

show port config

To display the active session's configuration parameters, use the **show port config** command in EXEC mode.

Cisco AS5400 with NextPort DFC

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

Cisco AS5800 with Universal Port Card

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

Syntax Description	slot	All ports on the specified slot. For the AS5400, slot values range from 0 to 7.
	slot/port	All ports on the specified slot and SPE. For the AS5400, slot values range from 0 to 7 and port values range from 0 to 107.
	shelf/slot	All ports on the specified shelf and slot. For the AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11.
	shelf/slot/port	All ports on the specified SPE. For the AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to 323.

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.

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** modem command.

Examples

The following is sample output from the **show port config** command on the Cisco AS5400 with NextPort DFC. This example shows port configuration for the modem service port slot 2, shelf 1:

```
Router# show port config 2/1

Slot/SPE/Port -- 2/0/1
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
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

```

The following example shows port configuration information for a digital service port slot 2, port 23 on the Cisco AS5400 with NextPort DFC.

```
Router# show port config 2/23
```

```

Slot/SPE/Port -- 2/3/23
Service Type                               : Digital service
Originate/Answer Mode                      : Answer
Data Bits Selection                        : 8
Parity Selection                           : No Parity
Stop bits Selection                         : 1
Modem Standard                             : reserved

```

The following example shows port configuration information for a digital service port slot 2, port 23 on the Cisco AS5800 with universal port card.

```
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

```

show port config

```

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 89 describes the significant fields shown in the displays.

Table 89 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.
Error Correction Autodetect Time-out value:	Maximum period during which the modem will run an automated detection machine upon the incoming data. Default is 5000 ms.
Protocol Negotiation Time-out value:	Maximum wait 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.
Error Correction Frame Length:	Buffer length; 64 to 1024 octets of data. Default is 256.
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.

Table 89 *show port config Field Descriptions (continued)*

Field	Description
MNP Error Correction:	MNP Disabled or MNP Originate and Answer enabled. Default is MNP Originate and Answer enabled.
Link Protocol Fallback:	Asynchronous framing (Start/Stop/Parity), Synchronous framing (Raw 8 bits to DSP), or Disconnect (Hang-up). Default is Asynchronous framing (Start/Stop/Parity).
DSP processor MVIP TDM slice:	0 to 15.
Calling Tone:	Disable or Send calling tone. Default is disable.
Guard Tone:	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 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 after a speed shift before allowing another speed shift. Default is 500 ms.
Fall Forward Timer:	Elapsed time with continuous good signal quality to cause a fall forward. Default is 10000 ms.
Fall Back Timer:	Elapsed time with bad signal quality to cause a fallback. Default is 500 ms.
Terminate Time-out:	Elapsed time after a disconnect request before forcing a link disconnect. 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 during link establishment before disconnection. Default is 40; 60 for K56Flex.
Lost Carrier To Hang-up Delay:	Maximum time without a carrier to cause the link disconnect. Default is 1400 ms.
Transmit Level Setting:	6dBm, 7dBm, 8dBm, -20dBm, or -21dBm. Default is 9 dBm.
Retrain Limit:	Maximum successive failed retrains to cause the link to disconnect. Default is 4.
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.

Table 89 *show port config Field Descriptions (continued)*

Field	Description
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). Default is no delay.
Automatic Answer:	Answer immediately, delay value (1 to 255 seconds). default is 1 second.
Escape Detection Character:	ASCII value (0 to 127). Default is 43.
Carriage Return Character:	ASCII value (0 to 127). Default is 13.
Line Feed Character:	ASCII value (0 to 127). Default is 10.
Backspace Character:	ASCII 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.

Cisco AS5400 with NextPort DFC

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



Note

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

Syntax Description

reverse	(Optional) Report displayed with most recent entry first.
<i>slot</i>	(Optional) All ports on the specified slot. For the AS5400, slot values range from 0 to 7.
<i>slot/port</i>	(Optional) All ports on the specified slot and SPE. For the AS5400, slot values range from 0 to 7 and port values range from 0 to 107.

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.

Examples

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

■ show port digital log

```

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 90 describes the significant fields shown in the display.

