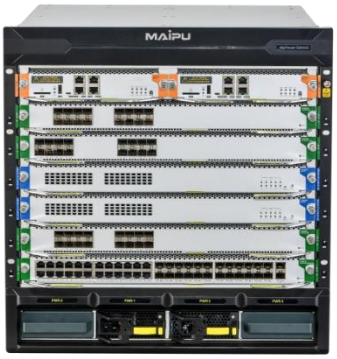
NSS6600 Series L3 Distribution Switch Datasheet

Product Overview

NSS6600 series switch is a high-performance stackable L3 distribution routing switch developed by Maipu. It is applied in enterprise campus network and easy to deploy Layer3 switching solution that offers enhanced security and 10GE/40GE uplinks, RIP/OSPF/BGP/IS-IS, L2&L3 Multicast, VST stacking enabled and flexible management.

NSS6600 series switch can be used as L3 distribution devices on large-sized campus networks. They can also be used as core devices on small and medium-sized campus networks. The switches help build highly reliable enterprise campus networks that are easy to expand and manage.

NSS6600 series switch includes NSS6600-04, NSS6600-06 two models.

Modem Name	Specification
 **NSS6600-04**	● Dual Control Engine Slots ● Four Service Slots ● Dual Power Slots ● One FAN Array Slot ● Maximum 1G interfaces: 192 ● Maximum 10G interfaces: 64 ● Switching Capacity: ⩾1Tbps
 **NSS6600-06**	● Dual Control Engine Slots ● Dual Switching Fabric Slots ● Four Service Slots ● Four Power Slots ● Dual FAN Array Slots ● Maximum 1G interfaces: 192 ● Maximum 10G interfaces: 128 ● Maximum 40G interfaces: 32 ● Switching Capacity: ⩾2Tbps

Key Features

High-Density Interfaces Line Cards

NSS6600 series provide maximum192*1GE, 128*10GE, 32*40GE interfaces. The port combination fully satisfies the interface density requirement of campus network scenarios.

Highly Reliable Enterprise-class Hardware Design

NSS6600 has enterprise-class reliability and stability to ensure long-term service continuity. Redundant MPUs work in 1+1 hot backup mode. Redundant SFUs work in 1+1 balance mode. Redundant power supplies support work in N+1 hot backup and also redundant fan trays design.

Intelligent stacking technology

NSS6600 series switch supports Maipu VST stacking function. Two NSS6600 supporting stacking feature are combined to form a virtual switch logically. VST stacking system improves the device-class reliability by redundant backup among multiple member devices, and improves the link-class reliability by the link aggregation function across devices. VST provides a powerful expansion capability for campus network.

High availability

NSS6600 series switch not only supports the traditional STP/RSTP/MSTP spanning tree protocol, but also supports the G.8032 international standard G.8032 protocol issued by ITU-T. This standard can realize 50ms millisecond fast protection switching of Ethernet ring network.

The NSS6600 also supports Virtual Router Redundancy Protocol (VRRP), which implement backup of uplinks. One switch can connect to multiple aggregation switches through multiple links, significantly improving the reliability of access devices.

Perfect security policy

NSS6600 series switch provides various security policies such as user authority/identity authentication, port security, port rate limitation, port monitoring, ACL, loopback detection, and 802.1X authentication; provides various protect mechanisms for user access and network security. It has perfect security function design and supports MAC+IP+VLAN binding and 802.1X authentication security policies, and anti-network storm attack, anti DOS/DDOS attack, anti ARP attack, and anti-network protocol packet attack security technologies. In this way, the attacks and virus can be prevented and it is more suitable for large-scale, multi-service and complicated-traffic networks.

Advanced QoS

NSS6600 series switch supports eight queues per port and the queue scheduling policies such as SP, RR, WRR, and WDRR; rich priority mappings including 802.1p, COS, DSCP; Kbps-level port traffic rate restriction and carriers can limit the rate according to the time period; Tail Drop and RED packet loss algorithm.

Zero Touch Implementing

NSS6600 series support Zero Touch Provisioning (ZTP). It enables the switch to automatically obtain and load version files from file server through DHCP server or USB flash disk.

IPv4&IPv6 Dual-stack ability

NSS6600 series switch comes with IPv4/IPv6 dual-stack platform which provides hardware-based IPv4/IPv6 wire-speed forwarding and IPv4/IPv6 Layer3 routing protocols (RIPng, OSPFv3, BGP4+ and IS-IS for IPv6). With these IPv6 features, the NSS6600 can be deployed on a pure IPv4 network, a pure IPv6 network, or a shared IPv4/IPv6 network, helping achieve IPv4-to-IPv6 transition.

