LAN switching with all of the 8260 Switching Hub's dependability

IBM 8260 LAN Switch Modules

Highlights

- ***Solutions for network performance problems through increased Ethernet and Token-Ring network capacity***
- ***Investment protection for your hardware and software assets***
- ***Tailored modules for use with all models of the IBM 8260 Nways™ Multiprotocol Switching Hub, including those with ATM backplanes***
- ***1-, 2- and 3-slot switch modules for flexibility and port capacity***
- ***Power management features for maximum use, minimal disruption***

Be a hero—solve network problems and improve your LAN's performance

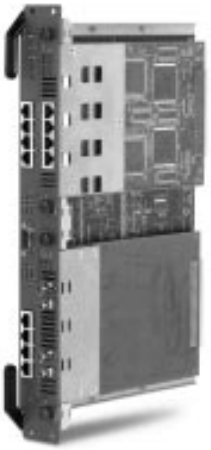
No one has to tell you that as your networks become busier, contention and congestion cause major problems. You are well aware of that. But your users remind you anyway. You constantly look for ways to tweak your LANs to improve network performance, but your tweaking usually produces small results. What you need is a major solution, one that doesn't include major hits to your workload and budget.

IBM now offers you that major solution. Just select from a variety of our LAN or ATM LAN switch modules for use with various models of the 8260. Then subdivide each LAN into smaller LANs and connect the subdivided LANs using our LAN switch modules. In this way you can greatly reduce contention problems and increase bandwidth (and thus throughput) on either Ethernet or Token-Ring networks.

To give you flexibility, you can match these LAN switch modules to the capacity of your ports and select from various versions with one, two and three slots. And the ATM versions can connect to the ATM backplane.



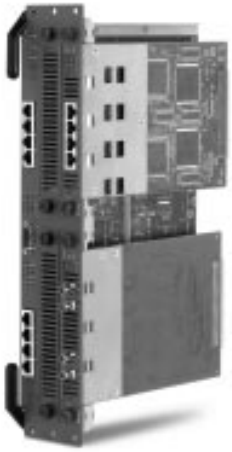
IBM 8271 LAN Switch Module for Ethernet, 2 slots



IBM 8272 LAN Switch Module for Token Ring, 2 slots



IBM 8272 LAN Switch Module for Token Ring, 3 slots



IBM 8271 LAN Switch Module for Ethernet, 3 slots

Save money—protect and preserve your assets

By setting up your LANs in this way you protect your hardware and software investment. You can:

- Continue to use your current Ethernet or Token-Ring adapters
- Maintain the current cabling for your building or campus
- Share application software across the connected LANs

LAN switch modules forward frames between existing LAN segments, whether the segments consist of IBM or non-IBM components. As long as all network components conform to IEEE standards, you don't have to unload any of your current hardware. You can reuse the hubs, concentrators, adapters and cables in your building or campus. Because you can run your existing applications without having to modify them, you also protect your software assets. As a result you get better performance and greater savings without destroying your budget.

Increase performance—use the LAN switch modules with the 8260

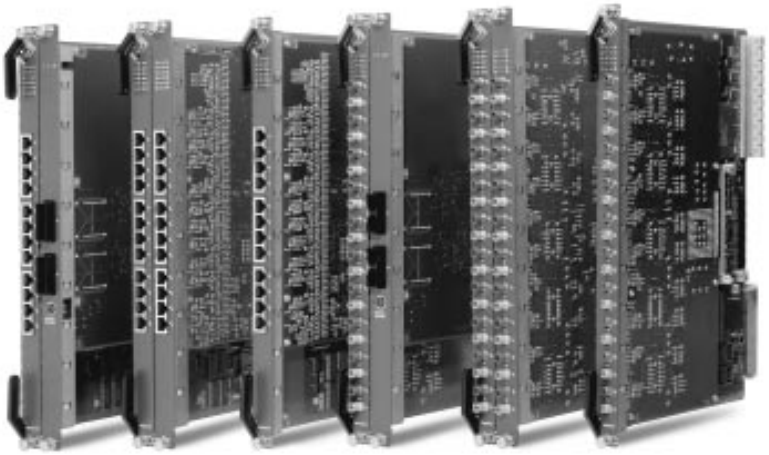
By using the LAN switch modules with the 8260 you get an even more cost-effective and performance-enhanced configuration. The various models of the 8260 offer these benefits:

- High-quality, full-functioned, dependable
- Proven technology
  - Low-latency switching
  - Management options
  - Replacement while operating (hot-swappability)
- Variety of protocols (shared media, Ethernet or Token-Ring networks and ATM)
  - Managing the network (requests and responses)
  - Transferring data
  - Synchronizing the states of network components
- Centralized switching point for interconnected LANs

Tailor your choices—select LAN switch modules for standard or ATM backplanes

You can select from 23 LAN and ATM LAN switch modules (listed later), which are all functionally similar except for which backplane they use. All offer support for the following advanced functions:

- Half- or full-duplex configuration based on individual ports
- Upgradable code
- Cut-through, store-and-forward and adaptive cut-through switching
- Low-latency switching
- Supports TokenPipe (for Token Ring) or EtherPipe (for Ethernet)
- Subdivision of 1 physical LAN switch module into multiple virtual switches (domains)
- BootP and TFTP
- Transparent bridging, source-route switching, source-route bridging (Token Ring only) and filtering
- Maximum of 1700 active LAN station addresses per port; up to 10 000 per LAN switch module



10BASE-T and 10BASE-FB/FL Switch Modules, 1 or 2 slots

Reduce bottlenecks—use full-duplex mode

A server on a legacy LAN often segments the network with a LAN switch module to enhance network performance. Although this works it can also cause bottlenecks in the segmented network as the server tries to keep up with requests from the rest of the network. By using the IBM 8271 (Ethernet) or 8272 (Token Ring) LAN Switch Modules in full-duplex mode (selectable on a port-by-port basis), you can avoid these bottlenecks.

When you use an Ethernet switch module in full-duplex mode (an extension to the existing IEEE 802.3 standards), it provides two independent paths to the switched port. Each path has a bandwidth of 10 Mbps (20 Mbps per switched port). Thus when you configure all 28 ports of the Ethernet switch module to full-duplex, you get a potential aggregate bandwidth of 560 Mbps (20 x 28). The bandwidth is even greater when you use Universal Feature Cards (UFCs) populated with high-speed links.

Summary chart for full-duplex support

	Ethernet	**Token Ring**
Bandwidth/path	20 Mbps	32 Mbps
Number of full-duplex ports	28	24
Potential aggregate bandwidth*	560 Mbps	768 Mbps
Interfaces supported	RJ-45	RJ-45
Cables supported	category 3, 4, 5 UTP, 150-ohm STP	category 3, 4, 5 UTP, 150-ohm STP

** IBM 8271 and 8272 LAN Switch Modules support up to 512 Mbps throughput*

When you use a Token-Ring switch module in full-duplex mode (an extension to the existing IEEE 802.5 standards), each of its paths has a bandwidth of 16 Mbps (32 Mbps per switched port). Thus when you configure all 24 ports of the Token-Ring switch module to full-duplex, you get a potential aggregate bandwidth of 768 Mbps (32 x 24). The bandwidth is even greater when you use UFCs populated with high-speed links.

To use Ethernet or Token-Ring LAN switch modules in full-duplex mode, you also need full-duplex-enabled adapters installed in your PCs or servers. For example we offer the IBM EtherStreamer® Full-Duplex Ethernet Adapter and the IBM LANStreamer® Full-Duplex Token-Ring Adapter.

Manage traffic—try virtual switching

You can configure ports into separate workgroups (domains) to stop network traffic, including broadcast messages, from flowing between a port within any selected workgroup and ports outside that workgroup. This capability, called *virtual switching*, allows you to divide one physical LAN switch module into virtual switches, each consisting of a non-overlapping set of switch ports. When you combine this capability with ATM's virtual capability, you can build a virtual LAN (VLAN) that covers your entire campus.

Get greater port capacity and flexibility—select the number of slots you need

Because LAN switch modules come in Ethernet and Token-Ring versions, we offer the LAN switch modules for both versions for either two or three slots in the 8260.

