

Intrazone H.323网络Cisco IOS网守配置示例

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简介

本文介绍基本概念为了配置Cisco IOS网守。本文提供从简单情况开始的一配置示例：Cisco IOS H.323网守和网关的配置在区域内部H.323语音网络。

注意： 参考[了解H.323网守](#)，在您读了本文前。

区域是用网守注册H.323节点的集或，在这种情况下，网关。每个区域只能有一个活动网守。网守区域能覆盖子网。一网守能管理在一个或更多子网的网关。所以，本文只配置一网守，并且没有区域之间或关守对关守通信。

先决条件

要求

本文档没有任何特定的要求。

[使用的组件](#)

本文档中的信息基于以下软件和硬件版本：

- 网守—运行Cisco IOS软件版本的Cisco3725 (c3725-jsx-mz.123-4.T1.bin)
- Gateway-01 —运行Cisco IOS软件版本的Cisco3725 (c3725-jsx-mz.123-4.T1.bin)语音模块—高密度语音网络模块(NM-HDV)与T1-multiflex中继模块(MFT)语音WAN接口卡(VWIC)
- Gateway-02 —运行Cisco IOS软件版本的Cisco 3640 (c3640-jsx-mz.123-19.bin)语音模块—两个Voice/Fax接口卡Slot网络模块(NM-2V)有局外交换站(FXS)语音接口卡的

注意： 本文提交的关守-网关配置概念是可适用的对所有Cisco IOS软件启用语音平台。

注意： 网守功能是可用的在这些平台：

- 思科72xx
- 思科3600/3700/2600
- Cisco2500

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

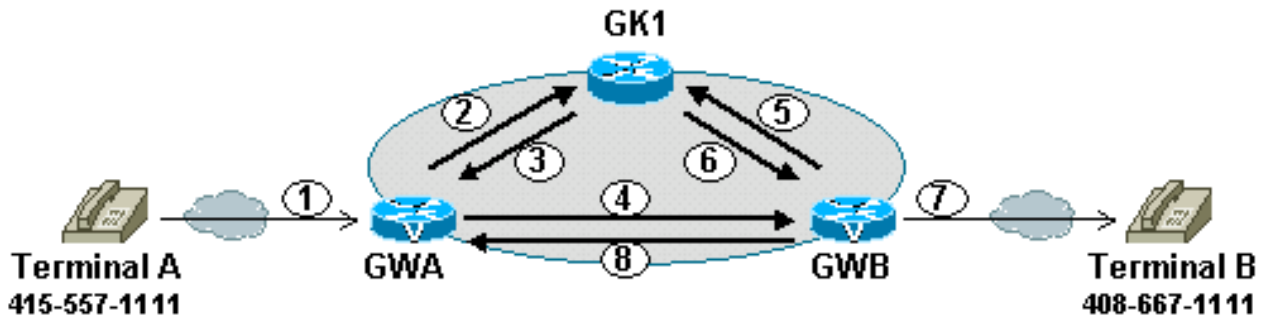
[规则](#)

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

[背景信息](#)

[区域内部呼叫建立概述](#)

此图表说明关守-网关呼叫建立流，是H.225注册、接纳和状态(RAS)协议和H.225呼叫控制信令。



- 1) Terminal A **dials** the phone number 408-667-1111 for Terminal B
- 2) GWA sends GK1 an **ARQ**, asking permission to call Terminal B
- 3) GK1 does a look-up and finds Terminal B registered; returns an **ACF** with the IP address of GWB
- 4) GWA sends a **Q.931 Call-Setup** to GWB with Terminal B's phone number
- 5) GWB sends GK1 an **ARQ**, asking permission to answer GWA's call
- 6) GK1 returns an **ACF** with the IP address of GWA
- 7) GWB sets up a **POTS call** to Terminal B at 408-667-1111
- 8) When Terminal B answers, GWB sends **Q.931 Connect** to GWA
- 9) GWs sends **IRR** to GK after call is setup

