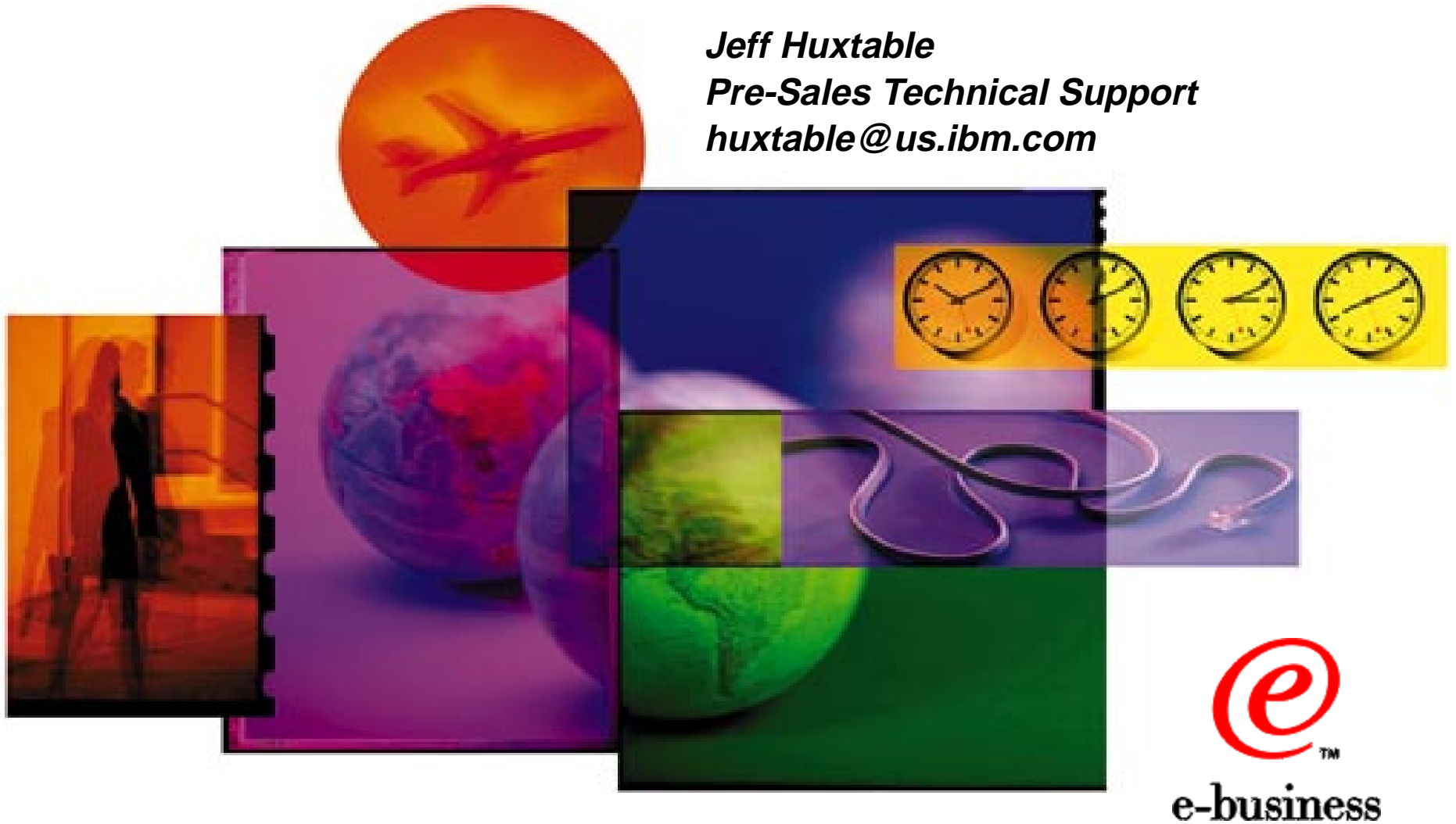


IBM Workgroup Ethernet Announcements - Spring 1999

Enabling your network to support e-business applications

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IBM Ethernet Adapter Family

- 10/100 EtherJet PCI Adapter
- 10/100 EtherJet PCI Adapter with Wake on LAN



***Desktop
(PCI)***

***Server
(PCI)***



- Netfinity 10/100 Fault Tolerant Adapter
- Netfinity 10/100 Ethernet Adapter
- Netfinity Gigabit Ethernet SX Adapter

***Mobile
(PC Card /
CardBus)***

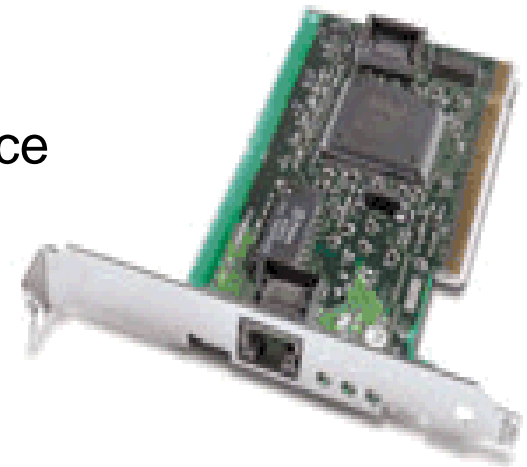


- EtherJet PCCard Combo
- EtherJet PC Card (10BaseT)
- 10/100 EtherJet CardBus Adapter
- 10/100 EtherJet CardBus Adapter with 56K Modem

10/100 EtherJet PCI Management Adapter

New

- The leading PC manageability adapter in the market
 - Wake on LAN for remote PC wake-up
 - Remote boot EPROM with PXE/DHCP or RPL
 - Desktop Management Interface (DMI) 2.0 compliance
 - Tivoli Management Agent included
 - Wired for Management 2.0 (WfM 2.0) compliance
- Supports packet prioritization (IEEE 802.1p) and Virtual LANs (IEEE 802.1q)
- Easy installation with Plug and Play
- Full Duplex support at 10 Mbps and 100 Mbps, auto-negotiation of speed and duplex



