show nbf sessions

To display NetBEUI connection information, use the **show nbf sessions** command in EXEC mode.

show nbf sessions‘

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
11.1	This command was introduced.

Examples

The following is sample output from the **show nbf sessions** command:

```
Router> show nbf sessions

Async6 NetBIOS Session Table:
Srcnum   Destnum  Dest-Interface DestMAC
8        6         Ethernet0 00aa.005b.c17b

NetBIOS Global Session Table:
Srcnum   Destnum   Dest-Interface DestMAC  Src-Interface SrcMac(I)


6        8         Async7 0000.0000.0000  Ethernet0 00aa.005b.c17b(95)
ADD_[GROUP]NAME_QUERY queuesize=0
STATUS_QUERY queuesize=0
STATUS_RESPONSE queuesize=0
NAME_QUERY queuesize=0
NAME_RECOGNIZED queuesize=0
SESSION_INITIALIZE queuesize=0
SESSION_INITIALIZE (pending) queuesize=0
```

Table 1 describes the significant fields shown in the display.

Table 1 show nbf sessions Field Descriptions

Field	Description
Interface NetBIOS Session Table:	Summarizes Async/ISDN interface NetBIOS connection information.
Srcnum, Destnum	Source and destination connection numbers.
Dest-Interface, DestMAC	Destination interface and MAC address.
Global NetBIOS Session Table:	Summarizes LAN NetBIOS connection information.
Dest-Interface DestMAC	Destination interface (Async7 in this case) and MAC address (0000.0000.0000 in this case).

Table 1 show nbf sessions Field Descriptions (continued)

Field	Description
Src-Interface SrcMac	Source interface (Ethernet0 in this case) and MAC address (00aa.005b.c17b(95) in this case).
NetBIOS Datagram Queue Summary:	Summarizes NetBIOS pending datagram queues.
ADD_[GROUP]NAME_ QUERY	Add Group Name Query packets.
STATUS_QUERY	Status Query packets.
STATUS_RESPONSE	Status Response packets.
NAME_QUERY	Name Query packets.
NAME_RECOGNIZED	Name Recognized packets.
SESSION_INITIALIZE (pending)	NetBIOS session Initialize packets.

Related Commands

Command	Description
ppp multilink group	Restricts a physical link to joining only a designated multilink-group interface.
netbios access-list	Defines an IPX NetBIOS FindName access list filter.
netbios input-access-filter	Controls incoming IPX NetBIOS FindName messages.
netbios name-cache	Defines a static NetBIOS name cache entry, tying the server with the name netbios-name to the mac-address, and specifying that the server is accessible either locally through the interface-name specified, or remotely through the ring-group group-number specified.
netbios output-access-filter	Controls outgoing NetBIOS FindName messages.
show nbf cache	Displays NetBIOS name cache contents.

show plat hardware qfp active feature ess state pppoe

To display Quantum Flow Processor (QFP) edge switch services active instance state information for a PPP over Ethernet (PPPoE) client, use the **show plat hardware qfp active feature ess state pppoe** command in privileged EXEC mode.

show plat hardware qfp active feature ess state pppoe [**unknown-history**]

Syntax Description

unknown-history	(Optional) Displays information about the unknown session reporting history.

Command Default

Information about all PPPoE sessions are displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
Cisco IOS XE Release 2.1	This command was introduced on the Cisco ASR 1000 Series Aggregation Services Routers.
Cisco IOS XE Release 2.6	This command was modified. This command was extended to include PPPoE unknown session information.

Usage Guidelines

You can use the **show plat hardware qfp active feature ess state pppoe** command to display the number of data packets received in QFP for the unknown PPPoE sessions and the number of unknown sessions that have been reported to the Cisco IOS router. For example, if the QFP receives 100 data packets for one unknown PPPoE session, then the total number of packets received will be 100 and one session will be reported.

Cisco IOS router sends a PPPoE active discovery terminate (PADT) message to tear down reported unknown PPPoE sessions if the **sessions auto cleanup** command is configured in the Broadband Access Aggregation (BBA) group.

Examples

The following is sample output from the **show plat hardware qfp active feature ess state pppoe** command:

```
Router# show plat hardware qfp active feature ess state pppoe

ESS PPPOE State:
  Current number of segments: 0

PPPoE Session Lookup Depth:
  Distribution: 100%

PPPoE Unknown Session Handling:
  Reporting Rate(PPS)      : 100
  Refreshing Period(Second): 90
```

```
Current period:
  Start     : Dec 10 01:59:51
  Checked   : 0
  Reported  : 0
```

Table 2 describes the significant fields shown in the display.

Table 2 show plat hardware qfp active feature ess state pppoe Field Descriptions

Field	Description
ESS PPPOE State:	Current state of the Enterprise Storage Server (ESS).
Current number of segments:	Total number of segments.
PPPoE Session Lookup Depth:	Lookup depth of the PPPoE session, in percentage.
Distribution:	Distrubution value, in percentage.
PPPoE Unknown Session Handling:	Details about handling the PPPoE unknown sessions.
Reporting Rate(PPS):	Reporting rate in packets per second.
Refreshing Period(Second):	Time taken to refresh, in seconds.
Current period:	Current status.
Start:	Date and time at which the command was executed.
Checked:	Total number of data packets for the unknown PPPoE sessions received by the QFP.
Reported:	Total number of unknown sessions that have been reported to the Cisco IOS router.

Related Commands

Command	Description
sessions auto cleanup	Configures an aggregation device to attempt to recover PPPoE sessions that failed after reload by notifying CPE devices about the PPPoE session failures.

show port config

To display the configuration parameters of the active session for the specified port or the specified port range, use the **show port config** command in EXEC mode.

Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show port config {*slot* | *slot*/*port*}

Cisco AS5800 with the Universal Port Card (UPC)

show port config {*shelf*/*slot* | *shelf*/*slot*/*port*}

Syntax Description

slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1to 3. For the Cisco AS5400, slot values range from 1to 7.
slot/*port*	All ports on the specified slot and service processing element (SPE). For the Cisco AS5350 slot values range from 1to 3. For the Cisco AS5400, slot values range from 1to 7. The port values range from 0 to one less than the number of ports supported by the card. You must include the slash mark.
shelf/*slot*	All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*port*	All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to one less than the number of ports supported by the card. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5400 and Cisco AS5800.
12.2(2)XA	This command was implemented on the Cisco AS5350.
12.2(2)XB1	This command was integrated into Cisco IOS Release 12.2(2)XB1.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T.

Usage Guidelines

The port should have an associated active session when the **show port config** command is executed.

Note The **show port config** command is similar to the **show modem config** MICA technologies modem command.

Examples

The following example shows output from the **show port config** command on the Cisco AS5400 with the NextPort DFC. This example shows port configuration for the modem service port slot 1, port 0.

```
Router# show port config 1/0

Service Type                              :Modem service
Originate/Answer Mode                     :Answer
Data Bits Selection                       :8
Parity Selection                          :No Parity
Stop bits Selection                       :1
V.42 ODP generation                       :Enabled
EC Autodetect Time-out                    :5000 ms
Protocol Negotiation Time-out             :10000 ms
Protocol Negotiation Fallback character   :13
Protocol Negotiation Retransmission Limit :12
EC Min, Max Octets Frame length           :256
Data Compression                          :V.44Tx   V.44Rx
ARA Error Correction                      :ARA1.0 & ARA2.0 Disabled
V.42 Error Correction                     :V.42(LAP-M) Originate&Answer enabled
MNP Error Correction                      :MNP Originate&Answer enabled
Link Protocol Fallback                    :Async Framing (Start/Stop/Parity)
Calling Tone                              :Disabled
Guard Tone                                :Disabled
Modem Standard                            :V.90 Automode
Max Non-PCM Connect Rate                  :33600 bps
Min Non-PCM Connect Rate                  :300 bps
Max PCM Connect Rate                      :60000 bps
Min PCM Connect Rate                      :28000 bps
Signal Quality Threshold                  :Bit Errors >= 1:1000 cause recovery
Fallback/Fallforward Squelch Timer        :500 ms
Fall Forward Timer                        :10000 ms
Fall Back Timer                           :500 ms
Terminate Time-out                        :20 secs
Wait for Data Mode Time-out               :60 secs
Lost Carrier To Hang-up Delay             :1400 ms
PCM Transmit Level Setting                :-13 dBm
Retrain Limit                             :4
V.34 Max Symbol Rate                      :3429 Baud
V.34 Min Symbol Rate                      :2400 Baud
V.34 Carrier Frequency                    :Auto Carrier Selection
V.34 Preemphasis Filter Selection         :11
+++ Escape Detection                      :Enabled-in-Originate-Mode-Only
AT Command Processor                      :Enabled
Call Setup Delay                          :0 ms
Automatic Answer Delay                    :2 secs
Escape Detection Character                :ASCII 43 (+)
Carriage Return Character                 :ASCII 13 (CR)
Line Feed Character                       :ASCII 10 (LF)
Backspace Character                       :ASCII 8 (BS)
Pause Before Blind Dialing                :2 secs
Comma Dial Modifier Time                  :2 secs
MOH Timeout                              :No limit
QC Configuration                         :Enabled ANSpcm Level -12dBm
V.44 Max Tx Codewords                     :256
V.44 Max Rx Codewords                     :256
V.44 Max Tx String Length                  :32
V.44 Max Rx String Length                  :32
V.44 Max Tx History Size                   :256
V.44 Max Rx History Size                   :256
```

The following example shows port configuration information for a digital service port slot 1, port 8 on the Cisco AS5800 with the UPC:

```
Router# show port config 1/8

Shelf/Slot/SPE/Port -- 1/8/27/165
Service Type                                : Modem service
Originate/Answer Mode                       : Answer
Data Bits Selection                         : 8
Parity Selection                            : No Parity
Stop bits Selection                         : 1
V.42 ODP generation                         : Enabled
EC Autodetect Time-out                      : 5000 ms
Protocol Negotiation Time-out               : 10000 ms
Protocol Negotiation Fallback character     : 13
Protocol Negotiation Retransmission Limit   : 12
EC Min, Max Octets Frame length             : 256
Data Compression                            : V.42bis or MNP5
ARA Error Correction                        : ARA1.0 & ARA2.0 Disabled
V.42 Error Correction                       : V.42(LAP-M) Originate&Answer enabled
MNP Error Correction                        : MNP Originate&Answer enabled
Link Protocol Fallback                      : Async Framing (Start/Stop/Parity)
Calling Tone                                : Disabled
Guard Tone                                  : Disabled
Modem Standard                              : V.90 Automode
Max Non-PCM Connect Rate                    : 33600 bps
Min Non-PCM Connect Rate                    : 300 bps
Max PCM Connect Rate                        : 60000 bps
```

Table 3 describes the significant fields shown in the displays.

Table 3 show port config Field Descriptions

Field	Description
Service Type	Digital or analog service type.
Originate/Answer Mode	Answer or originate. Default is answer.
Data Bits Selection	7, 8, or 9 data bits. Default is 8.
Parity Selection	0 = no parity, 1 = even parity, 2 = odd parity. Default is no parity.
Stop bits Selection	1 or 2 stop bits. Default is 1 stop bit.
V.42 ODP generation	Disabled or generate ODP sequence when originating a V.42 call. Default is Generate ODP sequence when originating a V.42 call.
EC Autodetect Time-out value	Maximum period, in milliseconds (ms), during which the modem will run an automated detection machine upon the incoming data. Default is 5000 ms.
Protocol Negotiation Time-out	Maximum wait (in ms) for error correction protocol negotiation before fallback. Default is 10000 ms.
Protocol Negotiation Fallback Character	0 to 127. Default is 13.
Protocol Negotiation Retransmission Limit	0 = Do not disconnect on excessive retransmission; 1 to 255 = number of successive retransmissions to cause disconnect. Default is 12.
EC Min, Max Octets Frame Length	Buffer length; 64 to 1024 octets of data. Default is 256.

Table 3 show port config Field Descriptions (continued)

Field	Description
Data Compression	Disabled, V.42bis, MNP5, or V.42bis or MNP5 (V.42 has precedence). Default is V.42bis or MNP5 (V.42 has precedence).
ARA Error Correction	ARA1.0 & ARA2.0 Disabled, Enabled for Answer only, Enabled for Answer originate ARA1.0, and Enabled for Answer originate ARA2.0. Default is Enabled for Answer only.
V.42 Error Correction	V.42(LAP-M) Disabled, V.42(LAP-M) Originate&Answer enabled. Default is Disabled.
MNP Error Correction	MNP Disabled or MNP Originate&Answer enabled. Default is MNP Originate&Answer enabled.
Link Protocol Fallback	Asynch Framing (Start/Stop/Parity), Synchronous framing (Raw 8 bits to DSP), or Disconnect (Hang-up). Default is Asynch Framing (Start/Stop/Parity).
DSP processor MVIP TDM slice	0 to 15.
Calling Tone	Disabled or Send calling tone. Default is Disabled.
Guard Tone	Disabled, Use Guard tone (V.22 & V.22bis only). Default is Disabled.
Modem Standard	V.34bis Automode with terbo, V.34bis Automode skip terbo, V.32 terbo Automode, V.32bis Automode, V.22bis Automode, or K56Flex 1.1. Default is V.34bis Automode with terbo.
Max. Connect Rate	75 to 56000 bits per second (bps).
Min. Connect Rate	75 to 56000 bps.
Signal Quality Threshold	No action on bit errors, Bit Errors >=1:100 cause recovery, Bit Errors >=1:1000 cause recovery, Bit Errors >=1:10000 cause recovery, Bit Errors >=1:100000 cause recovery, or Bit Errors >=1:1000000 cause recovery. Default is 1:1000.
Fallback/Fallforward Squelch Timer	Time to delay (in ms) after a speed shift before allowing another speed shift. Default is 500 ms.
Fall Forward Timer	Elapsed time (in ms) with continuous good signal quality to cause a fall forward. Default is 10000 ms.
Fall Back Timer	Elapsed time (in ms) with bad signal quality to cause a fallback. Default is 500 ms.
Terminate Time-out	Elapsed time (in seconds) after a disconnect request before forcing a link disconnection. During this period, the modem sends buffered data and then clears down the link. Default is 20 seconds.
Wait for Data Mode Time-out	Maximum time (in seconds) during link establishment before disconnection. Default is 40; 60 for K56Flex.
Lost Carrier To Hang-up Delay	Maximum time (in ms) without a carrier to cause the link disconnect. Default is 1400 ms.
PCM Transmit Level Setting	6d Bm, 7 dBm, 8 dBm, –20 dBm, or –21 dBm. Default is 9 dBm.
Retrain Limit	Maximum successive failed retrains to cause the link to disconnection. Default is 4.

Table 3 show port config Field Descriptions (continued)

Field	Description
V.34 Max. Symbol Rate	2400 baud, 2743 baud, 2800 baud, 3000 baud, 3200 baud, or 3429 baud. Default is 3429 baud.
V.34 Min. Symbol Rate	2400 baud, 2743 baud, 2800 baud, 3000 baud, 3200 baud, or 3429 baud. Default is 2400 baud.
V.34 Carrier Frequency	Low Carrier, High Carrier, or Auto Carrier Selection. Default is High Carrier.
V.34 Preemphasis Filter Selection	0 to 10 = a selected filter; 11 = Automatic Preemphasis Selection. Default is 11.
Tx and Rx Signaling Type	NULL signaling, MF signaling, DTMF signaling, Lower band R2 signaling, Upper band R2 signaling, or R1 signaling. Default is NULL signaling.
Call Progress Tone Detection	No tone detection, Dial tone detection, Ring-Back tone detection, or Busy tone detection. Default is No tone detection.
+++ Escape Detection	Disabled, Enabled, or Enabled-in-Originate-Mode-Only. Default is Enabled-in-Originate-Mode-Only.
AT Command Processor	Disabled or Enabled. Default is Disabled.
Call Set Up Delay	No delay before link initiation, delay value (1 to 255 ms). Default is No delay.
Automatic Answer	Answer immediately, delay value (1 to 255 seconds). Default is 1 second.
Escape Detection Character	ASCI value (0 to 127). Default is 43.
Carriage Return Character	ASCI value (0 to 127). Default is 13.
Line Feed Character	ASCI value (0 to 127). Default is 10.
Backspace Character	ASCI value (0 to 127). Default is 8.
Pause Before Blind Dialing	2 to 255 seconds. Default is 2.
Wait For Carrier After Dial	Wait for data mode timeout.
Comma Dial Modifier Time	2 to 255 seconds. Default is 2.

Related Commands

Command	Description
show port operational-status	Displays the operational status of a specific port or port range.

show port digital log

To display the data event log for digital modems, use the **show port digital log** command in EXEC mode.

show port digital log [**reverse** *slot*/*port*] [*slot* | *slot*/*port*]]

Syntax Description

reverse	(Optional) Displays a report with the most recent entry first.
slot	(Optional) All ports on the specified slot. For the Cisco AS5400, slot values range from 1to 7.
slot/*port*	(Optional) All ports on the specified slot and service processing element (SPE). For the Cisco AS5400, slot values range from 1to 7 and port values range from 0 to one less than the number of ports supported by the card. You must include the slash mark.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5400.
12.1(5)XM1	This command was implemented on the Cisco AS5350 universal gateway.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Note This command is not supported on the Cisco AS5800 with the Universal Port DFC.

Examples

The following is sample output from the **show port digital log** command on the Cisco AS5400 with the NextPort DFC:

```
Router# show port digital log

Port 5/00 Events Log
  00:02:41: incoming called number: 35140
     Service type: DIGITAL_DATA
     Session State: IDLE
     Service type: DIGITAL_DATA
     Session State: ACTIVE
  00:02:41: Digital State event:
            State: Steady
  00:02:40: Digital Static event:
    Connect Protocol                        :   V.110
    Data Bits                               :   8
    Parity                                  :   0
```

```
    Stop Bits                              :   1
    TX,RX Bit Rate                         :   19200, 19200
Port 5/01 Events Log
  00:02:42: incoming called number: 35140
     Service type: DIGITAL_DATA
     Session State: IDLE
     Service type: DIGITAL_DATA
     Session State: ACTIVE
  00:02:41: Digital State event:
           State: Steady
  00:02:41: Digital Static event:
    Connect Protocol                       :   V.110
    Data Bits                              :   8
    Parity                                 :   0
    Stop Bits                              :   1
    TX,RX Bit Rate                         :   19200, 19200
Port 5/02 Events Log
  00:02:42: incoming called number: 35140
     Service type: DIGITAL_DATA
     Session State: IDLE
     Service type: DIGITAL_DATA
     Session State: ACTIVE
  00:02:42: Digital State event:
           State: Steady
  00:02:42: Digital Static event:
    Connect Protocol                       :   V.110
    Data Bits                              :   8
    Parity                                 :   0
    Stop Bits                              :   1
    TX,RX Bit Rate                         :   19200, 19200
Port 5/03 Events Log
  00:02:43: incoming called number: 35140
     Service type: DIGITAL_DATA
     Session State: IDLE
     Service type: DIGITAL_DATA
     Session State: ACTIVE
  00:02:43: Digital State event:
           State: Steady
  00:02:43: Digital Static event:
    Connect Protocol                       :   V.110
    Data Bits                              :   8
    Parity                                 :   0
    .
    .
    .
```

Table 4 describes the significant fields shown in the display.

Table 4 show port digital log Field Descriptions

Field	Description
Port	The port and slot with the events log of current session.
incoming called number	The incoming called number.
Service type	The type of digital service, data or voice.
Session State	The condition of the current state, active or idle.

Table 4 show port digital log Field Descriptions (continued)

Field	Description
Digital State event:	The digital state. Values are as follows: 0—IDLE state 10—CONNECTING state 30—Steady 50—TERMINATING state
Connect Protocol	The data carrier connect standard used to support the rates of bits per second (bps).
Data Bits	The number of data bits, 7, 8, or 9. Default is 8.
Parity	The parity selection of 0 = no parity, 1 = odd parity. Default is no parity.
Stop Bits	The selection of stop bits, 1 or 2. Default is 1.
TX, RX Bit Rate	The transmit and receive bit rate. For RX, the bit rate is from the remote service provider to the local service provider. For TX, the bit rate is from the local service provider to the remote service provider.
Events Log	Displays the log of events for that port.

Related Commands

Command	Description
clear port digital log	Clears specific service events.
clear port log	Clears all event entries in the port level history event log.
show port digital log	Displays port events with the most recent event first.

show port log

To display the service events generated by the sessions, use the **show port log** command in privileged EXEC mode.

show port {**fax** | **voice**} **log** [**reverse**] [*slot/port*] [*slot* | *slot/port*]

Syntax Description

fax	Displays the fax data event log.
voice	Displays the voice data event log.
reverse	(Optional) Displays the port history event log with the most recent event first.
slot/port	(Optional) Displays information for all ports on the specified slot and service processing element (SPE). Slot values range from 1 to 7 and port values range from 0 to 107. You must include the slash mark.
slot	(Optional) Displays information for all ports on the specified slot. Slot values range from 1 to 7.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5400 and Cisco AS5800.
12.1(5)XM2	This command was integrated into Cisco IOS Release 12.1(5)XM2.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350 and Cisco AS5400 platforms.
12.3(4)T	Voice activity detection (VAD) background noise, echo return loss (ERL) level, and Acombined (ACOM) level were replaced with average values for each statistic in the output. A new field was added for the average echo canceller (ECAN or EC) background noise.
12.3(14)T	T.38 fax relay call statistics were made available to Call Detail Records (CDRs) through Vendor-Specific Attributes (VSAs) and added to the call log.

Examples

The following example shows value averages for VAD background noise, ERL level, ACOM level, and EC background noise level. Relevant fields in the output are shown in bold.

```
Router# show port voice log 1/0

Port 1/00 Events Log
  *Aug 22 07:59:27.515:Voice Terminate event:
    Disconnect Reason                 :  normal call clearing (16)
    Call Timer                        :  57  secs
    Current playout delay             :  65  ms
    Min/Max playout delay             :  65/105  ms
    Clock offset                      :  142003  ms
    Predictive concealment            :  0  ms
```

```
  Interpolative concealment          :  0  ms
  Silence concealment                :  0  ms
  Buffer overflow discards           :  1
  End-point detection errors         :  0
  Tx/Rx Voice packets                :  2813/2816
  Tx/Rx signaling packets            :  0/0
  Tx/Rx comfort noise packets        :  0/0
  Tx/Rx duration                     :  56260/56260  ms
  Tx/Rx voice duration               :  0/0  ms
  Out of sequence packets            :  0
  Bad protocol headers               :  0
  Num. of late packets               :  0
  Num. of early packets              :  1
  Tx/Rx Power                        :  -87.0/-57.3  dBm
  Tx/Rx Mean                         :  -86.7/-57.0  dBm
  Average VAD Background noise level :  6.2  dBm
  Average ERL level                  :  127.0  dB
  Average ACOM level                 :  127.0  dB
  Tx/Rx current activity             :  silence/silence
  Tx/Rx byte count                   :  450080/450240
  Average ECAN Background noise level:  -83.4  dBm
*Aug 22 07:59:27.515:Voice SSRC change events:
  Latest ssrc value                  :  391643394
  Total ssrc changes                 :  1
```

The following example shows output for the Cisco AS5400 with the universal port Dial Feature Card (DFC). The example shows the port voice history event log for slot 4, port 0.

```
Router# show port voice log 4/0

03:36:26: incoming caller number: 11001
03:36:26: incoming called number: 21001
03:36:26: Voice Connect event:
Voice Codec : G.711 a-law
Echo Canceler Length : 64 taps
Digit detection enable : DTMF signaling - enabled
Echo Cancellation Control : Echo cancellation - enabled
Echo update - enabled
Non-linear processor - enabled
Echo reset coefficients -
disabled
High pass filter enable -
disabled
Comfort noise generation : Generate comfort noise
Voice activity detection : Disabled
Information field size : 20 ms
Digit relay enable : OOB Digit relay -
disabled
IB Digit relay -
disabled
Encapsulation protocol : RTP
Playout de-jitter mode : adaptive
Input Gain : 0 dB
Output Gain : 0 dB
Tx/Rx SSRC : 0/0
03:36:27: Voice Terminate event:
Disconnect Reason : Non-specific host disconnect
Call Timer : 122 secs
Current playout delay : 30 ms
Min/Max playout delay : 25/45 ms
Clock offset : 528623613 ms
Predictive concealment : 0 ms
Interpolative concealment : 0 ms
Silence concealment : 0 ms
```

```
Buffer overflow discards : 0
End-point detection errors : 0
Tx/Rx Voice packets : 6130/6130
Tx/Rx signaling packets : 0/0
Tx/Rx comfort noise packets : 0/0
Tx/Rx duration : 122615/122615
Tx/Rx voice duration : 90000/82000
:
Out of sequence packets : 0
Bad protocol headers : 0
Num. of late packets : 0
Num. of early packets : 0
Tx/Rx Power : 932/101 dBm
Tx/Rx Mean : 364/325 dBm
:
Background noise level : -1 dBm
ERL level : 623 dB
ACOM level : 586 dB
Tx/Rx current activity : silence/silence
```

Table 5 describes the significant fields shown in the display.