注意：在本图中：

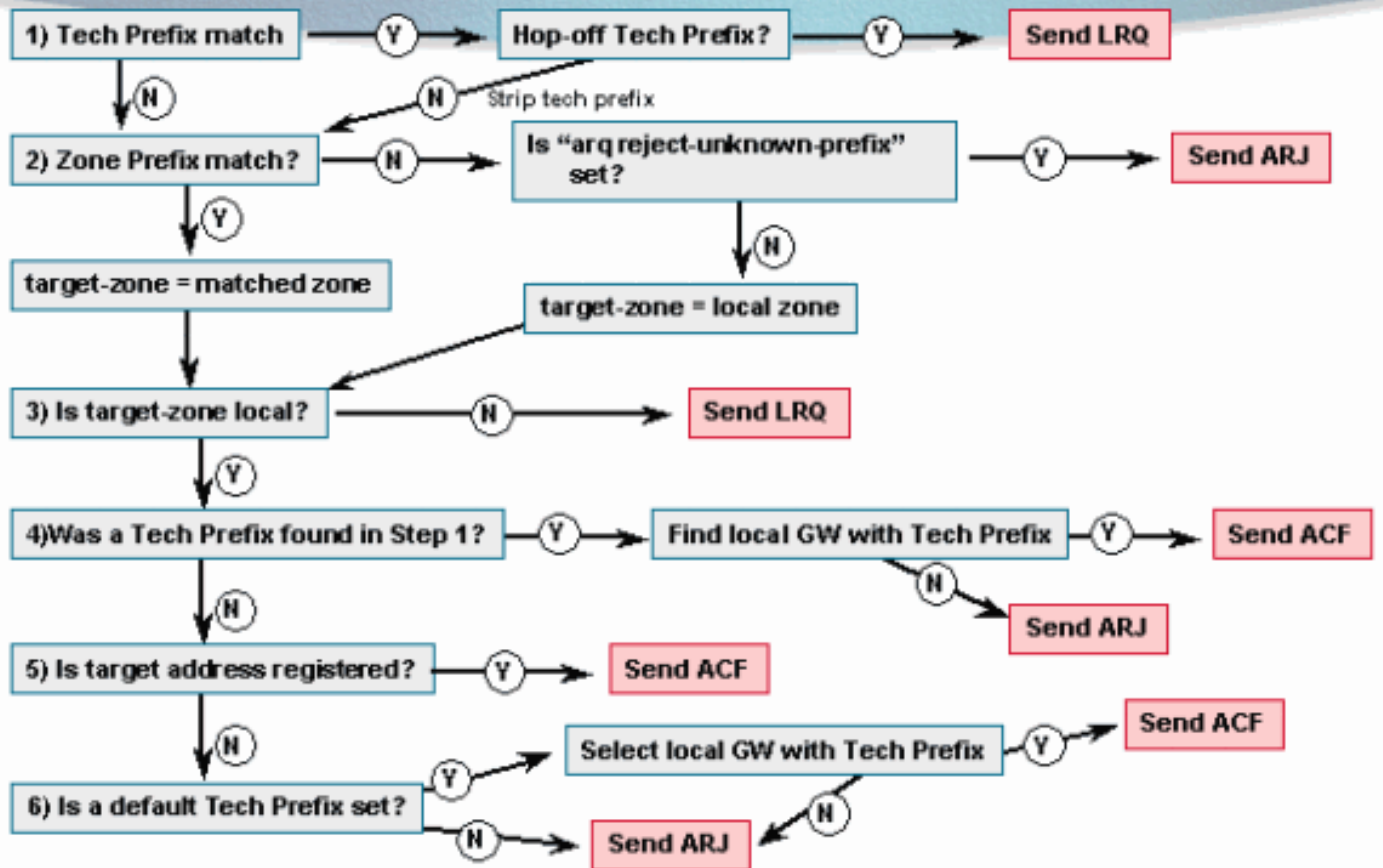
- ARQ代表准入请求
- ACF代表准入确认

参考[了解H.323网守](#)关于RAS消息的更多信息。

根据ARQ消息的网守呼叫选择路由

此图表说明决策算法网守审阅，当网守收到从其中一个的一个ARQ消息区域网关时：

GK Address Resolution on ARQ



注意：在本图中：

- ARJ代表准入拒绝
- LRQ代表位置请求

注意：仅本地区域终端产生ARQ消息。如果呼叫请求到达在从另一个区域的网守，网守收到LRQ消息。根据LRQ的网守地址解析算法与ARQ的算法有所不同。因为本文不包括区域之间网守配置，本文不提交LRQ算法。

注意：在图表中，技术前缀代表技术前缀。请参阅本文的[配置](#)部分关于使用的说明技术前缀。

注意：因为本文不包括区域之间网守配置，本文不包括区域前缀。

网守区域限制

- 网关只能每次向一网守登记。
- 支持仅E.164地址解析。
- 由于网关只能每次向一网守登记，冗余H.323区域支持提供仅冗余，并且不提供任何负载均衡。
- 虽然冗余H.323区域支持允许您配置备选网守，不在备选网守一些RAS消息领域插入信息。

网关选择过程

- 当超过一个网关在区域时注册，更新zone prefix命令允许将分配的选择优先级到这些网关根据已拨号前缀。
- 当H.323资源变得低时，网关资源报告允许网关通知网守。网守使用此信息确定使用的哪个网关

