ALPHA BRIDGE- LAYER 3 Switch (AS300/12)

Supports 12 10G SFP+ Ports.

Advanced Hardware Architecture and Industry-leading Port Density.

Carrier-Grade, High Reliability, Layer-2 Routing Functions.

Verified Service characteristics, Versatile IPv6 solution, Complete Security Mechanism.

Product Overview

ALPHA BRIDGE AS300/12, a new generation high-performance full-10G L2 managed switch oriented for cloud computing, data centres and high-end campus networks. AS200/12 adopts an advanced hardware architecture design, providing the industry's highest switching performance and rich data centre service features.

AS200/12 is equipped with the ABROS 6th generation operating system with ALPHA BRIDGE's independent intellectual property rights. On the basis of providing high-performance L2/L3/L4 wire-speed switching services, AS300/12/ further integrates various network services suchas IPv6, traffic analysis and virtualization. Combining uninterrupted upgrade, uninterrupted forwarding, graceful restart, redundant protection and other high-reliability data centre technologies, AS300/12 ensures the longest uninterrupted network communication.

AS300/12 follows the advanced "GreenTouch" concept and the industry-leading "SmartCHIP" energy-saving technology, which is low-carbon and environmentally friendly, and effectively reducing the operating cost of the data centre, and providing the green and sustainable development of the network.

Product Characteristics

Advanced Hardware Architecture Design & Leading Processing Capacity

Equipped with high-performance ASIC switching chips and multi-core processors, AS300/12 supports up to 240Gbps switching capacity, meeting the high-performance, high-capacity, high-density and expandable requirements of data centers.

Supports switching between front-back and back-front mode and fan automatic speed regulation

Rich Data Centre Business Features

ABVSS (ALPHA BRIDGE Virtual Switch System)

AS300/12 supports ABVSS, which can virtualize multiple physical devices into one in logic. The virtualized system is superior to the independent physical device in performance, reliability, flexibility and management.

Doubled Performance: The virtualized system makes the best use of each link in the device and avoids the blocking of STP to the link.

High-reliability: Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, AS300/12 provides with non-stop layer-3 routing forwarding and avoids business interruption caused by single points of failure, greatly improving the reliability of the virtual system.

Flexibility: With the virtual cluster service, the distance of virtual cluster system can expand to 80KM, breaking the geographic restriction of traditional cluster technique.

Product Characteristics

Data Centre High Reliability

Based on the HPS (Hitless Protection System), the key power supply system adopts a redundant design, modularized and hot-swappable, and supports seamless switching in case of failure without interrupting business.

AS300/12 supports redundancy protection mechanism such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/standby link protection and LACP link aggregation.

AS300/12 supports ISSU (In-Service Software Upgrade) and GR (Graceful Restart), guaranteeing the user data non-stop forwarding when the system is upgrading.

AS300/12 supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 or layer- 3 protocol.

AS300/12 has perfect Ethernet OAM, 802.3ah and 802.1ag, which can real-time monitor the network operating state and rapidly locate the malfunction.

High Reliability (99.999%): MTTR of AS300/12 is 50ms, meetingthe requirement of the carrier-level service.

Comprehensive Service

Supports complete layer-2 and layer-3 multicast routing protocol and meets the access requirement of IPTV, multi-terminal HD video monitoring and HD video meeting.
Supports complete layer-3 routing protocol and a super-large routing table capacity, which make super-large data center network, campus network, enterprise network and industry private networks available.

Comprehensive IPv6 Solutions

Supports IPv6 protocol family, IPv6 Neighbor Discovery, ICMPv6, Path MTU Discovery and DHCPv6.
Supports IPv6-based Ping, Traceroute, Telnet, SSH, ACL, meeting the need of IPv6 network equipment management and service control.
Supports IPv6 multicast characteristics including MLD, MLD Snooping and IPv6 layer-3 routing protocols including IPv6 static routing, RIPng, OSPFv3 and BGP4+.
Supports IPv4-to-IPv6 technologies including IPv6 manual tunnel, auto tunnel, IPv6-to-IPv4 tunnel, and ISATAP tunnel.

Comprehensive Security Mechanisms

Device-level security protection: adopts advanced hardware architecture design, realizing the hierarchical scheduling and protection of the packet; provides multiple security measures to defend against DoS, TCP SYN Flood, UDP Flood, broadcast storm, large traffic and other attacks; supports command line authority control based on user levels.

Comprehensive Security Authentication Mechanism: complies with IEEE 802.1x, Radius, TACACS+.

