show async status

To display the status of activity on all lines configured for asynchronous support, use the **show async status** command in privileged EXEC mode.

show async status

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines

The display resulting from this command shows all asynchronous sessions, whether they are using Serial Line Internet Protocol (SLIP) or PPP encapsulation.

Examples

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

```
Router# show async status

Async protocol statistics:
  Rcvd: 5448 packets, 7682760 bytes
        1 format errors, 0 checksum errors, 0 overrun, 0 no buffer
  Sent: 5455 packets, 7682676 bytes, 0 dropped


  Tty         Local          Remote Qd InPack OutPac Inerr  Drops  MTU Qsz
    1     192.168.7.84       Dynamic  0      0      0     0      0 1500  10
*   3     192.168.7.98          None  0   5448   5455     1      0 1500  10
```

Table 23 describes the significant fields shown in the display.

Table 23   show async status Field Descriptions

Field	Description
Rcvd	Statistics on packets received.
5448 packets	Packets received.
7682760 bytes	Total number of bytes.
1 format errors	Spurious characters received when a packet start delimiter is expected.
0 checksum errors	Count of checksum errors.
0 overrun	Number of giants received.
0 no buffer	Number of packets received when no buffer was available.
Sent	Statistics on packets sent.

Table 23   show async status Field Descriptions (continued)

Field	Description
5455 packets	Packets sent.
7682676 bytes	Total number of bytes.
0 dropped	Number of packets dropped.
Tty	Line number.
*	Line currently in use.
Local	Local IP address on the link.
Remote	Remote IP address on the link; "Dynamic" indicates that a remote address is allowed but has not been specified; "None" indicates that no remote address is assigned or being used.
Qd	Number of packets on hold queue (Qsz is the maximum).
InPack	Number of packets received.
OutPac	Number of packets sent.
Inerr	Number of total input errors; sum of format errors, checksum errors, overruns and no buffers.
Drops	Number of packets received that would not fit on the hold queue.
MTU	Current maximum transmission unit size.
Qsz	Current output hold queue size.

show busyout

To display the busyout status for a card on the dial shelf, use the **show busyout** command in privileged EXEC mode.

show busyout *shelf*[/*slot*[/*port*]]

Syntax Description

shelf/*slot*/*port*	Shelf number and, optionally for a specific report about a card, a slot and a port number; for example, 1/0/5. Commands entered without the slot or port number provide reports about all cards on the dial shelf. The forward slash (/) is required.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.3(2)AA	This command was introduced.

Usage Guidelines

Use the **busyout** EXEC command or the **ds0 busyout** controller command to configure modem busyout.

Examples

The following is sample output from the **show busyout** command for a trunk card in slot 4 located in dial shelf 1, with busyout pending:

```
Router# show busyout 1/4
Controller t1 busyout status:
(s - static d - dynamic p - pending)
1/4/0  :ppppppppppppppppppppppppp.
1/4/1  :sssssssssssssssssssssss.
1/4/2  :ppppppppppppppppppppppppp.
1/4/3  :ddddddddddddddddddddddd.
1/4/4  :ppppppppppppppppppppppppp.
1/4/5  :ppppppppppppppppppppppppp.
1/4/6  :ppppppppppppppppppppppppp.
1/4/7  :sssssssssssssssssssssss.
1/4/8  :ppppppppppppppppppppppppp.
1/4/9  :ppppppppppppppppppppppppp.
1/4/10 :ddddddddddddddddddddddd.
1/4/11 :ppppppppppppppppppppppppp.
Router#
```

See Table 24 to further interpret the display.

The following is sample output from the **show busyout** command for a modem card in shelf 1, slot 9, and indicates the busyout is complete:

```
Router# show busyout 1/9

Slot 1/9: Busyout (no calls remaining)
```

The following is sample output from the **show busyout** command, the **busyout** command, the **ds0 busyout** command, and another **show busyout** command:

```
Router# show busyout 1/0

Controller t1 busyout status:
(s - static d - dynamic p - pending)
1/0/0  :ppppppppppppppppppppppppp.
1/0/1  :ppppppppppppppppppppppppp.
1/0/2  :ppppppppppppppppppppppppp.
1/0/3  :ddddddddddddddddddddddddd.
1/0/4  :ppppppppppppppppppppppppp.
1/0/5  :ppppppppppppppppppppppppp.
1/0/6  :ppppppppppppppppppppppppp.
1/0/7  :sssssssssssssssssssssssss.
1/0/8  :ppppppppppppppppppppppppp.
1/0/9  :ppppppppppppppppppppppppp.
1/0/10 :ddddddddddddddddddddddddd.
1/0/11 :ppppppppppppppppppppppppp.


Router# configure terminal

Enter configuration commands, one per line. End with CNTL/Z.
Router (config)# controller t1 1/0/1
Router (config-controller)# busyout
Router (config-controller)# ds0 busyout 15-24
Router (config-controller)# end


Router# show busyout 1/0

Controller t1 busyout status:
(s - static d - dynamic p - pending)
1/0/0  :ppppppppppppppppppppppppp.
1/0/1  :sssssssssssssssssssssssss.
1/0/2  :ppppppppppppppppppppppppp.
1/0/3  :ddddddddddddddddddddddddd.
1/0/4  :ppppppppppppppppppppppppp.
1/0/5  :ppppppppppppppppppppppppp.
1/0/6  :ppppppppppppppppppppppppp.
1/0/7  :sssssssssssssssssssssssss.
1/0/8  :ppppppppppppppppppppppppp.
1/0/9  :ppppppppppppppppppppppppp.
1/0/10 :ddddddddddddddddddddddddd.
1/0/11 :ppppppppppppppppppppppppp.
```

Table 24 describes the significant fields shown in the **show busyout** displays.

Table 24   show busyout Field Descriptions

Field	Description
s - static	The channel is in an out-of-service state because of a **busyout** command.
d - dynamic	The channel is automatically put in an out-of-service state because of a preset and defined threshold. By default, this feature is disabled. This autobusyout function of the **modem busyout-threshold** global configuration command is used to define a threshold when you want to maintain a balance between the number of DS0s and modems.
p - pending	After you hang up, the established call is terminated because of a **busyout** command. After the call terminates, the DS0 is busied out.

Related Commands

Command	Description
busyout	Informs the central-office switch that a channel is out of service.
ds0 busyout (channel)	Forces a DS0 time slot on a controller into the busyout state.
modem busyout	Disables a modem from dialing or answering calls whereby the disabling action is not executed until the active modem returns to an idle state.
modem busyout-threshold	Maintains a balance between the number of DS0s and modems.
modem shutdown	Abruptly shuts down an active or idle modem installed in an access server or router.

show call calltracker active

To display all information stored within the Call Tracker active database for all active calls, use the **show call calltracker active** command in privileged EXEC mode.

show call calltracker active [category [isdn | modem | other | v110 | v120]]

Syntax Description

category	(Optional) Displays Call Tracker data for a specific type of call. The default is to show all calls, regardless of type. By specifying the **category** keyword with one of the optional modem type keywords (**isdn**, **modem**, **other**, **v110**, **v120**), Call Tracker shows only those calls whose records indicate that category.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.1(3)T	This command was introduced.

Usage Guidelines

This command allows you to display call activity for a single supported call category type, if desired, by using the **category** keyword with one of the optional keywords.

Examples

The following example shows Call Tracker activity for modem calls:

```
Router# show call calltracker active category modem

------------------------ call handle=0000000058 -------------------------
status=Active, service=PPP, origin=Answer, category=Modem
DS0 slot/cntr/chan=0/0/22, called=71071, calling=6669999
userid=maverick5200, ip=172.19.4.2, mask=255.255.255.0
setup=10/16/1999 18:29:20, conn=0.10, phys=17.00, service=24.71, authen=24.71
init rx/tx b-rate=28800/33600, rx/tx chars=0/0
resource slot/port=1/1, mp bundle=0, charged units=0, account id=75
idb handle=0x6185B968, tty handle=0x612F8598, 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.34+, initial=V.34+

snr=35 dB, sq=3, rx/tx level=-16/-15 dBm
phase jitter: freq=0 Hz, level=0 degrees
far end echo level=-83 dBm, freq offset=0 Hz
phase roll=-99 degrees, round-trip delay=1 msecs
digital pad=None dB, digital pad comp=0
rbs pattern=0, constellation=16 point
rx/tx: symbol rate=3429/3429, carrier freq=1959/1959
rx/tx: trellis code=0/0, preemphasis index=6/0
rx/tx: constellation shape=Off/On, nonlinear encode=Off/On
rx/tx: precode=Off/On, xmit level reduct=2/2 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=28800/33600, lowest=28800/33600, highest=28800/33600
phase 2 projected max rx b-rate: client=19200, host=24000
phase 4 desired rx/tx b-rate: client=28800/33600, host=28800/33600
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=No Attempt, client=(n/a), failure=None

rx/tx: max neg I frame=128/128, neg window=15/15
v42bis size: dictionary=1024, string=64
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)=16, disc reason=0x0
disc text=(n/a)

                --------5---------10--------15--------20--------25--------30
line shape  : 0x19202121202021202020212020202020202020201F1D191100
v8bis capab : 0x0000000000000000000000000000000000000000000
v8bis mod sl: 0x0000000000000000000000000000000000000000000
v8 jnt menu : 0x01E0C14513942A000000000000000000000000000000
v8 call menu: 0x01C14513942A00000000000000000000000000000000
v90 training: 0x00000000
v90 sgn ptrn: 0x00000000
state trnsn : 0x0001020304102040424243FF000000000000000000000000000000000000
              0000
portwre diag: 0x0000000000000000000000000000000000
phase 2 info: 0x010000F4EF221FF37E0001E4EFA21FF2E30001A4EF980101B7CF98003C00
              00000024EF40000502160AE0304DFFFECE07A707A70D650D6500
phase 4 info: 0x01834070808340708000
```

show call calltracker handle

To display all information stored within the Call Tracker active or history database table for a specified unique call handle identifier, use the **show call calltracker handle** command in privileged EXEC mode.

> **show call calltracker handle** *call-identifier*

Syntax Description

call-identifier	Unique call identifier (*handle*) assigned by Call Tracker from the moment a DS0 B channel is requested. This identifier is a sequential number starting with handle 1.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.1(3)T	This command was introduced.

Usage Guidelines

Each call managed by Call Tracker is assigned a unique call handle that is provided to users using the Simple Network Management Protocol (SNMP), the command line interface, or SYSLOG for all forms of data transfers. Knowing this call handle makes it easier to display the information desired for a given call than to manually search through all Call Tracker database tables for latest updates.

Examples

The following is sample output from the **show call calltracker handle** command:

```
Router# show call calltracker handle 30

------------------------- call handle=0000000030 -------------------------
status=History, service=None, origin=Answer, category=Other
DS0 slot/cntr/chan=0/0/22, called=71071, calling=6669999
userid=(n/a), ip=0.0.0.0, mask=0.0.0.0
setup=10/16/1999 18:29:20, conn=0.00, phys=0.00, service=0.00, authen=0.00
init rx/tx b-rate=0/0, rx/tx chars=0/0
resource slot/port=(n/a)/(n/a), mp bundle=0, charged units=0, account id=0
duration(sec)=0.00, disc subsys=CSM, disc code=0x1A
disc text=Failed to find DSP resource
--------------------------------------------------------------------------
```

Related Commands

Command	Description
show call calltracker active	Displays all information stored within the Call Tracker active database for all active calls.
show call calltracker history	Displays all the information stored within the Call Tracker history database table for the most recent disconnected calls.
show call calltracker summary	Displays Call Tracker activity and configuration information such as the number of active calls and the history table attributes.

show call calltracker history

To display all information stored within the Call Tracker history database table for the most recent disconnected calls, use the **show call calltracker history** command in privileged EXEC mode.

show call calltracker history [**category** [**isdn** | **modem** | **other** | **v110** | **v120**]]

Syntax Description	**category**	(Optional) Displays Call Tracker history data for a specific type of call. The default is to show all calls, regardless of type. By specifying the **category** keyword with one of the optional modem type keywords (**isdn**, **modem**, **other**, **v110**, **v120**), Call Tracker shows only those calls whose records indicate that category.

