AX 4600S Series

AX4630S Model

To be released in 2014

Cost-Efficient, High- Scalability Crossover Switch for Core Networks

The AX4600S Series was designed with the concept “crossover switch”, which provides the compactness of a box-type switch and the scalability of a chassis-type switch, making it possible to install / replace network interface modules in a more flexible manner commensurate with needs and budget. The AX4630S, a compact 2U-size switch, has four network interface card (NIF) slots, allowing a mixture of different types of interfaces (1G/10G).

AX4630S-4M

IPv6 Ready Logo Phase-2 (to be obtained in future)

High Cost Efficiency and High Scalability

■***Crossover switch*** combining chassis/box
- ◎ Features of a box-type switch (compact body and cost efficiency) and a chassis-type switch (flexibility and scalability)
- ◎ 2U height with four network interface card (NIF) slots
- ◎ Mixture of 1G / 10G

■High port density
- ◎ Max. 1.92 Tbps switching capacity
- ◎ Support of various Ethernet interfaces
  - ・1G or 10G : 96 ports

The number of usable 1G/10G ports on a NIF is reduced by four each time you use one 40G backside port.

Large Entry Capacity

■Enhanced ARP entry capacity
- ◎ Larger capacity than that of a traditional box-type switch
- ◎ ARP table entries increased to 45K

Network Partition (Virtualization)

■Simple low-cost network virtualization
- ◎ Combination of VRF (Virtual Routing and Forwarding) and VLAN (Virtual LAN) logically splits a network.
- ◎ Secure, highly reliable virtual networks (partitions) can be configured at low cost.

High Reliability and High Availability

■ALAXALA Ring
- ◎ ALAXALA proprietary L2 redundancy protocol enables fast failover with 1 sec. (minimum time).
- ◎ Multi-ring topologies are also supported (increases flexibility in network configuration).

■Hot-swappable power supply
- ◎ The built-in redundant power supply makes it possible to replace a power supply unit without interrupting services.

Fault Tolerant Network

■Non-stop network
- ◎ STP-free redundancy with full link aggregation prevents trouble associated with system complexity and enhances network stability.

■Virtual Redundant System (VRS)
- ◎ Two switches can be logically integrated into a single unit (simple redundancy and easy operation management).
- ◎ ***Dual Active*** doubles the bandwidth of a system.
- ◎ Four 40 Gpbs ports for VRS links are provided on the back of the switch.

■Protocol Accelerator (PA)
- ◎ Hardware called ***Protocol Accelerator*** enables hardware-assisted switchover.

Stable High-Functionality Routing

■Reliable field-proven routing functionality
- ◎ The AX4630S employs high-reliability routing software equivalent to that of a carrier-grade router.

IPv6

■High-speed IPv4/IPv6 routing
- ◎ Hardware-based fast routing for IPv4/IPv6
- ◎ Various IPv6 protocols: Static, RIPng, OSPFv3, and BGP4+

Power-Saving and Eco-Friendly Design

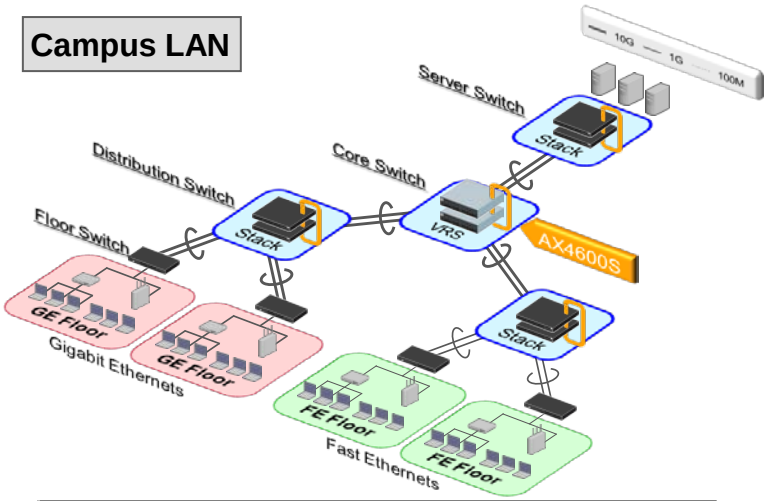
■Power-saving design
- ◎ The AX4630S employs power-saving architecture, circuits and modules.

■Airflow suited to data centers
- ◎ The AX4630S provides front-to-back airflow for data centers' cooling systems.

Simple Management and Maintenance

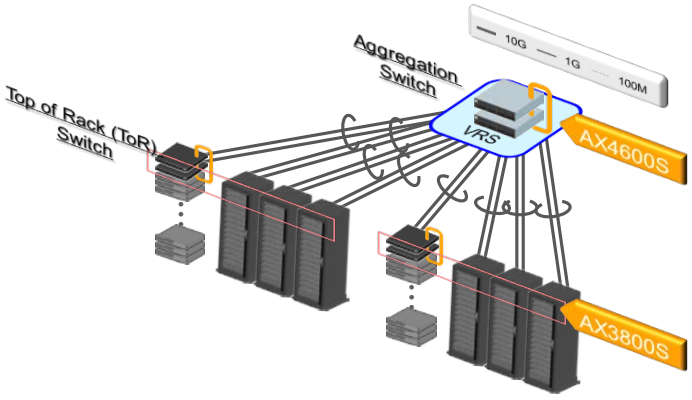
■Command-free maintenance
- ◎ ***SD Card Script*** enables automatic log saving / firmware update.

