Naddod S4600-20X4Y2B Datasheet

DCN&Enterprise Ethernet Switch

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1. Product Overview

The S4600-20X4Y2B switch is a multi-service 10G switch for the next generation of converged networks. It integrates rich campus and data center features. The switch adopts advanced hardware architecture design and is equipped with modular operating system, providing faster hardware processing performance and more convenient operation experience.

The S4600-20X4Y2B switch provides high performance, complete end-to-end service quality, and flexible and rich security settings for large-scale network aggregation, small and medium-sized network cores, and campus data center access, meeting the needs of high-speed, secure, and intelligent enterprise networks.

2. Product Pictures

S4600-20X4Y2B

Front View

Rear View

Isometric View

3. Product Features

IPv4/IPv6 dual-stack multi-layer switching

The hardware supports IPv4/IPv6 dual-stack multi-layer wire-speed switching. The hardware distinguishes and processes IPv4 and IPv6 protocol packets. It can plan the network according to the needs of the IPv6 network or maintain the current network status, providing a flexible IPv6 network communication solution. It supports a variety of IPv4 routing protocols, including static routing, RIP, OSPFv2, IS-ISv4, BGP4, etc., to meet the needs of users in different network environments to choose the appropriate routing protocol to flexibly build a network. It also supports a variety of IPv6 routing protocols, including static routing, RIPng, OSPFv3, IS-ISv6, BGP4+, etc. Whether it is upgrading an existing network to an IPv6 network or building a new IPv6 network, you can flexibly choose the appropriate routing protocol to build a network.

Virtual Switching Unit (VSU)

Supports virtual switching unit technology (VSU, Virtual Switch Unit) is virtual switching unit technology. Through the connection of aggregated links, multiple physical devices can be interconnected and virtualized into a logical device. They are managed using a single IP address, a single Telnet process, a single command line interface, automatic version checking, automatic configuration and other features. For users, they are only managing one device, but they realize the work efficiency and usage experience brought by multiple devices. Aggregated links can be 10G interfaces or dedicated stacking cards to protect users' investments. VSU technology offers several significant advantages:

- **Simplified Management:** Administrators can uniformly manage multiple switches without needing to connect to each one separately for configuration and management.
- **Simplified Network Topology:** A VSU acts as a single switch within the network, connecting to peripheral devices via aggregated links. This eliminates Layer 2 loops, negates the need for MSTP protocol configuration, and allows various control protocols to run as if on one switch, greatly simplifying your network structure.
- **Millisecond-Level Fault Recovery:** VSU and peripheral devices are connected through aggregated links. Should one of the devices or a member link fail, the system can swiftly switch to another member link in under 30 milliseconds, ensuring business continuity.
- **High Scalability:** When you need to add new devices or remove existing ones from the virtualized network, you can perform a "hot-swap." This won't affect the normal operation of other devices, providing you with immense flexibility.

Perfect security protection strategy

The S4600-20X4Y2B switches incorporate multiple intrinsic mechanisms to effectively prevent and control virus propagation and hacker attacks, ensuring a secure and "green" network environment. This includes DoS attack prevention, anti-hacker IP scanning mechanisms, legitimate ARP packet verification on ports, and various hardware ACL strategies.

The switches also support hardware-based IPv6 ACLs, enabling easy access control for IPv6 users at the network edge, even within an IPv4 network. This allows for seamless coexistence of IPv4/IPv6 users while precisely controlling their access rights, such as limiting access to sensitive network resources. A unique Hardware CPU protection mechanism intelligently distinguishes, prioritizes, and rate-limits data flow to the CPU. This comprehensively safeguards the CPU from illicit traffic, malicious attacks, and resource exhaustion, ensuring both CPU and overall switch security. Furthermore, the Network Foundation Protection Policy (NFPP) enhances security by isolating attack sources, protecting the switch's processor and channel bandwidth resources, and ensuring normal packet forwarding and protocol stability.