Table 90 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.
Digital State event:	The digital state: 0 - IDLE state 10 - CONNECTING state 30 - STEADY_STATE state 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.

Table 90 *show port digital log Field Descriptions (continued)*

Field	Description
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 log	Clears all event entries in the port level history event log.
show port digital log	Views port events with the most recent event first.

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 AS5400 with NextPort DFC

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

Cisco AS5800 with universal port card

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

Syntax Description	slot	(Optional) All ports on the specified slot. For the AS5400, slot values range from 0 to 7.
	slot/port	(Optional) All ports on the specified slot and SPE. For the AS5400, slot values range from 0 to 7 and port values range from 0 to 107.
	shelf/slot	(Optional) All ports on the specified shelf and slot. For the AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11.
	shelf/slot/port	(Optional) All ports on the specified SPE. For the AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to 323.

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.

Usage Guidelines	When there is no call on the specified port, the most recent call information is displayed. This command uses the calltracker database. To enable calltracker, 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 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
-----
```


show port modem log

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

Cisco AS5400 with NextPort DFC

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

Cisco AS5800 with Universal Port Card

```
show port modem log [reverse 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.
<i>slot</i>	(Optional) All ports on the specified slot. For the AS5400, slot values range from 0 to 7.
<i>slot/port</i>	(Optional) All ports on the specified slot and SPE. For the AS5400, slot values range from 0 to 7 and port values range from 0 to 107.
<i>shelf/slot</i>	(Optional) All ports on the specified shelf and slot. For the AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11.
<i>shelf/slot/port</i>	(Optional) All ports on the specified SPE. For the AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to 323.

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.

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 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 msec
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 Retrans              : 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

```

This 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 Retrans              : 0
EC Retransmission Count    : 0
Characters transmitted, received : 0, 0
Characters received BAD    : 0
PPP/SLIP packets transmitted, received : 0, 0

```

show port modem log

```

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 universal port card. 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 Retrans : 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 msec
    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 Retrans           : 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 91 describes the significant fields shown in the displays.

Table 91 *show port modem log Field Descriptions*

Field	Event State	Description
Port<slot/port> /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 MICA 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 transmitted 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 91 *show port modem log Field Descriptions (continued)*

Field	Event State	Description
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.42bis TX, V.42bis RX, V.42bis both, or MNP5 data compression.
	Connected standard	Standards protocol used to connect, which can be V.21, Bell103, V.22, V.22bis, Bell212, V.23, V.32, V.32bis, 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 transmitted.
	Frequency offset	+/-32 in 1/8 Hx steps.
	Round trip delay	Total round trip propagation delay of the link, which is expressed in milliseconds.
	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 91 show port modem log Field Descriptions (continued)

Field	Event State	Description
Dynamic event:	Current dynamic event of the MICA modem, which can be any of the following:	
	Sq value	Signal quality value, which can be between 0 and 7 (0 is the worst possible quality).
	Signal noise ratio	Expressed in decibels, which can be between 0 and 70 dB steps.
	Receive level	Expressed in decibels, which can be between 0 and -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 transmitted analog signal that has bounced off the remote modem's analog front end).
	Phase roll	+/-32 in 1/8 Hz steps.
	Total retrains	Count of total retrains.
	EC retransmission	Count of total error correction retransmissions that occurred during the duration of the link.
	Characters received, transmitted	Count of total characters received and transmitted.
	Characters received BAD	A subset of the above total (Characters received, transmitted). Represents the total number of parity error characters.
	PPP/SLIP packets received, transmitted	Total count of PPP/SLIP packets transmitted 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 the above (PPP/SLIP packets received, transmitted).
	EC packets transmitted, received	Count of total error correction frames transmitted or 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 above (EC packets transmitted, 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.
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 modem test

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

Cisco AS5400 with NextPort DFC

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

Cisco AS5800 with Universal Port Card

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

Syntax Description	slot	(Optional) All ports on the specified slot. For the AS5400, slot values range from 0 to 7.
	<i>slot/port</i>	(Optional) All ports on the specified slot and SPE. For the AS5400, slot values range from 0 to 7 and port values range from 0 to 107.
	<i>shelf/slot</i>	(Optional) All ports on the specified shelf and slot. For the AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11.
	<i>shelf/slot/port</i>	(Optional) All ports on the specified SPE. For the AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to 323.

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.

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 NextPort DFC. This example displays the results of the SPE startup test, SPE auto-test, 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

