BayStack 380-24T Switch

BayStack 380-24T Switch Benefits

- High-density high-bandwidth desktop switching
- Cost-effective Layer 2 switch for server farms
- Resilient connectivity for minimal network downtime
- Secure access and data traffic protection
- Common software lowers training and installation costs

Figure 1: The BayStack 380-24T Switch.

Ideal for medium and large enterprises, Nortel Networks BayStack* 380-24T Switch is designed to provide high-density high-bandwidth connectivity to desktops, other switches, servers, and other network devices. This Layer 2 switch with 24 10/100/1000 Mbps auto-sensing ports and four SFP (Small Form Factor Pluggable) GBIC (Gigabit Interface Converter) ports provides high-density Gigabit connectivity to power-user desktops for high-speed applications such as graphics, multimedia, and CAD/CAM (see Figure 1). It is a resilient solution that minimizes capital and operational expenses. Its robust security features offer protection against unauthorized access to data traffic.

The BayStack 380-24T Switch supports features such as MultiLink Trunking (MLT) for server-farm applications support. The switch is Web-manageable and supports an Uninterruptible Power Supply (UPS) option using the BayStack 10 Power Supply Unit (PSU).

High-Density High-Bandwidth Desktop Switching

The BayStack 380-24T Switch features 24 10/100/1000BASE-TX RJ-45 ports and four built-in SFP GBIC ports for dedicated uplink connectivity to other switches, servers, or the network core such as Nortel Networks Passport* 8600 Switches. Ports 21 through 24 may be configured as either 10/100/1000 BASE-TX ports or SFP GBIC ports in any combination.

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MultiLink Trunking for Resiliency

MultiLink Trunking (MLT) enables grouping of links between the switch and another switch or server to provide greater bandwidth of up to 8 Gbps with active redundant links for one trunk. This feature also provides load-balancing and automatic fail-over protection. Up to six trunks are supported.

Passport 8600's Split MultiLink Trunking eliminates single points of failure in the network and allows wiring closet switches, such as the BayStack 380-24T, to have multiple active connections to the network core. The BayStack 380-24T's ability to have multiple connections to a Passport 8600 network core allows customers to double their network bandwidth with no extra investment. The Passport 8600 provides a self-healing network which delivers the reliability and availability required by today's mission critical applications (see figure 2).

Cost-effective Layer 2 Switch for Server Farms

The BayStack 380-24T Switch allows customers to aggregate servers without the need to purchase an expensive modular Layer 3 switch.

Redundancy

With connectivity to the BayStack 10 Power Supply Unit (PSU) paired with a –48V DC-to-DC converter module, the BayStack 380-24T Switch delivers redundant power supply support crucial in mission-critical environments. Uninterruptible Power Supply (UPS) capability for BayStack 380-24T Switch is supported with the BayStack 10 PSU.

Security

The BayStack 380-24T Switch supports BaySecure, which allows authentication of all access, not only to the switches for management and configurations but also access to the infrastructure through these switches. This software feature limits access to only network authorized and trusted personnel including full tracking of network connections. With BaySecure, network access is granted or denied via proper MAC-address identification. In addition, with the Distributed Access List Security feature, network access is granted or denied on port basis. The BayStack 380-24T Switch also provides Remote Authentication Dial-In User Service (RADIUS) authentication for switch-security management.

IP Manager List limits access to the management features of the BayStack 380-24T Switch by a defined list of IP addresses, providing greater network security and manageability.

SNMP v3 feature provides user authentication and data encryption for higher security. It also offers secure configuration and monitoring.