Table 5 show port log Field Descriptions

Field	Description
incoming caller number	The incoming caller number.
incoming called number	The incoming called number.
Voice Codec	Codec used for the current call.
Echo Canceler Length	Length of echo canceler in number of taps. Ranges from 1 to 1024 (128 milliseconds [ms]).
Digit detection enable	Bit mask where 1 = enabled, 0 = disabled, Bit 0 = dual tone multifrequency (DTMF) signaling detection.
Echo Cancellation Control	Bit mask where 1 = enabled, 0 = disabled. Bit 0: Echo cancellation enable. Bit 1: Echo update enable. Bit 2: Nonlinear processor enable. Bit 3: Echo reset coefficients (single shot). Bit 4: High pass filter disable. Bits 5—15: reserved (set to 0).
Echo update	Bit 1: Echo update enable.
Non-linear processor	Bit 2: Nonlinear processor enable.
Echo reset coefficients	Bit 3: Echo reset coefficients (single shot).
High pass filter enable	Bit mask where 1 = enabled, 0 = disabled Bit 0 = Echo cancellation enable. Bit 1: Echo update enable Bit 2: Nonlinear processor enable Bit 3: Echo reset coefficients (single shot) Bit 4: High pass filter disable Bits 5—15: reserved (set to 0)

Table 5 show port log Field Descriptions (continued)

Field	Description
Comfort noise generation	0 = generate silence - G.711 only, 1 = generate comfort noise.
Voice activity detection	0 = disabled, 1 = enabled.
Information field size	Maximum size (in ms) of information field in fax relay packets. The range is 0 to 90 ms.
Digit relay enable	Bit mask where 1 = enabled, 0 = disabled, Bit 0 = Digit Passthrough suppression.
IB Digit relay	Bit 1 = IB Digit Relay.
Encapsulation protocol	1 = RTP (VoIP), 2 = FRF.11 (VoFR), 3 = VoATM.
Playout de-jitter mode	0 = fixed, 1 = adaptive.
Input Gain	–6.0 to 6.0 in 0.1 decibel (dB) increments.
Output Gain	0 to –14.0 in 0.1 dB increments.
Disconnect Reason	Disconnect reason.
Call Timer	In seconds.
Current playout delay	Current playout delay estimate (in ms).
Min/Max playout delay	Minimum and Maximum playout delay encountered (in ms).
Clock offset	Clock offset value (in ms).
Predictive concealment	Cumulative duration (in ms).
Interpolative concealment	Cumulative duration (in ms).
Silence concealment	Cumulative duration (in ms).
Buffer overflow discards	Cumulative number buffer overflow errors.
End-point detection errors	Cumulative number of endpoint detection errors.
Tx/Rx SSRC	Value of Tx/Rx SSRC in the Routing Table Protocol (RTP) header.
Tx/Rx Voice packets	Cumulative count of voice packets sent and received.
Tx/Rx signaling packets	Cumulative count of signaling packets sent and received.
Tx/Rx comfort noise packets	Cumulative count of comfort noise packets sent and received.
Tx/Rx duration	Total duration of voice transmission and reception (in ms).
Tx/Rx voice duration	Total duration of voice transmission and reception (in ms).
Out of sequence packets	Cumulative count of packets received out of sequence.
Bad protocol headers	Cumulative count of packets received with bad protocol headers.
Num. of late packets	Cumulative count of packets received late.
Num. of early packets	Cumulative count of packets received early.
Tx/Rx Power	Current power of sent and received signal (to time-division multiplexing [TDM]) in 0.1 dBm increments.
Tx/Rx Mean	Average power of sent and received signal (to TDM) in 0.1 dBm increments.

Table 5 show port log Field Descriptions (continued)

Field	Description
Background noise level	Current background noise level estimate in 0.1 decibel (dB) increments.
ERL level	Current Echo Return Loss (ERL) level estimate in 0.1 dB increments.
ACOM level	Current ACOM level estimate in 0.1 dB increments. The term ACOM is used in G.165, *General Characteristics of International Telephone Connections and International Telephone Circuits: Echo Cancellers*. ACOM is the combined loss achieved by the echo canceller, which is the sum of the ERL, ERL enhancement, and nonlinear processing loss for the call.
Tx/Rx current activity	0 = silence, 1 = voice.

The following example shows output for the Cisco AS5400 with the universal port DFC. The example shows the port fax history event log for slot 1, port 0.

```
Router# show port fax log 1/0

Port 1/00 Events Log
Port 1/01 Events Log
Port 1/02 Events Log
  *Jan  1 18:39:30.499 UTC: Fax-relay Connect event:
    Max. transmission rate             :   4800 bps
    Information field size             :   20  ms
    TCF generation                     :   transparent
    Transmit level                     :   -10  dBm
    Encapsulation protocol             :   UDPTL
    IFP Payload Type                   :
    ECM Disable                        :   Disabled
```

The following example shows output for the Cisco AS5350 on shelf 1, slot 3 with the T.38 Fax Relay statistics:

```
Router# show port fax log 1/3

Port 1/03 Events Log
  May  7 21:32:22.556 UTC: Fax-relay Connect event:
    Max. transmission rate             :   14400 bps
    Information field size             :   20  ms
    TCF generation                     :   transparent
    Transmit level                     :   -10  dBm
    Encapsulation protocol             :   UDPTL
    ECM Disable                        :   Not disabled
    1 bytes of link info not formatted      :   0x01 0x00
Fax-relay Terminate event:
    Disconnect Reason                  : 0
    Call Timer                         : 55  secs
    Current playout delay              : 80  ms
    Min/Max playout delay              : 1/560  ms
    Buffer underflow discard           : 0
    Buffer overflow discard            : 0
    End-point detection errors         : 0
    Tx/Rx Fax packets                  : 1580/90
    Tx/Rx duration                     : 32856/6193  ms
    Tx/Rx pages                        : 1/0
    Out of sequence packets            : 0
    Bad protocol headers               : 0
    Fax state                          : Idle
!
```

```
    Current signal level               : 42  dBm
    Phase jitter                       : 0  degrees
    Frequency offset                   : 0  Hz
    EQM                                : 0
    Packet loss concealment count      : 0
    TX/RX Byte Count                   : 0/76
    Recent HS Modulation               : V.17/short/14400
    ECM in use                         : 1
```

The following example shows output for the Cisco AS5350 on shelf 1, slot 3 with the T.38 fax relay statistics:

```
Router# show port fax log 1/3

Port 1/03 Events Log
  May  7 21:32:22.556 UTC: Fax-relay Connect event:
    Max. transmission rate             :   14400 bps
    Information field size             :   20  ms
    TCF generation                     :   transparent
    Transmit level                     :   -10  dBm
    Encapsulation protocol             :   UDPTL
    ECM Disable                        :   Not disabled
    1 bytes of link info not formatted      :   0x01 0x00
Fax-relay Terminate event:
    Disconnect Reason                  : 0
    Call Timer                         : 55  secs
    Current playout delay              : 80  ms
    Min/Max playout delay              : 1/560  ms
    Buffer underflow discard           : 0
    Buffer overflow discard            : 0
    End-point detection errors         : 0
    Tx/Rx Fax packets                  : 1580/90
    Tx/Rx duration                     : 32856/6193  ms
    Tx/Rx pages                        : 1/0
    Out of sequence packets            : 0
    Bad protocol headers               : 0
    Fax state                          : Idle
!
    Current signal level               : 42  dBm
    Phase jitter                       : 0  degrees
    Frequency offset                   : 0  Hz
    EQM                                : 0
    Packet loss concealment count      : 0
    TX/RX Byte Count                   : 0/76
    Recent HS Modulation               : V.17/short/14400
    ECM in use                         : 1
```

Table 6 lists the significant fields displayed in the output of **show port fax log** command:

Table 6 show port fax log Field Descriptions

Field	Description
Max. transmission rate	0: No Limit. 1: 2400 bits per second (bps). 2: 4800 bps. 3: 7200 bps. 4: 9600 bps. 5: 12000 bps. 6: 14400 bps.
Information field size	Maximum size of information field in fax relay packets. The range is 0 to 90 ms.
TCF generation	0: transparent (remote). 1: controlled (local).
Transmit level	Transmit level of remodulator (in decibels per milliwatt [dBm]): –10 to –21.
Encapsulation protocol	1: UDPTL (T.38—VoIP) (default). 2: FRF.11 (VoFR). 3: RTP (IFP in RTP).
IFP Payload Type	0 to 127. Negotiated payload type for fax relay over RTP. (Valid only when encapsulation protocol is RTP.)
ECM Disable	0 - Error Correction Mode (ECM) is not disabled. 1 - ECM is disabled.
Disconnect Reason	Disconnect Reason.
Call Timer	Call timer in seconds.
Current playout delay	Current playout delay estimate in milliseconds (ms).
Min/Max playout delay	Minimum and maximum playout delay encountered in ms.
Buffer underflow discard	Cumulative number of buffer underflow errors.
Buffer overflow discard	Cumulative number of buffer overflow errors.
End-point detection errors	Cumulative number of endpoint detection errors.
Tx/Rx Fax packets	Cumulative count of fax packets sent and received.
Tx/Rx duration	Total duration of fax transmission and reception in ms.
Tx/Rx pages	Total pages of fax transmitted and received.
Out of sequence packets	Cumulative count of packets received out of sequence.
Bad protocol headers	Cumulative count of packets received with bad protocol headers.
Fax state	Idle.
Current signal level	Current sent and received signal level estimate in dBm.

Table 6 show port fax log Field Descriptions (continued)

Field	Description
Phase jitter	Measured amount of phase jitter which indicates how large the “rocking” is in degrees. On an oscilloscope, the constellation points would look like crescent moons. Values can range up to 15 degrees. The typical value is 0 (that is, phase jitter is not normally present).
Frequency offset	The difference (in hertz) between the expected RX carrier frequency and the actual RX carrier frequency.
EQM	Eye Quality Monitor (EQM) provides an assessment of line quality during transmission of both high speed (V.29, V.17, etc) and low speed (V.21) data.
Packet loss concealment count	Packet loss concealment count.
Tx/Rx Byte Count	Number of bytes sent and received.
Recent HS Modulation	Recent high-speed modulation used.
ECM in use	0 - Error Correction Mode (ECM) is not in use. 1 - ECM is in use.

Related Commands

Command	Description
clear port log	Clears all port log events.
show port operational-status	Displays active session statistics.

show port modem calltracker

To display the port-level information for an active modem, use the **show port modem calltracker** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show port modem calltracker [*slot* | *slot*/*port*]

Cisco AS5800 with the Universal Port Card (UPC)

show port modem calltracker [*shelf*/*slot* | *shelf*/*slot*/*port*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*port*	(Optional) All ports on the specified slot and service processing element (SPE). For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. Port values range from 0 to one less than the number of ports supported by the card. You must include the slash mark.
shelf/*slot*	(Optional) All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and Universal Port Card (UPC) slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*port*	(Optional) The specified port range on a shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 1to 323. You must type in the forward slashes (**/**).

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5400 and Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350 universal gateway.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

When there is no call on the specified port, the most recent call information is displayed. This command uses the Call Tracker database. To enable Call Tracker, enter the **calltracker enable** global configuration command.

Examples

The following is sample output from the **show port modem calltracker** command on the Cisco AS5400 with the NextPort DFC. This example shows output for slot 3, port 3:

```
Router# show port modem calltracker 3/3

------------------------- call handle=        62 -------------------------
status=Active, service=PPP, origin=Answer, category=Modem
DS0 slot/port/ds1/chan=4/7/7/0, called=124, calling=(n/a)
userid=as5300-ref2, ip=192.169.124.1, mask=255.255.255.0
setup=06/22/2000 21:50:47, conn=6.77, phys=25.00, service=29.83, authen=29.83
init rx/tx b-rate=33600/33600, rx/tx chars=0/0
resource slot/port=3/3, mp bundle=0, charged units=0, account id=0
idb handle=0x645B97CC, tty handle=0x622207BC, tcb handle=0x0
-----------------------------------------------------------------------
protocol: last=LAP-M, attempted=LAP-M
compression: last=V.42bis-Both, supported= V.42bis-RX V.42bis-TX
standard: last=V.34+, attempted=V.21, initial=V.21

snr=40 dB, sq=5, rx/tx level=-15/0 dBm
phase jitter: freq=1 Hz, level=2 degrees
far end echo level=-90 dBm, freq offset=0 Hz
phase roll=0 degrees, round-trip delay=0 msecs
digital pad=None dB, digital pad comp=0
rbs pattern=0, constellation=0 point
rx/tx: symbol rate=3429/3429, carrier freq=1959/1959
rx/tx: trellis code=0/0, preemphasis index=0/0
rx/tx: constellation shape=Off/Off, nonlinear encode=Off/Off
rx/tx: precode=Off/Off, xmit level reduct=0/0 dBm

rx/tx: chars=0/0, general info=0x0
rx/tx: link layer chars=0/0, NAKs=0/0
error corrected: rx/tx=0/0, rx bad=0
ec retransmissions=0, retransmitted frames=0
rx/tx ppp slip=0/0, bad ppp slip=0

rx/tx b-rate: last=33600/33600, lowest=0/0, highest=0/0
phase 2 projected max rx b-rate: client=0, host=33600
phase 4 desired rx/tx b-rate: client=16384/25987, host=25987/42765
retrains: local=0, remote=0, failed=0
speedshift: local up/down=0/0, remote up/down=0/0, failed=0

v110: rx good=0, rx bad=0, tx=0, sync lost=0
SS7/COT status=0x00
v90: status=(Invalid #141), client=(n/a), failure=None

rx/tx: max neg I frame=128/128, neg window=0/128
v42bis size: dictionary=0, string=16
T401 timeouts=0, tx window closures=0, rx overruns=0
test err=0, reset=0, v0 synch loss=0
mail lost: host=0, sp=0

duration(sec)=0, disc reason=0x0
disc text=(n/a)

                --------5---------10--------15--------20--------25--------30
line shape  : 0x00000000000000000000000000000000000000000000000000000000
v8bis capab : 0x12C9808081C609B502009481834347CB000000000000
v8bis mod sl: 0x00000000000000000000000000000000000000000000000000
v8 jnt menu : 0xC16513942A8D0000000000000000000000000000
v8 call menu: 0x00C16513942A000000000000000000000000000000
v90 training: 0x00000000
v90 sgn ptrn: 0x00000000
```

```
state trnsn : 0x0F0F010203041013151920FF00000000000000000000000000000000000000000
                0000
portwre diag: 0x00000000000000000000000000000000
phase 2 info: 0x0200EFF41F120000003CEFF41F0200E001EFB4014082050B083470200001
                1EEFB41440E1050008FCA707A707650D00000000000000000000
phase 4 info: 0x0DA70D65836583400040
--------------------------------------------------------------------------------
```

show port modem log

To display the events generated by the modem sessions, use the **show port modem log** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show port modem log [**reverse**] [*slot* | *slot*/*port*] [*slot* | *slot*/*port*]

Cisco AS5800 with the Universal Port Card (UPC)

show port modem log [**reverse**] [*shelf*/*slot* | *shelf*/*slot*/*port*] [*shelf*/*slot* | *shelf*/*slot*/*port*]

Syntax Description

reverse	(Optional) Displays the modem port history event log with the most recent event first.
slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. A range of slots can be specified by entering a second value for the *slot* argument
slot/*port*	(Optional) All ports on the specified slot and service processing element (SPE). For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. Port values range from 0 to one less than the number of ports supported by the card. You must include the slash mark. A range of ports can be specified by entering a second value for the *slot*/*port* argument.
shelf/*slot*	(Optional) All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and Universal Port Card (UPC) slot values range from 2 to 11. You must include the slash mark. A range shelfs and slots can be specified by entering a second value for the *shelf*/*slot* argument.
shelf/*slot*/*port*	(Optional) All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to one less than the number of ports supported by the card. You must type in the forward slashes (/). A range of ports can be specified by entering a second value for the *shelf*/*slot*/*port* argument.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5400 and Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(2)XA	Link and states information was added.
12.2(2)XB1	This command was integrated into Cisco IOS Release 12.2(2)XB1.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

The port modem test log displays the results of the SPE diagnostics tests.

Examples

The following is sample output for the Cisco AS5400 with the NextPort DFC. This example shows the port history event log for slot 5, port 47:

```
Router# show port modem log 5/47

Port 5/47 Events Log
     Service type: DATA_FAX_MODEM
     Service mode: DATA_FAX_MODEM
     Session State: IDLE
  00:02:23: incoming called number: 35160
     Service type: DATA_FAX_MODEM
     Service mode: DATA_FAX_MODEM
     Session State: IDLE
     Service type: DATA_FAX_MODEM
     Service mode: DATA_FAX_MODEM
     Session State: ACTIVE
  00:02:23: Modem State event:
            State: Connect
  00:02:16: Modem State event:
            State: Link
  00:02:13: Modem State event:
            State: Train Up
  00:02:05: Modem State event:
            State: EC Negotiating
  00:02:05: Modem State event:
            State: Steady
  00:02:05: Modem Static event:
    Connect Protocol                          :   LAP-M
    Compression                               :   V.42bis
    Connected Standard                        :   V.34+
    TX,RX Symbol Rate                         :   3429, 3429
    TX,RX Carrier Frequency                   :   1959, 1959
    TX,RX Trellis Coding                      :   16/16
    Frequency Offset                          :   0  Hz
    Round Trip Delay                          :   0  msecs
    TX,RX Bit Rate                            :   33600, 33600
    Robbed Bit Signalling (RBS) pattern       :   0
    Digital Pad                               :   None
    Digital Pad Compensation                  :   None
    4 bytes of link info not formatted        :   0x00 0x00 0x00 0x00 0x00
  00:02:06:Modem Dynamic event:
    Sq Value                                  :   5
    Signal Noise Ratio                        :   40  dB
    Receive Level                             :   -12  dBm
    Phase Jitter Frequency                    :   0  Hz
    Phase Jitter Level                        :   2  degrees
    Far End Echo Level                        :   -90  dBm
    Phase Roll                                :   0  degrees
    Total Retrains                            :   0
    EC Retransmission Count                   :   0
    Characters transmitted, received          :   0, 0
    Characters received BAD                   :   0
    PPP/SLIP packets transmitted, received    :   0, 0
    PPP/SLIP packets received (BAD/ABORTED)   :   0
    EC packets transmitted, received OK       :   0, 0
    EC packets (Received BAD/ABORTED)         :   0
```

The following example shows the port history event log with the most recent event first on slot 5, port 40:

```
Router# show port modem log reverse 5/40

Modem port 5/40 Events Log
  00:02:18:Modem Dynamic event:
    Sq Value                                :   5
    Signal Noise Ratio                      :   38  dB
    Receive Level                           :   -12  dBm
    Phase Jitter Frequency                  :   0  Hz
    Phase Jitter Level                      :   0  degrees
    Far End Echo Level                      :   0  dBm
    Phase Roll                              :   0  degrees
    Total Retrains                          :   0
    EC Retransmission Count                 :   0
    Characters transmitted, received        :   0, 0
    Characters received BAD                 :   0
    PPP/SLIP packets transmitted, received  :   0, 0
    PPP/SLIP packets received (BAD/ABORTED) :   0
    EC packets transmitted, received OK     :   0, 0
    EC packets (Received BAD/ABORTED)       :   0
  00:02:18: Modem Static event:
    Connect Protocol                        :   LAP-M
    Compression                             :   V.42bis
    Connected Standard                      :   V.90
    TX,RX Symbol Rate                       :   8000, 3200
    TX,RX Carrier Frequency                 :   1829, 1829
    TX,RX Trellis Coding                    :   16/16
    Frequency Offset                        :   0  Hz
    Round Trip Delay                        :   4  msecs
    TX,RX Bit Rate                          :   52000, 28800
    Robbed Bit Signalling (RBS) pattern     :   255
    Digital Pad                             :   None
    Digital Pad Compensation                :   Enabled
    4 bytes of link info not formatted      :   0x00 0x00 0x00 0x00 0x00
  00:02:23: Modem State event:
            State: Steady
  00:02:23: Modem State event:
            State: EC Negotiating
  00:02:36: Modem State event:
            State: Train Up
  00:02:39: Modem State event:
            State: Link
  00:02:46: Modem State event:
            State: Connect
  00:02:46: Port State Reached:
     Service type: DATA_FAX_MODEM
     Service mode: DATA_FAX_MODEM
     Session State: ACTIVE
  00:02:46: Port State Reached:
     Service type: DATA_FAX_MODEM
     Service mode: DATA_FAX_MODEM
     Session State: IDLE
  00:02:47: incoming called number: 6000
  00:02:47: incoming caller number: 90002
```

The following is sample output for the Cisco AS5800 with the UPC. This example shows the port history event log for slot 8, ports 0 to 6:

```
Router# show port modem log 1/8/0 1/8/6

Port 1/08/00 Events Log
  09:09:53: Service Type: DATA_FAX_MODEM
  09:09:53: Service Mode: DATA_FAX_MODEM
```

```
09:09:53: Session State: FLUSHING
09:09:53: Service Type: DATA_FAX_MODEM
09:09:53: Service Mode: DATA_FAX_MODEM
09:09:53: Session State: IDLE
09:09:53: Modem State event:
          State: Terminate
09:09:53: Modem End Connect event:
  Call Timer                              :   26  secs
  Disconnect Reason Info                  :   0x1F00
      Type (=0  ):  <unknown>
     Class (=31 ):  Requested by host
    Reason (=0  ):  non-specific host disconnect
  Total Retrains                          :   0
  EC Retransmission Count                 :   0
  Characters transmitted, received        :   2633, 485
  Characters received BAD                 :   0
  PPP/SLIP packets transmitted, received  :   0, 0
  PPP/SLIP packets received (BAD/ABORTED) :   0
  EC packets transmitted, received OK     :   27, 21
  EC packets (Received BAD/ABORTED)       :   0
09:09:54:Modem Link Rate event:
09:09:55: Service Type: DATA_FAX_MODEM
09:09:55: Service Mode: DATA_FAX_MODEM
09:09:55: Session State: IDLE
09:09:55: Service Type: DATA_FAX_MODEM
09:09:55: Service Mode: DATA_FAX_MODEM
09:09:55: Session State: ACTIVE
09:09:55: Modem State event:
          State: Connect
09:09:55: Modem State event:
          State: Link
09:09:55: Modem State event:
          State: Train Up
09:09:55: Modem State event:
          State: EC Negotiating
09:09:55: Modem State event:
          State: Steady
09:09:55: Modem Static event:
  Connect Protocol                        :   LAP-M
  Compression                             :   V.42bis
  Connected Standard                      :   V.34+
  TX,RX Symbol Rate                       :   3429, 3429
  TX,RX Carrier Frequency                 :   1959, 1959
  TX,RX Trellis Coding                    :   16/16
  Frequency Offset                        :   0  Hz
  Round Trip Delay                        :   1  msecs
  TX,RX Bit Rate                          :   31200, 28800
  Robbed Bit Signalling (RBS) pattern     :   0
  Digital Pad                             :   None
  Digital Pad Compensation                :   None
  4 bytes of link info not formatted      :   0x00 0x00 0x00 0x00 0x00
09:09:56: Modem Dynamic event:
  Sq Value                                :   5
  Signal Noise Ratio                      :   38  dB
  Receive Level                           :   -15  dBm
  Phase Jitter Frequency                  :   13  Hz
  Phase Jitter Level                      :   0  degrees
  Far End Echo Level                      :   -90  dBm
  Phase Roll                              :   0  degrees
  Total Retrains                          :   0
  EC Retransmission Count                 :   0
  Characters transmitted, received        :   0, 0
  Characters received BAD                 :   0
  PPP/SLIP packets transmitted, received  :   0, 0
```

```
  PPP/SLIP packets received (BAD/ABORTED) :   0
  EC packets transmitted, received OK     :   0, 0
  EC packets (Received BAD/ABORTED)       :   0
09:09:58: Service Type: DATA_FAX_MODEM
09:09:58: Service Mode: DATA_FAX_MODEM
09:09:58: Session State: FLUSHING
09:09:58: Service Type: DATA_FAX_MODEM
09:09:58: Service Mode: DATA_FAX_MODEM
09:09:58: Session State: IDLE
09:09:58: Modem State event:
          State: Terminate
.
.
.
```

Table 7 describes the significant fields shown in the displays.

Table 7 show port modem log Field Descriptions

Field	Description
Port 5/47 Events Log	Port number and slot is displayed.
Service type:	Data fax modem is displayed.
Service mode:	Data fax modem mode.
Session State:	Idle or busy state.
Incoming called number:	The number of the incoming call.
Modem <*slot/port*> Events Log:	The modem for which log events are currently displayed.
Modem State Event	Current state of the modem, which can be any of the following: • Connect—Modem is connected to a remote host. • Open—Open modem event. • Link—Link protocol event occurred. • Training—Modem retraining event. • EC correction—Error correction frames sent or received. • Steady—Steady modem event. • Bad—Inoperable state, which is configured by the **modem bad** command. • Bad*—Inoperable state, which is configured by the **modem startup-test** command during initial power-up testing. • Reset—Modem is in reset mode. • D/L—Modem is downloading firmware. • Bad FW—Downloaded modem firmware is not operational. • Busy—Modem is out of service and not available for calls • Idle—Modem is ready for incoming and outgoing calls.

Table 7 show port modem log Field Descriptions (continued)

Field	Description
Modem Static event:	Current static event of the MICA modem, which can be any of the following: • Connect Protocol—Connection protocol used for the current session, which can be SYNC mode, ASYNC mode, ARA1.0, ARA2.0, LAP-M, or MNP. • Compression—Type of compression used for the current session, which can be None, V.42*bis* TX, V.42*bis* RX, V.42*bis* both, or MNP5 data compression. • Connected Standard—Standards protocol used to connect, which can be V.21, Bell103, V.22, V.22*bis*, Bell212, V.23, V.32, V.32*bis*, V.32terbo, V.34, V.34+, or K56Flex 1.1. • TX, RX Symbol Rate—Symbol rate used to send samples to the line or receive samples off of the line. • TX, RX Carrier Frequency—Carrier frequency used by the remote service provider. • TX, RX Trellis Coding—Trellis coding received and sent. • Frequency Offset—+/–32 in 1/8 hertz (Hz) steps. • Round Trip Delay—Total round trip propagation delay of the link, which is expressed in milliseconds (ms). • TX, RX Bit Rate—For RX, the bit rate from the remote service provider to the local service provider. For TX, the bit rate from the local service provider to the remote service provider.

Table 7 show port modem log Field Descriptions (continued)

Field	Description
Modem Dynamic event:	Current dynamic event of the MICA modem, which can be any of the following: • Sq Value—Signal quality value, which can be from 0 to 7 (0 is the worst possible quality). • Signal Noise Ratio—Expressed in decibels, which can be from 0 to 70 dB steps. • Receive Level—Expressed in decibels, which can be from 0 to 128 dBm steps. • Phase Jitter Frequency—+/–32 in 1/8 Hz steps. • Phase Jitter Level—0 to 90 degrees. • Far End Echo Level—0 to –90 in dBm of far end echo level (that portion of the sent analog signal that has bounced off the analog front end of the remote modem). • Phase Roll—+/–32 in 1/8 Hz steps. • Total Retrains—Count of total retrains. • ECR retransmission Count—Count of total error correction retransmissions that occurred during the duration of the link. • Characters Transmitted, Received—Count of total characters sent and received. • Characters received BAD—A subset of the characters sent and received. Represents the total number of parity error characters. • PPP/SLIP packets transmitted, received—Total count of PPP/SLIP packets sent and received. This total could include all PPP/SLIP packets, including BAD/ABORTED packets. • PPP/SLIP packets received, (BAD/ ABORTED)—Total count of the bad or aborted PPP/Serial Line Internet Protocol (SLIP) packets, which is a subset of the above (PPP/SLIP packets received, transmitted). • EC packets transmitted, received—Count of total error correction frames sent and received. This total could include all error correction packets, including BAD/ABORTED packets. • EC packets (Received BAD/ ABORTED)—Total count of the bad or aborted error correction packets, which is a subset of the EC packets sent and received.