Command Modes   Privileged EXEC

Command History

Release	Modification
12.1(3)T	This command was introduced.

Usage Guidelines   This command allows you to display only calls for a single supported call category type, if desired, by using the **category** keyword with one of the optional keywords.

Examples   The following example shows the history of all Call Tracker activity:

```
Router# show call calltracker history

------------------------- call handle=0000000030 -------------------------
status=History, service=None, origin=Answer, category=Other
DS0 slot/cntr/chan=0/0/22, called=71071, calling=6669999
userid=(n/a), ip=0.0.0.0, mask=0.0.0.0
setup=10/16/1999 18:29:15, conn=0.00, phys=0.00, service=0.00, authen=0.00
init rx/tx b-rate=0/0, rx/tx chars=0/0
resource slot/port=(n/a)/(n/a), mp bundle=0, charged units=0, account id=0
duration(sec)=0.00, disc subsys=CSM, disc code=0x1A
disc text=Failed to find DSP resource
--------------------------------------------------------------------------
------------------------- call handle=0000000031 -------------------------
status=History, service=PPP, origin=Answer, category=Modem
DS0 slot/cntr/chan=0/1/2, called=71071, calling=(n/a)
userid=testme, ip=0.0.0.0, mask=0.0.0.0
setup=10/16/1999 18:29:20, conn=3.12, phys=20.63, service=22.74, authen=0.00
init rx/tx b-rate=31200/31200, rx/tx chars=221/120
resource slot/port=1/1, mp bundle=0, charged units=0, account id=0
duration(sec)=27.95, disc subsys=PPP, disc code=0x12
disc text=Invalid Username
--------------------------------------------------------------------------
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.34+, initial=V.34+

snr=36 dB, sq=3, rx/tx level=-17/-14 dBm
phase jitter: freq=0 Hz, level=0 degrees
```

```
far end echo level=-77 dBm, freq offset=0 Hz
phase roll=-98 degrees, round-trip delay=2 msecs
digital pad=None dB, digital pad comp=0
rbs pattern=0, constellation=16 point
rx/tx: symbol rate=3429/3429, carrier freq=1959/1959
rx/tx: trellis code=0/0, preemphasis index=6/3
rx/tx: constellation shape=Off/On, nonlinear encode=Off/On
rx/tx: precode=Off/On, xmit level reduct=2/1 dBm

rx/tx: chars=221/120, general info=0x0
rx/tx: link layer chars=242/167, NAKs=0/0
error corrected: rx/tx=19/9, rx bad=32
ec retransmissions=0, retransmitted frames=0
rx/tx ppp slip=4/5, bad ppp slip=0

rx/tx b-rate: last=31200/31200, lowest=31200/31200, highest=31200/31200
phase 2 projected max rx b-rate: client=19200, host=24000
phase 4 desired rx/tx b-rate: client=31200/31200, host=31200/33600
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=No Attempt, client=(n/a), failure=None

rx/tx: max neg I frame=128/128, neg window=15/15
v42bis size: dictionary=1024, string=64
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)=24, disc reason=0xDF03
disc text= Tx (host to line) data flushing - OK/Requested by host/DTR dropped

                  --------5---------10--------15--------20--------25--------30
line shape  : 0x19202121202021202020202020202020202020201F1D191100
v8bis capab : 0x0000000000000000000000000000000000000000000000
v8bis mod sl: 0x0000000000000000000000000000000000000000000000
v8 jnt menu : 0x01E0C14513942A0000000000000000000000000000000000
v8 call menu: 0x01C14513942A0000000000000000000000000000000000
v90 training: 0x00000000
v90 sgn ptrn: 0x00000000
state trnsn : 0x00010203041020FF000000000000000000000000000000000000000000000000
                0000
portwre diag: 0x00000000000000000000000000000000000000
phase 2 info: 0x010000F4EF321FE3FF0001E4EFA21FF2E30001A4EF980101B7CF98003C00
                00000014EF48002512D66AE1B0E1FFFE2207A707A70D650D6500
phase 4 info: 0x01834079E079E079E000
-------------------------------------------------------------------------
```

Related Commands

Command	Description
show call calltracker active	Displays all information stored within the Call Tracker active database for all active calls.
show call calltracker handle	Displays all information stored within the Call Tracker active or history database table for a specified unique call handle identifier.
show call calltracker summary	Displays Call Tracker activity and configuration information such as the number of active calls and the history table attributes.

show call calltracker summary

To display Call Tracker activity and configuration information such as the number of active calls and the history table attributes, use the **show call calltracker summary** command in privileged EXEC mode.

> **show call calltracker summary**

Syntax Description   This command has no arguments or keywords.

Defaults   No default behavior or values.

Command Modes   Privileged EXEC

Command History

Release	Modification
12.1(3)T	This command was introduced.

Examples   The following is sample output from the **show call calltracker summary** command:

```
Router# show call calltracker summary

Call Tracker Status:
  Active Table:
    - 7 call(s)
    - 4473 bytes used (639 average, 639 maximum)
  History Table:
    - 50 of a maximum of 240 call(s) (20% full)
    - 45157 bytes used (903 average, 921 maximum)
    - 260000 minute(s) call retain time
  API Front-end:
    - event elements:512 total, 512 free, 0 in-use
    - free event elements' low watermark:467
    - events dropped due to unavailability of free elts:0
```

Table 25 describes the significant fields shown in the display.

Table 25   show call calltracker summary Field Descriptions

Field	Description
Active Table:	
call(s)	Number of active calls.
n bytes used (*m* average, *o* maximum)	*n* = total memory used for all active calls
	m = average memory usage per call (*n*/calls)
	o = highest single memory usage for a call

Table 25 show call calltracker summary Field Descriptions (continued)

Field	Description
History Table:	
x of a maximum of *n* calls (*o*% full)	Number of calls in the history table, the maximum allowed (as defined by the **calltracker history max-size** command), and the percentage of the history table that these calls consume.
n bytes used (*m* average, *o* maximum)	*n* = total memory used for all active calls *m* = average memory usage per call (*n*/calls) *o* = highest single memory usage for a call
minute(s) call retain time	Number of minutes, for which calls are retained in the history table. This parameter is configured using the **calltracker history retain-mins** command.
API Front-end:	
event elements	For Cisco internal use only.
free event elements' low watermark	For Cisco internal use only.
events dropped due to unavailability of free elts	For Cisco internal use only.

Related Commands

Command	Description
show call calltracker active	Displays all of the information stored within the Call Tracker active database for all active calls.
show call calltracker handle	Displays all information stored within the Call Tracker active or history database table for a specified unique call handle identifier.
show call calltracker history	Displays all the information stored within the Call Tracker history database table for the most recent disconnected calls.

show call progress tone

To display the contents of the internal call progress (CP) tone database for a specific country, use the **show call progress tone** command in EXEC mode.

> **show call progress tone** *country* [*tone-type*]

Syntax Description	

country	Enters the country code for the country's call progress tone database you want to display. Refer to Table 17 and Table 18 for the country codes.
tone-type	(Optional) Enters the tone type parameters you want to see from Table 26.

Command Modes EXEC

Command History

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

Usage Guidelines Table 26 lists the supported tone type parameters.

Table 26   Supported Tone Type Parameters

busy—Busy tone
congestion—Congestion tone
dialtone—Dial tone
disconnect—Disconnect tone
error—Error tone
off-hook-alert—Off-hook alert tone
off-hook-notice—Off-hook notice tone
pbx-dialtone—PBX dialtone
ringback—Ringback tone
routing—Routing tone

Using this command enables you to dispaly the exact settings as they are programmed in the call-progress-tone database.

Examples

When you enter the **show call progress tone** command, the contents of the internal CP tone database for a specific country appears as in the following example:

```
Router# show call progress tone japan

Call progress tone: Japan

Dial tone:
0     Forever       425Hz -15.0/-15.0/-15.0 dBm0

PBX Dial tone:
0     Forever       425Hz -15.0/-15.0/-15.0 dBm0

Busy tone:
0       250ms       425Hz -20.0/-20.0/-20.0 dBm0
1       250ms     Silence

Congestion tone:
0       250ms       425Hz -20.0/-20.0/-20.0 dBm0
1       250ms     Silence

Error tone:
0       330ms        950Hz -15.0/-15.0/-15.0 dBm0
1       330ms       1400Hz -15.0/-15.0/-15.0 dBm0
2       330ms       1800Hz -15.0/-15.0/-15.0 dBm0
3      5000ms     Silence

Routing tone:
0       125ms        600Hz -24.0/-24.0/-24.0 dBm0
1       125ms     Silence
2       125ms        600Hz -24.0/-24.0/-24.0 dBm0
3     Forever     Silence

Disconnect tone:
0       330ms        600Hz -15.0/-15.0/-15.0 dBm0
1       330ms     Silence
2       330ms        600Hz -15.0/-15.0/-15.0 dBm0
3     Forever     Silence

Ringback tone:
0      1000ms        425Hz -19.0/-19.0/-19.0 dBm0
1      4000ms     Silence

Off-hook Notice tone:
0       100ms 1400x2040Hz -24.0/-24.0/-24.0 dBm0 -24.0/-24.0/-24.0 dBm0
1       100ms     Silence

Off-hook Alert tone:
0       100ms 1400x2040Hz -15.0/-15.0/-15.0 dBm0 -15.0/-15.0/-15.0 dBm0
1       100ms     Silence
```

The following example shows a specific CP tone (Japan, busy):

```
Router# show call progress tone japan busy

Busy tone for Japan:
0      2000ms   440x480 Hz -17.0/-17.0/-19.0 dBm0 -17.0/-17.0/-19.0 dBm0
1      4000ms     Silence
```

Table 27 describes the significant fields shown in the display.

Table 27   show show call progress tone Field Descriptions

Field	Description
Cadence number	Call progress tones consist of cadences—periods of sound or silence with certain parameters that do not change during the call. The cadence number shows the number of a particular cadence within the CP tone definitions. Cadence numbers start at 0.
Cadence duration	Cadence duration. "Forever" means that the sound can be heard forever, like in a dialtone.
Cadence type	Silence—No tone is generated.
	440Hz—A single frequency is generated.
	440x530Hz—Two frequencies are added (mixed).
Amplitudes for corresponding frequency components	Amplitudes for the corresponding frequency components. Different amplitudes are used on different trunk types.

Related Commands

Command	Description
call progress tone country	Specifies the country code for retrieving the call progress tone parameters from the CP tone database.

show caller

To display caller information, enter the **show caller** command in EXEC mode.

show caller [{**full** | {**interface** {**Async** | **Dialer** | **Serial**}} | **line** {*range* | *line-modem-options*} | **summary** | **timeouts** | **user** *name* [**detailed**]}]

Syntax Description

full	(Optional) Provides expanded caller information.
interface	(Optional) Displays a summary of caller information for the interface name you provide:
	Async—Async interface number in the range from 1 to 169.
	Dialer—Dialer interface number in the range from 0 to 799.
	Serial—Serial interface number in the range from 0 to 3.
line {*range* / *line-modem-options*}	(Optional) Displays a summary of caller information for the lines you specify, in the range from 0 to 54, or by line or modem options, as follows:
	aux—Auxiliary line.
	console—Primary terminal line.
	tty—Terminal controller.
	v110—V.110 modem standard information.
	vty—Virtual terminal line.
	x/y—Internal modem slot/port.
summary	(Optional) Displays total users logged and total ISDN or analog users since the last **reload** command was entered.
timeouts	(Optional) Displays session and idle limits and disconnect time.
user *name*	(Optional) Displays a summary of caller information for the username you provide.
detailed	(Optional) Provides expanded information about the username specified.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
11.3(5)AA	This command was introduced.
12.1(3)T	The **summary** keyword was added.

