

INFO Brief

PowerConnect™ 3048 and 3024



Front view of PowerConnect 3024



Rear view of PowerConnect 3024

With Fast Ethernet being today's standard for PC connectivity, aggregation of workgroup traffic to the network backbone or to shared server and storage resources has become a performance bottleneck. With 10-times the bandwidth of Fast Ethernet, Gigabit Ethernet is the high-performance solution for traffic aggregation.

Key Points

- The Dell PowerConnect 3048 and 3024 switches¹ are designed to address the connectivity needs of organizations that require a high-performance, flexible switching solution with comprehensive management features.
- The PowerConnect 3048 and 3024 provide full wire-speed switching across all ports at all Ethernet packet sizes. The maximum switching capacity of the PowerConnect 3048 is 21.6 Gbps across 48 Fast Ethernet ports, 4 Gigabit Ethernet ports and 2 Gigabit stacking ports. The maximum forwarding rate is 16.1Mpps for the 3048. The maximum switching capacity of the PowerConnect 3024 across 24 Fast Ethernet

¹ These devices have not been approved by the Federal Communications Commission for use in a residential environment. These devices are not, and may not be, offered for sale or lease, or sold or leased for use in a residential environment until the approval of the FCC has been obtained.

ports, 2 Gigabit Ethernet ports and 2 Gigabit stacking ports is 12.8 Gbps. The maximum forward rate for the 3024 is 9.5Mpps.

- Both the PowerConnect 3048 and 3024 provide great flexibility and investment protection. The PowerConnect 3048 provides 2 copper Gigabit Ethernet ports and 2 fiber Gigabit Ethernet slots, yielding a total of four Gigabit Ethernet ports that can be used simultaneously (SFP transceivers optional). The two built-in copper Gigabit Ethernet ports (10/100/1000BaseT) on the PowerConnect 3024 can be switched to different types of fiber media by inserting optional Gigabit Interface Converter (GBIC) modules. Up to 144 Fast Ethernet ports of the PowerConnect 3048 and 3024 can be interchangeably stacked together in a daisy-chain stacking architecture.
- The PowerConnect 3048 and 3024 support a variety of standards-based advanced switching features that allow the network administrator to optimize traffic flow in the network, including VLAN and CoS capabilities.
- The PowerConnect 3048 and 3024 can be managed via an embedded Web server or via 3rd party management console applications utilizing open management standards like SNMP.

Product Description

The PowerConnect 3048 is a 48 port Fast Ethernet switch including four Gigabit Ethernet ports and two Gigabit stacking ports in a rack-dense, 1U form factor. The PowerConnect 3024 is a 24 port Fast Ethernet switch including two Gigabit Ethernet ports and two Gigabit stacking ports, also in a 1U form factor.

PowerConnect 3048 Versus Other 48 Port Fast Ethernet Switches

Table 1 highlights the features of the PowerConnect 3048 versus its primary competitors. The key advantages of the PowerConnect 3048 are its integrated copper Gigabit ports, fiber Gigabit slots, and flexible stacking options.

Table 1

PowerConnect 3048 Feature Comparison to Competitive Systems

Competitive data was obtained from competitors' websites on May 13, 2002. See respective websites for most current data.

Feature	Dell PowerConnect 3048	3Com SuperStack 3 4400	Cisco Catalyst 2950G-48-EI
Total Switching Capacity	21.6 Gbps	17.6 Gbps	13.6 Gbps
Maximum Forwarding Rate	16.1 Mpps	10.1 Mpps	10.1 Mpps

