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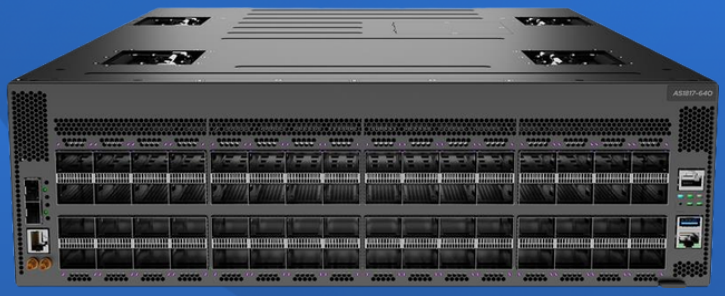
DATASHEET

XAI1600-64O



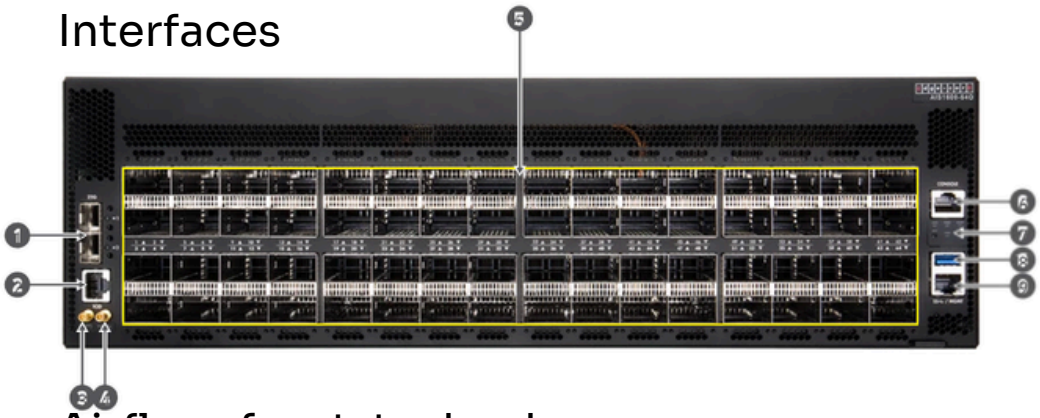
The XAI1600-64O is a high-performance, ultra-low-latency 102.4 Tbps AI switch designed for next-generation hyperscale AI/ML clusters, HPC fabrics, and hyperscale cloud infrastructures. The platform is powered by Broadcom Tomahawk® 6C BCM78914 silicon and delivers 64 x 1.6T OSFP1600 ports in a compact 3 RU form factor.
With support for 64 ports of 1.6T connectivity and flexible breakout options for 800G, 400G, 200G, and 100G interfaces, the XAI1600-64O enables scalable, high-radix network designs for AI spine and AI leaf deployments. Its architecture is optimized to reduce bandwidth bottlenecks, support sub-microsecond latency, improve job completion time, and provide advanced telemetry for massive-scale generative AI workloads.

KEY FEATURES AND BENEFITS

- 64 x 1.6T OSFP1600 switch ports.
- Each port supports 1 x 1600 GbE, 1 x 800 GbE, 1 x 400 GbE, 1 x 200 GbE, or 1 x 100 GbE through supported breakout modes.
- Up to 512 logical ports on a single chip.
- All switch ports support Flexport™ run-time re-configurability between 1.6T, 800G, and 400G modes.
- Up to 30 W power budget per OSFP1600 port, subject to deployment scenario conditions.
- Broadcom Tomahawk® 6C BCM78914 switch silicon.
- 102.4 Tbps full-duplex switching capacity.
- Low-latency architecture for hyperscale AI/ML clusters.
- Cognitive/adaptive routing and Dynamic Load Balancing.
- PFC-aware DLB and Global Load Balancing.
- 267 MB advanced unified fully shared packet buffer.
- Programmable in-band telemetry.
- Support for Drop Congestion Notification, Fast CNP, Credit-based Flow Scheduler, Link Level Retry, and PFC-aware ECN.
- Hardware-based link failover for fast network resiliency and reduced Job Completion Time.
- SRv6 support with standard SID, Micro SID, GSID, SID initiation/transmit/termination with END functions.
- SRv6 canonical and non-canonical mode support.
- IFA support for SRv6.
- VxLAN support.
- BMC module with serial-over-LAN support.
- SyncE and PTPv2 support with 1PPS, 10 MHz, and ToD connectors on the front panel.
- E-fuses to protect transceivers and internal components.
- 3 RU form factor.
- Front-to-back / AFO / port intake airflow SKU.
- All ports on front; PSUs and fans accessible from rear.
- Hot-swappable, load-sharing, redundant 2700 W AC PSUs / 3200 W DC PSUs.
- Hot-swappable fan modules with 7+1 redundant fans.
- ONIE pre-loaded for automated NOS installation.

