

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

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

Cisco_IOS_Voice_Troubleshooting_and_Monitoring_--_Cisco_VoIP_Internal_Error_Codes_Configuration_Examples

| | | | |
|-----|----|----|--|
| 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 |