Overview

The **AES6002** delivers high-throughput, low-latency switching engineered for spine-layer deployments in modern data centers. It supports line-rate Layer 2 and Layer 3 switching across 48 × 10GE SFP+ and 6 × 100GE QSFP28 ports.
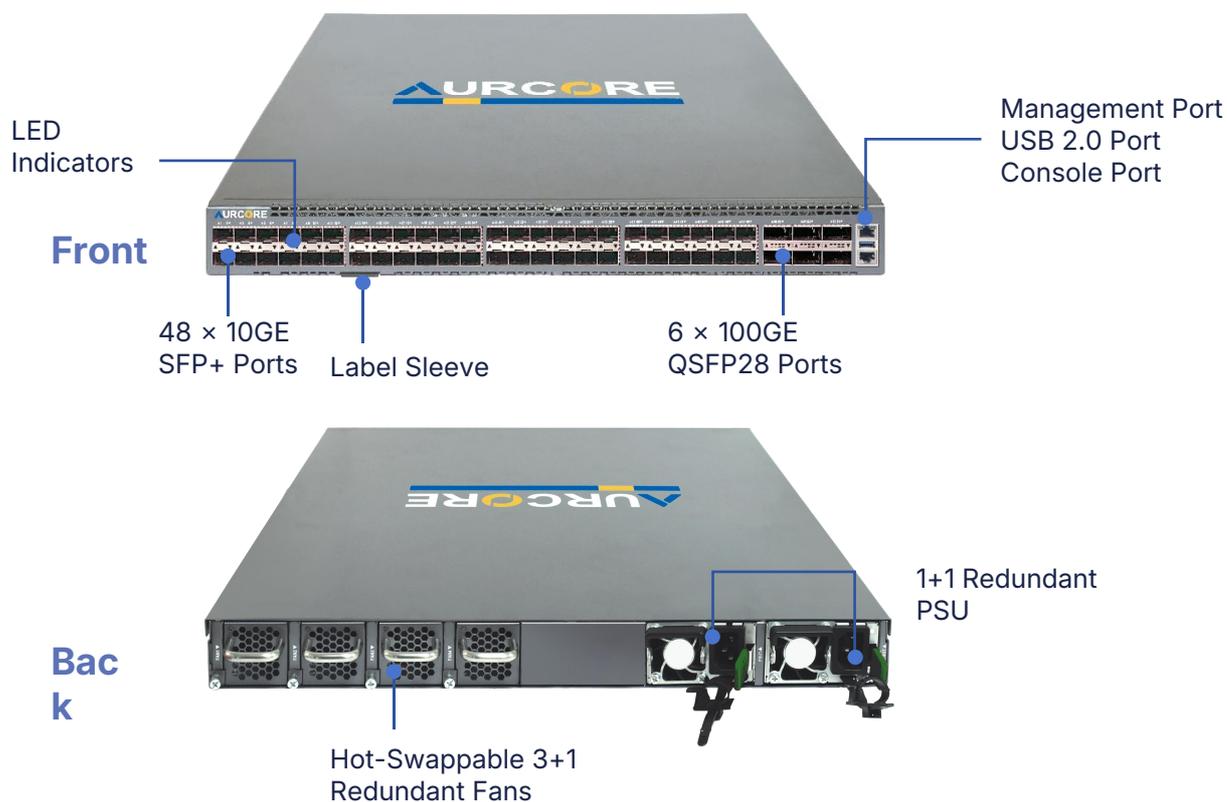
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NDAA Compliant   TAA Compliant

Product Highlights

• Optimized for deployment as Top-of-Rack switch or as a part of a 40/100GE distributed spine. 48 × 10GE SFP+ and 6 × 100GE QSFP28 switch ports, each QSFP28 supporting 1 × 100GE or 1 × 40GE, or via breakout cables, 4 × 25GE, or 4 × 10GE.
• Layer 2 or Layer 3 forwarding at 2.18 Tbps.
• Supports hot/cold aisle with front-to-back and back-to-front airflow SKUs.
• All ports on front; PSUs and fans accessible from rear.
• Hot-swappable, load-sharing, redundant AC or DC PSUs.
• 3+1 redundant, hot-swappable fan modules.
• VXLAN, EVPN, MLAG, RoCE v2 support and advanced routing protocols including BGP, OSPF, IS-IS, and MPLS.
• Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated
• loading of compatible open source and commercial NOS offerings.

