

*A reliable switching powerhouse for the backbone  
or workgroup environment*



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Multiprotocol Switching Hubs

Any-to-Any

## IBM 8274 Nways LAN RouteSwitch

- **New switching modules that include:**
  - **2-port Gigabit Ethernet switching module with SC connection to MMF cable**
  - **32-port 10/100 Ethernet switching module with RJ-45 connectors**
  - **16-port Token-Ring switching module with UTP and STP connection**
  - **8-port 10BASE-FL Ethernet switching module with SC connection to MMF cable**
- **Gigabit Ethernet connectivity**
- **Large, expandable buffers for strengthened switch fabric**
- **High-speed server access**
- **Intelligent management bus**
- **Flexible configurations**
- **New high-performance Frame-to-Cell Switching Module (FCSM) II**
- **Management Processor Module (MPM) with a new 32-MB DRAM and 8-MB Flash memory pre-loaded with V3.4 NRSP**
- **Port capacity up to:**
  - **256 10/100BASE-TX Ethernet ports**
  - **64 100-FX Ethernet ports**
  - **128 Token-Ring ports**
  - **64 OC3 cell switching ports**
  - **16 OC12 cell switching ports**
  - **16 FDDI ports**
  - **8 ATM DS3 or E3 ports**
  - **16 Frame Relay WAN ports**
  - **8 Gigabit Ethernet ports**
  - **16 ATM circuit simulation ports (T1 or E1)**



With the availability of new 10/100 Ethernet, Token-Ring and Gigabit Ethernet modules, IBM continues to deliver the components needed for flexible, end-to-end network solutions. This vision includes tailored desktop and server solutions provided through comprehensive LAN, ATM and wide area access switching in the IBM 8274 Nways® LAN RouteSwitch. The 8274 offers Ethernet, Fast Ethernet, Gigabit Ethernet, Token Ring, FDDI and ATM. With this comprehensive range of LAN and ATM switching capability, you can use the 8274 to migrate your network at your own pace simply by inserting new modules in an existing switch chassis. It's that easy.

# Positioning and Benefits

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Multiprotocol Switching Hubs

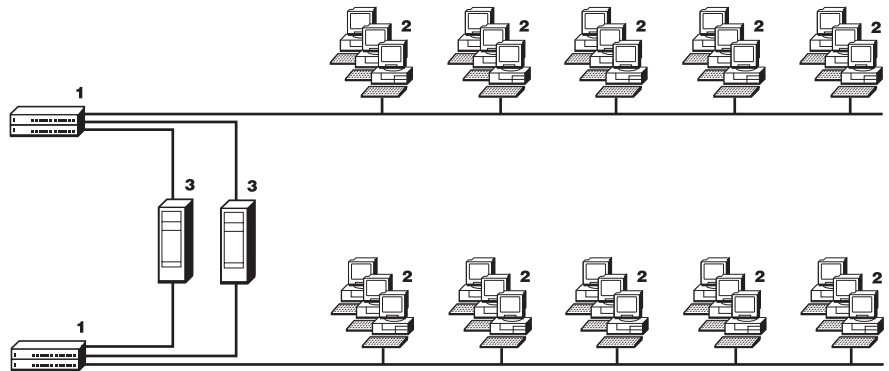
Any-to-Any

The IBM 8274 Nways LAN RouteSwitch is intended for networks that need extensive virtual LAN (VLAN) support and integrated routing with any-to-any connectivity that can include Ethernet, Fast Ethernet, Gigabit Ethernet, FDDI, Token Ring and ATM. The 8274 has a high port density coupled with the ability to do switching to the desktop or provide a backbone switch.

