Troubleshooting Toolbox:
Clearing Interface Counters

Clearing Interface Counters

Cisco devices maintain important counters (interface and otherwise) and these counters are essential for troubleshooting. Most of these counters are cumulative. That means that when you look at the counter you will be seeing information collected from the time that the counter was last reset – in many cases, this timeframe is going to be too vast to assist in your current troubleshooting. You may want to reset the counter to observe data going forward and clear out the historical data. In order to do that you need to use the **clear counters** privileged EXEC command.

If you use the **clear counters** command without specifying which counter(s) you wish to clear, it will clear ALL (well, most) counters on your device. Think of **clear counters** as actually meaning **clear counters *all*.** Many times using the **clear counters** command is akin to dropping an atomic bomb on a mosquito. Sure you reset the counter(s) that you are monitoring, but you may end up discarding information that others are using for their own troubleshooting or even historical information that you will need to consult during your current troubleshooting. This is where specifying the particular counter(s) comes in handy. In this lesson, we'll look at using the **clear counters [interface]** command .

Note: If you clear the counters on an interface, it may be a good idea to save the output of the **show interfaces [interface]** command in a text file or in your ticketing system prior to issuing the **clear counters [interface]** command. This gives you a historical record of the counter(s) output in case you need to review those counters later.

show interfaces

```
r1#show int s0/0/0:0
Serial0/0/0:0 is up, line protocol is up
  Hardware is GT96K Serial
  Description: ATT DHEC123456
  MTU 1500 bytes, BW 2048 Kbit, DLY 20000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation FRAME-RELAY, loopback not set
  Keepalive set (10 sec)
  LMI enq sent  104898, LMI stat recvd 104889, LMI upd recvd 0, DTE LMI up
  LMI enq recvd 2, LMI stat sent  0, LMI upd sent  0
  LMI DLCI 1023  LMI type is CISCO  frame relay DTE
  FR SVC disabled, LAPF state down
  Broadcast queue 0/64, broadcasts sent/dropped 0/0, interface broadcasts 0
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters 1w5d
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 67
  Queueing strategy: fifo
  Output queue: 0/250 (size/max)
  30 second input rate 6000 bits/sec, 10 packets/sec
  30 second output rate 8000 bits/sec, 11 packets/sec
     3876705 packets input, 698886724 bytes, 0 no buffer
     Received 0 broadcasts, 349 runts, 1 giants, 0 throttles
     206599 input errors, 206599 CRC, 42204 frame, 1290 overrun, 0 ignored, 7670 7 abort
     4612838 packets output, 791359050 bytes, 0 underruns
     0 output errors, 0 collisions, 0 interface resets
     0 output buffer failures, 0 output buffers swapped out
     16 carrier transitions
  Timeslot(s) Used: UNFRAMED, SCC: 0, Transmitter delay is 0 flags
```

clear counters Command

clear counters
To clear the interface counters, use the **clear counters** command in user EXEC or privileged EXEC mode.

clear counters [*interface-type interface-number*]

```
r1#clear counters serial 0/0/0:0
Clear "show interface" counters on this interface [confirm]y
```

Verification:

```
r1#show interfaces serial 0/0/0:0
Serial0/0/0:0 is up, line protocol is up
…
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters 00:00:19
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/250 (size/max)
  30 second input rate 2000 bits/sec, 4 packets/sec
  30 second output rate 3000 bits/sec, 5 packets/sec
     122 packets input, 6469 bytes, 0 no buffer
     Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
     138 packets output, 13417 bytes, 0 underruns
     0 output errors, 0 collisions, 0 interface resets
     0 output buffer failures, 0 output buffers swapped out
     0 carrier transitions
  Timeslot(s) Used: UNFRAMED, SCC: 0, Transmitter delay is 0 flags
```

clear counters

```
r1#clear counters ?
  Async                Async interface
  BVI                  Bridge-Group Virtual Interface
  CDMA-Ix              CDMA Ix interface
  CTunnel              CTunnel interface
  Dialer               Dialer interface
  GigabitEthernet      GigabitEthernet IEEE 802.3z
  Group-Async          Async Group interface
  Line                 Terminal line
  Loopback             Loopback interface
  MFR                  Multilink Frame Relay bundle interface
  Multilink            Multilink-group interface
  Null                 Null interface
  Port-channel         Ethernet Channel of interfaces
  Serial               Serial
  Tunnel               Tunnel interface
  Vif                  PGM Multicast Host interface
  Virtual-PPP          Virtual PPP interface
  Virtual-Template     Virtual Template interface
  Virtual-TokenRing    Virtual TokenRing
  XTagATM              Extended Tag ATM interface
  <cr>
```