Hardware Specifications

Model	AES6002
Interface	48 × 10GE SFP+ Slots + 6 × 100GE QSFP28 Slots
Management Port	1 × MGMT Port, 1 × Console Port, 1 × USB Port (USB 2.0)
Chipset	Marvell
Packet Forwarding Rate	600 Mpps
Switching Capacity	2.18 Tbps
System Memory	4GB
Fan	4 hot-swappable fan modules for front/rear ventilation
Power Supply	2 (1+1 Redundancy), Hot-swappable
AC Input	Rated voltage range: 100~240V Maximum voltage range: 90~264V Frequency: 50~60Hz Rated input current: 0~2.5A(230VAC); 0~5A(100VAC)
DC Input	Input voltage range: 180~310V Input current range: 0~2.5A
Power Consumption	Static (Dual AC): 60W; Maximum (Dual AC): 285W
Operating Temperature	0 °C to 40 °C (-32 °F to 104 °F)
Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
Dimension (L×W×H)	16.14"(L) × 17.32"(W) × 1.73"(H) / 1U height
Full Weight	9.5 kg / 20.94 lbs
Installation	Rack Mount
Accessories	Mounting Bracket*2, Screw*6, Grounding Cable*1 Grounding Screw*1 Console Cable*1, Power Cord*2

Hardware Panel

LED Indicators

Management Port
USB 2.0 Port
Console Port

Front

48 × 10GE SFP+ Ports

Label Sleeve

6 × 100GE QSFP28 Ports

1+1 Redundant PSU

Back

Hot-Swappable 3+1 Redundant Fans

Software Specifications

DATA CENTER FEATURES

- **Overlay Network:** VxLAN, BGP-EVPN
- **Architecture:** M-LAG
- **High-performance Networking:** RoCE v2, PFC, ECN

LAYER 2 PROTOCOLS

- VLAN: GVRP, PVLAN, Voice VLAN, VLAN Translation, Q-in-Q, Subnet-based VLANs, Protocol-based VLANs, MAC-based VLAN
- MAC Address: Dynamic/static/black hole MAC address table entries; auto learning/aging, learning restrictions, source MAC filtering

LAYER 3 PROTOCOLS (IPv4/IPv6 DUAL STACK)

- **Rate Limiting:** Port-based (incoming/outgoing), Stream-based rate limiting
- **Class Of Service:** Based on port, source-destination MAC, source-destination IP, 802.1p, CoS, DSCP, IP priority
- **Prioritization Algorithm:** WRR,SP, WDRR, DSCP & CoS mapping
- **Loop Detection:** ERPS

MULTICAST

- IGMP Snooping v1/v2/v3, MLD Snooping v1/v2, PIM-DM, PIM-SM, PIM-SSM, multicast VLAN, multicast traffic suppression

QoS FUNCTION

Rate Limiting: Port-based (incoming/outgoing), Stream-based rate limiting
Class Of Service: Based on port, source- destination MAC, source-destination IP, 802.1p, CoS, DSCP, IP priority, Source-destination L4 Port
Prioritization Algorithm: WRR, SP, DSCP & CoS mapping, Congestion avoidance mechanisms (WRED, tail drop)

SECURITY

- **Access Control:** Port Security, Port Isolation, IP source protection, Dynamic ARP protection, DHCP Snooping, DHCP Relay, IEEE802.1x AAA, ACL, User hierarchy, RADIUS/TACACS+, RADIUS authentication (RFC2138), SSH v2.0
- **Data Protection:** Broadcast storm suppression, Illegal packet detection, DDoS Attack Prevention, HTTPS and SSL

RELIABILITY

- **Link Protection:** STP, RSTP, MSTP, Stacking, BPDU Guard, STP Root Guard, Loop Protection/ Detection, BFD Detection, Ethernet OAM, ULDP, ERPS fast ring network protection, MRPP fast link switching

MPLS

- MPLS L2VPN, MPLS L3VPN, VPLS, VPWS, LDP

NETWORK VISUALIZATION

- MPLS L2VPN, MPLS L3VPN, VPLS, VPWS, LDP

MANAGEMENT & MAINTENANCE

- Interfaces: Console port, MGMT port, USB port
Protocols: SNMPv1/v2c/v3, RMON (1,2,3 & 9), TFTP (file upload/download)
Management Modes: CLI command line, Web NMS, TELNET
Functions: Firmware Upgrade, Configuration Export/Import, DHCP Client (Option 82/66/67), Event/Error Logs (System Log), Management Access Control, Port Mirror, LLDP (IEEE802.1AB), LLDP-MED, DNS Client, Trace-route, Ping, DDMI, NTP/ SNTP (RFC2030)