LAN Interface Cards

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Overview

This document describes Cisco LAN interface cards and how to connect Cisco LAN interface cards to a network. It contains the following sections:

- WIC-4ESW Card, page 1
- WIC-1ENET Interface Card, page 4
- Supported Platforms, page 6
- Obtaining Documentation, Obtaining Support, and Security Guidelines, page 7

For an overview of Cisco interface cards used for Cisco access routers see the *Cisco Interface Cards for Cisco Access Routers* document.

WIC-4ESW Card

This section describes the 4-port 10/100BASE-TX Ethernet switch interface card (WIC-4ESW) and how to connect it to a network.

The following subsections are included:

- WIC-4ESW Interface Card Port Numbering, page 2
- WIC-4ESW Interface Card Processor Requirements, page 3
- WIC-4ESW Interface Card Supported Standards, page 3
- WIC-4ESW Interface Card Platform Limitations, page 3

The WIC-4ESW interface card is a Layer 2 Ethernet switch with Layer 3 routing capability. (Layer 3 routing is forwarded to the host, and is not actually performed at the switch.) The ports autosense the speed (10 Mbps or 100 Mbps) and duplex mode (full- or half-duplex) of the device to which it is connected and then operates at the same speed and in the same duplex mode.

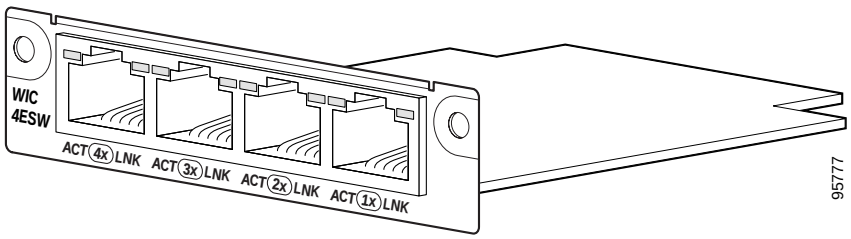
Caution To comply with the Telcordia GR-1089 NEBS standard for electromagnetic compatibility and safety, connect the 4-port 10/100BASE-TX Ethernet switch interface card (WIC-4ESW) only to intra-building or non-exposed wiring or cabling. The intrabuilding cable must be shielded and the shield must be grounded at both ends.

Note The **show vtp status** command shows the maximum number of VLANs supported by the router. Although the router supports more VLANs, the WIC-4ESW interface card supports a maximum of 16 VLANs.

There are no new or modified commands for use with the WIC-4ESW interface card. All commands used with the switch are documented in the Cisco IOS command reference publications.

Figure 107 shows the WIC-4ESW interface card.

Figure 107 WIC-4ESW Interface Card



WIC-4ESW Interface Card LED

The LNK (physical layer link) LED is on when the Cisco IOS software recognizes the switch and the connection is up. The ACT (activity) LED indicates that data is being transmitted or received on the slot.

Additional information on the features of the card is provided in the *4-Port Ethernet Switch Configuration Notes for the Cisco 1700 Series Routers* document.

WIC-4ESW Interface Card Port Numbering

Port numbers identify the interfaces on the modules and interface cards installed in the router. Modules and interface cards are identified by interface type, slot number, a forward slash (/), and the port number. For example, F0/0 denotes the first Fast Ethernet port of the interface card, installed in slot 0 of the router.

The first port on the WIC-4ESW is always identified as “1.” For the Cisco 1721 router, the ports are referred to as FastEthernet1 to FastEthernet4, no matter in what slot the card is installed.

On the Cisco 1751 router and the Cisco 1760 router, the Fast Ethernet interfaces on WIC-4ESW are addressed as F<*slot*>/1 through F<*slot*>/4, depending in what slot the card is installed. (In this document, the ports will be referred to as F1 through F4.)

WIC-4ESW Interface Card Processor Requirements

The MPC 860 microprocessor (revision B5 or later) is required for using the Cisco WIC-4ESW card.

WIC-4ESW Interface Card Supported Standards

The WIC-4ESW interface card supports IEEE 802.3 Ethernet standards and 100BASE-T Category 3, 4, and 5 UTP cable distances up to 328 feet (100 meters).

The following standards are also supported:

- 802.1d
- 802.1p
- 802.1q

WIC-4ESW Interface Card Platform Limitations

The following features are *not supported* on the WIC-4ESW interface card:

- Virtual Local Area Network (VLAN) trunking protocols (server and client modes, and transparent mode v2)
- Spanning Tree Protocol (STP) backbone fast
- STP portfast Bridge Protocol Data Unit (BPDU) guard
- STP uplink fast
- STP Root Guard
- STP Unidirectional Link Detection (UDLD)
- Port security
- Protected Port
- 802.1x port-based authentication
- Storm control
- Switched Port Analyzer (SPAN)
- Internet Group Management Protocol (IGMP) Snooping
- 802.1P priority override
- MAC address table commands
- EtherChannel
- Enable or disable per port based on unknown unicast or multicast flooding
- Multicast groups
- IP multicast support
- Cisco Group Management Protocol (CGMP) client, CGMP fast-leave
- Dynamic access ports
- Dynamic trunk protocol
- Dynamic VLANs