Feature	Dell PowerConnect 3048	3Com SuperStack 3 4400	Cisco Catalyst 2950G-48-EI
Fast Ethernet Ports	48 10/100BaseTX	48 10/100BaseTX	48 10/100BaseTX
Built-In Gigabit Ethernet Ports	2 Copper GbE ports (10/100/1000BaseT)	None (10/100/ 1000 BaseT module sold separately)	None (10/100/ 1000 BaseT GBICs sold separately)
Fiber Gigabit Ethernet Ports	Using 2 SFP transceivers	Using proprietary modules	Using 2 GBICs
Built-In Stacking Ports	2 Gigabit stacking ports	None (Stacking modules sold separately)	None (Stacking GBICs sold separately)
802.1Q VLAN	Up to 256	Yes	Up to 256
802.1p Priority	Yes	Yes	Yes
Link Aggregation	Yes	Yes	Yes
IGMP Support	Yes	Yes	Yes
Management	Embedded Web Server, Serial & Telnet, SNMP & RMON	Embedded Web Server, Serial & Telnet, CLI, SNMP & RMON	SNMP, Telnet, RMON, CLI & CMS
Spanning Tree	Yes	Yes	Yes
Form Factor	1U, Rack mountable	1U, Rack mountable	1U, Rack mountable

PowerConnect 3024 Versus Other 24+2 Fast Ethernet Switches

Table 2 highlights the features of the PowerConnect 3024 versus its primary competitors. The key advantages of the PowerConnect 3024 are its built-in Copper Gigabit Ethernet ports, optional Fiber Gigabit Ethernet ports as well as built-in Gigabit stacking ports.

Table 2
PowerConnect 3024 Feature Comparison to Competitive Systems

Competitive data was obtained from competitors' websites on May 13, 2002. See respective websites for most current data.

Feature	Dell PowerConnect 3024	3Com SuperStack 3 4400	Cisco Catalyst 2950G-24-EI	HP ProCurve 2524
Total Switching Capacity	12.8 Gbps	8.8 Gbps	13.6 Gbps	9.6 Gbps
Maximum Forwarding Rate	9.5 Mpps	6.6 Mpps	6.6 Mpps	6.6 Mpps
Fast Ethernet Ports	24 10/100BaseTX	24 10/100BaseTX	24 10/100BaseTX	24 10/100BaseTX
Built-In Gigabit Ethernet Ports	2 Copper GbE ports (10/100/1000BaseT)	None (10/100/ 1000 BaseT module sold separately)	None (10/100/ 1000 BaseT GBICs sold separately)	None (10/100/ 1000 BaseT modules sold separately)
Optional	Using 2GBIC	Using	Using 2 GBICs	Using

Feature	Dell PowerConnect 3024	3Com SuperStack 3 4400	Cisco Catalyst 2950G-24-EI	HP ProCurve 2524
Fiber Gigabit Ethernet Ports	slots	proprietary modules		proprietary modules
Built-In Stacking Ports	2 Gigabit stacking ports	None (Stacking modules sold separately)	None (Stacking GBICs sold separately)	None (Stacking modules sold separately)
802.1Q VLAN	Up to 256	Yes	Up to 256	Up to 30
802.1p Priority	Yes	Yes	Yes	Yes
Link Aggregation	Yes	Yes	Yes	Yes
IGMP Support	Yes	Yes	Yes	Yes
Management	Embedded Web Server, Serial & Telnet, SNMP & RMON	Embedded Web Server, Serial & Telnet, CLI, SNMP & RMON	SNMP, Telnet, RMON, CWSI, CLI, Embedded CMS	Embedded Web Server, Serial & Telnet, SNMP & RMON
Spanning Tree	Yes	Yes	Yes	Yes
Form Factor	1U, Rack mountable	1U, Rack mountable	1U, Rack mountable	1U, Rack mountable

PowerConnect 3048 Versus PowerConnect 3024

The PowerConnect 3048 is the ideal switch for customers who need rack-dense Gigabit Ethernet performance and stacking flexibility. The PowerConnect 3024 is for customers who do not require the additional rack density provided by the 3048 (48 ports of Fast Ethernet versus 24 ports of Fast Ethernet in a 1U chassis). The PowerConnect 3024 and 3048 can be stacked interchangeably (i.e., a PowerConnect 3024 can be stacked with a PowerConnect 3048).

