Cisco 7000 and 7500 Series Fast Ethernet Interface Processor Family

The Cisco 7000 and 7500 series of high-performance routers offer a wide variety of Fast Ethernet solutions for backbone, data center, and virtual LAN (VLAN) applications. Three complementary solutions balance features, throughput, and flexibility, enabling network managers to implement Fast Ethernet routing for optimal cost and performance across a wide range of applications. Each of these solutions may take advantage of Fast EtherChannel® technology to scale aggregate throughput to 800 Mbps for the most demanding applications. Combined with a broad range of Fast Ethernet switching solutions, Cisco offers a complete family of products for constructing cost-effective Fast Ethernet enterprise networks that complement established 10BaseT networks.

Fast Ethernet is available in three versions for the Cisco 7000 and 7500 series routers:

- The Fast Ethernet interface processor (FEIP)
- The second-generation Fast Ethernet interface processor (FEIP2-DSW)
- Fast Ethernet port adapters using second-generation versatile interface processor (VIP2)

FEIP

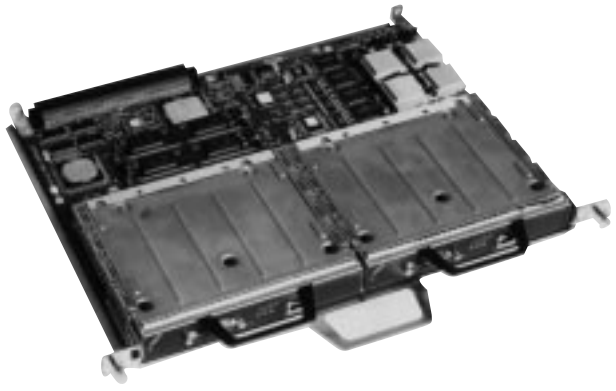
The FEIP is a fixed-configuration interface processor supporting single- or dual-port Fast Ethernet configurations for the Cisco 7000 series and 7500 series. The FEIP is the only choice for Route Processor and Switch Processor (RP/SP) configurations of the Cisco 7000.

FEIP2-DSW

The FEIP2-DSW is a fixed-configuration interface processor supporting dual ports of Fast Ethernet for Cisco 7000 series routers and 7500 series routers equipped with the Route Switch Processor (RSP) 7000. The FEIP2-DSW uses advanced VIP2 technology, providing the highest packet and bandwidth throughput available for these platforms. A key element of this new interface technology is the VIP's support for advanced Cisco IOS® software features such as distributed switching and distributed service, providing scalable aggregate performance for RSP- and RSP7000-based systems.

The FEIP2-DSW is the preferred choice for high-bandwidth applications where high packet throughput is required. The FEIP2-DSW requires the RSP7000 for Cisco 7000 series routers.

Figure 1 Fast Ethernet Port Adapter



Fast Ethernet Port Adapters

Fast Ethernet Port Adapters provide VIP2 users with the greatest flexibility in network provisioning and performance. The VIP2 offers customer-configured, mixed-media configurations, enabling network managers to maximize router slot efficiency while minimizing overall cost. In addition, Cisco's Fast Ethernet port adapters can be inserted into the VIP2 for Cisco 7500 systems or directly into an open slot on Cisco's 7200 series routers, thus minimizing overall support and sparing costs. Additional information on Fast Ethernet port adapters and the versatile interface processor may be found at www.cisco.com.

Features

Common Features

- 100BaseTX (two pair Category 5 unshielded twisted pair [UTP]) connectivity through an RJ-45 connector)
- 100BaseFX (62.5/125-micron multimode fiber) connectivity through an SC connector
- 100BaseT4 (four pair Category 3, 4, or 5 UTP) connectivity through the Media-Independent Interface (MII) and customer-provided transceiver
- Inter-Switch Link (ISL) support for high-performance routing between multiple VLANs
- IEEE 802.1d TB-VLAN support for transparently bridging VLANs
- Onboard packet and program memory, providing transmit and receive buffering and the ability to receive different software/microcode downloads; reduces cost of administering software by providing centralized network management
- Online insertion and removal (OIR), enabling users to remove, add, or replace interface processors on line, increasing system availability
- LEDs to provide quick status checks and problem identification
- CiscoWorks network management integration, including CiscoView applications, to provide device status and monitoring, simple configuration, and minor troubleshooting
- Simple Network Management Protocol (SNMP) support through standard MIBs, enabling visibility and management control on SNMP-supported network management stations

