Network Cloud Fabric Engine
AS9936-128D

The AS9936-128D is a Network Cloud Fabric (NCF) engine featuring 128 OSFP 800G fabric interface ports. The AS9936-128D can be coupled with the ASA929-18XKE Network Cloud Packet Forwarder (NCP) to build a scalable Virtual Output Queue (VoQ) based fabric Distributed Disaggregated Chassis (DDC) network cloud cluster that is optimized to support AI/ML applications.

The AS9936-128D supports 51.2 Tbps switching capacity that is capable of performing 21.6B cell switches per second. The cell-based switching eliminates the Ethernet overhead and can effectively load balance all fabric links to build an efficient and high-availability DDC cluster.

With Accton's 6RU, dual-Ramon3, 128 x 800G (dual-51.2 Tbps) NCF AS9936-128D and 2RU, Jericho3-AI, 18 x 800G (14.4 Tbps leaf) NCP ASA929-18XKE, customers can build a 32K-GPU 800G/400G AI/ML cluster with a two-stage DDC network architecture to enable 400G GPU clusters now and migrate to 800G GPU clusters later with a software upgrade without replacing the switches. This provides excellent cost saving and investment protection that reduces capital spending while providing the flexibility for customers to "pay as you grow" without large upfront cost to enable AI and ML applications.

Key Features

General
- Self-routing device with dynamic load balancing
- Support for single-stage and three-stage fabric configurations
- Interconnects up to 2K ASA929-18XKE NCP devices in a system
- Switches destination-routed and source-routed data cells and control cells
- Supports 1588v2 PTP Class C

Management
- Supports BMC allowing automatic and remote operations for monitoring and managing platform health status
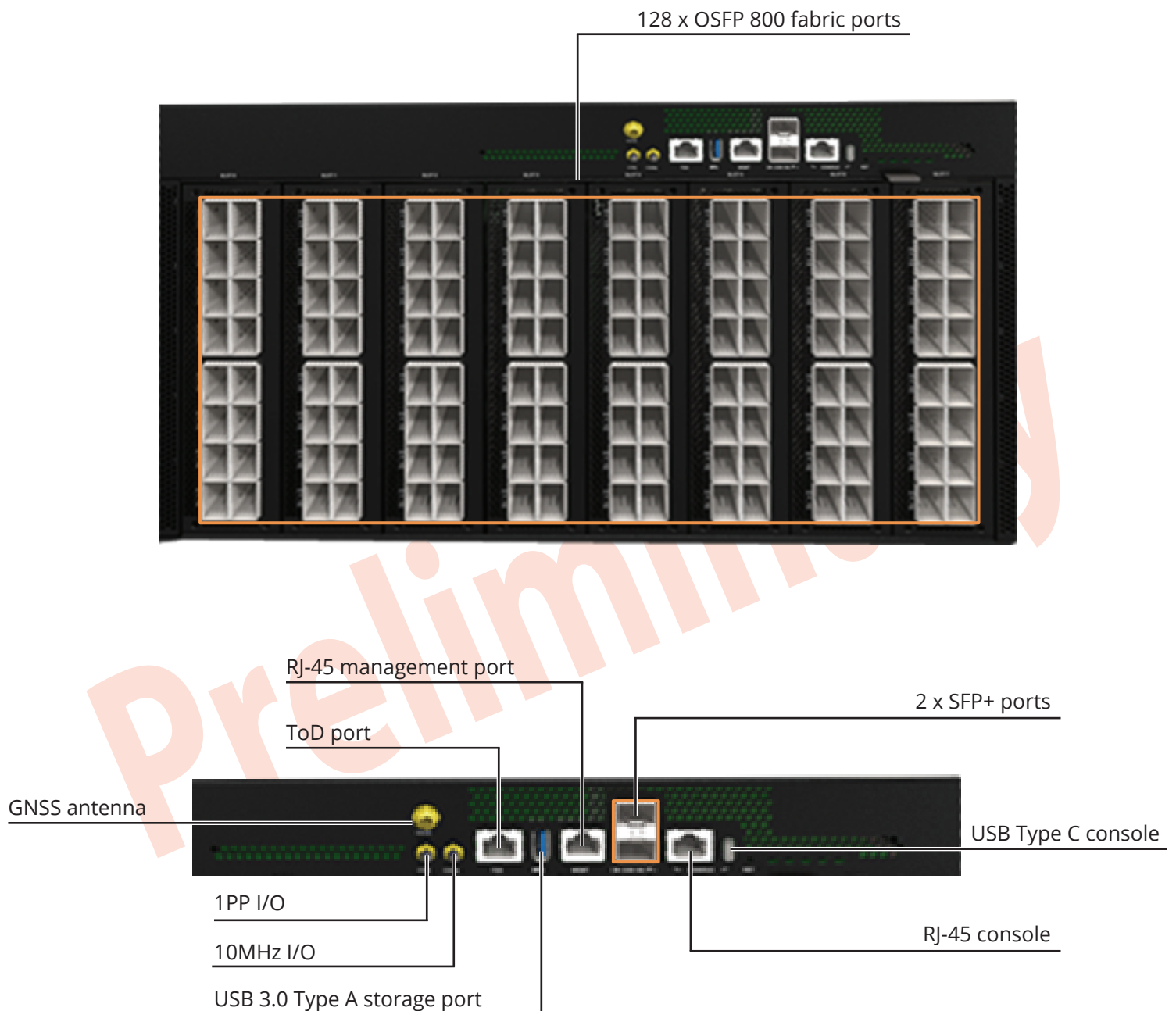
Security
- Supports Platform Firmware Resilience (PFR) to protect the platform from firmware attacks to reduce the risk of downtime