Related Commands

Command	Description
clear port log	Clears all event entries in the port level history event log.
port modem autotest	Automatically and periodically performs a modem diagnostics test for modems inside the access server or router.
port modem startup-test	Performs diagnostic testing for all modems.
show port modem log	Displays the events generated by the modem sessions.
show spe modem active	Displays active modem statistics of all SPEs, a specified SPE, or the specified SPE range.
test port modem back-to-back	Tests two specified ports back-to-back and transfers a specified amount of data between the ports.

show port modem test

To display the modem test log, use the **show port modem test** command in EXEC mode.

Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show port modem test [*slot* | *slot*/*port*]

Cisco AS5800 with the Universal Port Card (UPC)

show port modem test [*shelf*/*slot* | *shelf*/*slot*/*port*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*port*	(Optional) All ports on the specified slot and service processing element (SPE). For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. Port values range from 0 to one less than the number of ports supported by the card. You must include the slash mark.
shelf/*slot*	(Optional) All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and Universal Port Card (UPC) slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*port*	(Optional) The specified port range on a shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5400 and Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

The port modem test log displays the results of the SPE diagnostics tests.

Examples

The following is sample output for the Cisco AS5400 with the NextPort DFC. This example displays the results of the SPE startup test, SPE autotest, and SPE back-to-back test.

Note The Reason column indicates why the test was started. The TIME INTERVAL is one of the triggers under autotest, the other being the error threshold.

```
Router# show port modem test

Date Time             Modem  Test                Reason             State Result
 3/02 12:00:57 PM       2/01  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:00:57 PM       2/00  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:00:58 PM       2/02  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:00:58 PM       2/03  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:00:58 PM       2/04  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:00:58 PM       2/05  Back-To-Back      :STARTUP TEST       Idle  PASS
 .
 .
 .
 3/02 12:01:14 PM       3/95  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:01:14 PM       3/94  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:01:15 PM       3/75  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:01:15 PM       3/74  Back-To-Back      :STARTUP TEST       Idle  PASS
 3/02 12:13:52 PM       3/20  Back-To-Back      :USER INITIATED     Idle  PASS
 3/02 12:13:52 PM       2/10  Back-To-Back      :USER INITIATED     Idle  PASS
 .
 .
 .
3/02 12:44:00 PM       3/102  No Test (Time)    :MIN IDLE MODEMS    Idle  NOTST
 3/02 12:44:00 PM       3/103  No Test (Time)    :MIN IDLE MODEMS    Idle  NOTST
 3/02 12:44:00 PM       3/104  No Test (Time)    :MIN IDLE MODEMS    Idle  NOTST
 3/02 12:44:00 PM       3/105  No Test (Time)    :MIN IDLE MODEMS    Idle  NOTST
 3/02 12:44:00 PM       3/106  No Test (Time)    :MIN IDLE MODEMS    Idle  NOTST
 3/02 12:44:00 PM       3/107  No Test (Time)    :MIN IDLE MODEMS    Idle  NOTST
 3/02 12:44:21 PM       2/73  Back-To-Back      :TIME INTERVAL      Idle  PASS
 3/02 12:44:21 PM       2/72  Back-To-Back      :TIME INTERVAL      Idle  PASS
 3/02 12:44:21 PM       2/33  Back-To-Back      :TIME INTERVAL      Idle  PASS
 3/02 12:44:21 PM       2/32  Back-To-Back      :TIME INTERVAL      Idle  PASS
 3/02 12:44:21 PM       3/37  Back-To-Back      :TIME INTERVAL      Idle  PASS
```

Table 8 describes the significant fields shown in the display.

Table 8 show port modem test Field Descriptions

Field	Description
Date	Date the back-to-back test occurred for the specified modem.
Time	Time the test occurred.
Modem	Specified modem that performed a back-to-back test.
Test	Operation performed on the specified modem.
Reason	Reason the modem performed the back-to-back test.
State	Current operational state of the modem.
Result	Result of the back-to-back test for the specified modem.

Related Commands

Command	Description
clear port log	Clears all event entries in the port level history event log.
port modem autotest	Automatically and periodically performs a modem diagnostics test for modems inside the access server or router.
port modem startup-test	Performs diagnostic testing for all modems.
show port modem log	Displays the modem port history event log or modem test log.
show port log reverse	Displays the latest event first from the port history event log.

Command	Description
show port modem log	Displays the events generated by the modem sessions.
test port modem back-to-back	Tests two specified ports back-to-back and transfers a specified amount of data between the ports.

show port operational-status

To display the active session statistics, use the **show port operational-status** command in privileged EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show port operational-status {*slot* | *slot*/*port*}

Cisco AS5800 with the Universal Port Card (UPC)

show port operational-status {*shelf*/*slot* | *shelf*/*slot*/*port*}

Syntax Description

slot	Displays information for all ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*port*	Displays information for all ports on the specified slot and service processing element (SPE). For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. Port values range from 0 to one less than the number of ports supported by the card. You must include the slash mark.
shelf/*slot*	Displays information for all ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and Universal Port Card (UPC) slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*port*	Displays information for all ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to one less than the number of ports supported by the card. You must type in the forward slashes (/).

Command Modes

Privileged EXEC

Command History

Release	Modification
12.1(1)XD	This command was implemented on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(2)XA	Disconnect reasons and states information were added.
12.2(2)XB1	This command was integrated into Cisco IOS Release 12.2(2)XB1.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.
12.3(4)T	Configuration output was modified to show voice activity detection (VAD) background noise and echo canceller (EC or ECAN) background noise statistics.
12.3(14)T	T.38 fax relay call statistics were made available to Call Detail Records (CDRs) through Vendor-Specific Attributes (VSAs) and added to the call log.

Usage Guidelines

This command displays the operational status of a specific port or port range. The port should have an associated active modem session when the command is executed. The **show port operational-status** command is equivalent to the **show modem operational-status** MICA technologies modem command.

Examples

The following is sample output from the **show port operational-status** command on the Cisco AS5400 with the NextPort DFC. This example displays operational status for slot 2, SPE 0, port 1:

```
Router# show port operational-status 2/1

slot/spe/Port -- 2/0/1
Service Type                            :Modem service
Disconnect Reason Info                  :0x0
Type (=0  ): <unknown>
Class (=0  ): Other
Reason (=0  ): no disconnect has yet occurred
Modulation Standard                     :V.34+
TX/RX Bit Rate                          :31200/14400
Connect Protocol                        :LAP-M
Compression                             :V.42bis
Call Timer                              :47 secs
Link Signal Quality                     :7
SNR                                     :37 dB
TX/RX Symbol Rate                       :3429/3429
TX/RX Carrier Frequency                 :1959/1959
TX/RX Trellis Coding                    :16/16
TX/RX Preemphasis Index                 :0/1
TX/RX Constellation Shaping             :On-Active/On-Active
TX/RX Nonlinear Encoding                :On-Active/On-Active
TX/RX Precoding                         :On-Active/On-Active
TX/RX Xmit Level Reduction              :3/1 dBm
Receive Level                           :-15 dBm
Frequency Offset                        :0 Hz
Phase Jitter Frequency                  :2 Hz
Phase Jitter Level                      :2 degrees
Far End Echo Level                      :-90 dBm
Phase Roll                              :0 degrees
Round Trip Delay                        :0 msecs
>Total Retrains                          :0
Self Test Error count                   :0
EC Retransmission count                 :0
EC packets transmitted/received OK      :11/12
EC packets (Received BAD/ABORTED)       :0
Characters transmitted/received         :76/13
Characters received BAD                 :0
PPP/SLIP packets transmitted/received   :0/0
PPP/SLIP packets received (BAD/ABORTED) :0
RBS Pattern                             :0
Digital Pad                             :0
Digital Pad Compensation                :0
```

The following example displays operational status for a V.110 digital service for the Cisco AS5400 on slot 2, SPE 3, port 23:

```
Router# show port operational-status 2/23

slot/spe/Port -- 2/3/23
Service Type                            : Digital service
Connect Protocol                        : V110
Data Bits                               : 8
Parity                                  : 0
Stop Bits                               : 1
```

```
TX/RX Bit Rate                          : 19200/19200
Call Timer                              : 116 secs
EC packets transmitted/received OK      : 0/0
EC packets (Received BAD/ABORTED)       : 0
PPP/SLIP packets transmitted, received  : 8/8
PPP/SLIP packets received (BAD/ABORTED) : 0
Sync Loss                               : 0
```

The following example shows output from the **show port operational-status** command for the Cisco AS5800 on shelf 1, slot 8:

```
Router# show port operational-status 1/8

Shelf/Slot/SPE/Port -- 1/8/32/194
Service Type                            : Modem service
Disconnect Reason Info                  : 0x0
     Type (=0  ):  <unknown>
    Class (=0  ):  Other
   Reason (=0  ):  no disconnect has yet occurred
Modulation Standard                     : V.34+
TX/RX Bit Rate                          : 31200/31200
Connect Protocol                        : LAP-M
Compression                             : V.42bis
Call Timer                              : 18 secs
Link Signal Quality                     : 6
SNR                                     : 38 dB
TX/RX Symbol Rate                       : 3429/3429
TX/RX Carrier Frequency                 : 1959/1959
TX/RX Trellis Coding                    : 16/16
TX/RX Preemphasis Index                 : 0/1
TX/RX Constellation Shaping             : Off-None/On-Active
TX/RX Nonlinear Encoding                : Off-None/On-Active
TX/RX Precoding                         : Off-None/On-Active
TX/RX Xmit Level Reduction              : 6/5 dBm
Receive Level                           : -15 dBm
Frequency Offset                        : 0 Hz
Phase Jitter Frequency                  : 5 Hz
Phase Jitter Level                      : 2 degrees
Far End Echo Level                      : -90 dBm
Phase Roll                              : 0 degrees
Round Trip Delay                        : 1 msecs
Total Retrains                          : 0
Self Test Error count                   : 0
EC Retransmission count                 : 1
EC packets transmitted/received OK      : 34/14
EC packets (Received BAD/ABORTED)       : 0
Characters transmitted/received         : 9393/355
Characters received BAD                 : 0
PPP/SLIP packets transmitted/received   : 0/0
PPP/SLIP packets received (BAD/ABORTED) : 0
RBS Pattern                             : 0
Digital Pad                             : 0
Digital Pad Compensation                : 0
.
.
.
```

The following example shows VAD background noise and ECAN background noise statistics:

```
Router# show port operational-status 1/0

Slot/SPE/Port -- 1/0/0
Service Type                            :Voice service
Voice Codec                             :G.711 u-law
```

```
Echo Canceler Length                    :8 ms
Echo Cancellation Control               :Echo cancellation       - enabled
                                          Echo update            - enabled
                                          Non-linear processor   - enabled
                                          Echo reset coefficients - disabled
                                          High pass filter enable - disabled
Digit detection enable                  :DTMF signaling          - enabled
Voice activity detection                :Disabled
Comfort noise generation                :Generate comfort noise
Digit relay enable                      :OOB Digit relay         - disabled
                                          IB Digit relay         - disabled
Information field size                  :20 ms
Playout de-jitter mode                  :adaptive
Encapsulation protocol                  :RTP
Input Gain                              :0.0 dB
Output Gain                             :0.0 dB
Tx/Rx SSRC                              :20/0
Current playout delay                   :65 ms
Min/Max playout delay                   :65/105 ms
Clock offset                            :142003 ms
Predictive concealment                  :0 ms
Interpolative concealment               :0 ms
Silence concealment                     :0 ms
Buffer overflow discards                :1
End-point detection errors              :0
Tx/Rx Voice packets                     :1337/1341
Tx/Rx signaling packets                 :0/0
Tx/Rx comfort noise packets             :0/0
Tx/Rx duration                          :26745/26745 ms
Tx/Rx voice duration                    :0/0 ms
Out of sequence packets                 :0
Bad protocol headers                    :0
Num. of late packets                    :0
Num. of early packets                   :1
Tx/Rx Power                             :-87.0/-57.3 dBm
Tx/Rx Mean                              :-86.3/-57.0 dBm
VAD Background noise level              :6.2 dBm
ERL level                               :127.0 dB
ACOM level                              :127.0 dB
Tx/Rx current activity                  :silence/silence
Tx/Rx byte count                        :213920/214240
ECAN Background noise level             :-83.4 dBm
Latest SSRC value                       :391643394
Number of SSRC changes                  :1
Number of payload violations            :0
```

Table 9 describes the significant fields shown in the displays.

Table 9 show port operational-status Field Descriptions

Field	Description
slot/SPE/Port	Displays the slot and port designation for the SPE card location.
Service Type	Indicates the type of service.
Disconnect Reason Info	Displays the reason for disconnection.
Modulation Standard	Modulation standard can be V.21, Bell103, V.22, V.22*bis*, Bell 212, V.23, V.32, V.32*bis*, V.32terbo, V.34, V.34+, or K56Flex 1.1.
TX/RX Bit Rate	TX is the bit rate from the local DCE to the remote DCE. RX is the bit rate from the remote DCE to the local DCE. These rates may be asynchronous.

Table 9 show port operational-status Field Descriptions (continued)

Field	Description
Connect Protocol	Connect protocol for the current session, which can be SYNC mode, ARA1.0, ARA2.0, LAP-M, MNP, FAX mode, SS7/COT, or V.110.
Compression	Compression protocol used for the current connection, which can be None, V.42*bis* TX, V.42*bis* RX, V.42*bis* both, or MNP5 data compression.
Link Signal Quality	Measure of line quality for a given bit rate where 0 is the worst and 3 is steady state. If a 1 or 2 is present, the modem must shift down to a lower rate. Likewise, if the value is 4 to 7, the modem speeds shift up to a higher rate. If the value is high (for example, 7) and the bit rate is low, then there may be a problem at the remote end receiver.
SNR	The ratio measurement (in dB) of the desired signal to noise. This value can range from 0 to 70 dB and changes in 1 dB steps. Note that a 28.8-kbps connection demands an SNR of about 37 dB. Any values lower than this level result in a diminished quality of connection. A 33.6-kbps connection demands a signal-to-noise ratio (SNR) of 38 to 39 dB. Also note that a “clean” line has an SNR of about 41 dB.
TX/RX Symbol Rate	TX is symbol rate used to send samples to the line. RX is the symbol rate used to receive samples off of the line. The rates are synchronous with each other.
TX/RX Carrier Frequency	For TX, carrier frequency used by the local DCE. For RX, carrier frequency used by the remote DCE.
TX/RX Trellis Coding	Adds dependency between symbols in order to make the detection in noise more robust (Forward Error Correction). Modems may use 8 (V.32, V.32*bis*, V.17), 16, 32, 64 (V.34, V.34+, V.90, K56flex), or no trellis coding (V.22, V.22*bis*, V.21, Bell212, Bell103, V.29, V.27).
TX/RX Preemphasis Index	Involves shaping the raw transmit spectrum in order to deal with spectrum roll-offs. The preemphasis index can take on the values 0 to 10. A zero denotes no reshaping. Typical values usually fall in the ranges from 0 to 2 or 6 to 7. This technique is used with V.34 and V.34+ standards.
TX/RX Constellation Shaping	A method for improving noise immunity by using a probability distribution for sent signal points. The signal states used to predict the sensitivity to certain transmission impairments. Values may be either Off-none or On-active. This technique is used with V.34 and V.34+ standards.
TX/RX Nonlinear Encoding	Occurs during the training phase and moves the outer points of the constellation away in order to deal with nonlinear distortion. Nonlinear distortion (0 to 200 Hz) tends to affect the higher power signals. Moving the outer constellation points out reduces the chance of error. Values may be either Off-none or On-active. MICA modems support nonlinear coding in both directions. This technique is used with V.34 and V.34+ standards.

Table 9 show port operational-status Field Descriptions (continued)

Field	Description
TX/RX Precoding	Serves the same purpose as the preemphasis index but instead manages the bits and not the raw transmit signals. This is done only when requested and therefore will occur in the RX mode. The values may be either Off-none or On-active. This technique is used with V.34 and V.34+ standards.
TX/RX Xmit Level Reduction	Affects the transmit signal with 0 to 15 in dBm of reduction. If nonlinear distortion is detected, the modem prompts the client for a lower-powered TX signal. If the remote end detects nonlinear distortion, it may request that the sender lower the TX signal. This technique is used with V.34 and V.34+ standards.
Receive Level	The power of the received signal in dBm steps. It ranges from 0 to –128 dBm. Typically the range in the United States is about –22 dBm, and in Europe is –12 dBm. A good range is from –12 dBm to –24 dBm.
Frequency Offset	The difference (in hertz) between the expected RX carrier frequency and the actual RX carrier frequency.
Phase Jitter Frequency	Peak to peak differential (in hertz) between two signal points. Uncanceled phase jitter looks like “rocking” of the baseband quadrature amplitude modulation (QAM) constellation. The points look like arcs with the outer points having longer arcs.
Phase Jitter Level	Amount of phase jitter measured and indicates how large the “rocking” is in degrees. On an oscilloscope, the constellation points would look like crescent moons. Values can range up to 15 degrees. The typical value is zero (that is, phase jitter is not normally present).
Far End Echo Level	Over long connections, an echo is produced by impedance mismatches at 2-wire-to-4-wire and 4-wire-to-2-wire hybrid circuitry. The far-end echo level (that portion of the sent analog signal that has bounced off of the remote modem analog front end) may range from 0 to –90 in dBm.
Phase Roll	Phase roll affects the echo signal coming back. A certain constellation pattern is sent from a modem and arrives at to the central office. Some echoed form of this signal/constellation pattern is sent back. However, the constellation shape may be rotated from 0 to 359 degrees. This rotation is called the phase roll.
Round Trip Delay	Total round trip propagation delay of the link (in milliseconds). This is important for proper echo cancellation. The amount that the delay varies on the network.
Total Retrains	Count of total retrains and speed shifts.
Self Test Error count	Total errors generated during a self-test run.
EC Retransmission count	The number of times the NextPort has gone into error recovery in the TX direction for a particular connection. The larger the number, the worse the connection. However, this parameter should be weighed against the count produced by EC packets sent and received in order to determine if there should really be a concern.

Table 9 show port operational-status Field Descriptions (continued)

Field	Description
EC packets transmitted/received OK	Error correction (EC) packets sent is the number of TX frames that the client modem accepted. EC packets received is the number of data RX frames accepted.
EC packets (Received BAD/ABORTED)	This is identical to the EC Retransmission count field.
PPP/SLIP packets transmitted/received	Total count of PPP/Serial Line Internet Protocol (SLIP) packets sent and received. This total could include all PPP/SLIP packets, including BAD/ABORTED packets.
PPP/SLIP packets received (BAD/ABORTED)	Total count of the bad or aborted PPP/SLIP packets, which is a subset of PPP/SLIP packets received. A counted PPP packet has a bad frame check sequence (FCS), or the SLIP packet has a transparency error.
RBS Pattern	Reports the number of robbed bits detected in the connection. The robbed bits are used for inband signaling. This information is reported only for K56Flex (by the analog modem) and is found only on a channelized line such as T1 or E1. The six least significant bits (LSBs) of the returned value indicate the periodic robbed bit signaling (RBS) pattern where a 1 denotes a pulse code modulation (PCM) sample with a robbed bit.
VAD Background noise level	VAD background noise level, in 6.2 dBm increments.
ECAN Background noise level	ECAN background noise level, in –83.4 decibels per milliwatt (dBm) increments.

The following example shows output from the **show port operational-status** command for the Cisco AS5350 on shelf 1, slot 5 with the T.38 fax relay statistics:

```
Router# show port operational-status 1/5

Telephony call-legs: 1
SIP call-legs: 0
H323 call-legs: 0
MGCP call-legs: 0
Multicast call-legs: 0
Total call-legs: 1

 GENERIC:
SetupTime=10465510 ms
Index=1
PeerAddress=41023
PeerSubAddress=
PeerId=1
PeerIfIndex=242
LogicalIfIndex=180
ConnectTime=1046791
CallDuration=00:00:41 sec
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=fax
TransmitPackets=260
```

```
TransmitBytes=4396
ReceivePackets=1014
ReceiveBytes=40385

TELE:

ConnectionId=[0x37DF8CCA 0x9FA611D8 0x8007000A 0xF4107CA0]
!
IncomingConnectionId=[0x37DF8CCA 0x9FA611D8 0x8007000A 0xF4107CA0]
CallID=11
TxDuration=6640 ms
VoiceTxDuration=0 ms
FaxTxDuration=0 ms
FaxRate=disable bps
FaxRelayMaxJitBufDepth 0
FaxRelayJitterBufOverflow 0
Initial HS Modulation is UNKNOWN
Recent HS modulation is UNKNOWN
Number of pages 0
Direction of transmission is Unknown
Num of Packets TX'ed/RX'ed 0/0
Packet loss conceal is 0
Encapsulation protocol is T.38 (UDPTL)
ECM is DISABLED
NoiseLevel=0
ACOMLevel=0
OutSignalLevel=0
InSignalLevel=0
InfoActivity=0
ERLLevel=0
SessionTarget=
!
ImgPages=0
CallerName=Analog 41023
CallerIDBlocked=False
OriginalCallingNumber=
OriginalCallingOctet=0x80
OriginalCalledNumber=41021
OriginalCalledOctet=0xA1
OriginalRedirectCalledNumber=
OriginalRedirectCalledOctet=0xFF
TranslatedCallingNumber=41023
TranslatedCallingOctet=0x80
TranslatedCalledNumber=41021
TranslatedCalledOctet=0xA1
TranslatedRedirectCalledNumber=
TranslatedRedirectCalledOctet=0xFF
GwReceivedCalledNumber=41021
GwReceivedCalledOctet3=0xA1
GwOutpulsedCalledNumber=41021
```

Table 10 describes the significant fields showing T.38 fax relay statistics:

Table 10 show port operational-status Field Descriptions showing significant T.38 Fax Relay Satistics

Field	Description
Telephony call-legs	Type of call: Telephony.
SIP call-legs	Type of call: Session Initiation Protocol (SIP).
H323 call-legs	Type of call: H.323.
MGCP call-legs	Type of call: Media Gateway Control Protocol (MGCP).

Table 10 show port operational-status Field Descriptions showing significant T.38 Fax Relay Satistics

Field	Description
Multicast call-legs	Type of call: Multicast.
Total call-legs	Total calls.
PeerIfIndex	Voice port index number for this peer. For ISDN media, this would be the index number of the B channel used for this call.
LogicalIfIndex	Index number of the logical interface for this call.
TxDuration	Duration of transmit path open from this peer to the voice gateway for this call.
VoiceTxDuration	Duration of voice transmission from this peer to the voice gateway for this call in milliseconds (ms).
FaxTxDuration	Duration of fax transmission from this peer to the voice gateway for this call in ms.
FaxRate	Fax transmission rate from this peer to the specified dial peer in bps.
FaxRelayMaxJitBufDepth	Fax relay maximum jitter buffer depth in ms.
FaxRelayJitterBufOverflow	Fax relay jitter buffer overflow in ms.
Initial HS Modulation	Initial high speed modulation used.
Recent HS Modulation	Recent high-speed modulation used
ACOMLevel	Current ACOM level estimate in 0.1 dB increments. The term ACOM is used in G.165, "*General Characteristics of International Telephone Connections and International Telephone Circuits: Echo Cancellers*." ACOM is the combined loss achieved by the echo canceller, which is the sum of the ERL, ERL enhancement, and nonlinear processing loss for the call.
ERLLevel	Current Echo Return Loss (ERL) level estimate in 0.1 dB increments.
OriginalCallingNumber, OriginalCalling Octet, OriginalCalledNumber, OriginalCalledOctet, OriginalRedirectCalledNumber, OriginalRedirectCalledOctet	Original call information regarding calling, called, and redirect numbers, as well as octet-3s. Octet-3s are information elements (IEs) of Q.931 that include type of number, numbering plan indicator, presentation indicator, and redirect reason information.
TranslatedCallingNumber, TranslatedCallingOctet, TranslatedCalledNumber, TranslatedCalledOctet, TranslatedRedirectCalledNumber, TranslatedRedirectCalledOctet	Translated call information.
GwReceivedCalledNumber, GwReceivedCalledOctet3	Call information received at the gateway.

Related Commands

Command	Description
port modem autotest	Automatically and periodically performs a modem diagnostics test for modems inside the access server or router.
show modem operational-status	Displays the operational status of a specific port or port range.
show spe modem active	Displays active modem statistics of all SPEs, a specified SPE, or the specified range of SPEs.
test port modem back-to-back	Tests two specified ports back-to-back and transfers a specified amount of data between the ports.
voicecap configure	Applies a voicecap on NextPort platforms.

show ppp bap

To display the PPP Bandwidth Allocation Protocol (BAP) configuration settings and run-time status for a multilink bundle, use the **show ppp bap** command in privileged EXEC mode.

show ppp bap {**counters** [**reset**] | **group** [*name*] | **queues**}

Syntax Description

counters [**reset**]	Incoming and outgoing call counters and connection request data. The optional **reset** keyword resets the counters.
group [*name*]	All or, optionally, a specific BAP bundle group.
queues	BAP queues.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.3	This command was introduced.
12.2T	This command was enhanced with a display of incoming and outgoing call counters and connection request data.

Examples

The following is sample output from the **show ppp bap group** command:

```
Router# show ppp bap group

Group bap-peer (multilink), id 35, peer has precedence, state Idle
Master interface: Dialer1
Outgoing requests: Call, Link Drop
Incoming requests: Call, Callback, Link Drop
Original number dialed 5550198
Transmit queue size threshold is not set
Peer link addition dependent upon load
Timers (secs): Call not set, Callback not set, Link Drop not set,
               Response 30, Pending 20
Retries: Request 3, Dial 1, Indication no limit
Link removal after 3 link drop retries not set
```

Table 11 describes the significant fields shown in the display of the ***show ppp bap group*** command.