### Problem: Deteriorating network response in an Ethernet LAN

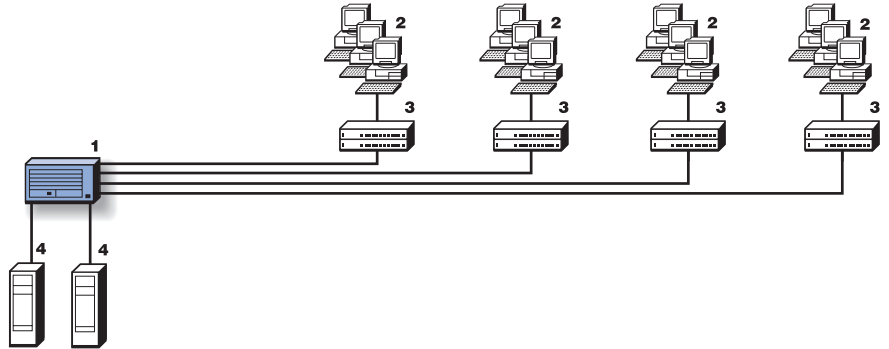
**Environment:** This small Ethernet LAN is congested due to heavy database and business application demands. All hubs are stacked in a single location.

- 1. Hubs
- 2. 20 PC workstations
- 3. Servers



**Solution:** Microsegmented by a dedicated, switched connection to each hub. An 8274 equipped with an MPM and a 12-port 10/100BASE-T switching module was used to microsegment the network by providing a dedicated, switched connection to each hub and directly attached server.

- 1. IBM 8274-5B3 with MPM and 12-port 10/100BASE-T switching module
- 2. 50 PC workstations
- 3. 8277
- 4. Servers



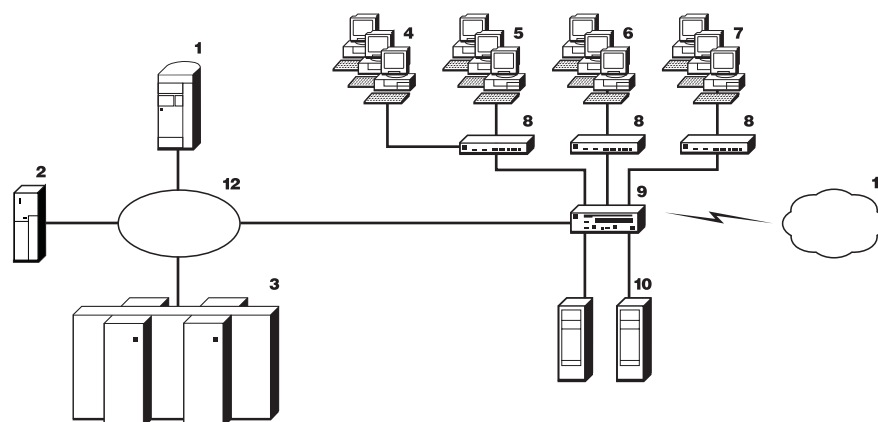
### Benefits

- Utilizes existing infrastructure
- Improves server response dramatically
- Preserves investment in hubs and adapters
- Eliminates changes to software
- Speeds migration to a switched network (10 Mbps or 100 Mbps)
- Prepares the network for the move to an ATM backbone when required

## Problem: Deteriorating performance in an enterprise network consisting of router and hubs in a shared-media LAN environment

**Environment:** A mixed IP host environment with Token Ring and Ethernet using a wide range of protocols in a routed network. Security is provided by filtering the IP subnetworks.

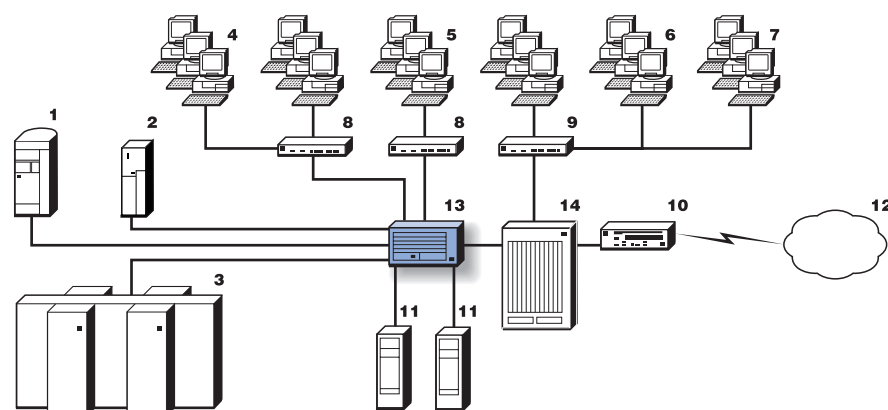
Router Network



1. AS/400® server
2. RS/6000® server
3. S/390® server
4. Ethernet workstations (LAN 1)
5. LAN 2
6. LAN 3
7. LAN 4
8. Hub
9. Router
10. Server
11. WAN
12. Token Ring