IBM 8271 LAN Switch Modules for Ethernet have twelve 10BASE-T ports with RJ-45 connectors. (We support categories 3, 4 and 5 UTP connectors and 150-ohm STP connectors.) The two-slot version supports up to two UFCs; the three-slot version supports up to four. You can use the following Ethernet UFCs in any combination in either the two- or three-slot 8271 LAN Switch Module:

- The 4-port Ethernet 10BASE-T UFC extends the number of 10BASE-T ports to a maximum of 28.
- The 3-port Ethernet 10BASE-FL UFC connects to and switches between LAN segments up to 2 km (6600 ft) apart.
- The 1-port Ethernet 100BASE-TX UFC connects to a 100BASE-TX backbone segment or directly to a LAN workstation equipped with a 100BASE-TX Ethernet adapter.
- The 1-port Ethernet 100BASE-FX UFC connects to LAN segments up to 2 km (6600 ft) apart using ST optical fiber.
- The 1-port ATM 155-Mbps Multimode Fiber UFC connects to a port on an ATM switch, such as the 155-Mbps Switch Module for the 8260, using an SC optical fiber.

IBM 8272 LAN Switch Modules have eight Token-Ring (4- or 16-Mbps) ports with RJ-45 connectors. (We support categories 3, 4 and 5 UTP connectors and 150-ohm STP connectors.) The two-slot version supports up to two UFCs; the three-slot version supports up to four. You can use the following Token-Ring UFCs in any combination in either the two- or three- slot 8272 LAN Switch Module:

- The 4-port Token-Ring UTP/STP UFC extends the number of ports up to a maximum of 24.
- The 2-port Token-Ring Fiber UFC connects to and switches between LAN segments up to 2 km (6600 ft) apart.
- The 1-port ATM 155-Mbps Multimode Fiber UFC connects to a port on an ATM switch, such as the 155-Mbps LAN Switch Module for the 8260, using an SC optical fiber.

The following additional features of the 8272 LAN Switch Modules differentiate them from the 8272 ATM LAN Switch Modules:

- Auto-sense and auto-configuration capabilities offer superior ease of use that saves you time and thus costs.
- Source-route switching, an IBM-developed technology, supports high-performance switching in source-routing Token-Ring networks. With source-route switching you get the benefits of source-routing without having to manually configure ring and bridge numbers for each port on a Token-Ring LAN Switch Module. Therefore you need less time for setting up the initial configuration and less time for making ongoing changes on the network.

And we designed the architecture so that it doesn't limit this technology. All of the LAN switch module ports are in the same logical ring so that frames can be forwarded based on destination MAC addresses for locally attached workstations. These addresses are based on the routing information within the Token-Ring frame for workstations that aren't locally attached, such as source-routing bridges, for a maximum of seven bridge hops.

The 8271 and 8272 ATM LAN Switch Modules are functionally equivalent to the 8271 and 8272 LAN Switch Modules (except for the auto-sense, auto-configuration and source-route switching features of the 8272). These ATM versions supply the same number of ports and use the same UFCs. But they connect directly to the ATM backplane or Models A10, A17 and G17 of the 8260. This direct access to ATM saves one UFC slot and is the fastest path to an ATM campus backbone.

If you want to convert 8271 or 8272 LAN Switch Modules to 8271 or 8272 ATM LAN Switch Modules, we offer upgrade kits.

Increase performance—connect the ports

For configurations larger than 28 Ethernet segments or 24 Token-Ring segments, multiple LAN Switch Modules or stand-alone switches can be joined by connecting the ports. The 8271 and 8272 increase bandwidth over the entire configuration by combining multiple ports to make these connections. With this capability—called EtherPipe and TokenPipe, respectively—you can have any two LAN switch modules communicate over four (or up to four) configured full-duplex LAN ports per switch module. In the maximum configuration—two switch modules with a "pipe" consisting of four full-duplex ports—you get an additional 80 Mbps (4 x 20) for Ethernet and an additional 128 Mbps (4 x 32) for Token Ring.

When you connect two or more ATM LAN switch modules, you can increase performance even more if you connect them through an ATM backplane. The aggregate throughput then becomes 4.2 Gbps because the bandwidth for the ATM backplane applies to anything that is attached to it.

Scale up—migrate from shared-media LANs to switched LANs to ATM using the Switching Modules Series

We designed a series of one- and two-slot LAN modules especially for Models P10, P17 and G17 of the 8260, which are equipped with a Packet-Channel backplane. We refer to this series collectively as the "Switching Modules Series." (A later list identifies the specific models in the series.) The Switching Modules Series provides scalable solutions for migrating your shared-media LANs to switched LANs and, ultimately, to ATM for your network.

Optimized for the combination of 10-Mbps and 100-Mbps switched Ethernet and FDDI networks, the Switching Modules Series allows you to configure and monitor your network through a distributed management module (DMM) on the 8260. A DMM doesn't require a shared-media module or a LAN monitor card because all of the LAN modules communicate with each other over the 2-Gbps Packet-Channel backplane.



