NSR1900X-22 MPLS Access Router Datasheet

Overview

The NSR1900X-22 modular access router by Maipu is a new-generation enterprise-class router designed for small and medium-sized branch offices of enterprises and government agencies. It integrates diverse WAN technologies, including Ethernet, SDH, and 5G/4G/3G networks, offering flexible access options for enterprise users.

The NSR1900X-22 router combines routing, switching, and security functions, supporting robust encryption algorithms to ensure data security. Its LAN L2/L3 switching capabilities significantly enhance the flexibility of fixed interfaces.

The NSR1900X-22 has one RJ45 console port, one USB interface, 2*10GE SFP+ WAN ports, 4*GE SFP WAN ports, 4*GE RJ45 WAN ports, 8*GE RJ45 LAN ports, two expansion slots, one AC power supply, and one 12V DC power supply.

Model Name	Specification
NSR1900X-22	● Fixed 10GE WAN Ports: 2*10GE SFP+ ● Fixed 1GE WAN Ports: 4*GE SFP + 4*GE RJ45 ● Fixed 1GE LAN Ports: 8*GE RJ45 ● Extension Slots: 2*NRM2 extension slots ● Power Supply: One AC Power + One 12V DC Power ● One RJ45 Console Port ● One USB2.0 Port ● Dimension (L*D*H): 340mm*260mm*44.2mm(1U).

Highlights

Highlights	Benefits
Flexible uplink	NSR1900X-22 integrates fixed WAN and LAN interfaces. The WAN uplink supports various mainstream WAN access link technologies, such as Ethernet, 5G/4G, E1/CE1, POS, and V.35 serial line.
Extensible modular slots	NSR1900X-22 is modular designed. The whole device supports 2 extended slots.
High performance	Multi-core high performance processor. 10G high-speed Ethernet WAN port. Built-in hardware acceleration engine, high encryption performance. Maipu Express Forwarding (MEF) technologies, speeding up forwarding and processing of data packets.
5G Ready	NSR1900X-22 is designed for future 5G networks, with higher throughputs with 5G NR. WAN networks are looking at wireless WAN as primary transports for different use cases for improved throughputs and latency.
LAN Integrated Hardware	NSR1900X-22 supports up to 8 fixed 10/100/1000M switching LAN ports, providing the IP terminal access capability and meeting the requirement of the user for integrating the routing and switch to construct the access network.
Rich software features	Support multiple WAN protocols: DDR, PPPoE, NDIS, EDP, 5G/4G, etc. Support typical TCP/IP services: DHCP, DNS, NAT, ACL, etc. Support rich QoS features: PQ, FQ, CBWFQ, H-QoS, WRED, etc. Support fast convergence protocols: BFD, FRR, etc. Support Segment-Routing protocols: SR-MPLS, SRv6. Support full routing protocol: Static, RIP, OSPF, IRMP, BGP, ISIS, etc. Support rich VPN protocol: DMVPN, IPSec, GRE, L2TPv3, VPLS/MPLS, etc. Support time synchronization protocol: NTP, PTP(IEEE1588v2),etc. Support IPv6 protocols: Static Routev6, RIPng, OSPFv3, IS-ISv6, BGP4+, etc.
High reliability and business continuity	Support 220V AC+ 12V DC redundant power supply. Redundant WAN connection for failover protection and load balancing. Dynamic failover protocols such as VRRP/VBRP, backup interface, track IP.
Easy O&M	Multiple management methods: standard SNMP monitoring and management, Web-based GUI, SD-WAN based management, traditional command line interface. Built-in Embedded Event Platform (EEP), allow the customer to monitor critical event, and automatic execute pre-defined actions.
Security	Provide Port Security, 802.1X, DHCP Snooping. Provide CPU Protection, Anti-attack, IPS, URL filtering, etc.
ZTP	Zero-Touch (USB, DHCP, EDP…), easy for installation and configuration.

Technical Specifications

Hardware Specification

Hardware specification	NSR1900X-22
Hardware Version	**V1**
CPU	4-Core
Memory (GB)	2GB
Flash (GB)	8GB
Fixed 10G WAN Interfaces	2*10G SFP+ WAN Ports
Fixed 1G WAN Interfaces	4*GE SFP and 4*GE RJ45 WAN Ports
Fixed 1G LAN Interfaces	8*GE LAN Ports
Max. Throughput (1400 Byte)	14Gbps (WAN-to-WAN)
IPSec VPN Tunnels	250-500
NRM2 Extension Slots	2*Slots
USB Port	1
Console Port	1
Dimension (L*D*H)	340*260*44.2mm(1U)
Power Supply	1*AC Power Supply (100V-240V, 50-60Hz.) 1*12V DC Power Supply
Power Consumption	≤35W
Working Temperature	0°C～45°C
Working Humidity	5%-85%/RH
MTBF (Hours)	≥100,000 Hours