Announce 3/23/99, Availability 3/26/99

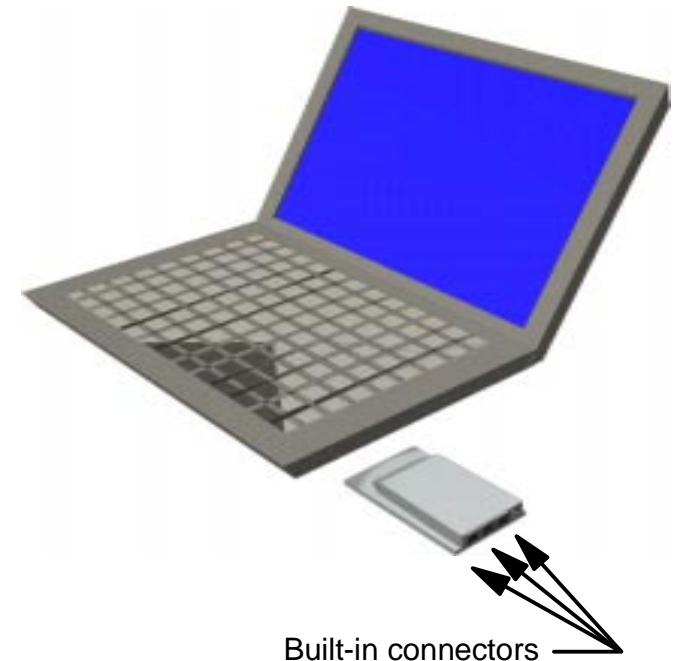
10/100 EtherJet PCI Management Adapter

- Supports 100BASE-TX and 10BASE-T
- Three LEDs for Link, Activity, and 100 Mbps operation
- Support for major network operating systems like Microsoft Windows NT4.0 and 2000 Beta, Windows 95 and 98, Novell Netware, OS/2 LAN Server, SCO UNIX
- Driver compatibility with previous adapter versions and IBM PCs with embedded Ethernet
- New controller chip and device drivers
 - 32-bit PCI busmaster architecture for industry-leading performance
 - Reduced host CPU utilization with checksum calculation offloaded to adapter
 - Lower power consumption
- Limited Lifetime Warranty
- US channel price \$74, estimated reseller price \$109
- Available in single (34L1201) and card-packs (34L1210)

10/100 EtherJet CardBus ReadyPort Adapter with 56K Modem

New

- Combination LAN and modem card for CardBus laptops
- Unique, built-in connectors
 - No cables to lose, break, or forget!
- Ethernet Features
 - 100BASE-TX / 10BASE-T, auto-negotiation, full duplex
 - 32-bit CardBus high performance
 - PC98 compliant
 - Compliant with ACPI and CardBus Power Management
 - Low power consumption
 - Drivers for all major operating systems, on Win98 CD
 - Meets FCC B / CISPR B
- Modem Features
 - V.90 56K modem
 - Simultaneous LAN and modem operation
 - Integrated Worldwide DAA
 - Cellular (AMPS), PCS, and GSM support
- Limited Lifetime Warranty
- US channel price \$287, estimated reseller price \$399
- Available in single (34L1301) and card-packs (34L1310)



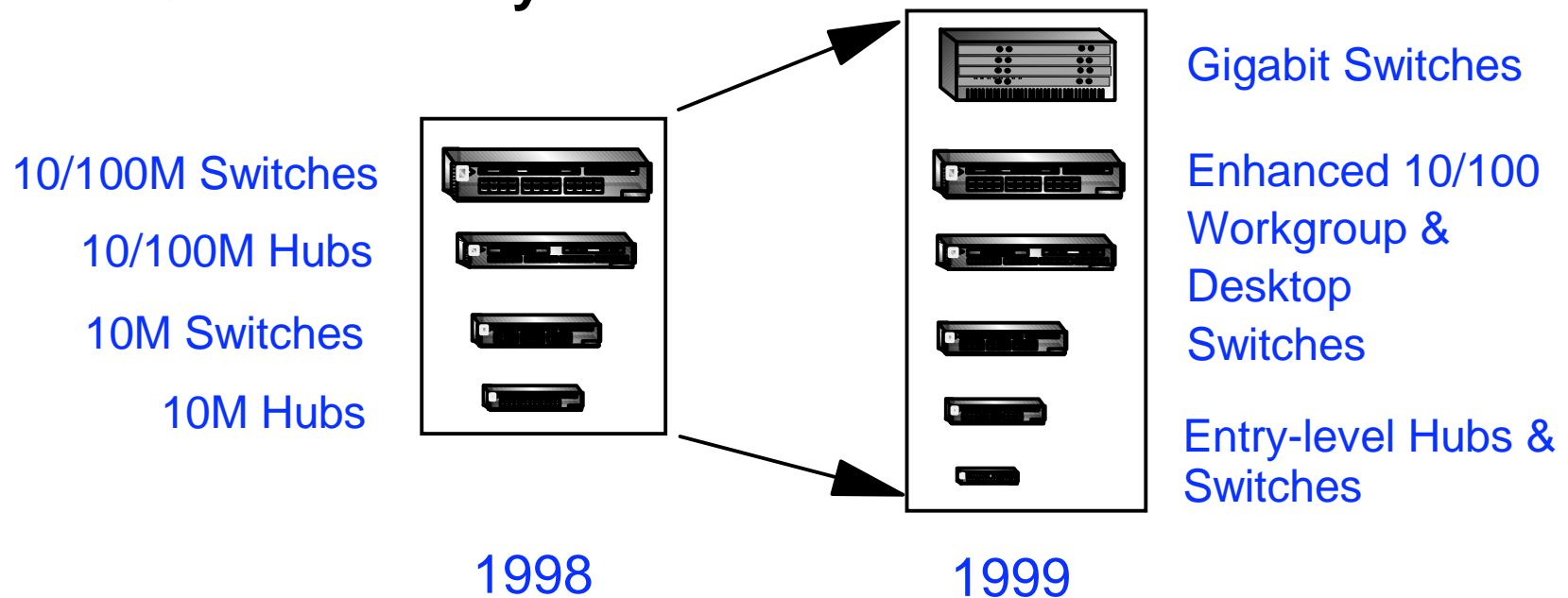
**10/100 EtherJet Cardbus
Ready Port Adapter
with 56K Modem**

