High function and high reliability
you can afford

IBM 8245 10/100 Stackable Ethernet Hub

• *Includes four models to match your management needs and port requirements*

• *Provides remote management and configuration to keep initial installation simple*

• *Connects the 10BASE-T and 100BASE-T backplanes with an optional bridge that also sup- plies a 10/100BASE-TX, 100BASE-FX, or AUI uplink port*

• *Supports up to 6 hubs in a stack serving up to 144 port connections with up to 18 pair of redundant ports*

• *Features broadcast storm detection and prevention, factory configuration reset, and intrusion security protection*

• *Provides auto-sensing, dual- speed, 10/100 Mbps on all ports*

• *Supports redundant managed hubs and bridges in the same stack for high reliability*

• *Control panel equipped with illuminated display and ergo- nomic menu buttons for easy configuration and at-a-glance status updates*

• *Provides port-by-port link/ activity and partition indica- tions, packet size and network utilization monitoring*

The IBM 8245 10/100 Ethernet Stackable Hub is a dual-speed (10BASE-T and 100BASE-TX), dual-backplane stackable hub. As a Class II repeater, it can be used to cascade to other hubs through its MDI and MDI-X ports.

There are four models available. Models 012 and 024 are 12- and 24-port manage- able repeaters. Models 112 and 124 are 12- and 24-port managed hubs that can manage Models 012 and 024 in a stacked configuration. A maximum of six hubs can be in one stack, providing up to 144 ports.

Positioning and Benefits

The 8245 supports both 10 Mbps Ethernet and 100 Mbps Fast Ethernet to every port, providing larger bandwidth or faster response time for critical users and applications. Choosing between a hub and a switch is a matter of price and the response time required in the network. The 8245 protects your existing invest-ment in networking infrastructure by providing easy migration from 10-Mbps shared Ethernet to 100-Mbps shared Ethernet.

The 8245 also provides extensive flexibility. The four models available yield a variety of port densities, stackability options, and managed versus unmanaged configurations, allowing it to be utilized in a number of different network sce-narios.

Problem: Ease of migrating user workstations to a higher performance network and the convenience of migrating to the higher speed as each user requires the additional bandwidth and at a price less than switch prices for comparable function.

Environment: Congestion and poor response times due to a large number of users on one or more Ethernet segments. Conflict between power and casual users.

1. *Server*

2. *8237 Stackable Ethernet Hub 10BASE-T*

3. *End users*

4. *10-Mbps unmanaged hub*
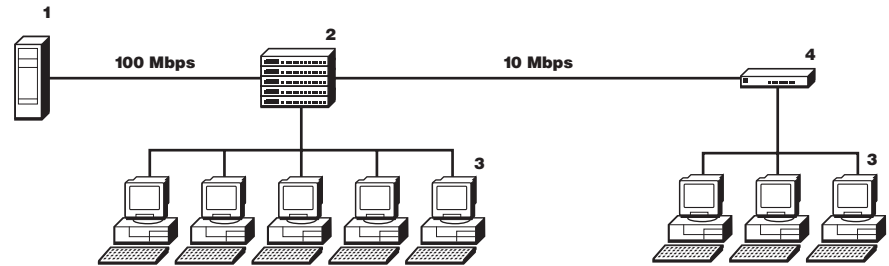
Solution: Introduce a 10/100 multi-speed hub into the network providing power users with the bandwidth they require without interfering with users requiring less bandwidth. This configuration allows users to communicate with each other, while protecting the migration of 10-Mbps hubs and the immediate need for power users (at 100 Mbps).