Enhanced Service Security Mechanism: supports the plain text or MD5 authentication of relevant routing protocol; uRRF to effectively control illegal business; DPI (Deep Packet Inspection) and (Deep Packet Filtration) to effectively isolate illegal data packets and improve the security of the network system.

Innovative Green Environmental Design

AS300/12/ inherits ALPHA BRIDGE advanced "GreenTouch" concept, energy saving and environmental.

Intelligent Power Management System: AS300/12 adopts advanced power system architecture design which can realize the function of efficient power switching, private power monitoring, soft start, real-time monitoring, intelligent adjustment and energy-saving.

Intelligent Fan Management System: AS300/12 is designed with the intelligent fan and supports switching between front- back and back-front mode and fan automatic speed regulation.

AS300/12 supports Efficient Ethernet and complies with International standard IEEE 802.3az.

Product Specifications

Item	AS300/12
Interface	12x10 Gigabit SFP+
Console	Yes
Backplane	240Gbps
Forwarding Rate	180Mbps
Chassis (WxDxH)	440*280*44mm
Chassis Weight	3.3kg
Package Dimension	576*448*94mm
Package Dimension Weight	4.1kg
Power Consumption (No Load)	14.29W
Power Consumption (Full Load)	30.83W
Power Supply AC:100-240V/DC:36-72V	AC:100-240V
PoE Power Budget	N/A
Fan Number	2
Noise@25C (dBa)	40.1dB
Forwarding Mode	Store and forward
Flash	16MB
DRAM	512MB
MAC	32K
Buffer Size	2MB
Interface VLAN	1023
Routing Table	ipv4:12K, ipv6:4K
Jumbo Frame	9K
VRF	MCE (Multiple VRF)
Stacking	ABVSS (Alpha Bridge Virtual Stacking System)

Product Features

VLAN	QoS	Reliability
• 4K VLAN IDs • GVRP • 1:1 and N:1 VLAN Mapping • QinQ and selective QinQ • Private VLAN	• Traffic classification of port/L2~4 protocol headers • CAR traffic control • 802.1P/DSCP priority mapping and remark • Multiple queuing algorithms such as SP, WRR or SP+WRR • Tail-Drop, WRED • Traffic supervision and traffic shaping • Ingress and Egress ACL, supports matching L2, L3, L4 and IP quintuples, and performs replication, forwarding and discarding • Hash same-source and same-destination load balancing to ensure session integrity of traffic output • Hash-based load balancing algorithm to ensure session integrity	• Power 1+1 backup(optional) • Static/LACP link aggregation • EAPS, ERPS • ISSU

Spanning Tree	Security	Energy Saving
• 802.1d STP, 802.1w RSTP, 802.1s MSTP • BPDU protection, root protection and ring protection	• L2~L4 ACL flow identification and filtering security mechanism • DDoS attack prevention, TCP-SYN/UDP Flood attack prevention • Suppression of multicast, broadcast, and unknown unicast packets • Port isolation • Port Security, IP+MAC+port binding • DHCP Snooping, DHCP Option 82 • IEEE 802.1x authentication • Radius, TACACS+ • URPF • Command line hierarchical protection	IEEE 802.3az **MAC Switching** • Static configuration and dynamic MAC learning • MAC browsing and removal • Configurable aging time of the MAC address • Limited number of learnable MAC addresses • MAC filtration • Black-hole MAC list

IPv4	DHCP	Multicast
• Static routing, RIP v1/v2, OSPF, BGP • ECMP • BFD for OSPF, BGP	DHCP server/relay/client, DHCP snooping/option82	• IGMP v1/v2c/v3 • IGMP Snooping • IGMP Fast Leave • Multicast group policy and multicast number limit • MVR • PIM-SM, PIM-DM, PIM-SSM

IPv6	Environment	Management
• ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet • IPv6 neighbor discovery • Path MTU discovery • MLD v1/v2 • MLD snooping • IPv6 Static Routing, RIPng, OSPFv3, BGP4+ • Manual tunnel, ISATAP tunnel, 6-to-4 tunnel	Operating temperature/humidity: -10°C -50°C, 10%-90% non-condensing Storage temperature/humidity: -20°C-70°C; 5%-95% non-condensing	• Console, Telnet, SSH 2.0 • Zero Touch Provisioning (ZTP) • Web-GUI(HTTP, HTTPS) • SNMP v1/v2c/v3 • FTP/TFTP/SFTP • RMON • sFLOW

Model

AS300/12

12 10G/1G SFP+

Ordering Information

Item	Description
AS300/12	12-Port 10G SFP+ L3 Stackable Managed Switch (Dual AC-220 power supply; 2 fans; 1U, 19-inch rack-mounted installation)]

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