PXF Information

Cisco Parallel eXpress Forwarding (PXF) is used to accelerate forwarding performance on the Cisco 7304 router. PXF is available on the NSE-100 and NSE-150 only; the NPE-G100 does not support PXF.

This appendix provides some basic information about using PXF. For more detailed information about PXF on the Cisco 7304 router, including which features are supported in PXF, restrictions, and configuration examples, see the *PXF Information for Cisco 7304 Routers* document.

The PXF processors are turned on by default. If they are ever disabled, you must enable them to take advantage of IP packet switching and feature acceleration.

Note Before enabling the PXF processors, you must have IP routing and IP CEF switching turned on.

To manually disable or enable the PXF processors, use the global commands:

```
Hostname (config)# [no] ip pxf
```

The following features are supported by the PXF processors and are enabled using standard IOS procedures:

- CEF—Cisco Express Forwarding
- NetFlow
- Turbo ACL—Turbo access control list

See the "Related Documentation" section on page xvi to find documents about enabling these features.

PXF Troubleshooting

For PXF troubleshooting information, see the *Cisco 7304 Troubleshooting* module, the "PXF Feature Support" section at http://www.cisco.com/univercd/cc/td/doc/product/core/cis7300/trouble/1270tsa.htm#xtocid0.

Using show Commands

Use the global **show version** or **show c7300** commands to obtain information about the hardware and software installed on your router. Examples of each follow.

Using the show version Command

Use the **show version** command to display the configuration of the system hardware and the software version.

The following example of the **show version** command identifies an NSE-100 installed in a Cisco 7304 router:

```
Router# show version
Cisco Internetwork Operating System Software
IOS (tm) 7300 Software (C7300-JS-M), Version 12.1(9)RELEASED, CISCO N
Copyright (c) 1986-2001 by cisco Systems, Inc.
Compiled Fri 20-Apr-01 01:53 by biff
Image text-base: 0x40008970, data-base: 0x40BF2000

ROM: System Bootstrap, Version 12.1(9) [biff], RELEASED

WStar_TOP uptime is 15 hours, 20 minutes
System returned to ROM by power-on
System restarted at 23:49:08 UTC Thu Apr 26 2001
System image file is "disk0:c7300-js-mz.121-99.DAILY_BUILD_20010419"

cisco 7300 (NSE100) processor (revision A) with 114688K/16384K bytes of memory.
Processor board ID
R7000 CPU at 350Mhz, Implementation 39, Rev 3.2, 256KB L2, 1024KB L3 Cache
4 slot midplane, Version 65.48

Last reset from power-on
X.25 software, Version 3.0.0.
PXF processor tmc0 is running.
PXF processor tmc1 is running.
1 FastEthernet/IEEE 802.3 interface(s)
2 Gigabit Ethernet/IEEE 802.3 interface(s)
10 Packet over SONET network interface(s)
509K bytes of non-volatile configuration memory.

16064K bytes of ATA compact flash disk at bootdisk (Sector size 512 bytes).
31369K bytes of ATA compact flash disk at disk 0 (Sector size 512 bytes).
Configuration register is 0x100
```

Using the show c7300 Command

Use the **show c7300** subcommands to obtain information about the router.