Power and Cooling
- 2 + 1 redundant hot-pluggable PSUs
- 7 + 1 redundant hot-swappable fans

Overview

128 x OSFP 800 fabric ports

RJ-45 management port

ToD port

2 x SFP+ ports

GNSS antenna

USB Type C console

1PP I/O

10MHz I/O

RJ-45 console

USB 3.0 Type A storage port

Hardware Specifications

Ports

Fixed Service Ports:
  128 x OSFP800 fabric interfaces
Management Ports on Port Side:
  1 x RJ-45 serial console
  1 x USB Type C serial console
  1 x RJ-45 100/1000BASE-T management
  1 x USB 3.0 Type A storage
  2 x SFP+ SDN management
  1 x reset button
Clocking and Timing Ports:
  1 x 1PPS I/O DIN
  1 x 10MHz I/O DIN
  1 x TOD port
  1 x GNSS antenna

Key Components

Switch Silicon: Broadcom Ramon3 BCM88920 x 2
BMC ASIC: AST2600
PFR ASIC: AST1060
CPU Modules:
  Intel COMe module Ice Lake-D D-1713NT 4C or
    D-1734NT 8C (optional)
  Memory: 32GB DDR4 (2 x 16GB) with ECC
Storage: NVMe 240G M.2 SSD or 480G (optional)

Performance

Cell-Based Switch: 2 x 51.2 Tbps throughput
Cell Switching Performance: 2 x 21.6B cells/sec

Physical and Environmental

Dimensions (HxWxD): 263 mm (H) × 440 mm (W) × 668.2
  mm (D)
Weight: 63 kg
Fans: Hot-swappable 7 + 1 redundant fans
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 85% (RH), noncondensing

LEDs

OSFP Fabric Port LEDs: Link Status, Activity, Rate
Ethernet Management Port LED: Link Status, Activity
System LEDs: Diagnostic, Locator, Alarm, PSU, and Fan
  Status

Power

PSUs: 2 + 1 redundant, load-sharing, hot-swappable
  VAC/VDC
Input Voltage: 200-240 VAC; -48 to -60 VDC
Power Consumption: Typical 3511 W; Maximum 4352 W
  (with 800G 14 W optics)

Regulatory Compliance

EMI:
  CE Mark
  EN55032 Class A EN55024/35
  EN 301 489-1
  EN 301 489-19
  EN 303413
  BSMI (CNS 13438), Class A
FCC Part 15 Subpart B Class A EN 300 386
Safety:
  UL 62368-1 Ed.3
  IEC/EN 60950-1
  IEC/EN 62368-1 Ed.3
  UL 60960
  BSMI CNS 14336-1
Environmental Compliance:
  Storage: ETSI 300 019-2-1 Class T1.2
  Transportation: ETSI 300 019-2-2 Class T2.3
  Vibration: ETS EN 300 019-2-3 Class 3.2/IEC 60068-2-64
  Operating Bump Test: ETS EN 300 019-2-3 Class
    3.2/IEC60068-2-27
  Acoustic Noise: ETS 300753
  RoHS-6 Compliant