

HYPERlink Local Area Network System

A Qualified START* Product

DESCRIPTION

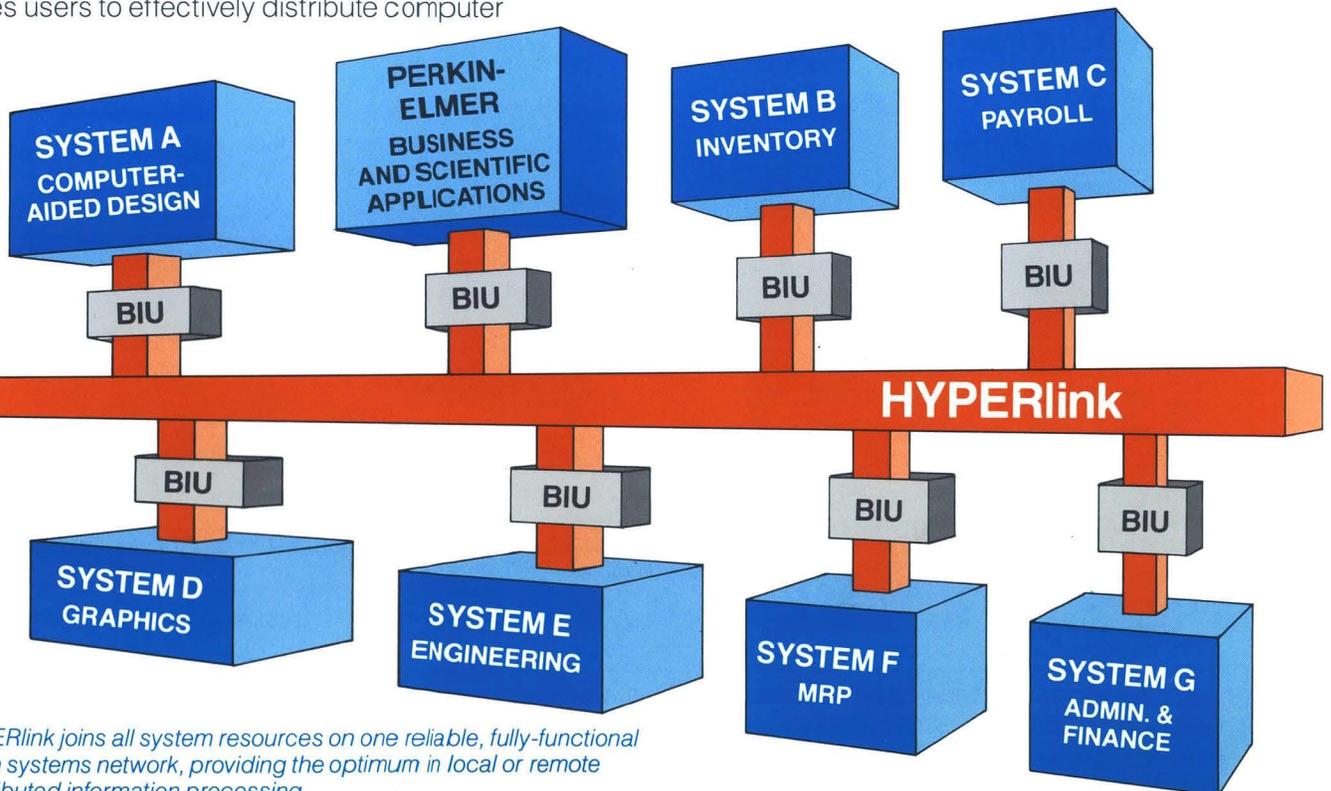
HYPERlink is a Local Area Network (LAN) that offers a hardware and software package for today's commercial and government distributed information processing needs.

HYPERlink complies with the Department of Defense's Transmission Control Protocol/Internet Protocol (TCP/IP) specifications (MIL-STDS 1777 and 1778), as well as the ARPANET specifications for File Transfer (RFC 765), Telnet (RFC 854), and Electronic Mail (RFC 821). Conforming to these standards, HYPERlink assures a dependable networking solution for open systems communications and satisfies the requirements for access to the Defense Data Network (DDN).

Addressing the processing needs of the commercial environment as well, HYPERlink enables users to effectively distribute computer

resources in multiple local area networks and to connect two hosts in geographically dispersed sites via X.25 wide area networks. Supporting several popular hardware connection devices, HYPERlink offers an economical solution for users who require multi-vendor or single-vendor system integration. Powerful, interactive, multi-user network applications that provide access to any system on the network offer end-users the benefits of all system resources.

