

Network Processor Two-Port Ethernet Full-Duplex (NP-2E-FDX)

Feature Summary

The Network Processor Two Port Ethernet Full-Duplex (NP-2E-FDX) is supported in the Cisco 4500 and Cisco 4700 series routers, beginning in Cisco IOS Releases 11.2(14)P and 11.3(4)T. It improves the number of applications in which the routers can be used. The feature enables the following:

- Auto-selecting between AUI and 10BaseT interfaces
- Ability to operate in half-duplex or full-duplex mode
- Support of Cisco IOS Release 11.2(14)

Benefits

The following are benefits of using the NP-2E-FDX:

- In full-duplex mode, throughput is doubled, which benefits customers with heavy traffic loads.
- The module can be used in all applications that use NP-2E.
- Enabling auto-selecting mode simplifies the installation and configuration of Ethernet networks.

Platforms

This feature is supported on these platforms:

- Cisco 4500, Cisco 4500-M
- Cisco 4700, Cisco 4700-M

Prerequisites

The NP-2E-FDX feature requires Cisco IOS Release 11.2(14) or later in order for the system to recognize it has a valid module. The corresponding RXBOOT image version is also required to network boot.

Supported MIBs and RFCs

There are no new MIBs or RFCs supported by this feature.

Configuration Tasks

This section describes how to enable the media type and either half-duplex or full-duplex operation.

Table 1 Enabling Media Type and Either Half-Duplex or Full-Duplex Operation

Step	Command	Purpose
1	4500> enable Password: <i>password</i> 4500#	Enter enable mode. Enter the password. You have entered enable mode when the prompt changes to 4500#.
2	4500# configure terminal Enter configuration commands, one per line. End with CNTL/Z. 4500(config)#	Enter global configuration mode. You have entered global configuration mode when the prompt changes to 4500(config)#.
3	4500(config)# interface ethernet 0	Enter interface configuration mode.
4	4500(config)# media-type {10baset aui auto-select}	Enable the media type by entering the media-type command with one of the following arguments: <ul style="list-style-type: none"> • 10baset—Specifies the 10BaseT port for operation. • aui—Specifies the AUI port for operation. • auto-select—Specifies automatic selection of either 10BaseT or AUI operation, but not both.
5	4500(config)# {half-duplex full-duplex}	To enable half-duplex operation, enter the half-duplex command. To enable full-duplex operation, enter the full-duplex command. Note Full-duplex operation does not work when media-type aui is enabled.

Configuration Examples

Auto-Select and Full-Duplex Example

The following example configures auto-select and full-duplex operation:

```
>
>4500>
>4500>
>4500>
>4500>enable
>4500#config
>4500#configure terminal
```

```

>Enter configuration commands, one per line.  End with CNTL/Z.
>4500(config)#interface ethernet 0
>4500(config-if)#media-type ?
> 10BaseT      Use RJ45 connector
>  AUI         Use AUI connector
>  auto-select Use whichever connector is attached
>
>4500(config-if)#media-type auto-select
>4500(config-if)#full-duplex
>4500(config-if)#exit
>4500(config)#exit
>4500#
>%SYS-5-CONFIG_I: Configured from console by console

```

10BaseT and Half-Duplex Example

The following example configures 10BaseT and half-duplex operation:

```

>
>4500>
>4500>enable
>4500#configure terminal
>Enter configuration commands, one per line.  End with CNTL/Z.
>4500(config)#interface ethernet 0
>4500(config-if)#media-type 10BaseT
>4500(config-if)#half-duplex
>4500(config-if)#exit
>4500(config)#exit
>4500#
>%SYS-5-CONFIG_I: Configured from console by console

```

Command Reference

The following lists new or modified commands for the NP-2E-FDX feature. All other commands used with this feature are documented in the Cisco IOS Release 11.3 command references.

- **media-type**
- **full-duplex**

media-type

To specify the physical connection for the configuration, use the **media-type** interface configuration command. Use the **no** form of this command to restore the default value.

media-type { **10baset** | **AUI** | **auto-select** }

no media-type

Syntax Description

10baset	Specifies the 10BaseT port for operation; selects an RJ45 10BaseT physical connection.
AUI	Specifies the AUI port for operation; selects a 15-pin physical connection.
auto-select	Allows the automatic selection of 10BaseT or AUI ports, but not both.

Default

media-type auto-select.

Command Mode

Interface configuration

Usage Guidelines

This command first appeared in Cisco IOS Release 10.0.

When the NP-2E-FDX feature is installed, the default configuration is **media-type auto-select**. If users plan to switch interface types, auto-select is preferable because it simplifies the configuration process; users do not have to reconfigure their routers to use new ports each time.

If the user configures **media-type aui**, or if the user configures **media-type auto-select** and AUI is automatically selected, only half-duplex operation is possible; full-duplex operation is not.

Example

The following example selects auto-sensing on Ethernet interface 0:

```
interface ethernet 0
media-type auto-select
```

Related Commands

half-duplex

full-duplex

full-duplex

To specify full-duplex mode on full-duplex single-mode and multimode port adapters, use the **full-duplex** command.

full-duplex

Syntax Description

This command contains no keywords or arguments.

Command Mode

Interface configuration

Usage Guidelines

This command first appeared in Cisco IOS Release 11.1.

When the NP-2E-FDX feature is installed, the default configuration is **half-duplex**. Full-duplex should only be configured if the interface will be connected to another port that supports full-duplex operation (for example, another NP-2E-FDX, and Ethernet switch, or Catalyst product).

If the user configures **media-type aui**, or if the user configures **media-type auto-select** and AUI is automatically selected, only half-duplex operation is possible; full-duplex operation is not. In such cases, if full-duplex operation has been enabled, it will revert to half-duplex.

Example

The following example configures full-duplex mode on the Cisco 4500:

```
interface ethernet 0
full-duplex
```

Related Commands

media-type