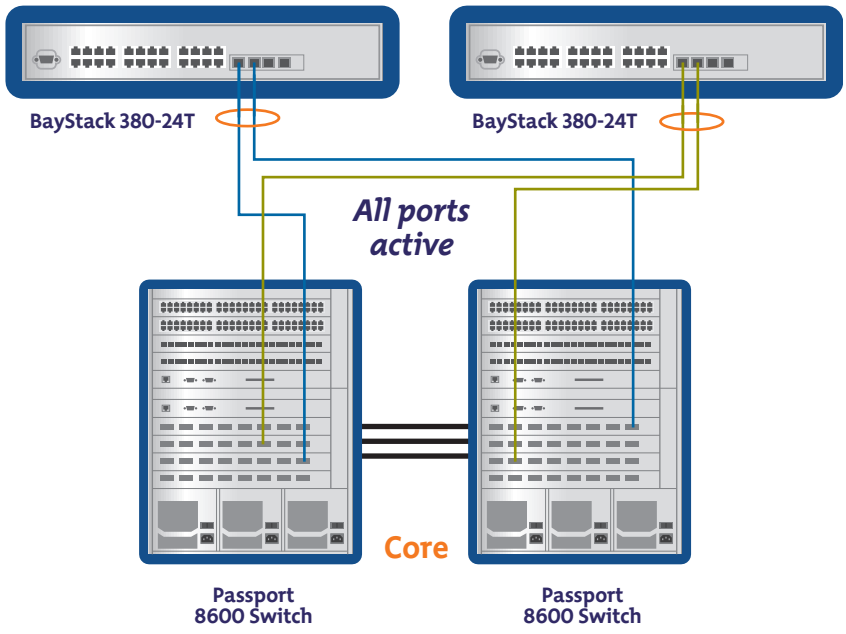
Auto MDI/MDIX

The BayStack 380-24T Switch saves money and time if it needs to be connected to a hub or another switch. Normally, you need a crossover cable for this purpose, but with the BayStack 380-24T Switch you can use an inexpensive straight-through cable or a crossover cable. When a cable is connected to one of the 10/100 ports on the switch, the switch port automatically can detect the energy on the cable and configures itself. Also, this feature makes configuration easier as it eliminates the need for an MDI/MDIX port, and any port may be used for connection to a hub or switch.

Common Software Platform

All BayStack switches, including the BayStack 380-24T, have a common "look and feel" which reduces training costs. This allows the switches to be managed in a similar fashion via a broad set of management tools. These tools include Web, Command Line Interface (CLI), menus, Optivity Network Management System (NMS), and Optivity Switch Manager (OSM).

Figure 2: Split MultiLink Trunking (SMLT).



Enterprise Solution

Figure 3 shows an example of an enterprise solution consisting of BayStack 380 Switch providing high-density high-bandwidth desktop switching. It also shows Business Policy Switch and BayStack 470-48T Switch stacks in the wiring closet collapsing in to the BayStack 380-24T Switch.

MAC Addresses

The BayStack 380-24T Switch supports up to 32,768 MAC addresses for deployment of large-scale enterprise networks with many attached devices and workgroups, allowing for scalability and cost effectiveness.

VLAN Support

Up to 64 port-based VLANs can be established for each switch to extend the broadcast domain and segment network traffic for greater efficiency.

Web-based Management

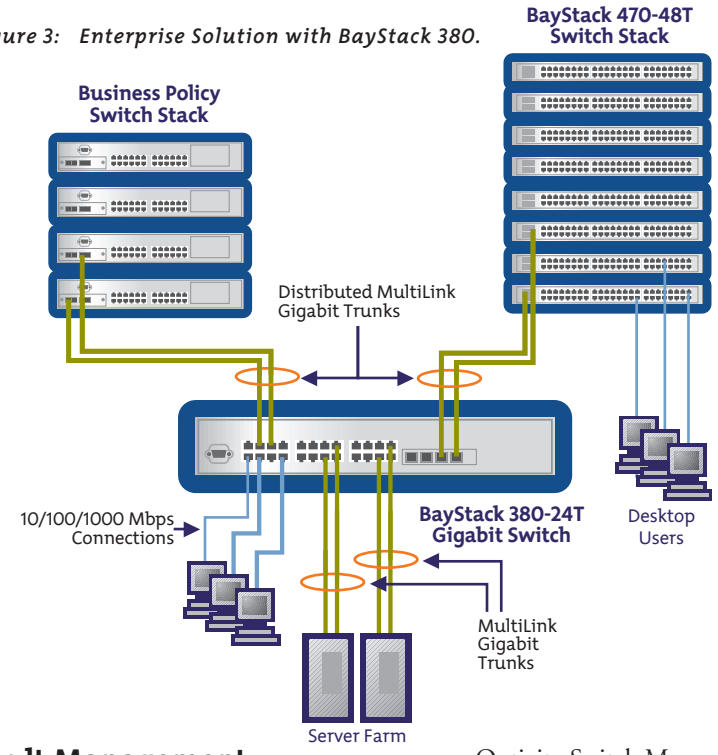
Web-based network management makes managing the BayStack 380-24T Switch easy with a Web browser. This feature provides summary, configuration, fault, statistics, application, administration, and support pages for the switch. Web interface also allows for static configuration of numerous parameters of the device.

