

The Blade Network Technologies' RackSwitch™ G8000 is an Ethernet switch specifically designed for the data center, providing a Virtual, Cooler and Easier network solution.

The RackSwitch G8000 is “Virtual”- for the first time providing rack-level virtualization of networking interfaces for a rack full of server and storage systems – decoupling the scaling of networking and computing capacity via on-switch SmartConnect™ software. VMready™ extensions enable movement of virtual machines—providing matching movement of VLAN assignments, ACLs, and other networking and security settings. Using patent-pending VMready technology, the trusted zone for the virtual machine is never compromised.

The RackSwitch G8000 is “Cooler”- implementing server-like directional cooling to maximize datacenter layout and provisioning. Its superior airflow design complements the hot-aisle and cold-aisle data center cooling model.

The RackSwitch G8000 is “Easier” with server-oriented provisioning via point-and-click management interfaces, along with BladeHarmony™ Manager for updating large groups of switches.

The RackSwitch G8000 offers 48 Gigabit Ethernet ports and up to four 10 Gigabit Ethernet ports in a 1 RU footprint. Designed with top performance in mind, the RackSwitch G8000 provides line-rate, high-bandwidth switching, filtering, and traffic queuing without delaying data, and large data-center grade buffers to keep traffic moving. Redundant power and fans along with numerous high availability features ensure that the RackSwitch G8000 is always available for business-sensitive traffic.



Figure 1 RackSwitch G8000

Product Benefits

- 44 x 1GbE RJ45 ports, four 1G SFP ports and up to four optional 10GbE SFP+ or CX4 ports in an aggregation switch with unmatched line-rate Layer 2/3 performance at a very attractive price.
- Unlike most rack equipment that cools from side to side, the RackSwitch G8000 has front-to-rear or rear-to-front airflow which allows for flexible mounting of the switch in a server rack or datacom rack.
- Variable speed fans automatically reduce power consumption.
- Simplified configuration with ISCLI (Cisco®-like CLI).
- Seamless, standards-based integration into existing Cisco and other networks helps reduce downtime and learning curve.
- Cluster virtualization, single IP and stacking of up to six virtual switches allow system administrators to configure multiple switches as one, saving valuable time, IP addresses, and resources.

Business Benefits

- **Reduced TCO** - Small and medium business customers as well as large enterprises can lower their overall TCO with affordable 1Gb and 10Gb Ethernet networking at an affordable price.
- **Unique airflow design** improves cooling efficiency which helps air conditioning costs by reducing the need for overcooling that is frequently required by the recirculation and heat issues associated with side-cooled switches.
- **Interoperability**—Software is based on Internet standards for optimal interoperability with Cisco or other vendors' networks.
- **Availability** – Built-in (standard) redundant fans, redundant power supplies, and HA software features.
- **Easy Server Provisioning**— ServerMobility™ enables simple bare-metal provisioning of servers and repurposing of standby servers.

RackSwitch G8000 at a Glance

Performance

- Full Line rate performance
- 176 Gbps (full duplex) switching architecture

Hardware Features

Models

- RackSwitch G8000F (for front-to-rear cooling)
- RackSwitch G8000R (for rear-to-front cooling)

Interface Options

- 44 10/100/1000 + 4 1G SFP ports
- Up to 4 10GbE SFP+ (dual port modules)
- Up to 4 10GbE CX-4 ports (dual port modules)
- 1 fixed mini USB console port

Dimensions

- 17.3" wide, 15" deep, 1 RU high

Weight

- 5.45kg (11.99 lb)

Rack Installation Kit

- Versatile 4-post mounting options for both server rack and datacom rack
- Can be mounted vertically or horizontally

LEDs

- System LEDs to indicate status
- Stacking LEDs to indicate Master/Member

Airflow

- Front-to-rear or rear-to-front cooling
- Redundant variable speed fans to reduce power draw

Power

- The AC-Powered G8000 has dual load-sharing internal power modules, operating at 120W, 50-60Hz, 100-240 VAC auto switching per module.
- The DC-Powered G8000 has dual load-sharing DC-DC internal power modules, operating at 120W, input voltage ranging from 42VDC to 60VDC per module.

Environmental Specifications

Temperature

- Ambient operating: 0°C to +40°C

Relative humidity

- Non-condensing, operating 10 to 90%

Altitude

- Operating 3,050 m (10,000 feet)

Acoustic noise

- Less than 65dB

Heat dissipation

- 520 BTU/hour

Cable Management

- Intuitive LEDs for port identification and cable management
- Server-like port orientations enables short and simple cabling

Mean Time between Failure (MTBF)

- 195,000 hrs with ambient operating temperature of 40°C¹

¹ MTBF is calculated using the Telcordia Technologies Reliability Prediction Procedure for Electronic Equipment, (SR-332 issue 2) Parts Count (method 1 case 1) failure rate data.

