

# NADDOD S4600 Series Switches

## Product introduction

Naddod S4600 series switches are a new generation of 10G Ethernet switches launched by Naddod. With large switching capacity, high-density 10GE/40GE wire-speed forwarding ports and plenty of layer 3 functions, the switch supports features such as VXLAN, etc. and supports two pluggable power supplies and is widely used by enterprise, service providers, universities and government.

## Features and advantages

### High-density ports

Naddod S4600 series switches have higher forwarding performance and 10G port scalability. S4600-24X2C supports 24 SFP+ 10G/1G adaptive optical ports and 2 QSFP28 100G/40G adaptive ports, where through one-to-four cables the QSFP ports can be converted into 4 25G/10G optical ports for wire-speed forwarding.

### M-LAG (Multi-chassis Link Aggregation Group technology)

Naddod S4600 series switches support M-LAG (Multi-chassis Link Aggregation Group technology) and can realize link aggregation among a number of devices and thereby improve the board-based link reliability to the device-level link reliability, forming a dual-active system significantly advantaged in scalability, reliability, overall architecture and usability as reflected in the following three aspects:

- **High performance:** The switch members forward independently and the CPU load remains unchanged.
- **High reliability:** The control plane is separated from the forwarding plane, the control plane is independent and the fault domain is isolated. When a switch fails, all data will be transmitted through another switch to ensure high reliability of user's network.
- **Imperceptible service upgrade:** During the upgrade process, no service interruption will be perceived on the client. This enables low risk and fast efficiency.

### Flexible Ethernet networking

With built-in high-performance processor chips, Naddod S4600 series switches are designed exclusively for Ethernet. With flexible packet processing and flow control capabilities, the switches are applicable to services. The chip has a unique switch table entry management (STM) function to support the optimization of specific functions by switching the system resources of the switch to meet the requirements of system resources in different scenarios and

maximize the usage of TCAM resources.

The switches support standard Spanning Tree Protocol (STP), IEEE 802.1s/w Rapid Spanning Tree Protocol (RSTP) and Multiple Spanning Tree Protocol (MSTP).

This series switches support SmartLink and VRRP functions, and can be connected to multiple aggregation switches through multiple links. Uplink backup is realized by the SmartLink/VRRP function so that the reliability of the access-side device is greatly improved.

### **VXLAN feature**

This series switches support VXLAN feature, centralized and distributed gateway deployment, as well as the BGP-EVPN protocol to realize the dynamic establishment of VXLAN tunnels. By encapsulating layer 2 packets in UDP tunnel packets, a large layer 2 network that is the same as VLAN can be provided to achieve greater scalability and flexibility of the network architecture and resolve the problem that traditional data center networks have insufficient quantity of VLANs, which are hardly scalable.

### **Impeccable security control strategy**

Naddod S4600 series switches provide a complete set of security control strategies, which can restrict access to the network and reduce threats:

- Supporting multiple access control technologies and user authentication security technologies, such as ACL, AAA, Dot1X, TACAS + and RADIUS, the switches can flexibly adapt to various network environment authentication requirements.
- Support plenty of ARP defense functions, such as dynamic ARP inspection, to realize the user authentication function and the ARP packet validity check function and avoid a large number of ARP packets from impacting the CPU by limiting the ARP speed.
- Support the DHCP Snooping binding table, where illegal packets that do not match the binding table entries are directly discarded. With the trusted port feature of DHCP Snooping, the legality of the DHCP server can be guaranteed.

### **Multiple reliability protections**

Naddod S4600 series switches have multiple device-level and link-level reliability protections, and support M-LAG (Multi-chassis Link Aggregation Group) technology as well as overcurrent, overvoltage and overheating protection technologies.

Pluggable power supplies and fans improve the hardware reliability of the devices. This series supports modular dual-power-supply and dual-fan assemblies. Both power supply modules and fan modules are hot-swappable without affecting the normal operation of the device. In addition, the switch also supports power supply and fan fault checks and alarms, and the fan speed can be automatically adjusted as temperature changes.

### **Easy operations and maintenance management**

This series switches have plenty of management ports, such as Console port, USB port and independent out-of-band network management port, support SNMP v1/v2c/v3, support various management methods: NDD IDE network management, the CLI command line and Telnet to enable easy maintenance and support the SSH2.0 encryption method to enable higher management security.

Support local port mirroring and RSPAN remote port mirroring, stream mirroring, multiple mirroring monitoring ports and ERSPAN. Support sFlowv4/v5 and other flow collection protocols to facilitate the extraction and analysis of network flows for taking corresponding maintenance measures.

## Product specifications

Device Model		S4600-24X2C
Service ports		24*1/10G SFP +, 2* 40/100G QSFP28 ports
Switching capacity		2.56Tbps
Packet forwarding rate		1260Mpps
Console port		1
Out-of-band management port		1
USB port		1
Input voltage	AC	Operating voltage: 100 –240V; 50/60H Voltage range: 90–264V; 47–63Hz
	DC	Operating voltage: 240V Voltage range: 180 ~ 400V;
Power supply modules		Two modular power supplies
Fan modules		Two hot-swappable fan modules
Heat dissipation modes		Air cooling, intelligent speed regulation
Power consumption (typical/maximum)		80W / 100W
Chassis size mm (H×W×D)		44X440X360mm
Operating temperature range		0°C – 45°C
Operating humidity (non-condensing)		10%~90%
MAC features		Supports maximum address capacity of 144K MAC In accordance with the IEEE 802.1d standard Supports MAC address automatic learning and aging Supports static and dynamic black hole MAC Supports MAC address drift detection Supports Port and VLAN–based MAC address learning limit
VLAN features		Supports 4K VLANs