Announce 4/13/99

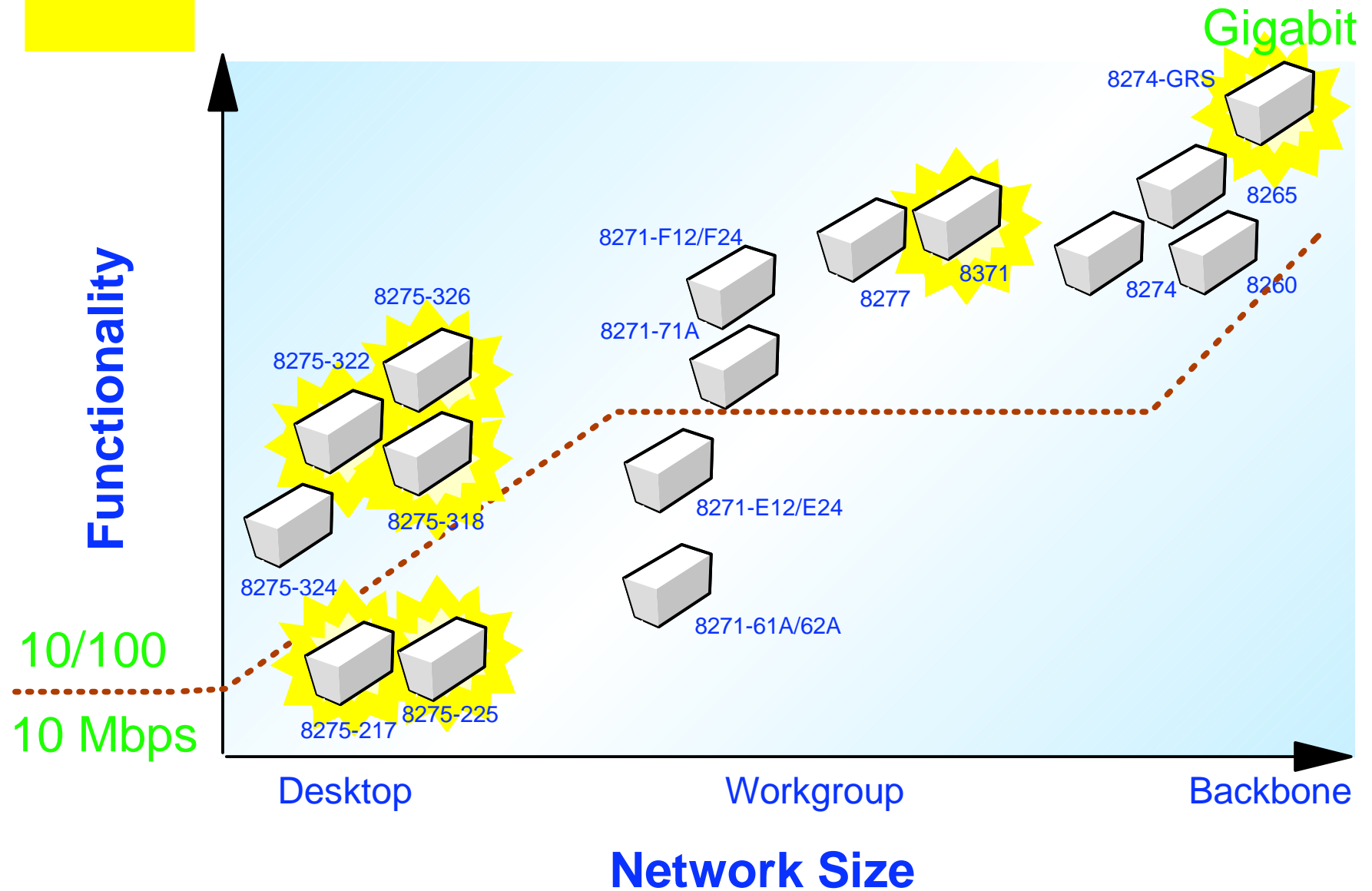
Availability 4/30/99

1999 Ethernet Initiatives in Support of e-Business

- Enhance and extend product offerings
- Competitive price/function
- Channel-ready



Rapidly Expanding Ethernet Solution Set



8275 10BaseT Switches

New Models



8275 Model 217



8275 Model 225

- ♦ **16 (or 24) MDI-X 10BaseT ports**
 - One MDI port is available to connect the 8275 to other switches. The MDI port is used in place of port 8 (or 12).
- ♦ **One 10BaseT/100BaseTX port**
- ♦ **Two expansion slots that can accept the following features:**
 - 1-port 10BaseT/100BaseTX module
 - 1-port 100BaseFX module
- ♦ **EIA-232 port for local management**

Announce 2/23/99, Availability 3/12/99

8275 Models 217 and 225

Features:

- All 10BaseT and 100BaseTX ports support half- or full-duplex connections
- Supports 2000 MAC addresses
- Port mirroring
- Supports Cut-through and Store-and-Forward (default) switching
- Port trunking available on 100 Mbps ports
- Rack-mountable or place on desktop
- 802.1Q VLAN tagging
- Port-based VLANs
- Static multicast address configuration
- Illuminated Control Panel for easy configuration and status updates