完成呼叫。

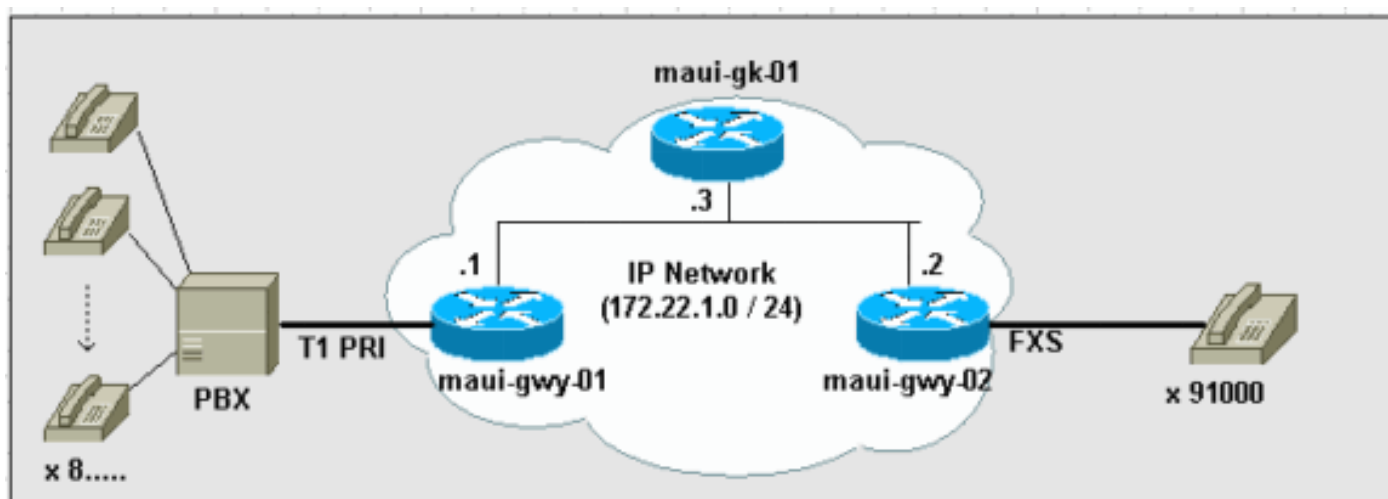
配置

本部分提供有关如何配置本文档所述功能的信息。

注意： 使用[命令查找工具](#)（[仅限注册用户](#)），查找关于本文所使用命令的更多信息。

网络图

本文档使用以下网络设置：



网守配置

完成这些步骤：

1. 启用网关发现和注册过程。完成这些步骤：输入网守配置模式。maui-gk-01#configure terminal maui-gk-01(config)#gatekeeper maui-gk-01(config-gk)#定义影响网守本地区域。**注意：** 此命令应该在一行上。它移动向在本文的第二条线路由于空间的原因。maui-gk-01(config-gk)#zone local gatekeeper-name domain-name [ras-IP-address] ras-IP-address可选。如果配置此元素，网守，以回应网守发现消息，指示到终端或网关使用此地址将来通信。**注意：** 本文不包括H.323区域之间配置。为了定义区域之间，请使用zone remote命令。启用网守功能。maui-gk-01(config-gk)#no shutdown
2. 如果使用他们，配置技术前缀。**注意：** 此命令应该在一行上。它移动向在本文的第二条线路由于空间的原因。maui-gk-01(config-gk)#gw-type-prefix type-prefix [hopoff gk-id] [default-technology][gw ipaddr ipaddr [port]]

网关配置

注意： 本文只处理关守和网关在同一个区域，是区域内部设置。所以，本文不包括区域前缀概念。参考[了解Cisco IOS网守呼叫路由的远程区域呼叫示例](#)部分关于区域前缀的更多信息。

完成这些步骤：

1. 启用网关发现和注册过程。完成这些步骤：输入网关配置模式。maui-gwy-02#configure terminal maui-gwy-02(config)#gateway 配置网关H.323接口。maui-gwy-02(config)#interface

```
fastethernet 0/0 maui-gwy-02(config-if)#h323-gateway voip interface maui-gwy-02(config-
if)#h323-gateway voip h323-id gateway-id maui-gwy-02(config-if)#h323-gateway voip id
gatekeeper-id {ipaddr ip-address [port-number] | multicast} 注意：最后should命令在一条线
路。它移动向第二条线路由于空间的原因。如果使用一个技术前缀，配置网关注册到有技术前
缀的网守。maui-gwy-02(config-if)#h323-gateway voip tech-prefix prefix 前缀定义了担当技术
前缀的编号。虽然不绝对必要，镑(#)符号频繁地担当在技术前缀的最后一数字。
```

