# Configurazione di base da gateway a Gatekeeper Cisco a due zone

## Sommario



## Introduzione

Questo documento studia una rete VoIP con una topologia a due zone gestita da due Gatekeeper Cisco con un gateway Cisco in ciascuna zona. Lo scopo di questo documento è fornire una configurazione di base che consenta all'utente di evitare alcuni problemi noti e creare una base affidabile per la rete basata sul Gatekeeper. Questo documento include informazioni tecniche di base sulle funzionalità configurate, linee guida di progettazione e strategie di verifica e risoluzione dei problemi di base.

Èimportante notare che nella configurazione seguente, i quattro router si trovano sulla stessa LAN. Tuttavia, nella topologia reale, tutti i dispositivi possono trovarsi in parti diverse della rete.

## Operazioni preliminari

### Convenzioni

Per ulteriori informazioni sulle convenzioni usate, consultare il documento Cisco sulle convenzioni nei suggerimenti tecnici.

### Prerequisiti

Non sono previsti prerequisiti specifici per questo documento.

## Componenti usati

Queste configurazioni sono state testate con questa apparecchiatura:

- Quattro Cisco 2600 con software Cisco IOS® versione 12.2.8.5 ENTERPRISE PLUS/H323 MCM

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

# Configurazione

In questa sezione vengono presentate le informazioni necessarie per configurare le funzionalità descritte più avanti nel documento.

**Nota:** per ulteriori informazioni sui comandi menzionati in questo documento, usare lo strumento di ricerca dei comandi (solo utenti registrati).

## Requisiti generali per la configurazione da Gateway a Gatekeeper

Affinché il gateway possa ottenere la risoluzione corretta degli indirizzi dal Gatekeeper, è necessario che siano soddisfatte diverse condizioni.

Occorre verificare due aspetti importanti, ossia:

- Tutti i gateway devono essere registrati nei Gatekeeper corrispondenti.
- Tutti i Gatekeeper devono avere il dial-plan corretto.

### Registrazione

La corretta registrazione è il primo passaggio obbligatorio. Occorre tenere conto di questi fattori aggiuntivi:

- Se il gateway ha interfacce Foreign Exchange Station (FXS), sui dial-peer POTS (Plain Old Telephone Service) aggiungere il comando **no register e164**. In questo modo si evita il problema con la registrazione del gateway descritta nell'ID bug Cisco CSCdw60626 (solo utenti registrati). Anziché registrare direttamente la porta FXS con i numeri e164, è possibile aggiungere un prefisso di zona per il gateway e basare le decisioni di routing sui prefissi di zona.
- In genere, è preferibile definire un prefisso tecnologico per il gateway. Sebbene la presenza di prefissi tecnologici influisca principalmente sul routing delle chiamate, è auspicabile anche una registrazione affidabile.

Per ulteriori informazioni sui problemi di registrazione da Gateway a Gatekeeper, consultare il documento sulla risoluzione dei problemi di registrazione di Gatekeeper.