Table 11 show ppp bap group Field Descriptions

Field	Description
Group bap-peer (multilink), id 35	Group name and internally assigned ID. “(multilink)” indicates the governing protocol.
peer has precedence	In cases where the remote and local peers issue simultaneous requests, the remote peer’s request takes precedence when the “peer has precedence” message is displayed. The local peer’s request takes precedence when the “precedence over peer” message is displayed.
state Idle	Internal state.

Table 11 show ppp bap group Field Descriptions (continued)

Field	Description
Outgoing requests	Current requests configured for outbound negotiation.
Incoming requests	Current requests allowed for inbound negotiation.
Peer link addition dependent upon load	Router is monitoring the load and subjecting requests to the load settings.
Timers (secs): Call not set, Callback not set, Link Drop not set, Response 30, Pending 20	Settings for specified timers.
Retries: Request 3, Dial 1, Indication no limit	Limits set on specified types of retransmissions.
Link removal after 3 link drop retries not set	The link will not be removed after no response to the link removal request because default behavior was not changed and the relevant link drop parameter was not set.

The display from the **show ppp bap counters** command shows fields of statistics gathered about request and response datagrams that allow endpoints to negotiate a connection and add or drop links from a multilink bundle, per RFC 2125:

- CallReq—Call-Request is a request for permission to add a link to a bundle.
- CallRsp—Call-Response is the required response to Callback-Request datagram.
- CallbackReq—Callback-Request is a request that the peer add a link to a bundle via a callback.
- CallbackRsp—Callback-Response is sent in response to a received Callback-Request.
- DropQueryReq—Link-Drop-Query-Request negotiates with the peer to drop a link from a bundle.
- DropQueryRsp—Link-Drop-Query-Response is sent to the peer to negotiate dropping a link.
- StatusInd—Call-Status-Indication is sent to its peer as a result of a Call-Request or a Callback-Request to indicate whether the attempt to add the link succeeded or failed.
- StatusRsp—Call-Status-Response is sent in response to a received Call-Status-Indication.

The counters record statistical information used by Cisco personnel for debugging purposes that is generally of no interest to end users. Following is sample output:

```
Router# show ppp bap counters

Incoming       inv-link  opt-err  rejects
                      0        4        2

Outgoing       inv-link  add-att  rem-att  add-fail  add-pass  dial-att  oob-ind
                      1        6        5         0         0         0        0

Incoming           off   pend  pend-add   wait  unf-req
CallReq              0      1         1      0        0
CallRsp              0      0         0      0        0
CallbackReq          0      0         0      0        0
CallbackRsp          0      0         0      0        0
DropQueryReq         0      0         0      0        0
DropQueryRsp         0      0         0      0        0
StatusInd            0      0         0      0        0
StatusRsp            0      0         0      0        0
```

```
Outgoing            off   pend  pend-add    unf  unf-req
CallReq               0      0         0      0        0
CallRsp               0      1         0      0        0
CallbackReq           0      0         0      0        0
CallbackRsp           0      0         0      0        0
DropQueryReq          0      0         0      0        0
DropQueryRsp          0      0         0      0        0
StatusInd             0      0         0      0        0
StatusRsp             0      0         0      0        0
```

Related Commands

Command	Description
show ppp multilink	Displays bundle information for the MLP bundles.

show ppp multilink

To display bundle information for Multilink PPP (MLP) bundles, use the **show ppp multilink** command in user EXEC or privileged EXEC mode.

show ppp multilink [**active** | **inactive** | **interface** *type number* | [**username** {*name* | **none**}] [**endpoint** {*discriminator* | **none**}]]

Syntax Description

active	(Optional) Displays information about active multilink bundles only.
inactive	(Optional) Displays information about inactive multilink bundles only.
interface	(Optional) Displays information for the specified bundle interface.
type	(Optional) Interface type. For more information, use the question mark (?) online help function.
number	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
username	(Optional) Displays information for all multilink bundles that have the specified peer username.
name	(Optional) Username of the multilink bundle.
none	(Optional) Displays information for multilink bundles with no remote username.
endpoint	(Optional) Displays information for all multilink bundles that have the specified endpoint discriminator.
discriminator	(Optional) Endpoint discriminator.
none	(Optional) Displays information for all multilink bundles with no endpoint discriminator.

Command Modes

User EXEC (>)
Privileged EXEC (#)

Command History

Release	Modification
11.2	This command was introduced.
12.2(13)T	This command was modified. This command was updated to include per-class information when Multiclass Multilink PPP (MCMP) is negotiated.
12.3(7)T	This command was modified. The **active**, **inactive**, **endpoint**, and **username** keywords were added to enable information to be displayed for bundles that have specific parameters.
12.4(9)T	This command was modified. The output of the command was changed to include the following fields: Remote Endpoint Discriminator, Local Endpoint Discriminator, Bundle up for, total bandwidth, load, Receive buffer limit, frag timeout, fragments/bytes in reassembly list, lost fragments, reordered, discarded fragments/bytes, lost received, received sequence, sent sequence, Member links, BR2/0:1, since, weight, and frag size.
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.

Release	Modification
12.2(33)SRE	This command was integrated into Cisco IOS Release 12.2(33)SRE.
15.4(2)S	This command was implemented on the Cisco ASR 901 Series Aggregation Services Router.

Examples

The following is sample output from the **show ppp multilink** command when no bundles are on a system:

```
Router# show ppp multilink

No active bundles
```

The following is an example of sample output when a single MLP bundle (named bundle1) is on a system:

```
Router# show ppp multilink

Bundle bundle1, 3 members, first link is BRI0: B-channel 1
0 lost fragments, 8 reordered, 0 unassigned, sequence 0x1E/0x1E rcvd/sent
```

The following is another example of sample output when a single MLP bundle (named 7206-3) is on a system:

```
Router# show ppp multilink

Virtual-Access4
Bundle name: 7206-3
Remote Endpoint Discriminator: [1] 7206-3
Local Endpoint Discriminator: [1] 7206-4
Bundle up for 00:00:07, total bandwidth 64, load 1/255
Receive buffer limit 12192 bytes, frag timeout 1000 ms
 0/0 fragments/bytes in reassembly list
 0 lost fragments, 0 reordered
 0/0 discarded fragments/bytes, 0 lost received
 0x0 received sequence, 0x0 sent sequence
Member links: 1 active, 0 inactive (max not set, min not set)
 BR2/0:1, since 01:59:35, 80 weight, 72 frag size
```

The following is sample output when two active bundles are on a system:

```
Router# show ppp multilink

Bundle bundle1, 3 members, first link is BRI0: B-Channel 1
  0 lost fragments, 8 reordered, 0 unassigned, sequence 0x1E/0x1E rcvd/sent
Bundle bundle2, 4 members, first link is BRI2: B-Channel 1
  0 lost fragments, 28 reordered, 0 unassigned, sequence 0x12E/0x12E rcvd/sent
```

The following example for a stack group member called systema shows output when a stack group has been created. On stack group member systema, the MLP bundle named bundle1 has bundle interface Virtual-Access4. Two child interfaces are joined to this bundle interface. The first is a local PRI channel (Serial 0:4), and the second is an interface from stack group member systemb.

```
Router# show ppp multilink

Virtual-Access4
  Bundle name: 7206-3
  Remote Endpoint Discriminator: [1] 7206-3
  Local Endpoint Discriminator: [1] 7206-4
  Bundle up for 00:00:07, total bandwidth 64, load 1/255
  Receive buffer limit 12192 bytes, frag timeout 1000 ms
```

```
  Using relaxed lost fragment detection algorithm.
    0/0 fragments/bytes in reassembly list
    0 lost fragments, 0 reordered
    0/0 discarded fragments/bytes, 0 lost received
    0x0 received sequence, 0x0 sent sequence
  Member links: 2 active, 0 inactive (max not set, min not set)
    BR2/0:1, since 01:59:35, 80 weight, 72 frag size
    systemb:Vi6 (10.1.1.1), since 00:00:42, unsequenced
```

The following is sample output when the PPP Bandwidth Allocation Control Protocol (BACP) is enabled for the multilink bundle:

```
Router# show ppp multilink

Virtual-Access4
  Bundle name: 7206-3
  Remote Endpoint Discriminator: [1] 7206-3
  Local Endpoint Discriminator: [1] 7206-4
  Bundle up for 00:00:07, total bandwidth 64, load 1/255
  Bundle under BAP control
  Dialer interface is Dialer1
  Receive buffer limit 12192 bytes, frag timeout 1000 ms
    0/0 fragments/bytes in reassembly list
    0 lost fragments, 0 reordered
    0/0 discarded fragments/bytes, 0 lost received
    0x0 received sequence, 0x0 sent sequence
  Member links: 1 active, 0 inactive (max not set, min not set)
    BR2/0:1, since 01:59:35, 80 weight, 72 frag size

  Discriminators Local Remote
    BR2/0:1         24      1
```

Table 12 describes the significant fields shown in the display.

Table 12 show ppp multilink Field Descriptions with PPP BACP Enabled

Field	Description
Bundle name	Configured name of the multilink bundle.
Member links	Number of interfaces in the group.
Bundle under BAP control	Multilink bundle is controlled and bandwidth is allocated by BACP.
Dialer Interface is	Name of the interface that dials the calls.
Member links	Number of child interfaces.
Discriminators Local Remote	Link Control Protocol (LCP) link discriminators, which are identifiers negotiated for each link in the bundle. This information is specific to BACP. BACP uses these discriminators to determine which link to drop during negotiations.

The following is sample output when MCMP is negotiated on a virtual access interface named Virtual-Access3:

```
Router# show ppp multilink interface Virtual-Access 3

Virtual-Access3, bundle name is bundle1
Bundle up for 01:59:35, 1/255 load, 2 receive classes, 2 transmit classes
Receive buffer limit 12192 bytes per class, frag timeout 1524 ms
Dialer interface is Dialer1
!
```

```
Receive Class 0:
0/0 fragments/bytes in reassembly list
0 lost fragments, 0 reordered
0/0 discarded fragments/bytes, 0 lost received
0x0 received sequence
!
Receive Class 1:
0/0 fragments/bytes in reassembly list
0 lost fragments, 0 reordered
0/0 discarded fragments/bytes, 0 lost received
0x0 received sequence
!
Transmit Class 0:
0x8 sent sequence
!
Transmit Class 1:
0x0 sent sequence
!
Member links: 1 (max not set, min not set)
BR2/0:1, since 01:59:35, 80 weight, 72 frag size
```

The following is sample output when Distributed MLP (DLMP) is enabled on Cisco MWR2941 router. The fragments would always contain zero because the counters do not exist in the DMLP output. This is only applicable on Cisco MWR series routers:

```
Bundle name: pas3_ep
  Remote Endpoint Discriminator: [1] pas3_ep
  Local Endpoint Discriminator: [1] pas1_ep
  Bundle up for 00:04:47, total bandwidth 31744, load 1/255
  Receive buffer limit 192000 bytes, frag timeout 1000 ms
  Interleaving disabled
    0/0 fragments/bytes in reassembly list
    0 lost fragments, 0 reordered
    0/0 discarded fragments/bytes, 0 lost received
    0xB received sequence, 0xC sent sequence
  Distributed MLP bundle status is: active
  Member links: 16 active, 0 inactive (max not set, min not set)
    Se0/4:0, since 00:04:48, 7440 weight, 1496 frag size
    Se0/5:0, since 00:04:48, 7440 weight, 1496 frag size
    Se0/6:0, since 00:04:48, 7440 weight, 1496 frag size
    Se0/7:0, since 00:04:48, 7440 weight, 1496 frag size
    Se0/8:0, since 00:04:48, 7440 weight, 1496 frag size
    Se0/0:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/1:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/2:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/3:0, since 00:04:49, 7440 weight, 1496 frag size
    Se0/9:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/10:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/11:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/12:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/13:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/14:0, since 00:04:47, 7440 weight, 1496 frag size
    Se0/15:0, since 00:04:47, 7440 weight, 1496 frag size
No inactive multilink interfaces
```

Table 13 describes the significant fields shown in the display when MCMP is enabled.

Table 13 show ppp multilink Field Descriptions with MCMP Enabled

Field	Description
bundle name is	Configured name of the multilink bundle.
Bundle up for	Time (in hh:mm:ss) for which the bundle has been up.
load	Load on the link in the range from 1/255 to 255/255 (255/255 is a 100 percent load).
receive classes, transmit classes	Number of data classes defined for the multilink bundle.
Receive buffer limit	Maximum number of bytes that will be buffered for reassembly for each class of data.
frag timeout	Amount of time, in milliseconds, the router will wait for the expected sequence number to arrive after receiving an out-of-order fragment.
Receive Class 0	Information about Class 0 (normal data) packets received by the router.
fragments/bytes in reassembly list	Number of fragments and bytes currently buffered and awaiting reassembly.
lost fragments	Number of fragments that have been lost.
reordered	Number of fragments that have been reordered.
discarded fragments/bytes	Number of fragments and bytes that have been discarded. This usually occurs only if the fragment is a part of a packet for which one or more fragments were lost.
lost received	Number of fragments that arrived after they were declared lost.
Receive Class 1	Information about Class 1 (high-priority) packets received by the router.
Transmit Class 0	Information about Class 0 (normal data) packets sent by the router.
Transmit Class 1	Information about Class 1 (high-priority) packets sent by the router.
Member links	Number of child interfaces.
BR2/0:1	Identity of the child interface.
since	Amount of time (in hh:mm:ss) the interface has been active.
weight	Relative weight of the link (calculated as bandwidth x fragment delay). This value is used to calculate the fragment size and for load balancing. Each fragment should be less than or equal to the weight, including all link layer headers.
frag size	Fragment size of packets sent over the link, not including link layer headers. The difference between the weight and the fragment size indicates how much link layer overhead is being calculated for each fragment.

The following sample output displays information about all the active multilink bundles:

```
Router# show ppp multilink active

Virtual-Access4, bundle name is 7200-4
  Endpoint discriminator is 7200-4
  Bundle up for 00:31:26, 1/255 load
```

```
Receive buffer limit 12192 bytes, frag timeout 1000 ms
  0/0 fragments/bytes in reassembly list
  0 lost fragments, 0 reordered
  0/0 discarded fragments/bytes, 0 lost received
  0x0 received sequence, 0x0 sent sequence
Member links:1 (max not set, min not set)
  Vi3, since 00:31:26
  PPPoATM link, ATM PVC 15/200 on ATM4/0.10000
  Packets in ATM PVC Holdq:0 , Particles in ATM PVC Tx Ring:1
```

Table 14 describes the significant fields shown in the display when information for all active bundles is displayed.

Table 14 show ppp multilink Field Descriptions for Active Bundles

Field	Description
bundle name is	Configured name of the multilink bundle.
Endpoint discriminator	Identifies the MLP bundle to which the PPP over ATM (PPPoA) session is associated.
Bundle up for	Time (in hh:mm:ss) for which the bundle has been up.
1/255 load	Load on the link in the range from 1/255 to 255/255 (255/255 is a 100 percent load).
Receive buffer limit	Maximum number of bytes that will be buffered for reassembly for each class of data.
frag timeout	Amount of time, in milliseconds, the router will wait for the expected sequence number to arrive after receiving an out-of-order fragment.
fragments/bytes in reassembly list	Number of fragments and bytes currently buffered and awaiting reassembly.
lost fragments	Number of fragments that have been lost.
reordered	Number of fragments that have been reordered.
discarded fragments/bytes	Number of fragments and bytes that have been discarded. This usually occurs only if the fragment is a part of a packet for which one or more fragments were lost.
lost received	Number of fragments that arrived after they were declared lost.
received sequence	Sequence number of the last MLP packet received.
sent sequence	Sequence number of the last MLP packet sent.
Member links	Number of child interfaces.
Vi3	Identity of the child interface.
since	Amount of time (in hh:mm:ss) the interface has been active.
Packets in ATM PVC Holdq	Number of packets in the ATM permanent virtual connection (PVC) hold queue.
Particles in ATM PVC Tx Ring	Number of particles in the transmission ring of the ATM PVC.

Related Commands

Command	Description
ppp multilink	Enables MLP on an interface and, optionally, enables BACP and its BAP subset for dynamic bandwidth allocation.

show queuing virtual-access

To display information about interleaving, use the **show queuing virtual-access** command in EXEC mode.

show queuing virtual-access *number*

Syntax Description

number	Virtual access interface number.

Command Modes

EXEC (>)

Command History

Release	Modification
11.3	This command was introduced.

Examples

The following is sample output from the **show queuing virtual-access** command:

```
Router# show queuing virtual-access 1

   Input queue: 0/75/0 (size/max/drops); Total output drops: 164974
   Queueing strategy: weighted fair
   Output queue: 315/64/164974/31191 (size/threshold/drops/interleaves)
      Conversations  5/8 (active/max active)
      Reserved Conversations 2/2 (allocated/max allocated)

   (depth/weight/discards/interleaves) 64/4096/38669/0
   Conversation 36, linktype: ip, length: 52
   source: 172.23.3.201, destination: 225.1.2.3, id: 0x0001, ttl: 254,
   TOS: 0 prot: 17, source port 6789, destination port 2345

   (depth/weight/discards/interleaves) 64/4096/0/0
   Conversation 2, linktype: ip, length: 52
   source: 172.23.3.201, destination: 225.1.2.4, id: 0x0001, ttl: 254,
   TOS: 0 prot: 17, source port 5432, destination port 9870
```

Table 15 describes the significant fields shown in the display.

Table 15 show queuing virtual-access Field Descriptions

Field	Description
Input queue: size, max, drops	Input queue used for virtual access interface 1, with the current size, the maximum size, and the number of dropped packets.
Total output drops	Number of output packets dropped.
Output queue: size/threshold/drops/interleaves	Output queue counters. Maximum number of packets allowed in the queue, number in the queue, the number of packets dropped due to a full queue, and the number of real-time packets interleaved among fragments of larger packets.
Conversations (active/max active)	Fair queue conversation statistics: number of conversations currently active and the maximum that have been active.

Table 15 show queuing virtual-access Field Descriptions (continued)

Field	Description
Reserved conversations (allocated, max allocated)	Reserved conversations in the weighted fair queue (current/maximum number allocated). Reserved conversations get the highest priority.
(depth/weight/discards/interleaves) 64/4096/38669/0	Depth of the queue, weight assigned to each packet in the queue, number of packets discarded in the queue so far, and the number of interleaves.
Conversation 36, linktype: ip, length: 52	Conversation identifier, protocol used on the link (IP), and the number of bytes.
source: 140.3.3.201, destination: 225.1.2.3,	Source IP address and destination IP address.
id: 0x0001	Protocol ID, identifying IP.
ttl: 254	Time to live, in seconds.
TOS: 0	Type of service.
prot: 17	Protocol field in IP. The value 17 indicates UDP.
source port 5432	Source TCP/UDP port.
destination port 9870	Destination TCP/UDP port.

show rcapi status

To display whether RCAPI is turned on or off, use the **show rcapi status** command in privileged EXEC mode.

show rcapi status

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.0(7)XV	This command was introduced on the Cisco 800 series router.

Usage Guidelines

When RCAPI is running, details about the list of CAPI clients currently registered, the type of application that each client is running, and the status of each CAPI call at the time of the display.

This command works only with the Net3 switch type.

Examples

The following is sample output from the **show rcapi status** command:

```
Router# show rcapi status

RCAPI SERVER ON
RCAPI SERVER PORT 2578
RCAPI NUMBER 5553000 5553100

CLIENT           SESSION ID     LISTEN     CONNECTION     TYPE              CALL STATUS
                                           ID

172.18.100.3     16777212       ON

172.18.100.5     16777218       OFF        50333953       Bit Transparent   Connected

172.18.100.6     16777227       OFF        50333962       HDLC              Connected
```

Related Commands

Command	Description
debug rcapi events	Displays diagnostic DCP and driver messages.
rcapi number	Enables the Cisco 800 series router to distinguish between incoming CAPI calls and incoming non-CAPI calls such as POTS, PPP, and X.25.
rcapi server	Enables the RCAPI server on the 800 series router and, optionally, sets the TCP port number.

show resource-pool call

To display all active call information for all customer profiles and resource groups, use the **show resource-pool call** command in EXEC mode.

show resource-pool call

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
12.0(4)XI	This command was introduced.

Usage Guidelines

Use the **show resource-pool call** EXEC command to see all active call information for all customer profiles and resource groups. Use this command to see output when one call is up.

If no calls are up, there is no output. Enter the command to see valid information for all current calls.

Examples

The following is sample output from the **show resource-pool call** command:

```
Router# show resource-pool call

Shelf 0, slot 0, port 0, channel 2, state RM_RPM_RES_ALLOCATED
  Customer profile cp1, resource group isdn1
  DNIS number 71017
```

Table 16 describes the significant fields shown in the display.

Table 16 show resource-pool call Field Descriptions

Field	Description
Shelf	The shelf number where the call is being handled.
Slot	The slot number where the call is being handled.
Port	The port number where the call is being handled.
Channel	The channel number where the call is being handled.
State	The state of the call.
Customer profile	The customer profile name (alphanumeric).
Resource group	The name of the resource group being used for the call.
DNIS number	The DNIS number for the call.

show resource-pool customer

To display the contents of one or more customer profiles, use the **show resource-pool customer** command in EXEC mode.

show resource-pool customer [*name*]

Syntax Description

name	(Optional) Name of a specific customer profile. The name can have up to 23 characters.

Command Modes

EXEC

Command History

Release	Modification
12.0(4)XI	This command was introduced.

Examples

The following example displays the contents of the customer profile named customer1-isp:

```
Router# show resource-pool customer customer1-isp

    5 active connections
    3 calls accepted
    8 max number of simultaneous connections
    0 calls rejected due to profile limits
    0 calls rejected due to resource unavailable
    0 overflow connections
    0 overflow states entered
    0 minutes spent in overflow
    28 minutes since last clear command
```

Table 17 describes the significant fields shown in the display.

Table 17 show resource-pool customer Field Descriptions

Field	Description
Active connections	Lists the number of active connections in the specified customer profile.
Calls accepted	Cumulative number of calls accepted since the last **clear** command in the customer profile—regardless of the call type.
Max number of simultaneous connections	Maximum number of simultaneous connections assigned for this customer profile.
Calls rejected due to profile limits	Cumulative number of calls rejected since the last **clear** command because the maximum number of allowable simultaneous connections was exceeded. You can configure each customer profile to not exceed a simultaneous call limit. This feature stops a single customer profile from consuming all the system resources.

Table 17 show resource-pool customer Field Descriptions (continued)

Field	Description
Calls rejected due to resource unavailable	Cumulative number of calls rejected since the last **clear** command because no system resources were available to accept the call (such as a free modem for an analog call or an HDLC framer for a circuit switched data call).
Overflow connections	Number of overflow connections active since the last **clear** command.
Overflow states entered	Number of overflow states processed since the last **clear** command.
Minutes spent in overflow	Number of minutes that the overflow session has been in process since the last **clear** command.
Minutes since last clear command	Number of minutes since the **clear** command has been used.
List of Customer Profiles	Lists the customer profiles set up on the access server.

show resource-pool discriminator

To see how many times an incoming call has been rejected due to a specific Calling Line Identification (CLID) or Dialed Number Identification Service (DNIS) call-type combination, use the **show resource-pool discriminator** command in privileged EXEC mode.

show resource-pool discriminator [*name*]

Syntax Description

name	(Optional) Name of the specific CLID or DNIS and call-type that will be rejected. The name can have up to 23 characters.

Command Default

No default behavior or values. You must configure a call discriminator for the command to work or appear.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.0(4)XI	This command was introduced.
12.1(5)T	This command was enhanced to include the CLID group when the discriminator contains CLID groups.

Usage Guidelines

Use the **show resource-pool discriminator** EXEC command to see how many times an incoming call has been rejected due to a specific CLID or DNIS and call-type combination.

If you enter the **show resource-pool discriminator** command without including a call discriminator name, a list of the current call discriminator profiles appears. If you enter a call discriminator profile name with the **show resource-pool discriminator** command, the number of calls rejected by the selected call discriminator appears.

Examples

The following command displays the list of call discriminator profiles configured.

```
Router# show resource-pool discriminator

List of Call Discriminator Profiles:
    cd1
    cd2
    cd3
    cd4
```

The following command displays the number of calls rejected by call discriminator **cd1** since the last clear command was used (this number is cumulative).

```
Router# show resource-pool discriminator cd1

    0 calls rejected
```

Table 18 describes the significant fields shown in the displays.

Table 18 show resource-pool discriminator Field Descriptions

Field	Description
List of Call Discriminator Profiles	A list of the Call Discriminator Profile names currently assigned.
Calls rejected	Number of calls rejected since the last **clear** command was used. (This is cumulative.)

Related Commands

Command	Description
resource-pool call treatment discriminator	Configures a CLID group in a discriminator.

show resource-pool resource

To see the resource groups configured in the network access server, use the **show resource-pool resource** command in EXEC mode.

show resource-pool resource [*name*]

Syntax Description

name	(Optional) Contents of a specifically named resource group, which was set up by using the **resource-pool group resource** *name* command. The name can have up to 23 characters.

Command Modes

EXEC

Command History

Release	Modification
12.0(4)XI	This command was introduced.

Usage Guidelines

Use the **show resource-pool resource** EXEC command to see the resource groups configured in the network access server. To see the contents of a specific resource group, use the **show resource-pool resource** *name* command.

Examples

The following is sample output from the **show resource-pool resource** EXEC command:

```
Router# show resource-pool resource

List of Resources:
    modem1
    rg1
    hi
```

The following is sample output about **modem-group-1** from the **show resource-pool resource** EXEC command:

```
Router# show resource-pool resource modem-group-1

    2 resources in the resource group
    0 resources currently active
    0 calls accepted in the resource group
    0 calls rejected due to resource unavailable
    0 calls rejected due to resource allocation errors
```

Table 19 describes the significant fields shown in the display.