**Solution:** Replace the router with an 8274 LAN RouteSwitch supporting ATM 155-Mbps backbones to Ethernet/ATM switches for dedicated bandwidth. Servers are connected to dedicated lines for better performance. Security is maintained by filtering the traffic among the VLANs, which are connected to each switch. Where heavy-duty routing is required just add the Hardware Routing Engine (HRE) to the 8274 and get over 220 000 packets per second (pps) of IP/IPX routing. Also, the new 8274 Model GRS can provide high-speed Gigabit connections to backbone or edge switches.

IP Switching and VLANs



1. AS/400 server (switched Token Ring)
2. RS/6000 sever (switched Token Ring)
3. S/390 sever (switched Token Ring)
4. VLAN 1
5. VLAN 2
6. VLAN 3
7. VLAN 4
8. IBM 8277 Ethernet RouteSwitch (ATM 155 Mbps to the 8274)
9. IBM 8277 Ethernet RouteSwitch (switched 1000BASE-SX) to 8274
10. Router (switched Token Ring)
11. Server (switched 100BASE-T)
12. WAN
13. IBM 8274
14. IBM 8274 Model GRS (switch 1000BASE-SX)

### Benefits

- Improves network response
- Maintains network security using IP routing among the VLANs
- Positions the network for migration to ATM end-to-end
- Works seamlessly with existing routers with support for RIP or OSPF
- Makes forklift upgrade of existing routers unnecessary because of the 8274's high-throughput Layer 3 switching

## Sophisticated features at building-block prices

The 8274 features an intelligent hardware design that supports high data rates and a sophisticated feature set, yet is priced to serve as a basic network building block. The 8274 offers a unique, dual quality of providing powerful and complete LAN switching with ATM speed for the desktop and the backbone. It integrates the most comprehensive, flexible virtual LAN (VLAN) architecture on the market today.

But IBM independent LAN and ATM switching aren't enough. LAN-to-ATM internetworking and routing are needed. The combination of an IBM 8260 Nways Multiprotocol Switching Hub or the IBM 8265 ATM switch with an IBM Multiprotocol Switch Services (MSS) backbone installed, and LAN Emulation clients in your 8274s, offers the most comprehensive, scalable networking solution in the industry.

All 8274 models provide policy-based VLANs, IP and IPX routing, FDDI trunking, ATM private virtual circuits, ATM LAN Emulation, Multiprotocol Encapsulation over ATM, Classical IP over ATM and graphical network management on a broad set of standard management platforms.

## New Frame-to-Cell Switching Module

FCSM II is a new Frame-to-Cell Switching Module that supports up to 500-Mbps speed. It provides an internal link between the frame bus and the cell matrix. Because the MPM is not directly attached to the cell switching fabric, the FCSCM II provides the Segmentation and Reassembly (SAR) function required by the cell backplane as well as LAN-to-ATM internetworking.

## New Ethernet and Token-Ring switching modules

This announcement introduces four new switching modules for the IBM 8274. Three of the new modules are Ethernet and one is an upgrade to Token-Ring.

GSM-FM-2W is a standards-based, 100BASE-SX (multimode fiber) switching module providing 2-port capability via SC connectors.

The Fast Ethernet switching module, the ESM-100C-32W-4C provides thirty-two 10/100-Mbps Ethernet ports, each in either half- or full-duplex mode. Cabling can be either UTP or STP (RJ-45 connectors). The flexibility provided by this module allows you to protect your investment while migrating from "classical" half-duplex 10BASE-T connections to Fast Ethernet. The port density provided by this switch module makes switching to the desktop affordable.