SW Options

Interfaces



Airflow: front-to-back

1. 2 x 25G SFP28 management ports
2. ToD port
3. 1PPS port
4. 10 MHz port
5. 64 x 1.6T OSFP ports
6. RJ-45 console port
7. System LEDs
8. Type-A USB 3.0 storage port
9. RJ-45 management port
10. 2 + 2 redundant PSUs
11. 7+1 redundant fans

Hardware Specifications

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PORTS

- Switch Ports:
  - 64 x 1.6T OSFP
- Logical Ports:
  - Max. 512
- Port Modes:
  - 1 x 1.6 TbE, 8 lanes 200G PAM4
  - 1 x 800G, 4 x 200G
  - 1 x 800G, 8 x 100G
  - 1 x 400G, 2 x 200G
  - 1 x 400G, 4 x 100G
  - 1 x 400G, 8 x 50G
  - 1 x 200G, 1 x 200G
  - 1 x 200G, 2 x 100G
  - 1 x 100G, 1 x 100G
- Additional port modes available upon request:
  - 200G, 4 x 50G
  - 100G, 4 x 25G
  - 100G, 2 x 50G
  - 50G, 1 x 50G
- Management Ports on Port Side:
  - Console Port: 1 x RJ-45 with RS232
  - Out-of-Band: 1 x 1G RJ-45 by Intel NIC I210
  - In-Band: 2 x 25G SFP28 from TH6C
  - USB Port: 1 x Type-A USB 3.0

KEY COMPONENTS

- SwitchSilicon: Broadcom BCM78914 Tomahawk 6C
- CPU module:
  - AMD Ryzen V3C48, 8 cores / 16 threads, 3.3 GHz
- Memory: DDR5 ECC SODIMM 16 GB x 2, max 32 GB x 2
- Storage: NVMe PCIe Gen3 M.2 SSD 240 GB x 1, max SSD x 2
- SSD TPM: Infineon SLB9670, TPM 2.0, SPI Interface
- DC-SCM Module: Aspeed BMC AST2720 + HROT AST1060
- Timing and Sync: 1 x ToD RJ-45 + 1 x SMB 1PPS + 1 x SMB 10 MHz

PERFORMANCE

- Switching Capability: 102.4 Tbps full-duplex
- Jumbo Frames: Up to 9416 Bytes
- Subject to NOS: VxLAN RIOT support, SRv6 support, DLB support, GLB support, LLR support, Credit-based Flow Scheduler support.
- Streaming Frame Size: 324 Bytes

SYSTEM AND PORT LEDS

- Port LEDs: Link Status, Activity, Rate
- Management Port LEDs: Link Status, Activity
  - RJ-45 Port: Link Status, Activity
- System LEDs: Locator, Diagnostic, PSU, Fan Status, Alarm
- Reset Button

PHYSICAL AND ENVIRONMENTAL

- Dimensions (WxDxH): 440 mm x 650 mm x 131.6 mm
- Fans: Hot-swappable 7+1 redundant fans
- Storage Temperature: -40°C – 70°C (-40°F – 158°F)
- Operating Temperature (front-to-back): 0°C – 40°C / 32°F – 104°F
- Operating Temperature (back-to-front): 5% – 95% non-condensing
- Operating Humidity: 5% – 95% non-condensing
- Cooling: Front-to-back airflow, 0°C – 40°C

POWER

- PSUs:
  - 2+2 redundant, load-sharing, hot-swappable 2700 W

REGULATORY COMPLIANCE

- Immunity:
  - CE Mark
  - FCC Title 47, Part 15, Subpart B Class A
- Emissions:
  - CE Mark
  - FCC Title 47, Part 15, Subpart B Class A
- Safety:
  - CB EN60950
  - UL60950
  - EN62368
  - UL62368

SOFTWARE

- Switch pre-loaded with Open Network Install Environment / ONIE software installer.