100BASE-TX and 100BASE-FX Switch Modules

We also designed the Switching Modules Series on the multiprotocol Integrated Switch Controller (ISC) 4000 ASIC so that you can get high performance through 10BASE-T/FB/FL, 100BASE-TX/FX and FDDI LAN switching. You can install 10BASE-T ports (up to 204) or 100BASE-TX/FX ports (up to 68) in a 17-slot 8260. In addition you can combine the Switching Modules Series in a single unit with any other LAN modules without restriction. That includes ATM, which uses Model G17 of the 8260. You can even use them in an 8260 model that has no Packet Channel, if a single mode is sufficient.

Features of the Switching Modules Series include:

- Hardware-based protocol filtering manages your switched-LAN environments better. These environments include virtual networking, which improves performance even more.
- Embedded RMON support with roving port analysis supplies you with the management information that you need.
- Scalable bandwidth results in easily managed network expansion for growing bandwidth requirements. Each switch module uses its own ISC 4000 ASIC to ensure maximum bandwidth scalability. By adding appropriate switch modules as your network and bandwidth needs increase, you can keep up with that growth.
- Model P17 of the 8260 meets high-performance backbone requirements. It supports up to 204 switched Ethernet ports or up to 34 switched FDDI ports for DAS. We optimized the ISC 4000 ASIC for multiprotocol 10/100 environments so that it delivers 650 000 packets per second of throughput. Because we based the 8260 on a store-and-forward architecture, we designed a dedicated part of each switch module to handle speed-forwarding on all ports. With the addition of dynamic buffering, these switch modules provide full error-checking and can switch large data bursts without packet loss.

The result? Scalable performance

The Switching Modules Series connected to the 8260 ensures that your networks have the scalable capacity to support today's and tomorrow's bandwidth needs. LAN modules in the series are interconnected through the IBM 2-Gbps Packet-Channel backplane on the 8260. We optimized the Packet-Channel backplane for multiprotocol environments so that it supports interconnected switch-module communication of FDDI or Ethernet as well as connectivity to ATM backbones. With the switch modules installed you and your users can say good-bye to bandwidth overload on your networks.

Manage access and traffic

All LAN modules in the Switching Modules Series let you manage traffic proactively, ensure high throughput for you and your users and ensure that your organization meets future network growth requirements as follows:

- Up to 32 000 MAC addresses for each switch module.
- User-definable MAC address filters. Use these to manage network access effectively and to restrict your users to specific resources.
- Up to 64 protocol filters per switch module. This allows the network manager to use each filter to block or forward a particular protocol on user-defined sets of ports on each switch module. The ISC 4000 ASIC performs all protocol-filtering and -forwarding, thus ensuring high-speed performance even with filtering enabled. (In this case "high-speed" means wire speed, or two-thirds the speed of light.)
- Traffic prioritization based on protocol type. This allows the network manager to support delay-sensitive protocols by assigning a high-priority level to protocols within each switch module.

Create virtual switches—set up virtual networks

Using the Switching Modules Series you can form Layer-2-based virtual networks. These switch modules are then called "virtual switches." Virtual switches allow network managers to segment users' access to the networks, which enables them to manage the networks more effectively.

To set up each virtual switch, define a group of ports for an 8260 (any interface type). Because each virtual switch operates as a complete 802.1d Spanning Tree bridge, it supports its own address database. It also manages its own broadcast and multicast containment view and its own management view. You can set up 256 virtual switches for each 8260. By using Model G17 you can also further extend virtual switches by using an ATM uplink with Forum-compliant LAN Emulation (LANE).

Designed for reliability

When you support a mission-critical organization such as air-traffic control, you must have high reliability. So we designed and architected the Switching Modules Series and the 8260 with that in mind. To achieve that kind of reliability we included the following checks and balances:

- Load-sharing power supplies
- Redundant links
- Power management
- Redundant controller modules
- Switched ports
- Network management modules

We provided automatic switching to the redundant components to ensure a high level of network availability. Distribution of switching capabilities throughout the system provides additional reliability. With an ISC 4000 ASIC and a Motorola 68040 management processor on each switch module in the Switching Modules Series, other LAN modules continue to operate even if one of the LAN modules becomes disabled.