1. *8245 10/100 Stackable Ethernet Hub*

2. *Servers*

3. *Power users*

4. *8237 Stackable Ethernet Hub 10BASE-T*

5. *10 Mbps unmanaged hub*

6. *Casual users*
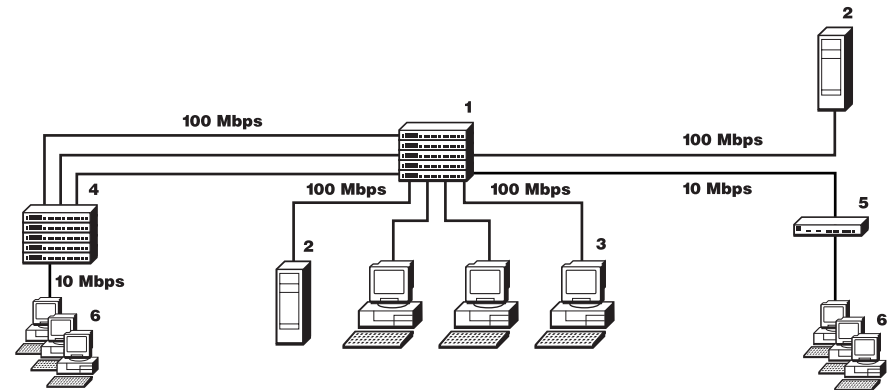
Benefits

- Easy migration as applications require greater network performance
- Higher reliability and flexibility
- Less network congestion - improved bandwidth
- Simple network integration
- Strong management functionality

Product Overview

The IBM 8245 10/100 Stackable Ethernet Hubs let you build robust shared-media Ethernet segments that are flexible enough to meet the needs of most environments, yet easy to manage. Each dual-speed port is auto-sensing, so it knows whether the adapter at the other end of the connection is operating at 10 Mbps or 100 Mbps and matches the data rate automatically. Each port also provides jabber sensing, polarity reversal, auto-partitioning and intrusion sensing to protect the stable operation of your network.

The 8245 has separate backplanes for 10BASE-T and 100BASE-T operation. An optional bridge, functionally a 3-port switch to prevent bottlenecks, is used to connect the two network segments for the entire stack of up to six hubs and provide an uplink to 100BASE-TX or FX segments. So a single hub or stack not only supports operation at 10 and 100 Mbps simultaneously but can also join the two segments with a bridge to maximize the efficiency of the network.

Four models mix and match to your needs

The 8245 is available in four models that can be used in any combination. Two of the models are manageable and the other two are managed.

The 8245 Models 012 and 024 manageable hubs can be used either in conjunction with managed hubs or by themselves in a stack of up to six hubs serving 144 attaching devices for a network with minimal network management requirements. Port and hub status is provided by LEDs on the front of the hub.

The Models 112 and 124 are both managed hubs that provide management to a stack of hubs. They provide 12 and 24 ports respectively. The managed hubs provide all the in-band, out-of-band, and Web management for a stack. The Models 112 and 124 support SNMP, four groups of RMON and a Web server accessible with any Java™-based browser as well as BootP and SLIP for TFTP downloads. The managed hubs also perform broadcast storm monitoring and prevention. Node source tracking and matching combine with packet size distribution and network monitoring to provide additional information that you can use to improve your network's performance.

For high reliability, Release 2 of the configuration program (planned for availability as a free Web download in third quarter of 1998) will support redundant managed hubs in the same stack. The configuration program can also be used to assign redundant ports to ensure that critical devices continue to be available to the network should the primary port fail.

The managed hubs are equipped with an EIA-232 port for out-of-band communications to allow network administrators to configure the hub from a remote location as soon as the installer has hooked up the cables. For working in the vicinity of the machine, a state-of-the-art illuminated control panel delivers stack status and management information instantaneously, while also providing configuration capability.

The optional bridge can be used with any model of the 8245 to connect the 10BASE-T and 100BASE-TX backplanes. The bridge is available in three versions: one provides a port with a 10/100BASE-TX uplink, another provides a port for a 100BASE-FX uplink, and a third provides an AUI port for connectivity to legacy equipment. In Release 2 of the configuration program, redundant bridging will be supported to increase further the availability of the 8245.

Big-box features in a small package

In addition to supplying the traditional IBM values of reliability, high function and adherence to industry standards to ensure interoperability, 8245s bring a host of benefits to their users.

- Small Ethernet LANs can be built in a matter of minutes to serve immediate needs.
- No special environmental considerations apply—the 8245 is even quiet enough to be installed in office environments.
- No special crossover cables are required.
- Auto-ranging power supplies eliminate the need for multiple models for diifferent countries.
- Options such as jabber control, auto-partitioning, auto-reconfiguring, redundant bridging and redundant managed hubs in a stack are available on the 8245s at one of the lowest costs per port in the industry.
- A full range of transmission media choices help speed installation and control the costs of moves, adds and changes.