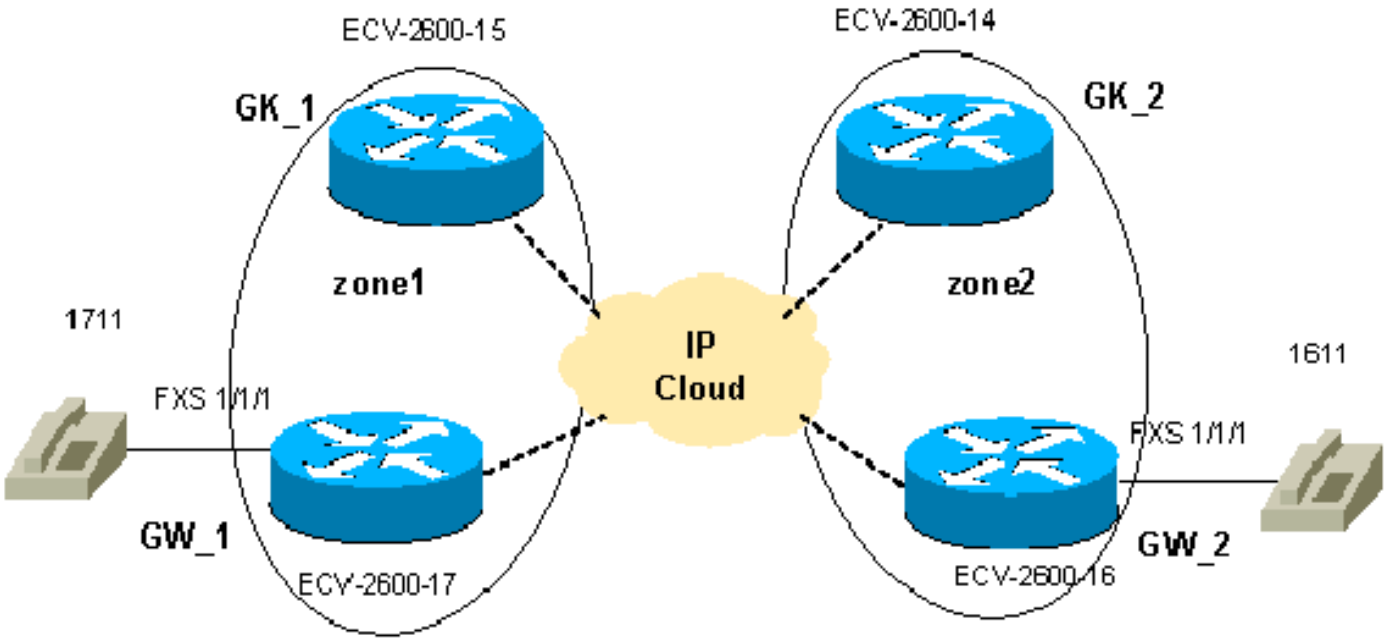
### Routing delle chiamate

- Per un routing affidabile delle chiamate, tutti i gateway devono essere registrati con un prefisso tecnologico. Lo scopo del prefisso tecnologico è distinguere tra diversi tipi di chiamate e tipi corrispondenti di gateway. Quindi, anche se è possibile utilizzare il prefisso tecnologico per le decisioni di routing, la pratica migliore è quella di utilizzare il prefisso tecnologico per distinguere il tipo di chiamata e il percorso in base ai prefissi di zona.Con questo approccio, tutti i gateway VoIP possono essere configurati con lo stesso prefisso tecnologico (ad esempio 1#*, come nell'esempio presentato in questo documento).
- Èpreferibile configurare in modo esplicito il gateway primario per il prefisso della zona.
- Associare la segnalazione H.323 a un indirizzo IP specifico sul gateway o sul router Cisco IOS. Quando il gateway Cisco IOS ha più interfacce IP attive, alcuni messaggi H.323 possono provenire da un indirizzo IP e altre parti possono fare riferimento a un indirizzo di origine diverso. Il comando **h323-gateway voip bind srcaddr** è necessario se per identificare il gateway viene utilizzata l'interfaccia di loopback o se la rete contiene un firewall e server di accounting. Questo comando è stato introdotto nel software Cisco IOS versione 12.1.2T ed è documentato in Configurazione del supporto H.323 per le interfacce virtuali.

Per ulteriori informazioni sul routing delle chiamate Gatekeeper, consultare il documento sulla descrizione del routing delle chiamate Gatekeeper Cisco IOS H.323.

## Esempio di rete

Questo documento utilizza le impostazioni di rete mostrate nel diagramma sottostante.




## Configurazioni

Nel documento vengono usate queste configurazioni.

La verifica delle configurazioni di Gatekeeper e Gateway è una parte importante della risoluzione dei problemi di da Gateway a Gatekeeper. Per semplificare la comprensione delle configurazioni, tutti i comandi di configurazione non correlati sono stati rimossi.

- GW_1 - ECV-2600-17
- GW_2 - ECV-2600-16

- GK_1 ECV-2600-15
- GK_2 ECV-2600-14

## GW_1 - ECV-2600-17

```
IOS (tm) C2600 Software (C2600-JSX-M), Version 12.2(7a),
RELEASE SOFTWARE (fc1)
!
hostname ECV-2610-17
!
!
interface Ethernet0/0
 ip address 10.52.218.49 255.255.255.0
h323-gateway voip interface
!---- This command enables VoIP GW functions on the
interface. h323-gateway voip id gk-zone1.test.com ipaddr
10.52.218.47
 1718
!---- This command defines the GK this GW works with.
h323-gateway voip h323-id gw_1
!---- This command defines the GW alias for the GK.
h323-gateway voip tech-prefix 1#
!---- It is desirable to have tech prefix on the GW for
!---- reliable registration and call routing. h323-
gateway voip bind srcaddr 10.52.218.49
!---- This command is not necessary in this simple
topology, !---- but for complex networks, it is
recommended to use it. ?? ! voice-port 1/1/0 ! voice-
port 1/1/1 ! ! dial-peer voice 1 voip destination-
pattern 16.. session target ras
!---- All IP addresses for the destination pattern 16..
should !---- be resolved through the requests to the GK.
! dial-peer voice 2 pots destination-pattern 1711 port
1/1/1 no register e164
!---- This command prevents registration of this number
with !---- the GK. The GW is registered with the GK with
this alias only. ! gateway ! end
```

## GW_2 - ECV-2600-16

```
!
hostname ECV-2610-16
!
!
interface Ethernet0/0
 ip address 10.52.218.48 255.255.255.0
h323-gateway voip interface
h323-gateway voip id gk-zone2.test.com ipaddr
10.52.218.46 1718

h323-gateway voip h323-id gw_2
h323-gateway voip tech-prefix 1#
h323-gateway voip bind srcaddr 10.52.218.48
!
!
voice-port 1/1/0
!
voice-port 1/1/1
!
dial-peer voice 1 voip
 destination-pattern 17..
 session target ras
```

```
!
dial-peer voice 2 pots
 destination-pattern 1611
 port 1/1/1
 no register e164
!
gateway
!
!
end
```

GK_1 ECV-2600-15

```
!
hostname ECV-2610-15
!
interface Ethernet0/0
 ip address 10.52.218.47 255.255.255.0
!
gatekeeper
zone local gk-zone1.test.com test.com 10.52.218.47
!---- This command defines the local zone. The GK name
and !---- zone name have the same meaning. zone remote
gk-zone2.test.com test.com 10.52.218.46 1719
!---- This command defines the name of the remote GK
(zone). zone prefix gk-zone2.test.com 16..
!---- This command explicitly defines the number length
with !---- the number of dots. zone prefix gk-
zone1.test.com 17.. gw-priority 10 gw_1
!---- This command explicitly defines which GW handles
!---- calls for 17.. numbers that could be done for the
!---- local zones only. gw-type-prefix 1#* default-
technology
!---- This command defines the default technology prefix
!---- that is necessary for routing decisions. no
shutdown
!--- This command turns the service up. ! end
```

GK_2 ECV-2600-14

```
!
hostname ECV-2610-14
!
interface Ethernet0/0
 ip address 10.52.218.46 255.255.255.0
!
gatekeeper zone local gk-zone2.test.com test.com
10.52.218.46
zone remote gk-zone1.test.com test.com 10.52.218.47 1719
zone prefix gk-zone2.test.com 16.. gw-priority 10 gw_2
zone prefix gk-zone1.test.com 17..
gw-type-prefix 1#* default-technology
no shutdown
!
end
```

# Verifica

Le informazioni contenute in questa sezione permettono di verificare che la configurazione

funzioni correttamente.

Alcuni comandi **show sono supportati dallo** strumento Output Interpreter (solo utenti registrati); lo strumento permette di visualizzare un'analisi dell'output del comando **show.**

**Nota:** prima di provare i comandi di **debug**, consultare le informazioni importanti sui comandi di debug. Per ulteriori informazioni sui comandi riportati di seguito, vedere la sezione Comandi per la risoluzione dei problemi in questo documento.

