NADDOD S3600 Series Switches

Product introduction

Naddod S3600 series switches are the new generation enhanced layer 3 1000M Ethernet switch products with high performance and high reliability. The switches provide flexible full 1G access, cost-effective 10G uplink ports and support expansion slots.

With enhanced layer 3 routing features, VxLAN, IPv4 and IPv6 management and forwarding, and plenty of security features, the switches are widely used as aggregation or access switches in large and medium campus networks and data centers networks, and core switches in small campus networks.

Features and advantages

High-density and flexible access

This series switches have 48 high-density 1G access ports, and 4 10G uplink ports and support full wire-speed L2/L3 data forwarding and support expandable 4/8 10G SFP+ line card or 2 40G QSFP+ line card, to realize the flexible scalability of high density and high performance ports.

VXLAN feature

Part of this series switches support VXLAN feature and support centralized or distributed gateway deployment. By encapsulating layer 2 packets in UDP tunnel packets, a large layer 2 network that is the same as a 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.

Intelligent virtualization technology

Naddod S3600 series switches support intelligent virtualization technology, realize link aggregation among a number of devices by M-LAG (Multi-chassis Link Aggregation Group) and thereby ensure device-level links to form a dual-active system, which brings significantly advantages in scalability, reliability, overall architecture and usability. M-LAG can bring the following benefits:

- **Simplified business:** With the M-LAG technology to supersede the prior spanning tree protocol, considerable protocol packet–based interaction between devices can be reduced, network operation can be simplified, and duration of convergence during network turbulence can be shortened.

- **High reliability:** The control plane is independent and separated from the forwarding plane. The fault domain is isolated. When a switch fails, all data will be transmitted through another switch to ensure high reliability of your network.

- **Imperceptible business upgrade:** During the upgrade process, client won't be aware of business interruption. This provides low risk and fast efficiency.

Flexible Ethernet networking

Naddod S3600 series switches have high-performance processor chips built-in, which are designed exclusively for Ethernet. With the flexible abilities of packet processing and flow control, the switches are applicable to business. The chip has a unique switch table entry management (STM) function to support the optimization of specific functions by switching the system resources to meet client requirements for system resources in different scenarios and maximize the use of TCAM resources.

Impeccable security control strategy

Naddod S3600 series switches support DHCP snooping binding table, AAA, Dot1X, TACAS+ and RADIUS authentication and support dynamic or static binding of user identification elements such as user account, IP, MAC, VLAN, ports, etc., which flexibly adapt to the requirements for multiple authentications of network environment.

Naddod S3600 series switches support plenty of ARP defense functions, such as dynamic ARP inspection, which realizes the functions of user authentication and ARP packet validity check, and avoid a large number of ARP packets from impacting the CPU by limiting the ARP speed.

Multiple reliability protections

Naddod S3600 series switches have multiple device-level and link-level reliability protections.

On device level 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. It also supports overcurrent, overvoltage and overheating protection technologies.

On link level the switches support standard Spanning Tree Protocol (STP), IEEE 802.1s/w Rapid Spanning Tree Protocol (RSTP) and Multiple Spanning Tree Protocol (MSTP), and fully ensure rapid convergence, improve fault tolerance, ensure stable network operation, link load balancing, reasonable usage of network channels and improve redundant link usage rate.

Support Virtual Routing Redundancy Protocol (VRRP) to effectively ensure network stability.

When disabling STP, a UplinkFast protection function can be provided through the UplinkFast protection protocol SmartLink, so that even STP is disabled, basic link redundancy as well as millisecond fault recovery that is faster than the STP can still be provided.

Support ERPS ring network solutions, and support single ring, tangent ring, intersection ring and other networking methods. Provide 50ms fast service inversion, which achieves telecom level reliability.

Easy maintenance and management

This series switches have plenty of management ports, such as Console port, USB port and independent out-of-band network management port, supporting SNMP v1/v2c/v3 and various management methods, such as NDD IDE network management, CLI command line and Telnet. Diversified management methods provide easy maintenance. Encryption methods such as SSH2.0 provides high management security.

Support local and remote port mirroring, multiple mirroring monitoring ports, etc., and support sFlow v4/v5 and the flow collection protocol to facilitate the extraction and analysis of network flows for taking corresponding maintenance measures.

Product specifications

PID	S3600-24T24S4X	S3600-48S4X
Switching capacity	2.4Tbps	2.4Tbps
Packet forwarding rate	513Mpps	513Mpps
Fixed ports	24*10/100/1000M RJ45 ports, 24*1G SFP ports, 4*10G SFP+ ports	48*1G SFP ports, 4*10G SFP+ ports
Expansion slots	2	1
Expansion line card	1*40G QSFP+ line card 4*10G SFP+ line card	4*10G SFP+ line card
Management ports	1 RJ45 Console port, 1 USB port, 1 out-of-band management port	
VXLAN	Support VXLAN gateway Support VXLAN bridge Support VXLAN routing Support Centralized or distributed gateway deployment	N/A
MAC features	Support Maximum address capacity of 144K MAC Support In accordance with the IEEE 802.1d standard Support MAC address automatic learning and aging Support Static and dynamic and black hole MAC Support MAC address drift detection Support Packets filtering based on source MAC Support MAC address learning limit	Support Maximum address capacity of 100K MAC In accordance with the IEEE 802.1d standard Support MAC address automatic learning and aging Support Static and dynamic black hole MAC Support MAC address drift detection Source MAC–based packets filtering Support Port and VLAN–based MAC address learning limit

