IBM
3172 Interconnect Controller

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Product Summary

Editor's Note
In 1989, IBM introduced the 3172 Interconnect Controller Model 1, to link local area networks to IBM mainframes. In its September 5, 1990 product announcements and enhancements, IBM released Model 2 of the 3172. The availability date for Model 2 is December 27, 1991.

Description
The 3172 Interconnect Controller is a microprocessor-based device that attaches LANs to the company's mainframes. Model 1 attaches to the System/370, and the as yet unreleased Model 2 will connect to the System/370 and the newly announced System/390. To accommodate IBM's new Enterprise Systems Connection (ESCON) architecture, the company currently offers an ESCON adapter for the Model 1 and plans to incorporate ESCON support into the Model 2.

Strengths
The Model 1 is already equipped with ESCON capabilities through the ESCON adapter.

Limitations
The Model 2, which supports LAN connections to the System/390, will not be available until December 27, 1991.

Competitors
IBM plug-compatible vendors.

Vendor
International Business Machines Corporation (IBM)
Old Orchard Road
Armonk, NY 10504
Contact your local IBM representative.

Price
Model 1—$15,450; Model 2—$48,500 plus $25,000 for FDDI adapter.

—By Barbara Callahan
Associate Editor
Analysis

Product Strategy
On September 5, 1990, IBM bombarded the media with announcements that will affect the computer industry for years to come. Gearing up for a future in which speed, volume, and communications capabilities will dictate the creation of product lines and the marketing of them, the company introduced ESCON, an architecture that makes use of wideband, high-speed fiber optic channels. In effect, ESCON extends the walls of the data center by allowing equipment to be located more than five miles away.

Thrust into the limelight of the announcements, the 3172 Interconnect Controller is assuming more responsibility in networks based on Systems Network Architecture (SNA) and expanding into fiber networks via the new Model 2. Equipped with an Intel 80486 microprocessor, the 3172 Model 2 can attach an FDDI LAN to an IBM System/370 or System/390 parallel channel.

IBM's new Remote Channel-to-Channel Feature software allows a Model 1 to support channel-to-channel communications via T1 links between remote hosts. The software enables users to configure up to four T1s as a unified transmission group. Plans for incorporating T3 and OSI support into the 3172 are under way.

Competitive Position
In the LAN market, in which the 3172 competes, IBM faces a long list of competitors. Although late in entering the heterogeneous communications market, IBM made up for lost time by developing the 8209 LAN bridge that supports token-ring and Ethernet. That approach continues and expands in the 3172, which supports token-ring, Ethernet, and MAP 3.0.

Competitors who had hoped that IBM's years of dominance were waning must have experienced an early frost from the September announcements.

Decision Points
Users can be sure that IBM will maintain its position as a LAN leader and a LAN trendsetter. If IBM believes in fiber and sets the stage for its widespread use through ESCON, users can bet that other vendors will follow. IBM will continue to support 3172, enhancing it for frontline service in the company's march toward T3, FDDI, and OSI. IBM plans to make its products talk to whatever is out there now and whatever will come along in the future.

Characteristics

Overview
The IBM 3172 Interconnect Controller Model 1 is a Micro Channel/80386-based intelligent device that supports channel attachment of local area networks to IBM System/370 host processors. Model 2, released in September 1990, is based on an Intel 80486 microprocessor. Model 2 can attach an FDDI LAN to an IBM System/370 or System/390 parallel channel. In multiple LAN attachments, the 3172 provides data transfer services and connections between LANs and host processors in Transmission Control Protocol/Internet Protocol (TCP/IP) and Manufacturing Automation Protocol (MAP) networks.

Configuration
The base unit of the 3172 consists of a cabinet with operations panel, system board with RAM and processor, diskette drive, hard disk, one channel adapter, and power supply.

