



# XS26DS

## L2/L3 10 G Optic Fiber Aggregation Switches



### Features

- L2/L3 wire-speed switch that support all optical connections.
- With 10GE uplinks, 24 client ports – 20x 100M/1G SFP client ports and 4x combo 100Mb/1Gb & 10/100/1000Mb client ports
- Extensive set of QoS functions that differentiate traffic based on L2 to L4 parameters including 802.1p, CoS & DSCP, with Differentiated services.  
XS26DS provides advanced bandwidth control with 8 hardware priority queues that enable better bandwidth administration. Support traffic prioritization, queuing and granular traffic speed controls.
- Comprehensive security functions to protect the networks edge with minimal configuration effort. Among other it supports DHCP relay functions with option 82, Dynamic ARP inspection (DAI), IP source guard, port guard, 802.1X and others.
- Complete VLAN support: supporting 4096 VLANs, supporting QinQ with custom selectable tags, enabling to tunnel multiple sets of customers VLANs and MVR support to simplify configuration and improve security for multicast applications like IPTV.
- Wide range of management options allows simplified central or distributed management and supervision.

### Overview

The XS26DS gigabit switches is the new generation of fiber optic Ethernet L2/L3 switch that provides rich set of functions that are needed in today's modern ISP access, campus and enterprise networks.

They enable building of converged unified networks that support optimal data transfer for multiple concurrent applications, like triple play access, (IPTV, VoIP, data), Video on demand, Video Conferencing and others ...

The XS26DS features 24 SFP client gigabit interfaces and 2 10Gbits/s SFP+ uplinks.

It was built to deliver carrier grade Ethernet availability, resiliency and support redundant architectures with very fast recovery.

The XS26DS can be managed either locally or remotely via CLI, SNMP and Web.

XS26DS is fixed 1U high rack mountable device.

Downlink ports:

24x 100/1000 SFP  
(Four are Combo 100/1000 SFP & 10/100/1000BASE-T)

Uplink ports :

2x 10G SFP+

## Comprehensive Security

XS26DS switches provide all necessary security features to protect network against unauthorized access, and protects against various types of attacks with address and protocol spoofing.

- The XS26DS switches support **802.1x authentications** to identify users who attempt to access the network.
- The XS26DS switches support MAC address authentication, it controls accesses to a network through ports and MAC addresses. Furthermore, The XS26DS switches can perform 802.1x authentication and MAC address based authentication simultaneously.
- **MAC-IP-port binding** allows a device to filter packets and thus enhancing security. With MAC-IP-port binding configured, a port checks whether the source MAC and IP addresses of an inbound packet is identical to the configured MAC-to-IP binding on the port. If so, it forwards the packet, otherwise, it discards the packet.
- The XS26DS switches support ARP inspection to guard against ARP spoofing (**Dynamic Arp Inspection - DAI**). According the ARP detection function, the switches check the validity of the ARP packets by using the DHCP-Snooping table or the manually configured IP binding table. You can also set trusted ports. ARP packets coming from the trusted ports will not be checked, while those from other ports will be checked through the DHCP Snooping table or the manually configured IP binding table.
- **DHCP relay with option 82** assures that only authorized DHCP servers can assign addresses of the clients and allow MAC-less commissioning, based on device physical port rather than on client MAC address. Further it collects data for ARP filtering (DAI) and IP source filtering (**IP source guard**) that can automatically filter traffic that does not belong to currently assigned clients IP and MAC address of the clients. This filtering, that significantly increases client security, can be performed without complex and time consuming configuration that would be specific for each client - simply by using data collected during DHCP relaying process.