- **show gateway**: visualizza lo stato di registrazione del gateway.
- **show gatekeeper endpoints**: visualizza tutti i gateway registrati per il Gatekeeper.
- **show gatekeeper zone prefix**: visualizza tutti i prefissi di zona configurati sul Gatekeeper.
- **show gatekeeper call**: visualizza le chiamate attive elaborate dal Gatekeeper.
- **debug h225 asn1**: visualizza i messaggi H225 (Registration, Admission, and Status [RAS] and Q931 call setup).
- **debug cch323 h225**: visualizza i messaggi di impostazione della chiamata H225.
- Nozioni di base sulla risoluzione dei problemi e il debug delle chiamate VoIP
- Comandi di debug VoIP
- Guida di riferimento ai comandi voce, video e fax di Cisco IOS, versione 12.2

# Risoluzione dei problemi

Le informazioni contenute in questa sezione permettono di risolvere i problemi relativi alla configurazione.

## Comandi per la risoluzione dei problemi

Per risolvere i problemi, controllare diversi punti fondamentali:

- Tutti i gateway devono essere registrati con i Gatekeeper corrispondenti.
- I gateway devono avere il dial plan corretto (configurati per i dial-peer).
- I gatekeeper devono avere il dial plan corretto (prefissi di zona configurati).

I passaggi descritti in Risoluzione dei problemi e debug delle nozioni fondamentali sulle chiamate VoIP integrano l'output dei comandi **debug** e **show** relativi all'interazione tra gateway e Gatekeeper e devono essere utilizzati per evidenziare i problemi vocali relativi ad altri sottosistemi Cisco IOS. Gli output di esempio dei comandi **show** evidenziano i passaggi precedenti, mentre l'output di **debug** mostra la sequenza di messaggi RAS e H225 su tutti e quattro i router.

**Nota:** il comando **debug h225 asn1** genera un output molto grande, quindi deve essere usato con molta cautela. Alcuni output non necessari sono stati eliminati dai comandi **debug** riportati di seguito.

