

# 基本雙區域Cisco網關到網守配置

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## 簡介

本文研究具有雙區域拓撲的VoIP網路，該拓撲由兩個Cisco網守管理，每個區域各有一個思科網關。本文的目的是提供一個基本配置，允許使用者避免一些已知問題，並為基於網守的網路建立可靠的基礎。本文包含有關已設定功能的背景技術資訊、設計原則、基本驗證和疑難排解策略。

必須注意的是，在下面的配置中，四台路由器位於同一個LAN中。但是，在實際拓撲中，所有裝置都可能位於網路的不同部分。

## 開始之前

### 慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

### 必要條件

本文件沒有特定先決條件。

### 採用元件

已使用以下裝置測試這些配置：

- 四個Cisco 2600，採用Cisco IOS<sup>®</sup>軟體版本12.2.8.5 ENTERPRISE PLUS/H323 MCM

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除 ( 預設 ) 的組態來啟動。如果在實際網路中工作，請確保在使用任何命令之前瞭解其潛在影響。

## 設定

本節提供用於設定本文件中所述功能的資訊。

**注意：**要查詢有關本文檔中使用的命令的其他資訊，請使用[命令查詢工具](#)([僅限註冊客戶](#))。

### 網關到網守配置的一般要求

在網關能夠從網守獲得正確的地址解析之前，需要滿足幾個條件。

需要驗證兩個重要點，如下所示：

- 所有網關都應註冊到相應的網守。
- 所有網守都應具有正確的撥號計畫。

### 註冊

成功註冊是第一個強制步驟。這些額外因素應予以考慮：

- 如果網關具有外部交換站(FXS)介面，則在Plain Old Telephone Service(POTS)撥號對等體上，新增**no register e164**命令。這可避免Cisco錯誤ID [CSCdw60626](#)([僅限註冊客戶](#))中所述的閘道註冊問題。與使用e164號碼直接註冊FXS埠不同，可以新增網關的區域字首並將路由決策基於區域字首。
- 通常，最好定義網關的技術字首。雖然技術字首的存在主要影響呼叫路由，但還需要可靠註冊。

