XGS4600 Series

28/48-port GbE L3 Aggregation Switch with 4 SFP+ Uplink

Bandwidth-intensive applications such as multimedia streaming, VoIP and video surveillance are used daily in business networks for more efficient workflows. However, the networks could be overloaded and that causes reduced business productivity. Deploying 10-Gigabit Ethernet ports at the aggregation layer to deal with bandwidth-intensive networks becomes the top choice of users such as hospitality venues and education institutions. Zyxel's brand new Layer-3 stackable XGS4600 Switch Series comes with Gigabit connectivity and four integrated 10-Gigabit SFP+ slots that enable high-speed uplink connections for affordable, reliable network elements. In addition to the current popular 32-port models in both copper and fiber choices, now 52 fiber port model is available for high port-count aggregation deployment options. The front panel with carbon fiber look brings a totally fresh look than traditional switches. Under the elegant hood, the XGS4600 Series not only features advanced L2 switching functionality, but also L3 routing capabilities for communications between networks.

- Carbon fiber look name plate delivers the modern look-and-feel in the closet
- Four built-in 10G SFP+ uplinks enable congestion-free, smooth data delivery for high-bandwidth applications
- Provides high-bandwidth with true physical stacking of up to 4 units and 192 Gigabit ports
- High resiliency with redundant power supply units

Benefits

High availability

To implement fault-tolerant networks, the Zyxel XGS4600 Series allows creating a physical stack through one or two 10-Gigabit SFP+ slots. Four units or 192 Gigabit ports can be configured as a stack using optional direct-attach cables or transceivers to provide high bandwidth on the XGS4600 Series for more flexible management. The stacking topology under the ring architecture provides high redundancy in case one of the stacking links fail. The system can quickly recover through another stacking connection. The XGS4600 Series is designed to support active-standby power redundancy to trigger backup power supply to take over in case the main power supply fails.

Datasheet XGS4600 Series

Zyxel**one** network
Redefining network integration

Layer 3 routing features

Hierarchical business networks become more complex because of the increased communication among subnets. The XGS4600 Series features dynamic routing to simplify cross-subnet communications for businesses such as hospitality venues and education institutions that operate complex networks. In addition, the XGS4600 Series comes with full Layer-2 switching and Layer-3 routing capabilities if the system is working under the stacking mode. The stackable structure greatly enlarges network coverage as well as network resiliency that most enterprise networks require.

Network that needs advance IPv6 routing protocols for larger installation has the flexibility to purchase the advanced routing license separately, as needed. The advanced routing license supports RIPng and OSPFv3 for XGS4600 to support IPv6 routing environment.

Flexible management and future-proof networks

The XGS4600 Series can be managed via CLI which is consistent with Zyxel managed switches, while the intuitive Web-based GUI helps skilled network administrators to quickly become more productive. As the IP address scheme evolves to accommodate a growing number of network devices, the Zyxel XGS4600 Series assures businesses a smooth migration path from IPv4-based networks to a full IPv6 infrastructure for protection to the investments in future network upgrades.

Model List

XGS4600-32
28-port GbE L3 Aggregation Switch
with 4 SFP+ Uplink

- 24 x GbE RJ-45 ports
- 4 x GbE combo (RJ-45/SFP) ports
- 4 x 10 GbE SFP+ slots
- Stackable

XGS4600-32F
28-port GbE L3 Aggregation Fiber Switch
with 4 SFP+ Uplink

- 24 x GbE SFP slots
- 4 x GbE combo (RJ-45/SFP) ports
- 4 x 10 GbE SFP+ slots
- Stackable

XGS4600-52F
48-port GbE L3 Aggregation Fiber Switch
with 4 SFP+ Uplink

- 48 x GbE SFP slots
- 4 x 10 GbE SFP+ slots
- Stackable

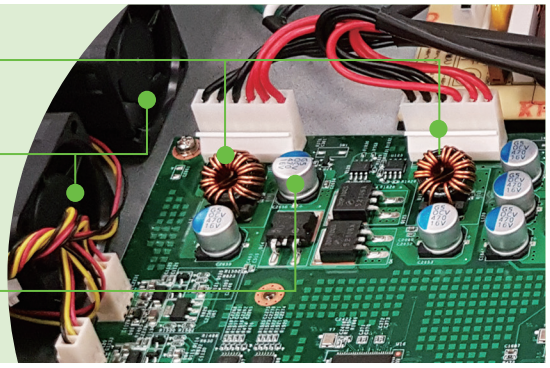
Robust Hardware

High-quality hardware design ensures stability and longevity for XGS4600 Series on your networks.

