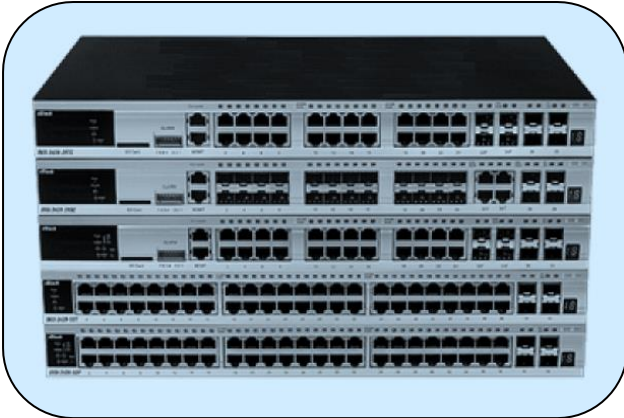


X3420 Series

Stackable L2+ Managed Gigabit Switches



The X3420 series of next generation Layer 2+ Gigabit switches delivers performance, flexibility, security, multi-layer QoS, and accessibility, along with redundant power solutions for SMBs and enterprises. With high Gigabit port densities, Gigabit SFP, 10-Gigabit SFP+ support, and advanced software solutions, these switches can act as either departmental access layer devices or aggregation switches to form a multilevel network structured with backbone and centralized high-speed servers.

Service providers can take advantage of the high SFP density switches (X3420-28SC) to structure the aggregation of Fiber to the Building (FTTB) networks that are extended to the subscribers' sites.

Unparalleled Flexibility

Easily deployed and simple to manage, the X3420 can be stacked with any switch that supports Single IP Management to form a multi-level network structured with backbone and centralized high-

Features

Flexible Choices

- 20/48 10/100/1000BASE-T ports or 20 SFP slots
- 4 Combo 10/100/1000BASE-T/SFP ports¹
- 4 10-Gigabit SFP+ uplink ports
- 802.3af and 802.3at Power Over Ethernet support²
- Optional External Redundant Power Supply

High Bandwidth Physical/Virtual Stacking

- Physical stack of up to 12 units, 576 Gigabit ports
- Stackable through 2 10-Gigabit SFP+ ports
- Up to 40 Gbps Full-Duplex Stacking Bandwidth
- Virtual Stack of up to 32 units using single IP Management

L3 Features

- IPv4/v6 Static Routing
- RIP/RIPng

Quality of Service

- 802.1p Priority Queues/Multi-Layer CoS
- Time-based QoS

Reliability

- Loopback Detection (LBD)
- Ethernet Ring Protection Switching (ERPS)

Security

- L2/L3/L4 Multi-Layer Access Control
- Safeguard Engine
- Supports Microsoft Nap

OAM

- 802.3ah Ethernet Link OAM
- 802.1ag, ITU-T Y.1731 Service OAM

¹ For X3420-28TC/28SC/28PC models

² For X3420-28PC/52P models

speed servers. The virtual stack can include units located anywhere on the same network domain, and uses optional 10-Gigabit uplinks to move intra-stack traffic at 20 Gbps full duplex speeds.

Redundant Ring Stacking

Alternatively, depending on whether linear or fault-tolerant ring stacking is implemented, users can use one or two 10-Gigabit SFP+ ports to create a physical stack. 12 units or 576 Gigabit ports can be configured for a stack using direct attach cables to provide high bandwidth on the X3420 Series with cost efficiency.

Security, Performance & Availability

The X3420 Series provides a complete set of security features including L2/L3/L4 multi-layer Access Control Lists and 802.1X user authentication via TACACS+ and RADIUS servers.

The X3420 Series offers extensive VLAN support including GVRP and 802.1Q VLAN to enhance security and performance. A robust set of L2/L3/L4 QoS/CoS solutions help ensure that critical network services such as VoIP, ERP, Intranet, and video conferencing are served with proper priority. The series also provides Safeguard Engine to increase the switch's reliability, serviceability, and availability to prevent malicious flooding traffic caused by worms or virus infections. Bandwidth Control can be flexibly set for each port using pre-defined thresholds to assure a committed level of service for endusers. For advanced applications, flow-based bandwidth control allows easy fine-tuning of service types based on specific IP addresses or protocols.

IPv6 Technology

The X3420 Series also features comprehensive IPv6 support, including IPv6 Tunnel, ICMPv6, DHCPv6, RIPng, IPv4/IPv6 dual stack, and more. With 10-Gigabit connectivity and IPv6 support, the series enables you to future-proof your network for cost efficiency and longevity while meeting the requirements that future IPv6-capable network devices require.