## High Reliability

- The XS26DS switches support STP/RSTP/MSTP. These STP/RSTP features also support for BPDU guard, Root guard and Edge-port. This feature can improve the network stability using the redundant back-up and error tolerance capability.
- The XS26DS switches also support Smart Link to provide rapid convergence in circular topologies. Smart Link is a link redundancy and fast convergence technology on link layer. With smart link technology, XS26DS is able to provide fast fault recovery time of less than 50 ms.
- The XS26DS switches support port aggregation with LACP, and without protocol - simple and cheap way to expand the bandwidth and improve reliability of network. Enables to build loop free redundant architectures with fast recovery times.
- The XS26DS supports the VRRP protocol to provide for redundant L3 gateways.
- Management & maintainability & Stacking Capability
- The XS26DS switches support Simple Network Management Protocol (SNMP) v1/v2c/v3 and RMON v1/2/3/9 groups of MIBs.
- The XS26DS switches support Command Line Interface (CLI), Web based network management and telnet which make the equipment management more convenient.

**Standards Support**

<b>Ethernet Protocol</b>	
IEEE 802.3	IEEE 802.1D (STP)
IEEE 802.3u	IEEE 802.1w (RSTP)
IEEE 802.3z	IEEE 802.1s (MSTP)
IEEE 802.3ab (Gigabit Ethernet)	IEEE 802.1Q
IEEE 802.3ae	IEEE 802.1p (CoS)
IEEE 802.3x (Flow Control)	IEEE 802.1x (Security)
IEEE 802.3ad (Link Aggregation)	
<b>Administration Protocol</b>	
RFC 826 (ARP)	RFC 2819 (Remote Network Monitoring MIB (group 1,2,3,9))
RFC 1812 (IPv4)	RFC 1757 (RMON (groups 1 2 3 and 9))
RFC 783 (TFTP)	RFC 1157 (SNMP)
RFC 768 (UDP)	RFC 1902 (SNMPv2)
RFC 791 (IP)	RFC 1901 (Community based SNMPv2)
RFC 792 (ICMP)	RFC 2271 SNMPv3 Architecture
RFC 793 (TCP)	RFC 2573 (SNMPv3 Applications)
RFC 2474 (Diffserv)	RFC 2576 (Coexistence between SNMP V1, V2, V3)
RFC 2622 (Routing policy)	RFC 1058 (RIPv1)
RFC2461 (Neighbor Discovery for IPv6)	RFC 1723 (RIPv2)
RFC 2462 (IPv6 Stateless Address Auto configuration)	RFC 2080 (RIPng)
RFC 2464 (Transmission of IPv6 over Ethernet)	RFC 2466 (MIB for IP Version 6)
RFC 2131 (DHCP)	RFC 854 (Telnet)
RFC 2362 (PIM-SM)	RFC 896 (Congestion control in IP/TCP network)
RFC 2267 (Network Ingress Filtering)	RFC 925 (Multi-LAN ARP/Proxy ARP)
RFC 1156 (TCP/IP MIB)	RFC 1122 (Requirements for Internet Hosts)
RFC 1212 (Concise MIB definitions)	RFC 2597 (Assured Forwarding PHB group (partial support))
RFC 1213 (MIB for Network Management of TCP/IP based internets (MIB II))	RFC 2865 (Remote Authentication Dial In User Service)
RFC 2618 (Radius Authentication Client MIB)	RFC 2869bis (Radius Support for Extensible Authentication)
RFC 2620 (Radius Accounting MIB)	RFC3046 (DHCP/BootP Relay) RFC2765 (Stateless IP/ICMP Translation Algorithm)

