AGR560 Aggregation Router

Edge-corE NETWORKS

AGGREGATION ROUTER

AS9947-36XKB

The AGR560 is the latest addition to Edgecore's AGR portfolio—a high-performance 100GbE to 400GbE aggregation router designed for demanding network environments. Featuring a compact 2RU form factor, it integrates 12 fixed 400GbE QSFP-DD and 24 100GbE interfaces, making it ideal for standalone deployment. Engineered for large-scale data centers and service providers, the AGR560 delivers exceptional scalability and performance. Leveraging advanced merchant silicon and a robust server-grade CPU with precision timing, it supports scalable L2/L3 database resources and deterministic network performance. This enables simplified network design and reduced total cost of ownership (TCO).

The AGR560 is versatile and can be deployed in various roles, including:

- Top-of-Rack (ToR) switch
- Spine switch
- Data Center Interconnect (DCI)
- Metro Ethernet aggregation
- Broadband Network Gateway (BNG)
- Provider Edge (PE) router

With up to 8GB of on-chip HBM deep packet buffer and support for coherent optics on 400GbE interfaces, the AGR560 ensures lossless forwarding and long-haul optical reach. It can eliminate the need for external transponders and line systems when used as a DCI, thanks to its compatibility with amplifiers and other pluggable optical components.

The platform comes pre-loaded with the Open Network Install Environment (ONIE), enabling seamless installation of compatible Network Operating Systems (NOS), including the open-source Open Network Linux (ONL) and various commercial NOS options.

Key Features and Benefits

- High-Performance Aggregation: Supports 100GbE to 400GbE connectivity, ideal for telecom operators and data center applications.
- Advanced Silicon Architecture: Powered by Broadcom StrataDNX™ Jericho2c+ with external TCAMs for enhanced scalability and routing capacity.
- Deep Packet Buffering: On-chip HBM provides up to 8GB of deep packet buffering for lossless forwarding.
- Efficient Thermal Design: Available with front-to-back airflow SKU for optimized cooling in high-density deployments.
- Redundant Power Options: Supports load-sharing, hot-swappable, and 1+1 redundant AC or -48VDC power supply units.
- Modular Fan System: Equipped with hot-swappable, 3+1 redundant modular fans for high availability.
- Precision Timing Support: Compatible with Synchronous Ethernet and IEEE 1588v2 Precision Time Protocol (PTP).
- Fault Isolation: Capable of isolating malfunctioning transceivers to minimize traffic disruption and maintain service continuity.

Applications

- Top-of-Rack (ToR) or Leaf Switch: High-bandwidth connectivity for server racks in data centers.
- Data Center Interconnect (DCI): Long-haul optical reach with coherent optics, eliminating the need for external transponders and line systems.
- Metro Ethernet Aggregation: Efficient aggregation of metro access networks.
- Broadband Network Gateway (BNG): High-performance routing for broadband subscriber management.
- Provider Edge (PE) Router: Carrier-grade routing at the edge of service provider networks.

