Inexpensive 10/100-Mbps Ethernet Switching for medium and large workgroups

IBM 8275 High-Performance Ethernet Workgroup Switch Model 416

Highlights

16, 24 or 32 10/100BASE-TX ports providing wire-speed connectivity

RMON support for events, alarms, history and statistics (additional RMON groups planned for December 1999)

Automatic MAC address aging

1000BASE-SX Gigabit Ethernet (planned for October 1999), 100BASE-FX and 10/100BASE-TX uplink options for high-speed backbone or server connections

High-performance wire-speed Ethernet LAN switching

Port-trunking (planned for September 1999) and port-mirroring capabilities

Simple Network Management Protocol (SNMP), Web-based and Telnet management

Support for 12 000 MAC addresses per switch

Full-duplex operation

Available in a convenient rack-mountable desktop unit

802.1p (Priority) and 802.1Q virtual local area network (VLAN) support (planned for software download in August 1999)

Self-learning IP and stacking (planned for software download in December 1999)



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High-performance Ethernet switch

The new IBM 8275 High-Performance Ethernet Workgroup Switch Model 416 is the latest addition to the fast-growing Ethernet Workgroup Switch family. This high-performance Ethernet switch is ideal for medium- to large-sized workgroups. It delivers the highest performance level of any switch currently in its class. This Ethernet Workgroup Switch provides sixteen 10/100BASE-TX ports and two expansion slots that provide configuration flexibility, making it easier to connect switches on multiple floors or in separate buildings.

Additional 10/100BASE-TX copper ports can be added as well as 100BASE-FX fiber ports. The fiber ports support high-speed uplink cards to make connections to upstream switches. This powerful and flexible switch can support a high-performance workgroup requiring 100-Mbps copper or fiber workstation attachment or high-speed server or Gigabit backbone attachment. This feature is beneficial to workgroups such as engineering design or other types of applications requiring high performance to the desktop.

Features	*Benefits*
MAC address support	Large MAC address table (12000 addresses) supports downstream devices.
Backplane capacity	10-Gbps internal backplane capacity and design ensure Ethernet with high-bandwidth throughput.
Port trunking	Provides high-speed connectivity between switches to reduce network bottlenecks and increase bandwidth.
Buffering and flow control	Improves switch efficiency by reducing packet loss under heavy loads or congested conditions.
802.1d Spanning Tree	Allows creation of redundant paths and protects against cable and equipment failures in mission-critical applications.
Software upgrade	Easy via TFTP or Web.
Self-learning IP	Limited Layer 3 functioning to offload router traffic.

High-performance switching capabilities

The Ethernet Workgroup Switch offers store-and-forward capabilities for Ethernet-to-Ethernet traffic. Model 416 also supports full-duplex communications on all ports, store-and-forward switching, VLAN support, SNMP, BootP initialization and Static DHCP server.

Full-duplex transmission

The 8275 High-Performance Ethernet Workgroup Switch supports full-duplex capability that provides greater distance on fiber (up to 2 km [1.25 miles]) for campus networks and doubles available network bandwidth. Full-duplex is supported on the 10/100BASE-TX and 100BASE-FX ports.

Management/RMON support

The 8275 High-Performance Ethernet Workgroup Switch Model 416 includes an EIA-232 port for configuration and management. All ports can be managed through a Telnet and SNMP or a Web-based session. RMON provides support for groups 1, 2, 3 and 9. Additional RMON groups will be added in the software that is planned for December 1999.

The IBM Ethernet Workgroup Switch supports the following standard MIBs:

- MIB-II (RFC 1213)
- RMON MIB (RFC 1757)
- IEEE 802.3 Ethernet MIB (RFC 1643)
- Definition of Managed Objects for Bridges (RFC 1493)

VLAN-ready for configurable deployments

The 8275 High-Performance Ethernet Workgroup Switch can be integrated into virtual local area networks (VLANs) with ease. For network applications that require traffic pattern control, heightened security or broadcast behavior control, network administrators and engineers are calling upon VLANs to help users separated by geography to share information.