2. 配置语音端口。
3. 配置普通旧式电话服务拨号对端。
4. 配置VoIP拨号对等体。配置session target作为RAS。注意：如果网关发送在呼叫建立的一个前缀，请配置在对应的VoIP拨号对等体的前缀。

```
maui-gwy-02(config-dial-peer)#session target ras maui-gwy-02(config-dial-peer)#tech-prefix
number WORD A string
```

配置示例

配置情形1：有默认技术前缀的网守

使用Default Technology Prefixes选项，Cisco网守为未解决的呼叫地址路由分配默认网关。此分配根据网关的已注册技术前缀。

maui-gk-01 (思科3725-网守)

```
version 12.3

!--- Output is suppressed. ! service timestamps debug
datetime msec service timestamps log datetime msec !
hostname maui-gk-01 ! interface FastEthernet2/0 ip
address 172.22.1.3 255.255.255.0 duplex half ! ip
classless no ip http server ! gatekeeper zone local GK-
01.zone-one.com zone-one.com !--- Be sure that the
gateways have the same gatekeeper name on !--- their
configurations. gw-type-prefix 1#* default-technology !-
-- The gatekeeper treats gateways that are registered
with !--- technology prefix 1# as default when the
gatekeeper makes call routing !--- decisions. There is a
default addition of the * character to delimit !--- the
prefix. no shutdown !--- Be sure to issue the no
shutdown command !--- in order to enable the gatekeeper
functionality.
```

maui-gwy-01 (Cisco3725)

```
version 12.3

!--- Output is suppressed. ! service timestamps debug
datetime msec service timestamps log datetime msec !
hostname maui-gwy-01 ! voice-card 3 ! isdn switch-type
primary-ni call rsvp-sync ! controller T1 3/0 framing
esf linecode b8zs pri-group timeslots 1-24 ! interface
Ethernet0/0 ip address 172.22.1.1 255.255.255.0 half-
duplex h323-gateway voip interface h323-gateway voip id
GK-01.zone-one.com ipaddr 172.22.1.3 1718 !--- This
defines the gatekeeper (GK) ID and the gatekeeper IP
address. !--- In this case, the gateway uses "GK Unicast
Discovery". !--- Port 1718 is a default assignment.
h323-gateway voip h323-id gwy-01@zone-one.com !--- This
defines the ID of this gateway. h323-gateway voip tech-
prefix 1# !--- The gateway registers to the gatekeeper
with !--- the technology prefix 1#. In this scenario,
```

```

the gatekeeper !--- assigns 1# gateways as default for
call routing decisions. ! interface Serial3/0:23 no ip
address no logging event link-status isdn switch-type
primary-ni isdn incoming-voice voice no cdp enable !
voice-port 3/0:23 !--- This is the voice port of the T1
PRI. !--- Note: The port points to the PRI D-channel
(23). ! dial-peer cor custom ! dial-peer voice 1 pots
destination-pattern 8.... port 3/0:23 prefix 8 !--- This
prefix does not relate to gatekeeper-gateway technology
prefixes. !--- This example uses this prefix because, on
POTS ports, the explicit defined numbers !--- in the
destination pattern are dropped. Also, the PBX needs the
complete !--- five-digit dial string. ! dial-peer voice
2 voip destination-pattern 91000 session target ras !---
Here, you use RAS signaling to point to the gatekeeper.
! gateway

```

maui-gwy-02 (Cisco 3640)

```

version 12.3

!--- Output is suppressed. ! service timestamps debug
datetime msec service timestamps log datetime msec !
hostname maui-gwy-02 ! voice-port 1/0/0 ! voice-port
1/0/1 ! dial-peer voice 1 voip destination-pattern 8....
session target ras ! dial-peer voice 2 pots destination-
pattern 91000 port 1/0/0 ! gateway ! interface
FastEthernet0/0 ip address 172.22.1.2 255.255.255.0
duplex auto speed 10 h323-gateway voip interface h323-
gateway voip id GK-01.zone-one.com multicast !--- This
defines the gatekeeper ID. In this case, the gateway
uses !--- "GK Multicast (autodiscovery)". User Datagram
Protocol (UDP) multicast !--- address 224.0.1.41 is
used. h323-gateway voip h323-id gwy-02@zone-one.com

```

配置情形2：有技术前缀的网守

Cisco网守路由呼叫的使用技术前缀，当没有匹配被叫号码网关注册的E.164地址。

maui-gk-01 (思科3725-网守)

```

version 12.3

!--- Output is suppressed. ! service timestamps debug
datetime msec service timestamps log datetime msec !
hostname maui-gk-01 ! interface FastEthernet2/0 ip
address 172.22.1.3 255.255.255.0 duplex half ! ip
classless no ip http server ! gatekeeper zone local GK-
01.zone-one.com zone-one.com !--- Be sure that the
gateways have the same gatekeeper name on !--- their
configurations. gw-type-prefix 8#* !--- The gatekeeper
defines the technology prefix 8#. !--- When the
gatekeeper receives an E.164 address (dial string) in !-
-- the format "8#....", the gatekeeper routes the call
to a gateway that !--- is registered with 8#. no
shutdown

