEF	10-port 1000M SFP WAN Module (Note: need insert into SPU mother board sub slots 1/2/3)
NRM8-4XGEF	4-port 1/10G SFP+ WAN Module (Note: need insert into SPU mother board sub slots 1/2/3)
NRM8-1QXGE	1-port 40G 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, DIP switch for 75Ω and 120Ω)
NRM8-8CE1	8-port channelized E1 WAN Module

	(Note: need insert into SPU mother board, DIP switch for 75Ω and 120Ω)
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)
NRM8-2POS-OC12	2-port OC12 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)

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