

Guide Contents
<u>Troubleshooting Cisco IOS Voice Overview</u>
<u>Debug Command Output on Cisco IOS Voice Gateways</u>
<u>Filtering Troubleshooting Output</u>
<u>Cisco VoIP Internal Error Codes</u>
<u>Troubleshooting Cisco IOS Voice Telephony</u>
<u>Troubleshooting Cisco IOS Voice Protocols</u>
<u>Troubleshooting Cisco IOS Telephony Applications</u>
<u>Monitoring the Cisco IOS Voice Network</u>
<u>Cause Codes and Debug Values</u>

Contents

- [1 Enabling IEC Syslog Reporting and Configuring Cause Code Mapping: Example](#)
- [2 Verifying IEC Configuration: Example](#)
 - ◆ [2.1 Sample Output from the show running-config Command: Example](#)
 - ◆ [2.2 Sample Output from the show voice iec description Command: Example](#)
 - ◆ [2.3 Sample Output from the show voice statistics iec Command: Example](#)
 - ◆ [2.4 Sample Output from the clear voice statistics Command: Example](#)
 - ◆ [2.5 Sample Output from the show voice cause-code category-q850 Command: Example](#)

Enabling IEC Syslog Reporting and Configuring Cause Code Mapping: Example

In the following example, IEC syslog reporting and cause-code mapping are enabled:

```
enable
configure terminal
voice iec syslog
voice cause-code
  error-category 128 q850-cause 27
```

Verifying IEC Configuration: Example

In the following examples, the output is displayed for each command used to verify IEC configuration:

Sample Output from the show running-config Command: Example

```
Router# show running-config
Building configuration...
Current configuration :2791 bytes
!
version 12.2
no parser cache
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
service internal
!
hostname GW-1
!
no boot startup-test
```

```

!
!
resource-pool disable
spe default-firmware spe-firmware-1
!
!
aaa new-model
!
!
aaa group server radius h323
!
aaa authentication login h323 group radius group h323
aaa authorization config-commands
aaa authorization exec h323 group h323
aaa accounting connection h323 start-stop group radius group h323
aaa session-id common
!
isdn switch-type primary-5ess
!

```

The following lines show optional IEC configuration information:

```

voice iec syslog
voice cause-code
  error-category 128 q850-cause 27
  error-category 129 q850-cause 38
!
!
!
controller T1 3/0
  framing esf
  linecode b8zs
  pri-group timeslots 1-24
!
controller T1 3/1
  shutdown
  framing sf
  linecode ami
gw-accounting aaa
!
!
!
interface FastEthernet0/0
  ip address 172.18.195.28 255.255.255.0
  no ip route-cache
  no ip mroute-cache
  duplex full
  speed 100
  no cdp enable
  h323-gateway voip interface
  h323-gateway voip id GK-1 ipaddr 172.18.195.41 1718
  h323-gateway voip h323-id GW-1
!
interface FastEthernet0/1
  no ip address
  no ip route-cache
  no ip mroute-cache
  shutdown
  duplex auto
  speed auto
  no cdp enable
!
interface Serial0/0

```

```
no ip address
no ip route-cache
no ip mroute-cache
shutdown
clockrate 2000000
no cdp enable
!
interface Serial0/1
no ip address
no ip route-cache
no ip mroute-cache
shutdown
clockrate 2000000
no cdp enable
!
interface Serial3/0:23
no ip address
dialer-group 1
isdn switch-type primary-5ess
isdn incoming-voice modem
no cdp enable
!
ip classless
ip route 0.0.0.0 0.0.0.0 172.18.195.1
no ip http server
!
!
!
radius-server host 172.18.200.222 auth-port 1645 acct-port 1646
radius-server key lab
radius-server authorization permit missing Service-Type
radius-server vsa send accounting
call rsvp-sync
!
!
voice-port 3/0:D
!
!
mgcp profile default
!
dial-peer cor custom
!
!
!
dial-peer voice 100 pots
destination-pattern 1#919....
direct-inward-dial
port 3/0:D
prefix 919
!
dial-peer voice 301 voip
destination-pattern 7190003
session target ras
!
!
gateway
!
!
line con 0
exec-timeout 0 0
logging synchronous
line aux 0
logging synchronous
line vty 0 4
```

```

password lab
line 1/00 1/59
  no flush-at-activation
  modem InOut
!
scheduler allocate 10000 400
end

```

Sample Output from the show voice iec description Command: Example

```

Router# show voice iec description 1.1.128.1.5.0
  IEC Version:1
  Entity:1 (Gateway)
  Category:128 (Destination address resolution failure)
  Subsystem:1 (CCAPI)
  Error:5 (No dial peer match)
  Diagnostic Code:0

