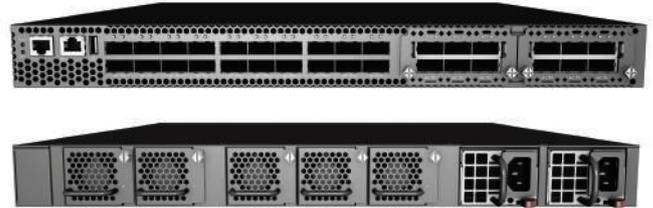




AS6701-32X-C 40GbE Data Center Switch Powered By Cumulus® Linux®



Product Overview

The Edge-Core AS6701-32X-C is a high-performance standard Data Center switch for top-of-rack (TOR) or spine applications. In a compact 1RU form factor, this switch provides line-rate L2 and L3 switching across up to 32 QSFP+ ports, supporting up to 32 x 40GbE connections or 104 x 10GbE connections. The AS6701-32X-C can be deployed as a TOR switch supporting 10GbE or 40GbE server connections, or as a spine switch, supporting 10GbE or 40GbE spine interconnects. The switch provides 20 fixed QSFP+ ports and two modular slots, each capable of supporting 6 x QSFP+ ports or a future NPU module for deep packet inspection, traffic analysis or other applications. The AS6701-32X-C comes with Cumulus Linux — the leading network OS for data center switching systems.

Cumulus Linux

Cumulus Linux is a Linux operating system that runs on top of industry-standard networking hardware. It is a software-only solution that accelerates robust networking functions at wire rate on a variety of platforms and is the ultimate choice when it comes to flexibility and innovation, enabling the best-of-breed hardware ecosystem and best-of-breed application ecosystem.

Cumulus Linux is Linux. It is not just based on Linux, it is Linux and offers the entirety of the Linux experience on networking hardware. Existing open source and commercial Linux applications run natively on industry-standard switches. New applications can be developed and integrated rapidly, enabling innovation cycles on par with software and application cycles.

Modern Data Center Networking with Cumulus Linux

Cumulus Linux is first and foremost a networking-focused Linux distribution. It enables modern data center architectures while providing a transition path for traditional data center architectures.

- High-capacity IP fabrics enable scale, simplicity and rapid evolution
- Automation: zero touch install and zero touch provisioning simplify operations
- Modern data center orchestration, monitoring and troubleshooting provide operational efficiencies
- Prescriptive Topology Manager simplifies operations from physical/logical topology consistency to simplified configuration based on a user-specified network graph
- Overlay networks enable flexibility and rapid provisioning of multi-tenant network

Broad Application Ecosystem

Cumulus Linux is the foundation for a rich application ecosystem. Being Linux, it is a platform that can leverage existing Linux applications, and it is the foundation for development and rapid integration of third party applications. Modern data center network orchestration tools such as Ansible, CFEngine, Chef and Puppet work on Cumulus Linux. Modern data center monitoring tools such as collectd and Ganglia work on Cumulus Linux. Leverage scores of applications across compute and network from the more than 40,000 Debian applications available. Customize the platform and build applications for specific business needs to innovate faster!