Usage Guidelines

The **show caller** command is used to:

- Display individual users and consumed resources on the network access server (NAS).

- Inspect active call statistics for large pools of connections. (Debugging commands produce too much output and tax the CPU too heavily.)

- Display the absolute and idle times for each user. The current values for both of these settings are displayed on the TTY line and the asynchronous interface. Users that have been idle for unacceptably long periods of time can be easily identified. By using this information, you can define timeout policies and multiple grades of services for different users.

You can configure output modifiers for each option type of the **show caller** command.

Examples

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

```
Router# show caller

  Line      User            Service       Active
  con 0     -               TTY           00:08:21
  BR0:1     hatteras        PPP           00:00:14
  Vi1       hatteras        PPP   Bundle  00:00:13
```

The following is sample output from the **show caller** command with the **summary** keyword:

```
Router# show caller summary

     933   Analog calls
       0   ISDN calls
     933   Total users logged in
 1305767   Total users since last reload
```

Each display from the **show caller** command is self explanatory; see the "Usage Guidelines" section for more information.

show controllers bri

To display information about the ISDN BRI, use the **show controllers bri** command in privileged EXEC mode.

Cisco MC3810 Routers

> **show controllers bri** [*interface-number*]

Cisco 7200 Series Routers

> **show controllers bri** *slot/port*

All Other Routers

> **show controllers bri** *number*

Syntax Description

interface-number	Interface number. The value is from 0 to 7 if the router has one 8-port BRI network interface module (NIM), or from 0 to 15 if the router has two 8-port BRI NIMs. Interface number values will vary, depending on the hardware platform used. The Cisco 3600 series router, for example, can have up to 48 interfaces. Valid BRI controller numbers for the Cisco MC3810 router are from 1 to 4.
slot/port	Backplane slot number and port number on the interface. See your hardware installation manual for the specific slot and port numbers. The slash mark is required.

Command Modes

Privileged EXEC

Command History

Release	Modification
10.3	This command was introduced.
11.2 P	This command was enhanced to support slot and port syntax for the PA-8B-ST and PA-4B-U port adapters on the Cisco 7200 series.
12.0(3)XG	This command was implemented on the Cisco MC3810 universal access concentrator.

Usage Guidelines

If you use the **show controllers bri** command in the Cisco MC3810 without the slot-number keywords, information for all of the configured ISDN BRI controllers will be displayed. The BRI controller numbers match the physical ports numbers on the BRI voice module (BVM).

Examples   The following example shows controller statistics for interface BRI 1 on a Cisco MC3810 router:

```
Router# show controllers bri 1

BRI unit 1:
Layer 1 is DEACTIVATED. (ISDN L1 State F3)
S2084 registers:
Configuration register=0x1
QMC GLOBAL MULTICHANNEL PARAMETERS (at 0x30003C00)
[MCBASE]=0x1C4AE38, [QMCSTATE]=0x0, [MRBLR]=0x5F4
[TXSPTR]=0x1C20, [RXPTR]=0x1C24, [GRFTHR]=0x1
[GRFCNT]=0x1, [INTBASE]=0x1B04124, [INTPTR]=0x1B0413C
[RXSPTR]=0x1C20, [TXPTR]=0x1C3E, [CMASK32]=0xDEBB20E3
[TSATRX]=0x30003C20, [TSATTX]=0x30003C60, [CMASK16]=0xF0B8

QMC Timeslot Assignment Entries (Rx == Tx):
[ 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0
0x0 0x0 0x0 0x0 0x540 0x8503 0x84C3 0x8483 0x0 0x400 0x400 0xC400 0xC000 ]

D Channel Information:

BVM unit 1,
qmc_channel: 18 timeslot: 26
idb at 0x1199FC8, driver data structure at 0x11D06D8
SCC Registers:
General [GSMR]=0x780:0x0000003A, Protocol-specific [PSMR]=0x80
Events [SCCE]=0x0000, Mask [SCCM]=0x000F, Status [SCCS]=0x0002
Transmit on Demand [TODR]=0x0, Data Sync [DSR]=0x7E7E
Interrupt Registers:
Config [CICR]=0x001B9981, Pending [CIPR]=0x00000240
Mask   [CIMR]=0x7A000400, In-srv  [CISR]=0x00000000
Command register [CR]=0x640
Port A [PADIR]=0x00F0, [PAPAR]=0xFFFF
[PAODR]=0x00E0, [PADAT]=0x1AEF
Port B [PBDIR]=0x01333F, [PBPAR]=0x01033E
[PBODR]=0x000030, [PBDAT]=0x00DFFC
Port C [PCDIR]=0x0C0C, [PCPAR]=0x0000
[PCSO]=0x03F3,  [PCDAT]=0x00FF, [PCINT]=0x0000
Port D [PDDIR]=0x000760, [PDPAR]=0x00013F
[PDDAT]=0x000CB0
SI     [SIMODE]=0x00480048,  [SIGMR]=0x0E, [SISTR]=0x00
[SICR]=0x6D372E49
BRGC   [BRGC1]=0x00000000,  [BRGC2]=0x00000000

[BRGC3]=0x00000000,  [BRGC4]=0x00000000

QMC CHANNEL PARAMETERS (at 0x30002480)
[TBASE]=0xBC0, [CHAMR]=0xB000, [TSTATE]=0x300C0FDE
[TBPTR]=0xBD0, [ZISTATE]=0xE1FF0FFF, [INTMSK]=0x3F
[RBASE]=0xB40, [MFLR]=0x5F4, [RSTATE]=0x31021C00
[RBPTR]=0xB70, [ZDSTATE]=0x25FFFFAE

buffer size 1524
RX ring with 16 entries at 0x1C4B978, Buffer size 1524
Rxhead = 0x1C4B9A8 (6), Rxp = 0x11D070C (6)
00 pak=0x145FDD0 buf=0x1CCE138 status=9000 pak_size=0
01 pak=0x145FBBC buf=0x1CCDA78 status=9000 pak_size=0
02 pak=0x145F9A8 buf=0x1CCD3B8 status=9000 pak_size=0
03 pak=0x145F794 buf=0x1CCCCF8 status=9000 pak_size=0
04 pak=0x14618D4 buf=0x1CD38F8 status=9000 pak_size=0
05 pak=0x14616C0 buf=0x1CD3238 status=9000 pak_size=0
06 pak=0x1461298 buf=0x1CD24B8 status=9000 pak_size=0
07 pak=0x1461084 buf=0x1CD1DF8 status=9000 pak_size=0
08 pak=0x1460E70 buf=0x1CD1738 status=9000 pak_size=0
```

```
09 pak=0x1460C5C buf=0x1CD1078 status=9000 pak_size=0
10 pak=0x1460A48 buf=0x1CD09B8 status=9000 pak_size=0
11 pak=0x1460834 buf=0x1CD02F8 status=9000 pak_size=0
12 pak=0x1460620 buf=0x1CCFC38 status=9000 pak_size=0
13 pak=0x146040C buf=0x1CCF578 status=9000 pak_size=0
14 pak=0x14601F8 buf=0x1CCEEB8 status=9000 pak_size=0
15 pak=0x145FFE4 buf=0x1CCE7F8 status=B000 pak_size=0

TX ring with 4 entries at 0x1C4B9F8, tx_count = 0
tx_head = 0x1C4BA08 (2), head_txp = 0x11D0818 (2)
tx_tail = 0x1C4BA08 (2), tail_txp = 0x11D0818 (2)
00 pak=0x0000000 buf=0x0000000 status=0000 pak_size=0
01 pak=0x0000000 buf=0x0000000 status=0000 pak_size=0
02 pak=0x0000000 buf=0x0000000 status=0000 pak_size=0
03 pak=0x0000000 buf=0x0000000 status=2000 pak_size=0
0 throttles, 0 enables
0 input aborts on receiving flag sequence
0 missed datagrams, 0 overruns
0 bad datagram encapsulations, 0 memory errors
0 transmitter underruns

B1 Channel Information:

BVM unit 1,
qmc_channel: 0 timeslot: 0
idb at 0x119FEB0, driver data structure at 0x11D0B54
SCC Registers:
General [GSMR]=0x0:0x00000000, Protocol-specific [PSMR]=0x0
Events [SCCE]=0x0000, Mask [SCCM]=0x0000, Status [SCCS]=0x0000
Transmit on Demand [TODR]=0x9080, Data Sync [DSR]=0xA4
QMC CHANNEL PARAMETERS (at 0x0)
[TBASE]=0x0, [CHAMR]=0x0, [TSTATE]=0x7C6802A6
[TBPTR]=0x9080, [ZISTATE]=0x906000AC, [INTMSK]=0x9060
[RBASE]=0x4800, [MFLR]=0x5, [RSTATE]=0x7C8000A6
[RBPTR]=0x7C9B, [ZDSTATE]=0x3864FFDC

buffer size 1524
RX ring with 0 entries at 0x0, Buffer size 1524
Rxhead = 0x0 (0), Rxp = 0x0 (-4670172)

TX ring with 0 entries at 0x0, tx_count = 0
tx_head = 0x0 (0), head_txp = 0x0 (-4670243)
tx_tail = 0x0 (0), tail_txp = 0x0 (-4670243)
0 throttles, 0 enables
0 input aborts on receiving flag sequence
0 missed datagrams, 0 overruns
0 bad datagram encapsulations, 0 memory errors
0 transmitter underruns

B2 Channel Information:

BVM unit 1,
qmc_channel: 0 timeslot: 0
idb at 0x11A5D98, driver data structure at 0x11D0F8C
SCC Registers:
General [GSMR]=0x0:0x00000000, Protocol-specific [PSMR]=0x0
Events [SCCE]=0x0000, Mask [SCCM]=0x0000, Status [SCCS]=0x0000
Transmit on Demand [TODR]=0x9080, Data Sync [DSR]=0xA4

QMC CHANNEL PARAMETERS (at 0x0)
[TBASE]=0x0, [CHAMR]=0x0, [TSTATE]=0x7C6802A6
[TBPTR]=0x9080, [ZISTATE]=0x906000AC, [INTMSK]=0x9060
[RBASE]=0x4800, [MFLR]=0x5, [RSTATE]=0x7C8000A6
[RBPTR]=0x7C9B, [ZDSTATE]=0x3864FFDC
```

```
buffer size 1524
RX ring with 0 entries at 0x0, Buffer size 1524
Rxhead = 0x0 (0), Rxp = 0x0 (-4670442)

TX ring with 0 entries at 0x0, tx_count = 0
tx_head = 0x0 (0), head_txp = 0x0 (-4670513)
tx_tail = 0x0 (0), tail_txp = 0x0 (-4670513)
0 throttles, 0 enables
0 input aborts on receiving flag sequence
0 missed datagrams, 0 overruns
--More--          0 bad datagram encapsulations, 0 memory
>errors
0 transmitter underruns
```