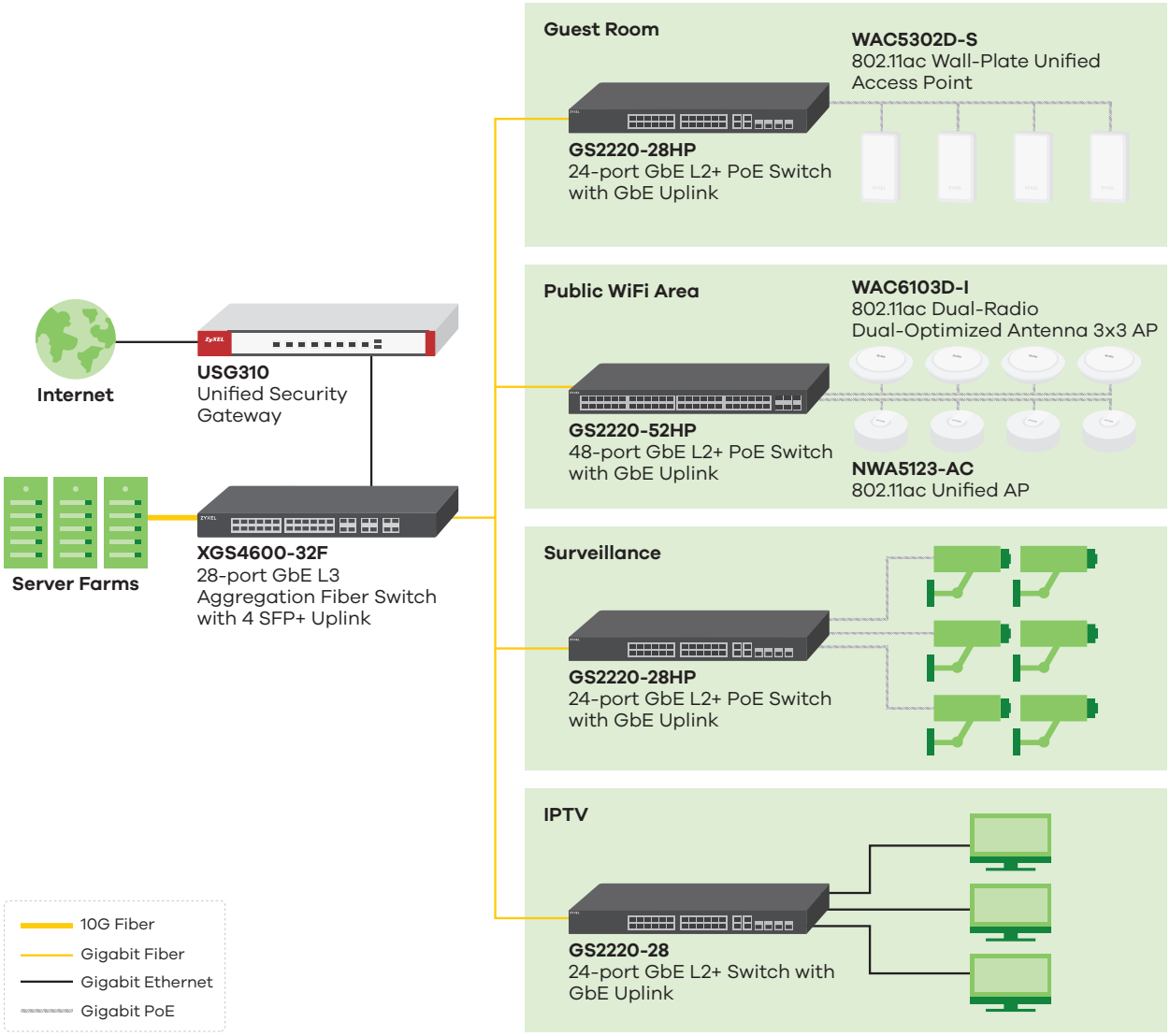
Power noise filter
enhances system stability

