ALPHA BRIDGE- LAYER-3 Switches (AS300/54/C)

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

Carrier-Grade, High Reliability, Layer-3 Routing Functions.

Advanced Hardware Architecture and Industry-leading Port Density.

Support Max. 48 10 GE/GE SFP+,4 100GE/40GE QSFP and 2 40 GE QSFP+ Uplink Ports.

Product Overview

Alpha Bridge AS300/54/C is a new generation of full10GE TOR switches, oriented for high-performance computing, data center and high-end campuses. AS300/54/C adopts our most advanced hardware architecture designs.

AS300/54/C (1U height) supports up to 2.56Tbps switching capacity and 48 10GE ports + 2 40GE ports + 4 100G ports or 72 10GE ports.

Developed on the basis of ABROS software platform ABTPL with its own independent intellectual property rights, AS300/54/C provides high-performance L2/L3/L4 wire speed switching capacity by integrating services such as IPv6, VPN, network security, flow analysis, virtualization, with high reliable techniques including continuous forwarding, graceful restarting and loop network protection, all which works efficiency within the AS300/54/C fabric for guaranteed maximum runtime.

AS300/54/C supports the “GreenTouch” architecture and “Smart@CHIP”. Its power consumption is lower than 200W.

Carrier-Level Aggregation Layer-3 Ethernet Switch Innovative AVSS (ABTPL Virtual Switch System):

virtualize multiple physical devices into one. The performance, reliability and management capabilities of the virtual system combine to outperform that of individual physical devices.

Improved Performance: AVSS makes full use of each link in the physical device cluster, which avoids STP blocking on links and protects the original link to the maximum;

High Reliability: Based on the advanced distribution mechanism and efficient cross-physical link aggregation link functions, the logical control plane, service control plane and service data plane are separated. Thus, the device can support continuous layer3 routing forwarding, avoiding service interruption as a result of a single point of failure.

Easy Management: AVSS realizes single IP management, greatly improving the networking efficiency and lowering operating costs

Product Characteristics

Rich Data centre Services

AVSS (ABTPL Virtual Switch System)
AS300/54/C supports AVSS, which can virtualize multiple physical devices into a single logical element. 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 blocking of STP to the links.
High-reliability: Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, the AS300/54/C provides non-stop layer-3 routing forwarding and avoids single points of failure.
Flexibility: The virtual cluster function of the AS300C allows the distance of a cluster system to expand over up to 80KM, breaking the geographic restrictions of traditional cluster techniques.
Easy Management: The whole virtual system realizes single IP unified management and simplifies the management of network device and network topology.

Perfect Security Mechanisms

Equipment-level security: The advanced hardware infrastructure design ensures packet protection, prevents DoS-/TCP-related SYN Flood, UDP Flood, Broadcast Storm or large traffic attacks, and supports level-based command line protection, endowing different levels of users with different management permissions.

Perfect security authentication mechanisms: IEEE 802.1x, Radius and Open source TACACS+.

AS300/54/C supports storm/multicast/unicast limit, ensuring the normal running of equipment in harsh network conditions.

AS300/54/C supports perfect ring detection mechanism, ensuring the long-term stable running of network. Supports port isolation within the same VLAN, DHCP-Snooping, and IP plus MAC plus Port binding for ensuring user data security.

Versatile IPv6 Solutions

Supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc.

Supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6.

supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc.

Supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4 tunnel, ISATAP.

AS300/54/C supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

Data centre Level High-reliability

AS300/54/C adopts HPS (Hitless Protection System). The key components of AS300/54/C such as the power system and the fan system supports redundancy in design. All system modules support hot-swap and seamless switching without need of manual intervention.
AS300/54/C supports redundancy protection mechanisms such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/standby link protection and LACP link aggregation.
AS300/54/C supports ISSU (In-Service Software Upgrade), guaranteeing non-stop forwarding of service data while the system is upgrading.
AS300/54/C supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 or layer-3 protocol.
AS300/54/C has perfect Ethernet OAM, 802.3ah, 802.1ag and ITU-Y.1731 which can monitor the network operating state in real time and rapidly detect and locate the malfunction.
High Reliability (99.999%): The MTTR of the AS300/54/Cis 50ms, satisfying the requirement for reliable delivery of carrier-level service.