8275 Models 217 and 225

- **Spanning Tree Protocol (STP) support**
 - One instance per switch
- **Port Trunking**
 - One trunk group per switch
 - Available on 100 Mbps ports
 - Can only trunk between 8275 Model 217 and 225 units
 - Uses additional port ID when implementing STP on trunk (port 20 for 8275-217 and port 28 for 8275-225)
- **VLANs**
 - Port-Based
 - 802.1Q VLAN tagging
 - Maximum 32 assigned VLANs per switch
 - Individual ports can belong to more than one VLAN

8275 Models 217 and 225

Broadcast Storm Monitoring

- **Utilization * Broadcast Packet Rate**
 - Low Level: >10%
 - Medium Level: >20%
 - High Level: >30%
- **Configurable for each port**
- **Detects immediately (within one second)**
- **Actions**
 - No Action
 - Send Trap
 - Auto-partition
 - Send Trap and Auto-partition
- **Continually monitors and restores port to normal after broadcast storm over**

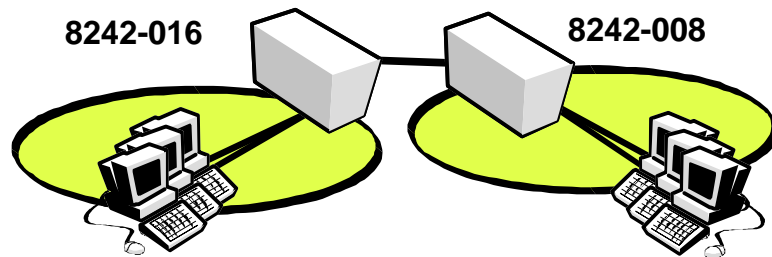
8275 Models 217 and 225

Management Features

- Up to four concurrent management sessions are supported at one time
 - Only one telnet session is supported at one time
- Web-based management
- SNMP and RMON (4 groups) management
- VT-100 terminal emulation support
- In-band communications via telnet for configuration and management
- TFTP download for software updates
- BOOTP client support for download of configuration data from a BOOTP server
- 802.1d Spanning Tree Protocol support
- Out of band management (SLIP)

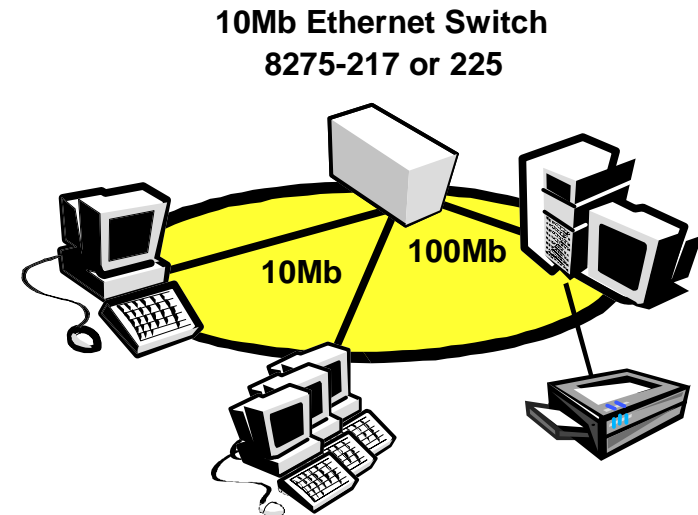
IBM 8275-217, 225 User Scenarios (Small Department)

"Shared to Switched Ethernet Migration"



Shared Environment Using Hubs

- All Users Share 10Mb Bandwidth
- Performance Can Suffer as Traffic Increases



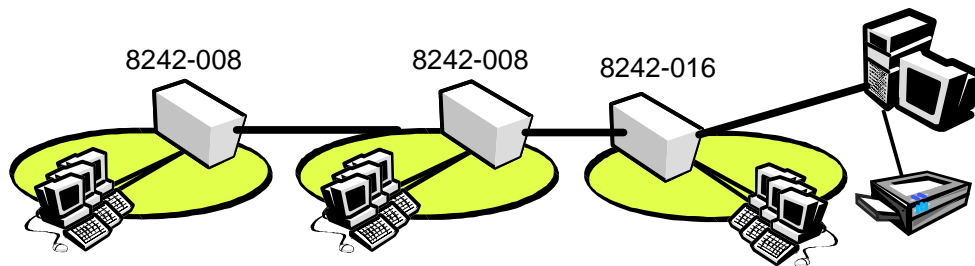
Switched Environment

- All Users Have 10Mb to the Desktop
- Increase Bandwidth Per User
- Server, Printer or Super User Connected via 100Mb Uplink Port

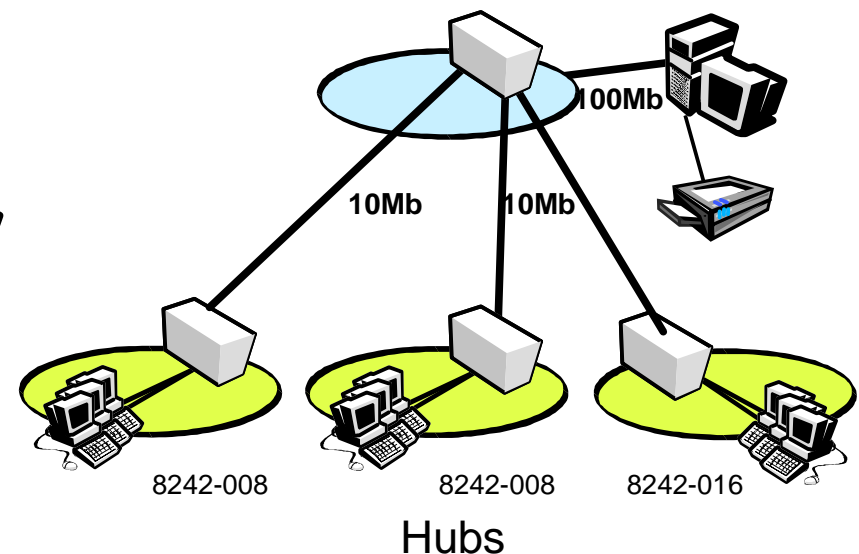
IBM 8275-217, 225 User Scenarios

"Segment Departmental LANs with 10Mb Switch"