**Nota:** prima di usare i comandi di **debug**, consultare le informazioni importanti sui comandi di debug.

```
!--- Check the GW registration on the GW. ECV-2610-
17#show gateway
 Gateway gw_1 is registered to Gatekeeper gk-
```

```
zone1.test.com
      ??
Alias list (CLI configured)
 H323-ID gw_1
Alias list (last RCF)
 H323-ID gw_1
      ??
 H323 resource thresholding is DisabledECV-2610-17#
------------------------------------------------------------
----

!--- And on the corresponding GK. ?? ECV-2610-15#show
gatek en
     GATEKEEPER ENDPOINT REGISTRATION
                     ================================
CallSignalAddr Port RASSignalAddrPort Zone Name Type F
--------------- ----- -------------- ----- --------- ---
- --
10.52.218.49 1720 10.52.218.4951194 gk-zone1.test.com
VOIP-GW
 H323-ID: gw_1
Total number of active registrations = 1

ECV-2610-15#
------------------------------------------------------------
----
        ??
!--- The same for the second GW. ECV-2610-16#show
gateway
 Gateway gw_2 is registered to Gatekeeper gk-
zone2.test.com ??
Alias list (CLI configured)
 H323-ID gw_2
Alias list (last RCF)
 H323-ID gw_2
?? H323 resource thresholding is Disabled
ECV-2610-16#
------------------------------------------------------------
----??

!--- And the second corresponding GK. ECV-2610-14#show
gatek en
                     GATEKEEPER ENDPOINT REGISTRATION
                     ================================
CallSignalAddr Port RASSignalAddr Port Zone Name Type F
--------------- ----- --------------- ----- --------- --
-- --
10.52.218.48 1720 10.52.218.48 52080 gk-zone2.test.com
VOIP-GW
 H323-ID:
        gw_2
Total number of active registrations = 1 ??

ECV-2610-14#
------------------------------------------------------------
----
!--- To check the dial plan on the GKs: ?? ECV-2610-
15#show gatek zone pr
  ZONE PREFIX TABLE
   =================
GK-NAME  E164-PREFIX
-------  -----------
gk-zone2.test.com 16..
gk-zone1.test.com 17..??
```

```
ECV-2610-15#
ECV-2610-15#
!--- All configured prefixes should be seen in the zone
list. ------------------------------------------------
----------?? !--- To check the dial plan on the GKs:
ECV-2610-14# ECV-2610-14#show gatek zone pr
      ZONE PREFIX TABLE
 =================
GK-NAME E164-PREFIX
------- -----------
gk-zone2.test.com 16..
gk-zone1.test.com 17..??

ECV-2610-14#

------------------------------------------------------
----??

ECV-2610-15#show gatekeeper call
Total number of active calls = 1.
                     GATEKEEPER CALL INFO
 ====================
LocalCallIDAge(secs) BW
5-0 1 64(Kbps)
 Endpt(s): Alias E.164Addr CallSignalAddr Port
RASSignalAddr Port
 src EP: gw_2 1611 10.52.218.48 1720 10.52.218.48 59067
 dst EP: gw_1 1711 10.52.218.49 1720 10.52.218.49
58841??

ECV-2610-15#
------------------------------------------------------
---------??

!--- The conversation between the GW and the GK consists
of !--- exchange RAS messages. Here are two messages
that show !--- successful registration of the GW to the
GK. ECV-2610-17# ECV-2610-17#debug h225 asn1
H.225 ASN1 Messages debugging is on
ECV-2610-17#
*Mar 2 07:45:53: RAS OUTGOING PDU ::=
!--- The GW sends a RAS registration request message to
the GK. value RasMessage ::= registrationRequest :
 {
 requestSeqNum 93
 protocolIdentifier { 0 0 8 2250 0 2 }
 discoveryComplete FALSE
 callSignalAddress
 {
 }
 rasAddress
 {
        ipAddress :
 {
 ip '0A34DA31'H
 port 57733
        }
 }
 terminalType
 {
 mc FALSE
 undefinedNode FALSE
 }
```

```
 gatekeeperIdentifier {"gk-zone1.test.com"}
      endpointVendor
 {
 vendor
 {
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
      }
 timeToLive 60
 keepAlive TRUE
 endpointIdentifier {"8215266C0000000F"}
      willSupplyUUIEs FALSE
 }

*Mar 2 07:45:53:
*Mar 2 07:45:53: RAS INCOMING PDU ::=
!--- The GK accepts the registration request and replies
with !--- a confirmation. value RasMessage ::=
registrationConfirm :
 {
 requestSeqNum 93
 protocolIdentifier { 0 0 8 2250 0 2 }
 callSignalAddress
 {
 }
 gatekeeperIdentifier {"gk-zone1.test.com"}
      endpointIdentifier {"8215266C0000000F"}
 timeToLive 60
      willRespondToIRR FALSE
  }??

------------------------------------------------------------
--------??

 !--- The incoming H225 call setup message from the
remote GW. !--- The example is the debug cch323 h225
command.

ECV-2610-17# debug cch323 h225
*Mar 2 07:46:03: cch323_h225_receiver: received msg of
type
SETUPIND_CHOSEN

*Mar  2 07:46:03: cch323_h225_setup_ind: callingNumber[]
calledNumber[1711]

*Mar 2 07:46:03: cch323_h225_setup_ind--calling IE NOT
present
*Mar 2 07:46:03:======= PI in cch323_h225_setup_ind =
0??

*Mar 2 07:46:03: Receive: infoXCap 0??

*Mar 2 07:46:03: Receive infoXCap ccb 0??

*Mar 2 07:46:03: src address = 10.52.218.49 of
SETUPIND_CHOSEN
*Mar 2 07:46:03: dest address = 10.52.218.47 of
SETUPIND_CHOSEN??

*Mar 2 07:46:03: cch323_run_h225_sm: received event
H225_EVENT_FAST_SETUP_IND while
```

```
at state H225_IDLE??

*Mar 2 07:46:03: cch323_run_h225_sm: Setup ccb
0x821FCE98 callID
0xFFFFFFFF
*Mar 2 07:46:03: cch323_h225_act_fastStartSetupInd:
codec match = 1
*Mar 2 07:46:03: cch323_rtp_set_non_rtp_call: Non-RTP
call end
*Mar 2 07:46:03: H.225 SM: changing from H225_IDLE state
to
H225_REQ_WAIT_FOR_ARQ

state for callID FFFFFFFF??

-------------------------------------------------------
-----------
!--- Now the example of the debug h225 asn1 !--- command
from all four routers. !--- The messages are sent from
the originating GW.


ECV-2610-16#debug h225 asn1
H.225 ASN1 Messages debugging is on
ECV-2610-16#
!--- The GW_2 initiates a call to 1711 phone located on
GW_1. !--- Here is the messages that show the process on
GW_2:?? *Mar 2 14:28:08.824: RAS OUTGOING PDU ::=
!--- The GW_2 asks gk-zone2 to resolve the e164 number
1711 to IP !--- address. value RasMessage ::=