## Specifications

Item	XS26DS
Ports	<b>Uplink</b> 2x10GE SFP+ <b>Downlink</b> 24x100/1000BaseFX & 4x COMBO 10/100/1000BaseTX <b>Console</b> RS232
Wire speed switching	Store and forward mode: Non-blocking switching Port Switch capacity: 88 Gbps Throughput: 65.5 Mbps
Jumbo Frame	Support up to 10056 bytes Jumbo Frame
MAC address	16K Support MAC address black hole Support MAC address learning limit
VLAN	Support port-based VLAN Support 802.1Q VLAN (4K VLANs) Support protocol-based VLAN Support GVRP/GARP (Generic VLAN Registration Protocol) Support MVR(Multicast VLAN Registration ) Support VLAN isolation (16) Support VLAN based on IPv4 subnets Support Voice VLAN Support QinQ, Selective QinQ Support VLAN Mapping
IP Routing	Support static routes Support RIPv1/v2, RIPv6 Support VRRP Support DHCP relay Support DHCP client Support DHCP snooping Support DHCP relay option82. DHCP snooping option82
Mirror	Port mirroring Support traffic Mirroring
Link aggregation	Support LACP Support static link aggregation
Port Lookback Detection (LBD)	Auto shutdown individual ports upon fault signals Auto-detection interval can be set
Layer 2 Reliability	Support STP/RSTP, Support MSTP STP Root Guard BPDU Guard Smart Link/Monitor Link
Multicast	Support IGMP snooping v1/v2/v3 Support MLD snooping Support fast leave Support MVR
Security feature	Support hierarchical management and password protection of users Support IEEE 802.1X authentication Support centralized MAC address based authentication Support port isolation Support IP + MAC + port binding

		Support ARP detection Support IP source check
QoS/ACL	ACL	Support traffic classification based on source MAC address, destination MAC address, source IP address, destination IP address, Layer 4 port, protocol type, VLAN, and so on Support the time range
	QoS	Flow-based traffic rate limit Support flow-based priority tag Flow-based packet VLAN ID change Flow-based redirection of packets to another port or IP next hop Flow-based traffic statistics Flow-based traffic mirroring Support SP/WRR/SP+WRR queue scheduling Support port mirroring and RSPAN (remote port mirroring) Support port traffic shaping Support congestion avoidance and drop policies
Management and maintenance		Support locally / remotely management via CLI, SNMP, Web and Telnet, Console port Support Simple Network Management Protocol (SNMP) v1/v2/v3 Support Remote Monitoring (RMON) 1/2/3/9 groups of MIBs Support system log, hierarchical alarms Support SSH v2 Support power supply/fans/temperature of IC/ status detection and alarms Support Debugging Information Output Support remote maintenance through Telnet
Dimensions (HxWxD)		19" rack-mount width, 1U height
Weight		4.5Kg
Interface		Optical ports: 1000Base SFP slot Optical ports: 100Base FX (SC/PC connector) Uplink Optical ports: 10GESFP+ slot Console port: RS-232(RJ45 connector)
Power supply		Redundant dual inputs, A C-powered or DC-powered. AC voltage range: 90 VAC to 264 VAC; 50 Hz or 60 Hz DC voltage range: -36 V to -72 V
Power consumption		No more than 55 W
Predicted MTBF		65,000 hrs (25°C)
Operating Temp.		0°C to 50°C
Storage Temp.		-10°C to 70°C
Relative humidity		10% to 90% (non-condensing)

**Ordering information**

PN	Description
<b>Switches</b>	
XS26DSS	L2/L3 10 G Optic Fiber Aggregation Switch with 24 x SFP+ 1Gb, 4 x Combo 10/100/1000BASE-T and 2 x 10 G SFP+ with single PS
XS26DSD	L2/L3 10 G Optic Fiber Aggregation Switch with 24 x SFP+ 1Gb, 4 x Combo 10/100/1000BASE-T and 2 x 10 G SFP+ with dual PS installed

**Notes:**

<sup>1</sup> For accurate order specification please contact Xenopt reseller before placing an order. The content of this document is subject to change without notice. Xenopt does not guarantee errorless or outdated information.

**Pluggable optics**

A rich set of pluggable optical devices are available at XenOpt. They cover access 100M and 1Gb devices for single mode and multimode fibers, and BIDI devices for single fiber single mode operation. For 10Gb ports a set of standard multimode and single mode short and long reach devices and CWDM and DWDM devices are available. Additional info on compatible pluggable devices is available at <http://xenopt.com/pluggables>.

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