The following is sample output from the **show controllers bri** command:

```
Router# show controllers bri 0

BRI unit 0
D Chan Info:
Layer 1 is ACTIVATED
idb 0x32089C, ds 0x3267D8, reset_mask 0x2
buffer size 1524
RX ring with 2 entries at 0x2101600 : Rxhead 0
00 pak=0x4122E8 ds=0x412444 status=D000 pak_size=0
01 pak=0x410C20 ds=0x410D7C status=F000 pak_size=0
TX ring with 1 entries at 0x2101640: tx_count = 0, tx_head = 0, tx_tail = 0
00 pak=0x000000 ds=0x000000 status=7C00 pak_size=0
0 missed datagrams, 0 overruns, 0 bad frame addresses
0 bad datagram encapsulations, 0 memory errors
0 transmitter underruns
B1 Chan Info:
Layer 1 is ACTIVATED
idb 0x3224E8, ds 0x3268C8, reset_mask 0x0
buffer size 1524
RX ring with 8 entries at 0x2101400 : Rxhead 0
00 pak=0x421FC0 ds=0x42211C status=D000 pak_size=0
01 pak=0x4085E8 ds=0x408744 status=D000 pak_size=0
02 pak=0x422EF0 ds=0x42304C status=D000 pak_size=0
03 pak=0x4148E0 ds=0x414A3C status=D000 pak_size=0
04 pak=0x424D50 ds=0x424EAC status=D000 pak_size=0
05 pak=0x423688 ds=0x4237E4 status=D000 pak_size=0
06 pak=0x41AB98 ds=0x41ACF4 status=D000 pak_size=0
07 pak=0x41A400 ds=0x41A55C status=F000 pak_size=0
TX ring with 4 entries at 0x2101440: tx_count = 0, tx_head = 0, tx_tail = 0
00 pak=0x000000 ds=0x000000 status=5C00 pak_size=0
01 pak=0x000000 ds=0x000000 status=5C00 pak_size=0
02 pak=0x000000 ds=0x000000 status=5C00 pak_size=0
03 pak=0x000000 ds=0x000000 status=7C00 pak_size=0
0 missed datagrams, 0 overruns, 0 bad frame addresses
0 bad datagram encapsulations, 0 memory errors
0 transmitter underruns
B2 Chan Info:
Layer 1 is ACTIVATED
idb 0x324520, ds 0x3269B8, reset_mask 0x2
buffer size 1524
RX ring with 8 entries at 0x2101500 : Rxhead 0
00 pak=0x40FCF0 ds=0x40FE4C status=D000 pak_size=0
01 pak=0x40E628 ds=0x40E784 status=D000 pak_size=0
02 pak=0x40F558 ds=0x40F6B4 status=D000 pak_size=0
03 pak=0x413218 ds=0x413374 status=D000 pak_size=0
04 pak=0x40EDC0 ds=0x40EF1C status=D000 pak_size=0
```

```
05 pak=0x4113B8 ds=0x411514 status=D000 pak_size=0
06 pak=0x416ED8 ds=0x417034 status=D000 pak_size=0
07 pak=0x416740 ds=0x41689C status=F000 pak_size=0
TX ring with 4 entries at 0x2101540: tx_count = 0, tx_head = 0, tx_tail = 0
00 pak=0x000000 ds=0x000000 status=5C00 pak_size=0
01 pak=0x000000 ds=0x000000 status=5C00 pak_size=0
02 pak=0x000000 ds=0x000000 status=5C00 pak_size=0
03 pak=0x000000 ds=0x000000 status=7C00 pak_size=0
0 missed datagrams, 0 overruns, 0 bad frame addresses
0 bad datagram encapsulations, 0 memory errors
0 transmitter underruns
```

Table 28 describes the significant fields shown in the display.

Table 28   show controllers bri Field Descriptions

Field	Description
BRI unit 0	Interface type and unit number.
Chan Info	D and B channel numbers.
Layer 1 is ACTIVATED	Layer 1 status can be DEACTIVATED, PENDING ACTIVATION, or ACTIVATED.
idb ds reset_mask	Information about internal data structures and parameters (for use by Cisco technical personnel).
buffer size	Number of bytes allocated for buffers.
RX ring with - entries at -	Information about the Receiver Queue.
Rxhead	Start of the Receiver Queue.
pak ds status pak_size	Information about internal data structures and parameters.
TX ring with - entries at -	Information about the Transmitter Queue.
tx_count	Number of packets to transmit.
tx_head	Start of the transmit list.
tx_tail	End of the transmit list.
missed datagrams	Incoming packets missed due to internal errors.
overruns	Number of times the receiver hardware was unable to hand received data to a hardware buffer because the input rate exceeded the receiver's ability to handle the data.
bad frame addresses	Frames received with a cyclic redundancy check (CRC) error and noninteger number of octets.
bad datagram encapsulations	Packets received with bad encapsulation.
memory errors	Internal direct memory access (DMA) memory errors.
transmitter underruns	Number of times that the transmitter has been running faster than the router can handle.

The following is a partial output example from the **show controllers bri** command on a Cisco 7200 series router:

```
Router# show controllers bri 2/0

BRI slot 2 interface 0 with integrated NT1
Layer 1 is ACTIVATED. (ISDN L1 State F7)
Master clock for slot 2 is bri interface 0.
Total chip configuration successes: 193, failures: 0, timeouts: 0
D Channel Information:
  Channel state: UP  Channel IDB: 6092AC64
  RX ring entries: 5, buffer size 512
  RX descriptor ring: head = 165F4D8, tail = 165F508
  RX buffer ring: head = 6093A260, tail = 6093A290
  00 params=0x2000000 status=0x0 data ptr=0x1650F84 next ptr=0x165F4D8
  01 params=0x2000000 status=0xC0080000 data ptr=0x1651884 next ptr=0x165F4E8
  02 params=0x2000000 status=0xC0080000 data ptr=0x1651644 next ptr=0x165F4F8
  03 params=0x2000000 status=0x0 data ptr=0x1651404 next ptr=0x165F508
  04 params=0x42000000 status=0x0 data ptr=0x16511C4 next ptr=0x165F4C8
  TX ring entries: 5, in use: 0, buffer size 512
  TX descriptor ring: head = 3C2049C0, tail = 3C2049C0
  TX buffer ring: head = 608EC0C4, tail = 608EC0C4
  00 params=0x80000000 data ptr=0x0000000 next ptr=0x4D0049A8
  01 params=0x80000000 data ptr=0x0000000 next ptr=0x4D0049B4
  02 params=0x80000000 data ptr=0x0000000 next ptr=0x4D0049C0
  03 params=0xC0000000 data ptr=0x0000000 next ptr=0x4D0049CC
  04 params=0x0 data ptr=0x0000000 next ptr=0x4D00499C
  List of timeslots (sw): 2
```

Table 29 describes the significant fields shown in the display.

Table 29   show controllers bri Field Descriptions (for Cisco 7200 Series Routers)

Field	Description
BRI slot 2 interface 0 with integrated NTI	Interface type and slot and port number.
Layer 1 is ACTIVATED	Layer 1 status can be DEACTIVATED, PENDING ACTIVATION, or ACTIVATED.
Master clock	The first interface that comes up on an MBRI port adapter holds the master clock. This clock is used for all interfaces on that port adapter. If the master clock interface goes down, the second interface that came up becomes the master clock interface.
Total chip configuration successes	Counters of successful chip configuration.
failures	Counters of bad chip configuration.
timeouts	Counters of failing to initialize chip.
D Channel Information	Information related to D-channel status.
Channel state	Channel state can be UNUSED, IDLE, DOWN, STANDBY, UP, THROTTLED, ILLEGAL.
Channel IDB	Internal interface channel description.
RX (or TX) ring entries	Internal receive queue.
RX (or TX) descriptor ring	Internal receive queue to manage hardware chip.
RX (or TX) buffer ring	Internal receive queue to hold inbound packets.

Table 29   show controllers bri Field Descriptions (for Cisco 7200 Series Routers) (continued)

Field	Description
Rxhead	Start of the receiver queue.
params, status, data ptr, next ptr	Information about internal data structures and parameters (for use by Cisco technical personnel.
List of timeslots (sw)	Time slots assigned to this channel.

show controllers e1 call-counters

To display the total number of calls and call durations on an E1 controller, use the **show controllers e1 call-counters** command in privileged EXEC mode.

show controllers e1 *controller-number* **call-counters**

Syntax Description

controller-number	Controller number (for example, 0, 1, 2, or 3).

Command Modes Privileged EXEC

Command History

Release	Modification
11.3 T	This command was introduced.

Usage Guidelines This command displays the E1 controller status as calls, such as switched 56K digital calls.

Examples The following is sample output of the **show controllers e1 call-counters** command:

```
router# show controllers e1 1 call-counters

E1 1:
  DS0's Active: 0
  DS0's Active High Water Mark: 0
  TimeSlot    Type    TotalCalls    TotalDuration
      1       cas          0          00:00:00
      2       cas          0          00:00:00
      3       cas          0          00:00:00
      4       cas          0          00:00:00
      5       cas          0          00:00:00
      6       cas          0          00:00:00
      7       cas          0          00:00:00
      8       cas          0          00:00:00
      9       cas          0          00:00:00
     10       cas          0          00:00:00
     11       cas          0          00:00:00
     12       cas          0          00:00:00
     13       cas          0          00:00:00
     14       cas          0          00:00:00
     15       cas          0          00:00:00
     16       cas          0          00:00:00
     17       cas          0          00:00:00
     18       cas          0          00:00:00
     19       cas          0          00:00:00
     20       cas          0          00:00:00
     21       cas          0          00:00:00
     22       cas          0          00:00:00
     23       cas          0          00:00:00
     24       cas          0          00:00:00
Total DS0's Active High Water Mark: 7
```

Table 30 describes the significant fields shown in the display.

Table 30 show controllers e1 call-counters Field Descriptions

Field	Description
E1 *number*:	Number of the E1 controller.
DS0's Active:	Displays the number of DS0s channels that are currently active.
DS0's Active High Water Mark:	Number of active DS0s that are approaching the threshold ceiling of the system.
TimeSlot	Time slot number used on the controller for the specified DS0.
Type	Type of call occupying the timeslot. This entry is usually channel-associated signaling (CAS) or ISDN PRI.
TotalCalls	How many calls came in on this time slot or DS0.
TotalDuration	How long the last call lasted (in hours: minutes: seconds).
Total DS0's Active High Water Mark:	Total number of active DS0s that are approaching the threshold ceiling of the system.

Related Commands

Command	Description
cas-group (E1 controller)	Configures CAS on an E1 controller.
show controllers e1 cas-data	Displays internal call switching module information about the switched 56K data channels.

show controllers e1 cas-data

To display internal call switching module information about the switched 56K data channels, use the **show controllers e1 cas-data** command in privileged EXEC mode.

show controllers e1 *controller-number* **cas-data**

Syntax Description	*controller-number*	Controller number (for example, 0, 1, 2, or 3).

Command Modes   Privileged EXEC

Command History

Release	Modification
11.3 T	This command was introduced.

Examples   The following is sample output from the **show controllers e1 cas-data** command:

```
router# show controllers e1 1 cas-data

Device Pool: Dev-SW56-pool
Number of SW56 vdev in pool: 48
Number of active connections: 0
No free SW56 device in pool: 0
SW56 max allocated messages: 96

E1 1:
 SW56(slot/subcont/bchan)=0/1/0, hwidb=0x00867348
  csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
  total_call_duration=00:00:00
  invalid_event_count=0, wdt_timeout_count=0
  ic_failure=0, ic_complete=0, remote_link_disc=0
  csm_status(0): VDEV_STATUS_UNLOCKED
  wdt_timestamp_started is not activated
 SW56(slot/subcont/bchan)=0/1/1, hwidb=0x0086EC58
  csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
  total_call_duration=00:00:00
  invalid_event_count=0, wdt_timeout_count=0
  ic_failure=0, ic_complete=0, remote_link_disc=0
  csm_status(0): VDEV_STATUS_UNLOCKED
  wdt_timestamp_started is not activated
 SW56(slot/subcont/bchan)=0/1/2, hwidb=0x00876568
  csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
  total_call_duration=00:00:00
  invalid_event_count=0, wdt_timeout_count=0
  ic_failure=0, ic_complete=0, remote_link_disc=0
  csm_status(0): VDEV_STATUS_UNLOCKED
  wdt_timestamp_started is not activated
 SW56(slot/subcont/bchan)=0/1/3, hwidb=0x0087DE78
  csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
  total_call_duration=00:00:00
  invalid_event_count=0, wdt_timeout_count=0
  ic_failure=0, ic_complete=0, remote_link_disc=0
  csm_status(0): VDEV_STATUS_UNLOCKED
  wdt_timestamp_started is not activated
```

```
SW56(slot/subcont/bchan)=0/1/4, hwidb=0x00885788
 csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
 total_call_duration=00:00:00
 invalid_event_count=0, wdt_timeout_count=0
 ic_failure=0, ic_complete=0, remote_link_disc=0
 csm_status(0): VDEV_STATUS_UNLOCKED
 wdt_timestamp_started is not activated
```

Table 31 describes the significant fields shown in the display.