SONiC Features

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Layer 2

- DHCP Snooping
- IGMP Snooping
- LAG (LACP)
- LLDP
- MAC Aging
- MC-LAG
- MSTP
- Port Mirroring
- QinQ (802.1Q Tunneling)
- STP/PVST
- TPID Configuration
- VLAN Translation
- VLAN/VLAN Trunk

Layer 3

- BGP
- BGP Graceful Restart
- BGP Graceful Restart Helper
- BGP Multi-protocol
- BGP Unnumbered Links
- Critical Resource Monitoring
- ECMP
- EVPN/VxLAN
- VPN Multihoming
- IPv6
- IS-IS
- NAT
- OSPF
- Proxy ARP
- Static Anycast Gateway
- VRF
- VRRP
- VxLAN

Security Features

- COPP
- Ingress/Egress ACL Permit/Deny
- Port MAC Security
- RADIUS
- TACACS+

QoS

- Asymmetric PFC
- CoS
- Differentiated Services (DiffServ)
- DSCP
- ECN
- Egress Port Shaping (port, queue)
- Ingress ACL-based Mirroring (ERSPAN)
- PFC-WD
- PFC Watermark
- Port Rate Limiting
- Priority Flow Control (PFC)
- WRED

Management and Monitoring Features

- CLI/SSH
- DHCPv6 Relay
- Dynamic Port Breakout
- Everflow
- Fast Reload
- Kubernets
- Management VRF
- MTU Setting
- NTP
- Object Track for Port Interface
- OpenSSH/SCP/SFTP
- PINS
- Platform Monitoring
- Port Speed Setting
- RoCEv2
- Sensor Transceiver Monitoring
- sFlow
- SNMP/SNMPv2
- Telemetry Support
- Thermal Monitor
- Warm Reboot
- Zero Touch Provisioning (ZTP)

Standards Compliance

- RFC792 ICMP Specifications
- RFC1157 Simple Network Management Protocol (SNMP)
- RFC1213 MIB-II Specifications
- RFC1213 Management Information Base for Network Management of TCP/IP-based internets: MIB-II
- RFC1267 Border Gateway Protocol 3 (BGP-3)
- RFC1771 A Border Gateway Protocol 4 (BGP-4)
- RFC1772 Application of the Border Gateway Protocol in the Internet
- RFC1901 Introduction to Community-based SNMPv2
- RFC1902 Structure of Management Information for Version 2 of the Simple Network Management Protocol (SNMPv2)
- RFC1905 Protocol Operations for Version 2 of the Simple Network Management Protocol (SNMPv2)
- RFC1907 SNMP MIB Specifications
- RFC1965 AS Confederations for BGP
- RFC1966 BGP Specifications
- RFC1981 Path MTU Discovery for IP version 6
- RFC1997 BGP Communities Attribute
- RFC2011 IP MIB Specifications
- RFC2012 Management Information Base for the Transmission Control Protocol (TCP)
- RFC2013 SNMPv2 Management Information Base for the User Datagram Protocol using SMIv2
- RFC2068 HTTP Specifications
- RFC2101 IPv4 Address Behaviour Today
- RFC2138 RADIUS Specifications
- RFC2270 Using a Dedicated AS for Sites Homed to a Single Provider
- RFC2283 Multiprotocol Extensions for BGP-4
- RFC2328 OSPF Specifications
- RFC2370 OSPF Opaque LSA Option Specifications
- RFC2373 IP Version 6 Addressing Architecture
- RFC2374 An IPv6 Aggregately Global Unicast Address Format
- RFC4760 Multiprotocol Extensions for BGP-4
- RFC7348 Virtual eXtensible Local Area Network (VXLAN): A Framework for Overlaying Virtualized Layer 2 Networks over Layer 3 Networks
- IEEE802.1D Spanning Tree Protocol
- IEEE802.1p Priority tagging implementation idea
- IEEE802.1AB Link Layer Discovery Protocol
- IEEE802.1ad QinQ, VLAN Stacking
- IEEE802.3ad Link aggregation (LAG), bound mode 4 (LACP)

Ordering Information

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AI Switch, 64-Port 1.6T OSFP1600, ONIE Software Installer.

Model Number	PSU	Airflow	Power Cord
XAI1600-64O-AF-UN	Dual AC PSUs	Front-to-back	IEC 60320 C19-C20 power cord
XAI1600-64O-AF	Dual AC PSUs	Front to back	No power cord
XAI1600-64O-DF	Dual DC PSUs	Front-to-back	No power cord

Fan FRUs

Model Number	Airflow
FAN-2U-1x1SN-F	Front-to-back

Accessories

Model Number	Description
RKIT-AI-3-16-SLIDE	Rack installation kit

For More Information
To find out more about Exaware Routing products and solutions, visit www.exaware.com

About Exaware Routing LTD. Exaware Routing LTD is providing end-to-end networking solutions for the data center, enterprise and telco/ISP networks - including HW, SW, management systems, support and professional services. Exaware Routing LTD delivers the software and systems that transform the way the world connects and serves customers and partners worldwide. Additional information can be found at www.exaware.com. To purchase Exaware Routing solutions, please contact your Exaware Routing LTD representatives through https://www.exaware.com/contact-us