For robust device and user protection, the hardware facilitates flexible binding of ports or the entire switch to user IP and MAC addresses, strictly limiting unauthorized access. Telnet device access control, based on source IP address, prevents malicious attacks and control attempts by unauthorized personnel and hackers. For secure management, SSH (Secure Shell) and SNMPv3 encrypt management information during Telnet and SNMP processes, significantly bolstering device network management security.

To effectively manage user access and combat spoofing, the switches support DHCP Snooping, which permits DHCP responses only from trusted ports. Building on this, dynamic ARP monitoring and user IP verification directly discard illicit packets that do not conform to binding table entries, effectively preventing ARP spoofing and user source IP address spoofing. For comprehensive user control, features such as multi-element binding, port security, time-based ACLs, and bandwidth rate limits based on data flow empower organizations to strengthen control over visitors and restrict communication from unauthorized users, fulfilling the specific needs of enterprise and campus networks.

High reliability

The switch is designed for high availability, featuring built-in redundant power modules and modular fan components, both of which support hot-swapping without disrupting normal device operation. It also includes comprehensive power supply and fan fault detection with alarms, alongside automatic fan speed adjustment based on temperature for optimal environmental adaptation. With front/rear ventilation, the device enhances heat dissipation efficiency and incorporates multiple device-level and link-level

reliability protections, including overcurrent, overvoltage, and overheating protection technologies.

For network stability and resilience, the switch supports various redundancy and rapid detection protocols:

- **Spanning Tree Protocols (802.1D, 802.1w, 802.1s):** These ensure fast convergence, improve fault tolerance, maintain stable network operation, and provide link load balancing for efficient channel utilization and redundant link use.
- **Virtual Router Redundancy Protocol (VRRP):** This effectively guarantees network stability through gateway redundancy.
- **Rapid Link Detection Protocol (RLDP):** RLDP quickly detects link status (on/off) and fiber link unidirectionality. It also includes a port-level loop detection function to prevent network failures caused by loops formed by devices like hubs.
- **Rapid Ethernet Uplink Protection Protocol (REUP):** When STP is disabled, REUP offers basic link redundancy with millisecond-level fault recovery, which is faster than traditional STP.
- **Bidirectional Forwarding Detection (BFD):** BFD provides a mechanism for upper-layer protocols (like routing protocols) to rapidly detect the connectivity status of forwarding paths between routing devices, significantly reducing convergence time during link status changes.

4. Product Specifications

Hardware Specifications

System Specifications	S4600-20X4Y2B
Ports	20 x 10Gb SFP+, with 4 x 25Gb SFP28 and 2 x 40Gb QSFP+
Switch Chip	BCM56170
Flash memory	1GB
Expansion Modules	Two power module slots Two fan module slots
Management Port	One management port(100/1000Mbps), one console port, and one USB port
Switching Capacity	760 Gbps
Packet Forwarding Rate	565 Mpps

Dimensions and Weight	S4600-20X4Y2B
Dimensions (W × D × H)	440.0 mm x 330.0 mm x 43.6mm
Weight	≤4.6 kg (including two fan modules and without power supply)
Power Supply and Consumption	S4600-20X4Y2B
Typical Power Consumption	85 W
Environment and Reliability	S4600-20X4Y2B
Operating Temperature	0ºC to 50ºC
Operating Humidity	10%RH~90%RH