```

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

show port operational-status

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

Cisco AS5400 with NextPort DFC

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

Cisco AS5800 with Universal Port Card

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

Syntax Description	slot	All ports on the specified slot. For the AS5400, slot values range from 0 to 7.
	slot/port	All ports on the specified slot and SPE. For the AS5400, slot values range from 0 to 7 and port values range from 0 to 107.
	shelf/slot	All ports on the specified shelf and slot. For the AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11.
	shelf/slot/port	All ports on the specified SPE. For the AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to 323.

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.

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.

Examples The following is sample output from the **show port operational-status** command on the Cisco AS5400 with 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 msec
>Total Retrans               :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

```

■ **show port operational-status**

```

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 msec
Total Retrans                 : 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
.
.
.

```

Table 92 describes the significant fields shown in the displays.

Table 92 *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; data, fax, or voice.
Disconnect Reason Info	The reason for disconnect is displayed.
Modulation Standard	Modulation standard can be V.21, Bell103, V.22, V.22bis, Bell 212, V.23, V.32, V.32bis, V.32terbo, V.34, V.34+, or K56Flex 1.1.
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.42bis TX, V.42bis RX, V.42bis both, or MNP5 data compression.
Count. Characters transmitted/received	Count of total characters received and transmitted for SYNC/ASYN connections.

Table 92 show port operational-status Field Descriptions (continued)

Field	Description
Digital Pad	A digital pad can be implemented by the CO in order to attenuate a “hot” signal. Compensation boosts the signal the amount of the pad. Values can range from 0 to 7dB, with typical values being 0, 3, and 6dB. It is mandatory for K56Flex, but configurable for V.90 via S52. K56Flex only supports 0, 3, and 6 dB. V.90 supports steps of 1/8192 dB, but it is reported to the host insteps of 1/8 dB granularity.
Digital Pad Compensation	Compensation of padding detected in the network.
EC packets transmitted/received OK	EC packets transmitted 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 EC Retransmission.
EC Retransmission count	The number of times Nextport has gone into error recovery in the TX direction for a particular connection. The bigger the number, the worse the connection. However, this parameter should be weighed against the count produced by EC packets transmitted and received in order to determine if there should really be a concern.
Far End Echo Level	Over long connections, an echo is produced by impedance mismatches at 2 wire to 4 wire as well as 4 wire to 2 wire hybrid circuitry. The far end echo level (that portion of the transmitted analog signal that has bounced off of the remote modem's analog front end) may range from 0 to -90 in dBm.
Frequency Offset	It is the difference between the modulation carriers (frequency shift in the receive spectrum) between the expected RX carrier frequency and the actual RX carrier frequency.
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 Sq value is 4 to 7, the modem speeds shift up to a higher rate. If the Sq value is high (for example, 7) and the bit rate is low, then there may be a problem at the remote end receiver.
Modulation Standard	Modulation standard that can be V.21, Bell03, V.22, V.22bis, Bell212, V.23, V.32, V.32bis, V.32terbo, V.34, V.34+, K56Flex, or V.90.
Phase Jitter Frequency	Peak to peak differential between two signal points. Uncanceled phase jitter looks like “rocking” of the baseband 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).

Table 92 show port operational-status Field Descriptions (continued)

Field	Description
Phase Roll	Phase roll effects the echo signal coming back. A certain constellation pattern is transmitted from a modem and makes it to the central office. Some echoed form of this signal/constellation pattern is sent back. However, the constellation shape may be rotated from 0-359 degrees. This rotation is called the phase roll.
PPP/SLIP packets transmitted/received	Total count of PPP/SLIP packets transmitted 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 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 signalling. This information is only reported for K56Flex (by the analog modem) and is only found on a channelized line such as T1 or E1. The 6 LSBs of the returned value indicate the periodic RBS pattern where a 1 denotes a pulse code modulation (PCM) sample with a robbed bit.