show interfaces

```
r1#show int s0/0/0:0
Serial0/0/0:0 is up, line protocol is up
  Hardware is GT96K Serial
  Description: ATT DHEC123456
  MTU 1500 bytes, BW 2048 Kbit, DLY 20000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation FRAME-RELAY, loopback not set
  Keepalive set (10 sec)
  LMI enq sent  104898, LMI stat recvd 104889, LMI upd recvd 0, DTE LMI up
  LMI enq recvd 2, LMI stat sent  0, LMI upd sent  0
  LMI DLCI 1023  LMI type is CISCO  frame relay DTE
  FR SVC disabled, LAPF state down
  Broadcast queue 0/64, broadcasts sent/dropped 0/0, interface broadcasts 0
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters 1w5d
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 67
  Queueing strategy: fifo
  Output queue: 0/250 (size/max)
  30 second input rate 6000 bits/sec, 10 packets/sec
  30 second output rate 8000 bits/sec, 11 packets/sec
     3876705 packets input, 698886724 bytes, 0 no buffer
     Received 0 broadcasts, 349 runts, 1 giants, 0 throttles
     206599 input errors, 206599 CRC, 42204 frame, 1290 overrun, 0 ignored, 7670 7 abort
     4612838 packets output, 791359050 bytes, 0 underruns
     0 output errors, 0 collisions, 0 interface resets
     0 output buffer failures, 0 output buffers swapped out
     16 carrier transitions
  Timeslot(s) Used: UNFRAMED, SCC: 0, Transmitter delay is 0 flags
```

clear counters [interface]

```
r1#clear counters serial 0/0/0:0
Clear "show interface" counters on this interface [confirm]y

r1#show interfaces serial 0/0/0:0
Serial0/0/0:0 is up, line protocol is up
…
  LMI enq sent  2, LMI stat recvd 2, LMI upd recvd 0, DTE LMI up
  LMI enq recvd 0, LMI stat sent  0, LMI upd sent  0
  LMI DLCI 1023  LMI type is CISCO  frame relay DTE
  FR SVC disabled, LAPF state down
  Broadcast queue 0/64, broadcasts sent/dropped 0/0, interface broadcasts 0
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters 00:00:19
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/250 (size/max)
  30 second input rate 2000 bits/sec, 4 packets/sec
  30 second output rate 3000 bits/sec, 5 packets/sec
     122 packets input, 6469 bytes, 0 no buffer
     Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
     138 packets output, 13417 bytes, 0 underruns
     0 output errors, 0 collisions, 0 interface resets
     0 output buffer failures, 0 output buffers swapped out
     0 carrier transitions
  Timeslot(s) Used: UNFRAMED, SCC: 0, Transmitter delay is 0 flags
```

clear counters [interface]

```
r1#show interfaces GigabitEthernet0/0
GigabitEthernet0/0 is up, line protocol is up
  Hardware is MV96340 Ethernet, address is 0023.04ac.4420 (bia 0023.04ac.4420)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation 802.1Q Virtual LAN, Vlan ID  1., loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is T
  output flow-control is XON, input flow-control is XON
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:01, output hang never
  Last clearing of "show interface" counters 1w5d
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 2000 bits/sec, 4 packets/sec
  5 minute output rate 1000 bits/sec, 2 packets/sec
     9473972 packets input, 1317425110 bytes, 0 no buffer
     Received 3331442 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
     0 watchdog, 0 multicast, 0 pause input
     0 input packets with dribble condition detected
     6600326 packets output, 1354854244 bytes, 0 underruns
     0 output errors, 0 collisions, 0 interface resets
     0 babbles, 0 late collision, 0 deferred
     0 lost carrier, 0 no carrier, 0 pause output
     0 output buffer failures, 0 output buffers swapped out
```

Last clearing of "show interface" counters never

```
r2#show interfaces GigabitEthernet0/0
GigabitEthernet0/0 is up, line protocol is up
  Hardware is BCM1125 Internal MAC, address is 000a.b8cc.9890 (bia 000a.b8cc.9890)
  Description: uplink
  Internet address is 10.1.12.1/30
  MTU 1500 bytes, BW 1000000 Kbit/sec, DLY 10 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 1000Mb/s, media type is RJ45
  output flow-control is XON, input flow-control is XON
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
<--output truncated-->

r2#show version
Cisco IOS Software, 3800 Software (C3845-SPSERVICESK9-M), Version 12.4(25c), REL
EASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2010 by Cisco Systems, Inc.
Compiled Fri 12-Feb-10 03:18 by prod_rel_team
ROM: System Bootstrap, Version 12.3(11r)T2, RELEASE SOFTWARE (fc1)
r2 uptime is 4 minutes
System returned to ROM by power-on
System restarted at 13:28:59 CDT Sat May 28 2011
<--output truncated-->
```

Summary

Cisco devices maintain important counters (interface and otherwise) and these counters are essential for troubleshooting. Most of these counters are cumulative. That means that when you look at the counter you will be seeing information collected from the time that the counter was last reset – in many cases, this timeframe is going to be too vast to assist in your current troubleshooting. You may want to reset the counter to observe data going forward and clear out the historical data. In order to do that you need to use the **clear counters** privileged EXEC command.

If you use the **clear counters** command without specifying which counter(s) you wish to clear, it will clear ALL (well, most) counters on your device. Think of **clear counters** as actually meaning **clear counters *all*.** Many times using the **clear counters** command is akin to dropping an atomic bomb on a mosquito. Sure you reset the counter(s) that you are monitoring, but you may end up discarding information that others are using for their own troubleshooting or even historical information that you will need to consult during your current troubleshooting. This is where specifying the particular counter(s) comes in handy. In this lesson, we'll look at using the **clear counters [interface]** command .

You can determine when an interface's counters were last reset by issuing the **show interfaces [interface]** command and looking at the **Last clearing of "show interface" counters** output. If that output is **never**, that means that the interface has not been cleared since the device last reloaded. You will need to determine the last time that your device/module/card/stackmember (depending on device/IOS version) was reloaded. Generally, you can determine this from the output of the **show version** command.