Table 19 show resource-pool resource name Field Descriptions

Field	Description
Resources in the resource group	Number of resources allocated to this pool. For example, you can limit a range of modems to five. You can limit a range of circuit-switched data calls to 50.
Resources currently active	Number of resources that are currently used in the resource group.
Calls accepted in the resource group	Number of calls accepted in the resource group (this is cumulative).
Calls rejected due to resource unavailable	Number of calls rejected because a resource was not available (this is cumulative).
Calls rejected due to resource allocation errors	Number of times the access server had an available resource, but the resource had an error when the access server tried to allocate it (for example, a bad modem). Therefore, the call was rejected. (This is cumulative.)

show resource-pool vpdn

To display information about a specific virtual private dialup network (VPDN) group or specific VPDN profile, use the **show resource-pool vpdn** command in EXEC mode.

show resource-pool vpdn {**group** | **profile**} [*name*]

Syntax Description

group	All the VPDN groups configured on the router.
profile	All the VPDN profiles configured on the router.
name	(Optional) Specific VPDN group or profile.

Command Modes

EXEC

Command History

Release	Modification
12.0(4)XI	This command was introduced.

Examples

Use the **show resource-pool vpdn group** command to display information about a specific VPDN group.

Example 1

This example displays specific information about the VPDN group named vpdng2:

```
Router# show resource-pool vpdn group vpdng2

VPDN Group vpdng2 found under Customer Profiles: customer2

Tunnel (L2TP)
--------
dnis:customer2-calledg
cisco.com

Endpoint        Session Limit Priority Active Sessions Status Reserved Sessions
--------        ------------- -------- --------------- ------ -----------------
172.21.9.97     *             1        0               OK
                ------------            ---------------        -----------------
Total           *                      0                      0
```

Example 2

The following example displays information about all the VPDN groups configured on the router:

```
Router# show resource-pool vpdn group

List of VPDN Groups under Customer Profiles
Customer Profile customer1: vpdng1
Customer Profile customer2: vpdng2
List of VPDN Groups under VPDN Profiles
VPDN Profile profile1: vpdng1
VPDN Profile profile2: vpdng2
```

Table 20 describes the significant fields shown in the displays.

Table 20 show resource-pool vpdn group Field Descriptions

Field	Description
Endpoint	IP address of HGW/LNS router.
Session Limit	Number of sessions permitted for the designated endpoint.
Priority	Loadsharing HGW/LNSs are always marked with a priority of 1.
Active Sessions	Number of active sessions on the network access server. These are sessions successfully established with endpoints (not reserved sessions).
Status	Only two status types are possible: OK and busy.
Reserved Sessions	Authorized sessions that are waiting to see if they can successfully connect to endpoints. Essentially, these sessions are queued calls. In most cases, reserved sessions become active sessions.
*	No limit is set.
List of VPDN Groups under Customer Profiles	A list of VPDN groups that are assigned to customer profiles. The customer profile name is listed first, followed by the name of the VPDN group assigned to it.
List of VPDN Groups under VPDN Profiles	A list of VPDN groups that are assigned to VPDN profiles. The VPDN profile name is listed first, followed by the VPDN group assigned to it.

Example 3

The following example displays a list of all VPDN profiles configured on the router:

```
Router# show resource-pool vpdn profile

% List of VPDN Profiles:
        profile1
        profile2
        profile3
```

Example 4

The following example displays details about a specific VPDN profile named vpdnp1:

```
Router# show resource-pool vpdn profile vpdnp1

         0 active connections
         0 max number of simultaneous connections
         0 calls rejected due to profile limits
         0 calls rejected due to resource unavailable
         0 overflow connections
         0 overflow states entered
         0 overflow connections rejected
         3003 minutes since last clear command
```

Table 21 describes the significant fields shown in the displays.

Table 21 show resource-pool vpdn profile Field Descriptions

Field	Description
List of VPDN Profiles	A list of the VPDN profiles that have been assigned.
Active connections	Number of active VPDN connections counted by the VPDN profile.
Max number of simultaneous connections	Maximum number of VPDN simultaneous connections counted by the VPDN profile. This value helps you determine how many VPDN sessions to subscribe to a specific profile.
Calls rejected due to profile limits	Number of calls rejected since the last **clear** command because the profile limit has been exceeded.
Calls rejected due to resource unavailable	Number of calls rejected since the last **clear** command because the assigned resource was unavailable.
Overflow connections	Number of overflow connections used since the last **clear** command.
Overflow states entered	Number of overflow states entered since the last **clear** command.
Overflow connections rejected	Number of overflow connections rejected since the last **clear** command.
Minutes since last clear command	Number of minutes elapsed since the last **clear** command was used.

Related Commands

Command	Description
resource-pool profile customer	Creates a customer profile and enters customer profile configuration mode.
resource-pool profile vpdn	Creates a VPDN profile and enters VPDN profile configuration mode.
vpdn group	Associates a VPDN group with a customer or VPDN profile.
vpdn-group	Creates a VPDN group and enters VPDN group configuration mode.

show sessions

To display information about open local-area transport (LAT), Telnet, or rlogin connections, use the **show sessions** command in EXEC mode.

show sessions

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

This command display the host name, address, number of unread bytes for the user to receive, idle time, and connection name.

Examples

The following is sample output from the **show sessions** command:

```
Router# show sessions

Conn Host                Address          Byte    Idle  Conn Name
   1 MATHOM              192.168.7.21        0       0  MATHOM
*  2 CHAFF               172.25.12.19        0       0  CHAFF
```

The asterisk (*) indicates the current terminal session.

Table 22 describes significant fields shown in the display.

Table 22 show sessions Field Descriptions

Field	Description
Conn	Name or address of the remote host to which the connection is made.
Host	Remote host to which the router is connected through a Telnet session.
Address	IP address of the remote host.
Byte	Number of unread bytes displayed for the user to receive.
Idle	Interval (in minutes) since data was last sent on the line.
Conn Name	Assigned name of the connection.

Related Commands

Command	Description
protocol (VPDN)	Sets X.3 parameters for PAD connections.
where	Lists open sessions associated with the current terminal line.

show sgbp

To display the status of the stack group members, use the **show sgbp** command in EXEC mode.

show sgbp

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Examples

The following is sample output from the **show sgbp** command:

```
Router# show sgbp

Group Name: stack State: 0 Ref: 0xC07B060
  Member Name: systemb State: ACTIVE  Id: 1
  Ref: 0xC14256F
  Address: 10.1.1.1 Tcb: 0x60B34538

  Member Name: systemc State: ACTIVE  Id: 2
  Ref: 0xA24256D
  Address: 10.1.1.2 Tcb: 0x60B34439

  Member Name: systemd State: IDLE Id: 3
  Ref: 0x0
  Address: 10.1.1.3 Tcb: 0x0
```

Table 23 describes the significant fields shown in the display.

Table 23 show sgbp Field Descriptions

Field	Description
Group Name	Name of the stack group.
State	Status of the group or its member. The values are 0 for the stack group itself, and either ACTIVE or IDLE for each of the members of the group.
Member Name	Name of a specific host defined as a member of this stack group.
Id	Identifier used for each member of the group; typically the final digit of the host's IP address on the network they share.
Address	IP address of the stack group member.

show sgbp queries

To display the current seed bid value, use the **show sgbp queries** command in EXEC mode.

show sgbp queries

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Examples

The following example shows a bid of 50 from this system. Peers queried the system for the bid, the bid was accepted, and a connection was opened from a peer in the stack group.

```
Router# show sgbp queries

Seed bid: default, 50

Bundle: book State: Query_from_peers OurBid: 50
10.1.1.2         State: Open_from_peer   Bid: 050 Retry: 0
```

Table 24 describes the significant fields shown in the display.

Table 24 show sgbp queries Field Descriptions

Field	Description
Seed bid	The initial bid; in this case, the default 50.
Bundle	Name of the MMP bundle.
State	Activity that occurred. In this case, a peer queried this system for its bid for the specified bundle.
OurBid	What this system bid for the bundle. It bid 50.
10.1.1.2	The peer's IP address.
State Bid Retry	Activity that occurred on the bid. In this case, the stack-group peer 1.1.1.2 accepted this system's bid of 50 for the bundle and opened a connection with this system. Since the peer opened a connection, no retry was needed.

show snapshot

To display snapshot routing parameters associated with an interface, use the **show snapshot** command in EXEC mode.

show snapshot [*interface-type interface-number*]

Syntax Description

interface-type interface-number	(Optional) Interface type and number.

Command Modes

EXEC

Command History

Release	Modification
10.3	This command was introduced.

Examples

The following is sample output from the **show snapshot** command:

```
Router# show snapshot serial 1

Serial1 is up, line protocol is up, snapshot up
Options: dialer support
Length of each activation period: 3 minutes
Period between activations:       10 minutes
Retry period on connect failure:  10
For dialer address 240
 Current queue: active, remaining active time: 3 minutes
 Updates received this cycle: ip, ipx, appletalk
For dialer address 1
 Current queue: client quiet, time until next activation: 7 minutes
```

Table 25 describes the significant fields shown in the display.

Table 25 show snapshot Field Descriptions

Field	Description
Serial1 is up, line protocol is up	Indicates whether the interface hardware is currently active (whether carrier detect is present) and whether it has been taken down by an administrator.
snapshot up	Indicates whether the snapshot protocol is enabled on the interface.
Options:	Option configured on the **snapshot client** or **snapshot server** interface configuration command. It can be one of the following: • dialer support—Snapshot routing is configured with the **dialer** keyword. • stay asleep on carrier up—Snapshot routing is configured with the **suppress-statechange-updates** keyword.
Length of each activation period	Length of the active period.

Table 25 show snapshot Field Descriptions (continued)

Field	Description
Period between activations	Length of the quiet period.
Retry period on connect failure	Length of the retry period.
For dialer address	Displays information about each dialer rotary group configured with the **dialer map** command.
Current queue:	Indicates which period snapshot routing is currently in. It can be one of the following: • active—Routing updates are being exchanged. • client quiet—The client router is in a quiet period and routing updates are not being exchanged. • server quiet—The server router is in a quiet period, awaiting an update from the client router before awakening, and routing updates are not being exchanged. • post active—Routing updates are not being exchanged. If the server router receives an update from the client router, it processes it but does not begin an active period. This allows time for resynchronization of active periods between the client and server routers. • no queue—This is a temporary holding queue for new snapshot routing interfaces and for interfaces being deleted.
remaining active time time until next activation	Time remaining in the current period.
Updates received this cycle	Protocols from which routing updates have been received in the current active period. This line is displayed only if the router or access server is in an active period.

show spe

To display service processing element (SPE) status, use the **show spe** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe [*slot* | *slot*/*spe* | *slot*/*port*]

Cisco AS5800 with the Universal Port Card (UPC)

show spe [*shelf*/*slot* | *shelf*/*slot*/*spe*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. and SPE values range from 1 to 17. You must include the slash mark.
slot/*port*	(Optional) The specified port range on a slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. Port values range from 0 to one less than the number of ports supported by the card. You must include the slash mark.
shelf/*slot*	(Optional) The specified port range on a shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	(Optional) All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.1(5)XM2	This command was integrated into Cisco IOS Release 12.1(5)XM2.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350 and Cisco AS5400 platforms.

Usage Guidelines

Use the **show spe** command to display status and history statistics of all SPEs, a specified SPE, or the specified range of SPEs.

Examples

The following example displays history statistics for all SPEs after a busyout was executed on SPE 2/0 and a shutdown was executed on SPE 2/1 on the Cisco AS5400:

```
Router# show spe

SPE settings:
==============
Country code configuration: default T1 (u Law)
Polling interval: 12 secs.
History log events: 50(per port)
Port legends:
============
Port state: (s)shutdown (t)test (r)recovery (d)download
            (b)busiedout (p)busyout pending, (B)bad (a)active call
Call Type: (m)modem (d)digital (_)not in use

                     SPE          SPE     SPE  SPE   Port         Call
SPE#    Port #       State        Busyout Shut Crash State        Type
2/00    0000-0005    ACTIVE             0    0     0 aaaaaa       dddddd
2/01    0006-0011    ACTIVE             0    0     0 aaaaaa       dddddd
2/02    0012-0017    ACTIVE             0    0     0 aaaaaa       dddddd
2/03    0018-0023    ACTIVE             0    0     0 aaaaaa       dddmdm
2/04    0024-0029    ACTIVE             0    0     0 aaaaaa       dmmmmm
2/05    0030-0035    ACTIVE             0    0     0 aaa_aa       mmm_mm
2/06    0036-0041    ACTIVE             0    0     0 __aaaa       __mmmm
2/07    0042-0047    ACTIVE             0    0     0 aaa_aa       mmm_mm
2/08    0048-0053    ACTIVE             0    0     0 _aaa_a       _mmm_m
2/09    0054-0059    ACTIVE             0    0     0 _aa_aa       _md_mm
2/10    0060-0065    ACTIVE             0    0     0 _a_a_a       _m_m_m
2/11    0066-0071    ACTIVE             0    0     0 _a_aaa       _d_mmd
2/12    0072-0077    ACTIVE             0    0     0 aaaaaa       mdmmmd
2/13    0078-0083    ACTIVE             0    0     0 _aaaaa       _dmmdm
2/14    0084-0089    ACTIVE             0    0     0 _a_aaa       _m_ddd
2/15    0090-0095    ACTIVE             0    0     0 a_aaaa       m_dddd
2/16    0096-0101    ACTIVE             0    0     0 aaaaaa       ddddmd
2/17    0102-0107    ACTIVE             0    0     0 aaaaaa       dddddd
```

The following example shows output for the **show spe** command on the Cisco AS5800 with the universal port card. This example shows SPE settings for slot 2, SPEs 0 to 53:

```
Router# show spe

SPE settings
==============
Country code configuration default T1 (u Law)
Polling interval 12 secs.
History log events 50(per port)
Port legends
============
Port state (s)shutdown (t)test (r)recovery (d)download
            (b)busiedout (p)busyout pending, (B)bad (a)active call
Call type (m)modem (d)digital (_)not in use

                      SPE          SPE     SPE  SPE   Port         Call
SPE#    Port #       State        Busyout Shut Crash State        Type
1/02/00 0000-0005    ACTIVE             0    0     0 a_a_a_       m_m_m_
1/02/01 0006-0011    ACTIVE             0    0     0 aaa___       mmm___
1/02/02 0012-0017    ACTIVE             0    0     0 _a_aa_       _m_mm_
1/02/03 0018-0023    ACTIVE             0    0     0 _aaaaa       _mmmmm
1/02/04 0024-0029    ACTIVE             0    0     0 a_a_a_       m_m_m_
1/02/05 0030-0035    ACTIVE             0    0     0 ____a_       ____m_
1/02/06 0036-0041    ACTIVE             0    0     0 _aaa_a       _mmm_m
1/02/07 0042-0047    ACTIVE             0    0     0 a_____       m_____
```

```
1/02/08 0048-0053    ACTIVE              0     0      0 _aa_aa        _mm_mm
1/02/09 0054-0059    ACTIVE              0     0      0 _aa_aa        _mm_mm
1/02/10 0060-0065    ACTIVE              0     0      0 _a_a_a        _m_m_m
1/02/11 0066-0071    ACTIVE              0     0      0 a__aa_        m__mm_
1/02/12 0072-0077    ACTIVE              0     0      0 aaa___        mmm___
1/02/13 0078-0083    ACTIVE              0     0      0 aaaa_a        mmmm_m
1/02/14 0084-0089    ACTIVE              0     0      0 _aaa__        _mmm__
1/02/15 0090-0095    ACTIVE              0     0      0 a__aaa        m__mmm
1/02/16 0096-0101    ACTIVE              0     0      0 _aaaa_        _mmmm_
1/02/17 0102-0107    ACTIVE              0     0      0 _aaa_a        _mmm_m
1/02/18 0108-0113    ACTIVE              1     0      0 _aaaaa        _mmmmm
1/02/19 0114-0119    ACTIVE              1     0      0 aa_aa_        mm_mm_
1/02/20 0120-0125    ACTIVE              1     0      0 aa__aa        mm__mm
1/02/21 0126-0131    ACTIVE              1     0      0 aaa_aa        mmm_mm
1/02/22 0132-0137    ACTIVE              1     0      0 _a____        _m____
1/02/23 0138-0143    ACTIVE              1     0      0 a__aaa        m__mmm
1/02/24 0144-0149    ACTIVE              1     0      0 a_a_aa        m_m_mm
1/02/25 0150-0155    ACTIVE              1     0      0 ___aaa        ___mmm
1/02/26 0156-0161    ACTIVE              1     0      0 a_a__a        m_m__m
1/02/27 0162-0167    ACTIVE              1     0      0 a_a_aa        m_m_mm
1/02/28 0168-0173    ACTIVE              1     0      0 a___aa        m___mm
1/02/29 0174-0179    ACTIVE              1     0      0 _a____        _m____
1/02/30 0180-0185    ACTIVE              1     0      0 _aaaaa        _mmmmm
1/02/31 0186-0191    ACTIVE              1     0      0 _a_aa_        _m_mm_
1/02/32 0192-0197    ACTIVE              1     0      0 aaa__a        mmm__m
1/02/33 0198-0203    ACTIVE              1     0      0 a_a__a        m_m__m
1/02/34 0204-0209    ACTIVE              1     0      0 aaaaaa        mmmmmm
1/02/35 0210-0215    ACTIVE              1     0      0 _aa__a        _mm__m
1/02/36 0216-0221    ACTIVE              0     0      0 a_a_aa        m_m_mm
1/02/37 0222-0227    ACTIVE              0     0      0 a_aaaa        m_mmmm
1/02/38 0228-0233    ACTIVE              0     0      0 aaaaaa        mmmmmm
1/02/39 0234-0239    ACTIVE              0     0      0 aa_aa_        mm_mm_
1/02/40 0240-0245    ACTIVE              0     0      0 aa_aaa        mm_mmm
1/02/41 0246-0251    ACTIVE              0     0      0 a__a__        m__m__
1/02/42 0252-0257    ACTIVE              0     0      0 aa__aa        mm__mm
1/02/43 0258-0263    ACTIVE              0     0      0 aaa_aa        mmm_mm
1/02/44 0264-0269    ACTIVE              0     0      0 aaaa_a        mmmm_m
1/02/45 0270-0275    ACTIVE              0     0      0 aaa_a_        mmm_m_
1/02/46 0276-0281    ACTIVE              0     0      0 aaaaa_        mmmmm_
1/02/47 0282-0287    ACTIVE              0     0      0 _aaaa_        _mmmm_
1/02/48 0288-0293    ACTIVE              0     0      0 a_aa_a        m_mm_m
1/02/49 0294-0299    ACTIVE              0     0      0 aa_a_a        mm_m_m
1/02/50 0300-0305    ACTIVE              0     0      0 aa_aaa        mm_mmm
1/02/51 0306-0311    ACTIVE              0     0      0 aaaaa_        mmmmm_
1/02/52 0312-0317    ACTIVE              0     0      0 aaaaaa        mmmmmm
1/02/53 0318-0323    ACTIVE              0     0      0 aaaa_a        mmmm_m
```

Table 26 describes the significant fields shown in the display.

Table 26 show spe Field Descriptions

Field	Description
SPE #	Specifies the slot and port number of the SPE.
Port #	Displays the port number.
SPE State	Displays the state of the SPE port.
SPE Busyout	Displays the number of busyout calls.
SPE Shut	Indicates if the port is shut down.
SPE Crash	Specifies if the port has crashed.

Table 26 show spe Field Descriptions (continued)

Field	Description
Port State	Indicates if the port is active or idle.
Call Type	Data, modem, or fax call type.

Related Commands

Command	Description
show spe digital active	Displays active digital calls and digital statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe modem active	Displays active modem statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe voice active	Displays active voice statistics of all SPEs, a specified SPE, or the specified SPE range.

show spe digital

To display history statistics of all service processing elements (SPEs) for digital service, in summary form or for SPEs starting with a specified slot or a specified shelf/slot/range of SPEs, use the **show spe digital** command in EXEC mode.

show spe digital [*slot* | *slot*/*spe*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5400, slot values range from 1 to 7 and SPE values range from 1 to 17. You must include the slash mark.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced.
12.1(3)T	This command was implemented on the Cisco AS5400.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Use the **show spe digital** command on the Cisco AS5350 and Cisco AS5400 with NextPort port dial feature card (DFC).

Note This command is not supported on the Cisco AS5800 with the universal port card (UPC).

Examples

The following example uses the starting slot/SPE version of the **show spe digital** command. This example shows statistics for slot 5, SPE 4:

```
Router# show spe digital 5/4

#SPE 5/04
Cisco Universal SPE; Fw: 0.06.07.03; Async5/24 - 5/29, TTY672 - 677
Last clearing of statistics counters          :  never
      11 incoming completes         24 incoming failures
       0 outgoing completes          0 outgoing failures
       0 failed dial attempts        0 ring no answers
       0 no dial tones               0 link failures
       0 watchdog timeouts           0 protocol errors
       0 dial timeouts
```

```
Transmit Speed Counters       :
 Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls
Speed    Calls
 64000        0  28800        0  14400        0   7200        0
1200        0
 56000        0  24000        0  12000        0   4800        1
600         0
 38400        0  19200       10   9600        0   2400        0

Receive Speed Counters        :
 Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls
Speed    Calls
 64000        0  28800        0  14400        0   7200        0
1200        0
 56000        0  24000        0  12000        0   4800        1
600         0
 38400        0  19200       10   9600        0   2400        0
```

Table 27 describes the significant fields shown in the display.

Table 27 show spe digital Field Descriptions

Field	Description
SPE #	Specifies the slot and port number of the SPE.
Cisco Universal SPE	Firmware version installed on the SPE.
Last clearing of statistics counters	Last time the modem counters were cleared using the **clear modem counters** command.
Transmit Speed Counters	List of connection speeds that were sent by the SPE.
Receive Speed Counters	List of connection speeds that were received by the SPE.

Related Commands

Command	Description
show spe digital active	Displays active digital calls and digital statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital csr	Displays digital CSR statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital disconnect-reason	Displays the local disconnection reasons for all digital calls on the SPEs, a specified SPE, or the specified range of SPEs.
show spe digital summary	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.

show spe digital active

To display active digital calls and digital statistics of all service processing elements (SPEs), a specified SPE, or the specified range of SPEs, use the **show spe digital active** command in EXEC mode.

show spe digital active [*slot* | *slot* /*spe*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5400, slot values range from 1 to 7 and SPE values range from 1 to 17. You must include the slash mark.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced.
12.1(3)T	This command was implemented on the Cisco AS5400.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Use the **show spe digital active** command on the Cisco AS5350 and Cisco AS5400 with the NextPort dial feature card (DFC).

Note This command is not supported on the Cisco AS5800 with the universal port card (UPC).

Examples

The following is sample output from the **show spe digital active** command on the Cisco AS5400 with the NextPort DFC. This example displays active digital statistics for slot 5, SPE 06:

```
Router# show spe digital active 5

SPE 5/06
                        Char              Sync
Port  Prot    Duration  Tx/Rx       Cfg   Loss
41    V.110   188       19200/19200 In    0

SPE 5/09
                        Char              Sync
Port  Prot    Duration  Tx/Rx       Cfg   Loss
54    V.110   187       19200/19200 In    0
56    V.110   187       19200/19200 In    0
57    V.110   188       19200/19200 In    0
.
.
```

Table 28 describes the significant fields shown in the display.

Table 28 show spe digital active Field Descriptions

Field	Description
SPE #	Specifies the slot and port number of the SPE.
Port	Port that is active.
Prot	Protocol used for the call in progress.
Duration	Duration of call.
Char Tx/Rx	Characters sent and received.

Related Commands

Command	Description
show spe digital	Displays history statistics of all digital SPEs, in summary form or for SPEs starting with a specified slot or a specified shelf/slot/range of SPEs.
show spe digital csr	Displays digital calls CSR statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital disconnect-reason	Displays the local disconnect reasons for all digital calls on the SPEs, a specified SPE, or the specified range of SPEs.
show spe digital summary	Display history statistics of all SPEs, a specified SPE, or the specified range of SPEs.

show spe digital csr

To display digital call success rate (CSR) statistics of all service processing elements (SPEs), a specified SPE, or the specified range of SPEs, use the **show spe digital csr** command in EXEC mode.

show spe digital csr {**summary** [*slot* | *slot*/*spe*] [*slot* | *slot*/*spe*] | {*slot* | *slot*/*spe*} [*slot* | *slot*/*spe*]}

Syntax Description

summary	Summary digital CSR statistics.
slot	All ports on the specified slot. For the Cisco AS5400, slot values range from 1 to 7. A range of slots can be specified by entering a second value for the *slot* argument.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5400, slot values range from 1 to 7 and SPE values range from 1 to 17. You must include the slash mark. A range of ports can be specified by entering a second value for the *slot*/*spe* argument.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced.
12.1(3)T	This command was implemented on the Cisco AS5400.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Use the **show spe digital csr** command on the Cisco AS5350 and Cisco AS5400 with the NextPort dial feature card DFC.

Note This command is not supported on the Cisco AS5800 with the universal port DFC.

Examples

The following is sample output from the **show spe digital csr** command on the Cisco AS5400 with the NextPort DFC. This example displays the number of call success rate counters for slot 5:

```
Router# show spe digital csr 5

          Avg Hold     Inc calls     Out calls    Failed    No      Succ
SPE         Time      Succ   Fail   Succ   Fail   Dial    Answer    Pct
5/00      00:04:22       6      0      0      0       0       0    100%
5/01      00:04:22       6      0      0      0       0       0    100%
5/02      00:04:22       6      0      0      0       0       0    100%
5/03      00:04:22       6      0      0      0       0       0    100%
5/04      00:04:22       6      0      0      0       0       0    100%
5/05      00:04:21       6      0      0      0       0       0    100%
5/06      00:04:22       4      0      0      0       0       0    100%
```

```
5/07      00:04:22       1       0       0       0       0       0     100%
5/08      00:04:21       6       0       0       0       0       0     100%
5/09      00:04:23       5       0       0       0       0       0     100%
5/10      00:00:00       0       0       0       0       0       0       0%
5/11      00:04:21       5       0       0       0       0       0     100%
5/12      00:04:20       2       0       0       0       0       0     100%
5/13      00:00:00       0       0       0       0       0       0       0%
5/14      00:00:00       0       0       0       0       0       0       0%
5/15      00:00:00       0       0       0       0       0       0       0%
5/16      00:00:00       0       0       0       0       0       0       0%
5/17      00:00:00       0       0       0       0       0       0       0%
```

Table 29 describes the significant fields shown in the display.