Fast Ethernet Interface Processor (CX-FEIP) Features

- Available in single- and dual-port configurations
- Each port configurable for either full- or half-duplex operation; for full-duplex operation with high media utilization rates, one Fast Ethernet port configured for full-duplex operation on FEIP is recommended
- Supports Cisco RSP-based routers including Cisco 7500 series and RSP7000-based Cisco 7000 and 7010 series
- Supports existing RP/SP-based Cisco 7000 and 7010 routers

Fast Ethernet Interface Processor 2 DSW (FEIP2-DSW) Features

- High density, dual-port configurations
- Each port configurable for either full- or half-duplex operation; FEIP2-DSW supports both ports in full-duplex mode concurrently
- Operates a subset of feature-rich Cisco IOS software on board
- Support for advanced VIP2 features such as:
- Distributed switching for high aggregate and scalable packet forwarding
- Distributed IP services such as NetFlow and IP quality of service
- Integrated antistatic shielding to help prevent damage from electrostatic discharge
- Requires Cisco RSP-based routers including Cisco 7500 series and RSP7000-based Cisco 7000 and 7010 series

Specifications (CX-FEIP, FEIP2-DSW)

Physical Specifications

- Each interface processor (CX-FEIP, FEIP2-DSW) occupies single slot in any Cisco 7000 or 7500 series platform
- Weight: 5 lbs. (2.25 kg)

Environmental Specifications

- 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

Maximum Station-to-Station Cabling Distance

- 100BaseTX, Category 5 UTP: 328 ft. (100m)
- 100BaseFX, 62.5/125-micron multimode fiber: 400m half duplex, 2 km full duplex
- MII: dependent on customer-supplied transceiver

Network Connectors (per port/interface)

- 100BaseTX: RJ-45 (female), standard 8-wire
- 100BaseFX: SC (female)

- MII per IEC/SC 48B (sec) 276 [22-1]
  Each 100BaseTX and 100BaseFX port is also provided with an MII. Two physical connectors are provided for each Fast Ethernet port, but only one connector can be active at a given time. If both are connected, the MII connector is given precedence.

Optical Power Parameters

- Transmit output power: –16 to –12 dBm
- Receiver sensitivity: –31 to –11 dBm
- Optical source: LED
- Maximum span: 2 km
- Wavelength: 1300 nanometers

Safety Certifications

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

Electromagnetic Emissions Certifications

- FCC Class A
- CISPR-22 Class A
- EN55022A Class B
- VCCI Class 2
- CE Mark
- IEC 801-2, 3, 4, 5, 6, 11

LEDs (per port adapter/interface)

LED	State	Notes
Enabled	Green	Port adapter powered and enabled
MII	Green	MII port active
RJ-45	Green	RJ-45 port active (if applicable)
Fiber or SC	Green	SC port active (if applicable)
Link	Green	Ethernet link active; receiving carrier signal from network

Frame Processing

- Transparent Bridging (802.1d)
- IP Fragmentation (RFC 793)
- Translational Bridging (802.1i, 802.1h)

Network Management

- SNMP agent v1 (RFC 1155-1157)
- Ethernet MIB (RFC 1398)
- IEEE 802.3 LAN specification for CSMA/CD
- 802.1d Spanning Tree Management Information Base (MIB)
- MIB for Network Management of TCP/IP-Based Internets: MIB-II (RFC 1213)
- Definition of Managed Objects for Bridges (RFC 1493)
- Evolution of Interfaces Group of MIB-II (RFC 1573)

FEIP/FEIP2-DSW/VIP2 Feature Chart

Physical Layers							Supported Processors			Cisco IOS Features			
Interface	No. of FE Ports	100BaseTX	100BaseFX	MII	Full and Half Duplex	Mixed Media	RP/(S)SP	RSP7000	RSP	VLAN	Fast EtherChannel	DSW	DS
FEIP	1 or 2	X	X	X	X	No	X	X	X	X	X	—	—
FEIP2-DSW	2	X	X	X	X	No	—	X	X	X	X	X	X
VIP2/PA	1 or 2	X	X	X	X	Yes	—	X	X	X	X	X	X

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