If you need more Token-Ring capability, the TSM-CD-16W-4C can help. The 16-port Token-Ring switching module greatly expands your ability to support a Token-Ring network. The 9-slot 8274 can now support up to 128 Token-Ring ports. This switching module auto-senses ring speed (4 or 16 Mbps) and mode (half- or full-duplex). Each port can also be configured as either a station or lobe connection.

ESM-FM-8W-2C is an 8-port 10BASE-FL Ethernet switching module. Each port connection supports one switched Ethernet segment at the full 10-Mbps bandwidth. The eight dual ST connector ports connect to multimode optical fiber cable. Each port can connect to a single high-traffic device, such as a mail server, or a hub serving multiple devices.

All of these modules support adaptive cut-through switching, routing, policy-based VLANs and translational switching.

The 8274 comes in three sizes—3, 5 and 9 slots. All models provide powerful communication mechanisms:

- All contain architecture for taking full advantage of frame-to-frame switching, which means a high-speed pipeline bus that uses hardware-controlled switching to keep throughput high and latency low.
- All offer a management bus that you can use to configure, diagnose and manage all system elements.

## Natural migration

The 8274 can accommodate one or two Management Processor Modules (MPMs) and any combination of switch modules. You configure the switch to meet your needs and break new ground in several ways.

A unique combination of extremely powerful LAN switching and ATM access, which enables the transition to ATM campus networks. Ethernet, Token Ring, FDDI, 100BASE-FX and 100BASE-TX can all be switched within the same unit and can be switched directly to ATM or Gigabit Ethernet interfaces.

## Simple, transparent, hubless modularity

The 8274 has the port capacity to replace modular hubs. It can provide up to 256 Ethernet ports, 64 Fast Ethernet fiber ports, 8 Gigabit Ethernet ports, 128 Token-Ring ports, 16 OC3 ports, 16 FDDI ports, 16 ATM DS3 or E3 ports and 64 Frame Relay ports.

Add hub-like, modular flexibility to the 8274 power and you get instant, high-speed networking and a resilient, high-speed backbone for a building or campus or direct connection for ATM-based servers with LAN-based workstations.

A variety of 8274 modules make a powerful family. Modules available in addition to those already described include:

- Fast Ethernet for connecting high-speed servers to 10-Mbps and 100-Mbps workstations. The 8274 with 100-Mbps Ethernet switching modules automatically translates from Ethernet to Token Ring, Fast Ethernet, FDDI and ATM. Simply attach segments, devices or hubs to RouteSwitch 100-Mbps ports. Install Ethernet or Fast Ethernet adapters in your servers. Attach each server to its own dedicated port on the RouteSwitch 10/100-Mbps module. The result: instant, high-speed networking.
- FDDI modules each support 4 or 8 ports spread across one or two FDDI rings. This provides up to 200 Mbps—a lot of bandwidth.
- Powerful ATM for your building, campus or enterprise. IBM's 8274 ATM modules link LAN switching into the 8260 or the 8265 ATM switch to provide power and flexibility at low cost.
- Token-Ring modules running at 4 or 16 Mbps over wire or fiber complete the broad spectrum of LAN support in the 8274.

Don't let protocol or wire speed determine your network design. The RouteSwitch family puts you in control of your network. With the 8274 you can combine fiber with UTP/STP media, you can combine wire speeds, and you can translate from FDDI to Ethernet to ATM or Gigabit Ethernet.

#### **Server access**

Bring direct connections between FDDI, 100BASE-TX, Gigabit Ethernet, or Token-Ring-based servers and LAN-based workstations. Take full advantage of the PowerPC, Pentium®, Sparc, Alpha or other advanced architectures that make today's servers so powerful.

#### **High-speed backbone access**

Connect an almost unlimited number of Ethernet, Token-Ring, Fast Ethernet and FDDI LANs and devices to your backbone. The 8274 can be used to build a Fast Ethernet backbone, or as a feeder node to an ATM or Gigabit Ethernet backbone.

