

## Cisco 1- and 2-port Fast Ethernet High-Speed

### General

#### **Q. What are the 1- and 2-port Fast Ethernet HWICs?**

**A.** The Cisco® 1- and 2-Port Fast Ethernet High-Speed WAN Interface Cards (HWICs) are singlewide interface cards, available as a 1-port HWIC (HWIC-1FE) and as a 2-port HWIC (HWIC-2FE), that provide Cisco modular and integrated services routers with additional Layer 3 routed ports.

#### **Q. What are the features of the new Fast Ethernet HWICs?**

**A.** The Fast Ethernet ports on the HWICs should have the same characteristics and features as the onboard Ethernet interfaces for the platforms. Along with Layer 3 connectivity, such as per-port access control lists (ACLs), routing, and IP addressing, these HWICs provide equivalent functions to onboard Fast Ethernet routed ports. The following is a partial list of features supported in Cisco IOS® Software for the Fast Ethernet HWICs:

#### **Ethernet and VLAN Features**

- IEEE802.3 with IEEE802.2 Service Advertising Protocol (SAP)
- IEEE802.3 with IEEE802.2 and Subnetwork Access Protocol (SNAP)
- IEEE 802.1Q VLAN tagging
- Autosensing, autonegotiation, and automatic media-dependent interface crossover (Auto-MDIX)
- Unique MAC address (not shared with any other interface on the router), assigned MAC address to interface, and subinterfaces

#### **Network Management and Manageability Features**

- CiscoWorks LAN Management Suite
- Simple Network Management Protocol (SNMP) support
- Cisco NetFlow accounting

#### **Quality-of-Service Features**

- Weighted Random Early Detection (WRED)
- Precedence setting and mapping (802.1p)
- Committed access rate (CAR)
- ACLs
- MAC address filtering
- Extended ACLs
- Voice and remaining quality-of-service (QoS) features, per platform and per Cisco IOS Software release

#### **Additional Features**

- Cisco Group Management Protocol and Internet Group Management Protocol (IGMP) for multicasting
- High availability, supporting Hot Standby Router Protocol (HSRP), Virtual Router Redundancy Protocol (VRRP), and Gateway Load Balancing Protocol (GLBP)
- MPLS features as supported by platform

- Generic routing encapsulation (GRE)
- IPv6
- IP Security (IPsec) (crypto map)
- Layer 2 Tunneling Protocol Version 3 (L2TPv3) tunnel termination
- Dynamic Host Configuration Protocol (DHCP) client and server
- Network Address Translation (NAT)
- Generic Traffic Shaping (GTS)
- Media Gateway Control Protocol (MGCP) bind
- IBM features
- Point-to-Point Protocol over Ethernet (PPPoE) client
- Bridging

**Q. What can the 1- and 2-port Fast Ethernet HWICs be used for?**

**A.** Basically, the new HWICs provide an additional routed port with features equivalent to those on the motherboard of the routers. These Fast Ethernet interfaces can be used for physical LAN segregation, creation of a demilitarized zone (DMZ), or as a WAN interface. Broadband customers can use them to connect to an alternate provider that delivers service on an Ethernet port.

**Q. Are there features not supported on the Fast Ethernet HWICs?**

**A.** Yes. Features specifically not supported include Cisco Inter-Switch Link (ISL) trunking, Connectivity Fault Management (CFM), flow control, and online insertion and removal (OIR).

**Q. Do the 1- and 2- port Fast Ethernet HWICs support Jumbo Frames?**

**A.** No, the maximum transmission unit (MTU) for the Fast Ethernet interfaces is 1500 bytes and is not configurable.

**Q. Are there any limitations to how many Fast Ethernet HWICs are supported per platform?**

**A.** Please refer to the module data sheet

[http://www.cisco.com/en/US/prod/collateral/routers/ps5854/product\\_data\\_sheet0900aecd80581fe6\\_ps5853\\_Products\\_Data\\_Sheet.html](http://www.cisco.com/en/US/prod/collateral/routers/ps5854/product_data_sheet0900aecd80581fe6_ps5853_Products_Data_Sheet.html)

**Q. Are the 1- and 2-port Fast Ethernet HWICs supported in the Cisco 1700 Series Modular Access Routers, 2600 Multiservice Platform, or 3700 Series Multiservice Access Routers?**

**A.** No, the older platforms do not support the HWIC standard, and these cards are true HWICs.

**Q. Can I expect line-rate performance from the Fast Ethernet HWICs?**

**A.** As with all routed interfaces, traffic going to and coming from the Fast Ethernet HWICs is forwarded by the router CPU. So although adding additional Fast Ethernet ports to the routers provides more connectivity options, it does not provide additional performance. The HWIC architecture will allow these HWICs to perform at line rate, but the platform may not be able to process packets that fast. Individual performance will vary, based on other interfaces in use, services configured on the router, traffic patterns, and packet size. Testing a given scenario for performance is always recommended.

**Q. Can these interfaces be used as switch ports?**

**A.** No, these are native Layer 3 interfaces, designed for routing. They can be configured to bridge using the router CPU. There is no switching application-specific integrated circuit (ASIC), nor are switching features supported.

**Q. What MIBs are supported by the 1- and 2-port HWICs?**

- A.** The HWICs are supported by the ENTITY-MIB, IF-MIB, OLD-CISCO-CHASSIS-MIB, RMON-MIB, ETHERLIKE-MIB, CISCO-ENT-ASSET-MIB, and the CISCO-ENTITY-FRU-CONTROL-MIB.

For more information about the Cisco 1- and 2-Port Fast Ethernet HWICs, visit

[http://www.cisco.com/en/US/prod/collateral/routers/ps5854/product\\_data\\_sheet0900aecd80581fe6\\_ps5853\\_Products\\_Data\\_Sheet.html](http://www.cisco.com/en/US/prod/collateral/routers/ps5854/product_data_sheet0900aecd80581fe6_ps5853_Products_Data_Sheet.html) or contact your local Cisco account representative.



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