Table 29 show spe digital csr Field Descriptions

Field	Description
SPE	The SPE slot and port number.
Avg Hold Time	The average hold time.
Inc calls, Succ/Fail	The cumulative number of incoming calls that have succeeded and failed in the configured time period.
Out calls, Succ/Fail	The cumulative number of outgoing calls that have succeeded and failed in the configured time period.
Failed Dial	The number of calls that failed when dialed.
No Answer	The number of calls that were not answered.
Succ Pct	The CSR of the carrier.

Related Commands

Command	Description
show spe digital	Displays history statistics of all digital SPEs, in summary form or for SPEs starting with a specified slot or a specified shelf/slot/range of SPEs.
show spe digital active	Displays active digital calls and digital statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital disconnect-reason	Displays the local disconnect reasons for all digital calls on the SPEs, a specified SPE, or the specified range of SPEs.
show spe digital summary	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.

show spe digital disconnect-reason

To display the local disconnection reasons for all digital calls on the service processing elements (SPEs), a specified SPE, or the specified range of SPEs, use the **show spe digital disconnect-reason** command in EXEC mode.

show spe digital disconnect-reason [**summary** | *slot* | *slot*/*spe*]

Syntax Description

summary	(Optional) Summary of local disconnection reasons for digital ports.
slot	(Optional) All ports on the specified slot. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5400, slot values range from 1 to 7 and SPE values range from 1 to 17. You must include the slash mark.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced.
12.1(3)T	This command was implemented on the Cisco AS5400.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Use the **show spe digital disconnect-reason** command on the Cisco AS5350 and Cisco AS5400 with the NextPort dial feature card (DFC).

Note This command is not supported on the Cisco AS5800 with the universal port card (UPC).

Examples

The following is sample output from the **show spe digital disconnect-reason** command on the Cisco AS5400 with the NextPort DFC. This example displays reasons for digital call disconnections on slot 5:

```
Router# show spe digital disconnect-reason 5

#SPE 5/00   :
=====CLASS HOST======      =====CLASS SERVICE=====
NonSpecific          0  ATH                   0
Busy                 0  Aborted               0
No Answer            0  Connect Timeout       0
DTR                  0  Sync Loss             0
ATH                  0
NoDialTone           0
No Carrier           0
```

```
ACK                 0  TOTAL               0

#SPE 5/03   :
=====CLASS HOST======      =====CLASS SERVICE=====
NonSpecific         0  ATH                 0
Busy                1  Aborted             0
No Answer           0  Connect Timeout     0
DTR                 0  Sync Loss           0
.
.
.
```

Table 30 describes the significant fields shown in the display.

Table 30 show spe digital disconnect-reason Field Descriptions

Field	Description
SPE	The slot and port number of the SPE.
CLASS HOST	Disconnect reasons are as follows: • NonSpecific • Busy • No Answer—Number of times the SPE rang but did not answer the incoming call. • DTR • ATH • NoDialTone—Number of times the dial-out attempt failed because the SPE failed to detect a dial tone. • No Carrier • ACK
CLASS SERVICE	Disconnect reasons are a s follows: • ATH • Aborted • Connect Timeout • Sync Loss

Related Commands

Command	Description
show spe digital	Displays history statistics of all digital SPEs, in summary form or for SPEs starting with a specified slot or a specified shelf/slot/range of SPEs.
show spe digital active	Displays active digital calls and digital statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital csr	Displays digital call success rate (CSR) statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital summary	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.

show spe digital summary

To display history statistics of all service processing elements (SPEs), a specified SPE, or the specified range of SPEs, use the **show spe digital summary** command in EXEC mode.

show spe digital summary [*slot* | *slot*/*spe*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5400, slot values range from 1 to 7 and SPE values range from 1 to 17. You must include the slash mark.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced.
12.1(3)T	This command was implemented on the Cisco AS5400.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Use the **show spe digital summary** command on the Cisco AS5350 and Cisco AS5400 with the NextPort dial feature card (DFC).

Note This command is not supported on the Cisco AS5800 with the universal port card (UPC).

Examples

The following is sample output from the **show spe digital summary** command on the Cisco AS5400 with the NextPort DFC. This example displays active digital statistics for slot 5:

```
Router# show spe digital summary 5

Async5/00 - 5/107, TTY648 - 755
     209 incoming completes        397 incoming failures
       0 outgoing completes          0 outgoing failures
       0 failed dial attempts        0 ring no answers
       0 no dial tones               0 link failures
       0 watchdog timeouts           0 protocol errors
       0 dial timeouts

Transmit Speed Counters       :
 Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls
 64000        0  28800        0  14400        0   7200        0  1200     20
 56000        0  24000        0  12000        0   4800       20  600      20
 38400        0  19200      149   9600        0   2400        0
```

```
Receive Speed Counters         :
 Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls
 64000        0  28800        0  14400        0   7200        0  1200     20
 56000        0  24000        0  12000        0   4800       20  600      20
 38400        0  19200      149   9600        0   2400        0
.
.
.
```

Table 31 describes the significant fields shown in the display.

Table 31 show spe digital summary Field Descriptions

Field	Description
A summary of SPE events also appears.	
incoming completes and failures	Total number of incoming connection requests that the SPE answered and successfully or unsuccessfully connected with the remote DCE device.
outgoing completes and failures	Total number of outgoing connection requests that the SPE dialed and successfully or unsuccessfully connected with the remote DCE device.
failed dial attempts	Number of times the SPE attempted to dial out but the call failed to leave the modem.
ring no answers	Number of times the SPE rang but did not answer the incoming call.
no dial tones	Number of times the dial-out attempt failed because the SPE failed to detect a dial tone.
link failures	Number of times the SPE detected a link failure.
watchdog timeouts	Number of times the SPE internal watchdog timer expired.
protocol errors	Number of times the SPE protocol failed to make a call connection
dial timeouts	Number of times the SPE timed out while attempting to dial.
Transmit Speed Counters	List of connection speeds that were sent by the SPE.
Receive Speed Counters	List of connection speeds that were received by the SPE.

Related Commands

Command	Description
show spe digital	Displays history statistics of all digital SPEs, in summary form or for SPEs starting with a specified slot or a specified shelf/slot/range of SPEs.
show spe digital active	Displays active digital calls and digital statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital csr	Displays digital call success rate (CSR) statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital disconnect-reason	Displays the local disconnection reasons for all digital calls on the SPEs, a specified SPE, or the specified range of SPEs.

show spe log

To display the service processing element (SPE) system log, use the **show spe log** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe log [**reverse** | *slot*]

Cisco AS5800 with the Universal Port Card (UPC)

show spe log [**reverse** | *shelf/slot*]

Syntax Description

reverse	(Optional) Displays the SPE system log with the most recent event first.
slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
shelf/slot	(Optional) All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

The **show spe log** command displays the slot history event log.

Examples

The following is sample output from the **show spe log** command on the Cisco AS5400 with the NextPort DFC:

```
Router# show spe log

Slot 3 Events Log
  2d15h   : SPE State Event:
     Address: 0x3000000
     SPE    : 3/00
     Command: SPE_IMMEDIATE_DISABLE Complete
  2d14h   : SPE State Event:
     Address: 0x3000100
     SPE    : 3/06
     Command: SPE_IMMEDIATE_DISABLE Complete
```

```
  2d13h   : SPE State Event:
     Address: 0x3000200
     SPE    : 3/12
     Command: SPE_IMMEDIATE_DISABLE Complete
  00:00:26: SPE State Event:
     Address: 0x3000001
     SPE    : 3/01
     Command: SPE_IMMEDIATE_DISABLE Complete
Slot 4 Events Log
  2d13h   : SPE State Event:
     Address: 0x4000000
     SPE    : 4/00
     Command: SPE_IMMEDIATE_DISABLE Complete
Slot 7 Events Log
  2d15h   : Diag Post event:
     Address    : 0x7000204
     SPE        : 7/16
     Result     : SPE_POST_TEST_FAILED
     Test ID    : SPE_POWER_ON_SELF_TEST
     Diag Code  : 0xFE01C004
     Data Format: ASCII
     Data Len   : 0
```

Table 32 describes the significant fields shown in the display.

Table 32 show spe log Field Descriptions

Field	Description
Address	Address of the SPE
SPE	The slot and port number of the SPE.

Related Commands

Command	Description
clear spe log	Clears all event entries in the slot history event log.
show spe log reverse	Displays the slot history event log, with the most recent event first.

show spe modem

To display the modem service history statistics for a specified service processing element (SPE), use the **show spe modem** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem {*slot* | *slot*/*spe*}

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem {*shelf*/*slot* | *shelf*/*slot*/*spe*}

Syntax Description

slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 1 to 53. You must include the slash mark.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Examples

The following is sample output from the **show spe modem** command on the Cisco AS5400 with the NextPort DFC:

```
Router# show spe modem 1/2

Async1/2/00 - 1/3/323, TTY972 - 1619
     4819 incoming completes        287 incoming failures
        0 outgoing completes          0 outgoing failures
        0 failed dial attempts        0 ring no answers          0 autotests
        0 no carriers                11 dial timeouts            0 autotest fails
        0 no dial tones               0 link failures            0 fail count
        0 watchdog timeouts        2784 protocol errors          0 recovers
Transmit Speed Counters
```

```
  Speed    Calls  Speed     Calls  Speed    Calls  Speed    Calls  Speed  Calls
 60000        0    48000       431  38400        0  30666        0  12000  143
 58000        0    46666         0  38000        4  29333        0   9600  5
 56000       15    46000        56  37333      110  28800      700   7200  11
 54666        0    45333       299  36000       84  28000        5   4800  2
 54000        0    44000       226  34666        0  26400      266   2400  0
 53333      122    42666         0  34000       39  24000       46   1200  3
 52000      562    42000        68  33600      323  21600       27    300  0
 50666        0    41333        38  33333        9  19200       38
 50000       59    40000        65  32000       20  16800       12
 49333      370    38666         0  31200      653  14400        5
Receive Speed Counters
  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls   Speed Calls
 38400        0   26400     2280  16800       11   7200        1    300  2
 33600      113   24000      266  14400      139   4800        1
 31200      215   21600       56  12000        4   2400        3
 28800     1665   19200       47   9600       16   1200        0.
```

The following is sample output from the **show spe modem** command on the Cisco AS5800 with the universal port card:

```
Router# show spe modem 1/8/0

#SPE 1/08/00
Cisco Universal SPE; Fw: 0.00.06.81; Async1/8/00 - 1/8/05, TTY2916 - 2921
Last clearing of statistics counters          :  never
      90 incoming completes          0 incoming failures
       0 outgoing completes          0 outgoing failures
       0 failed dial attempts        0 ring no answers          0 autotests
       0 no carriers                 0 dial timeouts            0 autotest fails
       0 no dial tones               0 link failures            0 fail count
       0 watchdog timeouts           0 protocol errors

Transmit Speed Counters       :
 Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls
 60000        0  48000        0  38400        0  30666        0  12000        0
 58000        0  46666        0  38000        0  29333        0   9600        0
 56000        0  46000        0  37333        0  28800        0   7200        0
 54666        0  45333        0  36000        0  28000        0   4800        0
 54000        0  44000        0  34666        0  26400        0   2400        0
 53333        0  42666        0  34000        0  24000        0   1200        0
 52000        0  42000        0  33600        0  21600        0    300        0
 50666        0  41333        0  33333        0  19200        0
 50000        0  40000        0  32000        0  16800        0
 49333        0  38666        0  31200       90  14400        0

Receive Speed Counters        :
 Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls
 38400        0  26400        0  16800        0   7200        0    300        0
 33600       11  24000        0  14400        0   4800        0
 31200       25  21600        0  12000        0   2400        0
 28800       54  19200        0   9600        0   1200        0
```

Table 33 describes the significant fields shown in the display.

Table 33 show spe modem Command Field Descriptions

Field	Description
SPE	The slot and port number of the SPE.
Cisco Universal SPE	Firmware version installed on the SPE.
Last clearing of "show modem" counters	Last time the modem's counters were cleared using the **clear modem counters** command.
Summary of modem and SPE events as follows:	
incoming completes and failures	Total number of incoming connection requests that the SPE answered and successfully or unsuccessfully connected with the remote DCE device.
outgoing completes and failures	Total number of outgoing connection requests that the SPE dialed and successfully or unsuccessfully connected with the remote DCE device.
failed dial attempts	Number of times the SPE attempted to dial out but the call failed to leave the modem.
ring no answers	Number of times the SPE rang but did not answer the call.
autotests	Number of times an autotest was run on the SPE.
no carriers	Number of times the SPE disconnected because no carrier was present.
dial timeouts	Number of times the SPE timed out while attempting to dial.
autotest fails	Number of times the SPE failed an autotest.
no dial tones	Number of times the dial-out attempt failed because the SPE failed to detect a dial tone.
link failures	Number of times the SPE detected a link failure.
fail count	Number of times the SPE failed.
watchdog timeouts	Number of times the SPE internal watchdog timer expired.
protocol errors	Number of times the SPE protocol failed to make a call connection.
Transmit Speed Counters	List of connection speeds that were sent by the SPE.
Receive Speed Counters	List of connection speeds that were received by the SPE.

Related Commands

Command	Description
show modem	Displays modem service history statistics for the MICA technologies modem.
show spe	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.

show spe modem active

To display the modem service statistics of all active calls on specified service processing elements (SPEs), use the **show spe modem active** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem active {*slot* | *slot*/*spe*}

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem active {*shelf*/*slot* | *shelf*/*slot*/*spe*}

Syntax Description

slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was introduced on the Cisco AS5350.
12.2(2)XA	This command was supported on the Cisco AS5350.
12.2(2)XB	This command was integrated into Cisco IOS Release 12.2(2)XB.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Examples

The following is sample output from the **show spe modem active** command on the Cisco AS5400 with the NextPort DFC. This example displays active modem statistics for slot 5, SPE 6:

```
Router# show spe modem active 5/6

SPE 5/06
Port  Type     Prot     Comp    Duration  Tx/Rx     Tx/Rx(Lvl) SNR Cfg  Retrain
37    V.90     LAP-M    V.42bis  95      3890/76     --/-11     38  In   0
```

The following is sample output from the **show spe modem active** command on the Cisco AS5800 with universal port card. This example displays active modem statistics for shelf 1, slot 8:

```
Router# show spe modem active 1/8

SPE 1/08/34
Port  Type     Prot     Comp    Duration  Tx/Rx(bps) Tx/Rx(Lvl) SNR Cfg  Retrain
209   V.34+    LAP-M    V.42bis  23      28800/31200  --/-13     37  In   0

SPE 1/08/35
Port  Type     Prot     Comp    Duration  Tx/Rx(bps) Tx/Rx(Lvl) SNR Cfg  Retrain
215   V.34+    LAP-M    V.42bis  12      28800/31200  --/-13     37  In   0

SPE 1/08/36
Port  Type     Prot     Comp    Duration  Tx/Rx(bps) Tx/Rx(Lvl) SNR Cfg  Retrain
216   V.34+    LAP-M    V.42bis  24      33600/31200  --/-36     38  In   0
217   ##       ##       ##       0       33600/300    --/19      37  In   0
218   ##       ##       ##       0       33600/300    --/19      37  In   0
219   ##       ##       ##       0       33600/300    --/19      35  In   0
```

Table 34 describes the significant fields shown in the display.

Table 34 show spe modem active Field Descriptions

Field	Description
SPE	The slot and port number of the SPE.
Port	Displays the port number.
Type	Modulation type.
Prot	The connection protocol used for the call.
Comp	The compression protocol used for the call.
Duration	Time duration of the call.
Tx/Rx(bps)	Transmission and receiving speed for the call in bits per second (bps).
Tx/Rx(Lvl)	Transmission and receiving level reduction for the call in decibels per milliwatt (dBm).
SNR	The signal-to-noise ratio for the call in dB.
Cfg	
Retrain	Number of retrain failures. A connection was lost and not reestablished after three attempts.

Related Commands

Command	Description
show port operational-status	Displays the operational status of a specific port or port range.
show spe	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.

show spe modem csr

To display the call success rate (CSR) for the specified service processing elements (SPEs), use the **show spe modem csr** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem csr {**summary** | *slot* | *slot*/*spe*}

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem csr {**summary** | *shelf*/*slot* | *shelf*/*slot*/*spe*}

Syntax Description

summary	Displays all call success rate statistics for all SPEs.
slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash mark.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(2)XA	This command was implemented on the Cisco AS5350.
12.2(2)X	This command was integrated into Cisco IOS Release 12.2(2)XB.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

The **show spe modem csr** command displays the modem CSR statistics for a specific SPE, range of SPEs, or all the SPEs. The **summary** keyword displays the CSR statistics for all SPEs.

Examples

The following are sample outputs from the **show spe modem csr** command on the Cisco AS5400 with the NextPort DFC:

```
Router# show spe modem csr 5/6

         Avg Hold     Inc calls     Out calls    Failed    No      Succ
SPE        Time      Succ   Fail   Succ   Fail   Dial    Answer    Pct
5/06     00:22:41       2      0      0      0       0       0    100%

Router# show spe modem csr 5/1 5/6

         Avg Hold     Inc calls     Out calls    Failed    No      Succ
SPE        Time      Succ   Fail   Succ   Fail   Dial    Answer    Pct
5/01     00:00:00       0      0      0      0       0       0      0%
5/02     00:00:00       0      0      0      0       0       0      0%
5/03     00:00:00       0      0      0      0       0       0      0%
5/04     00:00:00       0      0      0      0       0       0      0%
5/05     00:00:00       0      0      0      0       0       0      0%
5/06     00:22:48       2      0      0      0       0       0    100%
```

The following is sample output from the **show spe modem csr summary** command on the Cisco AS5800 with the universal port card:

```
Router# show spe modem csr summary

   Avg Hold          Inc  calls             Out  calls      Failed    No    Succ
   Time        Succ    Fail   Avail    Succ    Fail   Avail Dial    Answer  Pct
   002631    4827     285      93       0       0      93      5       0   94%
```

Table 35 describes the significant fields shown in the display.

Table 35 show spe modem csr Field Descriptions

Field	Description
SPE	The slot and port number of the SPE.
Avg Hold Time	The average hold time for the SPE.
Inc/Out calls	Calls dialing into and out of the modem: • Succ—Total call successfully connected. • Fail—Total calls that did not successfully connect. • Avail—Total modems available for use in the system.
Failed Dial	The number of attempts the SPE failed to make a connection.
No Answer	Number of times the SPE rang but did not answer the call.
Succ Pct	The percentage of calls that were successfully connected.

Related Commands

Command	Description
show spe	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe modem summary	Displays a summary of modem statistics for the specified SPE or range of SPEs.

show spe modem disconnect-reason

To display all modem disconnection reasons for the specified service processing element (SPE), use the **show spe modem disconnect-reason** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem disconnect-reason {**summary** | *slot* | *slot*/*spe*}

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem disconnect-reason {**summary** | *shelf*/*slot* | *shelf*/*slot*/*spe*}

Syntax Description

summary	Displays the disconnect reasons for all SPEs.
slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 1 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was introduced on the Cisco AS5350.
12.2(2)XA	This command was implemented on the Cisco AS5350.
12.2(2)XB	This command was integrated into Cisco IOS Release 12.2(2)XB.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Disconnection reasons are reasons why active calls are disconnected. The disconnect reasons are displayed with Class boundaries. The **show spe modem disconnect-reason** command is equivalent to the **show modem call stats** MCIA technologies modem command.

Examples

The following is sample output from the **show spe modem disconnect-reason** command on the Cisco AS5400 with the NextPort DFC:

```
Router# show spe modem disconnect-reason 5/6

#SPE 5/06   :
===CLASS OTHER====  =====CLASS DSP====  ===CLASS EC LCL===  ==CLASS EC FRMR===
Software Rst     0  No Carrier       0  No LR            0  Frmr Bad Cmd     0
EC Termntd       0  No ABT dtctd     0  LR Param1        0  Frmr Data        0
Bad MNP5 Rx      0  Trainup flr      0  LR Incmpt        0  Frmr Length      0
Bad V42B         0  Retrain Lt       0  Retrns Lt        0  Frmr Bad NR      0
Bad COP stat     0  ABT end flr      0  Inactivity       0
ATH              0                     Protocol Err     0  ===CLASS EC LD====
Aborted          0  ====CLASS HOST====  Fallbck Term     0  LD No LR         0
Connect Tout     0  Hst NonSpec      0  No XID           0  LD LR Param1     0
Reset DSP        0  Hst Busy         0  XID Incmpt       0  LD LR Incmpt     0
                    Hst No answr     0  Disc             0  LD Retrns Lt     0
===CLASS EC Cmd===  Hst DTR          1  DM               0  LD Inactivty     0
Bad Cmd          0  Hst ATH          0  Bad NR           0  LD Protocol      0
                    Hst NoDialTn     0  SABME Online     0  LD User          0
=====N O N E======  Hst No Carr      0  XID Online       0
None             0  Hst Ack          0  LR Online        0  TOTAL            1
```

The following is sample output from the **show spe modem disconnect-reason summary** command on the Cisco AS5800 with the universal port card:

```
Router# show spe modem disconnect-reason summary

===CLASS OTHER====  =====CLASS DSP====  ===CLASS EC LCL===  ==CLASS EC FRMR===
Software Rst     0  No Carrier      21  No LR            0  Frmr Bad Cmd     0
EC Termntd       0  No ABT dtctd     0  LR Param1        0  Frmr Data        0
Bad MNP5 Rx      0  Trainup flr     26  LR Incmpt        0  Frmr Length      0
Bad V42B        12  Retrain Lt       0  Retrns Lt       37  Frmr Bad NR      0
Bad COP stat     0  ABT end flr      0  Inactivity       0
ATH              0                     Protocol Err     5  ===CLASS EC LD====
Aborted          0  ====CLASS HOST====  Fallbck Term    22  LD No LR         0
Connect Tout    11  Hst NonSpec    799  No XID           5  LD LR Param1     0
Reset DSP        0  Hst Busy         0  XID Incmpt       0  LD LR Incmpt     0
                    Hst No answr     0  Disc          2718  LD Retrns Lt     0
===CLASS EC Cmd===  Hst DTR        870  DM               0  LD Inactivty     0
Bad Cmd          0  Hst ATH          0  Bad NR           0  LD Protocol      0
                    Hst NoDialTn     0  SABME Online     0  LD User          0
=====N O N E======  Hst No Carr      0  XID Online       0
None            29  Hst Ack          0  LR Online        0  TOTAL         4555
```

Related Commands

Command	Description
show spe	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe modem summary	Displays a summary of modem statistics for the specified SPE or range of SPEs.

show spe modem high speed

To display the total number of connections within each high-speed modulation or codec for a specific range of service processing elements (SPEs), use the **show spe modem high speed** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem high speed {**summary** | *slot* | *slot*/*spe*}

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem high speed {**summary** | *shelf*/*slot* | *shelf*/*slot*/*spe*}

Syntax Description

summary	Displays a brief list of all modulation connections negotiated.
slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Examples

