

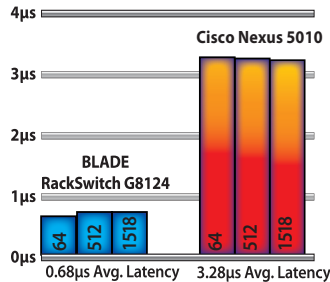
Intelligence and Speed at the Edge of Your Network

Fast.

- The edge of the network feeds dynamic applications that run businesses and touch users.
- BNT's 10G switches offer lossless, low latency performance to drive business responsiveness.
- BNT's switches deliver up to 2.7 times better price performance.¹

4.6x Lower Latency Packet Latency

by size



Proven.

- BNT's singular focus is on data center switching, and is the second largest data center switch vendor worldwide.²
- BNT's industry-leading 1/10/40 GbE blade and top-of-rack switches are found in:
 - The world's largest stock exchange
 - The world's largest Ethernet supercomputing cluster
 - The world's largest data centers in finance, retail and other industries
- BNT's Industry-proven OS has been in deployment for over 10 years.

Interoperable.

- BNT is the open-standards alternative to single vendor solutions. No rip and replace required.
- BNT switches are certified for interoperability into Cisco and other vendors's networks.
- Industry-standard CLI simplifies configuration for those familiar with Cisco environments.

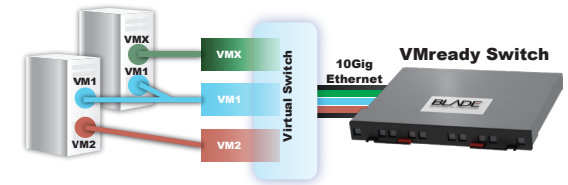
```
Router(config)# spanning-tree stp 2
bridge hello 2
```

Converged.

- Data Center networking used to mean Fibre Channel for server to storage, InfiniBand for server to server, and Ethernet for server to client.
- Now, DCB/CEE/FCoE support on BNT RackSwitch enable lossless performance across client, server, and storage networks including iSCSI and NAS.
- BLADEHarmony Manager simplifies device management across the network, and integrates into other vendors' network management systems.

Virtual.

- VMready configures the network parameters of Virtual Machines so they can migrate securely to different physical servers.



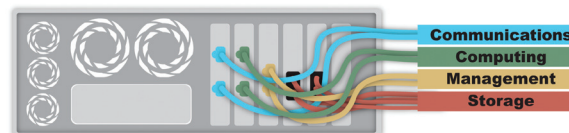
- Virtual machines can move to different physical servers without requiring complex network configurations or introducing security vulnerabilities.
- BNT's Virtual Fabric (vNIC) can carve a 10G NIC into virtual pipes to the switch, reducing hardware costs while improving performance, availability and security in virtualized environments.



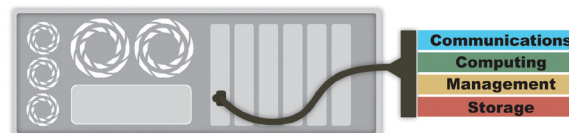
Green.

- 10% percent of data center energy is consumed by the networking equipment.³
- Deploying two 10G RackSwitches per rack across a five-rack data center can save \$3,500 on your energy bill over three years. This is equivalent to:
 - 26.5 fewer metric tons of CO₂ released into the atmosphere, or
 - 5 cars removed from the road for a year.⁴

Several Network Connections














10 Gigabit Ethernet



¹ <http://www.tolly.com/DocDetail.aspx?DocNumber=210139>
² Gartner, Competitive Landscape: Data Center Ethernet Switches, Worldwide, 2010

³ EPA Report to Congress on Server and Data Center Efficiency, Public Law 109-431
⁴ EPA Greenhouse Gases Equivalencies Calculator, G8124 Watts at 50% power vs Cisco 5010