admissionRequest  :
 {
  requestSeqNum 3091
 callType pointToPoint : NULL
      callModel direct : NULL
 endpointIdentifier {"8217FB5000000001"}
      destinationInfo
 {
 e164 : "1711"
        }
 srcInfo
 {
 e164 : "1611",
        h323-ID : {"gw_2"}
 }
 bandWidth 640
 callReferenceValue 8
 nonStandardData
 {
 nonStandardIdentifier h221NonStandard :
 {
 t35CountryCode 181
 t35Extension 0
          manufacturerCode 18
 }
 data '80000008200A1046585320312F312F31'H
       }
  conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
  activeMC FALSE
  answerCall FALSE
  canMapAlias TRUE
  callIdentifier
       {
```

```
  guid 'F748749F163011CC801DC5F8EEB46E69'H
  }
  willSupplyUUIEs FALSE
  }
??

*Mar 2 14:28:08.960: RAS INCOMING PDU ::=
!--- The gk-zone2 notifies GW_2 that the request is in
progress as it !--- is forwarded to the other gk-zone1
and is not processed locally. ?? value RasMessage ::=
requestInProgress :
 {
!--- Note the sequence numbers in the request equal the
number in !--- the reply. requestSeqNum 3091
 delay 9000
 }

??
*Mar 2 14:28:09.169: RAS INCOMING PDU ::=
!--- The gk-zone2 grants permission to start call and
resolves the !--- e164 number 1711 to IP address of
GW_1. value RasMessage ::= admissionConfirm :
 {
!--- The sequence numbers in the request equal the
number in the reply. requestSeqNum 3091
 bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
 {
 ip '0A34DA31'H
!--- The IP address 10.52.218.49 of GW_1. port 1720 }
irrFrequency 240 destinationInfo { e164 : "1711"
 }
      willRespondToIRR FALSE
 uuiesRequested
 {
 setup FALSE
        callProceeding FALSE
 connect FALSE
 alerting FALSE
        information FALSE
 releaseComplete FALSE
 facility FALSE
        progress FALSE
 empty FALSE
 }
 }


*Mar 2 14:28:09.193: H225 NONSTD OUTGOING PDU ::=

value H323_UU_NonStdInfo ::=
 {
 version 0
 progIndParam progIndIEinfo :
 {
 progIndIE '00000003'H
 }
 }


*Mar 2 14:28:09.197: H225.0 OUTGOING PDU ::=
!--- The GW_2 now can place H323 (q931) call setup
message directly !--- to GW_1. value
```

```
H323_UserInformation ::= { h323-uu-pdu { h323-message-
body setup :
 {
 protocolIdentifier { 0 0 8 2250 0 2 }
 sourceAddress
 {
 h323-ID : {"gw_2"}
 }
 sourceInfo
 {
 gateway
 {
 protocol
 {
             voice :
 {
 supportedPrefixes
 {??

                     {
 prefix e164 : "1#"
                     }
 }
 }
 }
 }
 mc FALSE
 undefinedNode FALSE
 }
 destinationAddress
          {
 e164 : "1711"
 }
          activeMC FALSE
 conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
          conferenceGoal create : NULL
 callType pointToPoint : NULL
          sourceCallSignalAddress ipAddress :
 {
 ip '0A34DA30'H
            port 11001
 }
 callIdentifier
 {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 fastStart
 {
            '0000000D4001800A040001000A34DA3043F3'H,
 '4000000604010040018011140001000A34DA30...'H
          }
 mediaWaitForConnect FALSE
 canOverlapSend FALSE
        }
 h245Tunneling FALSE
 nonStandardControl
 {??

          {
 nonStandardIdentifier h221NonStandard :
 {
            t35CountryCode 181
t35Extension 0
manufacturerCode 18
```

```
}
 data 'C0010002800600040000003'H
}
      }
}
}


*Mar 2 14:28:09.573: H225.0 INCOMING PDU ::=
!--- The GW_1 replies with an H323 (q931) callProceeding
message. value H323_UserInformation ::= { h323-uu-pdu {
h323-message-body callProceeding :
 {
 protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
        {
 mc FALSE
 undefinedNode FALSE
          }
 callIdentifier
 {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 fastStart
 {
 '0000000D40018011140001000A34DA314942000A...'H,

'4000000604010040018011140001000A34DA30...'H
 }
 }
        h245Tunneling FALSE
 }
 }


*Mar 2 14:28:09.766: H225.0 INCOMING PDU ::=
!--- The GW_1 sends an H323 (q931) call Progress
message. value H323_UserInformation ::= { h323-uu-pdu {
h323-message-body progress :
 {
 protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
 {
 mc FALSE
            undefinedNode FALSE
 }
 callIdentifier
 {
     guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 }
 h245Tunneling FALSE
 nonStandardControl
 {

??{
            nonStandardIdentifier h221NonStandard :
 {
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
            }
 data '60011000011E041E028188'H
 }
```

```
 }
 }
    }
????

*Mar 2 14:28:11.801: H225.0 INCOMING PDU ::=
!--- The GW_1 sends an H323 (q931) call CONNECT message.
The call is !--- now active. value H323_UserInformation
::= { h323-uu-pdu { h323-message-body connect :
 {
 protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
 {
 gateway
 {
              protocol
 {
 voice :
 {
                supportedPrefixes
 {

??{
                      prefix e164 : "1#"
 }
 }
                }
 }
 }
 mc FALSE
 undefinedNode FALSE
 }
 conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
          callIdentifier
 {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 }
 h245Tunneling FALSE
 nonStandardControl
 {??

          {
 nonStandardIdentifier h221NonStandard :
 {
              t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data 'C0010002800600040000002'H
 }
        }
 }
 }


*Mar 2 14:28:11.909: show call active voice
Total call-legs: 2

??GENERIC:
SetupTime=13848499 ms
Index=1
PeerAddress=1611
PeerSubAddress=
```

```
PeerId=2
PeerIfIndex=11
LogicalIfIndex=8
ConnectTime=13849192
CallDuration=00:00:19
CallState=4
!--- This means the call is active. CallOrigin=2
ChargedUnits=0 InfoType=2 TransmitPackets=442
TransmitBytes=8840
ReceivePackets=1104
ReceiveBytes=22080
!--- This shows that there is two-way voice for this
call leg. !--- 0 values a problem. TELE:
!--- The call is outgoing and started from the PSTN.
That is why !--- TELE: is first in the output.
ConnectionId=[0xF748749F 0x163011CC 0x801CC5F8
0xEEB46E69] IncomingConnectionId=[0xF748749F 0x163011CC