```

maui-gwy-01 (Cisco3725)

```

version 12.3

!--- Output is suppressed. ! service timestamps debug
datetime msec service timestamps log datetime msec !
hostname maui-gwy-01 ! voice-card 3 ! isdn switch-type
primary-ni call rsvp-sync ! controller T1 3/0 framing

```

```

esf linecode b8zs pri-group timeslots 1-24 ! interface
Ethernet0/0 ip address 172.22.1.1 255.255.255.0 half-
duplex h323-gateway voip interface h323-gateway voip id
GK-01.zone-one.com ipaddr 172.22.1.3 1718 h323-gateway
voip h323-id gwy-01@zone-one.com h323-gateway voip tech-
prefix 8# !--- The gateway registers to the gatekeeper
with !--- the technology prefix 8#. ! interface
Serial3/0:23 no ip address no logging event link-status
isdn switch-type primary-ni isdn incoming-voice voice no
cdp enable ! voice-port 3/0:23 !--- This is the voice
port of the T1 PRI. !--- Note: The port points to the
PRI D-channel (23). ! dial-peer cor custom ! dial-peer
voice 1 pots destination-pattern 8#..... port 3/0:23 !--
- Note: The destination pattern starts with 8#. !---
Incoming calls that the gatekeeper routes based on the
8# !--- technology prefix come with this number in the
dial string. !--- By the nature of POTS dial peers, the
explicitly defined patterns are dropped !--- before the
forward of the call. Therefore, the 8# drops at the
transmit !--- of the digits to the PBX. ! dial-peer
voice 2 voip destination-pattern 91000 session target
ras !--- Here, you use RAS signaling to point to the
gatekeeper. ! gateway

```

maui-gwy-02 (Cisco 3640)

```

version 12.3
!--- Output is suppressed. ! service timestamps debug
datetime msec service timestamps log datetime msec !
hostname maui-gwy-02 ! voice-port 1/0/0 ! voice-port
1/0/1 ! dial-peer voice 1 voip destination-pattern 8....
tech-prefix 8# !--- This dial peer appends the 8#
pattern to the dial string !--- in the gatekeeper ARQ.
In this way, the gatekeeper can route the call based on
!--- the technology prefix 8#. This dial peer also
includes the technology !--- prefix in the call setup to
the terminating gateway which, in this case, is 8#8....
session target ras ! dial-peer voice 2 pots destination-
pattern 91000 port 1/0/0 ! gateway ! interface
FastEthernet0/0 ip address 172.22.1.2 255.255.255.0
duplex auto speed 10 h323-gateway voip interface h323-
gateway voip id GK-01.zone-one.com multicast h323-
gateway voip h323-id gwy-02@zone-one.com

```

验证

本部分所提供的信息可用于确认您的配置是否正常工作。

[命令输出解释程序工具](#) ([仅限注册用户](#)) 支持某些 **show** 命令，使用此工具可以查看对 **show** 命令输出的分析。

网守验证命令

- **show gatekeeper endpoints** —验证网关的注册。此命令显示的信息包括：H323-ID区域E164-ID，如果适用
- **show gatekeeper gw-type-prefix** —验证注册技术前缀的网关，并且网守如何对待定义技术前缀
 -
- **show gatekeeper zone prefix** —指示各自E.164前缀将路由的区域。
- **show gatekeeper zone status** —验证区域状态和配置参数。

- **show gatekeeper status** —显示整体网守状态，包括授权和认证状态和区域状态。
- **show gatekeeper calls** —显示网守知道每持续的呼叫的状况。