Network Management

On-Box Management

Network management begins with the device. The BayStack 380-24T Switch supports four groups of Remote Monitoring (RMON) on all ports and is SNMPv3 (Simple Network Management Protocol) compliant. The SNMP agent software resides in the switch and uses the information it collects to provide management for all ports providing comprehensive network monitoring capabilities.

Figure 3: Enterprise Solution with BayStack 380.



Fault Management and Resolution

With Optivity Network Management System, the network manager has quick access to the information required to manage and isolate all BayStack 380-24T networks' events. Tools such as Physical Topology View inform the network manager of how a particular event is affecting the physical connectivity within the network. End Node Locate tool provides the ability to locate a failing end node and, with one mouse click, you have access to the RMON statistics for the failing Ethernet port supporting that end node. These solutions provide visual and statistical tools necessary to quickly resolve any network event or to manage performance in real-time.

Configuration Management

The process of configuration begins with a single device but finishes across multiple devices. Device Manager is the configuration tool for those functions that require communicating with a single device. However, Device Manager uses a common user interface and workflow that supports many Nortel Networks Ethernet Switches. This commonality allows the network manager to become familiar with one tool instead of many.

Optivity Switch Manager performs the configuration function across multiple devices. Configuration functions such as VLAN assignments, MLT, and Multicast are deployed across multiple Nortel Networks Ethernet switches. Optivity Switch Manager helps ensure proper configuration of technologies like this, the first time.

802.1p Priority Queuing

Standards-based priority queuing enables prioritization of multimedia or latency-sensitive traffic, making possible integration of voice, video, and data within the same network.The BayStack 380-24T Switch prioritizes LAN traffic based on Layer 2 802.1p value using four hardware-based queues.

With more than 100 years in telecommunications, Nortel Networks is uniquely positioned to help your business reduce costs by combining voice and data into an integrated system. Why take a chance on a vendor that only understands part of the equation? Let us show you how the BayStack 380-24T Switch, along with other Nortel Networks products, can help you increase your profitability, streamline your business operations, increase productivity, and gain the competitive edge.

Technical Specifications

Table 1: BayStack 380-24T Switch Technical Specifications.

Physical Specifications	
Weight	4.8 kg (10.60 lb)
Height	7.04 cm (2.77 in.)
Width	43.82 cm (17.25 in.)
Depth	32.34 cm (12.75 in.)
Performance Specifications	
Switch Fabric	20 Gbps
Frame Forward Rate (64-byte packets)	Up to 3.2 million packets per second (pps) maximum, learned unicast traffic
Port Forwarding/Filtering Performance (64-byte packets)	For 10 Mb/s: 14,880 pps maximum For 100 Mb/s: 148,810 pps maximum For 1000 Mb/s: 1,488,000 pps maximum
Address Database Size	32,768 entries at line rate
Addressing	48-bit MAC address
Frame Length	64 to 9,216 bytes (IEEE 802.1Q Tagged)
802.1p Priority classification	Four (4) queues
SDRAM size	16 Mbyte
Flash memory size	32 Mbyte
Data Rate	10Mb/s Manchester encoded, 100 Mb/s 4B/5B encoded or 1000 Mb/s 8B/10B encoded
Interface Options	
10BASE-T/100BASE-TX/1000BASE-TX	24 RJ-45 (8-pin modular) connectors for Auto MDI/MDI-X interface with auto-polarity
Network Protocol and Standards Compatibility	IEEE 802.3 10BASE-T (ISO/IEC 8802 3,Clause 14) IEEE 802.3u 100BASE-TX (ISO/IEC 8802-3,Clause 25) IEEE 802.1p (Prioritizing) IEEE 802.1Q (VLAN Tagging) IEEE 802.1D Spanning Tree Protocol IEEE 802.3z 1000BASE-X specifications IEEE 802.3x Flow Control (with 802.1D compliant device)
RFC Support	RFC 1213 (MIB-II); RFC 1493 (Bridge MIB); RFC 2863 (Interfaces Group MIB); RFC 2665 (Ethernet MIB); RFC 2737 (Entity MIBv2); RFC 2819 (RMON MIB); RFC 1757 (RMON); RFC 1271 (RMON); RFC 1157 (SNMP); RFC 2570 (SNMPv3); RFC 2571 (SNMP Frameworks); RFC 2573 (SNMPv3 Applications); RFC 2574 (SNMPv3 USM); RFC 2575 (SNMPv3 VACM); RFC 2576 (SNMPv3); RFC 2572 (SNMP Message Processing)

Table 1: BayStack 380-24T Switch Technical Specifications (continued).