Table 31   show controllers e1 cas-data Field Descriptions

Field	Description
Device Pool:	Type of pool in service, which is a logical grouping used to achieve a specific service.
Number of SW56 vdev in pool:	Number of serial devices used in the pool.
Number of active connections:	Number of active switched 56K active connections.
No free SW56 device in pool:	Number of switched 56K channels available to accept calls.
SW56 max allocated messages:	Number of messages that are allocated to switched 56K services.
E1 *number*:	Number of the controller E1.
SW56(slot/subcont/bchan)=	Specified DS0 or time slot used for the switched 56K service.
csm_state(0x00000100)=	Call state machine register.
total_call_duration=	How long the call lasted (in hours: minutes: seconds).
invalid_event_count=	Number of invalid event counters for the specified channel.
ic_failure=	Number of incoming call failures.
csm_status(0):	Call state machine register.
wdt_timestamp_started is not activated	Watchdog timer.

Related Commands

Command	Description
cas-group (E1 controller)	Configures CAS on an E1 controller.
show controllers e1 call-counters	Displays the total number of calls and call durations on an E1 controller.

show controllers t1 call-counters

To display the total number of calls and call durations on a T1 controller, use the **show controllers t1 call-counters** command in privileged EXEC mode.

Cisco 4000 series routers

> **show controllers t1** *controller-number* **call-counters**

Cisco AS 53000 and AS5400 access servers

> **show controllers t1** *slot/port* **call-counters**

Syntax Description

controller-number	For Cisco 4000 series routers, enter just the controller number (for example, 0, 1, 2, or 3).
slot/port	For Cisco AS5300 and AS5400 series access servers, enter the controller number as *slot/port*.

Command Modes   Privileged EXEC

Command History

Release	Modification
11.3 T	This command was introduced.
12.1(3)T	This command was introduced on the Cisco AS5300 and AS5400 series access servers.

Command History

Usage Guidelines   This command displays the T1 controller status as calls, such as switched 56K digital calls.

Examples   The following is partial sample output from the **show controllers t1 call-counters** command:

```
router# show controllers t1 1 call-counters

T1 1:
  DS0's Active: 0
  DS0's Active High Water Mark: 0
  TimeSlot    Type    TotalCalls    TotalDuration
        1     cas           0         00:00:00
        2     cas           0         00:00:00
        3     cas           0         00:00:00
        4     cas           0         00:00:00
        5     cas           0         00:00:00
        6     cas           0         00:00:00
        7     cas           0         00:00:00
        8     cas           0         00:00:00
        9     cas           0         00:00:00
       10     cas           0         00:00:00
       11     cas           0         00:00:00
       12     cas           0         00:00:00
       13     cas           0         00:00:00
       14     cas           0         00:00:00
```

```
          15     cas        0      00:00:00
          16     cas        0      00:00:00
          17     cas        0      00:00:00
          18     cas        0      00:00:00
          19     cas        0      00:00:00
          20     cas        0      00:00:00
          21     cas        0      00:00:00
          22     cas        0      00:00:00
.
.
.
Total DS0's Active High Water Mark: 7
```

Table 32 describes the significant fields shown in the display.

Table 32   show controllers t1 call-counters Field Descriptions

Field	Description
T1 *number*:	Number of the T1 controller.
DS0's Active:	Displays the number of DS0s channels that are currently active.
DS0's Active High Water Mark:	Number of active DS0s that are approaching the threshold ceiling of the system.
TimeSlot	Time slot number used on the controller for the specified DS0.
Type	Type of call occupying the time slot. This entry is usually channel-associated signaling (CAS) or ISDN PRI.
TotalCalls	How many calls came in on this time slot or DS0.
TotalDuration	Total active time for all previous successful calls on the specified time slot (in hours: minutes: seconds).
Total DS0's Active High Water Mark:	Total number of active DS0s that are approaching the threshold ceiling of the system.

Related Commands	Command	Description
	cas-group (T1 controller)	Configures channel associated signaling on a T1 controller.
	show controllers t1 cas-data	Displays internal call switching module information about the switched 56-kbps data channels.

show controllers t1 cas-data

To display internal call switching module information about the switched 56K data channels, use the **show controllers t1 cas-data** command in privileged EXEC mode.

Cisco 4000 series routers

> **show controllers t1** *controller-number* **cas-data**

Cisco AS 53000 and AS5400 access servers

> **show controllers t1** *slot*/*port* **cas-data**

Syntax Description		
controller-number	For Cisco 4000 series routers, enter just the controller number (for example, 0, 1, 2, or 3).	
slot/*port*	For Cisco AS5300 and AS5400 series access servers, enter the controller number as *slot*/*port*.	

Command Modes Privileged EXEC

Command History

Release	Modification
11.3 T	This command was introduced.
12.1(3)T	This command was introduced on the Cisco AS5300 and AS5400 series access servers.

Examples The following is sample output from the **show controllers t1 cas-data** command:

```
router# show controllers t1 1 cas-data

Device Pool: Dev-SW56-pool
Number of SW56 vdev in pool: 48
Number of active connections: 0
No free SW56 device in pool: 0
SW56 max allocated messages: 96

T1 1:
 SW56(slot/subcont/bchan)=0/1/0, hwidb=0x00867348
  csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
  total_call_duration=00:00:00
  invalid_event_count=0, wdt_timeout_count=0
  ic_failure=0, ic_complete=0, remote_link_disc=0
  csm_status(0): VDEV_STATUS_UNLOCKED
  wdt_timestamp_started is not activated
 SW56(slot/subcont/bchan)=0/1/1, hwidb=0x0086EC58
  csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
  total_call_duration=00:00:00
  invalid_event_count=0, wdt_timeout_count=0
  ic_failure=0, ic_complete=0, remote_link_disc=0
  csm_status(0): VDEV_STATUS_UNLOCKED
  wdt_timestamp_started is not activated
```

```
SW56(slot/subcont/bchan)=0/1/2, hwidb=0x00876568
 csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
 total_call_duration=00:00:00
 invalid_event_count=0, wdt_timeout_count=0
 ic_failure=0, ic_complete=0, remote_link_disc=0
 csm_status(0): VDEV_STATUS_UNLOCKED
 wdt_timestamp_started is not activated
SW56(slot/subcont/bchan)=0/1/3, hwidb=0x0087DE78
 csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
 total_call_duration=00:00:00
 invalid_event_count=0, wdt_timeout_count=0
 ic_failure=0, ic_complete=0, remote_link_disc=0
 csm_status(0): VDEV_STATUS_UNLOCKED
 wdt_timestamp_started is not activated
SW56(slot/subcont/bchan)=0/1/4, hwidb=0x00885788
 csm_state(0x00000100)=CSM_IDLE_STATE, csm_event_proc=0x0006CCC2
 total_call_duration=00:00:00
 invalid_event_count=0, wdt_timeout_count=0
 ic_failure=0, ic_complete=0, remote_link_disc=0
 csm_status(0): VDEV_STATUS_UNLOCKED
 wdt_timestamp_started is not activated
```

Table 33 describes the significant fields in the display.

Table 33   show controllers t1 cas-data Field Descriptions

Field	Description
Device Pool:	Type of pool in service, which is a logical grouping used to achieve a specific service.
Number of SW56 vdev in pool:	Number of serial devices used in the pool.
Number of active connections:	Number of active switched 56K active connections.
No free SW56 device in pool:	Number of switched 56K channels available to accept calls.
SW56 max allocated messages:	Number of messages that are allocated to switched 56K services.
T1 *number*:	Number of the controller T1.
SW56(slot/subcont/bchan)=	Specified DS0 or time slot used for the switched 56K service.
csm_state(0x00000100)=	Call state machine register.
total_call_duration=	How long the call lasted (in hours: minutes: seconds).
invalid_event_count=	Number of invalid event counters for the specified channel.
ic_failure=	Number of incoming call failures.
csm_status(0):	Call state machine register.
wdt_timestamp_started is not activated	Watchdog timer.

Related Commands	Command	Description
	cas-group (T1 controller)	Configures channel-associated signaling on a T1 controller.
	show controllers t1 call-counters	Displays the total number of calls and call durations on a T1 controller.

show controllers t1 clock

To display the primary clock change history, use the **show controller t1 clock** command in privileged EXEC mode.

> **show controllers t1** *slot*/*port* **clock**

Syntax Description

slot/*port*	Controller number entered as *slot*/*port*. The slash is required.

Defaults

No default behavior or values.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.1(3)T	This command was introduced on the Cisco AS5300 and AS5400 series access servers.

Usage Guidelines

Examples

The following example shows how to display a self-explanatory report for a Cisco AS5350 T1 controller clock:

```
Router# show controller t1 1/1 clock
```

Related Commands

Command	Description
clear controller	Resets the specified T1 or E1 controller.
clear controller t1 firmware-status	Clears the T1 controller crash history,

show controllers t1 firmware-status

To display the crash history of the New E1 And T1 (NEAT) controller, use the **show controller t1 firmware-status** command in privileged EXEC mode.

show controllers t1 *slot*/*port* **firmware-status**

Syntax Description	*slot*/*port* Controller number entered as *slot*/*port*. The slash is required.

Defaults
No default behavior or values.

Command Modes
Privileged EXEC

Command History

Release	Modification
12.1(3)T	This command was introduced on the Cisco AS5300 and AS5400 series access servers.

Examples

The following example shows a self-explanatory report crash history report from a Cisco AS5350 T1 controller:

```
Router# show controller t1 1/1 firmware-status
Trunk-1 hasn't restarted since last system reload
```

Related Commands

Command	Description
clear controller	Resets the specified T1 or E1 controller.
clear controller t1 firmware-status	Clears the T1 controller crash history,

show controllers t1 timeslots

To show the channel-associated signaling (CAS) and ISDN PRI state on the T1 controller in detail, use the **show controllers t1 timeslots** command in EXEC mode.

Cisco 4000 series routers

> **show controllers t1** *controller-number* **timeslots** *timeslot-range*

Cisco AS5300 and AS5400 series access servers

> **show controllers t1** *slot*/*port* **timeslots** *timeslot-range*

Syntax Description

controller-number	For Cisco 4000 series routers, enter just the controller number (for example, 0, 1, 2, or 3).
slot/*port*	For Cisco AS5300 and AS5400 series access servers, enter the controller number as *slot*/*port*. The slash mark is required.
timeslot-range	Displays DS0 information. Time slot range is from 1 to 24 for the T1 controller. A range is entered as a logical sequence of numbers separated by a dash.

Command Modes

EXEC+

Command History

Release	Modification
10.0	This command was introduced.
12.1(3)T	This command was introduced on the Cisco AS5300 and AS5400 series access servers.

Usage Guidelines

Use the **show controllers t1 timeslots** command to display the CAS and ISDN PRI channel state in detail. On the Cisco access servers, this command shows whether the DS0 channels of a controller are in idle, in-service, maintenance, or busyout states. Enter the commands to display statistics about the T1 links.