Cascading Hubs



10Mb Ethernet Switch
8275-217 or 225



Shared Environment Using Hubs

- All Users Share 10Mb Bandwidth
- Performance Can Suffer as Traffic Increases
- All Users on Same Segment

Segmented LANs

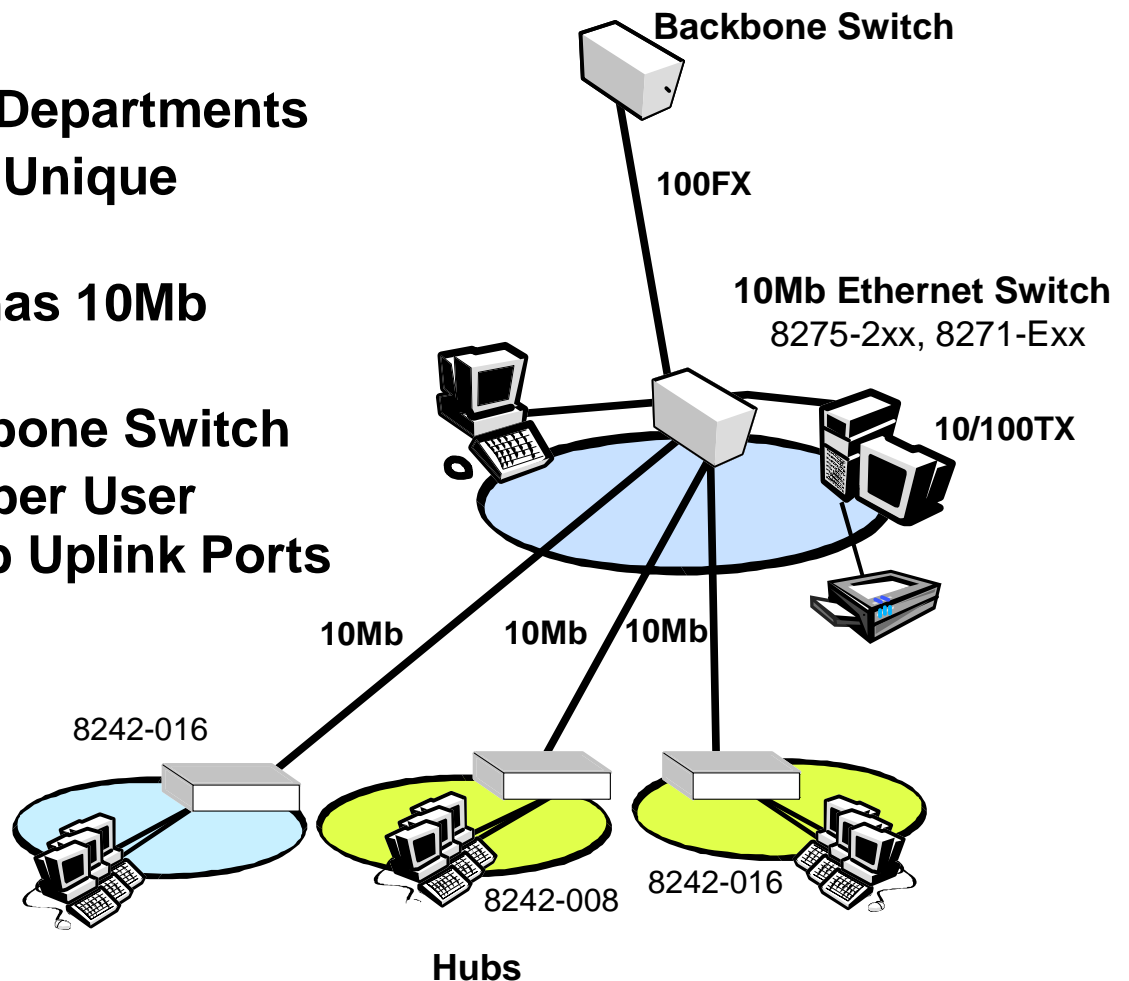
- 8275-217/225 Used to Segment LANs
- Each Hub has 10Mb Dedicated
- Increased Bandwidth to Each Segment
- Server, Printer or Super User Connected via 100Mb Uplink Port

IBM 8275-217, 225 User Scenarios

Enterprise Scenario: "Segmented LANs with High Speed Uplinks"

Enterprise with Multiple Departments

- Each Department on Unique Segment
- Each Hub & Switch has 10Mb Dedicated
- Fiber Uplink to Backbone Switch
- Server, Printer or Super User Connected via 100Mb Uplink Ports (10/100TX or Fiber)



8275 10/100 Switches New Models



Model 322

- ♦ 8 100BaseFX ports
- ♦ 12 10BaseT/100BaseTX ports
- ♦ 2 Expansion slots
 - 1-port gigabit ethernet (1000BaseSX) module*
 - 2-port 100BaseFX module
- ♦ EIA-232 port for local management



Model 318

- ♦ 16 100BaseFX ports
- ♦ 2 Expansion slots
 - 1-port gigabit ethernet (1000BaseSX) module*
 - 2-port 100BaseFX module
- ♦ EIA-232 port for local management



Model 326

- ♦ 24 10BaseT/100BaseTX ports
- ♦ 2 Expansion slots
 - 1-port gigabit ethernet (1000BaseSX) module*
 - 2-port 100BaseFX module
- ♦ EIA-232 port for local management

8275-300 Series

Features:

- All 10BaseT/100BaseTX ports autonegotiate speed and duplex connectivity
- All ports support full- or half-duplex operation
- Supports 8192 MAC addresses
 - Automatic MAC address aging
- Supports Cut-through and Store-and-Forward (default) switching
- Trunking for high-bandwidth connections between switches
- Port Mirroring (due 1Q99 for 8275-324)
- Rack-mountable or place on desktop
- 2MB switching buffers (1 MB for Models 318 and 322)
 - Dynamically allocated
- Port-based VLANs
- Supports UTP and STP cabling
- LEDs for at-a-glance switch management

Announce 2/23/99, Availability 3/19/99

8275 300 Series

■ VLANs

- Port Based
- Port can belong to more than one VLAN simultaneously
- Maximum 8 VLANs per switch

■ Trunking

- Provides high-speed connections between switches
- Up to 8 10/100 ports can be combined into a trunk connection, providing a maximum of 1.6 Gbps of bandwidth between switches
- Up to 8 trunk groups can be set-up per switch
- Up to 16 ports on each switch can be used for trunking

8275 300 Series

■ **Management Access**

- Simple Web-based management
- SNMP/RMON management software
- Remote Telnet console
- Local console (VT-100)
- Two management interfaces are supported at one time

■ **Spanning Tree**

- One Spanning Tree instance per switch

8275 300 Series

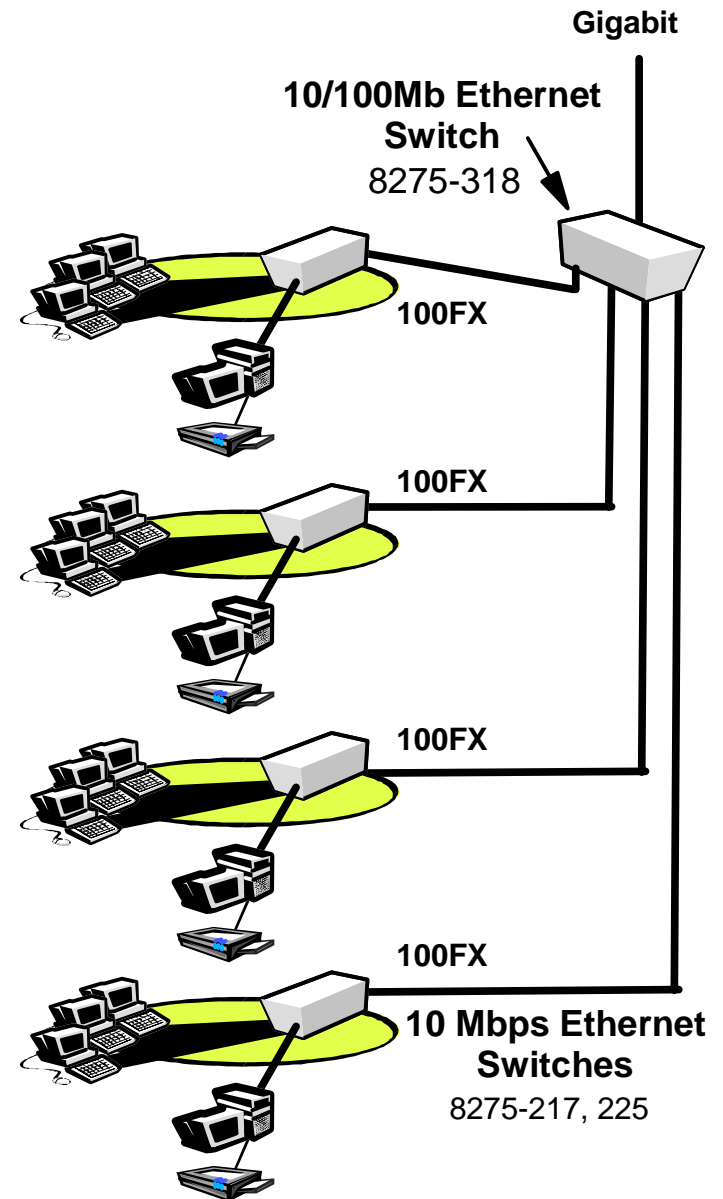
■ Management Features

- SNMP and RMON (4 groups) management
- Embedded web-server for management access via an internet browser
- VT-100 terminal emulation support
- In-band communications via telnet for configuration and management
- Out of band management via SLIP
- Up to 2 concurrent management interfaces are supported
- TFTP download for software updates
- BOOTP client support for download of configuration data from a BOOTP server
- 802.1d Spanning Tree Protocol support

IBM 8275- 318 Solution

"Aggregation Point for 100 Mbps Fiber Uplinks"

