

Data Sheet

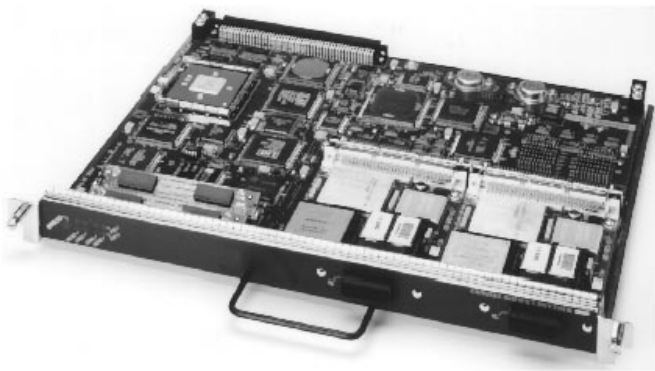
Channel Interface Processor Brings Multiprotocol Internetworking to Mainframe Data Centers

Customers who want to leverage the benefits of multiprotocol internetworking in their mainframe data centers are relying on Cisco Systems Channel Interface Processor (CIP) technology. Designed as a card that can be easily installed in Cisco 7000 series routers, the CIP gives IBM and IBM-compatible mainframe computers multiprotocol internetwork access by connecting directly to the mainframe channel. It delivers TCP/IP, Systems Network Architecture (SNA), and Advanced Peer-to-Peer Networking (APPN) traffic to the mainframe, eliminating the need for intermediary equipment such as IBM 3172 interconnect controllers and IBM 3745 front-end processors (FEPs).

and the 17-Mbps Enterprise Systems Connection (ESCON) architecture used on ES/9000 systems. One CIP card in a Cisco 7500 can support ten FDDI or 40 Token Ring connections, replacing multiple FEPs for dramatically increased performance and reduced cost.

Creating a Multiprotocol Network

The inherent flexibility of the Cisco solution allows companies to allocate front-end processing and routing to the same network device while offering room for expansion into new technologies such as Fast Ethernet and ATM. The Cisco 7500 provides an effective platform as an internetwork controller because of its unmatched performance, high port density, and broad support of network interfaces. With a CIP card in place, customers can select from Synchronous Data Link Control (SDLC), Token Ring, Ethernet, Fast Ethernet, T1/E1, T3/E3, Integrated Services Digital Network (ISDN), Frame Relay, and even high-speed 155-Mbps Asynchronous Transfer Mode (ATM). High-speed interfaces enable Cisco routers to provide the highest bandwidth available in the industry for networking both SNA and TCP/IP networks to IBM mainframes.



Channel Interface Processor

Cisco's CIP technology offers network managers a high-performance, easy-to-manage internetworking solution for integrating mainframe computers into multiprotocol network environments.

CIP technology enables routers to assume the functions of these traditional front-end devices, providing a more direct and cost-effective data path to and from the mainframe. All channel processing is handled by the CIP card, giving customers the full power of Cisco's robust router platforms for other internetwork switching and routing functions. As IBM data centers incorporate newer routed and switched LAN technologies into their networking architectures, the comprehensive capabilities and unmatched throughput of Cisco 7000 series routers become invaluable assets to the organization.

Scalable, Flexible Design

Each CIP card takes up a single slot in the router, supporting two connections using either of IBM's channel-attachment technologies: the bus-and-tag technology found on many installed mainframes,

Offloading TCP/IP Cycles

TCP/IP protocol stacks have become common fixtures in mainframe data centers as system managers respond to needs for integration with many types of corporate networks. Today's mainframe computers are often the cornerstones of multiprotocol client/server networks, hosting strategic applications such as data warehouses. Many of these applications require TCP/IP connectivity to a midrange server tier. Once again, Cisco's CIP technology can help. Supporting both IBM and Interlink Computer Sciences mainframe TCP/IP software, the CIP can deliver high-performance TCP/IP network connectivity directly to the mainframe. A TCP/IP Offload capability on the CIP card reduces the mainframe's processing of TCP/IP packets by 30 to 50 percent while providing high throughput capabilities. An optional CIP component called TN3270 Server is also available for companies that want to offload 100 percent of TCP/IP and TN3270 cycles from the mainframe and place them on the reliable Cisco 7500 platform.