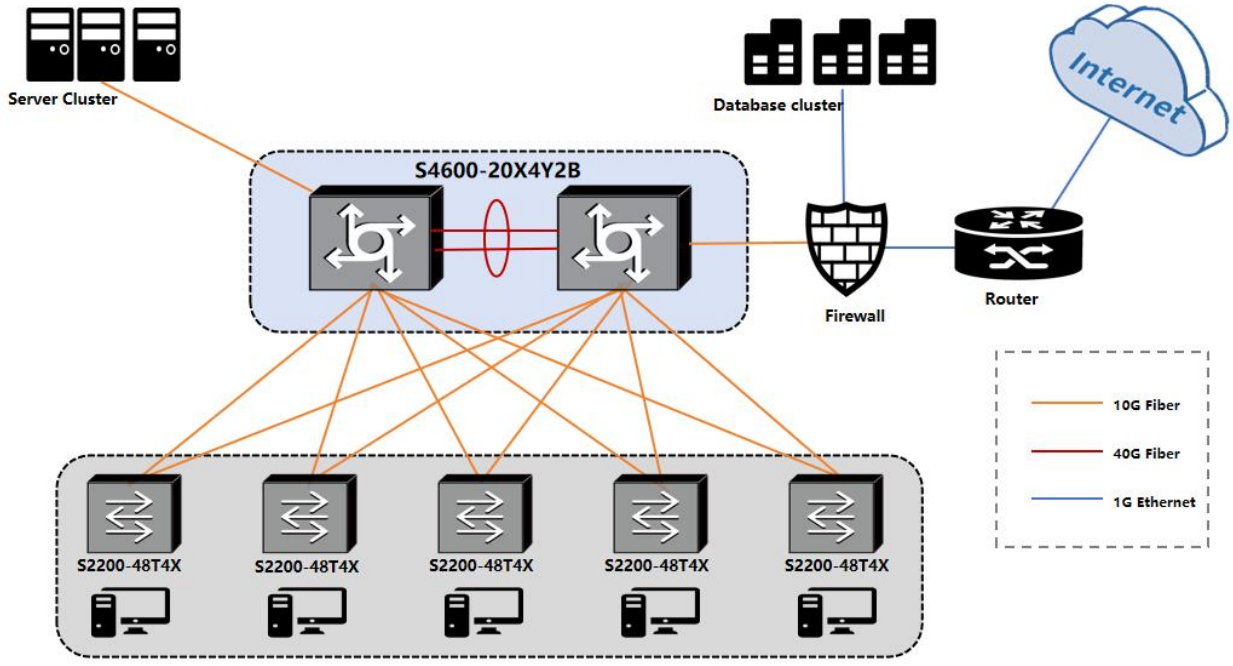
Software Specifications

Software Specifications	S4600-20X4Y2B
Layer 2 Protocols	4K VLAN 802.1Q
	MAC:Dynamic and static address entries Filter illegal MAC addresses.et
	LLDP（802.1ab）
	Storm suppression:broadcast,unknown unicastan,unknown multicast
	Loop detection
STP	STP、RSTP、MSTP
IP route	RIP，RIPng，OSPFv2，OSPFv3，IS-ISv4，IS-ISv6，BGP4，BGP4+
	Static route
	ECMP
QOS	Queue scheduling:SP、WRR、DRR、SP+WRR、SP+DRR
	CoS：802.1p,DSCP
	RED/WRED
Safe	CPP，BPDU Guard
High reliability	VSU (virtualization technology)
	BFD Detection
	SNMP

Software Specifications	S4600-20X4Y2B
O&M management	DNS
	CLI(Telnet/Console)
	NTP
	Syslog
	SSH
	sFlow
	FTP,TFTP
	RMON(1,2,3,9)
	PING/Traceroute

5. Typical Applications

Campus Network solution



6. Configuration Guide

The steps for selecting S4600-20X4Y2B series devices are as follows:

- First select the host model. The host is fully equipped with fan modules and power modules, so there is no need to purchase fans and power modules.
- Then select the optical module according to the interface requirements.

7. Ordering Information

Host, Fan Modules, and Power Modules

Product Model	Description
S4600-20X4Y2B	20*1G/10G SFP+ optical ports, 4*10G/25G SFP28 optical ports, 2*40G QSFP+ optical ports; 2 modular power supply slots, at least one power supply P1A-K0150-E is required; 2 modular fan slots, fully equipped with 2 fan modules and 2 power modules at the factory
P1A-K0150-E	150W AC power module，fully equipped with 2 power modules at the factory
M1SFAN I-F	2 modular fan slots, fully equipped with 2 fan modules at the factory