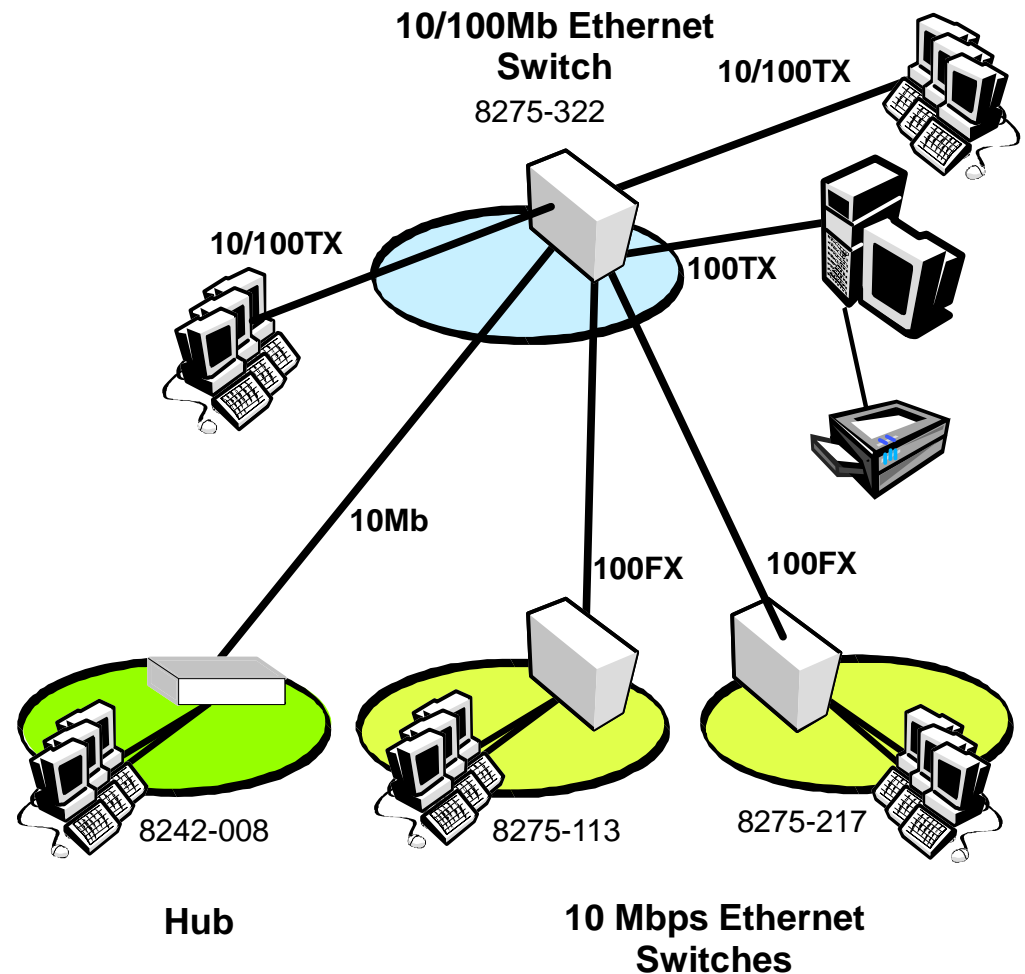
- 16 100FX Fiber Ports for Aggregation of Hubs & Switches (Fiber Catcher)
- Gigabit Uplinks for Connection to Enterprise Backbone Switch
- Campus Solution with Fiber Connections for Distance or Noisy Environments
- Removes Bottlenecks in Hub & Switches by Segmenting LANs
- High Speed Connections for Servers & Super Users Requiring Fiber
- Industry Leading Fiber Port Density



IBM 8275- 322 Solution

"Mixed Environment (Copper & Fiber) Fast Ethernet Backbone"

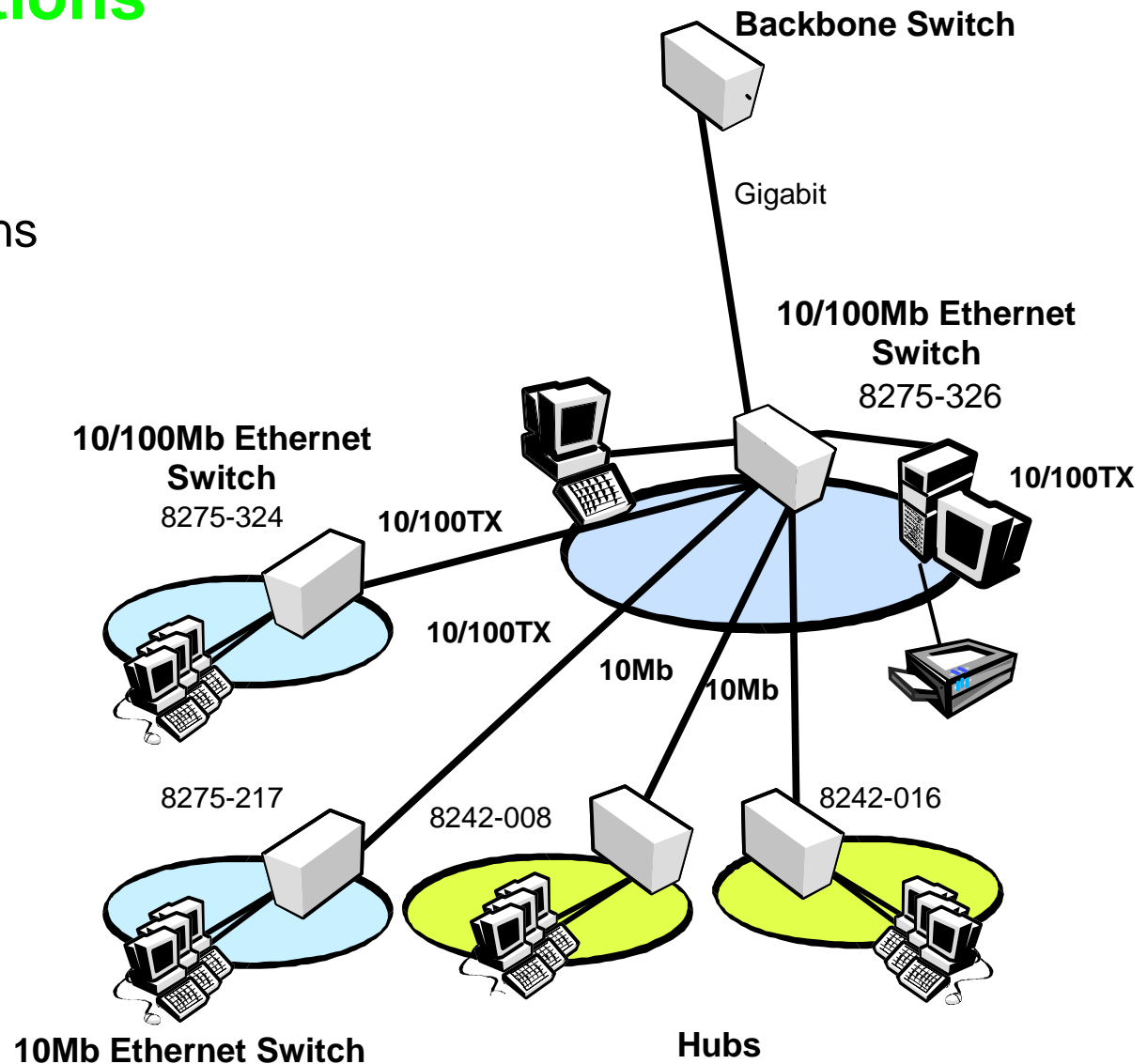
- High speed Copper and Fiber Connections to Desktops or Servers
- 10/100TX & 100FX Aggregation of Hubs & Switches
- High Performance Backbone for Medium Business
- Flexible Configuration for Mixed Cable Environments
- Segmentation of LANs for Increased Performance



