AX3640S Series

High Performance, Reliable and Feature-rich Full Layer 3 1G/10G Switches

The AX3640S models, featuring extended entry capacity and enhanced filtering functions, are the advanced models of the AX3630S. The AX3640S supports 10 G uplinks and power source redundancy, as a compact 1U-size layer 3 gigabit switch optimized for mission-critical networks for social infrastructure and providers. In cooperation with the leading-edge high reliability function and the advanced security function of the AX6000S family, it offers high performance, high reliability networks.

AX3640S-48TW

AX3640S-24T

AX3640S-48T2XW

AX3640S-24TW

AX3640S-24SW

AX3640S-24T2XW

AX3640S-24S2XW

High Routing Performance (IPv4/IPv6)

■ Routing functions equivalent to highly proven, reliable carrier grade routers
◎ Routing software equivalent to the AX7800R series routers whose performances were highly proven by ISPs/carriers.
◎ Uses OSPF and BGP for site-to-site connection utilizing wide-area Ethernet services and IP-VPN services, allowing for load balance with high-reliability routing and multipath connections.
■ IPv6/multicast-enabled
◎ Hardware-based IPv6 routing like IPv4 routing.
◎ Supports protocols such as Static, RIPng, OSPFv3, BGP4+, and Multicast, allowing for a variety of IPv6 networks.

High Reliability and High Availability

■High reliability features
◎Improves line and route reliability with link aggregation, different STPs, Graceful Restarts (helpers), VRRP, as well as ALAXALA proprietary functions, such as GSRP (Gigabit Switch Redundancy Protocol), VRRP polling, static polling, uplink redundant, L2 loop detection, and EtherOAM.
■L2 ring protocol
◎ The non-STP ring topology provides highly stable L2 redundancy capable of high-speed switching. Multi-ring topologies enable flexible network configuration.
■Hot swap power supply
◎ Built-in redundant power supplies enable hot swapping, making it possible to replace a power supply unit without halting power feeding operation in the event of a power failure (excluding the AX3640S-24T).

Compact Size with 10 G Uplink

■ Compact
◎ 1U size for all models.
■ 10 G uplink
◎ Provides a high performance 10 G network in combination with the AX6000S family on a local network.

Power Saving

■Low power consumption
◎ Architecture and circuit design focused on low power consumption
◎ Unused port disenabling function that reduces unnecessary power consumption
◎ Energy-saving parts that reduce power consumption

Communication Quality Assurance

■QoS function
◎ Delivers clear voice by prioritizing VoIP packets over other packets in a voice/data integrated network, with various kinds of shapers (such as PQ, WRR, and WFQ).