Improved SNA Support

More than 90 percent of Fortune 1000 companies still base their mission-critical applications on SNA. In fact, more than 60 percent of all data traffic today is still SNA. Unfortunately, at many sites, these extensive, low-speed networks remain separate from newer TCP/IP and IPX/SPX networks. Each type of network has different modes of communication, different network devices, and different management tools. Cisco has developed the industry's most comprehensive set of capabilities for integrating SNA and multiprotocol networks, enabling routers to deliver SNA frames directly to the mainframe via IBM's Virtual Telecommunications Access Method (VTAM)—a strategy that increases performance while reducing equipment costs.

The CIP provides both local bridging and remote access, with tools such as Advanced Peer-to-Peer Networking (APPN), Dependent Logical Unit Requester (DLUR), and Data Link Switching Plus (DLSw+) to cost effectively transport SNA from remote sites to the data center.

Industry-Leading Solution

Many network devices have sprung up to link local- and wide-area networks to the mainframe, but none can match the comprehensive set of functions supported by the Cisco 7000 series routers and CIP card. The CIP answers an important need, fulfilling customer requirements for optimizing mainframe resources within the context of diverse, multiprotocol internetworks.

CIP Features

- Offers high-performance SNA and TCP/IP networking for IBM and IBM-compatible mainframes
- Eliminates the need to manage multiple dedicated mainframe channel controllers
- Supports both IBM parallel channel (Bus and Tag) and ESCON technology
- Offers the highest mix of WAN and LAN interfaces, including SDLC, Token Ring, Ethernet, Fast Ethernet, T1/E1, T3/E3, ISDN, Frame Relay, and high-speed 155-Mbps ATM
- Provides improved mainframe access availability with the Cisco 7000 series high-availability platforms
- Brings simplified management to multiprotocol networks via Simple Network Management Protocol (SNMP), CiscoWorks™, and CiscoWorks Blue, reducing the overall cost of operations
- Brings mainframe direct connection to the routed internetwork without requiring additional mainframe software
- Supports multiple logical partition (LPAR) connections to the mainframe using ESCON Multiple Image Facility (EMIF)

- Offloads TCP/IP processing from the mainframe, giving the mainframe more capacity to handle other traffic
- Combines SNA and TCP/IP traffic into a scalable, easily-managed network architecture

CIP Specifications

Configurations

- Single parallel channel
- Dual parallel channel
- Single ESCON channel
- Dual ESCON channel
- Single ESCON channel and single parallel channel

Memory

- 32 megabytes expandable to 128 megabytes

Mainframe Support

- IBM and IBM-compatible mainframes

Processors

- 100-MHz RISC processor with 512K byte secondary cache
- 25-MHz MIPS 3000
- IBM bit slice engine

Status Indicators

- Two sets of four LEDs and one global LED

Network Interfaces

Frame Relay, ATM, High-Speed Serial Interface (HSSI), ISDN, Token Ring, FDDI, Ethernet

Network Management

SNMP, CIP MIB, CiscoWorks, CiscoWorks Blue, Native Service Point (NSP)

Physical Specifications

- Occupies one slot in any Cisco 7000 Series platform
- Weight: 5 lbs (2.25 kg)

Environmental Conditions

- Operating temperature: 32° to 104° F (0° to 40° C)
- Storage temperature: -4° to 149° F (-20° to 65° C)
- Relative humidity: 10 to 90%, noncondensing

Safety Certifications

- UL 1950
- CSA C22.2 No. 950-M29
- IEC 950
- EN60950

Electromagnetic Emissions Certifications

- FCC Class A
- EN55022A Class B
- CISPR-22 Class B
- VCCI Class 2

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