#### **Wide area access**

If you are putting your switch in a branch office you can use ATM WAN (DS3 or E3) or Frame Relay WAN over leased lines to your headquarters.

#### **RouteSwitch**

RouteSwitch is available with increased power in the form of advanced routing functions and integrated security features. The Advanced Routing software supports OSPF, RIP-I and RIP-II, and provides extended routing protocol capabilities.

#### **Dual power supply option**

A slot is available for a second, optional power supply. With the second power supply installed, both load-sharing and backup power protection are provided.

#### **Year 2000 ready**

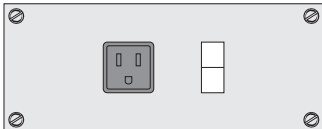
These products are year 2000 ready. When used in accordance with their associated documentation, they are capable of correctly processing, providing, and/or receiving date data within and between the 20th and 21st centuries, provided that all products (for example, hardware, software and firmware) used with the products properly exchange accurate date data with them.

<b>Features</b>	<b>Benefits</b>
<b>Powerful, flexible platform</b>	A broad range of model types and switching modules make the 8274 uniquely versatile. It routes IP and IPX over twisted-pair, coax or optical fiber cable. It connects to network segments, file servers or individual workstations. It supports any combination of Ethernet, Token Ring, FDDI, Fast Ethernet, Gigabit Ethernet and ATM at wire speed with automatic any-to-any translation.
<b>High capacity</b>	The 3-slot 8274 is configured with one Management Processor Module (MPM) and up to two switching modules. The 5-slot 8274 supports one MPM and up to four switching modules. The 9-slot 8274 supports one MPM and up to eight modules—up to 256 Ethernet ports. Or each module supports 16 Token-Ring or thirty-two 10/100BASE-T ports for server connectivity and two Gigabit Ethernet, four FDDI or two ATM backbone connections.
<b>High reliability</b>	Redundancy keeps your network up and running. Dual, redundant, hot-swappable power supplies, redundant management processors, redundant cooling fans and a temperature alarm make the 8274 a trustworthy powerhouse. Software and configuration are stored in nonvolatile flash memory.
<b>Policy-based VLANs</b>	<ul style="list-style-type: none"> <li>• With policy-based VLANs, you can set up VLANs by port, by protocol or by MAC address.</li> <li>• This makes setup simpler, throughput higher and latency lower than with complicated route configurations.</li> </ul>
<b>Slick management</b>	Policy-based VLANs, VLAN intelligence, SNMP-manageable, RMON and IBM Nways RouteVision Network Manager for UNIX®, Windows 95 or NT all make managing your network an enjoyable experience.

# 8274 Nways LAN RouteSwitch Specifications

Models	W33	W53	W93
<b>Part numbers</b>	86H3049	86H0012	86H0323
<b>Total slots</b>	3	5	9
<b>Maximum slots available for switching modules</b>	2	4	8
<b>Serial ports</b>	Two ports, EIA 232-C, 9-pin D connectors, configured per IBM AT® serial port. One configured as DTE for connection to a modem, one as DCE for connection to a PC or terminal.		
<b>Serial port data rates</b>	1.2, 2.4, 9.6, 14.4, 19.2, 28.8 and 38.4 Kbps		
<b>Management processors</b>	<b>W3x</b> MPM-1GW-32MB	<b>W5x</b> MPM-1GW-32MB	<b>W9x</b> MPM-1GW-32MB
<i>Note: MPM-1GW-32 MB can be upgraded with an HRE module to provide hardware routing.</i>			
<b>Processor module LEDs</b>	Physical status; operation status; power supply A status; power supply B status; primary redundant status; secondary redundant status; temperature		
<b>Program and configuration</b>	Flash memory storage		
<b>Physical dimensions</b>	<b>W33</b>	<b>W53</b>	<b>W93</b>
Height:	133.4 mm (5.25 in.)	326 mm (12.8 in.)	616 mm (24.5 in.)
Width:	435.1 mm (17.13 in.)	432 mm (17 in.)	432 mm (17 in.)
Depth:	330.2 mm (13.0 in.)	303 mm (11.9 in.)	337 mm (13.25 in.)
Weight:	18.4 kg (40 lb), fully populated with modules and power supplies	24.1 kg (53 lb), fully populated with modules and power supplies	43.6 kg (95 lb), fully populated with modules and power supplies

### Power supplies



Power supplies can be added to offer fully redundant capability and the ability to use different ac power sources.