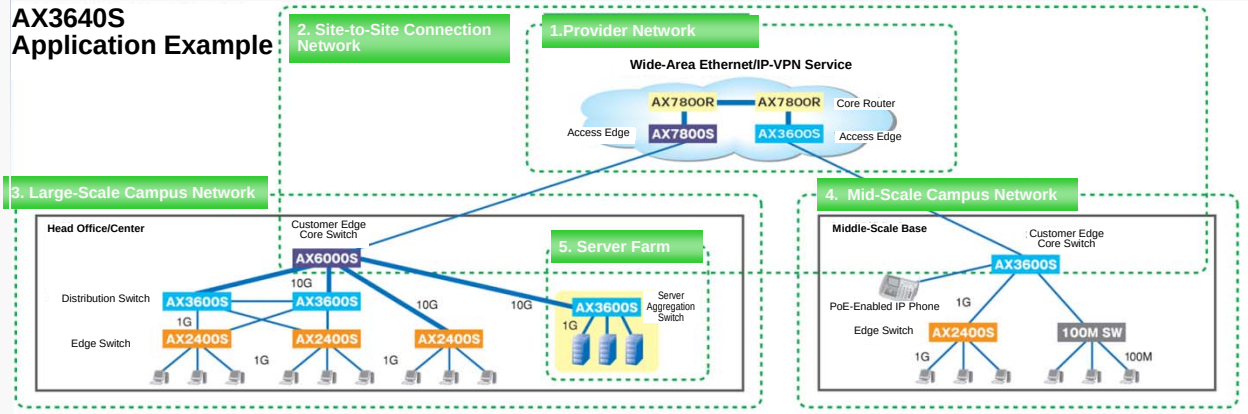
Advanced Security

■Authentication/quarantine solutions
◎ Supports triple authentication (IEEE 802.1X/Web/MAC), allowing for user authentication even in a system environment with mixed operating systems or terminals. (One unit can authenticate up to 1024 terminals.)
◎ Combined with authentication/quarantine servers, achieves quarantine solution in which only PCs that have passed quarantine checks are allowed to access a network.
■Packet filtering function
◎ Eliminates unauthorized traffic into servers or base edges with an outbound filter and an inbound filter.

Operability

■Simplified maintenance
◎ Simplifies and reduces the time for maintenance with command-free maintenance to easily back up configurations and collect information on fautls.
■OAN cooperation
◎In cooperation with ALAXALA's network integration management system OAN (Open Autonomic Networking), enables automation of advanced operations with an easy-to-understand GUI.

AX3640S Application Example



Application position		Point	
1. Provider network	Access edge	・Stable operation of routing protocols such as OSPF ・Support of cutting-edge functions such as IPv6 and multicast	・High reliability (VRRP polling, GSRP) ・Built-in redundant power supply
2. Site-to-site connection network	Customer edge	・Stable operation of routing protocols such as OSPF ・Support of cutting-edge functions such as IPv6 and multicast	・High reliability (VRRP polling, GSRP) ・Compact
3. Large-scale campus network	Distribution switch	・10G system ・Security function (flow monitoring, authentication, quarantine) ・High reliability (GSRP, link aggregation)	・Compact ・TCO reduction (power consumption, operation management efficiency)
4. Middle-scale campus network	Core switch	・Middle-scale core switch housing wireless AP and IP phone ・Security function (flow monitoring, authentication, quarantine) ・High reliability (GSRP, link aggregation)	・Compact ・TCO reduction (power consumption, operation management efficiency)
5. Server farm	Server aggregation switch	・IG multiport ・10G uplink	・Compact ・TCO reduction (power consumption, operation management efficiency)