Freedom of choice

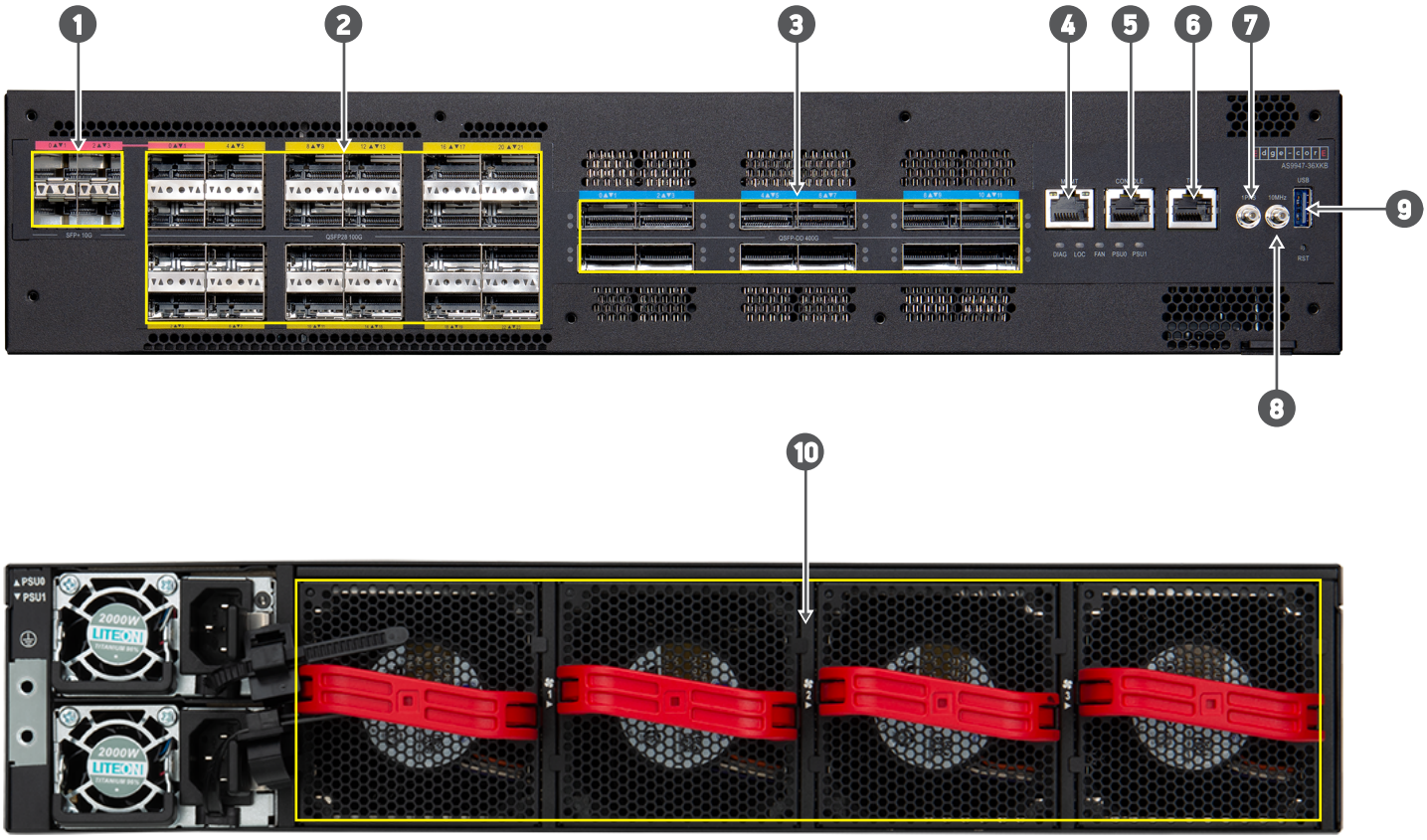
Greater control

Rapid innovation

Free Software Included

onie

Interfaces



Description			
1.	4 x 10G SFP+ combined with 100G ports 0 and 1*	6.	1 x RJ-45 ToD port
2.	24 x 100GbE QSFP28 (6.5 W) ports	7.	1 x SMB 1PPS input/output
3.	12 x 400GbE QSFP-DD (23 W) ports	8.	1 x SMB 10MHz input/output
4.	1 x RJ-45 management port	9.	1 x USB Type A
5.	1 x RJ-45 console management port	10.	3 + 1 redundant fans

*Note: The 10G SFP+ ports are grouped with 100G QSFP28 ports 0 and 1. Either the SFP+ ports or the QSFP28 ports may be used, but concurrent operation of both types is not supported. By default, the QSFP28 ports are enabled and the SFP+ ports disabled.

Ports

- Switch Ports:
  12 x 400GbE QSFP-DD ports
  24 x 100GbE QSFP28 ports
  4 x 10GbE SFP+ combo ports
- Port Modes:
  SFP+ Ports (combo with QSFP28 Port 0 and Port 1):
  • 1 x 10G SFP+
  QSFP28 Ports:
  • 1 x 100G (4 lanes 25G NRZ) QSFP28
  • 1 x 40G (4 lanes 10G NRZ) QSFP+
  QSFP-DD Ports:
  • 1 x 400G (8 lanes 50G PAM4)
  • 4 x 100G (2 lanes 50G PAM4) QSFP-DD breakout
  • 8 x 50G (1 lane 50G PAM4) QSFP-DD breakout
  • 8 x 25G (1 lane 25G NRZ) QSFP-DD breakout
  • 8 x 10G (1 lane 10G NRZ) QSFP-DD breakout
- Management Ports:
  1 x RJ-45 serial console port
  1 x RJ-45 10/100/1000BASE-T management port
  1 x USB 3.0 storage port
- Supported Transceivers and Cables:
  10GBASE-SR, LR
  40GBASE-SR4, LR4
  100GBASE-SR4, CWDM4, LR4, ER4, ZR4
  40G/100G DAC, AOC cable
  400GBASE-SR8, DR4, FR4, ZR, ZR+
  400G DAC, AOC, AEC cable
- Timing and Sync:
  1PPS port, 10MHz port, ToD port

Key Componets

- Switch Silicon: Broadcom BCM88851 Jericho2c+
- Broadcom BCM16000 OP2 (TCAM)
- CPU Module:
  Processor: Intel® Xeon® D Ice Lake 8-Core 3.1GHz
  Memory: 64GB DDR4 SO-DIMM with ECC
  Storage: 480GB NVMe SSD
  TPM: TPM2.0
- BMC: AST2600 with OpenBMC
- Timing and Sync:
  SyncE, IEEE1588v2 PTP