IBM 8275- 326 Solution

"High Density Desktop and Server Connections"

- 24 10/100 Ports for Desktop Connections & Aggregation of Hubs/Switches
- 2 Gigabit Ports for Uplink or Server Connection
- Segmentation of LANs for Increased Performance



8271 Enhancements



8271 Model E12



8271 Model F24

- Gigabit Ethernet Expansion Module
- Version 2 Software Enhancements:
 - Virtual LANs
 - 802.1Q
 - Priority
 - Trunking

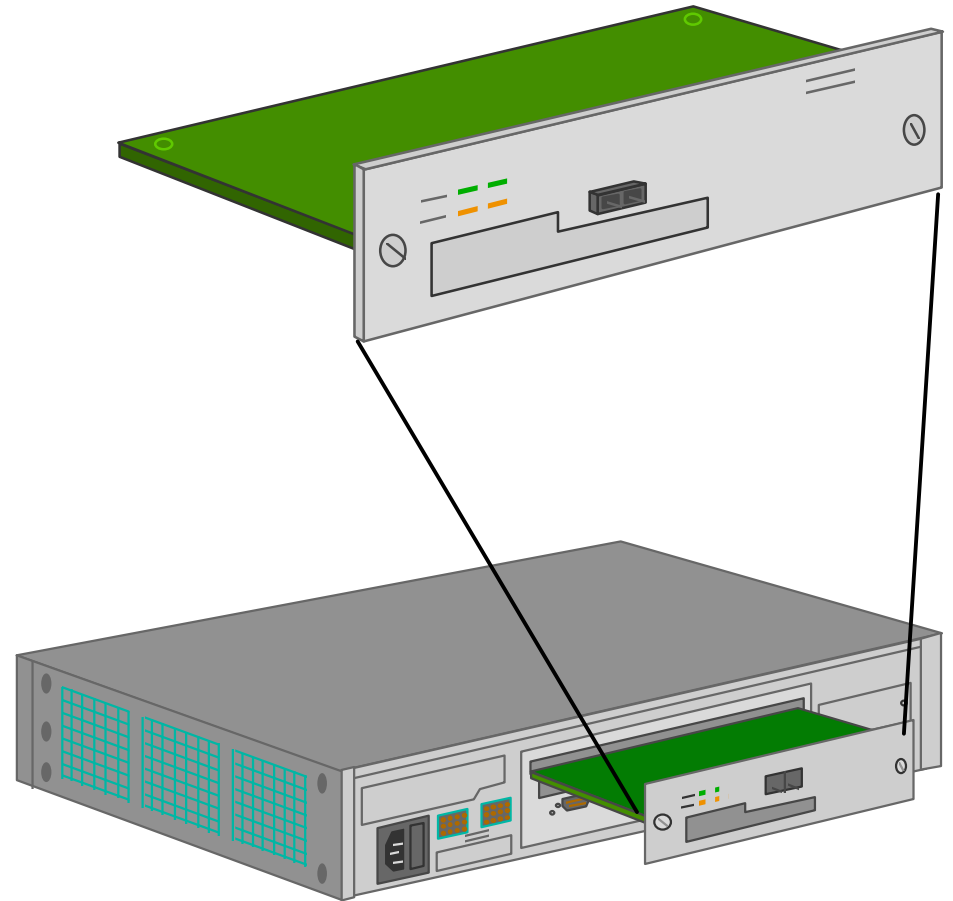
Announce 4/27/99, Availability 6/11/99

8271 Expansion Modules

- 100BaseFX module
- Dual-port 100BaseFX module

Coming Soon:

- *Gigabit Ethernet (1000BaseSX) module*
June 99
- *155 Mbps ATM module*



VLANs

- **Port-Based**
 - Up to 16 VLANs in a stack
- **Support for two VLAN strategies**
 - IEEE 802.1Q Standards-based
 - Virtual LAN Trunking (VLT)
- **Create subnets according to user and application**
 - Simplifies management of user base
 - Enables efficient application delivery
- **Route between VLANs using FastIP**
 - 8271 acts as an NHRP client in the network
 - Layer 3 capabilities relieve overloaded routers

Priority

- Supports 802.1D/D15 Priority Tag
- Prioritization only occurs on the output port
- Eight priority levels available with standard
- Two priorities available on the 8271
 - high priority multimedia traffic (priority levels 4-7)
 - normal traffic (priority levels 0-3)
- Dual queues exist at the output port

IEEE 802.1D/D15 Priority	8271-E/F Priority
0	Normal
1	Normal
2	Normal
3	Normal
4	High
5	High
6	High
7	High

Port Trunking

A group of ports that may be connected in parallel to provide a greater bandwidth between two switches or between a switch and a server

- Two trunk connections possible per switch
 - Each switch in a stack may have two trunk connections
- Each trunk can have a maximum of 4 ports
 - Total bandwidth up to 800 Mbps
- All ports in a trunk must be on the same switch
- Round-robin allocation
- 100 Mbps ports will be selected in preference to any 10 Mbps ports