Receive Level	This is the power of the received signal and ranges from 0 to -128 in dBm steps. 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.
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.
Self Test Error count	Total errors generated during a self-test run.
SNR	The ratio measurement 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. Lower than this and the quality of the connection diminishes. A 33.6-kbps connection demands an SNR of 38 to 39 dB. Also note that a "clean" line has an SNR of about 41 dB.
Total Retrans	Count of total retrans and speed shifts.
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
TX/RX Carrier Frequency	For TX, carrier frequency used by the local DCE. For RX, carrier frequency used by the remote DCE.
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 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.32bis, V.17), 16, 32, 64 (V.34, V.34+, V.90, K56flex), or no trellis coding (V.22, V.22bis, V.21, Bell212, Bell103, V.29, V.27).

Table 92 *show port operational-status Field Descriptions (continued)*

Field	Description
TX/RX Pre emphasis Index	Involves shaping the raw transmit spectrum in order to deal with spectrum roll-offs. The pre-emphasis index can take on the values 0 to 10. A zero denotes no reshaping. Typical values usually fall in the ranges 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 transmitted signal points. The signal states used to predict the sensitivity to certain transmission impairments. Values may be either none or active. This technique is used with V.34 and V.34+ standards.
TX/RX Nonlinear Encoding	Occurs during the training phase and moves the constellation's outer points away in order to deal with nonlinear distortion. Nonlinear distortion (0-200Hz) tends to effect the higher power signals. Moving the outer constellation points out reduces the chance of error. Values may be either none or active. MICA modems support nonlinear coding in both directions. This technique is used with V.34 and V.34+ standards.
TX/RX Precoding	Serves the same purpose as the pre-emphasis index but instead manages the bits and not the raw transmit signals. This is done only when asked and therefore will occur in the RX mode. The values may be either none or active. This technique is used with V.34 and V.34+ standards.
TX/RX Xmit Level Reduction	Effects 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 ask us to lower our TX signal. This technique is used with V.34 and V.34+ standards.

Related Commands

Command	Description
port modem autotest	Automatically and periodically performs a modem diagnostics test for modems inside the access server or router.
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	Connects two specified ports back-to-back and transfer a specified amount of data between the ports.

show ppp bap

To display the configuration settings and run-time status for a multilink bundle, use the **show ppp bap** command in privileged EXEC mode.

```
show ppp bap {group [name] | queues}
```

Syntax Description

group [name]	All or, optionally, a specific BACP bundle group.
queues	BACP queues.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.3	This command was introduced.

Examples

The following is sample output from the **show ppp bap group** command for the bundle group named bap-peer:

```
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 5773926
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 93](#) describes the significant fields shown in the display.

Table 93 show ppp bap 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 BACP negotiations called “race condition scenarios” in the BACP specification, this peer is deemed to have precedence over the remote peer.
state Idle	Internal state.
Outgoing requests	Current requests configured for outbound negotiation.
Incoming requests	Current requests allowed inbound negotiation.

Table 93 *show ppp bap Field Descriptions (continued)*

Field	Description
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.

Related Commands

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

show ppp mppe

To display Microsoft Point-to-Point Encryption (MPPE) information for an interface, use the **show ppp mppe** command in privileged EXEC mode.

```
show ppp mppe {serial | virtual-access} [number]
```

Syntax Description

serial	Displays MPPE information for all serial interfaces.
virtual-access	Displays MPPE information for all virtual-access interfaces.
<i>number</i>	(Optional) Specifies an interface number. Issuing the optional <i>number</i> argument restricts the display to MPPE information for only the specified interface number.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.0(5)XE5	This command was introduced.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.

