IBM BNT RackSwitch G8000

Purpose built for the data center

Highlights

- 44 x 1 GbE RJ45 ports, four 1 GbE SFP ports and up to four optional 10 GbE SFP+ or CX4 ports
- The G8000 has server-like rear-to-front (G8000R) or front to rear (G8000F, G8000DC) airflow models, allowing for significant savings in cooling costs
- Low 120 W power draw and variable speed fans help reduce power consumption. DC power model is also available.
- Simplified configuration with isCLI (Cisco-like CLI)
- Network virtualization—VMready™ automatically detects virtual machine movement from one physical server to another

The IBM BNT RackSwitch™ G8000 is an Ethernet switch specifically designed for the data center, providing a virtual, cooler and easier network solution.

The 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 VMready software. VMready enables the movement of virtual machines—providing matching movement of VLAN assignments, ACLs, and other networking and security settings. VMready works with all leading VM providers (VMware, Citrix Xen, Microsoft®, etc.).

The G8000 is cooler—implementing a choice of directional cooling options to maximize data center layout and provisioning. Its superior airflow design complements the hot-aisle and cold-aisle data center cooling model.

The G8000 is easier—with server-oriented provisioning via point-and-click management interfaces, along with optional BLADEHarmony™ Manager for updating large groups of switches.

The IBM BNT RackSwitch G8000 offers 48 1 Gigabit Ethernet ports and up to 4 10 Gigabit Ethernet (GbE) ports in a 1U footprint. Designed with top performance in mind, the 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 supplies and fans along with numerous high availability features mean that the G8000 is always available for business-sensitive traffic.

IBM BNT RackSwitch G8000 at a glance

Models	G8000R Rear to Front - Part # 0446013 G8000F Front to Rear - Part # 7309CFC G8000DC Front to Rear (DC Power) - Part # 7309CD8
Redundancy	Redundant power supplies and fans come standard
Warranty	3-year next business day advance replacement with phone support and 3-year software upgrades
Performance	• Full line-rate performance • 176 Gbps (full duplex) switching architecture
Hardware Features	
Interface Options	• 44 10/100/1000 + 4 1G SFP ports • Up to 4 10GbE SFP+ or CX-4 ports (optional dual-port modules) • 1 fixed mini USB console port for management
Dimensions	• 17.3” wide, 15” deep, 1 RU high
Weight	• 5.45 kg (11.99 lb)
Power	• The AC-Powered G8000 has dual load-sharing internal power modules, operating at 120 W, 50 - 60 Hz, 100 - 240 V ac auto switching per module. • The DC-Powered G8000 has dual load-sharing DC - DC internal power modules, operating at 120W, input voltage ranging from 42 V dc to 60 V dc per module.
Environmental Specifications	
Temperature	• Ambient operating: 0º C to +40º C
Altitude	• Operating 3,050 m (10,000 feet)
Acoustic Noise	• Less than 65 dB
Heat Dissipation	• 520 BTU/hour
Mean Time between Failure (MTBF)	• 195,000 hrs with ambient operating temperature of 40º C
Software Features	
Security	• 802.1x with VLAN assignment • Private VLAN edge • 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 • Shift B Boot menu (Password Recovery/ Factory Default)

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VLANs	• Port-based VLAN • 4096 VLAN IDs supported • 1024 Active VLANs (802.1Q) • 802.1x with Dynamic VLAN assignment • Private VLAN Edge
Trunking	• LACP • Static Trunks (EtherChannel) • Configurable Trunk Hash algorithm • Cross Stack Trunks • Trunk Hashing support (RTAG 7)
Spanning Tree	• Multiple Spanning Tree (802.1s) • Rapid Spanning Tree (802.1w) • Fast Uplink Convergence • PVRST+
Quality of Service	• QoS 802.1p • DSCP • Weighted Round Robin • Metering • 4MB buffers for queuing
Routing Protocols	• 128 Static Routes • Layer 2/3 Static Routes • RIP v1/v2 • OSPF v3 • BGP • IPv6
High Availability	• Uplink Failure Detection • HotLinks • Virtual Router Redundancy support (VRRP) • Layer 2 failover
Multicast	• IGMP v1, v2, v3 Snooping with 2K IGMP groups
Monitoring	• Port Mirroring • ACL-based mirroring • sFlow version 5
Virtualization	• VMready VI API support • Virtual switch stacking with up to 6 switches • vNIC MIB support for SNMP • Netboot
Management Features	
Clients	• BLADEHarmony Manager (optional) • ISCLI (Cisco-like) • Browser-based client, SSH, or Telnet
Standard Protocols	• SNMP v1, v2c, v3 • RMON • Secondary NTP Support • Accept DHCP • LLDP • 16K MAC Table • 9K Jumbo Frames • 802.3X Flow Control

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Associated Options	
Uplink Modules	• IBM RackSwitch 10Gb Dual-Port SFP+ Uplink (46C3417) • IBM RackSwitch 10Gb Dual-Port CX4 Uplink (46C3421)
SFP, SFP+ Options	• IBM BNT SFP+ SR Transceiver (46C3447) • IBM BNT SFP+ LR Transceiver (90Y9412) • IBM BNT SFP+ ER Transceiver (90Y9415) • IBM BNT SFP RJ45 Transceiver (81Y1618) • IBM BNT SFP SX Transceiver (81Y1622) • IBM BNT SFP LX Transceiver (90Y9424) • IBM BNT SFP ZX Transceiver (90Y9418)
SFP+ Copper Direct Attach Cables	• 1m IBM Passive DAC SFP+ Cable (90Y9427) • 3m IBM Passive DAC SFP+ Cable (90Y9430) • 5m IBM Passive DAC SFP+ Cable (90Y9433) • 8.5m IBM Passive DAC SFP+ Cable (90Y9436)
Optical Cables	• 1M LC-LC Fiber Cable (88Y6851) • 10M LC-LC Fiber Cable (88Y6854) • 25M LC-LC Fiber Cable (88Y6857)
Rack Kit	• IBM BNT 19" Flexible 4 Post Rail Kit (49Y4284)

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