HYPERlink is easy to install, manage, and use and provides transparent connections between Perkin-Elmer systems and other computers distributed throughout the network. In addition, HYPERlink is highly flexible, allowing for future network growth and enhancements.



HYPERlink joins all system resources on one reliable, fully-functional open systems network, providing the optimum in local or remote distributed information processing.

SYSTEM COMPONENTS

HYPERlink offers a full range of network capabilities for users who require a reliable open systems communications network. *HYPERlink* software conforms to the International Standards Organization's Open System Interconnection (ISO/OSI) reference model, employing a peer-coupled layered architecture. The *HYPERlink* network implements the NETWORK, TRANSPORT, SESSION, PRESENTATION, and APPLICATION layers of the ISO/OSI reference model. Functions of the DATA LINK and PHYSICAL layers are implemented in the Ethernet interface hardware.

Components of the *HYPERlink* package are:

- Network Utilities
- Transmission Control Protocol
- Internet Protocol
- Device Manager
- Internet Bus Interface Unit (BIU) Hardware
- Network Administrator

Network Utilities

HYPERlink's on-line network utilities satisfy both the PRESENTATION and APPLICATION layers of the ISO/OSI model. A File Transfer utility is available with the base *HYPERlink* product; add-on utility modules include Network Electronic Mail, Virtual Terminal, and Remote Job Entry.

Transmission Control Protocol (TCP)

The TCP layer satisfies the TRANSPORT and SESSION layers of the ISO/OSI model. The primary function of the TCP is to provide reliable connection service between pairs of processors in the upper architectural layers of two distinct hosts. TCP modules exchange control information, regulating the flow of data and providing reliable communication through the use of end-to-end acknowledgements. The TCP's multiplexing ability is accessed by the *HYPERlink* network utilities to allow concurrent usage of their services. In addition, TCP service routines allow the user to design individual network applications and link them to the *HYPERlink* network.

Internet Protocol (IP)

The IP provides the NETWORK layer functions for communications between networks. Operating below the TCP, the IP uses an Internet addressing scheme to determine the destination of data going outside the local net, then routes it to the appropriate gateway device. The IP can interface with CCITT X.25, the international standard packet-switching protocol.

Device Manager

The Device Manager functions at the ISO/OSI model's NETWORK layer for local host-to-host communications. The Device Manager determines the destination of the data or messages to be sent across the local net, then using the host's own communications protocols, issues I/O requests to transmit the data over the appropriate communications line or channel. Perkin-Elmer and other host systems supported by *HYPERlink* and connected via the same type of device are capable of exchanging data at this level.

Internet Bus Interface Unit (BIU)

Perkin-Elmer's Ethernet interface, the Internet BIU, or other host processor hardware provide the DATA LINK and PHYSICAL layer functions of the ISO/OSI model. The Internet BIU provides host interface to the Ethernet. In addition to controlling the physical transmission of data over the Ethernet, the Internet BIU may also front end the TCP/IP modules to off load the host and provide increased end-to-end transmission throughput. The DATA LINK control procedure uses a fully distributed peer protocol with Carrier Sense Multiple Access with Collision Detection (CSMA/CD). *HYPERlink*'s DDN Host Front End Processor (HFEP) also contains the TCP/IP protocols and a CCITT X.25 interface.

Network Administrator

The Network Administrator offers the control and statistics needed to define network structures, monitor network performance, manage system security, and recover the local network image in the event of a system failure. In addition, the Network Administrator can be resident in each host, thus distributing network control across all nodes and allowing the network to survive a node failure.