PowerConnect 3024 Versus PowerConnect 2124

Table 3 compares the PowerConnect 3048 and 3024 to the PowerConnect 2124. The PowerConnect 3048 and 3024 are ideal for customers who need Gigabit Ethernet performance and stacking flexibility as well as comprehensive management features. The PowerConnect 2124 is for customers who need an easy-to-use, full wire-speed Fast Ethernet switch without the need for advanced switching features or remote management.

**Table 3
Product Comparison of the PowerConnect 3048/3024 and the PowerConnect 2124**

Features	PowerConnect 3048	PowerConnect 3024	PowerConnect 2124
Total Switching	21.6 Gbps	12.8 Gbps	6.8 Gbps

Features	PowerConnect 3048	PowerConnect 3024	PowerConnect 2124
Capacity Maximum Forwarding Rate	16.1 Mpps	9.5 Mpps	5.1 Mpps
Fast Ethernet Ports	48 10/100BaseTX	24 10/100BaseTX	24 10/100BaseTX
Gigabit Ethernet Ports	4 GbE Ports - 2 Copper GbE ports plus 2 Fiber GbE slots (optional SFP transceivers)	2 Copper GbE ports with optional Fiber GbE via GBIC	1 Copper GbE port
Stacking Ports	2 Gigabit stacking ports	2 Gigabit stacking ports	None
Advanced Switching Features (e.g. VLAN, 802.1p Priority, Port Trunking, IGMP)	Yes	Yes	No
Remote Management	Yes	Yes	No
Form Factor	1U, rack mountable	1U, rack mountable	1U, rack mountable

Target Markets/Applications

The PowerConnect 3048 and 3024 are targeted for customers who require high-performance connectivity to centralized resources like servers or high-speed network backbones. Also, the PowerConnect 3048 and 3024 are ideal for customers with growing networks because of their support of Copper and fiber Gigabit Ethernet media, and their built-in Gigabit stacking capability.

- High-Performance Workgroup: By connecting shared workgroup resources (e.g., a file server with Gigabit Ethernet connectivity) directly to the built-in Gigabit Ethernet port of the PowerConnect 3024, up to 10 Fast Ethernet PCs can access the shared resource simultaneously at a full 100 Mbps each.
- Traffic Aggregation to High-Speed Network Backbone: The PowerConnect 3048 can be linked to a Gigabit Ethernet backbone via its four Gigabit Ethernet ports. The PowerConnect 3024 can be connected to a Gigabit Ethernet backbone via its two Gigabit Ethernet ports. The Gigabit ports can be trunked together to provide greater availability and throughput.

Features and Benefits

The features and benefits of the PowerConnect 3048 and 3024 are shown in Table 4.

Table 4
Features, Functions and Benefits of the PowerConnect 3048 and 3024

Feature	Function	Benefit
Total Switching Capacity	Enables full wire-speed switching across all ports, including Gigabit Ethernet ports and stacking ports	Take full advantage of the speed of the devices connected to the switch – the switch will not be the performance bottleneck
Maximum Forwarding Rate	The maximum number of packets that can be forwarded through the switch per second	Take full advantage of the speed of the devices connected to the switch – the switch will not be the performance bottleneck
Built-in Copper Gigabit Ethernet Ports	Provide 10-times higher bandwidth than Fast Ethernet ports	Help eliminate performance bottleneck at critical traffic aggregation points; use Gigabit Ethernet with standard Cat5 cabling
Fiber Gigabit Ethernet Ports	Accommodate various types of Fiber interface modules (e.g., 1000SX, 1000LX; modules sold separately)	Flexibility to use fiber media if large distances have to be covered by the network
Gigabit Stacking Ports	Provide Gigabit connectivity among stack members as well as single point of management for all stack members	Easy, high-performance expandability without increased management complexity
VLAN	Virtual LANs combine a number of ports into distinct, separated sub-networks	Allows for limitation of broadcast domains as well as improved security
IEEE 802.1p Priority	Utilizes separate transmission queues for low and high priority traffic	Helps ensure low-latency delivery of time critical network traffic; e.g., traffic associated with voice or video communication
Link Aggregation	Groups up to eight ports together into a single, high-bandwidth trunk	Increases bandwidth for critical network links (e.g., uplinks to a network backbone) and creates link redundancy
IGMP Snooping	Detects ports that are participating in IP Multicast communication, e.g. multimedia streams	Limit broadcast traffic to those ports that are actually participating in the communication
Auto-Negotiation and	Automatically configures	Helps reduce network set-up

