

Fast EtherChannel and Distributed Fast EtherChannel for the Cisco 7500 Series

Fast EtherChannel[®] (FEC), a technology that uses multiple Fast Ethernet links for scaling bandwidth to 800 Mbps between switches and servers, is now available for the Cisco 7500 series of high-end routers.

Beginning with Cisco IOS[®] Release 11.1(14)CA, users of Fast EtherChannel, which is currently available on Cisco's Catalyst[®] 5000 family, can interconnect to Cisco 7500 series multiprotocol routers for routing and other Layer 3 services. Up to four Fast Ethernet interfaces can be combined to create an 800 Mbps logical connection.

Effective with Cisco IOS Release 11.1(20)CC, available in July 1998, two additional features for Fast EtherChannel become available: Distributed FEC and Hot Stand-by Router Protocol (HSRP) for Fast EtherChannel.

Distributed FEC offloads all IP packet switching responsibilities from the main route/switch processor (RSP) to Fast Ethernet interfaces supporting the Cisco 7500's advanced distributed switching capabilities. This capability dramatically increases aggregate packet-switching performance over the Fast EtherChannel bundle. Distributed Fast EtherChannel requires a Fast Ethernet port adapter on a VIP2-40 or VIP2-50 or the use of the FEIP2-DSW interface processor. Older FEIP and FEIP2 interface processors do not support distributed switching of IP packets and will use the RSP for all packet handling.

HSRP, for FEC enables either FEC or Distributed FEC links to be members of HSRP environments.

Fast EtherChannel is a software-only upgrade for any existing Fast Ethernet interface supported on the Cisco 7500 platform including:

- Fast Ethernet Port Adapters on VIP2 (Distributed FEC on PA-2FEISL effective in Cisco IOS Release 12.0)
- FEIP2-DSW—Cisco's price/performance leader for high-density Fast Ethernet
- FEIP—Cisco's legacy xIP FE connection

With these releases, Fast EtherChannel support for the Cisco 7500 supports the IP protocol and may include any mix of port adapters, FEIP2s or FEIPs. Other protocols use the Fast EtherChannel connection, but traffic will be transferred over the first link of the channel. In addition, the combined interfaces may span both CYBUS's within the Cisco 7507 and 7513 to distribute traffic load. It is highly recommended that Fast EtherChannel connections be made up of port adapters and FEIP2-DSW products to take advantage of the distributed packet-switching capabilities of Distributed FEC in Cisco IOS Release 11.1(20)CC. Note that FEC distributed switching is supported in Cisco IOS Release 11.1(20)CC and higher CC releases. Support in previous Cisco IOS releases for FEC uses the RSP for all FEC channel management and packet processing. Fast EtherChannel is not supported in any Cisco IOS 11.2 or 11.3 release.

The new FEIP2-DSW Fast Ethernet interface processor is an excellent partner with these new Distributed Fast EtherChannel software services. The FEIP2-DSW is based on VIP2 technology, providing 400 megabits of throughput—far superior to older FEIP technology. The FEIP2 provides the lowest-cost, highest-performance solution for two ports of 100BaseTX or 100BaseFX connections available for Cisco 7500 systems.



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