有關網關到網守註冊問題的詳細資訊，請參閱[排除網守註冊問題](#)。

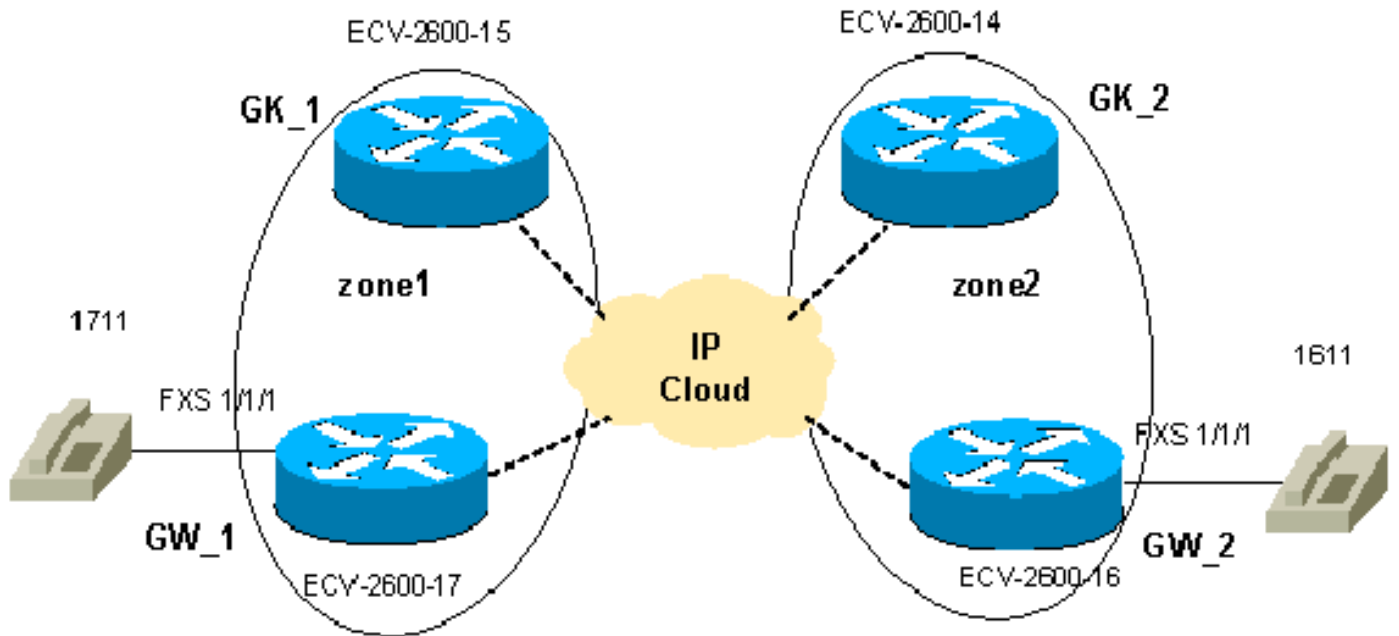
### 通話路由

- 要獲得可靠的呼叫路由，所有網關都應該註冊一些技術字首。技術字首的目的是區分不同型別的呼叫和相應的網關型別。因此，雖然可以使用技術字首進行路由決策，但更好的做法是使用技術字首來區分呼叫的型別和基於區域字首的路由。使用此方法，所有VoIP網關都可以配置相同的技術字首 ( 例如，如本文檔中的示例所示 )。
- 最好顯式配置區域字首的主網關。
- 將H.323信令繫結到Cisco IOS網關或路由器上的特定IP地址。當Cisco IOS網關有多個活動IP介面時，某些H.323消息可能源自一個IP地址，而其它部分可能引用不同的源地址。如果使用環回介面來標識網關，或者網路中存在防火牆和記帳伺服器，則需要**h323-gateway voip bind srcaddr**命令。此命令是在Cisco IOS軟體版本12.1.2T中引入的，並記錄在[為虛擬介面配置H.323支援](#)中。

有關網守呼叫路由的詳細資訊，請參閱[瞭解Cisco IOS H.323網守呼叫路由](#)。

### 網路圖表

本文檔使用下圖所示的網路設定。



## 組態

本檔案會使用這些設定。

驗證網守和網關的配置是排除網關到網守問題的重要組成部分。為簡化配置理解，已刪除所有不相關的配置命令。

- [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 (fcl)
!
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
```

## 驗證

本節提供的資訊可用於確認您的組態是否正常運作。

[輸出直譯器工具](#)(僅供註冊客戶使用)支援某些show命令，此工具可讓您檢視show命令輸出的分析。

**注意：**在嘗試任何debug命令之前，請參閱[有關Debug命令的重要資訊](#)。有關下列命令的更多資訊，請參閱本文檔的[故障排除命令](#)部分。

- `show gateway` — 顯示網關註冊狀態。
- `show gatekeeper endpoints` — 顯示註冊到網守的所有網關。
- `show gatekeeper zone prefix` — 顯示網守上配置的所有區域字首。
- `show gatekeeper call` — 顯示網守處理的活動呼叫。
- `debug h225 asn1` — 顯示H225 ( 註冊、許可和狀態[RAS]和Q931呼叫建立 ) 消息。
- `debug cch323 h225` — 顯示H225呼叫建立消息。
- [疑難排解與偵錯 VoIP 通話基本功能](#)
- [VoIP Debug指令](#)
- [Cisco IOS語音、視訊和傳真命令參考，版本12.2](#)

## 疑難排解

本節提供的資訊可用於對組態進行疑難排解。

### 疑難排解指令

若要疑難排解，請檢查以下幾個要點：

- 所有網關都要向相應的網守註冊。
- 網關應具有正確的撥號計畫 ( 配置撥號對等體 ) 。
- 網守應具有正確的撥號計畫 ( 配置區域字首 ) 。

[VoIP呼叫基礎故障排除和調試](#) 中介紹的步驟補充了與Gateway-to-Gatekeeper互動相關的debug和show命令的輸出，並且應該用於突出顯示與其他Cisco IOS子系統相關的語音問題。show命令的示例輸出突出顯示上述步驟，debug輸出顯示所有四台路由器的RAS和H225消息序列。

**注意：** debug h225 asn1命令生成非常大的輸出，因此應謹慎使用。從下面的debug命令中刪除了一些不必要的輸出。

**注意：** 發出debug指令之前，請參閱[有關Debug指令的重要資訊](#)。

```

!--- 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 RASignalAddrPort 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,
'400000060401004D40018011140001000A34DA30...'H
}
mediaWaitForConnect FALSE
canOverlapSend FALSE
}
h245Tunneling FALSE
nonStandardControl
{??

      {
nonStandardIdentifier h221NonStandard :
{
          t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
data 'C00100028006000400000003'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,
'400000060401004D40018011140001000A34DA30...'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
{

```



```
nonStandardIdentifier h221NonStandard :
{
    t35CountryCode 181
    t35Extension 0
    manufacturerCode 18
}
data 'C00100028006000400000002'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 '0001400300670077005F0031200067006B002D00...'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 '0001400300670077005F0031200067006B002D00...'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 {"8261828000000003"}
  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,
'400000060401004D40018011140001000A34DA30...'H
}
mediaWaitForConnect FALSE
canOverlapSend FALSE
}
h245Tunneling FALSE
    nonStandardControl
{
??
    {
nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
t35Extension 0
manufacturerCode 18
}
data 'C00100028006000400000003'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,
        '400000060401004D40018011140001000A34DA30...'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 'C00100028006000400000002'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.
```

## 相關資訊

- [瞭解H.323網守](#)
- [排除網守註冊問題](#)
- [瞭解Cisco IOS H.323閘道管理員通話路由](#)
- [思科高效能閘道管理員](#)
- [配置H.323網關](#)
- [配置H.323網守](#)
- [故障排除和瞭解Cisco Gatekeeper頻寬管理](#)
- [為虛擬介面配置H.323支援](#)
- [語音技術支援](#)
- [語音和整合通訊產品支援](#)
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