Software Specification

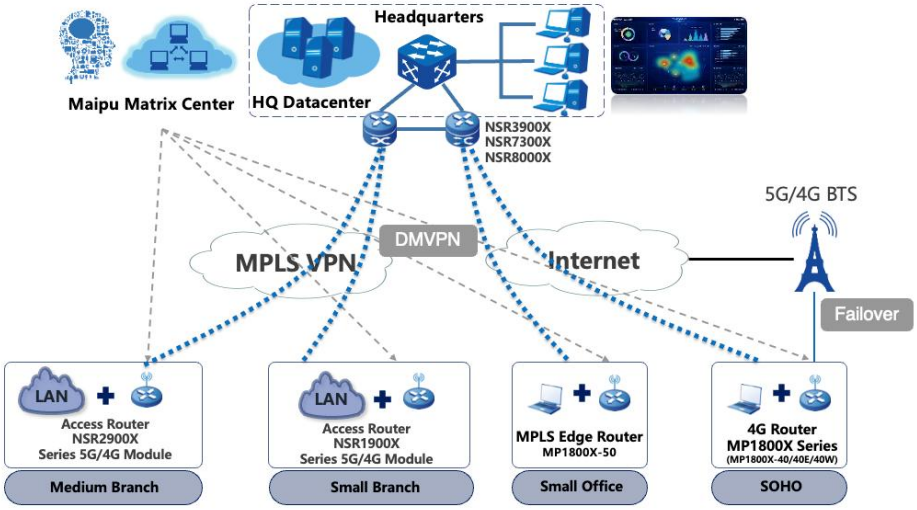
Software features	
WAN Protocol	DDR, NDIS, PPPoE, Bridge Group, Virtual Ethernet, HDLC, Frame Relay
LAN Protocol	STP/RSTP/MSTP, MAC Management, 802.1Q VLAN, Q-in-Q Termination, LACP, Loopback Detection, SPAN, LLDP, Port-isolate, Error-disable, ULFD, Port Security, Voice VLAN
TCP/IP Protocol	DHCP, DNS, DDNS, NAT, NAT64, NAT66, NAT ALG, IPIP
IPv4 Routing protocol	Static, RIP, OSPFv2, IRMP, IS-IS, BGP, Policy Routing, VRRP
IPv6 Routing Protocol	IPv6 Static, RIPng, OSPFv3, IS-ISv6, BGP4+, PBRv6, VRRPv3

IPv6 Other Protocol	IPv4/IPv6 Dual-Stack, IPv6 ND, IPv6 PMTU, IPv6 ACL, ICMPv6, DNSv6, DHCPv6, GREv6, IPv6 over IPv4, 6to4, ISATAP
Multicast Protocol	IGMP v1/v2/v3, PIM-DM, PIM-SM, PIM-SMv6, SSM, MVPN, NG MVPN, MSDP, IGMP Snooping, MLD, MBGP
VPN Protocol	DMVPN, IPSec, GRE, L2TPv2, L2TPv3
MPLS Protocol	MPLS LDP, MPLS L3VPN, MPLS VPLS, MPLS VPWS, MPLS TE, MPLS VRF, IP FRR, LDP FRR, TE FRR, MPLS OAM, 6PE
Segment Routing Protocol	Network Slicing, Segment-routing MPLS, Segment-routing IPv6
Security Protocol	CPU protection, DHCP Snooping v4/v6, IP Source Guard v4/v6, Dynamic ARP Inspection, AAA, 802.1X, PKI, IKE, ACL, Anti-attack, ASPF, SSAC, SECP, Portal Redirection, DPI, IPS, URL Filtering
QoS Protocol	FIFO, PQ, FQ, WFQ, CBWFQ, LLQ, RSVP, CAR, H-QoS, GTS, MPLS RSVP, QPPB, SPQ
Reliability Protocol	Backup interface, Keepalive, VRRP/VRRPv3, VBRP, rack, BFD/BFDv6, ULFD
Time Synchronization	IEEE1588v2, PTP over MAC, PTP over UDP, BC mode, E2ETC mode, P2PTC mode.
SDN Protocol	EDP, IPFIX, IFIT, BSM, Telemetry, Netconf, VxLAN, EVPN
Management & Monitoring	CLI, SSH, HTTP/HTTPS, SNMP V1/V2/V3, NTP, EEP, RMON, Telnet, PING, Trace Route, Login, FTP, TFTP, TR069, IP-SLA