Examples

The following example shows that the CAS state is enabled on the Cisco AS5300 universal access server with a T1 PRI card. The display is self-explanatory.

```
Router# show controllers t1 1 timeslots 1-24

SERVICE STATES                  CAS CHANNEL STATES
insvc   = In Service            down        = Down
outofsvc = Out of Service       idle        = Idle
maint   = Maintenance           connected   = Call Connected
                                signaling   = Signaling
                                static-bo   = Static Busyout
                                dynamic-bo  = Dynamic Busyout
```

```
                               ISDN CHANNEL STATES
                               idle      = Available
                               proposed  = Negotiating
                               busy      = Unavailable
                               reserved  = Reserved
                               restart   = Restart Pending
                               maint_pend = Maintenance Pending
                               reassigned = Reassigned
                               prop'd_1tr6= Net may change channel #

T1 1 is up:
Loopback: NONE
DS0  Type      Modem   <->    Service    Channel     Rx          Tx
                              State      State       A B C D     A B C D
     -------------------------------------------------------------------------
  1  cas-modem  1       in     insvc     connected   1 1 1 1     1 1 1 1
  2  cas        -       -      insvc     idle        0 0 0 0     0 0 0 0
  3  cas        -       -      insvc     idle        0 0 0 0     0 0 0 0
  4  cas        -       -      insvc     idle        0 0 0 0     0 0 0 0
  5  cas        -       -      insvc     idle        0 0 0 0     0 0 0 0
  6  cas        -       -      insvc     idle        0 0 0 0     0 0 0 0
  7  cas        -       -      insvc     idle        0 0 0 0     0 0 0 0
  8  cas        -       -      insvc     idle        0 0 0 0     0 0 0 0
  9  cas        -       -      insvc     idle        0 0 0 0     0 0 0 0
 10  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 11  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 12  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 13  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 14  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 15  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 16  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 17  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 18  cas        -       -      maint     static-bo   0 0 0 0     1 1 1 1
 19  cas        -       -      maint     dynamic-bo  0 0 0 0     1 1 1 1
 20  cas        -       -      maint     dynamic-bo  0 0 0 0     1 1 1 1
 21  cas        -       -      maint     dynamic-bo  0 0 0 0     1 1 1 1
 22  unused
 23  unused
 24  unused
```

The following example shows that the ISDN PRI state is enabled on the Cisco AS5300 universal access server with a T1 PRI card:

```
Router# show controllers t1 2 timeslots 1-24

T1 2 is up:
Loopback:NONE
DS0 Type       Modem   <->  Service  Channel   Rx        Tx
                             State    State     A B C D   A B C D
    ---------------------------------------------------------------
 1  pri        -       -    insvc    idle
 2  pri        -       -    insvc    idle
 3  pri        -       -    insvc    idle
 4  pri        -       -    insvc    idle
 5  pri        -       -    insvc    idle
 6  pri        -       -    insvc    idle
 7  pri        -       -    insvc    idle
. . .
20  pri        -       -    insvc    idle
21  pri-modem  2       in   insvc    busy
22  pri-modem  1       out  insvc    busy
23  pri-digi   -       in   insvc    busy
24  pri-sig    -       -    outofsvc reserved
```

show cot dsp

To display configuration and current status information about the Continuity Test (COT) Digital Signal Processor (DSP), use the **show cot dsp** command in privileged EXEC mode.

Cisco AS5300 Series

> **show cot dsp** {**config** | **status**} *hardware-unit/ds0*

Cisco AS5800 Series

> **show cot dsp** {**config** | **status**} *shelf/slot/hardware-unit/ds0*

Syntax Description		
config	Displays the COT DSP configuration.
status	Displays the COT DSP status.
hardware-unit/ds0	Hardware unit number that provides the external interface connections from a router to the network, followed by a slash mark and the number of the COT operation request. Refer to the hardware installation guide for the signal processor to determine argument numbers.
shelf/slot/hardware-unit/ds0	Shelf number of COT operation request, the slot number, hardware unit number that provides the external interface connections from a router to the network, and the number of the COT operation request, each separated by a slash mark. Refer to the hardware installation guide for the signal processor to determine argument numbers.

Command Modes   Privileged EXEC

Command History

Release	Modification
11.3(7)	This command was introduced.

Examples   The following is sample output from the **show cot dsp** command that shows the COT DSP configuration:

```
Router# show cot dsp status 1/1

Rx Freq 2010 Hx
Tx Freq 1780 Hx
Tx then Rx mode
in WaitRxOn state

Router# show cot dsp config 1/1

Rx Freq 2010 Hx
Tx Freq 1780 Hx
Tx then Rx mode
Timeout value:0
```

Table 34 describes the significant fields shown in the displays.

Table 34   show cot dsp Field Descriptions

Field	Description
Rx Freq	The COT receive tone frequency.
Tx Freq	The COT transmit tone frequency.
Tx then Rx	Type of COT operation.
WaitRxOn	The state of the COT DSP.

Related Commands

Command	Description
clear cot summary	Resets the COT counters displayed by the **show cot summary** command.
debug cot	Troubleshoots COT operation.
show cot request	Displays COT request information.
show cot summary	Displays information about the COT activity.

show cot request

To display information about Continuity Test (COT) operation requests, use the **show cot request** command in privileged EXEC mode.

Cisco AS5300 Series

> **show cot request** *hardware-unit/ds0*

Cisco AS5800 Series

> **show cot request** *shelf/slot/hardware-unit/ds0*

Syntax Description	*hardware-unit/ds0*	Hardware unit number that provides the external interface connections from a router to the network, followed by a slash mark and the number of the COT operation request. Refer to the hardware installation guide for the signal processor to determine argument numbers.
	shelf/slot/hardware-unit/ds0	Shelf number of COT operation request, the slot number, hardware unit number that provides the external interface connections from a router to the network, and the number of the COT operation request, each separated by a slash mark. Refer to the hardware installation guide for the signal processor to determine argument numbers.

Command Modes   Privileged EXEC

Command History	Release	Modification
	11.3(7)	This command was introduced.

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

```
Router# show cot request 1/1

00:19:29:COT Request@ 0x61064A20, CDB@ 0x60EBB48C, Params@0x61123DBC
00:19:29:   request type = COT_CHECK_TONE_ON
00:19:29:   shelf 0 slot 0 appl_no 1 ds0 1
00:19:29:   duration 100000 key FFF1 freqTx 1780 freqRx 2010
00:19:29:   state COT_WAIT_TD_ON_CT
00:19:29:   event_proc(0x6093B55C)
```

Table 35 describes the significant fields shown in the display.

Table 35   show cot request Field Descriptions

Field	Description
COT Request	Internal COT operation request.
CDB	Internal controller information.
Params	Internal COT operation request parameters.
request type	Type of COT operation.
duration	Timeout duration of COT operation.
key	COT operation identifier.
freqTx	Transmit tone frequency.
freqRx	Receive tone frequency.
state	COT subsystem machine state.
event_proc	COT subsystem state machine function.

Related Commands

Command	Description
clear cot summary	Resets the COT counters displayed by the show cot summary command.
debug cot	Troubleshoots COT operation.
show cot dsp	Displays information about the COT DSP configuration or current status.
show cot summary	Displays information about the COT activity.

show cot summary

To display information about Continuity Test (COT) activity, use the **show cot summary** command in privileged EXEC mode.

show cot summary

Syntax Description   This command has no arguments or keywords.

Command Modes   Privileged EXEC

Command History

Release	Modification
11.3(7)	This command was introduced.

Examples   The following is sample output from the **show cot summary** command that shows the COT Digital Signal Processor (DSP) configuration:

```
Router# show cot summary

08:23:24:  COT Subsystem - Request Statistics

08:23:24: COT Request Type = COT_DS0_LOOPBACK_ON
08:23:24: # of request(s)          : 4          # of restart requests(s)  : 0
08:23:24: # of successful request(s): 4         # of invalid request(s)    : 0
08:23:24: # of cot timeout(s)       : 0         # of dsp error(s)          : 0
08:23:24: # of no dsp(s)            : 0

08:23:24: COT Request Type = COT_DS0_LOOPBACK_OFF
08:23:24: # of request(s)          : 4          # of restart requests(s)  : 0
08:23:24: # of successful request(s): 4         # of invalid request(s)    : 0
08:23:24: # of cot timeout(s)       : 0         # of dsp error(s)          : 0
08:23:24: # of no dsp(s)            : 0

08:23:24: COT Request Type = COT_CHECK_TONE_ON
08:23:24: # of request(s)          : 7          # of restart requests(s)  : 0
08:23:24: # of successful request(s): 3         # of invalid request(s)    : 2
08:23:24: # of cot timeout(s)       : 1         # of dsp error(s)          : 0
08:23:24: # of no dsp(s)            : 0

08:23:24: COT Request Type = COT_CHECK_TONE_OFF
08:23:24: # of request(s)          : 0          # of restart requests(s)  : 0
08:23:24: # of successful request(s): 0         # of invalid request(s)    : 0
08:23:24: # of cot timeout(s)       : 0         # of dsp error(s)          : 0
08:23:24: # of no dsp(s)            : 0


08:23:24: COT Request Type = COT_CUT_IN_TRANSPONDER
08:23:24: # of request(s)          : 0          # of restart requests(s)  : 0
08:23:24: # of successful request(s): 0         # of invalid request(s)    : 0
08:23:24: # of cot timeout(s)       : 0         # of dsp error(s)          : 0
08:23:24: # of no dsp(s)            : 0
```

```
08:23:24: COT Request Type = COT_CUT_OUT_TRANSPONDER
08:23:24: # of request(s)         : 0        # of restart requests(s)  : 0
08:23:24: # of successful request(s): 0      # of invalid request(s)   : 0
08:23:24: # of cot timeout(s)     : 0        # of dsp error(s)         : 0
08:23:24: # of no dsp(s)          : 0
```

Table 36 describes the significant fields shown in the display.

Table 36   show cot summary Field Descriptions

Field	Description
# of request(s)	Number of COT operation requests.
# of successful request(s)	Number of successful COT operation requests.
# of cot timeout(s)	Number of COT subsystem timeouts.
# of no dsp(s)	Number of COT operation requests rejected because of unavailable DSP.
# of restart request(s)	Number of COT operation requests restarted.
# of invalid request(s)	Number of invalid COT operation requests.
# of dsp error(s)	Number of DSP errors.

Related Commands

Command	Description
clear cot summary	Resets the COT counters displayed by the show cot summary command.
debug cot	Troubleshoots COT operation.
show cot dsp	Displays information about the COT DSP configuration or current status.
show cot request	Displays COT request information.

show dhcp

To display the current Dynamic Host Configuration Protocol (DHCP) settings on point-to-point interfaces, use the **show dhcp** command in privileged EXEC mode.

show dhcp {**server** | **lease** [**interface async** [*number*]]}

Syntax Description

server	Displays known DHCP servers.
lease	Displays DHCP addresses leased from a server.
interface async [*number*]	(Optional) Specifies asynchronous interfaces and, optionally, a specific interface number.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.1	This command was introduced.

Usage Guidelines

If you omit the optional argument, the **show dhcp** command displays information about all interfaces.

You can use this command on any point-to-point type of interface (for example, serial, ISDN, and asynchronous) that uses DHCP for temporary IP address allocation.

Examples

The following is sample output from the **show dhcp server** command:

```
Router# show dhcp server

IP address pooling for Point to Point clients is: DHCP Proxy Client
DHCP Proxy Client Status:
   DHCP server: ANY (255.255.255.255)
   Leases:   0
   Offers:   0       Requests: 0      Acks: 0       Naks: 0
   Declines: 0       Releases: 0      Bad:  0
```

Table 37 describes the significant fields shown in the display.