Green Technology

The X3420 Series implements Green technology, which includes power saving through link status, smart fan design, increased heat dissipation, and cable length detection. The power-saving feature automatically powers down ports that have no link or link partner. The Smart Fan design allows the built-in fans to automatically turn on only at a certain temperature, providing continuous, reliable, and eco-friendly operation of the switch.

Technical Specifications

		X3420-28TC	X3420-28PC	X3420-28SC
General	Interfaces	20 10/100/1000BASE-T ports 4 Combo 10/100/1000BASE-T/SFP ports 4 SFP+ ports	20 10/100/1000BASE-T PoE ports 4 Combo 10/100/1000BASE-T PoE/SFP ports 4 SFP+ ports	20 SFP ports 4 Combo 10/100/1000BASE-T/SFP ports 4 SFP+ ports
	Optional Redundant Power Supply	DPS-500	DPS-700	DPS-500
	Console Port	RJ-45		
	Management Port	10/100BASE-T		
	Alarm Port	1		
	SD Card Slot	1		
Performance	Switch Fabric	128 Gbps	128 Gbps	128 Gbps
	Packet Forwarding Rate	95.24 Mpps	95.24 Mpps	95.24 Mpps
	Packet Buffer	2 MB		
	MAC Address Table	16K Entries		
	IP v4 Routing Table	1K Entries		
	IP v6 Routing Table	512 Entries		
	IP v4 Forwarding Table	2K Entries		
	IP v6 Forwarding Table	1K Entries		
	Jumbo Frame Size	13000 bytes		
PoE	PoE Standard	-	802.3af and 802.3at	-
	PoE Power Budget	-	370 watts (740 watts with DPS-700 RPS)	-
Physical	MTBF (Hours)	287763 hours	230906 hours	300371 hours
	Acoustics	Max: 46.5 dB	Max: 52.8 dB	Max: 46.3 dB
	Heat Dissipation	173.2 BTU/hr	1630.0 BTU/hr	205.3 BTU/hr
	Power Input	100 to 240 V AC, 50/60Hz	100 to 240 V AC, 50/60Hz	100 to 240 V AC, 50/60Hz
	Max Power Consumption	50.8 watts	478.0 watts	60.3 watts
	Dimensions (W x D x H)	441 x 310 x 44 mm	441 x 380 x 44 mm	441 x 310 x 44 mm
	Weight	4.12 kg	5.75 kg	4.06 kg
	Ventilation	via Temperature Controlled Smart Fan (> 39 °C: High Speed; < 36 °C: Low Speed) ³		
	Operating Temperature	0 to 50 °C		
	Storage Temperature	-40 to 70 °C		
	Operating Humidity	10% to 90% RH		
	Storage Humidity	5% to 90% RH		
	Emission (EMI)	FCC Class A, CE Class A, VCCI Class A, IC, C-Tick		
	Safety	CB, cUL, LVD		
	Certification	IPv6 Ready Logo Phase 2		

Technical Specifications

		X3420-52T	X3420-52P
General	Interfaces	48 10/100/1000BASE-T ports 4 SFP+ ports	48 10/100/1000BASE-T PoE ports 4 SFP+ ports
	Optional Redundant Power Supply	DPS-500	DPS-700
	Console Port	RJ-45	
	Management Port	10/100BASE-T	
	Alarm Port	1	
	SD Card Slot	1	
Performance	Switch Fabric	176 Gbps	176 Gbps
	Packet Forwarding Rate	130.95 Mpps	130.95 Mpps
	Packet Buffer	2 MB	
	MAC Address Table	16K Entries	
	IPv4 Routing Table	1K Entries	
	IPv6 Routing Table	512 Entries	
	IPv4 Forwarding Table	2K Entries	
	IPv6 Forwarding Table	1K Entries	
Jumbo Frame Size	13000 bytes		
PoE	PoE Standard	-	802.3af and 802.3at
	PoE Power Budget	-	370 watts (740 watts with DPS-700 RPS)
Physical	MTBF (Hours)	255608 hours	202462 hours
	Acoustics	Max: 51.1 dB	Max: 55.4 dB
	Heat Dissipation	276.2 BTU/hr	1723.4 BTU/hr
	Power Input	100 to 240 V AC, 50/60Hz	100 to 240 V AC, 50/60Hz
	Max Power Consumption	81.0 watts	505.4 watts
	Dimensions (W x D x H)	441 x 380 x 44 mm	441 x 380 x 44 mm
	Weight	5.07 kg	6.24 kg
	Ventilation	via Temperature Controlled Smart Fan (> 39 °C: High Speed; < 36 °C: Low Speed) ³	
	Operating Temperature	0-50 °C	
	Storage Temperature	-40 to 70 °C	
	Operating Humidity	10% to 90% RH	
	Storage Humidity	5% to 90% RH	
	Emission (EMI)	FCC Class A, CE Class A, VCCI Class A, IC, C-Tick	
	Safety	CB, cUL, LVD	
Certification	IPv6 Ready Logo Phase 2		

³ By default, the fan speed is low. When the temperature inside the chassis is over 39 °C, the fan switches to high speed and remains high until the temperature is down to 36 °C.