The 8275 High-Performance Ethernet Workgroup Switch defines a VLAN as a group of ports that together comprise a single multicast domain. All network end stations connected to the group of ports can communicate with one another, yet broadcast packets received on a port in a particular VLAN will not be transmitted to ports that are not designated as members of the VLAN.

Beyond the ability to configure complementary ports for data transmission, VLANs enable you to gather individual LAN resources distributed across the enterprise. With VLAN support from IBM, key properties of the accounting department LAN, for example, could be integrated securely into the sales department LAN. This ability to group allied enterprise assets yields powerful results—more organizational communication and well-informed workgroups.

The Ethernet Workgroup Switch supports the IEEE standard 802.1Q, which enables the standard-based VLANs and ensures the interoperability with other vendors' networking equipment through standard-based VLANs.

Web-based management capabilities

Embedded within the switch will be Web-based management, which will allow HTML- and Java™-based management of the switch. The Java-based features allow full graphical management (Nways Campus Manager) of the switch with point-and-click capabilities to probe the status of individual ports.

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Model	**Port configuration**	**Part number**
Model 416	16-port 10/100BASE-TX configuration	31L3597
Physical specifications	Width: 444 mm (17.5 in.) Depth: 355 mm (14.0 in.) Height: 66 mm (2.6 in.) including rubber feet Weight: 6 kg (13.2 lb)	
Operating environment	• Temperature: 10° to 40°C (50° to 100°F) • Relative humidity: 8 to 80% • Wet bulb (caloric value): kcal/Hr or BTU: 120 W, 410 BTU/hr at maximum configuration 75 W, 225 BTU/hr at typical configuration • Electrical power: 0.12 kVa at maximum configuration 0.075 kVa at typical configuration • Noise level: 43 dBA • Leakage and starting current: <1.5 mA/< 40.0 A	
Available feature cards		**Part number**
	8-port 100BASE-FX module (MT-RJ connector)	30L6662
	4-port 100BASE-FX module (MT-RJ connector)	31L4054
	8-port 10/100BASE-TX module	30L6661
	2-port 1000BASE-SX Gigabit Ethernet module	30L6663
Installation	Can be mounted in a standard 19-inch rack or on a flat surface	
Standards compliance	• *Electromagnetic standards:* FCC Class A (U.S.A.) VCCI Class A (Japan) EN5022 Class B (CISPR-22B) with shielded cables EN5022 Class A (CISPR-22A) with unshielded cables Korean EMI (CISPR-22A) Taiwan EMI (CISPR-22A) Australia/New Zealand EMI (CISPR-22)	
VLAN	Support for 32 domains	
Management	• *Ports:* 9-pin male, D-type EIA-232 port • *Protocols:* SNMP and SNMP traps Web-based management Telnet RMON support (events, alarms, statistics and history) VT100 format MIBs (MIB II, RMON MIB, IEEE 802.3 Ethernet MIB) Remote, out-of-band management	
Warranty	One year	
Year 2000	The IBM 8275 Ethernet Workgroup Switch Model 416 is Year 2000 ready when used in accordance with its associated documentation and is capable of correctly processing, providing and receiving data within and between the 20th and 21st centuries, provided all other hardware, software, and/or firmware used with the product properly exchange accurate data with it.	
ISO 9000	The 8275 High-Performance Ethernet Workgroup Switch Model 416 was developed and is manufactured under a registered ISO 9000 quality management system.	

For more information

To find out more information about the IBM 8275 High-Performance Ethernet Workgroup Switch Model 416 and other IBM communications and networking products, contact your IBM representative or call IBM Direct at 1 800 IBM-CALL (1 800 426-2555). You can access the IBM Networking Home Page at: *www.networking.ibm.com*

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