AX3640S Product Specifications

Model			AX3640S-24T	AX3640S-24TW	AX3640S-24T2XW	AX3640S-48TW	AX3640S-48T2XW	AX3640S-24SW	AX3640S-24S2XW
Performance	Maximum switching capacity		48Gbps	48Gbps	88Gbps	96Gbps	136Gbps	48Gbps	88Gbps
	Maximum packet forwarding performance		35.7Mpps	35.7Mpps	65.5Mpps	71.4Mpps	101.2Mpps	35.7Mpps	65.5Mpps
Port count	10GBASE-SR/LR/ER/ZR(XFP)		-	-	2	-	2	-	2
	1000BASE-SX/SX2/LX/LH/BX/LHB (SFP)		4#1	4#1	4#1	4#1	-	24#1	24#1
	10/100/1000BASE-T(SFP)		-	-	-	-	-	20#2	20#2
	10/100/1000BASE-T		24#1	24#1	24#1	48#1	48	4#1	4#1
Routing protocol	IPv4	Unicast	Static, RIP, RIP2, OSPF, BGP4, IS-IS#3, stub router (OSPF)						
		Multicast	PIM-SM, PIM-SSM, IGMPv2/v3						
	IPv6	Unicast	Static, RIPng, OSPFv3, BGP4+, IS-IS#3, stub router (OSPFv3)						
		Multicast	PIM-SM, PIM-SSM, MLDv1/v2						
Layer 2 functions	Maximum MAC entry count		32,768						
	VLAN		Port VLAN, Tag-VLAN(IEEE802.1Q), Protocol VLAN, MAC VLAN, Tag translation						
	Spanning tree protocol (STP)		STP(IEEE802.1D), RSTP(IEEE802.1w), PVST+, MSTP(IEEE802.1s), BPDU filter, root guard, loop guard						
	Layer 3 coordination functions		IGMPv1/v2/v3 snooping, MLDv1/v2 snooping						
	Ring protocol		Autonomous Extensible Ring Protocol						
Network functions	Security		IEEE802.1X (port-based authentication/VLAN-based authentication (static/dynamic)), authentication VLAN, Web authentication, filter (L2/IPv4/IPv6/L4), interception of relay between ports, URL redirection (dynamic VLAN mode), URL redirection (fixed VLAN mode), MAC authentication (dynamic VLAN mode), MAC authentication (fixed VLAN mode)						
	QoS		Flow detection (L2/IPv4/IPv6/L4), bandwidth monitoring (rate control), marking (DSCP/user priority), priority control (flow base, user priority mapping), discarding control (tail drop), shaping (8 classes, port band control, scheduling (PQ, WRR, PQ+DRR, WFQ)), Diff-serv, IEEE802.1p						
	L2-VPN		VLAN tunneling						
	Reliability/operability Improvement functions		Load balance (IPv4/IPv6), VRRP(IPv4/IPv6), static polling (IPv4/IPv6), VRRP polling (IPv4/IPv6), link aggregation (IEEE802.3ad), GSRP, uplink/redundant, Graceful Restart function#4, storm control, IEEE802.3ah/UDLD, local ProxyARP, GSRP aware extended function, L2 loop detection,						
Operation management functions			SNMPv1/v2/v3, MIB-II, IPv6 MIB, IPv6 VRRP MIB, RMON, syslog, port mirroring, ping, traceroute, telnet, SSHv2#6, ftp, tftp, NTP, IPv4 DHCP server/relay, Prefix Delegation, RADIUS, TACACS+, LLDP, OADP, sFlow, OAN-API, AX-Config-Master, AX-Networker's-Utility						
Redundancy			-	Internal power supply (AC/DC)					
Equipment conditions	Input voltage		AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V	AC100～120V /200～240V
			-	DC-48V	DC-48V	DC-48V	DC-48V	DC-48V	DC-48V
	Maximum input current (A)		0.8 @AC100V 0.4 @AC200V	0.9 @AC100V 0.5 @AC200V	1.0 @AC100V 0.5 @AC200V	1.4 @AC100V 0.7 @AC200V	1.5 @AC100V 0.8 @AC200V	0.9 @AC100V 0.5 @AC200V	1.0 @AC100V 0.5 @AC200V
			-	1.6 @DC-48V	1.9 @DC-48V	2.7 @DC-48V	2.9 @DC-48V	1.6 @DC-48V	1.9 @DC-48V
	Maximum power consumption (W) (AC/DC)		75/ —	85/75	100/90	135/125	145/135	85/75	100/90
	Maximum heat output (kJ/h) (AC/DC)		270/ —	306/270	360/324	486/450	522/486	306/270	360/324
	Outer dimensions (W x D x H(mm) (height [U])		445 x 380 x 43 (1U)	445 x 440 x 43 (1U)					
	Weight (kg) (with full installation)		5.0 or less	9.0 or less					
Environment conditions	Permissible operation temperature range		0 to 40℃						
	Temperature when not operating (When not applying current)		-10 to 43℃						
	Temperature at storage and transport		-25 to 65℃						
	Permissible operation humidity range		10% to 85% (no condensation)						
	Humidity when not operating (When not applying current)		8% to 85% (no condensation)						
	Humidity at storage and transport		5% to 85% (no condensation)						
	Floating dust		Floating dust of about 10 microns or smaller: 0.15mg/m³						

#1: 1000BASE-X (SFP) 4 ports and 10/100/1000BASE-T 4 ports are mutually exclusive (i.e., they cannot be used simultaneously); #2: Available only for 1000 BASE-X (SPF) fixed ports; #3: IS-IS is planned to be supported in future; #4: Helper functions (OSPF/OSPFv3) and receive-router functions (BGP4/BGP4+) are supported; #5: Input voltage of AC100 to 200V only. #6: SSH function is subject to export control regulations, and may be excluded when exported.

Caution For your safety, please be sure to read the *Hardware Instruction Manual* and the *Safety Guide* beforehand.

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