The 8260 with a Packet-Channel backplane consists of a passive bus, female connectors and no active components. With this setup you get high network availability combined with high reliability.

Additional fault-tolerant features include:

- Dynamic side-switching. This reduces losing sessions. Each switch module dynamically adapts to network changes. It does this by detecting when a node is moved to a different port in the system.
- Replaceable switch modules with configuration learning. This allows any switch module that becomes disabled to be replaced for a functioning one even when the 8260 is operating (hot-swapping). If you replace the disabled switch module with an identical one, it learns the previously stored configuration, which, in turn, ensures minimum network disruption.
- Power management architecture in the 8260. With this architecture the network manager can keep critical network functions operational.

Save your sanity—use applications to manage your system

To simplify configuring, managing and monitoring your IBM networking products, you can use our Campus Manager suite of applications. Available for Windows® and UNIX® environments, Campus Manager supports the following management platforms:

- HP OpenView
- SunConnect
- SunNet Manager
- NetView®

Along with the graphical management capabilities of the Campus Manager applications, the switch modules in the Switching Modules Series offer the following capabilities:

- Distributed RMON MIB and interface statistics support. This supports the configuration and monitoring of RMON and interface statistics, which provide a comprehensive view of network activity from a single point of control. Each switch module contains an RMON agent that provides all nine RMON groups on any single port. Comprehensive interface statistics are collected in real time for every port.
- Integrated inventory management. This allows you to view statistics and hardware data that help you manage your hardware and software inventory. Each switch module contains integrated inventory information, which you can access easily. For example you can see revision levels of the hardware and software at a glance, installed memory totals and any notes your users have sent.
- Roving port analysis. This mirrors traffic on any port to any other port in the system or to the RMON agent contained within any switch module. In this way you can monitor traffic in real time without being intrusive.
- In-band and out-of-band management. This provides a central point of control for managing all of the installed switch modules through a DMM for an 8260. The DMM supports in-band management using SNMP or Telnet. It also supports out-of-band management using SLIP for Telnet and SNMP along with the use of direct asynchronous terminals.
- SNMP agents for each module in the Switching Modules Series. This provides easier manageability. These switch modules adhere to the architecture of the stand-alone 8271 and 8272 LAN Switch Modules. We integrated all of these LAN switch modules into the 8260 environment.

Eliminate congestion—use 10BASE-T switch modules

With the one- and two-slot 10BASE-T switch modules in the Switching Modules Series, you can divide your LANs into small segments, even microsegments. This isolates the busiest workstations on individual segments, thus eliminating congestion. And you can do this without having to change adapters or building cabling (UTP or STP) and without having to modify any of your software. Thus you minimize the costs of making changes as you maximize network performance.

Disregard cable distances—use 10BASE-FB or 10BASE-FL switch modules

The 10- or 20-port switch modules in the Switching Modules Series bring the power of switching to fiber-based, shared-media Ethernet. As with the 10BASE-T switch modules you don't need to make any changes to your network infrastructure to use them. These switch modules support operating over multimode optical fiber for distances of up to 4 km (13 200 ft).

The ports are equipped with ST connectors. Each port automatically configures itself for operating with either 10BASE-FL or 10BASE-FB switch modules.

Increase bandwidth at each port—use 100BASE-TX and 100BASE-FX switch modules

The performance of shared media on a backbone often proves to be inadequate in today's environments as new applications and more users flood the networks and exceed their capacities. To overcome the problems for your organization, change to the 100BASE-TX or 100BASE-FX switch modules.

Using switched Ethernet at 100 Mbps provides you with a dramatic increase in bandwidth. It can serve traditional LAN applications at the backbone and workgroup levels, where necessary. You can configure each port so that it operates in half- or full-duplex mode. Using this configuration results in up to 20 times (200 Mbps) more bandwidth per port than the configurations for 10BASE-T, 10BASE-FL or 10BASE-FB switch modules in the Switching Modules Series.

You can connect 100BASE-TX switch-module ports up to 100 m (328 ft) using category 5 UTP cables. These ports have ST connectors and operate for distances of up to 4 km (13 200 ft) over multimode optical fiber. Each switch module supports up to four ports and occupies a single slot in the 8260. Again because you minimize changes to the network's infrastructure, you keep your costs low, reduce installation time and eliminate having to retrain your users.