Smart fan design
lowers the operating noise

All solid capacitor
utilization gets rid of drying out, bursting and leaking problems



Application Diagram



Specifications

Model	XGS4600-32	XGS4600-32F	XGS4600-52F
Product name	28-port GbE L3 Aggregation Switch with 4 SFP+ Uplink	28-port GbE L3 Aggregation Fiber Switch with 4 SFP+ Uplink	48-port GbE L3 Aggregation Fiber Switch with 4 SFP+ Uplink
Switch class	Layer 3 Aggregation	Layer 3 Aggregation	Layer 3 Aggregation
Port Density			
Total port count	32	32	52
Gigabit SFP	-	24	48
100/1000 Mbps	24	-	-
Gigabit combo (SFP/RJ-45)	4	4	-
10-Gigabit SFP+	4	4	4

Model		XGS4600-32	XGS4600-32F	XGS4600-52F
Performance				
Switching capacity (Gbps)		136	136	176
Forwarding rate (Mpps)		101.1	101.1	130.9
Packet buffer (byte)		4 MB	4 MB	4 MB
MAC address table		32K	32K	32K
L3 forwarding table		Max. 8K IPv4 entries; Max. 4K IPv6 entries	Max. 8K IPv4 entries; Max. 4K IPv6 entries	Max. 8K IPv4 entries; Max. 4K IPv6 entries
Routing table		12K	12K	12K
IP interface		256	256	256
Flash/RAM		64 MB/1 GB	64 MB/1 GB	64 MB/1 GB
Power				
Input		100 to 240V AC, 50/60 Hz	100 to 240V AC, 50/60 Hz	100 to 240V AC, 50/60 Hz
Max. power consumption (watt)		47.0	60.1	70.16
Physical Specifications				
Item	**Dimensions (WxDxH)(mm/in.)**	441 x 270 x 44/ 17.36 x 10.63 x 1.73	441 x 270 x 44/ 17.36 x 10.63 x 1.73	441 x 360 x 44/ 17.36 x 14.17 x 1.73
	Weight (kg/lb.)	3.96/8.73	4.21/9.28	4.97/10.96
Packing	**Dimensions (WxDxH)(mm/in.)**	616 x 355 x 107/ 24.25 x 13.98 x 4.21	616 x 355 x 107/ 24.25 x 13.98 x 4.21	616 x 355 x 107/ 24.25 x 13.98 x 4.21
	Weight (kg/lb.)	5.69/12.54	5.83/12.85	6.6/14.55
Included accessories		• Power cord • Rack mounting kit	• Power cord • Rack mounting kit	• Power cord • Rack mounting kit
Environmental Specifications				
Operating environment	**Temperature**	0°C to 50°C/ 32°F to 122°F	0°C to 50°C/ 32°F to 122°F	0°C to 50°C/ 32°F to 122°F
	Humidity	10% to 95% (non-condensing)	10% to 95% (non-condensing)	10% to 95% (non-condensing)
Storage environment	**Temperature**	-40°C to 70°C/ -40°F to 158°F	-40°C to 70°C/ -40°F to 158°F	-40°C to 70°C/ -40°F to 158°F
	Humidity	10% to 95% (non-condensing)	10% to 95% (non-condensing)	10% to 95% (non-condensing)
MTBF (hr)		860,610.82	794,270.06	815,860
Heat dissipation (BTU/hr)		160.27	204.94	252.68
Acoustic noise @ 25°C (dBA)		43.3	43.1	42.6

Features

Standard Compliance

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-Tx Ethernet
- IEEE 802.3ab 1000Base-T Ethernet
- IEEE 802.3z 1000 Base-X
- IEEE 802.3az EEE support
- IEEE 802.3x flow control
- IEEE 802.3ad LACP aggregation
- IEEE 802.1AB LLDP/LLDP-MED
- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- IEEE 802.1Q VLAN tagging
- IEEE 802.1p CoS support
- IEEE 802.1X Port authentication

Resilience and Availability

- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- Equal Cost Multipath Routing (ECMP)
- Virtual Router Redundancy Protocol (VRRP)
- CPU protection
- IEEE 802.3ad LACP
- Loop guard
- ErrDisable recovery
- MRSTP (Zyxel Proprietary)
- Dual configuration files
- Dual images
- Physical stacking