Software Features

Security

- 802.1x with VLAN assignment
- RADIUS
- TACACS+
- Wire Speed Filtering
- Flexible ACL combinations– L2-L4 criteria:
Source and Destination MAC, IP, TCP/UDP Ports
- SSH v1, v2
- HTTPS Secure BBI
- MAC Address move notification
- SCP

VLANs

- Port-based VLAN
- 4096 VLAN ids supported
- 1024 Active VLANs (802.1Q)
- PVRST+
- Private VLAN Edge

Trunking

- LACP
- Static Trunks (EtherChannel)
- Configurable Trunk Hash algorithm
- Cross Stack Trunks

Spanning Tree

- Multiple Spanning Tree (802.1s)
- Rapid Spanning Tree (802.1w)
- Fast Uplink Convergence

Quality of Service

- QoS 802.1p
- DSCP
- Weighted Round Robin
- Metering
- 4MB Buffers for Queuing

Routing Protocols

- 128 Static Routes
- RIP v1/v2
- OSPF
- BGP
- IPv6

High Availability

- Uplink Failure Detection
- HotLinks
- Virtual Router Redundancy support (VRRP)
- Active Multipath™

Virtualization

- Server Mobility™ with adaptive network
- Virtual switch stacking with up to 6 switches

Monitoring

- Port Mirroring
- ACL-based mirroring
- sFlow® version 5

Management Features

Clients

- BLADEHarmony Manager
- isCLI (Cisco-like)
- Browser-based client, SSH, or Telnet

Standard protocols

- SNMP v1, v2c, v3
- RMON
- Secondary NTP Support
- Accept DHCP
- LLDP
- IGMP v1, v2, v3 Snooping
- 16K MAC Table
- 9K Jumbo Frames
- 802.3X Flow Control

Upgrades

- Upgrade firmware via serial or TFTP
- Dual software images

Ordering Information

| Model Number | Description |
|-------------------------|---|
| Switches | |
| BN-8000F-BDL | G8000 48-port 1/10GbE Switch with Front-to-Rear airflow: <ul style="list-style-type: none"> • Two power cords • Rack mount ears • Serial cable |
| BN-8000R-BDL | G8000 48-port 1/10GbE Switch with Rear-to-Front airflow: <ul style="list-style-type: none"> • Two power cords • Rack mount ears • Serial cable |
| BN-8000F-DC | G8000 48-port 1/10GbE Switch with Front-to-Rear airflow <ul style="list-style-type: none"> • DC Power Supply Unit • Rack mount ears • Serial cable |
| Uplink Modules | |
| BN-8000-XGE-CX4 | G8000 10GbE CX-4 Module |
| BN-8000-XGE-SFPP | G8000 XGE SFP+ Module |
| Pluggable Optics | |
| BN-CKM-S-T | SFP 1000Base-T Copper Transceiver |
| BN-CKM-S-SX | SFP 1000Base-SX Short Range Fiber Transceiver |
| BN-CKM-S-LX | SFP 1000Base-LX Long Range Fiber Transceiver |
| BN-CKM-SP-SR | SFP+ 10GBase-SR Short Range Transceiver |
| BN-CKM-SP-LR | SFP+ 10GBase-LR Long Range Transceiver |
| Rail Kits | |
| BN-4POST-RLS | 19" EIA 4-Post Rail Kit |

Regulatory Compliance

| Country | Agency |
|---------------|---------------|
| Austria | CE |
| Belgium | CE |
| Canada | CSA, ICES-003 |
| China | CCC |
| Denmark | CE |
| Finland | CE |
| France | CE |
| Germany | TUV-GS, CE |
| Italy | CE |
| Japan | VCCI (A) |
| Korea | MIC (RRL) |
| Luxembourg | CE |
| Mexico | NOM-NYCE |
| Netherlands | CE |
| Poland | CE |
| Portugal | CE |
| Slovakia | CE |
| Slovenia | CE |
| Spain | CE |
| Sweden | CE |
| Switzerland | CE |
| U.K., Ireland | CE |
| United States | FCC (A), UL |

Services

BLADE Network Technologies' BLADEHarmony suite of services provides operational support and consulting for planning, deploying and managing your datacenter networking infrastructure. Service and support are available through certified partners. Contact services@bladenetwork.net or visit <http://www.bladenetwork.net/services>

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