注意：请使用[命令查找工具](#)([仅限注册用户](#))关于这些命令的更多信息。

从配置情形1

```
!--- Note: Gateway-02 (gwy-02) registers an ID of E164.
!--- This gateway has an FXS port and a number
assignment. Gateway-01 (gwy-01) cannot !--- register
E164 numbers because gwy-02 is unaware of the E164
numbers behind !--- the PBX (T1 PRI). maui-gk-01#show
gatekeeper endpoints GATEKEEPER ENDPOINT REGISTRATION
===== CallSignalAddr Port
RASignalAddr Port Zone Name Type Flags -----
-----
172.22.1.1 1720 172.22.1.1 53523 GK-01.zone-one.co VOIP-
GW H323-ID: gwy-01@zone-one.com 172.22.1.2 1720
172.22.1.2 50423 GK-01.zone-one.co VOIP-GW E164-ID:
91000 H323-ID: gwy-02@zone-one.com Total number of
active registrations = 2 !-----
----- !--- Note: The gatekeeper has
technology prefix 1#, !--- which is the default for
gateway selection. !--- Note: Gwy-01 is the only gateway
that is registered with !--- technology prefix 1#. maui-
gk-01#show gatekeeper gw-type-prefix GATEWAY TYPE PREFIX
TABLE ===== Prefix: 1#* (Default
gateway-technology) Zone GK-01.zone-one.com master
gateway list: 172.22.1.1:1720 gwy-01 !-----
----- maui-gk-01#show
gatekeeper status Gatekeeper State: UP Load Balancing:
DISABLED Zone Name: GK-01.zone-one.com Accounting:
DISABLED Security: DISABLED Maximum Remote Bandwidth:
unlimited Current Remote Bandwidth: 0 kbps Current
Remote Bandwidth (w/ Alt GKs): 0 kbps
```

从配置情形2

```
maui-gk-01#show gatekeeper gw-type-prefix GATEWAY TYPE
PREFIX TABLE ===== Prefix: 8#* Zone
GK-01.zone-one.com master gateway list: 172.22.1.1:1720
gwy-01
```

网关验证命令

- **show gateway** —显示当前网关状态。
- **show dial-peer voice 编号**—验证VoIP会话协议是RAS和过去常常发现技术前缀配置。

从配置情形1

```
maui-gwy-01#show gateway Gateway gwy-01@zone-one.com is
registered to Gatekeeper GK-01.zone-one.com Alias list
(CLI configured) H323-ID gwy-01@zone-one.com Alias list
(last RCF) H323-ID gwy-01@zone-one.com H323 resource
thresholding is Disabled
```

从配置情形2

```
maui-gwy-02#show dial-peer voice 1 VoiceOverIpPeer1 peer
type = voice, information type = voice, description =
'', tag = 1, destination-pattern = `8....', answer-
address = '', preference=0, CLID Restriction = None CLID
Network Number = `` CLID Second Number sent CLID
Override RDNIS = disabled, source carrier-id = ``,
```

```
target carrier-id = `', source trunk-group-label = `',
target trunk-group-label = `', numbering Type =
`unknown' group = 1, Admin state is up, Operation state
is up, incoming called-number = `', connections/maximum
= 0/unlimited, DTMF Relay = disabled, modem transport =
system, huntstop = disabled, in bound application
associated: 'DEFAULT' out bound application associated:
'' dnis-map = permission :both incoming COR list:maximum
capability outgoing COR list:minimum requirement
Translation profile (Incoming): Translation profile
(Outgoing): incoming call blocking: translation-profile
= `' disconnect-cause = `no-service' advertise 0x40
capacity_update_timer 25 addrFamily 4 oldAddrFamily 4
type = voip, session-target = `ras', technology prefix:
8# settle-call = disabled ip media DSCP = ef, ip
signaling DSCP = af31, UDP checksum = disabled, session-
protocol = cisco, session-transport = system, req-qos =
best-eort, acc-qos = best-effort, RTP dynamic payload
type values: NTE = 101 Cisco: NSE=100, fax=96, fax-
ack=97, dtmf=121, fax-relay=122 CAS=123, ClearChan=125,
PCM switch over u-law=0,A-law=8 RTP comfort noise
payload type = 19 fax rate = voice, payload size = 20
bytes fax protocol = system fax-relay ecm enable fax NSF
= 0xAD0051 (default) codec = g729r8, payload size = 20
bytes, Media Setting = flow-through (global) Expect
factor = 10, Icpif = 20, Playout Mode is set to
adaptive, Initial 60 ms, Max 250 ms Playout-delay
Minimum mode is set to default, value 40 ms Fax nominal
300 ms Max Redirects = 1, signaling-type = cas, VAD =
enabled, Poor QOV Trap = disabled, Source Interface =
NONE voice class sip url = system, voice class sip
rellxx = system, voice class perm tag = `` Time elapsed
since last clearing of voice call statistics never
Connect Time = 0, Charged Units = 0, Successful Calls =
5, Failed Calls = 8, Incomplete Calls = 0 Accepted Calls
= 0, Refused Calls = 0, Last Disconnect Cause is "10 ",
Last Disconnect Text is "normal call clearing (16)",
Last Setup Time = 31861243.
```

故障排除

本部分提供的信息可用于对配置进行故障排除。

此部分不是一完整故障排除指南。反而，部分提供有用的调试指令方法和系列为了排除故障问题。此部分目的将显示您在可用的调试指令和提供了解对他们。

故障排除步骤

完成这些步骤为了排除故障关守-网关方案：

1. 保证网关-关守发现过程是成功的。请使用debug ras和debug h225 asn1命令。
[Troubleshooting Commands](#)部分显示这些命令。
2. 保证网关-关守注册过程是成功的。
3. 保证网守有完整信息为了路由呼叫。在关守-网关方案中，此信息包括ARQ，回复ARQ和没有LRQ。
4. 保证正确配置网关语音端口、POTS拨号对端和VoIP拨号对等体呼叫终止和开始的。