Get FDDI connectivity—access backbones and servers

Three of the switch modules in the Switching Modules Series offer FDDI connectivity for access to backbones and servers. Each FDDI-connected port uses the standard FDDI MIC and supports connection to an optical bypass switch. You can configure each port as either a DAS or SAS. It supports multimode optical fiber over distances of up to 2 km (6600 ft).



Dual FDDI DAS LAN Switch Module, 1-Slot

Features	*Benefits*
Ethernet, Token Ring or FDDI	• Extends network bandwidth for data-intensive applications such as multimedia, CAD and switching client/server. • Interconnects dedicated or shared LAN segments on any port. • Delivers high performance at lower cost where bridge or router technologies are not required.
Rich set of options	• Solutions for either workgroup-switching or backbone-switching problems for maximum cost-efficiency. • Provides options for port-to-port ATM connection to an ATM switch module or direct connection to the ATM backplane.
Virtual switching	•Allows the grouping of LAN switched ports to form independent switched networks. • Provides a great tool for the smooth transition from shared-media networks to switched networks when combined with the port-switching feature (or patch panel) on shared-media switch modules.
Full-duplex operation (8271 and 8272 LAN and ATM LAN Switch Modules, and 100BASE-TX and 100BASE-FX Switch Modules only)	• Permits simultaneous, two-way transmission between the switch module and another switch or a device with a full-duplex-capable adapter. • Improves server throughput by doubling available bandwidth when used on a dedicated LAN segment. • Relieves congestion at the network access point or server adapter.
Interconnectivity	Permits greater LAN segmentation by allowing you to interconnect multiple IBM LAN switch modules.
SNMP management	Supports remote network management by SNMP-compliant applications such as: Nways Campus Manager for Windows Nways Campus Manager for AIX® Nways Campus Manager for HP OpenView
Standards support	Protects your investment by interoperating with existing IEEE 802.3 or 802.5 adapters and hubs and other components.

IBM LAN Switch Modules (for the IBM Nways 8260 Multiprotocol Switching Hub) at a glance

Product	*Modules for the 8260*		
	51H4595:	6212	8271 LAN Switch Module, 2-Slot
	51H4593:	6312	8271 LAN Switch Module, 3-Slot
	51H4591:	6208	8272 LAN Switch Module, 2-Slot
	51H4589:	6308	8272 LAN Switch Module, 3-Slot
	51H4931:	5212	8271 ATM LAN Switch Module, 2-Slot
	51H4932:	5312	8271 ATM LAN Switch Module, 3-Slot
	51H4933:	5208	8272 ATM LAN Switch Module, 2-Slot
	51H4934:	5308	8272 ATM LAN Switch Module, 3-Slot
	51H4935:	5009	ATM Backplane Upgrade for 8271 LAN Switch Module
	51H5020:	5010	ATM Backplane Upgrade for 8272 LAN Switch Module
	Switching Modules Series		
	29H4350:	7312	10BASE-T LAN Switch Module, 1-Slot, 12-Port
	29H4352:	7324	10BASE-T LAN Switch Module, 2-Slot, 24-Port
	29H4354:	7310	10BASE-FB/FL LAN Switch Module, 1-Slot, 10-Port
	29H4356:	7320	10BASE-FB/FL LAN Switch Module, 2-Slot, 20-Port
	29H4358:	7314	10BASE-T FDDI DAS LAN Switch Module, 2-Slot, 12-Port
	29H4360:	7412	10BASE-FB/FL, FDDI DAS LAN Switch Module, 2-Slot, 10-Port
	29H4362:	7304	Dual FDDI DAS LAN Switch Module, 1-Slot
	29H4366:	7504	100BASE-TX LAN Switch Module, 1-Slot, 4-Port
	29H4364:	7404	100BASE-FX LAN Switch Module, 1-Slot, 4-Port
	29H4368:	7302	Packet Channel/ATM Switch Module, 2-Slot
	29H4372:	8968	8-MB LAN Switch Memory Upgrade
	29H4374:	8976	16-MB LAN Switch Memory Upgrade
	29H9840:	7016	10BASE-T LAN Access Switch Module, 2-Slot, 16 10BASE-Tports, 8 backplane ports
	8260 Hub and upgrades		
	29H4384:	P10	8260 with Packet Bus, 10-Slot
	29H4380:	P17	8260 with Packet Bus, 17-Slot
	29H4382:	G17	8260 with Packet Bus and ATM Backplane, 17-Slot
	29H4425:	010	MES for 010 to P10 conversion
	29H4422:	017	MES for 017 to P17 conversion
	29H4424:	017	MES for 017 to G17 conversion
	10J1967:	A17	MES for A17 to G17 conversion
Warranty	1 year		
Country of origin	USA		

To connect 10BASE-T, 10BASE-FB and 10BASE-FL switched LANs, we offer two switch modules with a single DAS or SAS FDDI port on each one. The single-slot, two-port FDDI switch module is ideal for building collapsed backbones.