Software Features:**Stackability**

- Virtual Stacking Support
 - Single IP Management
 - Up to 32 devices per virtual stack
 - Up to 20G stacking bandwidth
- Physical Stacking⁵
 - Supports Duplex Chain/Ring topology
 - Up to 40G stacking bandwidth
 - Up to 12 units per stack

L2 Features

- MAC Address Table: 16K
- Flow Control
 - 802.3x Flow Control
 - HOL Blocking Prevention
- Jumbo Frames up to 13,000 bytes
- IGMP snooping
- IGMP v1/v2/v3 Snooping
 - Supports 960 groups
 - Port/Host-based
 - IGMP Snooping Fast Leave
- Multiple MVR instances (ISM VLAN)
- MLD Snooping
 - MLD v1/v2 Snooping
 - Supports 480 groups
 - Host-based MLD Snooping Fast Leave
- Spanning Tree
 - 802.1D-2004 STP
 - 802.1w RSTP
 - 802.1Q-2005 MSTP
 - BPDU filtering
 - Root Restriction
- Loopback Detection
- 802.3ad Link Aggregation
- Max. 32 groups per device
 - 8 Gigabit ports or 2 10-Gigabit ports per group
- Port Mirroring
 - Supports 4 Mirroring Groups
 - Supports One-to-One, Many-to-One, Flow-based, and RSPAN mirroring
- L2 Protocol Tunneling
- ERPS (Ethernet Ring Protection Switching)

VLAN

- VLAN Group
 - Max. 4K Static VLAN Groups
 - Max. 255 Dynamic VLAN Groups
- 802.1Q Tagged VLAN
- 802.1v Protocol VLAN
- GVRP
- Double VLAN (Q-in-Q)
 - Port-based Q-in-Q
- MAC-based VLAN
- VLAN Trunking

L3 Features

- 256 IP interfaces
- Loopback interface
- IPv6 Tunneling
- Proxy ARP
- Gratuitous ARP
- VRRP4

L3 Routing

- 1K routing entries shared by IPv4/v6
 - Max. 1K IPv4 routes
 - Max. 512 IPv6 routes
- 2K L3 forwarding entries shared by IPv4/v6
 - Max. 2K IPv4 entries
 - Max. 1K IPv6 entries
- 256 static routing entries for IPv4, 128 entries for IPv6
- RIP v1/v2
- RIPng
- Policy-based Routing
- Route Redistribution

QoS (Quality of Service)

- 802.1p Class of Service (CoS)
- 8 queues per port
- Queue Handling
 - Strict
 - Weighted Round Robin (WRR)
 - Strict + WRR
- CoS based on
 - Switch Port
 - VLAN
 - 802.1p Priority Queues
 - MAC Address
 - IPv4/v6 Address
 - DSCP
 - Protocol Type
 - IPv6 Traffic Class
 - IPv6 Flow Label
 - TCP/UDP Port
 - User-defined Packet Content
- Supports following actions for flows:
 - Remark 802.1p Priority Tag
 - Remark TOS/DSCP Tag
 - Bandwidth Control
 - Flow Statistics
 - Committed Information Rate (CIR), min. granularity 1 Kbps.
 - Bandwidth Control
 - Port-based (Ingress/Egress, min. granularity 8 Kbps)
 - Flow-based (Ingress, min. granularity 8 Kbps)
- Time-based QoS
- Congestion Control – WRED⁴

ACL (Access Control List)

- Ingress ACL: support up to 6 profiles and 256 rules per profile Egress ACL: support up to 4 profiles and 128 rules per profile
- ACL based on
 - 802.1p Priority
 - VLAN ID
 - MAC Address
 - Ether Type
 - IPv4/v6 Address
 - DSCP
 - Protocol Type
 - TCP/UDP Port Number
 - IPv6 Traffic Class
 - IPv6 Flow Label
 - User-defined Packet Content
- ACL Statistics
- Time-based ACL