Electrical Specifications	
Input voltage	100-240VAC @ 47 to 63 Hz
	-48 Volts DC with redundant power support
Input Power consumption	150 W max
Input current (AC Version)	1.5 A @100 VAC, 0.6 A @ 240VAC -48 Volts DC @ 3.0 Amps
Environmental Specifications	
Operating temperature	0° to 40° C (32° to 104° F)
Storage temperature	–25° to +70° C (-13° to 158° F)
Operating humidity	85% maximum relative humidity, non-condensing
Storage humidity	95% maximum relative humidity, non-condensing
Operating altitude	Up to 3,024 m (10,000 ft.) above sea level
Storage altitude	Up to 12,096 m (40,000 ft.) above sea level
Safety Agency Approvals	USA, UL60950
	Canada, CAN/CSA-22.2 No.60950
	Europe, EN60950 / IEC 60950, CB report with all national deviation.
	Australia/New Zealand, AS/NZS 60950
	Mexico NOM-019
Electromagnetic Emissions Summary	
Meets the following standards	USA, FCC CFR47 Part 15, subpart B, Class A
	Canada, ICES-003, Class A
	Europe, EN55022, CISPR 22, Class A
	Australia/New Zealand, AS/NZS 3548, Class A
	Japan, VCCI-V-3/02.04, Class A
	Taiwan, CNS 13438, Class A
Electromagnetic Immunity	Europe, EN55024, CISPR 24

Ordering Information

Table 2: BayStack 380-24T Switch Ordering Information.

Order No.	Description
AL4412?01**	BayStack 380-24T 10/100/1000 Autosensing Switch (24 10/100/1000BASE-TX plus four built-in SFP GBIC uplink ports)
AL1904001	-48 V DC-to-DC converter for BayStack 380 for use with BayStack 10 Power Supply System
AA1419013~	1-port 1000BASE-SX SFP GBIC (LC connector)
AA1419014~	1-port 1000BASE-SX SFP GBIC (MT-RJ connector)
AA1419015~	1-port 1000BASE-LX SFP GBIC (LC connector)
AA1419025~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1470nm Wavelength (40km), LC connector
AA1419026~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1490nm Wavelength (40km), LC connector

Table 2: BayStack 380-24T Switch Ordering Information (continued).

Order No.	Description
AA1419027~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1510nm Wavelength (40km), LC connector
AA1419028~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1530nm Wavelength (40km), LC connector
AA1419029~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1550nm Wavelength (40km), LC connector
AA1419030~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1570nm Wavelength (40km), LC connector
AA1419031~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1590nm Wavelength (40km), LC connector
AA1419032~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1610nm Wavelength (40km), LC connector
AA1419033~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1470nm Wavelength (70km), LC connector
AA1419034~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1490nm Wavelength (70km), LC connector
AA1419035~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1510nm Wavelength (70km), LC connector
AA1419036~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1530nm Wavelength (70km), LC connector
AA1419037~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1550nm Wavelength (70km), LC connector
AA1419038~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1570nm Wavelength (70km), LC connector
AA1419039~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1590nm Wavelength (70km), LC connector
AA1419040~	1-port 1000BASE-CWDM Small Form Factor GBIC – 1610nm Wavelength (70km), LC connector

** The seventh character (?) of the switch order number must be replaced with the proper code to indicate desired product nationalization: "A" – No power cord included; "B" – Includes European "Schuko" power cord common in Austria, Belgium, Finland, France, Germany, The Netherlands, Norway, and Sweden; "C" – Includes power cord commonly used in the United Kingdom and Ireland; "D" – Includes power cord commonly used in Japan; "E" – Includes North American power cord; "F" – Includes Australian power cord, also commonly used in New Zealand and the People's Republic of China. ~ Up to four of these GBICs can be installed in the BayStack 380-24T GBIC slots

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For more information, contact your Nortel Networks representative or call 1-800-4-NORTEL (1-800-466-7835), or 1-506-674-5470 outside of North America.

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