0x801CC5F8 0xEEB46E69] TxDuration=22100 ms
VoiceTxDuration=2209 ms FaxTxDuration=0 ms
CoderTypeRate=g729r8
NoiseLevel=-48
ACOMLevel=2
OutSignalLevel=-57
InSignalLevel=-53
InfoActivity=2
ERLLevel=16
SessionTarget=
ImgPages=0
 GENERIC:
SetupTime=13848887 ms
Index=1
PeerAddress=1711
PeerSubAddress=
PeerId=1PeerIf
Index=13
LogicalIfIndex=0
ConnectTime=13849185
CallDuration=00:00:20
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=1038
TransmitBytes=20760
ReceivePackets=488
ReceiveBytes=9760
VOIP:
ConnectionId[0xF748749F 0x163011CC 0x801CC5F8
0xEEB46E69]
IncomingConnectionId[0xF748749F 0x163011CC 0x801CC5F8
0xEEB46E69]
RemoteIPAddress=10.52.218.49RemoteUDPPort=18754
!--- The signaling and RTP stream IP addresses.
RemoteSignallingIPAddress=10.52.218.49
RemoteSignallingPort=1720
RemoteMediaIPAddress=10.52.218.49
RemoteMediaPort=18754
RoundTripDelay=5 ms
SelectedQoS=best-effort
tx_DtmfRelay=inband-voice
FastConnect=TRUE

Separate H245 Connection=FALSE
```

```
H245 Tunneling=FALSE

SessionProtocol=cisco
SessionTarget=ras
OnTimeRvPlayout=6630
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPlayoutDelay=70 ms
LoWaterPlayoutDelay=50 ms
ReceiveDelay=50 ms
LostPackets=0
EarlyPackets=0
LatePackets=0

!--- The DSP statistics. VAD = enabled
CoderTypeRate=g729r8
CodecBytes=20Total call-legs: 2

ECV-2610-16#
ECV-2610-16#

u all
All possible debugging has been turned off
!--- The following messages shows the call disconnect !-
-- process at the GW_2. ECV-2610-16#deb h225 asn1 H.225
ASN1 Messages debugging is on: *Mar 2 14:29:52.017:
H225.0 INCOMING PDU ::=
!--- The GW_1 sends H323 (q931) Release complete
message. value H323_UserInformation ::= { h323-uu-pdu {
h323-message-body releaseComplete :
 {
 protocolIdentifier { 0 0 8 2250 0 2 }
 callIdentifier
 {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 }
 h245Tunneling FALSE
 }
 }


*Mar 2 14:29:52.025: H225.0 OUTGOING PDU ::=
!--- The GW_2 replies with the H323 (q931)
releaseComplete !--- message. value H323_UserInformation
::= { h323-uu-pdu { h323-message-body releaseComplete :
        {
 protocolIdentifier { 0 0 8 2250 0 2 }
 callIdentifier
        {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 }
 h245Tunneling FALSE
 }
 }


*Mar 2 14:29:52.041: RAS OUTGOING PDU ::=
!--- The GW_2 notifies GK-2 that the call is complete.
value RasMessage ::= disengageRequest :
 {
```

```
      requestSeqNum 3095
 endpointIdentifier {"8217FB5000000001"}
      conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
 callReferenceValue 8
 disengageReason normalDrop : NULL
 callIdentifier
 {
        guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 answeredCall FALSE
     }

*Mar 2 14:29:52.090: RAS INCOMING PDU ::=
!--- The GK-2 confirms the message. value RasMessage ::=
disengageConfirm :
    {
 requestSeqNum 3095
 }
u all
All possible debugging has been turned off

------------------------------------------------------------
----
!--- The debug output from the GK-2. ECV-2610-14#debug
h225 asn1
H.225 ASN1 Messages debugging is on
ECV-2610-14#
Mar 2 14:28:20.952:
Mar  2 14:28:20.952: RAS INCOMING PDU ::=
!--- The GW_2 asks permission to place the call. !---
Now it is incoming RAS PDU as it is on the GK-2, but the
!--- same sequence number. value RasMessage ::=
admissionRequest :
 {
  requestSeqNum 3091
 callType pointToPoint : NULL
      callModel direct : NULL
 endpointIdentifier {"8217FB5000000001"}
      destinationInfo
 {
 e164 : "1711"
 }
      srcInfo
 {
 e164 : "1611",
 h323-ID: {"gw_2"}
 }
 bandWidth 640
 callReferenceValue 8
 nonStandardData
 {
 nonStandardIdentifier h221NonStandard :
 {
 t35CountryCode 181
 t35Extension 0
          manufacturerCode 18
 }
 data '80000008200A1046585320312F312F31'H
      }
 conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
 activeMC FALSE
 answerCall FALSE
 canMapAlias TRUE
 callIdentifier
```

```
      {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 willSupplyUUIEs FALSE
 }??

Mar 2 14:28:20.992: RAS OUTGOING PDU ::=
!--- The GK-2 asks GK-1 to resolve the Number for the
remote !--- zone. value RasMessage ::= locationRequest :
 {
 requestSeqNum 1026
      destinationInfo
 {
 e164 : "1711"
 }
      nonStandardData
 {
 nonStandardIdentifier h221NonStandard :
        {
 t35CountryCode 181
 t35Extension 0
          manufacturerCode 18
 }
 data '8284901100F748749F163011CC801DC5F8EEB46E...'H
      }
 replyAddress ipAddress :
 {
 ip '0A34DA2E'H
 port 1719
 }
 sourceInfo
 {
 h323-ID : {"gk-zone2.test.com"}
      }
 canMapAlias TRUE
 }


Mar 2 14:28:21.024: RAS OUTGOING PDU ::=
 !--- The GK-2 notifies GW_2 that the call is
processing. value RasMessage ::= requestInProgress :
 {
 requestSeqNum 3091
      delay 9000
 }


Mar 2 14:28:21.157:
Mar 2 14:28:21.157: RAS INCOMING PDU ::=
!--- The GK-1 replies to GK-2 with the permission. value
RasMessage ::= locationConfirm :
 {
 requestSeqNum 1026
 callSignalAddress ipAddress :
 {
 ip'0A34DA31'H
 port 1720
 }
 rasAddress ipAddress :
      {
 ip '0A34DA31'H
 port 55679
 }
 nonStandardData
```

```
      {
 nonStandardIdentifier h221NonStandard :
 {
          t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
        }
 data '000140030067007700 5F0031200067006B002D00...'H
 }
      destinationInfo
 {
  e164 : "1711"
 }
      destinationType
 {
 gateway
 {
 protocol
 {
            voice :
 {
 supportedPrefixes
 {
              }
 }
 }
 }
 mc FALSE
 undefinedNode FALSE
 }
 }


Mar 2 14:28:21.209: RAS OUTGOING PDU::=
!--- The GK-2 replies to GW_2 with the permission to
place !--- the call. value RasMessage ::=
admissionConfirm :
 {
 requestSeqNum 3091
      bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
 {
 ip '0A34DA31'H
 port 1720
      }
 irrFrequency 240
 destinationInfo
 {
 e164 : "1711"
      }
 willRespondToIRR FALSE
 uuiesRequested
 {
 setup FALSE