Cumulus Linux Features

Functionality	Description
Operating System Install & Upgrade	Server-style upgrade/patching across minor releases, server-style process restart/termination. Support for zero touch OS installation using ONIE loaded on industry standard switches.
Extensibility	Linux extensibility — Any language supported in Linux today, including scripting with Bash, Python, Perl, Ruby
Hardware Management	The switch hardware abstraction layer accelerates Linux kernel networking constructs in hardware, including the routing table, ARP table, bridge FDB, ip/eatables, bonds, VLANs, VXLAN bridges. Hardware management also includes jumbo frames support and environmental management
Layer 3 Features	Enhanced Quagga IPv4/v6 routing suite including OSPFv2, OSPFv3, BGPv4/v6, Equal-Cost Multi-Path (ECMP). Bidirectional Forwarding Detection (BFD).
Layer 2 Features	Bridge management with MSTPd including STP (IEEE 802.1d), RSTP (IEEE 802.1w), PVRST, PVST, bridge assurance, BPDU guard, BPDU filter. VLAN trunks (IEEE 802.1q), LACP (IEEE 802.3ad), unicast/broadcast storm control, LLDP, CDP, IPv6 neighbor discovery, IPv6 route advertisement. Host HA (through Host-MLAG). IGMPv2/v3 snooping, MLDv1/v2 snooping. Virtual Router Redundancy (VRR).
Network Virtualization	VXLAN support*, L2 gateway services integration with VMware NSX *, Lightweight Network Virtualization (LNV)*.
Management	Native Linux management tools such as OpenSSH, SCP, FTPS. Automated Install/Upgrade: zero touch install and zero touch provisioning. DHCP, v4/v6 DHCP relays. Authentication with LDAP, authorization with sudo NTP. Advanced management/orchestration through third party add-on packages.
Monitoring & Troubleshooting	Traditional monitoring with SNMPv2/v3 and network-specific MIB, analytics with SPAN, ERSPAN, ACL-based counters, DOM optics data, thermal sensors, real time queue-depth and buffer utilization reporting. Troubleshooting with dnsutils, syslog, reachability tools, hardware inventory, log files, server-style filesystem, and merchant silicon specific commands. Advanced troubleshooting and ease of use with Prescriptive Topology Manager.
Security	Access control lists (ACLs) L2-L4 classification through ip/eatables, CPU protection through hardware enforced ACL-based rate limiting.
QoS	Classification based on Class of Service (CoS) (IEEE 802.1p) or DSCP (queuing, scheduling (DWRR and Strict Priority), buffer allocation)*. Ingress ACL-based classification/policing.

*Check the appropriate hardware guide for platform-specific support.

Hardware Specifications

- Cost-effective, bare-metal switch infrastructure for data center fabric.
- Up to 32 x 40GbE ports in compact 1RU form factor.
- Modular design allowing cost-effective build-out of an infrastructure with switching capacity added as required.
- 20 x QSFP switch ports, each supporting 40GbE or 4 x 10GbE via breakout cables.
- Two module slots, each supporting 6 x QSFP module or future NPU processing module.
- Layer 2 or Layer 3 forwarding of 2.56Tbps full duplex.
- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.
- All ports on front; PSUs and fans on rear.
- Hot-swappable, load-sharing, redundant AC or -48VDC PSUs.
- 4+1 redundant, hot-swappable fans.
- Energy Efficiency: 267W typical power consumption.

Ports

Switch Ports:

20 QSFP fixed ports: 40GbE or 4 x10 GbE per port
 2 expansion module slots, for optional modules:
 6 QSFP: 40GbE or 4 x 10GbE per port
 NPU module (future)

Total switch capacity: 32 x 40GbE; or 104 x 10GbE

Management ports on port side:

1 x RJ-45 serial console
 1 x RJ-45 100/1000BASE-T management port
 1 x USB Type A storage port

Key Components

Switch Silicon: Broadcom BCM56850 Trident II 1.28Tbps
 CPU Module: Freescale P2020 dual-core 1.2GHz
 2GB DDR3 SDRAM ECC memory
 64MB NOR Flash, 2GB NAND Flash
 8GB SD Card

Performance

Switching Capacity: 2.56Tbps full duplex, with packets>200bytes
 Forwarding Rate: 1.44Bpps
 MAC Addresses: 320K
 VLAN IDs: 4K
 Jumbo frames (9216Bytes)
 L3 Routes IPv4 64K, IPv6 20K
 Packet Buffer Size: 12MB shared buffer pool
 Latency (RFC2544): 600 to 720ns cut thru

LEDs

40G QSFP Port LEDs: Link Status, Activity
 Ethernet Management Port LED: Link Status, Activity
 Console Port LED: Link Status
 System LEDs: Diagnostic, Locator

Supported Optics and Cables

QSFP Ports:

40GBASE-CR4 DAC; 0.5m to 7m; passive and active
 40GBASE-CR4 DAC to 4 x SFP+ 10GBASE-CR DAC; 0.5m to 7m
 40GBASE-SR4: Up to 100m over OM3 MMF, 150m over OM4 MMF
 40GBASE-SR4 to 4 x 10GBASE-SR: 100m over OM3, 150m OM4
 40GBASE-LR4: Up to 10km over SMF

Software

Preloaded with Cumulus Linux. License cost included in the price for the specific term described in the SKU.