Application Scenario

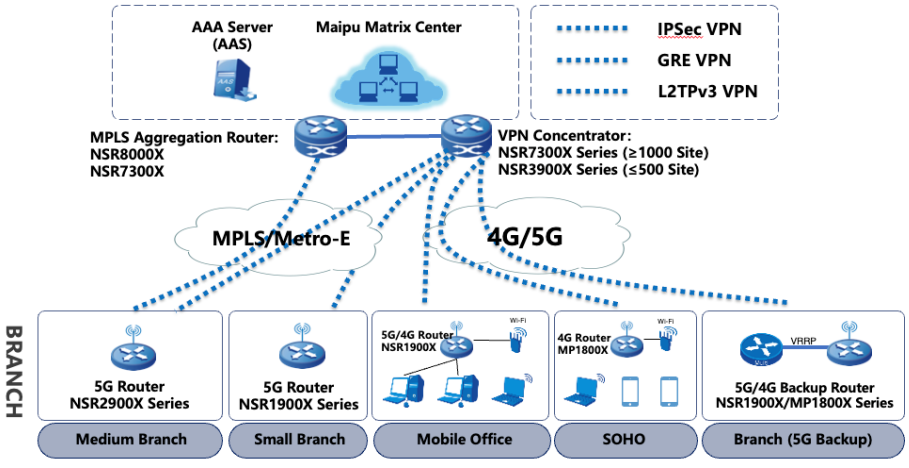
Enterprise Leased Line Solution

Maipu offers a comprehensive enterprise WAN network solution. The NSR1900X/NSR2900X series access routers are designed for enterprise branch offices and support multiple leased line networks, including MPLS or SDH links. The NSR3900X/NSR7300X/NSR8000X series aggregation routers are intended for enterprise headquarters. Maipu Matrix View is an SNMP centralized management platform.



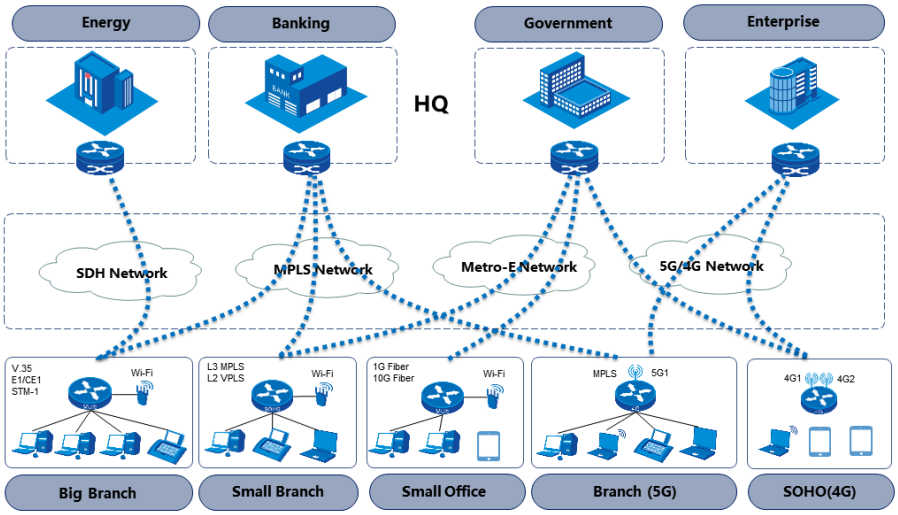
Enterprise VPN Solution

The Maipu NSR1900X/NSR2900X series routers offer various VPN access functions for secure communication between branch offices and headquarters over internet. Secure tunnels such as GRE, L2TP, IPSec, and DVPN can be established between HQ and branches to ensure secure data access and transmission.



Telecom Managed CPE

Telecom deploys NSR1900X and NSR2900X series access routers as CPE routers at enterprise branch offices. These routers support various WAN access modes, including SDH, MPLS, Metro-E, and 5G/4G links, making them compatible with most telecom WAN networks.



Order Information

Router Host	
Host model	**Description**
NSR1900X-22	V1 Version: One RJ45 Console Port, 2*10G SFP+ WAN Ports, 4*1000M RJ45 and 4*1000M SFP WAN Ports, 8*1000M RJ45 LAN Ports, 2*NRM2 Slots, One AC Power Supply and One 12V DC Power Supply
NRM2 WAN Module	
Modules	**Description**
NRM2-4E1	V6 Version: Four-port non-channelized E1 WAN module
NRM2-4CE1	V2 Version: Four-port channelized E1 WAN module
NRM2-2SA	V1 Version: Dual-port high-speed V35 serial WAN module
NRM2-4GEF	V1 Version: Four-port gigabit Ethernet fiber WAN module
NRM2-4GET	V3 Version: Four-port gigabit Ethernet RJ45 WAN module
NRM2-4G-LTE-A	V1 Version: NRM2-4G-LTE-A 4G module, 1*SIM slot, LTE-FDD (band: 1/3/5/8), TD-LTE (band: 38/39/40/41), WCDMA (band: 1/8)
NRM2-5G-M	V2 Version: NRM2-5G-M 5G module, 1*SIM slot, support NSA and SA, Support 5G NR (Band:1/28/41/77/78/79); LTE-FDD (Band:1/2/3/5/7/8/20/28), LTE-TDD (Band:34/38/39/40/41), WCDMA (band:1/2/5/8)
NRM2-1POS-OC3	V1 Version: One-port 155M non-channelized OC3 WAN module

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