Table 37   show dhcp Field Descriptions

Field	Description
Leases	Number of current leased IP addresses.
Offers	Number of offers for an IP address sent to a proxy-client from the server.
Requests	Number of requests for an IP address to the server.
Acks	Number of "acknowledge" messages sent by the server to the proxy-client.

Table 37   show dhcp Field Descriptions (continued)

Field	Description
Naks	Number of "not acknowledge" messages sent by the server to the proxy-client.
Declines	Number of offers from the server that are declined by the proxy-client.
Releases	Number of times IP addresses have been relinquished gracefully by the client.
Bad	Number of bad packets received from wrong length, wrong field type, and so on.

Related Commands

Command	Description
ip address-pool	Enables an address pooling mechanism used to supply IP addresses to dial-in asynchronous, synchronous, or ISDN point-to-point interfaces.
ip dhcp-server	Specifies which DHCP servers to use on a network, and specifies the IP address of one or more DHCP servers available on the network.
peer default ip address	Specifies an IP address, an address from a specific IP address pool, or an address from the DHCP mechanism to be returned to a remote peer connecting to this interface.

show dialer

To display general diagnostic information for interfaces configured for dial-on-demand routing (DDR), use the **show dialer** command in EXEC mode.

> **show dialer** [**interface** *type number*]

Syntax Description

interface	(Optional) Displays information for the interface specified by the *type* and *number* arguments. Refer to your hardware installation guide to determine the arguments for interface type and number.
type	(Optional) Interface type.
number	(Optional) Interface number.

Command Modes   EXEC

Command History

Release	Modification
10.0	This command was introduced.

Usage Guidelines   If you enter the **show dialer interface** command for the D channel of an ISDN BRI or PRI, the command output also displays the B channels. That is, the **show dialer interface bri 0** command displays information of interfaces bri 0, bri 0:1, and bri 0:2. The **show dialer interface serial 0:23** command (for a channelized T1 line configured for ISDN PRI) displays information for serial interfaces 0:23, 0:0, 0:1, and so forth to 0:22.

If you have defined a dialer group that consists of the interfaces serial 0, serial 1, and bri 2, the **show dialer interface dialer 1** command displays information for interfaces bri 0, bri 0:1, bri 0:2, serial 1, and serial 0.

Examples   The following is sample output from the **show dialer** command for a BRI interface when dialer profiles are configured:

```
Router# show dialer interface bri 0

BRI0 - dialer type = ISDN

Dial String      Successes   Failures    Last called   Last status

0 incoming call(s) have been screened.

BRI0: B-Channel 1
Idle timer (120 secs), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)

Dialer state is data link layer up

Dial reason: ip (s=10.1.1.8, d=10.1.1.1)

Interface bound to profile Dialer0
```

```
Time until disconnect 102 secs
Current call connected 00:00:19
Connected to 5551212 (Device1)

BRI0: B-Channel 2
Idle timer (120 secs), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)
Dialer state is idle
```

Table 38 describes the significant fields shown in the display.

Table 38   show dialer interface bri Field Descriptions

Field	Description
BRI0 - dialer type = ISDN	ISDN dialer.
Dial String	Dial strings of logged calls (telephone numbers). On ISDN BRI interfaces, if you have specified a subaddress number in the **dialer string,** this number is included in the dial string after a colon.
Successes	Successful connections (even if no data is passed).
Failures	Failed connections; call not successfully completed.
Last called	Time that last call occurred to specific dial string.
Last status	Status of last call to specific dial string (successful or failed).
0 incoming call(s) have been screened.	Number of calls subjected to Dialer Profiles screening to determine how the call is to be treated.
BRI0: B-Channel 1	Header indicating the following data is for B channel 1.
Idle timer (120 secs), Fast idle timer (20 secs)	Settings (in seconds) for the idle timer and the fast idle timer.
Wait for carrier (30 secs), Re-enable (15 secs)	Settings (in seconds) for the wait for carrier timer and the reenable timer.
Dialer state is data link layer up	The message "data link layer up" suggests that the dialer came up properly; if it says anything else then dialer did not come up properly. The message "physical layer up" means the Line Control Protocol (LCP) came up, but the Network control Protocol (NCP) did not come up. The **show interfaces** command also provides similar information.
Dial reason: ip (s=10.1.1.8, d=10.1.1.1)	What initiated the dial, namely an IP packet, plus source and destination address in the packet.
Interface bound to profile Dialer0	Dialer profile that is bound to this interface or B channel.
Time until disconnect	Time, in seconds, until line is configured to disconnect.
Current call connected	Time, in hours: minutes: seconds, at which the current call was connected.
Connected to	Dial string to which the line is currently connected.

The following is sample output from the **show dialer** command for an asynchronous interface:

```
Router# show dialer interface async 1

Async1 - dialer type = IN-BAND NO-PARITY
Idle timer (900 secs), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)
Time until disconnect 838 secs
Current call connected 0:02:16
Connected to 8986

 Dial String      Successes   Failures    Last called  Last status
 8986                   0          0        never                      Defaults
 8986                   8          3        0:02:16      Success       Defaults
```

Table 39 describes the significant fields shown in the display.

Table 39   show dialer interface async Field Descriptions for In-Band Dialers

Field	Description
Async 1	Name of an asynchronous interface.
dialer type = IN-BAND	Indicates that DDR is enabled.
Idle timer (900 secs)	Idle timeout specification (in seconds).
Fast idle timer (20 secs)	Fast idle timer specification (in seconds).
Wait for carrier (30 secs)	Wait for carrier timer specification (in seconds).
Re-enable (15 secs)	Enable timeout specification (in seconds).
Time until disconnect	Time, in seconds, until line is configured to disconnect.
Current call connected	Time, in hours: minutes: seconds, at which the current call was connected.
Connected to	Dial string to which the line is currently connected.
Dial String	Dial strings of logged calls (telephone numbers). On ISDN BRI interfaces, if you have specified a subaddress number in the **dialer string** or **dialer map** command, this number is included in the dial string after a colon.
Successes	Successful connections (even if no data is passed).
Failures	Failed connections; call not successfully completed.
Last called	Time, in hours: minutes: seconds, that last call occurred to specific dial string, or never if call has never been made.
Last status	Status of last call to specific dial string (Success or Failed).
Defaults	If the DDR facility is using the dial string specified with the **dialer string** command, the word *Defaults* is appended to the Last status entry.

When the **show dialer** EXEC command is issued for a synchronous serial interface configured for data terminal ready (DTR) dialing, output similar to the following is displayed:

```
Router# show dialer interface serial 0

Serial 0 - dialer type = DTR SYNC
Idle timer (120 secs), Fst idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)

 Dial String    Successes    Failures    Last called   Last status
 ----                  1          0        1:04:47      Success     DTR dialer
 8986                  0          0        never                    Defaults
```

Table 40 describes additional fields shown in the display; see Table 39 for information about the other fields in the report.

Table 40 *show dialer Field Descriptions for DTR Dialers*

Field	Description
DTR SYNC	Indicates that DDR is enabled and that DTR dialing is enabled on this synchronous interface.
Last status: Success	Indicates that the last call was successful and that DTR dialing was used.
DTR dialer	Phrase appended to the Last status entry to indicate that this is a DTR dialer.

If an interface is connected to a destination, a display is provided that indicates the idle time before the line is disconnected. (The value decrements each second.) Then the duration of the current connection is displayed. The following is an example of this display:

```
Time until disconnect 596 secs
Current call connected 0:00:25
```

After a call disconnects, the system displays the time remaining before it can be dialed again. The following is an example of this display:

```
Time until interface enabled 8 secs
```

If the **show dialer** command is issued for an interface on which DDR is not enabled, the system displays an error message. The following is a sample error message:

```
Async 1 - Dialing not enabled on this interface.
```

If an interface is configured for DDR, the **show interfaces** command displays the following message:

```
Async1 is up, line protocol is up (spoofing)
Hardware is Async Serial
```

The word *spoofing* indicates that the line really is not up, but the dialer is forcing the line to masquerade as "up" so that upper level protocols will continue to operate as expected. Spoofing is a state added to allow DDR to work. The interface "dials on demand" in response to packets being routed to it. But because no packets are routed to down interfaces, the interface must pretend to be up (spoof) so packets will be routed to it when it is not connected. Spoofing is the normal idle state on a dial-on-demand interface.

Cisco IOS Dial Technologies Command Reference

If caller ID screening is configured on an ISDN BRI, the **show dialer** command display includes a line similar to the following:

```
1 incoming call(s) have been screened.
```

This line reports the number of calls that have been screened.

show dialer dnis

To see how many calls Dialed Number Information Service (DNIS) groups have had, use the **show dialer dnis** command in privileged EXEC mode.

show dialer dnis {**group** [*name*] | **number** [*number*]}

Syntax Description	

group	Displays DNIS group statistics.
name	(Optional) DNIS group name.
number	Displays DNIS group number statistics.
number	(Optional) DNIS group number.

Command Modes Privileged EXEC

Command History

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

Usage Guidelines If no DNIS groups are configured and resource pooling is enabled, then no calls are accepted. All calls are identified by call type/DNIS combinations.

Use the **show dialer dnis** EXEC command to display how many calls DNIS groups have had or how many calls a specific DNIS group has had. You can configure each DNIS group with multiple numbers. Using this command displays tables of statistics for each DNIS number received at the network access server.

Examples The following example shows the **show dialer dnis** command being used to display DNIS group and DNIS number statistics:

```
Router# show dialer dnis ?

  group   DNIS group statistics
  number  DNIS number statistics

Router# show dialer dnis group

List of DNIS Groups:
  default
  mdm_grp1

Router# show dialer dnis group mdm_grp1

DNIS Number:2001
  0 total connections
  0 peak connections
  0 calltype mismatches
```

```
DNIS Number:2002
  0 total connections
  0 peak connections
  0 calltype mismatches
DNIS Number:2003
  0 total connections
  0 peak connections
  0 calltype mismatches
DNIS Number:2004
  0 total connections
  0 peak connections
  0 calltype mismatches

Router# show dialer dnis number

List of Numbers:
  default
  2001
  2002
  2003
  2004

Router# show dialer dnis number 2001

DNIS Number:2001
  0 connections total
  0 peak connections
  0 call-type mismatches
```

Table 41 describes the significant fields shown in the display.

Table 41   show dialer dnis Field Descriptions

Field	Description
List of DNIS Groups	List of DNIS groups assigned.
List of Numbers	List of DNIS numbers currently assigned.
DNIS Number	DNIS number assigned to specific customers.
total connections	Cumulative number of connections since the last **clear** command was used.
peak connections	Cumulative number of peak connections since the last **clear** command was used.
call-type mismatches	Cumulative number of call-type mismatches since the last **clear** command was used.

Related Commands

Command	Description
clear dialer dnis	Resets the counter statistics associated with a specific DNIS group or number.

show dialer interface bri

To display general diagnostic information for ISDN BRI interfaces configured for dial-on-demand routing (DDR), use the **show dialer interface bri** command in EXEC mode.

show dialer interface bri *number*

Syntax Description	*number*	BRI interface number.

Command Modes   EXEC

Command History

Release	Modification
9.21	This command was introduced.

Usage Guidelines

If you enter the **show dialer interface bri** command for the D channel of an ISDN BRI, the command output also displays the B channels. That is, the **show dialer interface bri 0** command displays information of interfaces bri 0, bri 0:1, and bri 0:2. Similarly, use of the related **show dialer interface serial 0:23** command (for a channelized T1 line configured for ISDN PRI) displays information for serial interfaces 0:23, 0:0, 0:1, and so forth to 0:22.

If you have defined a dialer group that consists of the interfaces serial 0, serial 1, and bri 2, the **show dialer interface dialer 1** command displays information for interfaces bri 0, bri 0:1, bri 0:2, serial 1, and serial 0.