Power supply	W33	W53	W93
	90 to 265 V ac	90 to 265 V ac	90 to 265 V ac
	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz
	250 W	250 W	500 W

### 8274 Software Programs

The IBM Nways RouteSwitch Software Program (NRSP) V3.4 is the controlling software program for the 8274 RouteSwitches. For the 8274, the NRSP control software is priced and packaged with the 8274 hardware Management Processor Module (MPM). Customers should not place a separate software order for 8274 NRSP. This base software is not a separately orderable item. The IBM 8274 Nways RouteSwitch Software Program is preloaded onto this module. All 8274 RouteSwitch software programs require one license on a per-MPM basis.

<b>8274 software programs</b>	<b>Country</b>	<b>FC</b>	<b>PN</b>
Nways RouteSwitch Software Program V3.4 (NRSP)	Worldwide	4141	4300127
Nways ATM RouteCell Software Program V 3.4 (NARS)	Worldwide	4142	4300128
Nways Advanced Routing Software Program V 3.4 (NRAR)	Worldwide	4150	4300129
Nways RouteSwitch LANE Software Module V 3.4 (NRLS)	Worldwide	4153	4300130
Nways RouteSwitch Software Program V3.4 Upgrade (for current licensees of V 3.0 and V 3.2)	Worldwide	1691*	4300132
Nways ATM RouteCell Software Program V 3.4 Upgrade (for current licensees of V 3.0 and V 3.2)	Worldwide	1692*	4300133
Nways Advanced Routing Program V 3.4 Upgrade (for current licensees of V 3.0 and V 3.2)	Worldwide	1693*	4300134
Nways RouteSwitch LANE Software Module V 3.4 Upgrade (for current licensees of V 3.2)	Worldwide	1694*	4300135

\* FC = N/A for EMEA

### **Ethernet switching module specifications**

#### **ESM-FM-8W-2C**

Standards	IEEE 802.3, 802.3i, IAB RFCs 826, 894, 1398
Data rate	10 Mbps
Maximum frame size	1518 bytes
Current draw	5.5 A at 5 V dc
MAC addresses per module	2048
Connector	ST
Port count	8
Cable type	62.5-micron MMF

#### **ESM-100C-32W-2C**

Standards	IEEE 802.3, 10BASE-T, 100BASE-TX, IAB RFCs 826, 894,
Data rate	10/100 Mbps (auto-sensing)
Maximum frame size	1518 bytes
Current draw	5.75 A at 5 V dc
MAC addresses per module	2048
Connector	RJ-45
Port count	32
Cable type	STP/UTP (Cat 5)

#### **10BASE-FL Multimode Fiber Adapter Board (ESM-AB-FL)**

Connector	dual ST
Connects to	10BASE-FL hub port or device
Cable type	MMF
Adapter board slots occupied	1 per adapter board
Power budget	13 dBm

#### **10BASE-FL Single-mode Fiber Adapter Board (ESM-AB-FL-S)**

Connector	dual ST
Connects to	10BASE-FL hub port or device
Cable type	SMF
Adapter board slots occupied	1 per adapter board
Power budget	15 dBm

#### **10BASE-T Adapter Board (ESM-AB-T)**

Connector	RJ-45
Connects to	10BASE-T hub port or device
Cable type	UTP
Adapter board slots occupied	1 per adapter board



**Ethernet switching module specifications (continued)****AUI/10BASE-T Adapter Board (ESM-AB-AT)**

Connector	1 AUI and 1 RJ-45
Connects to	AUI-based transceiver and 10BASE-T hub port or device
Cable type	AUI or thick Ethernet (via AUI-based transceiver) and UTP
Adapter board slots occupied	2 per adapter board