 callProceeding FALSE
 connect FALSE
 alerting FALSE
 information FALSE
 releaseComplete FALSE
 facility FALSE
 progress FALSE
 empty FALSE
 }
```

```
 }


ECV-2610-14#u all
All possible debugging has been turned off
ECV-2610-14#debug h225 asn1
H.225 ASN1 Messages debugging is on
Mar 2 14:30:04.145: RAS INCOMING PDU ::=
!--- The GK-2 gets notification from GW_2 that the call
!--- has ended. value RasMessage ::= disengageRequest :
 {
 requestSeqNum 3095
 endpointIdentifier {"8217FB5000000001"}
      conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
 callReferenceValue 8
 disengageReason normalDrop : NULL
 callIdentifier
 {
        guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 answeredCall FALSE
    }



Mar 2 14:30:04.157: RAS OUTGOING PDU ::=

value RasMessage ::= disengageConfirm :
 {
 requestSeqNum 3095
    }


ECV-2610-14#u all
All possible debugging has been turned off
ECV-2610-14#

------------------------------------------------------------
-
!--- The debug output from the GK-2. ECV-2610-15#ECV-
2610-15#debug h225 asn1
H.225 ASN1 Messages debugging is on
*Mar 2 14:28:14.690:
*Mar 2 14:28:14.694:
RAS INCOMING PDU ::=
!--- The request from the GK-2. value RasMessage ::=
locationRequest :
 {
 requestSeqNum 1026
 destinationInfo
 {
 e164 : "1711"
      }
 nonStandardData
 {
 nonStandardIdentifier h221NonStandard:
 {
 t35CountryCode 181
 t35Extension 0
          manufacturerCode 18
 }
 data '8284901100F748749F163011CC801DC5F8EEB46E...'H
      }
 replyAddress ipAddress :
```

```
 {
 ip '0A34DA2E'H
 port 1719
 }
 sourceInfo
 {
 h323-ID : {"gk-zone2.test.com"}
      }
 canMapAlias TRUE
 }


*Mar 2 14:28:14.754: RAS OUTGOING PDU ::=
!--- The reply from the GK-1 to GK-2. value
RasMessage::= locationConfirm :
 {
 requestSeqNum 1026
 callSignalAddress ipAddress :
 {
 ip '0A34DA31'H
 port 1720
      }
 rasAddress ipAddress :
 {
 ip '0A34DA31'H
 port 55679
 }
 nonStandardData
 {
 nonStandardIdentifier h221NonStandard :
 {
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '000140030067007700 5F0031200067006B002D00...'H
      }
 destinationInfo
 {
 e164 : "1711"
      }
 destinationType
 {
 gateway
 {
 protocol
        {
 voice :
 {
 supportedPrefixes
        {
 }
 }
 }
 }
        mc FALSE
 undefinedNode FALSE
 }
 }


*Mar 2 14:28:15.159: RAS INCOMING PDU ::=
!--- The GW_1 asks GK-1 for permission to accept the
call. value RasMessage ::= admissionRequest :
```

```
    {
 requestSeqNum 101
 callType pointToPoint : NULL
 callModel direct : NULL
 endpointIdentifier {"8261828000000003"}
      destinationInfo
 {
 e164 : "1711"
 }
      srcInfo
 {
 e164 : "1611",
 h323-ID: {"gw_2"}
 }
 srcCallSignalAddress ipAddress:
 {
 ip '0A34DA30'H
 port 1100
 }
 bandWidth 640
 callReferenceValue 7
 nonStandardData
 {
 nonStandardIdentifier h221NonStandard :
 {
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '80000008200A1046585320312F312F31'H
      }
 conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
 activeMC FALSE
 answerCall TRUE
 canMapAlias TRUE
 callIdentifier
 {
        guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 willSupplyUUIEs FALSE
    }


*Mar 2 14:28:15.191: RAS OUTGOING PDU ::=
!--- The permission is granted. value RasMessage ::=
admissionConfirm :
 {
 requestSeqNum 101
 bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
 {
 ip '0A34DA31'H
        port 1720
 }
 irrFrequency 240
 willRespondToIRR FALSE
      uuiesRequested
 {
 setup FALSE
 callProceeding FALSE
        connect FALSE
 alerting FALSE
 information FALSE
```

```
 releaseComplete FALSE
 facility FALSE
 progress FALSE
 empty FALSE
      }
 }

ECV-2610-15#
ECV-2610-15#show gatek call
Total number of active calls = 1.
 GATEKEEPER CALL INFO
                      ====================
LocalCallID Age(secs) BW
7-63391                              33 64(Kbps)
 Endpt(s): Alias E.164Addr CallSignalAddr  Port
RASSignalAddr Port
 src EP: gw_2 1611  10.52.218.48 1720 10.52.218.48 59067
 dst EP: gw_1         1711 10.52.218.49 1720
10.52.218.49 58841

ECV-2610-15#ECV-2610-15#u all
All possible debugging has been turned off
ECV-2610-15#debug h225 asn1
H.225 ASN1 Messages debugging is on
*Mar 2 14:29:57.767: RAS INCOMING PDU ::=
!--- The GK-1 gets notification from GW_1 that the call
has ended. value RasMessage ::= disengageRequest :
 {
      requestSeqNum 105
 endpointIdentifier {"82618280000000003"}
      conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
 callReferenceValue 7
 disengageReason normalDrop : NULL
 callIdentifier
 {
        guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 answeredCall TRUE
    }

*Mar 2 14:29:57.779: RAS OUTGOING PDU ::=
!--- The GK-1 confirms the message. value RasMessage ::=
disengageConfirm :
    {
 requestSeqNum 105
 }

ECV-2610-15#u all
All possible debugging has been turned off
!--- The debugs must always be turned off when the
collection !--- is completed.


-------------------------------------------------------
-----
!--- The debugs at the terminating gateway GW_1. ECV-
2610-17# ECV-2610-17#debug h225 asn1
H.225 ASN1 Messages debugging is on

*Mar 1 11:02:27:
*Mar 1 11:02:27: H225.0 INCOMING PDU ::=
!--- The first message is the H225 call setup from GW_2.
value H323_UserInformation ::= { h323-uu-pdu { h323-
message-body setup :
```

```
 {
          protocolIdentifier { 0 0 8 2250 0 2 }
 sourceAddress
 {
            h323-ID : {"gw_2"}
 }
 sourceInfo
 {
            gateway
 {
 protocol
 {
                voice :
 {
 supportedPrefixes
 {??
                    {
 prefix e164 : "1#"
 }
                  }
 }
 }
 }
 mc FALSE
            undefinedNode FALSE
 }
 destinationAddress
 {
            e164 : "1711"
 }
 activeMC FALSE
          conferenceID
'F748749F163011CC801CC5F8EEB46E69'H
 conferenceGoal create : NULL
 callType pointToPoint : NULL
 sourceCallSignalAddress ipAddress :
 {
 ip '0A34DA30'H
