



**Troubleshooting Toolbox:
Show Interfaces: Last Input/Output**



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
```



Interface Last Input/Output

The **show interface** command contains a lot of great information. One of the often overlooked pieces of output from this command is the **last input/output** field.

Last input - Number of hours, minutes, and seconds since the last packet was successfully received by an interface and processed locally on the router. Useful for knowing when a dead interface failed. **This counter is updated only when packets are process-switched, not when packets are fast-switched.**

Last output - Number of hours, minutes, and seconds since the last packet was successfully transmitted by an interface. **This counter is updated only when packets are process-switched, not when packets are fast-switched.**

output hang - Number of hours, minutes, and seconds (or never) since the interface was last reset because of a transmission that took too long.

Note: When the number of hours in any of the "last" fields exceeds 24 hours, the number of days and hours is printed. If that field overflows, asterisks are printed.



show interfaces

Normally, the amount of time is going to be sub-second, so you'll see 00:00:00 for each direction:

```
r1#show interfaces serial 0/0/0:0
Serial0/0/0:0 is up, line protocol is up
  Hardware is GT96K Serial
  Description: ATT E1
  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 187, LMI stat recvd 187, 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 00:31:13
  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 1000 bits/sec, 4 packets/sec
  30 second output rate 4000 bits/sec, 4 packets/sec
    5075 packets input, 486530 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
    6519 packets output, 1036663 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
```



show interfaces

Where this comes in handy is when you want to determine when an interface last transmitted/received traffic .

```
sw1#show interfaces GigabitEthernet3/1
```

```
GigabitEthernet3/1 is down, line protocol is down (notconnect)
```

```
Hardware is C6k 1000Mb 802.3, address is 0012.80b9.845c (bia 0012.80b9.845c)
```

```
Description: Server Athens
```

```
<-- Output Truncated -->
```

```
Last input 2d03h, output 2d03h, output hang never
```

```
Last clearing of "show interface" counters never
```

```
<-- Output Truncated -->
```

```
5 minute input rate 0 bits/sec, 0 packets/sec
```

```
5 minute output rate 0 bits/sec, 0 packets/sec
```

```
25912688479 packets input, 17457782918305 bytes, 0 no buffer
```

```
Received 6786256 broadcasts (877308 multicasts)
```

```
0 runts, 0 giants, 0 throttles
```

```
3 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
```

```
0 watchdog, 0 multicast, 0 pause input
```

```
0 input packets with dribble condition detected
```

```
26853124944 packets output, 18283435638880 bytes, 0 underruns
```

```
0 output errors, 0 collisions, 3 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
```



Interface Last Input/Output

Last input - Number of hours, minutes, and seconds since the last packet was successfully received by an interface and processed locally on the router. Useful for knowing when a dead interface failed. **This counter is updated only when packets are process-switched, not when packets are fast-switched.**

These traffic types are not CEF switched:

- **Packets for which there is no entry in the switching cache**
- **Packets destined for the router**
- **Broadcast traffic**
- **IP packets with options**
- **Packets that require protocol translation**
- **Encrypted traffic**



Last Input/Output Never

```
sw1#show interfaces g3/2 | i roto|Last  
GigabitEthernet3/2 is administratively down, line protocol is down (disabled)  
  Last input never, output never, output hang never  
  Last clearing of "show interface" counters never
```

The above shows **never** this means that no traffic has flowed in either direction since...well...either the last time that the interface counters were cleared...or if the last clearing of “show interface” is never as well, then since the device (or card or module or stack member...depending on device/IOS) last powered up/reloaded.



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
```




show interfaces

Remember that the traffic needs to be **process-switched**. This can lead to "interesting" output:

```
sw1#sh int Gi3/22
GigabitEthernet3/22 is up, line protocol is up (connected)
  Hardware is C6k 1000Mb 802.3, address is 0012.80b9.8471 (bia 0012.80b9.8471)
  Description: Server X
<--Output Truncated -->
  Last input never, output 00:00:05, output hang never
  Last clearing of "show interface" counters 02:06:34
  Input queue: 0/2000/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 1226000 bits/sec, 150 packets/sec
  5 minute output rate 270000 bits/sec, 97 packets/sec
    1038 packets input, 1340351 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    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
  539 packets output, 68284 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
```



Summary

The **show interface** command contains a lot of great information. One of the often overlooked pieces of output from this command is the **last input/output** field.

Last input - Number of hours, minutes, and seconds since the last packet was successfully received by an interface and processed locally on the router. Useful for knowing when a dead interface failed.

Last output - Number of hours, minutes, and seconds since the last packet was successfully transmitted by an interface.

These counters are updated only when packets are process-switched, not when packets are fast-switched.