8245 10/100 Stackable Ethernet Hub Specifications

Physical specifications

Model	Width	Depth	Height	Weight
012	437 mm (17.2 in.)	216 mm (8.5 in.)	64 mm (2.5 in.)	3.6 kg (7.9 lb)
024	437 mm (17.2 in.)	216 mm (8.5 in.)	64 mm (2.5 in.)	3.6 kg (7.9 lb)
112	437 mm (17.2 in.)	216 mm (8.5 in.)	64 mm (2.5 in.)	3.8 kg (8.4 lb)
124	437 mm (17.2 in.)	216 mm (8.5 in.)	64 mm (2.5 in.)	3.8 kg (8.4 lb)

Operating environment

Operating temperature	Storage temperature	Relative humidity	Maximum wet-bulb temperature
10° to 40°C (50° to 104°F)	-25° to 70°C (-13° to 158°F)	8% to 80%	27°C (84°F)

Power

Model	Nominal input voltage	Frequency range	Power dissipation (maximum)
012	100 to 240 V ac	50 to 60 Hz	17.5 watts (59.7 BUT/hour)
024	100 to 240 V ac	50 to 60 Hz	17.5 watts (59.7 BTU/hour)
112	100 to 240 V ac	50 to 60 Hz	17.5 watts (59.7 BTU/hour)
124	100 to 240 V ac	50 to 60 Hz	17.5 watts (59.7 BTU/hour)

Protocols

Model	Management	Protocols
012 and 024	Manageable	• SIM for TCP/IP-based Internet (RFC 1155) • SNMP (RFC 1157) • Concise MIB (RFC 1212) • Standard MIB (RFC 1213) • Traps (RFC 1215) • Repeater MIB (RFC 1516) • RMON (RFC 1757) • Telnet (RFC 854) • TCP (RFC 793) • IP (RFC 791) • Subnets (RFC 792, 950) • BootP (RFC 951) • DHCP (RFC 1533) • ARP (RFC 826) • TFTP (RFC 1350) • SLIP (RFC 1055)
112, 124	Managed	• Same as Models 012 and 024

Standards

Function	Electromagnetic compatibility	Safety
IEEE Standard 802.3 and 802.3u	• FCC Part 15, Subpart B, Class A • VCCI Class A ITE • JEIDA • Council Directive 89/36/EEC (EMC); EN55 022 (CE Mark) (CISPR 22:1993), Class A • Korean EMI, Taiwan EMI (CISPR-22) • Australia/New Zealand EMI (CISPR-22) • Mexico, China product certification	• UL 1950, 2nd Edition • CE certified (European Community) • CSA certified (CSA 22.2 No. 950; Second Edition) • Council Directive 73/23/EEC (Low Voltage Directive); (IEC 950, 2nd Edition), including Amendments 1, 2, 3 and 4 • C-S 3-0501-070 Product Safety, IBM requirements • CB Bulletin, most current level

Key Customer Benefits

- Crossover ports allow use of straight-through cables for all connections, requiring no special crossover cables

- Automatic partitioning automatically isolates a port from its segment when 32 consecutive collisions are detected

- The AUI port allows connection to 10BASE2, 10BASE5 and 10BASE-F Ethernets

- MDI and MDI-X ports allow cascading of 8245s with straight-through cables

- Front-panel LEDs and vacuum fluorescent display (VFD) provide box-level and port-level information for operational monitoring and troubleshooting

- Jabber lockup protection automatically partitions jabbering ports to ensure the operation of the rest of the segment

- Automatic polarity-reversal correction prevents failures caused by copper cable polarity reversals

Supplementary Information

The following sales tools are available for the 8245:

- Specification sheet:
  IBM 8245 10/100 Stackable Ethernet Hub, G224-4567

- Information on the IBM 8245 is available at:
  www.networking.ibm.com/245/245prod.html