The following is sample output from the **show spe modem high speed** command on the Cisco AS5400 with the NextPort DFC:

```
Router# show spe modem high speed 1/0

#SPE 1/0      :
 Modln       V.FC            V.34          K56Flex           V.90      Modln
 Speed    Tx     Rx       Tx     Rx       Tx     Rx       Tx     Rx    Speed
 56000  ------ ------   ------ ------   000000 ------   000000 ------  56000
 54667  ------ ------   ------ ------        -      -        0      -  54667
```

```
 54000  ------ ------   ------ ------        0      -        -      -  54000
 53333  ------ ------   ------ ------        -      -        0      -  53333
 52000  ------ ------   ------ ------        0      -        0      -  52000
 50667  ------ ------   ------ ------        -      -        0      -  50667
 50000  ------ ------   ------ ------        0      -        -      -  50000
 49333  ------ ------   ------ ------        -      -        0      -  49333
 48000  ------ ------   ------ ------        0      -        0      -  48000
 46667  ------ ------   ------ ------        -      -        0      -  46667
 46000  ------ ------   ------ ------        0      -        -      -  46000
 45333  ------ ------   ------ ------        -      -        0      -  45333
 44000  ------ ------   ------ ------        0      -        0      -  44000
 42667  ------ ------   ------ ------        -      -        0      -  42667
 42000  ------ ------   ------ ------        0      -        -      -  42000
 41333  ------ ------   ------ ------        -      -        0      -  41333
 40000  ------ ------   ------ ------        0      -        0      -  40000
 38667  ------ ------   ------ ------        -      -        0      -  48667
 38000  ------ ------   ------ ------        0      -        -      -  38000
 37333  ------ ------   ------ ------        -      -        0      -  37333
 36000  ------ ------   ------ ------        0      -        0      -  36000
 34667  ------ ------   ------ ------        -      -        0      -  34667
 34000  ------ ------   ------ ------        0      -        -      -  34000
 33600  ------ ------        0      0        -      -        -      0  33600
 33333  ------ ------        -      -        -      -        0      -  33333
 32000  ------ ------        -      -        0      -        0      -  32000
 31200  ------ ------        0      0        -      0        -      0  31200
 30667  ------ ------        -      -        -      -        0      -  30667
 29333  ------ ------        -      -        -      -        0      -  29333
 28800       0      0        0      0        -      0        -      0  28800
 28000       -      -        -      -        -      -        0      -  28000
 26400       0      0        0      0        -      0        -      0  26400
 24000       0      0        0      0        -      0        -      0  24000
 21600       0      0        0      0        -      0        -      0  21600
 19200       0      0        0      0        -      0        -      0  19200
 16800       0      0        0      0        -      0        -      0  16800
 14400       0      0        0      0        -      0        -      0  14400
 12000       -      -        0      0        -      0        -      0  12000
  9600       -      -        0      0        -      0        -      0   9600
  7200       -      -        0      0        -      0        -      0   7200
  4800       -      -        0      0        -      0        -      0   4800
  2400       -      -        0      0        -      -        -      -   2400
 TOTAL     0000000         0000000         0000000         0000000     TOTAL
#SPE 1/1      :
 Modln       V.FC            V.34          K56Flex           V.90       Modln
 Speed    Tx     Rx       Tx     Rx       Tx     Rx       Tx     Rx    Speed
 56000  ------ ------   ------ ------   000000 ------   000000 ------  56000
 54667  ------ ------   ------ ------        -      -        0      -  54667
 54000  ------ ------   ------ ------        0      -        -      -  54000
 53333  ------ ------   ------ ------        -      -        0      -  53333
 52000  ------ ------   ------ ------        0      -        0      -  52000
 50667  ------ ------   ------ ------        -      -        0      -  50667
 50000  ------ ------   ------ ------        0      -        -      -  50000
 49333  ------ ------   ------ ------        -      -        0      -  49333
 48000  ------ ------   ------ ------        0      -        0      -  48000
 46667  ------ ------   ------ ------        -      -        0      -  46667
 46000  ------ ------   ------ ------        0      -        -      -  46000
 45333  ------ ------   ------ ------        -      -        0      -  45333
 44000  ------ ------   ------ ------        0      -        0      -  44000
 42667  ------ ------   ------ ------        -      -        0      -  42667
 42000  ------ ------   ------ ------        0      -        -      -  42000
 41333  ------ ------   ------ ------        -      -        0      -  41333
 40000  ------ ------   ------ ------        0      -        0      -  40000
 38667  ------ ------   ------ ------        -      -        0      -  48667
 38000  ------ ------   ------ ------        0      -        -      -  38000
 37333  ------ ------   ------ ------        -      -        0      -  37333
```

```
 36000  ------ ------    ------ ------        0      -        0      -  36000
 34667  ------ ------    ------ ------        -      -        0      -  34667
 34000  ------ ------    ------ ------        0      -        -      -  34000
 33600  ------ ------         0      0        -      -        -      0  33600
 33333  ------ ------         -      -        -      -        0      -  33333
 32000  ------ ------         -      -        0      -        0      -  32000
 31200  ------ ------         0      0        -      0        -      0  31200
 30667  ------ ------         -      -        -      -        0      -  30667
 29333  ------ ------         -      -        -      -        0      -  29333
 28800       0      0         0      0        -      0        -      0  28800
 28000       -      -         -      -        -      -        0      -  28000
 26400       0      0         0      0        -      0        -      0  26400
 24000       0      0         0      0        -      0        -      0  24000
 21600       0      0         0      0        -      0        -      0  21600
 19200       0      0         0      0        -      0        -      0  19200
 16800       0      0         0      0        -      0        -      0  16800
 14400       0      0         0      0        -      0        -      0  14400
 12000       -      -         0      0        -      0        -      0  12000
  9600       -      -         0      0        -      0        -      0   9600
  7200       -      -         0      0        -      0        -      0   7200
  4800       -      -         0      0        -      0        -      0   4800
  2400       -      -         0      0        -      -        -      -   2400
 TOTAL     0000000          0000000          0000000          0000000     TOTAL
```

The following is sample output from the **show spe modem high speed** command on the Cisco AS5800 with universal port card:

```
Router# show spe modem high speed 1/8/1

    --  Indicates an invalid speed for a standard
#SPE 1/08/01   :
 Modln       V.FC          V.34            K56Flex           V.90       Modln
 Speed    Tx     Rx       Tx     Rx       Tx     Rx       Tx     Rx    Speed
 60000  ------ ------    ------ ------    000000 ------    ------ ------  60000
 58000  ------ ------    ------ ------         0 ------    ------ ------  58000
 56000  ------ ------    ------ ------         0      -         0      -  56000
 54667  ------ ------    ------ ------         -      -         0      -  54667
 54000  ------ ------    ------ ------         0      -         -      -  54000
 53333  ------ ------    ------ ------         -      -         0      -  53333
 52000  ------ ------    ------ ------         0      -         0      -  52000
 50667  ------ ------    ------ ------         -      -         0      -  50667
 50000  ------ ------    ------ ------         0      -         -      -  50000
 49333  ------ ------    ------ ------         -      -         0      -  49333
 48000  ------ ------    ------ ------         0      -         0      -  48000
 46667  ------ ------    ------ ------         -      -         0      -  46667
 46000  ------ ------    ------ ------         0      -         -      -  46000
 45333  ------ ------    ------ ------         -      -         0      -  45333
 44000  ------ ------    ------ ------         0      -         0      -  44000
 42667  ------ ------    ------ ------         -      -         0      -  42667
 42000  ------ ------    ------ ------         0      -         -      -  42000
 41333  ------ ------    ------ ------         -      -         0      -  41333
 40000  ------ ------    ------ ------         0      -         0      -  40000
 38667  ------ ------    ------ ------         -      -         0      -  38667
 38400  ------ ------    ------ ------         -      -         -      -  38400
 38000  ------ ------    ------ ------         0      -         -      -  38000
 37333  ------ ------    ------ ------         -      -         0      -  37333
 36000  ------ ------    ------ ------         0      -         0      -  36000
 34666  ------ ------    ------ ------         -      -         0      -  34666
 34000  ------ ------    ------ ------         0      -         -      -  34000
 33600  ------ ------         0      1        -      -         -      0  33600
 33333  ------ ------         -      -        -      -         0      -  33333
 32000  ------ ------         -      -        0      -         0      -  32000
 31200  ------ ------         6      1        -      0         -      0  31200
 30667  ------ ------         -      -        -      -         0      -  30667
```

```
29333  ------ ------        -      -        -      -        0      -  29333
28800       0      0        0      4        -      0        -      0  28800
28000       -      -        -      -        -      -        0      -  28000
26400       0      0        0      0        -      0        -      0  26400
24000       0      0        0      0        -      0        -      0  24000
21600       0      0        0      0        -      0        -      0  21600
19200       0      0        0      0        -      0        -      0  19200
16800       0      0        0      0        -      0        -      0  16800
14400       0      0        0      0        -      0        -      0  14400
12000       -      -        0      0        -      0        -      0  12000
 9600       -      -        0      0        -      0        -      0   9600
 7200       -      -        0      0        -      0        -      0   7200
 4800       -      -        0      0        -      0        -      0   4800
 2400       -      -        0      0        -      -        -      -   2400
TOTAL     0000000          0000012          0000000          0000000
```

Table 36 describes the significant fields shown in the display.

Table 36 show spe modem high speed Field Descriptions

Field	Description
SPE	The slot and port number of the SPE.
Modln Speed	Modem line speed, in bits per second.
Tx	The number of sent calls that occurred at this speed.
Rx	The number of received calls that occurred at this speed.

Related Commands

Command	Description
show spe modem low speed	Displays the total number of connections within each low modulation or codec for the specified SPEs.

show spe modem high standard

To display the total number of connections within each high modulation or codec for a specific range of service processing element (SPE), use the **show spe modem high standard** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem high standard {**summary** | *slot* | *slot*/*spe*}

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem high standard {**summary** | *shelf*/*slot* | *shelf*/*slot*/*spe*}

Syntax Description

summary	Displays a brief list of all modulation connections negotiated.
slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Examples

The following is sample output from the show spe modem high standard command on the Cisco AS5400 with the NextPort DFC. This example displays standard low-speed connections for SPEs in slot 5:

```
Router# show spe modem high standard 5

SPE/Mod->     V.FC     V.34  K56Flex     V.90
5/00             0        1        2        1
5/01             0        0        0        0
5/02             0        0        0        0
5/03             0        0        0        0
```

```
5/04              0         0         0         0
5/05              0         0         0         0
5/06              0         0         0         2
5/07              0         0         0         0
5/08              0         0         0         0
5/09              0         0         0         0
5/10              0         0         0         0
5/11              0         0         0         0
5/12              0         0         0         0
5/13              0         0         0         0
5/14              0         0         0         0
5/15              0         0         0         0
5/16              0         0         0         0
5/17              0         0         0         0
TOTAL     00000000  00000001  00000002  00000003
```

The following is sample output from the **show spe modem high standard** command on the Cisco AS5800 with the universal port card. This example displays standard low-speed connections for SPEs in slot 8:

```
Router# show spe modem high standard 1/8/1

SPE/Mod->     V.FC     V.34  K56Flex     V.90
1/08/01          0        6        0        0
TOTAL     00000000 00000006 00000000 00000000
```

Table 37 describes the significant fields shown in the display.

Table 37 show spe modem high standard Field Descriptions

Field	Description
SPE	The slot and port number of the SPE.
Mod	The modem type.

Related Commands

Command	Description
show spe modem low standard	Displays the total number of connections within each low modulation or codec for the SPE.

show spe modem low speed

To display the total number of connections within each low-speed modulation or codec for the specified service processing elements (SPEs), use the **show spe modem low speed** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem low speed {**summary** | {*slot* | *slot*/*spe*} [*slot* | *slot*/*spe*]}

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem low speed {**summary** | {*shelf*/*slot* | *shelf*/*slot*/*spe*} [*shelf*/*slot* | *shelf*/*slot*/*spe*]}

Syntax Description

summary	Displays a brief list of all modulation connections negotiated.
slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. A range of slots can be specified by entering a second value for the *slot* argument.
slot/*spe*	Ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark. A range of ports can be specified by entering a second value for the *slot*/*spe* argument.
shelf/*slot*	Ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark. A range of slots can be specified by entering a second value for the *shelf*/*slot* argument.
shelf/*slot*/*spe*	Ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks. A range of ports can be specified by entering a second value for the *shelf*/*slot*/*spe* argument.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Examples

The following is sample output from the **show spe modem low speed** command on the Cisco AS5400 with the NextPort DFC. This example displays standard low-speed connections:

```
Router# show spe modem low speed 1/0
```

```
#SPE 1/0    :                                <--     MODEM   FAX       -->
 Speed   B103   V.21   B212   V.22  V.22b   V.32  V.32b    V.27t   V.29   V.17
 14400 ------ ------ ------ ------ ------ ------     30   ------ ------      0
 12000 ------ ------ ------ ------ ------ ------      0   ------ ------      0
  9600 ------ ------ ------ ------ ------      0      0   ------      0      0
  7200 ------ ------ ------ ------ ------      -      0   ------      0      0
  4800 ------ ------ ------ ------ ------      0      0        0      0 ------
  2400 ------ ------ ------ ------      0 ------ ------        0 ------ ------
  1200 ------ ------      0      0      6 ------ ------   ------ ------ ------
   600 ------ ------ ------ ------ ------ ------ ------   ------ ------ ------
   300      0      0 ------ ------ ------ ------ ------   ------ ------ ------
 TOTAL 000000 000000 000000 000000 000006 000000 000030   000000 000000 000000
#SPE 1/1    :                                <--     MODEM   FAX       -->
 Speed   B103   V.21   B212   V.22  V.22b   V.32  V.32b    V.27t   V.29   V.17
 14400 ------ ------ ------ ------ ------ ------     30   ------ ------      0
 12000 ------ ------ ------ ------ ------ ------      0   ------ ------      0
  9600 ------ ------ ------ ------ ------      0      0   ------      0      0
  7200 ------ ------ ------ ------ ------      -      0   ------      0      0
  4800 ------ ------ ------ ------ ------      0      0        0      0 ------
  2400 ------ ------ ------ ------      0 ------ ------        0 ------ ------
  1200 ------ ------      0      0      6 ------ ------   ------ ------ ------
   600 ------ ------ ------ ------ ------ ------ ------   ------ ------ ------
   300      0      0 ------ ------ ------ ------ ------   ------ ------ ------
 TOTAL 000000 000000 000000 000000 000006 000000 000030   000000 000000 000000
```

The following is sample output from the **show spe modem low speed** command on the Cisco AS5800 with the universal port card. This example displays standard low-speed connections for SPEs in slot 8:

```
Router# show spe modem low speed 1/8/0 1/8/6

    --  Indicates an invalid speed for a standard
#SPE 1/08/00   :                          <--       MODEM   FAX       -->
 Speed   B103  V.21  B212  V.22 V.22b  V.23  V.32 V.32b   V.27t  V.29  V.17
 14400  ----- ----- ----- ----- ----- ----- -----     0   ----- -----     0
 12000  ----- ----- ----- ----- ----- ----- -----     0   ----- -----     0
  9600  ----- ----- ----- ----- ----- ----- -----     0     0   -----     0     0
  7200  ----- ----- ----- ----- ----- ----- -----     -     0   -----     0     0
  4800  ----- ----- ----- ----- ----- ----- -----     0     0       0     0 -----
  2400  ----- ----- ----- -----     0 ----- ----- -----       0 ----- -----
  1200  ----- -----     0     0     0     0 ----- -----   ----- ----- -----
   300      0     0 ----- ----- ----- ----- ----- -----   ----- ----- -----
 TOTAL  00000 00000 00000 00000 00000 00000 00000 00000   00000 00000 00000
```

Table 38 describes the significant fields shown in the display.

Table 38 show spe modem low speed Field Descriptions

Field	Description
SPE	The slot and port number of the SPE.
Speed	The modem line speed, in bits per second.
MODEM	The modem type.
FAX	The fax type.

Related Commands

Command	Description
show spe modem high standard	Displays the total number of connections within each high modulation or codec for a specific range of SPEs.

show spe modem low standard

To display the total number of connections within each low modulation or codec for the specified service processing elements (SPEs), use the **show spe modem low standard** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem low standard {**summary** | *slot* | *slot*/*spe*}

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem low standard {**summary** | *shelf*/*slot* | *shelf*/*slot*/*spe*}

Syntax Description

summary	Displays a brief list of all modulation connections negotiated.
slot	All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Examples

The following example displays standard low-speed connections for SPEs in slot 5 on the Cisco AS5400:

```
Router# show spe modem low standard 5
                                                <--        MODEM    FAX        -->
SPE/Mod->  B103  V.21  B212  V.22 V.22b  V.23  V.32 V.32b    V.27t  V.29  V.17
5/00          0     0     0     0     0     0     0     0        0     0     0
5/01          0     0     0     0     0     0     0     0        0     0     0
5/02          0     0     0     0     0     0     0     0        0     0     0
5/03          0     0     0     0     0     0     0     0        0     0     0
5/04          0     0     0     0     0     0     0     0        0     0     0
```

```
5/05          0     0     0     0     0     0     0     0        0     0     0
5/06          0     0     0     0     0     0     0     0        0     0     0
5/07          0     0     0     0     0     0     0     0        0     0     0
5/08          0     0     0     0     0     0     0     0        0     0     0
5/09          0     0     0     0     0     0     0     0        0     0     0
5/10          0     0     0     0     0     0     0     0        0     0     0
5/11          0     0     0     0     0     0     0     0        0     0     0
5/12          0     0     0     0     0     0     0     0        0     0     0
5/13          0     0     0     0     0     0     0     0        0     0     0
5/14          0     0     0     0     0     0     0     0        0     0     0
5/15          0     0     0     0     0     0     0     0        0     0     0
5/16          0     0     0     0     0     0     0     0        0     0     0
5/17          0     0     0     0     0     0     0     0        0     0     0
TOTAL     00000 00000 00000 00000 00000 00000 00000 00000    00000 00000 00000
```

The following example displays standard low-speed connections for SPEs in slot 8 on the Cisco AS5800:

```
Router# show spe modem low standard 1/8
                                          <--        MODEM    FAX        -->
SPE/Mod->  B103  V.21  B212  V.22 V.22b  V.23  V.32 V.32b   V.27t  V.29  V.17
1/08/00       0     0     0     0     0     0     0     0        0     0     0
1/08/01       0     0     0     0     0     0     0     0        0     0     0
1/08/02       0     0     0     0     0     0     0     0        0     0     0
1/08/03       0     0     0     0     0     0     0     0        0     0     0
1/08/04       0     0     0     0     0     0     0     0        0     0     0
1/08/05       0     0     0     0     0     0     0     0        0     0     0
1/08/06       0     0     0     0     0     0     0     0        0     0     0
1/08/07       0     0     0     0     0     0     0     0        0     0     0
1/08/08       0     0     0     0     0     0     0     0        0     0     0
1/08/09       0     0     0     0     0     0     0     0        0     0     0
1/08/10       0     0     0     0     0     0     0     0        0     0     0
1/08/11       0     0     0     0     0     0     0     0        0     0     0
1/08/12       0     0     0     0     0     0     0     0        0     0     0
1/08/13       0     0     0     0     0     0     0     0        0     0     0
1/08/14       0     0     0     0     0     0     0     0        0     0     0
1/08/15       0     0     0     0     0     0     0     0        0     0     0
1/08/16       0     0     0     0     0     0     0     0        0     0     0
1/08/17       0     0     0     0     0     0     0     0        0     0     0
1/08/18       0     0     0     0     0     0     0     0        0     0     0
1/08/19       0     0     0     0     0     0     0     0        0     0     0
1/08/20       0     0     0     0     0     0     0     0        0     0     0
                                          <--        MODEM    FAX        -->
SPE/Mod->  B103  V.21  B212  V.22 V.22b  V.23  V.32 V.32b   V.27t  V.29  V.17
1/08/21       0     0     0     0     0     0     0     0        0     0     0
1/08/22       0     0     0     0     0     0     0     0        0     0     0
1/08/23       0     0     0     0     0     0     0     0        0     0     0
1/08/24       0     0     0     0     0     0     0     0        0     0     0
1/08/25       0     0     0     0     0     0     0     0        0     0     0
1/08/26       0     0     0     0     0     0     0     0        0     0     0
1/08/27       0     0     0     0     0     0     0     0        0     0     0
1/08/28       0     0     0     0     0     0     0     0        0     0     0
1/08/29       0     0     0     0     0     0     0     0        0     0     0
1/08/30       0     0     0     0     0     0     0     0        0     0     0
1/08/31       0     0     0     0     0     0     0     0        0     0     0
1/08/32       0     0     0     0     0     0     0     0        0     0     0
1/08/33       0     0     0     0     0     0     0     0        0     0     0
1/08/34       0     0     0     0     0     0     0     0        0     0     0
1/08/35       0     0     0     0     0     0     0     0        0     0     0
1/08/36       0     0     0     0     0     0     0     0        0     0     0
1/08/37       0     0     0     0     0     0     0     0        0     0     0
1/08/38       0     0     0     0     0     0     0     0        0     0     0
1/08/39       0     0     0     0     0     0     0     0        0     0     0
1/08/40       0     0     0     0     0     0     0     0        0     0     0
```

```
1/08/41        0      0      0      0      0      0      0      0        0      0      0
1/08/42        0      0      0      0      0      0      0      0        0      0      0
                                                 <--         MODEM    FAX         -->
SPE/Mod->   B103   V.21   B212   V.22 V.22b   V.23   V.32 V.32b    V.27t   V.29   V.17
1/08/43        0      0      0      0      0      0      0      0        0      0      0
1/08/44        0      0      0      0      0      0      0      0        0      0      0
1/08/45        0      0      0      0      0      0      0      0        0      0      0
1/08/46        0      0      0      0      0      0      0      0        0      0      0
1/08/47        0      0      0      0      0      0      0      0        0      0      0
1/08/48        0      0      0      0      0      0      0      0        0      0      0
1/08/49        0      0      0      0      0      0      0      0        0      0      0
1/08/50        0      0      0      0      0      0      0      0        0      0      0
1/08/51        0      0      0      0      0      0      0      0        0      0      0
1/08/52        0      0      0      0      0      0      0      0        0      0      0
1/08/53        0      0      0      0      0      0      0      0        0      0      0
TOTAL      00000  00000  00000  00000  00000  00000  00000  00000    00000  00000  00000
```

Table 39 describes the significant fields shown in the displays.

Table 39 show spe modem low standard Field Descriptions

Field	Description
SPE	The slot and port number of the SPE.
MODEM	The modem type.
FAX	The fax type.

Related Commands

Command	Description
show spe modem high standard	Displays the total number of connections within each high modulation or codec for a specific range of SPE.

show spe modem summary

To display a summary of modem statistics for the specified service processing element (SPE) or range of SPEs, use the **show spe modem summary** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe modem summary [*slot* | *slot*/*spe*]

Cisco AS5800 with the Universal Port Card (UPC)

show spe modem summary [*shelf*/*slot* | *shelf*/*slot*/*spe*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	(Optional) All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	(Optional) All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was introduced on the Cisco AS5350.
12.2(2)XA	Disconnection reasons and states information were added.
12.2(2)XB	This command was integrated into Cisco IOS Release 12.2(2)XB.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Examples

The following is sample output from the **show spe modem summary** command on the Cisco AS5400:

```
Router# show spe modem summary

Async1/00 - 5/107, TTY216 - 755
     786 incoming completes          4 incoming failures
       0 outgoing completes          0 outgoing failures
       0 failed dial attempts        0 ring no answers          0 autotests
```

```
       0 no carriers                0 dial timeouts            0 autotest fails
       0 no dial tones              0 link failures            0 fail count
       0 watchdog timeouts          0 protocol errors          0 recovers

Transmit Speed Counters       :
 Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls
 60000        0  48000        0  38400        0  30666        0  12000        0
 58000        0  46666        0  38000        0  29333        0   9600        0
 56000        0  46000        0  37333        0  28800       10   7200        0
 54666        0  45333        0  36000        0  28000        0   4800        0
 54000        0  44000        0  34666        0  26400        0   2400        0
 53333        0  42666        0  34000        0  24000        0   1200        0
 52000        0  42000        0  33600      631  21600        0    300        0
 50666        0  41333        0  33333        0  19200        0
 50000        0  40000        0  32000        0  16800        0
 49333        0  38666        0  31200      145  14400        0

Receive Speed Counters        :
 Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls
 38400        0  26400        0  16800        0   7200        0    300        0
 33600      786  24000        0  14400        0   4800        0
 31200        0  21600        0  12000        0   2400        0
 28800        0  19200        0   9600        0   1200        0
```

The following is sample output from the **show spe modem summary** command on the Cisco AS5800:

```
Router# show spe modem summary

Async1/2/00 - 1/3/323, TTY972 - 1619
     4827 incoming completes        284 incoming failures
        0 outgoing completes          0 outgoing failures
        0 failed dial attempts        0 ring no answers          0 autotests
        0 no carriers                11 dial timeouts           0 autotest fails
        0 no dial tones               0 link failures            0 fail count
        0 watchdog timeouts        2787 protocol errors          0 recovers
Transmit Speed Counters
  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls  Speed Calls
  60000        0  48000      432  38400        0  30666        0  12000 143
  58000        0  46666        0  38000        4  29333        0   9600 5
  56000       15  46000       56  37333      111  28800      700   7200 11
  54666        0  45333      299  36000       84  28000        5   4800 2
  54000        0  44000      227  34666        0  26400      267   2400 0
  53333      123  42666        0  34000       39  24000       46   1200 3
  52000      563  42000       68  33600      323  21600       27    300 0
  50666        0  41333       38  33333        9  19200       38
  50000       59  40000       65  32000       20  16800       12
  49333      371  38666        0  31200      654  14400        5

Receive Speed Counters
  Speed    Calls  Speed    Calls  Speed    Calls  Speed    Calls  Speed Calls
  38400        0  26400     2286  16800       11   7200        1    300 2
  33600      113  24000      267  14400      139   4800        1
  31200      216  21600       56  12000        4   2400        3
  28800     1665  19200       47   9600       16   1200        0
```

Table 40 describes the significant fields shown in the display.

Table 40 show spe modem summary Field Descriptions

Field	Description
Summary of modem and SPE events follows:	
incoming completes and failures	Total number of incoming connection requests that the SPE answered and successfully or unsuccessfully connected with the remote DCE device.
outgoing completes and failures	Total number of outgoing connection requests that the SPE dialed and successfully or unsuccessfully connected with the remote DCE device.
failed dial attempts	Number of times the SPE attempted to dial out but the call failed to leave the modem.
ring no answers	Number of times the SPE rang but did not answer the call.
autotests	Number of times an autotest was run on the SPE.
no carriers	Number of times the SPE disconnected because no carrier was present.
dial timeouts	Number of times the SPE timed out while attempting to dial.
autotest fails	Number of times the SPE failed an autotest.
no dial tones	Number of times the dial-out attempt failed because the SPE failed to detect a dial tone.
link failures	Number of times the SPE detected a link failure.
fail count	Number of times the SPE failed.
watchdog timeouts	Number of times the SPE internal watchdog timer expired.
protocol errors	Number of times the SPE protocol failed to make a call connection.
recovers	Number of times the SPE recovered.
Transmit Speed Counters	List of connection speeds that were sent by the SPE.
Receive Speed Counters	List of connection speeds that were received by the SPE.
Transmit Speed Counters	List of connection speeds that were sent by the SPE.
Receive Speed Counters	List of connection speeds that were received by the SPE.

Related Commands

Command	Description
show port operational-status	Displays the operational status of a specific port or range of ports.
show spe	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.
show spe digital	Displays history statistics of all digital SPEs, in summary form or for SPEs starting with a specified slot or a specified shelf/slot/range of SPEs.
show spe modem disconnect-reason	Displays all modem disconnection reasons for the specified SPE or range of SPEs.

show spe recovery

To display service processing element (SPE) recovery statistics, use the **show spe recovery** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe recovery [*slot* | *slot*/*spe*]

Cisco AS5800 with the Universal Port Card (UPC)

show spe recovery [*shelf*/*slot* | *shelf*/*slot*/*spe*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark.
shelf/*slot*	(Optional) All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark.
shelf/*slot*/*spe*	(Optional) All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Use this command to display a list of recovered SPEs.