**100BASE-FX (ESM-100FM-8-4C)**

Data rate	100 Mbps
Maximum frame size	1518 bytes
MAC addresses per module	4096
Connector	SC pair
Port count	8
Cable type	MMF
Module LEDs	Physical status, operation status
Segment LEDs	None
Port LEDs	Status

**10BASE-T, 2, 5, -FL Universal Switching Module (ESM-U-6)**

Standards	IEEE 802.3, 802.3i, IAB RFCs 826, 894, 1398
Data rate	10 Mbps
Maximum frame size	1518 bytes
MAC addresses per module	1024 or 2048 with CAM upgrade
Connectors	RJ-45, ST, BNC, AUI
Port count	6 mixed
Cable type	UTP (100-ohm), optical fiber, thin coax, thick coax
Module LEDs	Physical status, operation status
Segment LEDs	None
Port LEDs	Status, activity, collisions

**Gigabit Ethernet switching module specifications****GSM-FM-2W**

Standards	IEEE 802.3, 802.3z/2
Data rate	1000 Mbps
Maximum frame size	1518 bytes
Current draw	6.53 A at 5 V dc
MAC addresses per module	4096
Connector	RJ-45
Port count	2
Cable type	62.5/125 MMF

**FDDI switching module specifications****FDDI (FSM-M-2-4C)**

Standards	ANSI X3T9.5, X3.166, IAB RFCs 1390, 1512
Data rate	100 Mbps
Maximum frame size	4500 bytes
MAC addresses per module	4096
Connector	MMF
Port count	2 DAS connections (2 sets of A and B connectors)
Cable type	62.5-micron MMF
Module LEDs	Physical status, operational status
Port LEDs	Link status/disabled, wrap A, wrap B, through state, activity, ring operational

**FDDI (FSM-SH) (W5x and W9x only)**

Standards	ANSI X3T9.5, X3.166, RFCs 1390, 1512
Data rate	100 Mbps
Maximum frame size	4500 bytes
MAC addresses per module	1024 or 2048 with CAM upgrade
Connector	SC: SMF
Port count	1 or 2 DAS connections (1 or 2 sets of A and B connectors)
Cable type	SMF (9-micron)
Module LEDs	Physical status, operational status
Port LEDs	Link status/disabled, wrap A, wrap B, through state, activity, ring operational

**Token-Ring switching module specifications****Token-Ring (TSM-CD-16W-4C)**

Standards	IEEE 802.5r, IAB RFC 1231
Data rate	4 or 16 Mbps
Maximum frame size	8144 bytes
MAC addresses per module	4096
Connector	RJ-45
Port count	16
Cable type	STP (100- or 150-ohm ) UTP (100-ohm )

**ATM switching module specifications****155 Mbps/OC3 DS-3 (ASM2-155FM-1, ASM2-155FM-2)**

Data rate	155 Mbps
Connector	SC
Port count	1 or 2
Cable type	62.5-micron MMF
Module LEDs	Hardware status, software status
Port LEDs	Link status/disabled, activity, yellow alarm, red alarm, far-end status alarm, cell error

**155 Mbps/OC3 DS-3 (ASM2-155FS-1)**

Data rate	155 Mbps
Connector	SC
Port count	1
Cable type	9-micron SMF
Module LEDs	Hardware status, software status
Port LEDs	Link status/disabled, activity, yellow alarm, red alarm, far-end status alarm, cell error

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**RouteCell switching module specifications**


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**622 Mbps/OC12 ATM RouteCell (CSM-622-2E)**

Data rate	622 Mbps
Connector	SC
Port count	2
Number of virtual circuits	64 000 per port
Number of multicast virtual circuits	16 000 per module
Cell buffer size	131 072 cells per port
Congestion control	Dual leaky bucket per connection
Flow control	Explicit rate/EFCI marking on connection basis
Synchronization	Internal or external clock; derived master timing
Frame discard	Early packet discard/partial packet discard (EPD/PPD); random early discard (RED)
Cable type	62.5-micron MMF
Transmit wavelength	820 nm
Module LEDs	Physical status, operational status