Model

AS300/54/C
48 10GE/GE SFP+
2 40GE QSFP+
4 100GE/40GE QSFP28

Product Specifications

Item	AS300/54/C
Interface	48 10GE/GE SFP+ ports, 2 40GE QSFP+ ports, 4 100GE/40GE QSFP28 ports
Console	1 RJ45 console, 1 MGMT
Backplane	1920Gbps
Forwarding rate	1440Mpps
Chassis Dimensions (WxDxH) (mm)	442x404x44
Chassis Dimensions Weight (KG) (Empty)	8.8
Package Dimensions Weight (KG) (Empty)	10
Package Dimensions (WxDxH mm)	616x488x140
Power consumption (No-Load)	102W
Power consumption (Full Load)	147W
Power supply (hot-swap) AC: 100V-240V, 50Hz±10%	2
Power status monitoring	Support
Total output BTU (1000 BTU/H = 293W)	501.71
Fan number	4
Noise@25°C(dBA)	57
MTBF(H)	>200,000
Forwarding mode	Store-forward
Flash (MB)	64
DRAM (MB)	1024
MAC	64K
Jumbo Frame	16K
ARP table (IPv4)	16K
ARP table (IPv6)	2K
Routing table (IPv4)	16K
Routing table (IPv6)	8K
Total SVI	1K

Product Features

VLAN	QoS	Reliability
4K Active VLAN, Q-in-Q & Selective Q-in-Q, GVRP, Private VLAN, Voice VLAN	CAR, HQoS, MAC/IP/TCP/UDP/VLAN/ COS/DSCP/TOS based QoS, 802.1P/ DSCP priority re-labeling, SP, WRR, and "SP+WRR", Tail-Drop, WRED, flow monitoring, and traffic shaping	Static/LACP link Aggregation, Interface backup, EAPS and ERPS, ISSU uninterrupted system upgrade, VSS, ups to 16 units per stack, VRRP, UDLD
Spanning Tree	**Security**	**Accessories**
802.1D (STP), 802.1W (RSTP) and 802.1S (32 instances MSTP) BPDU guard, root guard, and Loopback guard	Port isolation, Port security, IP+MAC+port binding, MAC sticky, IEEE 802.1x, Radius and Tacacs+, MD5, SHA-256, RSA-1024, AES256, L2/L3/L4 ACL flow identification and filtration, Anti-attack from DDoS, TCP's SYN Flood, UDP Flood. Broadcast/Multicast/unknown unicast storm-control. DAI & IP source guard, PPPoE+	Power cord, rackmount kits, console cable
		Certification
		CE, ROHS
IP	**DHCP**	**Multicast**
Static route, RIP, OSPF IP v4/V6 Dual stack, DHCP server /Client Relay.	DHCP server/relay/client, DHCP snooping/option82	IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter
IPv6	**Environment**	**Management**
ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet, IPv6 neighbor discovery, Path MTU discovery, MLD V1, MLD snooping, IPv6 Static Routing, RIPng, OSPFv3, Manual tunnel, ISATAP tunnel, 6 to 4 tunnel	Operating temperature/humidity: 0C to 50C , 10%-90% Non-condensing Storage temperature/humidity: (-20c to 70C) , 5%-95% non-condensing	Console, Telnet, SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON, TFTP, FTP, SFTP, Dying gasp*, NTP, ZTP(Zero Touch Provisioning),SYSLOG, SPAN, RSPAN

Ordering Information

Item	Description
AS300/54/C	Ethernet routing switch with 48 10GE ports, 2 40GE ports and 4 100GE ports (1 console port, 1 out-band port, 48 10GE/GE SFP+ ports, 2 40GE QSFP+ ports, 4 100GE (can expand to 4 10GE ports), 2 power slots with 2 hot-swap AC220V power supplies, 4 fan slots, including 4 fans, 1U, 19-inch rack-mounted installation)