Traffic Control

- 802.1Q static VLANs/dynamic VLANs: 4K
- Port-based VLAN and VLAN isolation
- IP classification VLAN
- VLAN counter
- VLAN search
- VLAN translation
- VLAN MAC limit
- **New for V4.70** VLAN isolation
- Vendor ID based VLAN

- Rate limiting: policy-based/port-based bandwidth control with 64 kbps granularity
- CIR/PIR bandwidth control
- Port-based egress traffic shaping
- IEEE 802.1p with 8 priority queues per port
- DSCP/DSCP to 802.1p priority mapping
- Congestion control on all ports
- Selective Q-in-Q

Security

- 802.1X
- Port security
- Layer 2 MAC filtering
- Layer 3 IP filtering
- Layer 4 TCP/UDP socket filtering
- Static MAC forwarding
- Multiple RADIUS servers
- Multiple TACACS+ servers
- 802.1x VLAN and 802.1p assignment by RADIUS
- **New for V4.70** Compound authentication
- Login authentication by RADIUS
- Login authentication by TACACS+
- TACACS+ accounting
- Authorization on RADIUS
- Authorization on TACACS+
- SSH v2
- SSL
- Intrusion lock
- MAC freeze
- MAC search
- MAC filtering
- DHCP snooping
- ARP inspection
- Static IP-MAC-Port binding
- Policy-based security filtering
- Port isolation
- Limited MAC number per port
- IP source guard
- Guest VLAN
- IEEE 802.1Q tag-based and port-based VLAN
- GVRP automatic VLAN member registration
- Full range 4K PVID support
- Limited MAC number per port
- IP filtering
- TCP/UDP socket filtering
- BPDU transparency
- IEEE 802.1X port-based authentication
- Enhanced 802.1X compensation assignment over VLAN
- Layer 2 protocol tunneling
- Root guard
- BPDU guard
- Storm control: Broadcast, multicast, unknown unicast (DLF)

Quality of Service (QoS)

- No. of hardware queues per port: 8
- 802.3x flow control
- 802.1p Class of Service (SPQ, WFQ, WRR, hybrid-SPQ combination capable)
- DiffServ (DSCP)
- Port-based rate limiting (ingress/egress)
- Rate limiting per IP/TCP/UDP per port
- Policy-based rate limiting

Layer 2 Multicast

- L2 multicast
- IGMP snooping v1, v2, v3
- IGMP throttling
- IGMP snooping fast leave
- IGMP snooping statistics
- Multicast VLAN Registration (MVR)
- IGMP filtering
- IGMP snooping immediate leave
- IGMP proxy mode & snooping mode selection
- MLD snooping

Manageability

- SNMP v1, v2c, v3
- SNMP trap group
- RMON (1, 2, 3, 9)
- Custom default
- Syslog (IPv4/IPv6)
- ICMP echo/echo reply
- IEEE 802.1AB LLDP
- IEEE 802.1AB LLDP-MED
- Display port utilization

IPv6 Management

- IPv6 over Ethernet (RFC 2464)
- IPv6 addressing architecture (RFC 4291)
- Dual stack (RFC 4213)
- ICMPv6 (RFC 4443)
- Path MTU (RFC 1981)
- Minimum path MTU size of 1280 (RFC 5095)
- Encapsulation for maximum PMTU of 1500
- Neighbor discovery (RFC 4861)
- DHCPv4/v6 server/relay
- Default DHCP client mode

Device Management

- Zyxel iStacking™
- Web interface
- Management through Console, Telnet, SNMP
- Remote firmware upgrade by FTP/Web/TFTP
- Configuration saving and retrieving
- Multiple logins supported
- Configure clone
- Multilevel CLI
- CLI (Cisco-like)
- CLV (Cisco-like VLAN)
- DHCP relay MAC proxy
- **New for V4.70** DHCP server guard
- DHCP relay per VLAN
- DHCP client
- DHCP option 82
- Daylight saving
- NTP
- Port mirroring: ingress/egress/both port mirroring
- Flow-based mirroring
- VLAN-based mirroring
- RS-232c local console
- sFlow
- Microsoft NLB
- Auto configuration setup

Link Aggregation

- IEEE 802.3ad LACP link aggregation
- Static port trunking
- Up to 16 aggregation groups, 8 ports per group randomly selected
- Link aggregation algorithm of source/destination IP address