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**622 Mbps/OC12 ATM RouteCell (CSM-622-2SE)**

Data rate	622 Mbps
Connector	SC
Port count	2
Number of virtual circuits	64 000 per port
Number of multicast virtual circuits	16 000 per module
Cell buffer size	131 072 cells per port
Congestion control	Dual leaky bucket per connection
Flow control	Explicit rate/EFCI marking on connection basis
Synchronization	Internal or external clock; derived master timing
Frame discard	Early packet discard/partial packet discard (EPD/PPD); random early discard (RED)
Cable type	9.0-micron SMF
Reach	Intermediate
Transmit wavelength	1300 nm
Module LEDs	Physical status, operational status

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**Ordering information**

Description	Country	Feature code/Part number
<b>Models</b>		
8274 Model W33	Worldwide	86H3049
8274 Model W53	Worldwide	86H0012
8274 Model W93	Worldwide	86H0323
<b>Ethernet switching modules</b>		
ESM-FM-8W-2C	Worldwide	0562/86H0562
ESM-100C-32W-4C	Worldwide	3725/30L07025
ESM-AB-FL	Worldwide	7103/85H7103
ESM-AB-FL-S	Worldwide	7102/85H7102
ESM-AB-T	Worldwide	7101/85H7101
ESM-AB-AT	Worldwide	7104/85H7104
ESM-100FM-8-4C	Worldwide	3031/86H3031
ESM-U-6	Worldwide	7105/85H7105
<b>Gigabit Ethernet switching module</b>		
GSM-FM-2W	Worldwide	7024/30L7024
<b>FDDI switching modules</b>		
FSM-M-2-4C	Worldwide	9582/02L0582

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**Ordering information continued**

Description	Country	Feature code/Part number
<b>Token-Ring switching modules</b>		
TSM-F-6-4C	Worldwide	9588/02L0588
TSM-CD-16W-4C	Worldwide	0867/02L0867
<b>ATM switching modules</b>		
ASM2-155FM-1	Worldwide	3009/86H3009
ASM2-155FM-2	Worldwide	3013/86H3013
ASM2-155FS-1	Worldwide	3017/86H3017
<b>RouteCell switching modules</b>		
CSM-622-2E	Worldwide	2999/86H2999
CSM-622-2SE	Worldwide	3001/86H3001
CSM-155-8	Worldwide	2995/86H2995
<b>High-Performance Management Processor module</b>		
MPM Version 3.4 Preloaded (MPM-1GW-32MB)	Worldwide	3726/30L7026
<b>Frame-to-Cell Switching module</b>		
FCSM-II	Worldwide	3083/86H3083
<b>Hardware Routing Engine module</b>		
HRE-PLUS-KIT	Worldwide	3319/08L3319
<b>User's Guide</b>		
Release V3.4 User's Guide on CD-ROM	Worldwide	3053/30L7053

## Key Customer Benefits

- Support for any-to-any connectivity
- Integrated, any-to-any translation—no need for an expensive external router
- Integrated IP and IPX routing—no need for an expensive external router
- Best policy-based VLAN implementation in the industry—provides dramatic network simplification
- Reduction in the cost of network administration
- RMON support
- Hybrid switch—wire-speed switching with Layer 3 capabilities where you need them

## Supplementary Information

The following sales tools are available for the 8274:

- Specification sheet:  
*IBM 8274 Nways LAN RouteSwitch*, G224-4525
- Information on the 8274 is available at:  
[www.networking.ibm.com/netprod.html](http://www.networking.ibm.com/netprod.html)  
[www.networking.ibm.com/274/274prod.html](http://www.networking.ibm.com/274/274prod.html)
- The IBM Redbook is *IBM Nways RouteSwitch Implementation Guide*, SG24-4881. The Redbooks are available at:  
[www.redbooks.ibm.com](http://www.redbooks.ibm.com)
- A CD-ROM that contains the product documentation is provided with the 8274.