Feature	Function	Benefit
Auto MDI/MDIX on all Copper ports	ports for speed, duplex mode, flow control and cabling used	time
Management	Enables remote configuration and monitoring of the switch via a Web-browser or a SNMP-based management console application	Allows a network administrator to detect and remedy problems at local and remote locations
Spanning Tree	Automatically configures ports for speed, duplex mode, flow control and cabling used	Helps reduce network set-up time
1 U Form Factor	Height of switch is limited to 1U	Saves rack space

Key Customer Benefits

- *Easy, cost effective transition to Gigabit Ethernet***
 Due to the built-in Copper Gigabit Ethernet ports, the PowerConnect 3048 and 3024 provide a cost effective way to significantly improve your network performance – no additional modules have to be purchased to enable Gigabit Ethernet performance.
- *Ideal solution for customers with growing networks***
 The PowerConnect 3048 and 3024 adapt to your changing network needs. Up to 144 ports of either the PowerConnect 3048 or 3024 can be interchangeably combined in a stack using the built-in Gigabit stacking ports – again, no additional modules have to be purchased to create a stack. When the network has to cover large distances, the PowerConnect 3048 and 3024 can accommodate Fiber Gigabit Ethernet modules via its SFP (3048) or GBIC (3024) slots.
- *Support for standards-based advanced switching features as well as standards-based remote management***
 The PowerConnect 3048 and 3024 support a variety of open standards to ensure flexibility in optimizing your overall network for optimal performance (e.g., IEEE 802.1p Class-of-Service or IGMP snooping), availability (port trunking) and security (VLAN). Also, Web browser-based switch management as well as SNMP-based management support a broad variety of management needs.

Service and Support

Dell PowerConnect switches come with the following:

- Three-year limited warranty² and three years of standard Next Business Day unit replacement.³ Telephone support 24 hours a day, 7 days a week, 365 days a year for the duration of the limited warranty.
- 30-day “Getting Started” helpline for customers who purchase PowerConnect 3024, PowerConnect 3048 or PowerConnect 5012
- DirectLine Plus network configuration support upgrades available
- Four-hour response unit replacement⁵ upgrades available (5x10 and 7x24 options)
- On-site Labor Service upgrades (Next Business Day⁴ or Same Day⁵) available

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² For a complete copy of our Guarantees or Limited Warranties, please write Dell, USA, L.P., One Dell Way, Round Rock, TX 78682.

³ Replacement unit will be dispatched if necessary following phone-based troubleshooting. To receive your unit replacement the next business day, Dell must be able to dispatch the unit before 5 p.m. (depending on service contract) C.S.T. Availability varies.

⁴ Service may be provided by third-party. Technician will be dispatched if necessary following phone-based troubleshooting. To receive next business day service, Dell must notify the service provider before 5pm (depending on service contract) customer time. Availability varies.

⁵ Service or replacement unit (depending on service contract) may be provided by third-party provider. Technician or replacement unit will be dispatched if necessary following phone-based troubleshooting. For 7x24 and 5x10 service, Dell will dispatch a service technician or replacement unit within 4 hours of determining the hardware problem. For 5x10 service, the service technician or replacement unit may not arrive until the following business day if dispatched after 4:00 pm local time. Available within a 125-mile radius of over 80 metropolitan areas. Customers not located within a 125-mile radius of the stocking locations are not eligible for this offering. Available in the U.S. only.