Examples

The following is sample output from the **show spe recovery** command on the Cisco AS5400:

```
Router# show spe recovery

SPE#      Session Abort   Session NAK   Call Failure
1/00                  0             0              0
1/01                  0             0              0
1/02                  0             0              0
1/03                  0             0              0
```

```
1/04                    0               0               0
1/05                    0               0               0
1/06                    0               0               0
1/07                    0               0               0
1/08                    0               0               0
1/09                    0               0               0
1/10                    0               0               0
1/11                    0               0               0
1/12                    0               0               0
1/13                    0               0               0
1/14                    0               0               0
1/15                    0               0               0
1/16                    0               0               0
1/17                    0               0               0
```

The following is sample output from the **show spe recovery** command on the Cisco AS5800:

```
Router# show spe recovery 1/8

SPE#       Session Abort   Session NAK   Call Failure
1/08/00                 0             0              0
1/08/01                 0             0              0
1/08/02                 0             0              0
1/08/03                 0             0              0
1/08/04                 0             0              0
1/08/05                 0             0              0
1/08/06                 0             0              0
1/08/07                 0             0              0
1/08/08                 0             0              0
1/08/09                 0             0              0
1/08/10                 0             0              0
1/08/11                 0             0              0
1/08/12                 0             0              0
1/08/13                 0             0              0
1/08/14                 0             0              0
1/08/15                 0             0              0
1/08/16                 0             0              0
1/08/17                 0             0              0
1/08/18                 0             0              0
1/08/19                 0             0              0
1/08/20                 0             0              0
1/08/21                 0             0              0
1/08/22                 0             0              0
1/08/23                 0             0              0
1/08/24                 0             0              0
1/08/25                 0             0              0
1/08/26                 0             0              0
1/08/27                 0             0              0
1/08/28                 0             0              0
1/08/29                 0             0              0
1/08/30                 0             0              0
1/08/31                 0             0              0
1/08/32                 0             0              0
1/08/33                 0             0              0
1/08/34                 0             0              0
1/08/35                 0             0              0
1/08/36                 0             0              0
1/08/37                 0             0              0
1/08/38                 0             0              0
1/08/39                 0             0              0
1/08/40                 0             0              0
1/08/41                 0             0              0
1/08/42                 0             0              0
1/08/43                 0             0              0
```

```
1/08/44             0               0               0
1/08/45             0               0               0
1/08/46             0               0               0
1/08/47             0               0               0
1/08/48             0               0               0
1/08/49             0               0               0
1/08/50             0               0               0
1/08/51             0               0               0
1/08/52             0               0               0
1/08/53             0               0               0
```

Related Commands

Command	Description
show spe	Displays SPE status.

show spe version

To display the firmware version on a service processing element (SPE), use the **show spe version** command in EXEC mode.

Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

show spe version [*slot* | *slot*/*spe*] [*slot* | *slot*/*spe*]

Cisco AS5800 with the Universal Port Card (UPC)

show spe version [*shelf*/*slot* | *shelf*/*slot*/*spe*] [*shelf*/*slot* | *shelf*/*slot*/*spe*]

Syntax Description

slot	(Optional) All ports on the specified slot. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. A range of slots can be specified by entering a second value for the *slot* argument.
slot/*spe*	(Optional) All ports on the specified slot and SPE. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. SPE values range from 1 to 17. You must include the slash mark. A range of ports can be specified by entering a second value for the *slot*/*spe* argument.
shelf/*slot*	(Optional) All ports on the specified shelf and slot. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must include the slash mark. A range of slots can be specified by entering a second value for the *shelf*/*slot* argument.
shelf/*slot*/*spe*	(Optional) All ports on the specified SPE. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must include the slash marks. A range of ports can be specified by entering a second value for the *shelf*/*slot*/*spe* argument.

Command Modes

EXEC

Command History

Release	Modification
12.0(7)T	This command was introduced.
12.1(1)XD	This command was implemented on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5350.

Usage Guidelines

Use the **show spe version** command to display the firmware version running on a specific SPE. If the *shelf*/*slot*/*spe* argument is specified, the firmware version for the identified SPE or range of SPEs is displayed. If the *slot* argument is specified, the firmware version for the identified SPEs in this slot or range of slots is displayed. If no argument is specified, all SPE versions are displayed.

The **show spe version** command also displays the version to firmware file mappings.

The **show spe version** command is similar to the **show modem mapping** MICA technologies modem command.

Examples

The following is sample output from the **show spe version** command on a Cisco AS5400:

```
Router# show spe version

IOS-Bundled Default Firmware-Filename              Version  Firmware-Type
====================================              =======  =============
system:/ucode/np_spe_firmware1                    0.6.5.5  SPE firmware
                                                  0.0.0.0  Portware

On-Flash Firmware-Filename                         Version  Firmware-Type
==========================                         =======  =============
flash:np.spe                                       0.6.4.5  SPE firmware

  SPE-# SPE-Type   SPE-Port-Range     Version    UPG Firmware-Filename
   4/00    CSMV6         0000-0005     0.6.5.5    N/A np.spe
   4/01    CSMV6         0006-0011     0.6.5.5    N/A ios-bundled default
   4/02    CSMV6         0012-0017     0.6.5.5    N/A ios-bundled default
   4/03    CSMV6         0018-0023     0.6.5.5    N/A ios-bundled default
   4/04    CSMV6         0024-0029     0.6.5.5    N/A ios-bundled default
   4/05    CSMV6         0030-0035     0.6.5.5    N/A ios-bundled default
   4/06    CSMV6         0036-0041     0.6.5.5    N/A ios-bundled default
   4/07    CSMV6         0042-0047     0.6.5.5    N/A ios-bundled default
   4/08    CSMV6         0048-0053     0.6.5.5    N/A ios-bundled default
   4/09    CSMV6         0054-0059     0.6.5.5    N/A ios-bundled default
   4/10    CSMV6         0060-0065     0.6.5.5    N/A ios-bundled default
   4/11    CSMV6         0066-0071     0.6.5.5    N/A ios-bundled default
   4/12    CSMV6         0072-0077     0.6.5.5    N/A ios-bundled default
   4/13    CSMV6         0078-0083     0.6.5.5    N/A ios-bundled default
   4/14    CSMV6         0084-0089     0.6.5.5    N/A ios-bundled default
   4/15    CSMV6         0090-0095     0.6.5.5    N/A ios-bundled default
   4/16    CSMV6         0096-0101     0.6.5.5    N/A ios-bundled default
   4/17    CSMV6         0102-0107     0.6.5.5    N/A ios-bundled default
```

The following is sample output from the **show spe version** command on a Cisco AS5800:

```
Router# show spe version 1/8

IOS-Bundled Default Firmware-Filename              Version  Firmware-Type
====================================              =======  =============
system:/ucode/np_spe_firmware1                    0.0.6.81 SPE firmware
system:/ucode/mica_board_firmware                 2.7.2.0  Mica Portware

On-Flash Firmware-Filename                         Version  Firmware-Type
==========================                         =======  =============
slot0:np_6_81.spe                                  0.0.6.81 SPE firmware
slot0:np_6_80.spe                                  0.0.6.80 SPE firmware
slot0:mica-modem-pw.2.7.1.1.bin                    2.7.1.0  Mica Portware
slot0:mica-modem-pw.2.7.2.0.bin                    2.7.2.0  Mica Portware

  SPE-# SPE-Type   SPE-Port-Range     Version    UPG Firmware-Filename
1/08/00    CSMV6         0000-0005    0.0.6.81    N/A ios-bundled default
1/08/01    CSMV6         0006-0011    0.0.6.81    N/A ios-bundled default
1/08/02    CSMV6         0012-0017    0.0.6.81    N/A ios-bundled default
1/08/03    CSMV6         0018-0023    0.0.6.81    N/A ios-bundled default
1/08/04    CSMV6         0024-0029    0.0.6.81    N/A ios-bundled default
1/08/05    CSMV6         0030-0035    0.0.6.81    N/A ios-bundled default
1/08/06    CSMV6         0036-0041    0.0.6.81    N/A ios-bundled default
1/08/07    CSMV6         0042-0047    0.0.6.81    N/A ios-bundled default
1/08/08    CSMV6         0048-0053    0.0.6.81    N/A ios-bundled default
```

```
1/08/09    CSMV6        0054-0059    0.0.6.81    N/A ios-bundled default
1/08/10    CSMV6        0060-0065    0.0.6.81    N/A ios-bundled default
1/08/11    CSMV6        0066-0071    0.0.6.81    N/A ios-bundled default
1/08/12    CSMV6        0072-0077    0.0.6.81    N/A ios-bundled default
1/08/13    CSMV6        0078-0083    0.0.6.81    N/A ios-bundled default
1/08/14    CSMV6        0084-0089    0.0.6.81    N/A ios-bundled default
1/08/15    CSMV6        0090-0095    0.0.6.81    N/A ios-bundled default
1/08/16    CSMV6        0096-0101    0.0.6.81    N/A ios-bundled default
1/08/17    CSMV6        0102-0107    0.0.6.81    N/A ios-bundled default
1/08/18    CSMV6        0108-0113    0.0.6.81    N/A ios-bundled default
1/08/19    CSMV6        0114-0119    0.0.6.81    N/A ios-bundled default
1/08/20    CSMV6        0120-0125    0.0.6.81    N/A ios-bundled default
1/08/21    CSMV6        0126-0131    0.0.6.81    N/A ios-bundled default
1/08/22    CSMV6        0132-0137    0.0.6.81    N/A ios-bundled default
1/08/23    CSMV6        0138-0143    0.0.6.81    N/A ios-bundled default
1/08/24    CSMV6        0144-0149    0.0.6.81    N/A ios-bundled default
1/08/25    CSMV6        0150-0155    0.0.6.81    N/A ios-bundled default
1/08/26    CSMV6        0156-0161    0.0.6.81    N/A ios-bundled default
1/08/27    CSMV6        0162-0167    0.0.6.81    N/A ios-bundled default
1/08/28    CSMV6        0168-0173    0.0.6.81    N/A ios-bundled default
1/08/29    CSMV6        0174-0179    0.0.6.81    N/A ios-bundled default
1/08/30    CSMV6        0180-0185    0.0.6.81    N/A ios-bundled default
1/08/31    CSMV6        0186-0191    0.0.6.81    N/A ios-bundled default
1/08/32    CSMV6        0192-0197    0.0.6.81    N/A ios-bundled default
1/08/33    CSMV6        0198-0203    0.0.6.81    N/A ios-bundled default
1/08/34    CSMV6        0204-0209    0.0.6.81    N/A ios-bundled default
1/08/35    CSMV6        0210-0215    0.0.6.81    N/A ios-bundled default
1/08/36    CSMV6        0216-0221    0.0.6.81    N/A ios-bundled default
1/08/37    CSMV6        0222-0227    0.0.6.81    N/A ios-bundled default
1/08/38    CSMV6        0228-0233    0.0.6.81    N/A ios-bundled default
1/08/39    CSMV6        0234-0239    0.0.6.81    N/A ios-bundled default
1/08/40    CSMV6        0240-0245    0.0.6.81    N/A ios-bundled default
1/08/41    CSMV6        0246-0251    0.0.6.81    N/A ios-bundled default
1/08/42    CSMV6        0252-0257    0.0.6.81    N/A ios-bundled default
1/08/43    CSMV6        0258-0263    0.0.6.81    N/A ios-bundled default
1/08/44    CSMV6        0264-0269    0.0.6.81    N/A ios-bundled default
1/08/45    CSMV6        0270-0275    0.0.6.81    N/A ios-bundled default
1/08/46    CSMV6        0276-0281    0.0.6.81    N/A ios-bundled default
1/08/47    CSMV6        0282-0287    0.0.6.81    N/A ios-bundled default
1/08/48    CSMV6        0288-0293    0.0.6.81    N/A ios-bundled default
1/08/49    CSMV6        0294-0299    0.0.6.81    N/A ios-bundled default
1/08/50    CSMV6        0300-0305    0.0.6.81    N/A ios-bundled default
1/08/51    CSMV6        0306-0311    0.0.6.81    N/A ios-bundled default
1/08/52    CSMV6        0312-0317    0.0.6.81    N/A ios-bundled default
1/08/53    CSMV6        0318-0323    0.0.6.81    N/A ios-bundled default
```

The following examples show various implementations of the **show spe version** command to display information about the available SPE sources and modem resources:

```
Router# show spe version

IOS-Bundled Default Firmware-Filename             Version  Firmware-Type
 ====================================              =======  =============
 system:/ucode/mica_board_firmware                 2.0.2.0  Mica Boardware
 system:/ucode/mica_port_firmware                  2.6.2.0  Mica Portware
 system:/ucode/microcom_firmware                   5.1.20   Microcom F/W and DSP

 On-Flash Firmware-Filename                        Version  Firmware-Type
 ==========================                        =======  =============
 flash:portware.2620.ios                           2.6.2.0  Mica Portware
 flash:mcom-modem-firmware.3.1.30.bin              3.1.30   Microcom Firmware
 flash:mcom-fw-dsp.5.1.9_47.22.bin                 5.1.9    Microcom F/W and DSP
 flash:R0620.ios                                   0.6.2.0  Mica Portware
```

```
 flash:pw2710.ios                                    2.7.1.0  Mica Portware
 flash:mica-modem-pw_2_7_1_0.bin                     2.7.1.0  Mica Portware

 SPE-# SPE-Type   SPE-Range     Version    Upgrade Firmware-Filename
 1/0   MICA-HMM   1/0   - 1/5   2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/1   MICA-HMM   1/6   - 1/11  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/2   MICA-HMM   1/12  - 1/17  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/3   MICA-HMM   1/18  - 1/23  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/5   MICA-HMM   1/30  - 1/35  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/6   MICA-HMM   1/36  - 1/41  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/7   MICA-HMM   1/42  - 1/47  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/9   MICA-HMM   1/54  - 1/59  2.7.1.0    N/A     flash:/pw2710.ios

 2/0   MCOM-V90   2/0           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/1   MCOM-V90   2/1           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/2   MCOM-V90   2/2           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/3   MCOM-V90   2/3           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/4   MCOM-V90   2/4           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/5   MCOM-V90   2/5           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/6   MCOM-V90   2/6           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/7   MCOM-V90   2/7           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/8   MCOM-V90   2/8           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/9   MCOM-V90   2/9           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/10  MCOM-V90   2/10          5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/11  MCOM-V90   2/11          5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/12  MCOM-V34   2/12          2.3(6)     N/A     feature_card_flash
 2/13  MCOM-V34   2/13          2.3(6)     N/A     feature_card_flash
 2/14  MCOM-V34   2/14          2.3(6)     N/A     feature_card_flash
 2/15  MCOM-V34   2/15          2.3(6)     N/A     feature_card_flash
 2/16  MCOM-V34   2/16          2.3(6)     N/A     feature_card_flash
 2/17  MCOM-V34   2/17          2.3(6)     N/A     feature_card_flash
 2/18  MCOM-V34   2/18          2.3(6)     N/A     feature_card_flash
 2/19  MCOM-V34   2/19          2.3(6)     N/A     feature_card_flash
 2/20  MCOM-V34   2/20          2.3(6)     N/A     feature_card_flash
 2/21  MCOM-V34   2/21          2.3(6)     N/A     feature_card_flash
 2/22  MCOM-V34   2/22          2.3(6)     N/A     feature_card_flash
 2/23  MCOM-V34   2/23          2.3(6)     N/A     feature_card_flash
```

```
Router# show spe version 1

 SPE-# SPE-Type   SPE-Range     Version    Upgrade Firmware-Filename
 1/0   MICA-HMM   1/0   - 1/5   2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/1   MICA-HMM   1/6   - 1/11  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/2   MICA-HMM   1/12  - 1/17  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/3   MICA-HMM   1/18  - 1/23  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/5   MICA-HMM   1/30  - 1/35  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/6   MICA-HMM   1/36  - 1/41  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/7   MICA-HMM   1/42  - 1/47  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/9   MICA-HMM   1/54  - 1/59  2.7.1.0    N/A     flash:/pw2710.ios
```

```
Router# show spe version 1/2

 SPE-# SPE-Type   SPE-Range     Version    Upgrade Firmware-Filename
 1/2   MICA-HMM   1/12  - 1/17  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
```

The following two examples show implementation of the **show spe version** command to display information about a range of SPEs:

```
Router# show spe version 1/2 2

 SPE-# SPE-Type   SPE-Range     Version    Upgrade Firmware-Filename
 1/2   MICA-HMM   1/12  - 1/17  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/3   MICA-HMM   1/18  - 1/23  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
```

```
 1/5   MICA-HMM   1/30  - 1/35  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/6   MICA-HMM   1/36  - 1/41  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/7   MICA-HMM   1/42  - 1/47  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/9   MICA-HMM   1/54  - 1/59  2.7.1.0    N/A     flash:/pw2710.ios
 2/0   MCOM-V90   2/0           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/1   MCOM-V90   2/1           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/2   MCOM-V90   2/2           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/3   MCOM-V90   2/3           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/4   MCOM-V90   2/4           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/5   MCOM-V90   2/5           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/6   MCOM-V90   2/6           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/7   MCOM-V90   2/7           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/8   MCOM-V90   2/8           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/9   MCOM-V90   2/9           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/10  MCOM-V90   2/10          5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/11  MCOM-V90   2/11          5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/12  MCOM-V34   2/12          2.3(6)     N/A     feature_card_flash
 2/13  MCOM-V34   2/13          2.3(6)     N/A     feature_card_flash
 2/14  MCOM-V34   2/14          2.3(6)     N/A     feature_card_flash
 2/15  MCOM-V34   2/15          2.3(6)     N/A     feature_card_flash
 2/16  MCOM-V34   2/16          2.3(6)     N/A     feature_card_flash
 2/17  MCOM-V34   2/17          2.3(6)     N/A     feature_card_flash
 2/18  MCOM-V34   2/18          2.3(6)     N/A     feature_card_flash
 2/19  MCOM-V34   2/19          2.3(6)     N/A     feature_card_flash
 2/20  MCOM-V34   2/20          2.3(6)     N/A     feature_card_flash
 2/21  MCOM-V34   2/21          2.3(6)     N/A     feature_card_flash
 2/22  MCOM-V34   2/22          2.3(6)     N/A     feature_card_flash
 2/23  MCOM-V34   2/23          2.3(6)     N/A     feature_card_flash

Router# show spe version 1/2 2/6

 SPE-# SPE-Type   SPE-Range     Version    Upgrade Firmware-Filename
 1/2   MICA-HMM   1/12  - 1/17  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/3   MICA-HMM   1/18  - 1/23  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
 1/5   MICA-HMM   1/30  - 1/35  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/6   MICA-HMM   1/36  - 1/41  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/7   MICA-HMM   1/42  - 1/47  2.7.1.0    N/A     system:/ucode/mica_port_firmware
 1/9   MICA-HMM   1/54  - 1/59  2.7.1.0    N/A     flash:/pw2710.ios
 2/0   MCOM-V90   2/0           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/1   MCOM-V90   2/1           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/2   MCOM-V90   2/2           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/3   MCOM-V90   2/3           5.1(20)    N/A     system:/ucode/microcom_firmware
 2/4   MCOM-V90   2/4           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/5   MCOM-V90   2/5           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin
 2/6   MCOM-V90   2/6           5.1(9)     N/A     flash:/mcom-fw-dsp.5.1.9_47.22.bin

Router# show spe version

IOS-Bundled Default Firmware-Filename              Version  Firmware-Type
===================================               =======  =============
system:/ucode/mica_board_firmware                 2.0.2.0  Mica Boardware
system:/ucode/mica_port_firmware                  2.6.2.0  Mica Portware
system:/ucode/microcom_firmware                   5.1.20   Microcom F/W and DSP

On-Flash Firmware-Filename                        Version  Firmware-Type
==========================                        =======  =============
flash:portware.2620.ios                           2.6.2.0  Mica Portware
flash:mcom-modem-firmware.3.1.30.bin              3.1.30   Microcom Firmware
flash:mcom-fw-dsp.5.1.9_47.22.bin                 5.1.9    Microcom F/W and DSP
flash:R0620.ios                                   0.6.2.0  Mica Portware
flash:pw2710.ios                                  2.7.1.0  Mica Portware
flash:mica-modem-pw_2_7_1_0.bin                   2.7.1.0  Mica Portware
```

```
SPE-# SPE-Type   SPE-Range     Version    Upgrade Firmware-Filename
1/0   MICA-HMM   1/0   - 1/5   2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
1/1   MICA-HMM   1/6   - 1/11  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
1/2   MICA-HMM   1/12  - 1/17  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
1/3   MICA-HMM   1/18  - 1/23  2.7.1.0    N/A     flash:mica-modem-pw_2_7_1_0.bin
```

For the Cisco AS5800, the **show spe version** command display will be different. Note that the SPE-Port-Range field indicates the shelf/slot/port of the SPE.

```
Router# show spe version

Firmware-Filename                                Version  Firmware-Type
=================                                =======  =============
IOS-Bundled Default                              2.6.2.0  Mica Portware
slot0:/pw2710.ios                                2.7.1.0  Mica Portware
slot0:/pw3102.ios                                3.1.0.2  Mica Portware
slot0:/pw3101.ios                                3.1.0.1  Mica Portware

SPE-# SPE-Type   SPE-Port-Range    Version    Upgrade Firmware-Filename
3/0   MICA-DMM   1/3/00 - 1/3/11   2.7.1.0    N/A     slot0:/pw2710.ios
3/1   MICA-DMM   1/3/12 - 1/3/23   2.7.1.0    N/A     slot0:/pw2710.ios
3/2   MICA-DMM   1/3/24 - 1/3/35   2.7.1.0    N/A     slot0:/pw2710.ios
3/3   MICA-DMM   1/3/36 - 1/3/47   2.7.1.0    N/A     slot0:/pw2710.ios
3/4   MICA-DMM   1/3/48 - 1/3/59   2.7.1.0    N/A     slot0:/pw2710.ios
3/5   MICA-DMM   1/3/60 - 1/3/71   2.7.1.0    N/A     slot0:/pw2710.ios
3/6   MICA-DMM   1/3/72 - 1/3/83   2.7.1.0    N/A     slot0:/pw2710.ios
3/7   MICA-DMM   1/3/84 - 1/3/95   2.7.1.0    N/A     slot0:/pw2710.ios
3/8   MICA-DMM   1/3/96 - 1/3/107  2.7.1.0    N/A     slot0:/pw2710.ios
```

Table 41 describes the significant fields for the **show spe version** command on the Cisco AS5800 access server.

Table 41 show spe version Field Descriptions

Field	Description
SPE-#	The slot and port number of the SPE.
SPE-Type	The type of the SPE.
SPE-Port-Range	The range of ports within the specific SPE.
Version	The version of firmware loaded on the SPE.
Upgrade	The method used to reboot the SPE—choices are: busyout (default), N/A, reboot, or recover.
Firmware-Filename	Name of the firmware. You can use the **dir** command at the prompt to display available firmware filenames.
IOS-Bundled Default Firmware-Filename	The firmware filenames bundled with the Cisco IOS software (system:/ucode).
Firmware-Type	The type of modem associated with the firmware version.
On-Flash Firmware-Filename	The firmware filenames on the Flash (flash:).

Related Commands

Command	Description
firmware location	Upgrades SPE firmware after the new SPE firmware image is retrieved from Cisco.com or elsewhere.
show modem mapping	Displays a snapshot of all the firmware versions running on all the modems in the access server.
show spe	Displays history statistics of all SPEs, a specified SPE, or the specified range of SPEs.

show tech-support modem

To create a modem ISDN channel aggregation (MICA) modem functionality report on a Cisco AS5300 or AS5800 access server, use the **show tech-support modem** command in privileged EXEC mode.

show tech-support modem [**detail**]

Syntax Description

detail	(Optional) Produces an extensive modem functionality report.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.2(11)T	This command was introduced for MICA technologies modems on the Cisco AS5300 and AS5800.

Usage Guidelines

This command is useful when information is required to troubleshoot a problem with MICA modems in the field. Customers are typically asked to send the output for a number of Cisco IOS EXEC commands. The **show tech-support modem** command provides extensive output of many EXEC commands through entry of a single command.

The report displayed by the **show tech-support modem** command is the successive output of many commands. The report takes some time to run and, when captured in a buffer, can be over 100 pages in length. The following commands are run by the **show tech-support modem** command. The commands are shown in the order run:

- **show version**
- **show running-config**
- **show modem version**
- **show modem**
- **show modem summary**
- **show spe version**
- **show controllers t1 call-counters**
- **show controllers e1 call-counters**
- **show modem connect-speeds**
- **show modem mapping**
- **show line**
- **show caller**
- **show users all**

The following additional commands are run by the **show tech-support modem detail** command. The commands are shown in the order run:

- **show modem configuration**
- **show modem operational-status**
- **show modem mica all**
- **show modem csm**
- **show modem log**

To interpret the modem reports, refer to the descriptions for each command in the appropriate command reference manual.

Examples

The following example shows how to display a basic list of modem reports:

```
Router# show tech-support modem
```

The following example shows how to display an extensive list of modem reports:

```
Router# show tech-support modem detail
```

Related Commands

Command	Description
execute-on	Executes a command on a line card to monitor and maintain information on the card (for example, a line card on a dial shelf).

show tech-support spe

To create a NextPort service processing element (SPE) modem functionality report on a Cisco AS5350, AS5400, AS5800, or AS5850 access server, use the **show tech-support spe** command in privileged EXEC mode.

show tech-support spe [**detail**]

Syntax Description

detail	(Optional) Produces an extensive modem functionality report.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.2(11)T	This command was introduced for SPE modems on the Cisco AS5350, AS5400, AS5800, and AS5850.

Usage Guidelines

This command is useful when information is required to troubleshoot a problem with SPE modems in the field. Customers are typically asked to send the output for a number of Cisco IOS EXEC commands. The **show tech-support spe** command provides extensive output of many EXEC commands by entering a single command.

The report displayed by the **show tech-support spe** command is the successive output of many commands. The report takes some time to run and, when captured in a buffer, can be over 100 pages in length. The following commands are run by the **show tech-support spe** command. The commands are shown in the order run:

- **show version**
- **show running-config**
- **show spe version**
- **show spe**
- **show spe modem summary**
- **show spe modem csr summary**
- **show spe modem disconnect-reason summary**
- **show spe recovery**
- **show csm call-rate**
- **show nextport mm**
- **show controllers e1 call-counters**
- **show controllers t1 call-counters**
- **show line**
- **show caller**
- **show users all**

The following additional commands are run by the **show tech-support spe detail** command. The commands are shown in the order run:

- **show csm modem**
- **show spe log**
- **show port modem log**

To interpret the modem reports, refer to the descriptions for each command listed in the appropriate command reference manual.

Examples

The following example shows how to display a basic list of modem reports:

```
Router# show tech-support spe
```

The following example shows how to display an extensive list of modem reports:

```
Router# show tech-support spe detail
```

Related Commands

Command	Description
execute-on	Executes a command on a line card to monitor and maintain information on the card (for example, a line card on a dial shelf).