Enables integration and migration

Two new switch modules let you integrate existing shared Ethernet modules into your upgraded LAN or even into a high-performance ATM network. The LAN Access Switch Module extends the benefits of the Switching Modules Series to existing 8250 or 8260 Ethernet shared-media users. And no external 10BASE-T "crossover" connections are required from existing Ethernet modules to a module in the Switching Modules Series.

The Packet Channel/ATM Switch Module enables seamless integration of Ethernet, Fast Ethernet and FDDI users into an ATM network. It enables up to 512 switched virtual circuits operating concurrently in a single switch module. And you can configure two Packet Channel/ATM Switch Modules in a single 8260 to guarantee a high level of redundancy and load-sharing across the modules.

Select the best switches for your network—optimize for scalability and costs

We offer two solutions for Ethernet switching: the Switching Modules Series and the 8271 LAN and ATM LAN Switch Modules. These solutions follow:

- Switching Modules Series. For Ethernet 10BASE-T, 100BASE-TX and FDDI switching use the LAN and ATM LAN Switch Modules in the Switching Modules Series. Because this is a linearly scalable LAN switching solution, you can start with a minimum number of ports (thus lowering your entry costs). Then you can scale up to two hundred four 10BASE-T ports.

  Because you configure all of these switch modules and monitor the networks through the DMM, they are tightly integrated with the 8260. Moreover you can achieve DMM in-band communication via the Switching Modules Series directly without a shared-media switch module or a LAN monitor card.

- 8271 LAN and ATM LAN Switch Modules. These switch modules are well suited as workgroup 10BASE-T LAN switching solutions on a modular platform. They are also suited as an ATM edge switch module for 10BASE-T workgroups.

  Through the use of the ATM UFC for the 8271 LAN Switch Module or through the direct ATM backplane connectivity of the 8271 ATM LAN Switch Module, you achieve a more cost-effective solution than with the Switching Modules Series solution. The 8271 solution also delivers higher throughput over the ATM interface. Because the 8271 Switch Modules can add Fast Ethernet interfaces (though in limited numbers), this solution is also appropriate for low-cost, limited 10BASE-T, 100BASE-TX and 100BASE-FX switch modules, and ATM connectivity.

For more information

To find out more about the IBM 8260 Nways Multiprotocol Switching Hub and other high-performance IBM communications and networking products, contact your IBM representative or call IBM Direct at 1 800 IBM-CALL (1 800 426-2255). You can also access the IBM Networking Home Page at http://www.networking.ibm.com.

You can obtain copies of this and other related product specification sheets from 1 800 IBM-4-FAX (1 800 426-4329) in the U.S. or Canada or by calling 1 415 855-4329 outside the U.S. and Canada and requesting any of the following document numbers:

2120: *IBM 8260 Nways ATM Campus Solutions*

1588: *IBM 8260 Token-Ring Module*

2661: *IBM 8260 Nways Multiprotocol Switching Hub*

2662: *IBM 8260 Ethernet Modules*

7263: *IBM 8250 Ethernet Modules*

7261: *IBM 8250 Token-Ring Workstation Networking Module with 3174 Features*

7262: *IBM 8250 Token-Ring Modules*

7264: *IBM 8250 FDDI Modules*

Because the LAN switch modules are functionally identical to the stand-alone versions of the 8271 and 8272 LAN Switch Modules and because they can use all of the same UFCs, you also might want to consult the following specification sheets for further information:

G224-4425: *IBM 8271 Nways Ethernet LAN Switch*

G224-4438: *IBM 8271 Nways Ethernet Universal Feature Cards*

G224-4418: *IBM 8272 Nways Token-Ring LAN Switch*

G224-4439: *IBM 8270 and 8272 Nways Token-Ring Universal Feature Cards*



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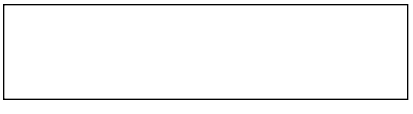
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