Campus LAN



Application	Merit
Core Switch	・Compact body (2U size) with high scalability and flexibility (modular switch enabling easy maintenance/upgrade) ・1G/10G mixed (easy maintenance of interface cards) ・High reliability (VRS, full link aggregation) ・Security ensured by virtulization (network partition) ・Reliable layer 3 features (OSPF/BGP, IPv6, Multicast, etc.)

Data Center



Application	Merit
Aggregation Switch	・Compact body (2U size) with high scalability and flexibility (modular switch enabling easy maintenance/upgrade) ・High performance (max. switching capacity: 1.92Tbps) ・Aggregation of ToR switches with 10G ・High reliability (VRS, full link aggregation)

AX4630S Series Product Specifications

Model			AX4630S-4M
Performance	Max. switching capacity (Tbit/s)		1.92
	Max. packet forwarding rate (Mpacket/s)		1428
Port count	40GBASE-CR4/SR4/LR4 (QSFP+)		4*1
	10GBASE-CU/SR/LR/ER (SFP+)		96*2
	1000BASE-SX/LX/BX/LH (SFP)		96*2
	1000BASE-T (SFP)		96*2
	10BASE-T/100BASE-TX/1000BASE-T		96*2
Routing protocol	IPv4	Unicast	Static, RIP, RIP2, OSPF, BGP4,【Policy-based routing】
		Multicast	PIM-SM, PIM-SSM, IGMPv2/v3
	IPv6	Unicast	Static, RIPng, OSPFv3, BGP4+
		Multicast	【PIM-SM, PIM-SSM, MLDv1/v2】
Layer 2 features	Max. MAC entry capacity		96K
	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
	IGMP / MLD		【IGMPv1/v2/v3 snooping, MLDv1/v2 snooping】
	Ring Protocol		Autonomous Extensible Ring Protocol
	Other		L2 loop detection, Storm control, IEEE802.3ah/UDLD,【Ether OAM】
Advanced features	Authentication		MAC authentication,【Triple authentication (IEEE802.1X, Web-based authentication)】
	Security		Filtering (L2/IPv4/IPv6/L4), inter-port relay blocking,【DHCP snooping】
	QoS		Flow detection (L2/IPv4/IPv6/L4), Bandwidth monitoring (UPC (policer)), Marking (DSCP/user priority), Priority control (flow-based, user priority mapping), Discard control, Shaping (port bandwidth control, scheduling (PQ, PQ+RR, PQ+WFQ, PQ+WRR, PQ+WERR)), Diff-serv
	High reliability		Virtual Redundant System (VRS), Load balancing (IPv4/IPv6), VRRP (IPv4/IPv6), Static polling (IPv4/IPv6), VRRP polling (IPv4/IPv6), Link aggregation (IEEE802.3ad), GSRP,【Uplink redundancy, Graceful Restart *3】
	Virtualization (Network Partition)		VRF (Virtual Routing and Forwarding), Inter-VRF relay
	Other		IPv4 DHCP relay agent,【IPv4 DHCP server, IPv6 DHCP server (Prefix delegation) / relay agent, L2-VPN (VLAN tunneling)】
Operation	Network management		SNMPv1/v2c/v3, MIB-II, IPv6 MIB, sFlow, LLDP, Port mirroring,【RMON, OADP, CDP】
	Maintenance		CLI, Command-free maintenance (SD card script), RADIUS, SSH*4, syslog, ping, traceroute, telnet, ftp, tftp, NTP,【TACACS+】
Power saving			Power consumption information indication
	Static power saving		Powering off ports
	Dynamic power saving		【Powering off ports (scheduling)】
Airflow			Front-to-back
Redundancy			Built-in power supply (AC), FAN unit
Equipment conditions	Input voltage		AC100 to 120V / 200 to 240V
	Max. input current (A)		8.0@AC100V / 4.0@AC200V
	Max. power consumption (W)		800
	Max. heat output (kJ/h)		2880
	Dimensions: W × D × H (mm) [height: U]		445×498×87(2U)
	Weight (Kg) (including power supply)		30.0 or less
Environmental conditions	Operating temperature		0℃ to 45℃
	Non-operating temperature		-10℃ to 50℃
	Storage / transportation temperature		-25℃ to 65℃
	Operating humidity		10% to 90% (non-condensing)
	Non-operating humidity		8% to 90% (non-condensing)
	Storage / transportation humidity		5% to 90% (non-condensing)
	Floating dust		Floating dust of about 10 microns or smaller : 0.15mg/m3

Features in【 】are under planning.

*1: There are four 40G ports on the back of the device. *2: The number of usable ports on a NIF is reduced by four each time you use one 40G backside port.
*3: Supports Helper function (OSPF / OSPFv3) and Receive Router function (BGP4 / BGP4+). *4: SSH function is subject to export control regulations, and may be excluded when exported.
★ Functions supported by L3S advanced software: OSPF / OSPFv3 / BGP4 / BGP4+ / VRF / Policy-based routing

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

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