LAN Support
The 3172 supports IEEE 802.5 (IBM Token-Ring) and IEEE 802.3 (CSMA/CD), which includes Ethernet via...
Company Profile
IBM Corporation

Corporate Headquarters
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Armonk, NY 10504

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Officers
Chairman/CEO: John Akers
Vice Chairman: Jack D. Kuehler
Sr. VP/Gen. Mgr.: Terry Lautenbach

Company Background
Year Founded: 1914
No. Employees: 400,000 worldwide

IBM is one of the oldest manufacturers of computer equipment in the world. It started out in Poughkeepsie, NY as a small company manufacturing clocks for industrial use and later introduced punched card equipment for business accounting functions. According to Business Week and Fortune, IBM is among the top five industrial corporations by sales volume. It has dominated the mainframe market for over 30 years and has a strong hold on other industry sectors.

Business Overview
IBM designs, manufactures, markets, and services mainframe computer systems and associated peripherals; minicomputer systems and peripherals; microcomputer/personal computer systems; computer system software; data communications controllers and terminals; other communications products such as modems, voice response systems, and voice messaging systems; local area network communications products; and office equipment. In addition, IBM provides specialized products and services such as communications carrier and limited time-sharing services; the IBM Information Network, a communications facility with remote storage and computing services; OEM manufacturing of terminals, disk drives, and other products; maintenance service and system supplies; and financial services through its IBM Credit Corporation subsidiary.

Since it introduced its PC line of microcomputers, IBM has had several earning periods where the growth of the company was much less than anticipated. This reflects the competitive nature of the small systems market. To compete more effectively in this market, IBM has greatly expanded its software, as well as hardware, efforts and has entered into agreements with several independent software suppliers to provide tools for its entire line of computer products.

In September 1990, IBM sent shock waves through the industry, which are still being absorbed, by releasing a barrage of products in the mainframe and communications areas that will shape the industry for many years. IBM introduced a new mainframe, the System/390, which, according to many analysts, represents the company's most significant announcement in 25 years. The System/390 is based on a comprehensive set of products, features, and functions that includes at its center the IBM Enterprise System/9000 family of processors—the most powerful ever offered by IBM. The company also introduced the Enterprise Systems Connection (ESCON) architecture, NetView Version 2, and a vast array of software. In addition, IBM enhanced many products, such as the 3172 and 3745 controllers.

Financial Profile
Operations results for 1989 showed that net profits fell 35 percent to $3.76 billion, or $6.47 per share. Revenues, however, increased 5.1 percent to $62.7 billion over 1988. Fourth-quarter earnings fell 75 percent to $591 million, or $1.04 per share, due to the $2.3 billion restructuring charge.

Management Statement
Moving more resources close to customers is a cornerstone of IBM's transformation in the computer industry. To that end, in 1988 IBM undertook the most significant restructuring of its business in more than 30 years, establishing seven lines of business and a new organization—IBM United States. This restructuring continued through 1989 and will continue to be dynamic in order to consistently meet the needs of its customers.

IBM notes that it is managing for the long term and, with the steps it has taken and continues to take, it remains confident about the future of its business.

To help its customers stay competitive, IBM announced its Computer-Integrated Manufacturing (CIM) Architecture. IBM claims its CIM Architecture gives customers a comprehensive strategy to help them integrate information in a consistent manner across the entire enterprise. It addresses the integration challenge in an environment characterized by a variety of computer system technologies, operating systems, and applications. The CIM Architecture focuses on the storage of shared information, its delivery throughout networks, and its presentation to a variety of devices and users. IBM says CIM functions will be implemented for its Systems Application Architecture operating environments and its Advanced Interactive Executive operating environments.
Adapter: digital Token-Bus architecture. An adapter the remote CON Version broadband modem come with the product.

This device attaches to a 16M or 4M bps Token-Ring 10M 5M-byte hard drive disk. The utility prepares a configuration file on the diskette that is shipped with the Interconnect Controller Program. When the configuration is complete, the user loads the diskette into the 3172.

Remote Channel-to-Channel Feature
This software enables a Model 1 to support channel-to-channel communications between remote hosts via T1 links. Users can configure up to four T1s as a single transmission group. IBM announced the same capability as a statement of direction for Model 2.

Pricing
The 3172 Model 1 costs $15,450, with an annual maintenance charge of $832. The 3172 Model 2, scheduled for availability December 27, 1991, costs $48,500. An FDDI adapter for the Model 2 costs $25,000.