Performance

- Switching Capacity: 14.4 (28.8) Tbps
- Jumbo Frames: up to 9416 Bytes
- Packet Buffer Size: 8 GB

Physical and Environmental

- Dimensions (WxDxH): 440 x 649.2 x 87 mm (17.32 x 25.56 x 3.43")
- Weight: 20.5 kg (45.18 lb) with 2 PSUs and 4 fans installed
- Fans: Hot-swappable 3+1 redundant fans
- Storage Temperature: -40° C to 70° C (-40° F to 158° F)
- Operating Temperature: 0°C – 45°C (32°F – 113°F)
- Operating Humidity: 5% to 85% (non-condensing)

Software

- Switch is loaded with Open Network Install Environment (ONIE) software installer

System and Port LEDs

- Port LEDs: Speed, Link/Activity
- Management Port LEDs: Link/Activity, Speed
- System LEDs: PSU0, PSU1, Diagnostic, Fans, Locator
- Reset button

Power

- PSUs: 2 redundant, load-sharing, hot-swappable AC or 48VDC
- AC PSU:
  AC input ranges:
  • 100-127 VAC at 50-60 Hz (12 A/1000 W max.)*
  • 200-240 VAC at 50-60 Hz (10 A/2000 W max.)
  *When operating with a 100–127 VAC input, power supply units (PSUs) function in low-line mode and may not support full power redundancy under certain conditions. To ensure optimal performance and full redundancy, a 200–240 VAC input is recommended.
  • AC Inlet: IEC 60320 C14
- DC PSU:
  48 VDC input range:
  -40 - -60 VDC (50 A/2000 W max.)
  DC Inlet: Amphenol Terminal
- Power Draw:
  Typical 421.5 W at 25°C (77°F), excluding transceivers
- Power Budget:
  1.5 W on SFP+ ports, 6.5 W on QSFP28 ports, 23 W on QSFP-DD ports

Regulatory

- Emissions:
  EN 55032 / CISPR 32 Class A
  AS/NZS CISPR 32 Class A
  EN 61000-3-2
  EN 61000-3-3
  FCC Title 47, Part 15, Subpart B Class A
  ICES-003 Issue 7 Class A
  UKCA
- Immunity:
  EN 55024
  EN 55035
  EN 300 386
  IEC 61000-4-2/3/4/5/6/8/11
- Safety:
  UL (CSA 22.2 No 62368-1 & UL 62368-1)
  CB (IEC/EN 62368-1)
- Environmental:
  CNS 15663
- RoHS-2.0 compliant
- Electrical and Electronic Equipment (WEEE Directive 2002/96/EC)
- Country of Origin: Taiwan (TAA compliant)

Ordering Information

Base Model: AS9947-36XKB; Intel® Xeon® Processor 8-Core; 12-Port 400G QSFP56-DD, 24-Port 100G QSFP28, 4-Port 10G SFP+; BMC; ONIE Software Installer.				
Model Number	**Part Number**	**PSU**	**Airflow**	**Region (Power Cord)**
AS9947-36XKB-O-AC-F	FNPEC9636001Z	Dual AC PSUs	Front-to-Back	Without power cord
AS9947-36XKB-O-AC-F-EU	FNPEC9636201Z	Dual AC PSUs	Front-to-Back	IEC 60083 Type E/F (CEE 7/7) EU
AS9947-36XKB-O-AC-F-UK	FNPEC9636301Z	Dual AC PSUs	Front-to-Back	IEC 60083 Type G (BS 1363) UK
AS9947-36XKB-O-AC-F-US	FNPEC9636401Z	Dual AC PSUs	Front-to-Back	NEMA 6-20P (UL)
AS9947-36XKB-O-48V-F	FNPEC9636002Z	Dual 48 VDC PSUs	Front-to-Back	6AWG PSU to 2 x Ring Terminal, 2.5 m

PSU FRUs (power cord not included)			
Model Number	**Part Number**	**PSU**	**Airflow**
PS-2202-8L	F0TEC9636002Z	AC	Front-to-Back
DD-2202-1L	F0TEC9636001Z	48VDC	Front-to-Back

Fan FRUs		
Model Number	**Part Number**	**Airflow**
FAN-2U-1x1SN-F	F0TEC9664003Z	Front-to-Back

Accessories		
Model Number	**Part Number**	**Description**
RKIT-2RU-SLIDE	F0TZZ9664002A	Tool-less Rack Mounting Rail Slide Kit (603.9 mm - 833.9 mm ±5 mm) (24 in. - 32 in.)

Warranty
Please check www.edge-core.com for the warranty terms in your country.

For More Information
To find out more about Edgecore Networks Corporation products and solutions, visit www.edge-core.com.

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

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

To purchase Edgecore Networks solutions, please contact your Edgecore Networks Corporation representatives at +886 3 563 8888 (HQ) or +1 (949)-336-6801 or authorized resellers.