DEPARTMENT OF DEFENSE (DoD) STANDARDS

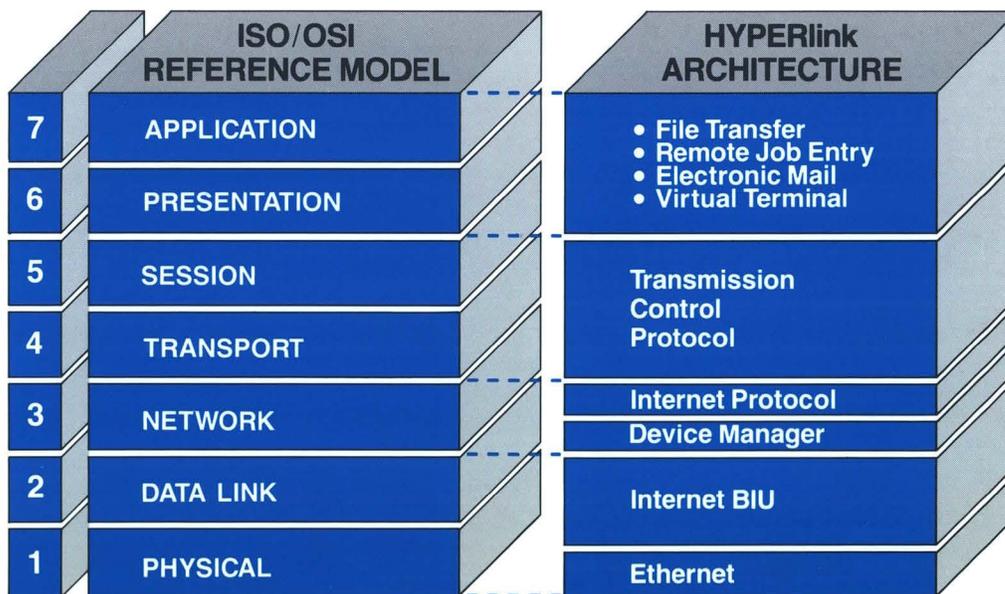
For systems in the DDN to communicate consistently, the DoD has issued mandatory requirements for DDN compliance. Subscriber systems must conform to the TCP/IP protocols and must possess application programs that use these protocols. *HYPERlink's* software was originally developed according to ARPANET designs for Upper Layer Protocols; therefore, the *HYPERlink* package is ideally suited for defense industry networks.

Also in accordance with DoD requirements, *HYPERlink* has a front-end solution whereby the application software physically resides in the host, and the TCP, IP, and X.25 reside in the firmware of the HFEP.

SUPPORT

Internet Systems Corporation is committed to total customer support and offers assistance at every stage of the LAN implementation process. Internet Systems Corporation provides consulting services to help define and specify individual network requirements and system or application design services to customize any level of the *HYPERlink* network. Internet Systems Corporation also supplies end-user training courses and remote and on-site system maintenance.

HYPERlink conforms to the International Standards Organization's Open System Interconnection (ISO/OSI) reference model, employing a peer-coupled layered architecture.



THE *HYPERlink* AND PERKIN-ELMER COMBINATION

The combination of *HYPERlink* and Perkin-Elmer's Series 3200 superminis offers the unique advantage of high performance and low cost. Our com-

mon dedication is to customer support and the total solution, resulting in customer satisfaction.

INTERNET SYSTEMS CORPORATION

Internet Systems Corporation is a communications software development and marketing firm supporting the unique requirements of private and government installations using networking technology.

Incorporated in 1979, Internet Systems Corporation is dedicated to providing software product solutions for systems communications needs.

PERKIN-ELMER

Perkin-Elmer is a billion dollar, Fortune 500 corporation that has been producing high technology products for the business and scientific communities for more than 40 years.

Perkin-Elmer offers an extensive worldwide service and support network fully staffed by product specialists and technicians dedicated to supporting Perkin-Elmer hardware and software products.

FOR MORE INFORMATION...

Contact your local Perkin-Elmer Sales Representative or:

Internet Systems Corporation
8360 W. Oakland Park Blvd., Suite 101
Sunrise, FL 33321
(305) 742-0301
(313) 357-1370

Perkin-Elmer
Data Systems Group
2 Crescent Place
Oceanport, NJ 07757
(201) 870-4712
(800) 631-2154

***Solutions To Applications Requirements ... Today (START*)** is Perkin-Elmer's exciting new third-party program. It provides both cross-industry and industry-specific information processing solutions that satisfy existing and future needs. START* generates results by

effectively coupling selected independent and industry-proven software and hardware experts with the broadest range of supermini-computer performance available today—from the pioneer in 32-bit minicomputers—Perkin Elmer.

The Perkin-Elmer Corporation and Internet Systems Corporation are independent distributors and neither party is the agent, broker, partner, employee or legal representative of the other party.

Perkin-Elmer is a registered trademark of The Perkin-Elmer Corporation.
Ethernet is a trademark of Xerox Corporation.

The materials contained herein are summary in nature, subject to change, and intended for general information only. Details and specifications concerning the use and operation of Perkin-Elmer equipment are available in the applicable technical manuals, through local sales representatives.

HYPERlink is the property of Internet Systems Corporation. Perkin-Elmer makes no representation or warranty with respect to the products provided by Internet Systems Corporation or the accuracy of the description thereof contained herein. Please consult Internet Systems Corporation directly for information regarding its products.