故障排除命令

调试in命令此部分是有用的为了排除故障[故障排除程序](#)过程步骤。

注意：发出 debug 命令之前，请参阅[有关 Debug 命令的重要信息](#)。

网守

- debug ras —显示交换在网守和网关之间的RAS消息。
- debug h225 asn1 —较详细地提供信息。命令与答复和H.225呼叫建立/卸载消息一起显示ACF和Location Confirm (LCF)。
- debug h225 events
- 调试h245 {asn1|事件}

网关

- debug ras
- debug cch323 ras
- debug voip ccapi inout
- debug cch323 h225
- debug cch323 h245
- debug h225 asn1
- debug h225 events
- 调试h245 {asn1|事件}

从[配置情形1](#)，发现号和注册过程

```
!--- This output shows a successful gatekeeper discovery
and !--- registration process. Output is captured in
gwy-01 and the gatekeeper. !--- Refer to Understanding
H.323 Gatekeepers !--- for more information on the
gatekeeper discovery and registration process. maui-gwy-
01# debug ras H.323 RAS Messages debugging is on
RASLib::GW_RASSendGRQ: GRQ (seq# 30779) sent to
172.22.1.3 !--- Gwy-01 sends a Gatekeeper Request (GRQ)
message to the gatekeeper !--- (172.22.1.3). GCF (seq#
30779) rcvd from h323chan_dgram_send:Sent UDP msg. Bytes
sent: 131 to 172.22.1.3:1719 !--- Gwy-01 receives a
Gatekeeper Confirmation (GCF) message from !--- the
gatekeeper (172.22.1.3). RASLib::GW_RASSendRRQ: RRQ
(seq# 30780) sent to 172.22.1.3 !--- Gwy-01 sends a
Registration Request (RRQ) message to the gatekeeper !--
- (172.22.1.3). h323chan_dgram_rcvdata:rcvd from
[172.22.1.3:1719] on sock[1] RCF (seq# 30780) rcvd !---
Gwy-01 receives a Registration Confirmation (RCF)
message from !--- the gatekeeper (172.22.1.3). !-----
----- maui-gk-
01#debug ras H.323 RAS Messages debugging is on !---
Output is suppressed. *Oct 31 08:23:29.245: GRQ (seq#
30779) rcvd !--- The gatekeeper receives a GRQ from gwy-
01. *Oct 31 08:23:29.245: RASLib::RASSendGCF: GCF (seq#
30779) sent to 172.22.1.1 !--- The gatekeeper sends a
GCF to gwy-01. *Oct 31 08:23:29.249: RRQ (seq# 30780)
rcvd !--- The gatekeeper receives an RRQ from gwy-01.
*Oct 31 08:23:29.249: RASLib::RASSendRCF: RCF (seq#
```

```

30780) sent to 172.22.1.1 !-----
----- !--- This is gatekeeper output.
You can also use this debug !--- with the gateway. !---
Output is suppressed. Only the registration process is
captured. maui-gk-01#debug h225 asnl H.225 ASN1 Messages
debugging is on *Oct 31 09:56:12.980: RAS INCOMING PDU
::= !--- This is an incoming RAS: RRQ message from gwy-
01. value RasMessage ::= registrationRequest : {
requestSeqNum 30906 !--- The RCF uses the same sequence
number. protocolIdentifier { 0 0 8 2250 0 2 }
discoveryComplete TRUE !--- This indicates that the
discovery process is complete. !--- GRQ and GCF are
complete. callSignalAddress { ipAddress : { ip
'AC160101'H port 1720 } } rasAddress { ipAddress : { ip
'AC160101'H port 53523 } } terminalType !--- This is
either the gateway or terminal. { gateway { protocol {
voice : { supportedPrefixes { { prefix e164 : "1#" !---
The gateway registers with technology prefix 1#. } } } }
} mc FALSE undefinedNode FALSE } terminalAlias { h323-ID
: {"gwy-01@zone-one.com"} !--- No E.164 IDs are
registered for this gwy-01. } gatekeeperIdentifier {"GK-
01.zone-one.com"} endpointVendor { vendor {
t35CountryCode 181 t35Extension 0 manufacturerCode 18 }
} timeToLive 60 keepAlive FALSE willSupplyUUIEs FALSE }
*Oct 31 09:56:12.984: RAS OUTGOING PDU ::= !--- The
gatekeeper sends to gwy-01 a RAS: RCF message. value
RasMessage ::= registrationConfirm : { requestSeqNum
30906 !--- The sequence number is the same as RRQ.
protocolIdentifier { 0 0 8 2250 0 2 } callSignalAddress
{ } terminalAlias { h323-ID : {"gwy-01@zone-one.com"} }
gatekeeperIdentifier {"GK-01.zone-one.com"}
endpointIdentifier {"632098E800000001"}
alternateGatekeeper { } timeToLive 60