PID	S3600-24T24S4X	S3600-48S4X
	based on port and VLAN	
VLAN features	Support 4K VLANs	
	Support VLAN division based on port, MAC, subnet and protocol	
	Support Basic QinQ and flexible QinQ	
	Support VLAN Mapping function	
	Support Private VLAN	
	Support Voice VLAN	
	Support Guest VLAN	
	Support VLAN statistics	
Link aggregation	Support 10G-port aggregation	
	Support 40G-port aggregation	
Jumbo Frame	9600	
Port features	Support IEEE802.3x flow control (full-duplex)	
	Support Storm suppression based on port rate percentage	
	Support Storm suppression	
Virtualization	Support Multi-chassis Link Aggregation Group (M-LAG)	
IP routing	Support IPv4 static routing, RIPv1/2, OSPFv2, BGP	
	Support IPv6 static routing, RIPng, OSPFv3	
	Support ECMP, routing strategy, strategic routing, uRPF check, VRF, etc.	
Ring network protection protocol	Support SmartLink tree topology and SmartLink multi-instance	
	Support The ERPS Ethernet ring protection protocol	
	Support The protocol of BFD for Static/OSPF/ VRRP	
	Support STP (IEEE 802.1d), RSTP (IEEE 802.1w) and MSTP (IEEE 802.1s)	
	Support BPDU protection, root protection and loopback protection	
IPV6 features	Support IPv6 ND (Neighbor Discovery)	
	Support PMTU	
	Support NDP	
	Support IPv6 Ping, IPv6 Tracert, IPv6 Telnet	
	Support IPv6 ACL	
	Support MLD v1/v2, MLD v1/v2 snooping	
	Support IPv6/IPv4 Tunnel	
	Support ICMPv6	
Multicasting	Support Static multicasting	
	Support IGMP v1/v2/v3 Snooping	
	Support IGMP Snooping Fast-leave	
	Support MVR, intra-VLAN multicast forwarding and cross-VLAN multicast replication	
	Support MLD v1/v2, MLD Snooping, PIM-SMv6	
	Support IGMP v1/v2/v3, IGMP-Proxy, PIM-SM, PIM-SSM, PIM-DM	
DHCP	Support DHCP Client	
	Support DHCP Snooping	
	Support DHCP Relay	
	Support DHCP Server	
	Support DHCP Option82	

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Flow monitoring	Support SFlow	
QoS/ACL	Support Speed limit to the inbound and outbound Support 8 queues per port Support The queue scheduling modes: SP, WDRR, SP+WDRR Support Port/VLAN/flow–based flow monitoring Support Re-marking of the 802.1p and DSCP priority of packets Support 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 interface number for the TCP/UDP protocol, protocols and VLAN Support The CAR function Support WRED and tail drop congestion avoidance mechanisms	
Mirroring	Support Port mirroring Support Stream mirroring Support ERSPAN	Support local mirroring Support remote mirroring
Security features	Support 802.1X authentication based on port/MAC Support AAA authentication, RADIUS authentication, TACAS+ authentication Support MAC quantity limit based on port/VLAN Support Defense illegal MAC learning Support User authority classification management and password protection Support ARP attack defense, CPU protection and DOS attack defense Support ACL filtering Support SSHv1/v2 Support Port isolation Support IP+MAC+port binding Support IP Source Guard Support Blacklist and whitelist	
Reliability	Support LACP (IEEE802.3ad) Support Multi-chassis Link Aggregation Group (M-LAG) Support VARP Support VRRR Support LLDP	
Energy saving	IEEE (802.3az)	
Management and maintenance	Support Command line interface (CLI) configuration Support Terminal services such as Conslole, Telnet, SSH, etc. Support SNMP v1/v2c/v3 and other network management protocols Support Ping, Tracert Support Uploading and downloading files through FTP and TFTP Support RMON Support system logs, hierarchical alarms Support Hot patches Support NTP Support LLDP	

PID	S3600-24T24S4X	S3600-48S4X
	Support Unidirectional link detection (UDLD) Support Power supply, fan and temperature alarms	
Typical Power Consumption / Maximum Power Consumption	80W/100W	75W/100W
Input voltage — AC	Operating voltage: 100 –240V; 50/60H Maximum voltage: 90–264V; 47–63Hz	Operating voltage: 100 –240V; 50/60H Maximum voltage: 90–264V; 47–63Hz
Input voltage — HVDC	Operating voltage: 240V Voltage range: 180 ~ 400V;	Operating voltage: 240V Voltage range: 190 ~ 290V;
Chassis size (H×W×D)	44 X 440 X 360 mm	44 x 440x 365 mm
Weight	≤6.0kg	≤6.2kg
Operating temperature range	0℃–45℃	
Operating humidity (No condensation)	10%～90%	

Ordering information

Part No.	Product Description
S3600-24T24S4X	S3600 switch with 24 10/100/1000Base-T electrical ports, 24 100/1000 SFP optical ports, 4 10G SFP + optical ports and supporting 2 expansion slots and double 220V AC power supplies.
S3600-48S4X	S3600 switch with 48 100/1000 SFP optical ports, 4 10G SFP + optical ports and supporting 1 expansion slots and double 220V AC power supplies.

Further Information:

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Disclaimer

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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