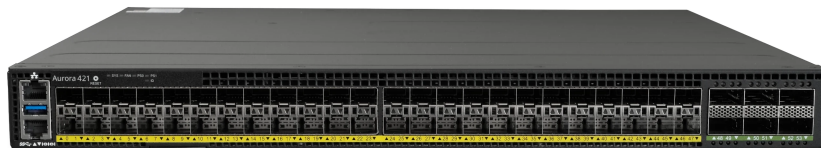# 10/100GbE Data Center Switch

- **Top-of-Rack (TOR) switch**
- **Broadcom Trident3-X5 Silicon**
- **Programmable pipelines**
- **SONiC-ready**
- **Ubuntu-ready**
- **NPB apps with InfiniCore**

The Netberg Aurora 421 is a 10GbE multi-role switch suited for Top-of-Rack/Spine Datacenter, Enterprise, and CSP network deployments. It has 48 x 10GbE SFP+ and 6 x 100GbE QSFP28 interfaces and supports up to 64 interfaces using DAC break-out cables.

The system uses Broadcom Trident3-X5 silicon that introduces data plane programmability for the 10G market. The programmable pipeline allows new features to be added after deployment using in-field upgrade, providing capex investment protection for operators.

Support for new overlays and tunneling such as GENEVE, NSH, VXLAN, GPE, MPLS, MPLS over GRE/UDP, GUE, ILA, and PPPoE,

Key Features & Benefits
- ToR switch supporting 10 GbE Ethernet for hosts and 40 or 100G uplinks.
- 48x SFP+ + 6x QSFP28 switch ports. Total up to 64 ports via break-out cables.
- Switching silicon: 1.28Tbps Broadcom Trident3-X5 BCM56771.
- Line-rate L2/L3 forwarding and switching.
- Intel Atom C3508 quad-core processor for application deployment.
- Redundant hot-swappable 1+1 AC or DC power.
- Redundant hot-swappable 1+1 cooling.
- Pre-installed Open Network Install Environment (ONIE) automates the loading of compatible NOS as part of data center provisioning in the fashion that servers are provisioned.
- BMC-enabled

Network OS (NOS) options
- Ubuntu Linux with open Broadcom SDK for application development.
- SONiC offers a full suite of network functionality, like BGP and RDMA, that has been production-hardened in the data centers of some of the largest cloud service providers.
- InfiniCORE Network Visibility Studio transforms the Aurora 421 into a visibility powerhouse, leveraging the programmability in the Trident3-X5 chipset.

Ports
- Switch Ports:
48 x 10G SFP+ ports
6 x 100G QSFP28 ports
- Management Ports:
1 x RJ45 serial console
1 x RJ45 100/1000BASE-T management port
1 x USB 3.0 Type A storage port

Performance
- Switching silicon: 1.28Tbps Broadcom Trident3-X5 BCM56771
- Forwarding rate: 1Bpps
- Packet Buffer: 32MB
- Intel® Atom™ Processor C3508
- 8GB DDR4 ECC (up to 32GB)
- 32GB SSD

LED
- Power, ID, and System status LEDs per unit
- Link and Activity LEDs per port
- FAN Status LED per FAN
- PSU Status LED per PSU

Scalability
- MAC Addresses: 32K min./288K max.
- VLAN IDs: 4K
- Jumbo Frames: Up to 9416 bytes
- IPv4: 16K min./168K max. host entries; 32K LPM entries with TCAM-only mode
- IPv6: 8K min/100K max. host entries; IPv6/64: 16K, IPv6/128: 8K TCAM-only mode

BMC
- ASPEED AST2620

Physical and Environmental
- Dimensions (WxDxH): 440 x 440 x 44mm (17.32 x 17.32 x 1.72 in)
- Weight: 8.8kg (19.2lbs)
- Operating Temperature: 0°C to 45°C (32°F to 113°F)
- Storage Temperature: -40°C to 70°C (-40°F to 158°F)
- Operating Humidity: 5% to 95% non-condensing

Power Specs
- 1+1 450W redundant, load sharing, hot-swappable PSU modules
- AC/HVDC input: 100-240V~, 6-3A/190-310V⎓, 3A (Inlet: IEC 60320 C15)
- DC input: -36 to -72V, 9A
- Typical power: 110 Watts (without optics)

Regulatory Compliance
- Safety
IEC 62368-1

- EMC
FCC Part 15, Subpart B, Class A
EN 61000-3-2:2014, Class A
EN 61000-3-3:2013
EN 55032:2015+AC:2016, Class A
EN 55024:2010+A1:2015
IEC 61000-4-2/3/4/5/6/8/11
EN 55035:2017

- Environment
Electrical and Electronic Equipment (WEEE Directive 2002/96/EC)
RoHS-2.0 Compliant

Sofware
- Pre-installed Open Network Install Environment (ONIE)
- Compatible with: SONiC, Ubuntu Linux 20.04, InfiniCORE Network Visibility Studio

Ordering Information

Base model: Netberg Aurora 421 48x10G SFP+ and 6x100G QSFP28, Intel C3508, 8GB DDR4/32GB SSD, rack mount kit

Part Number	PSU	Airflow
NBA421-AC-F	2x AC 450W	Front-to-Back
NBA421-AC-B	2x AC 450W	Back-to-Front
NBA421-DC-F	2x DC 450W	Front-to-Back
NBA421-DC-B	2x DC 450W	Back-to-Front

FtB airflow

BtF airflow

Accessories

Compatible Transceivers

- 10G SFP+ SR, 10G SFP+ LR, 10G SFP+ ER, 100G QSFP28 SR4, 100G QSFP28 LR4, 100G QSFP28 ER4

Fan Modules

- FAN-NBA421-F, FtB airflow

- FAN-NBA421-B, BtF airflow

Power Supplies

- PSU-NBA421-ACF, 450W AC, FtB airflow

- PSU-NBA421-ACB, 450W AC, BTF airflow

- PSU-NBA421-DCF, 450W DC, FtB airflow

- PSU-NBA421-DCB, 450W DC, BtF airflow

About us

Netberg provides innovative hardware solutions for data centers and enterprises worldwide. With vast expertise in hardware and software, we provide versatile, flexible, and scalable Ethernet switches, telecom solutions, and custom HW/SW products. More information about Netberg is available at www.netbergtw.com