Usage Guidelines

None of the fields in the output from the **show ppp mppe** command are fatal errors. Excessive packet drops, misses, out of orders, or CCP-Resets indicate that packets are getting lost. If you see such activity and have stateful MPPE configured, you may want to consider switching to stateless mode.

Examples

The following example displays MPPE information for virtual-access interface 3:

```
Router# show ppp mppe virtual-access 3
```

```
Interface Virtual-Access3 (current connection)
  Hardware (ISA5/1, flow_id=13) encryption, 40 bit encryption, Stateless mode
  packets encrypted = 0      packets decrypted = 1
  sent CCP resets = 0      receive CCP resets = 0
  next tx coherency = 0    next rx coherency = 0
  tx key changes = 0      rx key changes = 0
  rx pkt dropped = 0      rx out of order pkt= 0
  rx missed packets = 0
```

To update the key change information, reissue the **show ppp mppe virtual-access 3** command:

```
Router# show ppp mppe virtual-access 3
```

```
Interface Virtual-Access3 (current connection)
  Hardware (ISA5/1, flow_id=13) encryption, 40 bit encryption, Stateless mode
  packets encrypted = 0      packets decrypted = 1
  sent CCP resets = 0      receive CCP resets = 0
  next tx coherency = 0    next rx coherency = 0
  tx key changes = 0      rx key changes = 1
  rx pkt dropped = 0      rx out of order pkt= 0
  rx missed packets = 0
```

Table 94 describes the significant fields shown in the displays.

Table 94 *show ppp mppe Field Descriptions*

Field	Description
packets encrypted	Number of packets that have been encrypted.
packets decrypted	Number of packets that have been decrypted.
sent CCP resets	Number of CCP-Resets sent. One CCP-Reset is sent for each packet loss that is detected in stateful mode. When using stateless MPPE, this field is always zero.
next tx coherency	The coherency count (the sequence number) of the next packet to be encrypted.
next rx coherency	The coherency count (the sequence number) of the next packet to be decrypted.
key changes	Number of times the session key has been reinitialized. In stateless mode, the key is reinitialized once per packet. In stateful mode, the key is reinitialized every 256 packets or when a CCP-Reset is received.
rx pkt dropped	Number of packets received and dropped. A packet is dropped because it is suspected of being a duplicate or already received packet.
rx out of order pkt	Number of packets received that are out of order.

Related Commands

Command	Description
encryption mppe	Enables MPPE encryption on the virtual template.
pptp flow-control static-rtt	Specifies the timeout interval of the tunnel server between sending a packet to the client and receiving a response.

show ppp multilink

To display bundle information for the Multilink PPP bundles, use the **show ppp multilink** command in EXEC mode.

show ppp multilink

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 the output when no bundles are on a system:

```
Router# show ppp multilink

No active bundles
```

The following is the output when a single Multilink PPP bundle (named rudder) is on a system:

```
Router# show ppp multilink

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

The following is the output when two active bundles are on a system. Subsequent bundles would be displayed below the previous bundle.

```
Router# show ppp multilink

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

The following example shows output when a stack group has been created. On stack group member systema, Multilink PPP bundle hansolo 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.

```
systema# show ppp multilink

Bundle hansolo 2 members, Master link is Virtual-Access4
0 lost fragments, 0 reordered, 0 unassigned, 100/255 load
0 discarded, 0 lost received, sequence 40/66 rcvd/sent
members 2
Serial0:4
systemb:Virtual-Access6 (10.1.1.1)
```

The following is an example of output when the PPP BACP is enabled for the multilink bundle:

```
systema# show ppp multilink

Bundle bap-peer, 1 member, Master link is Virtual-Access1
Bundle under BAP control
Dialer Interface is Dialer1
    0 lost fragments, 0 reordered, 0 unassigned, sequence 0x0/0x0 rcvd/sent
    0 discarded, 0 lost received, 1/255 load

Member links: 1
BRI0:1

Discriminators Local Remote
BRI0:1          24      1
```

Table 95 describes significant fields when PPP BACP is enabled.