BD-LAN Controller Management

NSS6600 can be managed by Maipu BD-LAN controller, which is an integrated SDN platform for campus network. It simplifies campus network security, deployment, and management with the latest software-defined network

technologies. It helps the network team complete most of the work on the BD-LAN controller platform. Compared with traditional methods, BD-LAN solution can make the network deployment faster, maintain the network easier, troubleshoot much more efficient, and save customer's overall cost.

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

Product model	NSS6600-04	NSS6600-06
Hardware specification		
Service Card	4	4
Control Engine	2	2
Switching Engine	N/A	2
Switching Capacity	⩾1Tbps	⩾2Tbps
Architecture	Full MESH	Distribution
Power Slot	2	4
FAN Array Slot	1	2
Power Input	Input voltage (AC): 100V ~ 240V, 50Hz ~ 60Hz	
Temperature	Work temperature: 0°C to 50°C	
	Storage temperature: -40°C to 70°C	
Humidity	Work humidity: 10% to 90%, no-condensing	
MTBF	>100, 000 hours	

Software Specification		
Standard L2 protocol	Interface	Port Type UNI/NNI, Port Speed, Port MTU, Port Loopback, Loopback interface, Tunnel interface, Null interface, VXLAN interface
	Ethernet Swithing	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, G.8032, Loopback-detection, Error-disable, GVRP, MLAG, VLAN isolation
Standard L3 protocol	IP Protocol	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
Multicast	L2 multicast	IGMPv1/v2/v3 Snooping, multicast VLAN
	L3 multicast	IGMPv1/v2/v3, PIM-SM, IPv6 PIM-SM, IPv6 PIM-SSM, PIM-DM, MSDP, MLD-snooping
QoS & ACL	QoS	802.1p, DSCP, and other priority mapping, SP, WRED, WDRR, Flow classification, Traffic monitoring, Traffic shaping, Congestion management, Congestion avoidance, Flow-based mirroring

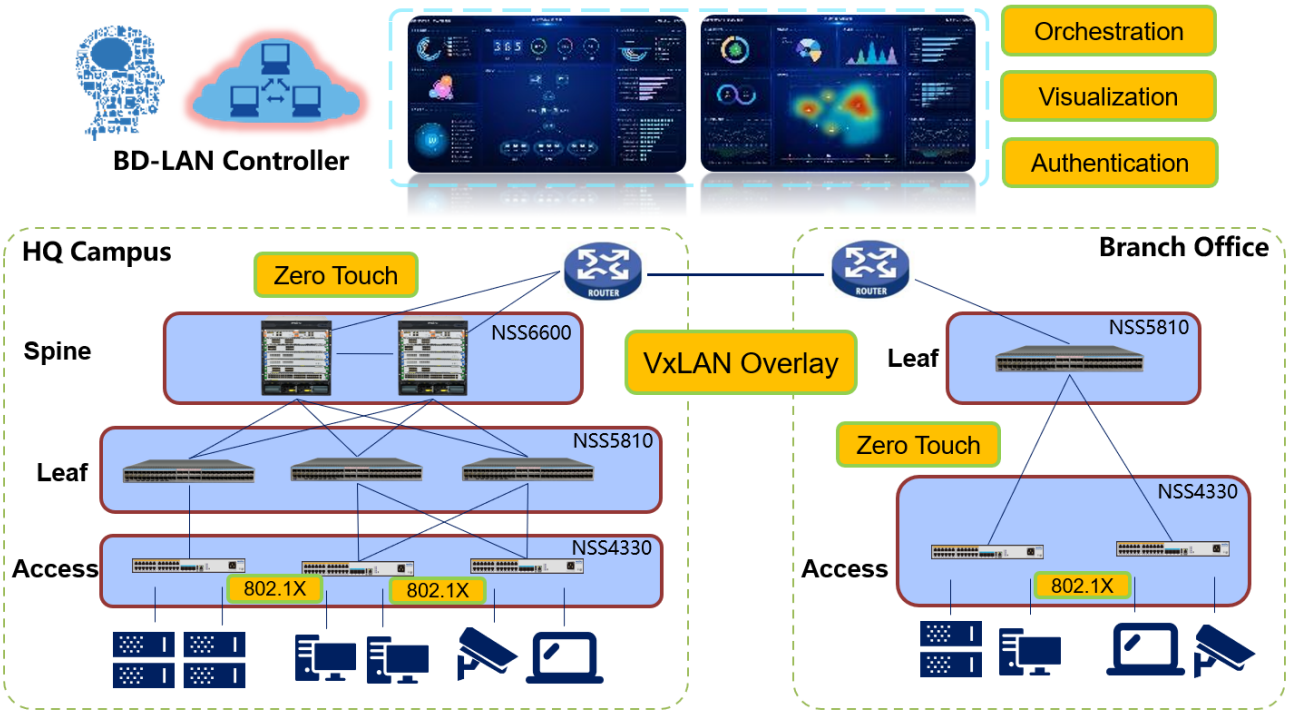
	ACL	Standard IP ACL, extended IP ACL, standard MAC ACL, extended MAC ACL, extended Hybrid ACL, Standard IPv6 ACL, extended IPv6 ACL
Virtualization	Stacking	H-VST, M-VST, M-LAG
	MAD	MAD LACP, MAD BFD, MAD Fast-hello
Zero Touch Provisioning	ZTP mode A	ZTP provisioning through DHCP server
	ZTP mode B	ZTP provisioning trough USB flash disk
MPLS VPN	L3 BGP MPLS	MPLS LDP, MPLS L3 VPN, MPLS Option-A & Option-B, MPLS Ping/traceroute
	MCE	Multi-VRF
Data Center	VxLAN	Static VxLAN, EVPN VxLAN
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, Host Guard, PPPoE+, AAA, 802.1x, Portal, Anti-attack detect|drop|flood|log, URPF, AARF
	Network Reliability	HA, ULFD, G.8032, ULPP, Monitor Link, VRRP, VRRPv3, VBRP, BFD, EEP
Management and Monitoring	Network Management	SNMP v1/v2/v3, MIB, RMON, SYSLOG, DNS, CLI, Telnet, FTP/TFTP, Debug, NTP, Keepalive Gateway
	Network Monitoring	SPAN, RSPAN, IPFIX, Netconf, sFlow, LLDP, IP-SLA, CWMP, NDSP, Telemetry, OAM