Device Model	S4600-24X2C
	Supports Port, MAC, subnet and protocol-based VLAN division Supports Basic QinQ and flexible QinQ Supports The VLAN Mapping function Supports Private VLAN Supports Voice VLAN Supports Guest VLAN Supports VLAN statistics
<b>Link aggregation</b>	Supports 10G-port aggregation Supports 40G/100G-port aggregation Supports Static and dynamic link aggregation
<b>Jumbo Frame</b>	9600
<b>VXLAN</b>	Supports VXLAN gateway Supports VXLAN bridge Supports VXLAN routing Supports Centralized or distributed gateway deployment
<b>IP routing</b>	Supports IPv4 static routing, RIPv1/2, OSPFv2, BGP Supports IPv6 static routing, RIPng, OSPFv3 Supports ECMP, routing strategy, strategic routing, uRPF check, VRF, etc.
<b>Ring network protection protocol</b>	Supports SmartLink tree topology and SmartLink multi-instance. Supports The protocol of BFD For Static/OSPF/ VRRP Supports STP (IEEE 802.1d), RSTP (IEEE 802.1w) and MSTP (IEEE 802.1s) Supports BPDU protection, root protection and loopback protection
<b>IPv6 features</b>	Supports IPv6 ND (Neighbor Discovery) Supports PMTU. Supports NDP. Supports IPv6 Ping, IPv6 Tracert, IPv6 Telnet Supports IPv6 ACL Supports MLD v1/v2, MLD v1/v2 snooping Supports IPv6/IPv4 Tunnel Supports ICMPv6
<b>Multicasting</b>	Supports Static multicasting Supports IGMP v1/v2/v3 Snooping Supports IGMP Snooping Fast-leave Supports MVR, intra-VLAN multicast forwarding and cross-VLAN multicast replication Supports IGMPv1/v2/v3, IGMP-Proxy, PIM-SM, PIM-SSM, PIM-DM
<b>DHCP</b>	Supports DHCP Client Supports DHCP Snooping Supports DHCP Relay Supports DHCP Server Supports DHCP Option82
<b>Flow monitoring</b>	Supports SFlow v4/v5
<b>QoS/ACL</b>	Supports limiting of the inbound and outbound flow rates of the port Supports 8 queues per port Supports The queue scheduling modes: SP, WDRR, SP+WDRR

Device Model	S4600-24X2C
	<p>Supports Port/ VLAN/flow-based flow monitoring</p> <p>Supports Re-marking of the 802.1p and DSCP priority of packets</p> <p>Supports L2 (Layer 2)–L4 (Layer 4) packet filtering function. Provides the packet filtering Function based on source MAC address, destination MAC address, source IP Address, destination IP address, source/destination port number for the TCP/UDP protocol, protocols and VLAN</p> <p>Supports The CAR function</p> <p>Supports WRED and tail drop congestion avoidance mechanisms</p>
<b>Mirroring</b>	<p>Supports Port mirroring</p> <p>Supports Stream mirroring</p> <p>Supports Remote mirroring</p> <p>Supports ERSPAN</p>
<b>Security features</b>	<p>Supports Port/MAC-based 802.1X authentication</p> <p>Supports AAA authentication, RADIUS authentication, TACAS+ authentication</p> <p>Supports Port/VLAN-based MAC number limiting</p> <p>Supports illegal MAC learning and defense</p> <p>Supports User authority classification management and password protection</p> <p>Supports ARP attack defense, CPU protection and DOS attack defense</p> <p>Supports ACL filtering</p> <p>Supports SSHv1/v2</p> <p>Supports Port isolation</p> <p>Supports IP+MAC+port binding</p> <p>Supports IP Source Guard</p> <p>Supports Blacklist and whitelist</p>
<b>Reliability</b>	<p>Supports LACP</p> <p>Supports M-LAG (Multi-chassis Link Aggregation Group)</p> <p>Supports VARP</p> <p>Supports VRRP</p> <p>Supports LLDP</p>
<b>Management and maintenance</b>	<p>Supports Command line interface (CLI) configuration</p> <p>Supports Terminal services such as Console, Telnet, SSH, etc.</p> <p>Supports SNMPv1/v2c/v3 and other network management protocols</p> <p>Supports Ping, Tracert</p> <p>Supports Uploading and downloading files through FTP and TFTP</p> <p>Supports RMON</p> <p>Supports System logs, hierarchical alarms</p> <p>Supports Hot patches</p> <p>Supports NTP</p> <p>Supports LLDP</p> <p>Supports VCT (Virtual Cable Test)</p> <p>Supports Unidirectional link detection (UDLD)</p> <p>Supports Power supply, fan and temperature alarms</p>

## Purchase information

Product Model	Description
S4600-24X2C	S4600 switch with 24 1/10G SFP+ optical ports, 2 40/ 100G QSFP28 ports and supporting 2 expansion slots and double power supplies.

## Further Information:

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## Disclaimer

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1. We are committed to continuous product improvement and feature upgrades, and the contents contained in this manual are subject to change without notice.

2. Nothing herein should be construed as constituting an additional warranty.

3. NADDOD assumes no responsibility for the use or reliability of equipment or software not provided by NADDOD.

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