IP Routing

- Wire-speed IP forwarding
- RIP v1, v2
- OSPF
- Static routing IPv4/v6
- OSPF summary address
- **Advance Routing License** RIPng
- **Advance Routing License** OSPFv3
- IGMP
- DVMRP
- ECMP
- IP port moving
- VRRP
- Assigned DHCP relay with specific source IP interface

MIB

- Zyxel private MIB
- RFC 1066 TCP/IP-based MIB
- RFC 1213, 1157 SNMPv2c/v3 MIB
- RFC 1493 bridge MIB
- RFC 1643 Ethernet MIB
- RFC 1757 RMON group 1, 2, 3, 9
- RFC 2011, 2012, 2013 SNMPv2 MIB
- RFC 2233 SMIv2 MIB

- RFC 2358 Ethernet-like MIB
- RFC 2674 bridge MIB extension
- RFC 2819, 2925 remote management MIB
- RFC 3621 power Ethernet MIB
- RFC 4022 management information base for transmission control protocol
- RFC 4113 management information base for user datagram protocol
- RFC 4292 IP forwarding table MIB
- RFC4293 Management Information Base (MIB) for IP
- Cable diagnostic MIB

Certifications

Safety
- LVD
- BSMI

EMC
- FCC Part 15 (Class A)
- CE EMC (Class A)
- BSMI ENC

RoHS
- Level A

Zyxel One Network

ZON Utility
- Discovery of Zyxel switches, APs and gateways
- Centralized and batch configurations
- IP configuration
- IP renew
- Device factory reset
- Device reboot
- Device locating
- Web GUI access
- Password configuration
- One-click quick association with Zyxel AP Configurator (ZAC)

Smart Connect
- Discover neighboring devices
- One-click remote management access to the neighboring Zyxel devices
- Reset neighboring devices remotely to factory defaults
- Power cycle neighboring powered devices (PoE switches only)

Warranty

- Limited life-time warranty*

* Warranty terms, service availability, and service response times may vary from country or region to country or region.

Accessories

Transceivers (Optional)

Model	Speed	Connector	Wavelength	Max. Distance	DDMI
SFP10G-SR	10-Gigabit SFP+	LC	850 nm	0.3 km (984 ft)	Yes
SFP10G-SR-E	10-Gigabit SFP+	LC	850 nm	0.3 km (984 ft)	Yes
SFP10G-LR	10-Gigabit SFP+	LC	1310 nm	10 km (10936 yd)	Yes
SFP10G-LR-E	10-Gigabit SFP+	LC	1310 nm	10 km (10936 yd)	Yes
SFP-1000T	Gigabit	RJ-45	-	0.1 km (109 yd)	-
SFP-SX-D	Gigabit	LC	850 nm	0.55 km (601 yd)	Yes
SFP-SX-E	Gigabit	LC	850 nm	0.55 km (601 yd)	Yes
SFP-LX-10-D	Gigabit	LC	1310 nm	10 km (10936 yd)	Yes
SFP-LX-10-E	Gigabit	LC	1310 nm	10 km (10936 yd)	Yes
SFP-LHX1310-40-D	Gigabit	LC	1310 nm	40 km (43744 yd)	Yes
SFP-ZX-80-D	Gigabit	LC	1550 nm	80 km (87488 yd)	Yes
SFP-BX1310-10-D	Gigabit	LC	1310 nm (Tx); 1490 nm (Rx)	10 km (10936 yd)	Yes
SFP-BX1310-E	Gigabit	LC	1310 nm (TX); 1550 nm (RX)	20 km (21872 yd)	Yes
SFP-BX1490-10-D	Gigabit	LC	1490 nm (Tx); 1310 nm (Rx)	10 km (10936 yd)	Yes
SFP-BX1550-E	Gigabit	LC/SC	1550 nm (TX); 1310 nm (RX)	20 km (21872 yd)	Yes

Direct Attach Cables (Optional)

Model	Connector	Cable Length
DAC10G-1M	SFP+ to SFP+	1 m (39.37 inch)
DAC10G-3M	SFP+ to SFP+	3 m (118.11 inch)

Licenses

Model	Service Duration	Description
XGS4600-32	Life Time	Advance Routing License
XGS4600-32F	Life Time	Advance Routing License
XGS4600-52F	Life Time	Advance Routing License