RackSwitch for Top of Rack Deployments				
				
	G8000 1/10G Aggregation	G8052 1/10G Aggregation	G8124 / G8124-E 10G SFP+ Switch	G8264 10/40G SFP+/QSFP+
IBM part numbers	G8000R 0446013, G8000F 7309CFC, G8000DC 7309CD8	G8052R: 7309G52, 1455-48E* G8052F: 730952F	G8124R 0446017; G8124ER: 7309BR6 /1455-24E*, G8124F 7309BF9; G8124EF: 7309BF7; G8124DC 7309BD5	G8264R: 7309G64, 1455-64C* G8264F: 730964F
Form Factor	1U Rack	1U Rack	1U Rack	1U Rack
Ports	48 1GbE (44 RJ-45 & 4 SFP) Up to 4 x 10GbE CX4 or SFP+	48 x 1GbE RJ-45 4 x 10GbE SFP+	24 x SFP+ 10GbE	48 to 64 x SFP+ 10GbE up to 4 x 40GbE QSFP+
Max Thru-put (bidirectional) Gbps	176 Gbps	176 Gbps	480 Gbps	1,280 Gbps
Average port to port latency	4.6 microseconds	1.8 microseconds	680 nanoseconds	<1 microsecond
Virtualization	VMready	VMready	VMready and Virtual Fabric	VMready and Virtual Fabric
Availability	Hotlink, VRRP, Uplink Failure Detection	Hotlink, VRRP, Uplink Failure Detection	Layer 2 failover, Hotlink, VRRP	Layer 2 failover, Hotlink, VRRP
Other	Stacking	Hot-swappable power /fans	DCB/CEE/FCoE	DCB/CEE/FCoE, Hot-Swappable power / fans
Power	120W	120W	115W to 168W	275W
Recommended for:	Stacking, zero over-subscription, low power consumption, airflow	Low latency 1:10G, no over-subscription, low power consumption, airflow	Lossless 10G, low latency, SFP+ low power consumption, airflow	Massive Scalability 10G/40G, low latency, low power consumption, airflow

Blade Switches for IBM BladeCenter					
					
	BNT L2/3 Copper GbE Switch Module	BNT L2/3 Fiber GbE Switch Module	BNT L2-7 GbE Switch Module	BNT 1/10 GbE Switch Module	BNT Virtual Fabric 10G Switch Module
IBM Part Numbers	32R1860	32R1861	32R1859	44W4404	46C7191
Ports	14 * 1G downlinks 6 * 1G uplinks	14 * 1G downlinks 6 * 1G uplinks (fiber)	14 * 1G downlinks 4 * 1G uplinks	14 * 1G downlinks 6 * 1G & 3 * 10G uplinks	14 * 1/10G downlinks 10 * 1/10G uplinks
Max Thru-put (bidirectional) Gbps	40 Gbps	40 Gbps	36 Gbps for L2-4	100 Gbps	480 Gbps
Max VLANs (configured/choices)	1024	1024	1024	1024	1024
Availability	Hotlinks, VRRP, UFD	Hotlinks, VRRP, UFD	UFD, VRRP	Hotlinks, VRRP, AMP (L2 multipath), UFD	Hotlinks, VRRP, AMP (L2 multipath), UFD
IGMP v1/v2/v3	Yes	Yes	Yes	Yes	Yes
BPDU Guard	Yes	Yes	—	Yes	Yes
Port Fast Forwarding / Static FDB	Yes	Yes	Yes	Yes	Yes
OSPF, BGP, RIP v1, v2	Yes	Yes	Yes/RIP v1 only	Yes	Yes
Redundancy/Failover	Yes	Yes	Yes	Yes	Yes
Virtualization				VMready	VMready & Virtual Fabric
Fibre Channel over Ethernet (FCoE)	—	—	—	—	Yes
Stacking	—	—	—	Yes	Yes (BLADEOS 6.3)
Power	27W	27W	40W	40W	72W to 82W
Recommended for:	Low cost	Optical connectivity and low cost	Security and load balancing	Consolidating uplinks, investment protection	Bandwidth, low latency, CEE/FCoE, virtualization

Certified Interoperability into Cisco Networks**

- Auto-Negotiation
- 802.1p/Q VLAN Tag Propagation
- Jumbo Frame support
- Link Aggregation Control Protocol (EtherChannel)
- 10GbE LAN PHY support
- Rapid Spanning Tree Protocol (RSTP or PVST+)
- Multiple Spanning Tree Protocol (MSTP)
- FCoE/DCB***



* MTM specific to AAS ordering system
 ** <http://tolly.com/DocDetail.aspx?DocNumber=209116> and
 ***<http://www.tolly.com/Docdetail.aspx?Docnumber=210140>

Product information

<http://www.bladenetwork.net/ibm>
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