 port 11001
          }
 callIdentifier
 {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 fastStart
 {
 '0000000D4001800A040001000A34DA3043F3'H,

'4000000604010040018011140001000A34DA30...'H
 }
 mediaWaitForConnect FALSE
 canOverlapSend FALSE
 }
 h245Tunneling FALSE
        nonStandardControl
 {
??
          {
 nonStandardIdentifier h221NonStandard :
 {
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
```

```
 data 'C0010002800600040000003'H
          }
 }
 }
 }

*Mar 1 11:02:27: RAS OUTGOING PDU ::=
!--- The GW_1 asks GK-1 for permission to accept the
call. value RasMessage::= admissionRequest :
 {
 requestSeqNum 101
 callType pointToPoint : NULL
 callModel direct : NULL
 endpointIdentifier {"8261828000000003"}
 destinationInfo
 {
 e164: "1711"
 }
 srcInfo
 {
 e164 : "1611",
        h323-ID : {"gw_2"}
 }
 srcCallSignalAddress ipAddress:
 {
 ip '0A34DA30'H
 port 11001
 }
 bandWidth 640
 callReferenceValue 7
 nonStandardData
{
 nonStandardIdentifier h221NonStandard :
 {
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '80000008200A1046585320312F312F31'H
      }
 conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
 activeMC FALSE
 answerCall TRUE
 canMapAlias TRUE
 callIdentifier
 {
        guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 willSupplyUUIEs FALSE
    }

*Mar 1 11:02:27: *Mar 1 11:02:27: RAS INCOMING PDU ::=
!--- The permission is granted. value RasMessage ::=
admissionConfirm:
 {
 requestSeqNum 101
 bandWidth 640
 callModel direct: NULL
 destCallSignalAddress ipAddress :
 {
 ip '0A34DA31'H
        port 1720
 }
 irrFrequency 240
```

```
 willRespondToIRR FALSE
      uuiesRequested
 {
 setup FALSE
 callProceeding FALSE
        connect FALSE
 alerting FALSE
 information FALSE
 releaseComplete FALSE
 facility FALSE
 progress FALSE
 empty FALSE
      }
 }


*Mar 1 11:02:27: H225.0 OUTGOING PDU ::=
!--- The GW_1 replies to the GW-2 with the
callProceeding message. value H323_UserInformation::= {
h323-uu-pdu { h323-message-body callProceeding:
 {
 protocolIdentifier { 0 0 8 2250 0 2 }
          destinationInfo
 {
 mc FALSE
 undefinedNode FALSE
 }
 callIdentifier
 {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 fastStart
 {
 '0000000D40018011140001000A34DA314942000A...'H,

'4000000604010040018011140001000A34DA30...'H
 }
 }
        h245Tunneling FALSE
 }
 }

*Mar 1 11:02:27: H225.0 OUTGOING PDU ::=
!--- The call Progress follows. value
H323_UserInformation::= { h323-uu-pdu { h323-message-
body progress:
 {
 protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
        {
 mc FALSE
 undefinedNode FALSE
          }
 callIdentifier
 {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 }
 h245Tunneling FALSE
 nonStandardControl
 {
??
          {
 nonStandardIdentifier h221NonStandard :
```

```
 {
              t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '60011000011E041E028188'H
 }
        }
 }
 }
??
*Mar 1 11:02:29: H225.0 OUTGOING PDU ::=
!--- The GW_1 accepts the call. value
H323_UserInformation ::= { h323-uu-pdu { h323-message-
body connect :
 {
          protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
 {
        gateway
 {
 protocol
 {
               voice :
 {
 supportedPrefixes
 {??

                    {
 prefix e164 : "1#"
                    }
 }
 }
 }
 }
            mc FALSE
 undefinedNode FALSE
 }
 conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
 callIdentifier
 {
            guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 }
 h245Tunneling FALSE
 nonStandardControl
 {

??{
            nonStandardIdentifier h221NonStandard :
 {
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
            }
 data 'C0010002800600040000002'H
 }
 }
      }
 }

ECV-2610-17#u all
All possible debugging has been turned off
ECV-2610-17#
```

```
ECV-2610-17#debug h225 asn1
H.225 ASN1 Messages debugging is on
ECV-2610-17#
*Mar 1 11:04:10: H225.0 OUTGOING PDU ::=
!--- The GW_1 drops the call. value H323_UserInformation
::= { h323-uu-pdu { h323-message-body releaseComplete :
   {
 protocolIdentifier { 0 0 8 2250 0 2 }
          callIdentifier
 {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 }
 h245Tunneling FALSE
 }
 }

??*Mar 1 11:04:10: RAS OUTGOING PDU ::=
!--- The GW_1 notifies GK-1 that the call has ended.
value RasMessage ::= disengageRequest :
 {
      requestSeqNum 105
 endpointIdentifier {"8261828000000003"}
      conferenceID 'F748749F163011CC801CC5F8EEB46E69'H
 callReferenceValue 7
 disengageReason normalDrop : NULL
 callIdentifier
 {
        guid 'F748749F163011CC801DC5F8EEB46E69'H
 }
 answeredCall TRUE
    }

*Mar 1 11:04:10: H225.0 INCOMING PDU ::=
!--- The GW_2 drops the call from its side. value
H323_UserInformation ::= { h323-uu-pdu { h323-message-
body releaseComplete :
        {
 protocolIdentifier { 0 0 8 2250 0 2 }
 callIdentifier
        {
 guid 'F748749F163011CC801DC5F8EEB46E69'H
          }
 }
 h245Tunneling FALSE
 }
 }


*Mar 1 11:04:10: RAS INCOMING PDU ::=
!--- The GK-1 confirms the message. value RasMessage ::=
disengageConfirm :
 {
 requestSeqNum 105
    }

u all
All possible debugging has been turned off
!--- The debugs must always be turned off when the
collection !--- is completed.
```

# Informazioni correlate

- Informazioni sui gatekeeper H.323
- Risoluzione dei problemi di registrazione di Gatekeeper
- Informazioni sul routing delle chiamate Gatekeeper Cisco IOS H.323
- Cisco High-Performance Gatekeeper
- Configurazione dei gateway H.323
- Configurazione dei gatekeeper H.323
- Risoluzione dei problemi e informazioni sulla gestione della larghezza di banda del Gatekeeper Cisco
- Configurazione del supporto H.323 per le interfacce virtuali
- Supporto alla tecnologia vocale
- Supporto ai prodotti voce e Unified Communications
- Risoluzione dei problemi di Cisco IP Telephony
- Documentazione e supporto tecnico – Cisco Systems