- **show c7300 info** Show system information
- **show pxf or show c7300 pxf** Show PXF information (This command was modified to **show pxf** for the Cisco 7304 router. The Cisco IOS releases prior to 12.2(14)SZ that support the Cisco 7304 still require that **show c7300 pxf** be entered to gather PXF interface information.)
- **show c7300** Show slots information

```
Router> show c7300 info
Network IO Interrupt Throttling:
 throttle count=0, timer count=0
 active=0, configured=1
 netint usec=3999, netint mask usec=200

C7300 Midplane EEPROM:
        Hardware Revision       : 2.0
        Chassis MAC Address     : 0001.6444.8200
        MAC Address block size  : 256
```

```
        Number of Slots          : 4
        Chassis Serial Number    : SCA053200L9
        PCB Serial Number        : SAA05290365
        Part Number              : 73-5916-02
        Board Revision           : A0
        Fab Version              : 01
        RMA Test History         : 00
        RMA Number               : 0-0-0-0
        RMA History              : 00
        Deviation Number         : 0-0
        Product Number           :
        Top Assy. Part Number    : 68-0000-00
        Manufacturing Test Data  : 00 00 00 00 00 00 00 00
        Field Diagnostics Data   : 00 00 00 00 00 00 00 00
        Calibration Data         : Minimum: 0 dBmV, Maximum: 0 dBmV
              Calibration values :
        EEPROM format version 4
        EEPROM contents (hex):
          0x00: 04 FF 40 02 A1 41 02 00 C3 06 00 01 64 44 82 00
          0x10: 43 01 00 01 04 C2 8B 53 43 41 30 35 33 32 30 30
          0x20: 4C 39 C1 8B 53 41 41 30 35 32 39 30 33 36 35 82
          0x30: 49 17 1C 02 42 41 30 02 01 03 00 81 00 00 00 00
          0x40: 04 00 80 00 00 00 00 CB 94 20 20 20 20 20 20 20
          0x50: 20 20 20 20 20 20 20 20 20 20 20 20 20 87 44 00
          0x60: 00 00 C4 08 00 00 00 00 00 00 00 00 C5 08 00 00
          0x70: 00 00 00 00 00 00 C8 09 00 00 00 00 00 00 00 00
          0x80: 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0x90: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xA0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xB0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xC0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xD0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xE0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xF0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

C7300 NSE Mainboard EEPROM:
        Hardware Revision        : 2.3
        PCB Serial Number        : CAB0532JYYX
        Part Number              : 73-5198-02
        Board Revision           : A0
        Fab Version              : 02
        RMA Test History         : 00
        RMA Number               : 0-0-0-0
        RMA History              : 00
        Deviation Number         : 0-0
        Product Number           : 7300-NSE-100
        Top Assy. Part Number    : 68-1002-02
        Manufacturing Test Data  : 00 00 00 00 00 00 00 00
        Field Diagnostics Data   : 00 00 00 00 00 00 00 00
        Calibration Data         : Minimum: 0 dBmV, Maximum: 0 dBmV
              Calibration values :
        EEPROM format version 4
        EEPROM contents (hex):
          0x00: 04 FF 40 02 8B 41 02 03 C1 8B 43 41 42 30 35 33
          0x10: 32 4A 59 59 58 82 49 14 4E 02 42 41 30 02 02 03
          0x20: 00 81 00 00 00 00 04 00 80 00 00 00 00 CB 94 37
          0x30: 33 30 30 2D 4E 53 45 2D 31 30 30 20 20 20 20 20
          0x40: 20 20 20 87 44 03 EA 02 C4 08 00 00 00 00 00 00
          0x50: 00 00 C5 08 00 00 00 00 00 00 00 00 C8 09 00 00
          0x60: 00 00 00 00 00 00 00 C7 34 F6 44 F6 44 F6 44 F6
          0x70: 44 12 00 8C 07 05 00 8D 19 00 D3 07 05 00 82 21
          0x80: 00 D3 07 05 00 AC 32 00 D3 07 05 01 04 78 00 D3
          0x90: 07 05 02 71 00 00 00 00 00 00 00 F3 DB FF FF FF
          0xA0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
```

```
          0xB0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xC0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xD0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xE0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xF0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

C7300 NSE Daughterboard EEPROM:
        Hardware Revision        : 2.1
        PCB Serial Number        : CAB0531JYA6
        Part Number              : 73-5673-03
        Board Revision           : A0
        Fab Version              : 03
        RMA Test History         : 00
        RMA Number               : 0-0-0-0
        RMA History              : 00
        Deviation Number         : 0-0
        Product Number           : 7300-NSE-100
        Top Assy. Part Number    : 68-1002-02
        Manufacturing Test Data  : 00 00 00 00 00 00 00 00
        Field Diagnostics Data   : 00 00 00 00 00 00 00 00
        Calibration Data         : Minimum: 0 dBmV, Maximum: 0 dBmV
              Calibration values :
        EEPROM format version 4
        EEPROM contents (hex):
          0x00: 04 FF 40 02 8C 41 02 01 C1 8B 43 41 42 30 35 33
          0x10: 31 4A 59 41 36 82 49 16 29 03 42 41 30 02 03 03
          0x20: 00 81 00 00 00 00 04 00 80 00 00 00 00 CB 94 37
          0x30: 33 30 30 2D 4E 53 45 2D 31 30 30 20 20 20 20 20
          0x40: 20 20 20 87 44 03 EA 02 C4 08 00 00 00 00 00 00
          0x50: 00 00 C5 08 00 00 00 00 00 00 00 00 C8 09 00 00
          0x60: 00 00 00 00 00 00 00 C7 34 F6 44 F6 44 F6 44 F6
          0x70: 44 10 00 7C 07 05 00 8D 12 00 8C 07 05 00 8D 00
          0x80: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
          0x90: 00 00 00 00 00 00 00 00 00 00 00 F8 BC FF FF FF
          0xA0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xB0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xC0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xD0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xE0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
          0xF0: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

ROMMON Last Error Info:
count: 19,  reason: reset
pc: 0x402765E8,  error address: 0x00000000
Stack Trace:
FP: 0x00000000, PC: 0x00000000
FP: 0x00000000, PC: 0x00000000
FP: 0x00000000, PC: 0x00000000
FP: 0x00000000, PC: 0x00000000
FP: 0x00000000, PC: 0x00000000
FP: 0x00000000, PC: 0x00000000
FP: 0x00000000, PC: 0x00000000
FP: 0x00000000, PC: 0x00000000
```

Using the show c7300 pxf accounting or show pxf accounting Command

The following is an example of the **show c7300 pxf accounting** or **show pxf accounting** command with sample output:

```
Router> show c7300 pxf accounting
PXF Utilization: 0 %
PXF Packet Counters:
 Ingress from GE :              18      Egress to GE :              34
 Ingress from LCs:             329      Egress to LCs:               8
 Ingress from RP :              42      Egress to RP :             347
```