Security

- SSH v2
- SSL v1/v2/v3
- Port Security for up to 3328 MAC addresses for port/system/VLAN
- Broadcast/Multicast/Unicast Storm Control
- Traffic Segmentation
- IP-MAC-Port Binding
 - ARP Packet Inspection
 - IP Packet Inspection
 - DHCP Snooping
 - DHCPv6 and NDP Snooping
 - Supports up to 500 Address Binding Entries per device
- Safeguard Engine
- DHCP Server Screening
- CPU Interface Filtering
- ARP Spoofing Prevention
- BPDU Attack Protection
- Secure FTP4
- NetBIOS/NetBEVI Filtering

AAA

- 802.1X
 - Port-based Access Control
 - Host-based Access Control
 - Dynamic VLAN Assignment
- Web-based Access Control (WAC)
 - Port-based Access Control
 - Host-based Access Control
 - Dynamic VLAN Assignment
- MAC-based Access Control (MAC)
 - Port-based Access Control
 - Host-based Access Control
 - Dynamic VLAN Assignment

- Japan Web-based Access Control (JWAC)
 - Host-based Access Control
- Microsoft® NAP
 - Supports 802.1X NAP
 - Supports DHCP NAP
- Guest VLAN
- RADIUS and TACACS+ authentication for switch access
- 4-Level user account

Management

- Web-based GUI
- Command Line Interface (CLI)
- Telnet Server
- Telnet Client
- TFTP Client
- ZModem
- SNMP v1/v2c/v3
- SNMP Trap
- System Log
- RMON v1
 - Supports 1,2,3,9 Groups
- RMON v2
- Supports ProbeConfig Group
- sFlow
- LLDP/LLDP-MED
- BootP/DHCP Client
- DHCP Auto-Configuration
- DHCP Relay
- DHCP Relay Option 60; 61
- DHCP Relay Option 82
- DHCP Server
- Flash File System
- Multiple Images
- Multiple Configurations
- CPU Monitoring
- Debug Command
- SNMP
- ICMPv6
- DHCPv6 Client
- DHCPv6 Relay
- DHCPv6 Server
- Trusted Host
- MTU Setting
- Microsoft® NLB Support
- UDP helper

OAM

- 802.3ah Ethernet Link OAM
- 802.3ah Extension: Unidirectional Link Detection (DULD)

Ordering information⁶

PN	Description
Switches	
X3420-28TC	Switch, 20 10/100/1000BASE-T ports, 4 Combo 10/100/1000BASE-T/SFP ports, 4 SFP+ ports
X3420-28PC	Switch, 20 10/100/1000BASE-T PoE ports, 4 Combo 10/100/1000BASE-T PoE/SFP ports, 4 SFP+ ports
X3420-28SC	Switch, 20 SFP ports, 4 Combo 10/100/1000BASE-T/SFP ports, 4 SFP+ ports
X3420-52T	Switch, 48 10/100/1000BASE-T ports, 4 SFP+ ports
X3420-52P	Switch, 48 10/100/1000BASE-T PoE ports, 4 SFP+ ports
Cables 10 G⁷	
CP-SPSP-010	10-GbE SFP+ 1 m Direct Attach Cable
CP-SPSP-030	10-GbE SFP+ 3 m Direct Attach Cable
Pluggables⁸	
XSS311-20LY	SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 20 km, 3.3 V operating voltage
XSM851-M5LY	SFP transceiver, 1000BASE-SX standard, multi-mode fiber, max. distance 550 m, 3.3 V operating voltage
XSS311-40LY	SFP transceiver, 1000BASE-LHX standard, single-mode fiber, max. distance 40 km, 3.3 V operating voltage
XSUE11-M1RN	SFP UTP transceiver, 1GB RJ45, 100 m
XTM85A-M3LY	10GBASE-SR SFP+ Transceiver, 80 m: OM1 & OM2 MMF, 300 m: OM3 MMF
XTS31A-10Lx	10GBASE-LR SFP+ Transceiver (w/o DDM), 10 km
XTS31A-10LY	10GBASE-LR SFP+ Transceiver (with DDM), 10 km
Services	
Spare PSU	
X3420-PS1	140-watt redundant power supply
X3420-PS2 ⁵	589-watt redundant power supply
SW & FW	

Notes:

⁶ For accurate order specification please contact XenOpt reseller before placing an order. The content of this document is subject to change without notice.

Please specify any compatibility requirements at time of ordering. Standard MSA compatible pluggable components may not work or some function of these components may not be available in devices that require customized compatible devices. Pluggable components compatible with one type of communications equipment may not work in other type of communications equipment.

⁷ Different DAC copper and fiber cables are available. Please contact XenOpt or XenOpt partner for more information.

⁸ Wide range of pluggables for multi-mode and single-mode fiber is available. The CWDM and DWDM pluggables of the length up to 80 km are also available. Please contact XenOpt or XenOpt partner for more information.

To find out more, please contact:



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