Examples

The following example shows the **show dialer interface bri** command report for a BRI interface when dialer profiles are configured:

```
Router# show dialer interface bri 0

BRI0 - dialer type = ISDN

Dial String     Successes   Failures   Last called   Last status

0 incoming call(s) have been screened.

BRI0: B-Channel 1
Idle timer (120 secs), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)

Dialer state is data link layer up

Dial reason: ip (s=10.1.1.8, d=10.1.1.1)

Interface bound to profile Dialer0

Time until disconnect 102 secs
Current call connected 00:00:19
Connected to 5551212 (Device1)
```

```
BRI0: B-Channel 2
Idle timer (120 secs), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)
Dialer state is idle
```

Table 42 describes the significant fields shown in the display.

Table 42   show dialer interface bri Field Descriptions

Field	Description
BRI0 - dialer type = ISDN	ISDN dialer.
Dial string	Dial strings of logged calls (telephone numbers). On ISDN BRI interfaces, if you have specified a subaddress number in the **dialer string**, this number is included in the dial string after a colon.
Successes	Successful connections (even if no data is passed).
Failures	Failed connections; call not successfully completed.
Last called	Time that last call occurred to specific dial string.
Last status	Status of last call to specific dial string (successful or failed).
0 incoming call(s) have been screened.	Number of calls subjected to Dialer Profiles screening to determine how the call is to be treated.
BRI0: B-Channel 1	Header indicating the following data is for B channel 1.
Idle timer (120 secs), Fast idle timer (20 secs)	Settings (in seconds) for the idle timer and the fast idle timer.
Wait for carrier (30 secs), Reenable (15 secs)	Settings (in seconds) for the wait for carrier timer and the reenable timer.
Dialer state is data link layer up	The message "data link layer up" suggests that the dialer came up properly; if it says anything else then dialer did not come up properly. The message "physical layer up" means the line protocol (LCP) came up, but the NCP did not come up. The **show interfaces** command also provides the similar information.
Dial reason: ip (s=6.1.1.8, d=6.1.1.1)	What initiated the dial, namely an IP packet, plus source and destination address in the packet.
Interface bound to profile Dialer0	Dialer profile that is bound to this interface or B channel.
Time until disconnect	Time until line is configured to disconnect. This field is displayed if the interface is currently connected to a destination.
Current call connected	Time at which the current call was connected.
Connected to	Dial string to which line is currently connected.

If an interface is connected to a destination, a display is provided that indicates the idle time before the line is disconnected. (The value decrements each second.) Then the duration of the current connection is shown. The following shows an example of this display:

```
Time until disconnect 596 secs
Current call connected 0:00:25
```

After a call disconnects, the system displays the time remaining before being it can dial again. The following is an example of this display:

```
Time until interface enabled 8 secs
```

If caller ID screening is configured on an ISDN BRI, the **show dialer interface bri** command display includes a line similar to the following:

```
1 incoming call(s) have been screened.
```

This line reports the number of calls that have been screened.

Related Commands	**Command**	**Description**
	show dialer	Displays general diagnostic information for interfaces configured for DDR.

show dialer map

To display configured dynamic and static dialer maps and dynamically created PPP Bandwidth Allocation Control Protocol (BACP temporary static dialer maps, use the **show dialer map** command in EXEC mode.

show dialer map

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 dialer map** command. The dialer maps are grouped by network address. When multiple dialer maps exist for the same network address, the dialer maps differ only by phone number. In this output, the dialer maps marked "BAP" are temporary dialer maps the PPP BACP creates when a peer calls from a different phone number than is configured or when a peer calls from a number that does not appear in an existing map. The temporary dialer maps allows PPP BACP to make outgoing calls to the peers.

```
Router# show dialer map

Static dialer map ip 10.1.1.1 name peer_1 on Dialer1
Static dialer map ip 10.1.1.2 name peer_2 on Dialer1
BAP dialer map ip 10.1.1.2 name peer_2 on Dialer1
Dynamic dialer map ip 10.1.1.3 name peer_3 on Dialer1
BAP dialer map ip 10.1.1.3 name peer_3 on Dialer1
```

Table 43 describes the significant fields shown in the display.

Table 43   show dialer map Field Descriptions

Field	Description
Static dialer map ip 10.1.1.1	A configured static dialer map to call the specified protocol address.
name peer_1	Name of the remote peer.
on Dialer1	The physical or logical dialer interface on which the static map is configured.
BAP dialer map ip 10.1.1.2	A temporary dialer map that was created by PPP BACP for the particular destination with a different phone number from that of any existing maps. It will be removed when the BACP group is removed or the last remaining map to that destination is removed.

Table 43   show dialer map Field Descriptions (continued)

Field	Description
Dynamic dialer map ip 10.1.1.3	Dialer map dynamically created when a peer called.
BAP dialer map ip 10.1.1.3 name peer_3	Temporary static dialer map created by PPP BACP when required. It will be removed when the BACP group is removed or when the dynamic dialer map disappears.

Related Commands	**Command**	**Description**
	dialer map	Configures a serial interface or ISDN interface to call one or multiple sites or to receive calls from multiple sites.

show dialer sessions

To display all dialer sessions, use the **show dialer sessions** command in EXEC mode.

show dialer sessions

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
12.0(3)T	This command was introduced.

Examples

In the following example, a Cisco 5350 router is dialing out to a Cisco 5300 router. All dialer sessions are displayed.

```
Router# show dialer sessions

DSES 0xAF0: index = 0x0, state = 3, ip addr = 10.2.2.22, dialed number = 81067, name = p5
200_pri.cisco.com, connected interface = Serial0:22
```

Table 44 describes the significant fields shown in the display.

Table 44   show dialer sessions Field Descriptions

Field	Description
ip addr	IP address of the remote interface that has been dialed into.
dialed number	Number that was used to dial out.
name	Name of the interface dialed into. This can be different from the router name, because names can be changed on per-interface basis.
connected interface	The channel on which the call is connected.

Related Commands

Command	Description
clear dialer sessions	Removes all dialer sessions and disconnects links when connected.

show dial-shelf

To display information about the dial shelf, including clocking information, use the **show dial-shelf** command in privileged EXEC mode.

show dial-shelf [**clocks** | **slot** *slot-number* [**clocks**]]

Syntax Description		
	clocks	(Optional) Displays the current primary and backup clocks along with their priorities.
	slot *slot-number*	(Optional) Displays information for a specific slot; refer to your hardware installation guide to determine the *slot-number*.

Command Modes   Privileged EXEC

Command History	Release	Modification
	11.3(2)AA	This command was introduced.

Usage Guidelines   To configure the clock source and priority of the clock source used by the time-division multiplexing (TDM) bus on the dial shelf, use the **dial-tdm-clock** global configuration command.

Examples   The following is sample output from the **show dial-shelf** command:

```
Router# show dial-shelf

Slot  Board    CPU        DRAM          I/O Memory    State      Elapsed
      Type     Util    Total (free)    Total (free)              Time
 1     CT1    0%/0%   22034060 ( 88%)  8388608 ( 49%)  Up        00:37:31
 5    Modem   0%/0%    7353996 ( 57%)  6291456 ( 35%)  Up        00:37:29
 6    Modem   0%/0%    7353996 ( 58%)  6291456 ( 35%)  Up        00:37:34
 7    Modem   5%/5%    7353996 ( 57%)  6291456 ( 35%)  Up        00:37:29
 8    Modem  19%/19%   7353996 ( 57%)  6291456 ( 35%)  Up        00:37:33
 9    Modem   8%/8%    7353996 ( 57%)  6291456 ( 35%)  Up        00:37:33
11    Modem   0%/0%    7353996 ( 57%)  6291456 ( 35%)  Up        00:37:30
12     DSC    0%/0%   20830044 ( 91%)  8388608 ( 66%)  Up        00:37:35
```

When the router is in dial shelf split mode, the **show dial-shelf** command indicates that the router shelf is running in split mode and which slots the router shelf owns. The status of any cards in any owned slots will be displayed just as they are in the present command. Thus when in normal mode, this command is unchanged from the original version.

When in split mode, the output will be extended, as in the following example:

```
Router# show dial-shelf

System is in split dial shelf mode.
Slots owned: 0 2 3 4 5 6 (connected to DSC in slot 13)
Slot     Board     CPU       DRAM          I/O Memory   State   Elapsed
         Type      Util    Total (free)   Total (free)          Time
 0        CE1      0%/0%   21341728( 87%)  8388608( 45%)  Up     00:11:37
 2        CE1      0%/0%   21341728( 87%)  8388608( 45%)  Up     00:11:37
 4  Modem(HMM)    20%/20%   6661664( 47%)  6291456( 33%)  Up     00:11:37
 5  Modem(DMM)     0%/0%    6661664( 31%)  6291456( 32%)  Up     00:11:37
 6  Modem(DMM)     0%/0%    6661664( 31%)  6291456( 32%)  Up     00:11:37
13        DSC      0%/0%   20451808( 91%)  8388608( 66%)  Up     00:16:31
Dial shelf set for auto boot
```

Note that only the first two lines of output are new; the remaining information is the same that you would obtain from the system if there were no cards in the slots, which in the above example, are not owned.

Table 45 describes the significant fields shown in the display.

Table 45   show dial-shelf Field Descriptions

Field	Description
Slot	Slot number of the card.
Board Type	Type of card in the slot. Types include channelized T1/E1 trunk cards, modem cards, or Dial Shelf Controller (DSC) card.
CPU Util	Utilization ratio of the CPU.
DRAM Total (free)	Percent of free space.
I/O Memory Total (free)	Percent of free disk space.
State	Current state of the card. Can be Up or Down.
Elapsed Time	The elapsed time, in hours: minutes: seconds, for which the shelf has been up.

The following examples show output from the **show dial-shelf clocks** command, for comparison.

Display 1

```
Router# show dial-shelf clocks

Primary Clock:
--------------
Slot 12:
System primary is 1/3/1 of priority 3
TDM Bus Master Clock Generator State = NORMAL

Backup clocks:
Source  Slot    Port    Priority      Status      State
-------------------------------------------------------
Trunk   1       2       10            Good        Configured
```

```
Status of trunk clocks:
----------------------
Slot    Type    11 10  9  8  7  6  5  4  3  2  1  0
1       T1       B  B  B  B  B  B  B  B  B  G  B  B
3       T1       B  B  B  B  B  B  B  B  B  G  B  B
```

Display 2

```
Router# show dial-shelf clocks

Slot 12:
System primary is 6/76/0 of priority 76
TDM Bus Master Clock Generator State = HOLDOVER

Backup clocks:
Source Slot    Port    Priority      Status      State
------------------------------------------------------

Slot    Type    11 10  9  8  7  6  5  4  3  2  1  0
0       E1       B  B  B  B  B  B  B  B  B  B  B  B
```

Related Commands	Command	Description
	show diag	Displays advanced troubleshooting information about line cards.
	show dial-shelf split	Displays information about the types of cards in nonowned dial shelf slots.

show dial-shelf split

To display information about the types of cards in nonowned dial shelf slots, use the **show dial-shelf split** command in privileged EXEC mode.

show dial-shelf split

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.3(2)AA	This command was introduced.

Examples

The following is sample output from the **show dial-shelf split** command.

```
Router# show dial-shelf split

System is in split dial shelf mode, connected to DSC in slot 13.
Slots owned: 0 2 3 4 5 6
Non owned slots:
Slot    Board Type
 1      CE1
 7      Modem(DMM)
 8      Modem(DMM)
 9      Modem(DMM)
10      Slot Empty
11      Slot Empty
12      DSC
```

The report is self explanatory.

Related Commands

Command	Description
show dial-shelf	Displays information about the types of cards in nonowned dial shelf slots.