```

Sample Output from the show voice statistics iec Command: Example

```

Router# show voice statistics iec since-reset
Internal Error Code counters
-----
Counters since last reset (2002-11-28T01:55:31Z):
SUBSYSTEM CCAPI [subsystem code 1]
  [errcode 6] No DSP resource 5
SUBSYSTEM SSAPP [subsystem code 4]
  [errcode 5] No dial peer match 2
  [errcode 3] CPU high 96
SUBSYSTEM H323 [subsystem code 5]
  [errcode 22] No Usr Responding, H225 timeout 1
  [errcode 27] H225 invalid msg 1
  [errcode 79] H225 chn, sock fail 27
SUBSYSTEM VTSP [subsystem code 9]
  [errcode 6] No DSP resource 83
Router# show voice statistics iec since-reboot
Internal Error Code counters
-----
Counters since reboot:
SUBSYSTEM CCAPI [subsystem code 1]
  [errcode 6] No DSP resource 93
SUBSYSTEM SSAPP [subsystem code 4]
  [errcode 5] No dial peer match 830
  [errcode 3] CPU high 1423
SUBSYSTEM H323 [subsystem code 5]
  [errcode 21] No Usr Responding, H225 timeout 21
  [errcode 23] H225 invalid msg 17
  [errcode 39] H225 chn, sock fail 2073
SUBSYSTEM VTSP [subsystem code 9]
  [errcode 6] No DSP resource 429

```

Before using the **show voice statistics iec interval** command, first determine the intervals available for display by using the **show voice statistics interval-tag** command:

```

Router# show voice statistics interval-tag
Current Time:2002-11-28T06:04:21Z
INTERVAL-TAG  START TIME  END TIME
=====
1 2002-11-28T02:00:00Z 2002-11-28T02:30:01Z
2 2002-11-28T02:30:01Z 2002-11-28T03:00:01Z
3 2002-11-28T03:00:01Z 2002-11-28T03:30:01Z

```

```

4          2002-11-28T03:30:01Z    2002-11-28T04:00:01Z
5          2002-11-28T04:00:01Z    2002-11-28T04:30:01Z
6          2002-11-28T04:30:01Z    2002-11-28T05:00:01Z
7          2002-11-28T05:00:01Z    2002-11-28T05:30:01Z
8          2002-11-28T05:30:01Z    2002-11-28T06:00:01Z
9          2002-11-28T06:00:01Z    2002-11-28T06:04:21Z

```

The following example shows **interval-tag 8** statistics:

```

Router# show voice statistics iec interval 8
Internal Error Code counters
-----
Counters for interval 8, beginning 2002-11-28T05:30:01Z, ending 2002-11-28T06:00:01Z:
SUBSYSTEM CCAPI [subsystem code 1]
  [errcode  6] No DSP resource                1
SUBSYSTEM SSAPP [subsystem code 4]
  [errcode  3] CPU high                       15
SUBSYSTEM H323 [subsystem code 5]
  [errcode 23] H225 invalid msg              1
  [errcode 39] H225 chn, sock fail          1
SUBSYSTEM VTSP [subsystem code 9]
  [errcode  6] No DSP resource                6

```

Sample Output from the clear voice statistics Command: Example

The following examples show **voice statistics iec since-reset** output before and after you issue the **clear voice statistics** command:

```

Router# show voice statistics iec since-reset
Internal Error Code counters
-----
Counters since last reset (2002-11-28T01:55:31Z):
SUBSYSTEM CCAPI [subsystem code 1]
  [errcode  6] No DSP resource                5
SUBSYSTEM SSAPP [subsystem code 4]
  [errcode  5] No dial peer match            2
  [errcode  3] CPU high                       96
SUBSYSTEM H323 [subsystem code 5]
  [errcode 21] No Usr Responding, H225 timeout 1
  [errcode 23] H225 invalid msg              1
  [errcode 39] H225 chn, sock fail          27
SUBSYSTEM VTSP [subsystem code 9]
  [errcode  6] No DSP resource                83
Router# clear voice statistics iec
Router# show voice statistics iec since-reset
Internal Error Code counters
-----
Counters since last reset (2002-12-12T22:33:25Z):
No errors.

```

Sample Output from the show voice cause-code category-q850 Command: Example

```

Router# show voice cause-code category-q850
The Internal Error Category to Q850 cause code mapping table:-
Error Configured Default   Description
Category  Q850           Q850
128       27                3  Destination address resolution failure
129       38                102 Call setup timeout
178       41                41  Internal Communication Error
179       41                41  External communication Error

```

Sample Output from the show voice statistics iec Command: Example

180	47	47	Software Error
181	47	47	Software Resources Unavailable
182	47	47	Hardware Resources Unavailable
183	41	41	Capability Exchange Failure
184	49	49	QoS Error
185	41	41	RTP/RTCP receive timer expired or bearer layer failure
186	38	38	Signaling socket failure
187	38	38	Gateway or signaling interface taken out of service
228	50	50	User is denied access to this service
278	65	65	Media Negotiation Failure due to non-existing Codec