- Voice VLANs
- General Attribute Registration Protocol (GARP), GARP Multicast Registration Protocol (GMRP), and GARP VLAN Registration Protocol (GVRP)
- Cisco Inter-Switch Link (ISL) tagging (the chip does not support ISL)
- Layer 3 on-board switching
- Monitoring of VLANs
- Multi-VLAN ports network port
- Shared STP instances
- VLAN-based SPAN
- VLAN Query Protocol (VQP)
- VTP pruning protocol
- Web-based management interface
- Remote Monitoring (RMON)

WIC-1ENET Interface Card

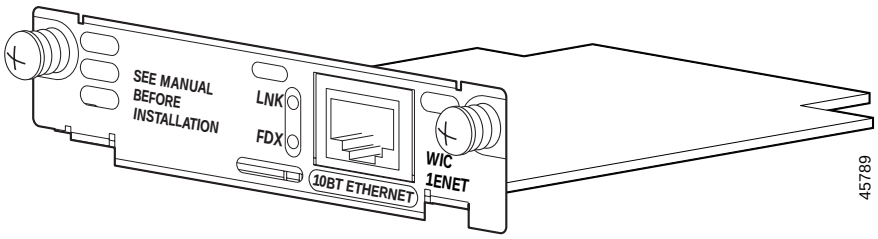
This section describes how to connect the Cisco 1-port Ethernet interface card supporting 10BASE-T Ethernet (WIC-1ENET), and contains the following sections:

- WIC-1ENET Interface Card LED, page 4
- WIC-1ENET Requirements, page 5
- WIC-1ENET Full-Duplex and Half-Duplex, page 6

The 1-port Ethernet interface card provides the router with additional Ethernet interfaces that can use the functionality of the Cisco IOS software with any type of external broadband modem, such as a cable modem, or xDSL modem.

Figure 108 shows the WIC-1ENET interface card.

Figure 108 WIC-1ENET Interface Card



WIC-1ENET Interface Card LED

The LNK (physical layer link) LED is on when the Cisco IOS software recognizes the WIC-1ENET card and the connection is up. The FDX LED is on when the port is operating in full-duplex mode, and off when operating in half-duplex mode. Additionally, the Activity LED on the front of the router indicates that data is being transmitted or received on the slot.

WIC-1ENET Requirements

This section describes the requirements and supported standards for the WIC-1ENET card.

WIC-1ENET Memory Requirements

To run Cisco IOS images that support the WIC-1ENET card, the router must have a minimum amount of Flash memory and dynamic RAM (DRAM). For details on the memory requirements for each image, refer to *Release Notes for the Cisco 1700 Series Routers for Cisco IOS Release 12.2(4)T.*

WIC-1ENET Software Requirements

The WIC-1ENET card requires Cisco IOS Release 12.2(2)XJ or later if the card is installed in any WIC slot other than slot 0 or if more than one card is installed.

The card can be used with Cisco IOS Release 12.2(4)T, but the card must be installed in slot 0 and only one WIC-1ENET card can be installed in the router.

WIC-1ENET Interface Card Port Numbering

Port numbers identify the interfaces on the modules and interface cards installed in the router. Port numbers begin at 0 for each slot, and continue from right to left. Modules and interface cards are identified by interface type, slot number, a forward slash (/), and the port number. For example, E0/0 denotes the first Ethernet port of the interface card installed in slot 0 of the router.

On the Ethernet interface on the Cisco 1720 router is E0. The interface on the WIC-1ENET is addressed as E1.

On the Cisco 1750 router, the Ethernet interface on the router is E0/0. The interface on the WIC-1ENET is addressed as E<*slot*>/1.

WIC-1ENET Interface Card Router Processor Requirements

The MPC 860 microprocessor (revision B5 or later) in the Cisco 1700 series router is required for using the WIC-1ENET card.

The processor version information is displayed at bootup. You can also verify the processor revision by entering the **show version** command at the Cisco IOS command-line interface `Router#` prompt.

WIC-1ENET Supported Standards

The IEEE 802.3 Ethernet standards and 10BASE-T Category 3, 4, and 5 UTP cable distances up to 328 feet (100 meters) are supported.

WIC-1ENET Full-Duplex and Half-Duplex

The WIC-1ENET is set to half-duplex mode by default, and it does not autosense the mode of another device attached to the port. If you set the card to full-duplex operation, you must also set the device to which the port is attached to full-duplex mode.

Use the **full-duplex** command to put the Ethernet interface into full-duplex operation. The interface can be put into half-duplex mode by entering the **no full-duplex** command.

You can also use the **half-duplex** command to put the Ethernet interface into half-duplex operation, the default state of the Ethernet interface.

To verify the interface state, enter a **show interface** command as follows:

```
1750#show interface Ethernet 0

Ethernet0 is up, line protocol is up
   Hardware is PQUICC Ethernet, address is 0001.64ff.ef6a (bia 0001.64ff.ef6a)
   MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
      reliability 255/255, txload 1/255, rxload 1/255
   Encapsulation ARPA, loopback not set
   Keepalive set (10 sec)
   Half-duplex, 10BaseT
....
```

Supported Platforms

For a list of the platforms supported by a Cisco interface card refer to *Platform Support for Cisco Interface Cards*.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at http://www.cisco.com/go/fn. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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