40GBASE Series Optical Transceivers

Model	Description
QSFP-40G-SR4	40GBASE-SR4 QSFP+ 850nm 100m (OM3) /150m (OM4) MPO/MTP-12 Transceiver Module for MMF
QSFP-40G-LR4	40GBASE-LR4 QSFP+ 1310nm 10km DOM Duplex LC Transceiver Module for SMF
QSFP-40G-SRBD	40GBASE-SRBD QSFP+ 832nm - 918nm 100m (OM3) /150m (OM4) DOM Duplex LC Transceiver Module for MMF
QSFP-40G-PLR4	40GBASE-PLR4 QSFP+ 1310nm 10km MTP/MPO-12 Transceiver Module for SMF

QSFP-40G-PIR4	40GBASE-PIR4 QSFP+ 1310nm 1.4km MTP/MPO-12 Transceiver Module for SMF
QSFP-40G-ER4	40GBASE-ER4 QSFP+ 1310nm 40km DOM Duplex LC Transceiver Module for SMF

25GBASE Series Optical Transceivers

Model	Description
SFP-25G-SR	25GBASE-SR SFP28 850nm 70m (OM3) /100m (OM4) DOM Duplex LC Transceiver Module for MMF
SFP-25G-LR	25GBASE-LR SFP28 1310nm 10km DOM Duplex LC Transceiver Module for SMF
SFP-10/25G-SR	25GBASE-SR SFP28 850nm 70m (OM3) /100m (OM4) DOM Duplex LC Transceiver Module for MMF
SFP-10/25G-LR	25GBASE-LR SFP28 1310nm 10km DOM Duplex LC Transceiver Module for SMF
SFP-25G-ERL	25GBASE-ERL SFP28 1310nm 30km DOM Duplex LC Transceiver Module for SMF

10GBASE Series Optical Transceivers

Model	Description
SFP-10G-SR	10GBASE-SR SFP+ 850nm 300m (OM3)/400m (OM4) DOM Duplex LC Transceiver Module for MMF
SFP-10G-LR	10GBASE-LR SFP+ 1310nm 10km DOM Duplex LC Transceiver Module for SMF
SFP-10G-ER	10GBASE-ER SFP+ 1550nm 40km DOM Duplex LC Transceiver Module for SMF
SFP-10G-ZR	10GBASE-ZR SFP+ 1550nm 80km DOM Duplex LC Transceiver Module for SMF
SFP-10G-T-30	10GBASE-T-30 SFP+ RJ45 30m <2W Transceiver Module for Cat6A/7
SFP-10G-LR-RX	10GBASE-LR-RX SFP+ 1310nm 10km DOM Duplex LC Transceiver Module for SMF

1GBASE Series Optical Transceivers

Model	Description
SFP-1G-SX	1000BASE-SX SFP 850nm 550m DOM Duplex LC transceiver Module for MMF
SFP-1G-LX	1000BASE-LX SFP 1310nm 10km DOM Duplex LC transceiver Module for SMF
SFP-1G-T	1000BASE-T SFP RJ45 100m <1W transceiver Module for Cat5E/6/6A
SFP-1G-EX-31	1000BASE-EX-31 SFP 1310nm 40km DOM Duplex LC transceiver Module for SMF
SFP-1G-SX-SM	1GBASE-SX-SM SFP 1310nm 2km DOM Duplex LC transceiver Module for SMF
SFP-1G-U40-35	1000BASE-U40-35 SFP TX-1310nm/RX-1550nm 40km DOM Simplex LC Transceiver Module for SMF

8. Warranty

For more information about warranty terms and period, contact your local sales agency:

- Warranty terms: https://www.naddod.com/support/
- Warranty period: https://www.naddod.com/support/

Note: The warranty terms are subject to the terms of different countries and distributors.

9. More Information

For more information about Naddod, visit the official Naddod website or contact us:

- Naddod official website: https://www.Naddod.com/
- Online support: https://www.Naddod.com/support
- Email support: support@Naddod.com