Physical and Environmental

Dimensions (WxDxH): 440 x 470 x 44mm (17.3 x 18.5 x 1.73inches)
 Weight: 8.4kg (18.52lbs), total with 2 modules
 Fans: 4+1 redundant, hot-swappable
 Operating Temperature: 0°C to 40°C (32°F to 104°F)
 Storage Temperature: -40°C to 70°C (-40°F to 158°F)
 Operating Humidity: 5% to 95% non-condensing

Power

PSUs: 2 redundant, load-sharing, hot-swappable AC or 48VDC
 Input Voltage: 90 to 264VAC at 50-60Hz. -48 to -72VDC.
 Input Current: Max 6A @100/120VAC, 3A @200/240VAC, 10 A @-72VDC
 PSU Efficiency: Up to 93% for AC PSUs
 Max Power: 315W, line-rate, 32 x 40G SR4, AC
 Typical Power: 267W, line-rate, 32 x 40G DAC, AC

Regulatory

EMI
 CE Mark (EN55022 Class A)
 FCC Part 15 Class A
 VCCI
 Safety
 CB, EN 60950
 UL/CUL
 Environmental:
 Temperature: IEC 68-2-14
 Drop: ISTA 2A
 RoHS-6 Compliant

Warranty

Please check www.edge-core.com for the warranty terms in your country. The warranty provides return-to-factory hardware replacement for a three year period in North America.

Ordering Information

6701-32X-C-AC-F	AS6700-32X 20-Port 40GbE QSFP switch, preloaded with Cumulus Linux, dual AC PSUs, port-to-power airflow, dual 6-port 40G module, 1 year OS license with standard support included
6701-32X-C-AC-B	AS6700-32X 20-Port 40GbE QSFP switch, preloaded with Cumulus Linux, dual AC PSUs, power-to-port airflow, dual 6-port 40G module, 1 year OS license with standard support included
6700-32X-SVC-C	AS6700-32X Additional 2 year Cumulus Linux Software License and Maintenance (*must order together with above model)

***Note: Customers can order yearly subscription licenses for Cumulus Linux to extend beyond 3 years.**

For More Information

To find out more about Edge-Core Networks products and solutions, visit www.edge-core.com.

About Edge-Core Networks

Edge-Core Networks is in the business of providing innovative network solutions. In the service provider network, in the data center or in the cloud, Edge-Core Networks delivers the software and systems that transform the way the world connects. Edge-Core Networks serves customers and partners worldwide. Additional information can be found at www.edge-core.com.

Edge-Core Networks is a subsidiary of Accton Technology Corporation, the leading network ODM company. The Edge-Core data center switches are developed and manufactured by Accton.

To purchase Edge-Core solutions, please contact your Edge-Core Networks representatives at +886 3 563 8888 (HQ) or +1 (877) 828-CORE (877-828-2673) or authorized resellers.

About Cumulus Networks®

Cumulus Networks is bringing the Linux revolution to networking. Founded by veteran networking engineers from Cisco and VMware, Cumulus Networks makes the first Linux operating system for networking hardware and fills a critical gap in realizing the promise of the software-defined data center. Just as Linux completely transformed the economics and innovation on the server side of the data center, Cumulus Linux is doing the same for the network. It is radically reducing the costs and complexities of operating modern data center networks for service providers and enterprises. Cumulus Networks has received venture funding from Andreessen Horowitz, Battery Ventures, Sequoia Capital, Peter Wagner and four of the original VMware founders. For more information visit www.cumulusnetworks.com or follow us on Twitter @cumulusnetworks.

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