Order Information

Model	Description
NSS6600 Series	
NSS6600-04 Host	
NSS6600-04	NSS6600-04 chassis, two control engine slots, four service slots, one fan slot, two power slots.
NSM66-MPUB	NSM66-MPUB Control Engine, supporting active/standby backup function (one is mandatory, 1+1 redundancy is optional)
FAN-05C-01B	FAN-05C-01B Fan Module
AD500M-HS0F	AD500M-HS0F, 500W AC power module
NSS6600-04 Line Cards	
NSM66-16XGEF-EA	16-port 10G SFP+ optical interface
NSM66-24GET24GEF4XF-EA	24-port 1G Base-T electric interface, 24-port 1G SFP optical interface,4-port 10G SFP+ optical interface
NSM66-48GEF4XGEF-EA	48-port 1G SFP optical interface,4-port 10G SFP+ optical interface
NSM66-48GET4XGEF-EA	48-port 1G Base-T electric interface,4-port 10G SFP+ optical interface
NSS6600-06 Host	
NSS6600-06	NSS6600-06 chassis, two control engine slots, two switching fabric slots, four service slots, two fan slots, four power slots
NSM66-MPUC	NSM66-MPUC Control Engine, supporting active/standby backup function (one is mandatory, 1+1 redundancy is optional)
NSM66-SFUA	NSM66-SFUA Standard Switching Engine, supporting active/standby backup function
NSM66-SFUB	NSM66-SFUB Enhanced Switching Engine, supporting active/standby backup function
FAN-11A-01	FAN-05C-01B Fan Module
AD800-1D005M	AD800-1D005M, 800W AC power module
NSS6600-06 Line Cards	
NSM66-24GET24GEF4XF-EB	24-port 1000M Base-T electric interface, 24-port 1000M SFP optical interface,4-port 10G SFP+ optical interface (Note: Configure with NSM66-SFUA)
NSM66-48GEF4XGEF-EB	48-port 1000M SFP optical interface,4-port 10G SFP+ optical interface (Note: Configure with two NSM66-SFUA)
NSM66-48GET4XGEF-EB	48-port 1000M Base-T electric interface,4-port 10G SFP+ optical interface (Note: Configure with NSM66-SFUA)
NSM66-16XGEF-EB	16-port 10G SFP+ optical interface (Note: Configure with NSM66-SFUB)
NSM66-32XGEF-EB	32-port 10G SFP+ optical interface (Note: Configure with NSM66-SFUB)
NSM66-8QXGE-EB	8-port 40G QSFP+ optical interface (Note: Configure with NSM66-SFUB)

Typical Application

Campus LAN Network



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Maipu Communication Technology Co., Ltd
Maipu Mansion, No.16, Jiuxing Avenue
Hi-Tech Zone
Chengdu, Sichuan Province
P. R. China
610041
Tel: (86) 28-65544850,
Fax: (86) 28-65544948,
URL: http:// www.maipu.com
Email: overseas@maipu.com