Table 95 *show ppp multilink Field Descriptions*

Field	Description
Bundle	Configured name of the multilink bundle.
1 member	Number of interfaces in the group.
Master link is Virtual-Access1	Multilink bundle virtual interface.
Bundle under BAP control	Multilink bundle is controlled and bandwidth is allocated by BACP.
Dialer Interface is Dialer1	Name of the interface that dials the calls.
1/255 load	Load on the link in the range 1/255 to 255/255. (255/255 is a 100% load.)
Member links: 1	Number of child interfaces.
BRI0:1	Identity of the child interface. Link 1 is using physical interface BRI 0:1.
Discriminators Local Remote BRI0:1 24 1	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.

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 96 describes the significant fields shown in the display.

Table 96 *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 96 *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 RAPI 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 RAPI 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 ID	TYPE	CALL STATUS
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 RAPI server on the 800 series router and, optionally, sets the TCP port number.

show redundancy

To display current or historical status and related information on redundant Dial Shelf Controller (DSC), use the **show redundancy** command in privileged EXEC mode.

show redundancy [history]

Syntax Description	history	(Optional) Past status and related information on the redundant DSCs.
--------------------	---------	---

Defaults This command is issued on a per-use basis.

Command Modes Privileged EXEC

Command History	Release	Modification
	11.3(6)AA	This command was introduced.

Usage Guidelines This command is issued from the router shelf console. The command is issued on a once-each-time basis and therefore does not have to be turned off.

Examples The following is sample output from the **show redundancy** command:

```
Router# show redundancy
DSC in slot 12:

Hub is in 'active' state.
Clock is in 'active' state.

DSC in slot 13:

Hub is in 'backup' state.
Clock is in 'backup' state.

Router#
```

The following is sample output from the **show redundancy history** command:

```
Router# show redundancy history
DSC Redundancy Status Change History:

981130 18:56 Slot 12 DSC: Hub, becoming active - RS instruction
981130 19:03 Slot 12 DSC: Hub, becoming active - D13 order
```

Related Commands	Command	Description
	debug redundancy	Displays information used for troubleshooting dual (redundant) DSC cards.
	hw-module	Enables the router shelf to stop a DSC or to restart a stopped DSC.

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.

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

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.

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 97](#) describes the significant fields shown in the display.

Table 97 *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	<i>name</i>	(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

```
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 98](#) describes the significant fields shown in the display.

Table 98 *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 98 *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

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

Defaults

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 99 describes the significant fields shown in the displays.

Table 99 *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	<i>name</i>	(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 100](#) displays the significant fields shown in the display.

Table 100 *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 see the contents of a specific virtual private dial-up 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 inside the network access server.
profile	All the VPDN profiles configured inside the network access server.
<i>name</i>	(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 see the contents of a specific VPDN group.

Example 1

This example shows specific information about a VPDN group:

```
Router# show resource-pool vpdn group customer2-vpdng

VPDN Group customer2-vpdng found under Customer Profiles: customer2

Tunnel (LTP)
-----
dnis:customer2-calledg
hp.com

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

Example 2

The following example shows all the VPDN groups configured inside the network access server:

```
Router# show resource-pool vpdn group

List of VPDN Groups under Customer Profiles
Customer Profile user1: big
Customer Profile user2: green
List of VPDN Groups under VPDN Profiles
VPDN Profile lggate: vpdnlgate
VPDN Profile yellow: hi
```

Table 101 describes the significant fields shown in the displays.

Table 101 *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 customer profiles. The VPDN profile name is listed first, followed by the VPDN group assigned to it.

Example 3

The following example shows a list of all VPDN profiles:

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

```
% List of VPDN Profiles:
  lg-hmgate
  lggate
  yellow
```

Example 4

The following example shows details about a specific VPDN profile:

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

```
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 102 describes the significant fields shown in the displays.

Table 102 *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.