```

从配置情形1，接纳和呼叫路由进程

```

!--- Refer to Understanding H.323 Gatekeepers !--- for
more information on the gatekeeper admission process and
!--- gatekeeper-gateway call flows. !-----
----- !--- Action: A call is
placed from extension x81690 (gwy-02 FXS port) to !---
x81550 (gwy-01 --> PBX). Call disconnect is not
captured. !--- Output is suppressed. maui-gwy-02#debug
ras H.323 RAS Messages debugging is on
RASLib::RASSendARQ: ARQ (seq# 1813) sent to 172.22.1.3
!--- An ARQ message goes to the gatekeeper to initiate
the call. !--- Note: The sequence number matches with
the gatekeeper. RASLib::RASRecvData: ACF (seq# 1813)
rcvd from [172.22.1.3:1719] on sock[0x81825C9C] !--- The
gatekeeper replies with an ACF message. maui-gk-01#debug
ras H.323 RAS Messages debugging is on *Oct 31
10:58:45.620: ARQ (seq# 1813) rcvdpars_arq_nonstd: ARQ
Nonstd decode !--- The gatekeeper receives an ARQ
message from gwy-02. !--- Note: The sequence number
matches with gwy-02. *Oct 31
10:58:45.620:RASLib::RASSendACF: ACF (seq# 1813) sent to
172.22.1.2 !--- The gatekeeper sends an ACF message to
gwy-02. *Oct 31 10:58:45.648: ARQ (seq# 30998)
rcvdpars_arq_nonstd: ARQ Nonstd decode !--- The
gatekeeper receives an ARQ message from gwy-01. !---
Note: The sequence number matches with gwy-01. *Oct 31
10:58:45.648:RASLib::RASSendACF: ACF (seq# 30998) sent
to 172.22.1.1 !--- The gatekeeper sends an ACF message
to gwy-01. maui-gwy-01#debug ras H.323 RAS Messages

```

```

debugging is on RASLib::GW_RASSendARQ: ARQ (seq# 30998)
sent to 172.22.1.3 ACF (seq# 30998)
rcvdh323chan_dgram_send:Sent UDP msg. Bytes sent: 107 to
172.22.1.3:1719 !-----
----- !--- This is gatekeeper output. You can
also use this debug !--- with the gateway. !--- Action:
A call is placed from extension x81690 (gwy-02 FXS port)
to !--- x81550 (gwy-01 --> PBX). Call disconnect is not
captured. !--- Output suppressed. maui-gk-01#debug h225
asn1 H.225 ASN1 Messages debugging is on *Oct 31
11:36:51.416: RAS INCOMING PDU ::= value RasMessage ::=
admissionRequest : !--- The gatekeeper receives an ARQ
from gwy-02. { requestSeqNum 1885 destinationInfo !---
The gatekeeper routes the call with the use of the !---
destination address/E.164 number. !--- Note: There are
no technology prefixes. { e164 : "81550" } srcInfo {
e164 : "91000", h323-ID : {"gwy-02@zone-one.com"} } }
*Oct 31 11:36:51.420: RAS OUTGOING PDU ::= value
RasMessage ::= admissionConfirm : !--- The gatekeeper
sends an ACF to gwy-02. { requestSeqNum 1885 bandWidth
640 callModel direct : NULL destCallSignalAddress
ipAddress : { ip 'AC160101'H !--- The gatekeeper
responds with the destination gateway (gwy-01) IP
address. !--- Note: Because gwy-01 did not register the
"e164:81550" address, !--- the gatekeeper makes the
routing decision based on the gwy-01 default !---
technology prefix registration. port 1720 } } *Oct 31
11:36:51.532: RAS INCOMING PDU ::= value RasMessage ::=
admissionRequest : !--- The gatekeeper receives an ARQ
from gwy-01. !--- Gwy-01 needs authorization to accept
an incoming call. { requestSeqNum 31077 callType
pointToPoint : NULL callModel direct : NULL
endpointIdentifier {"62B49A4000000001"} destinationInfo
{ e164 : "81550" } srcInfo { e164 : "91000" }
srcCallSignalAddress ipAddress : { ip 'AC160102'H port
11026 } bandWidth 640 callReferenceValue 32 *Oct 31
11:36:51.536: RAS OUTGOING PDU ::= value RasMessage ::=
admissionConfirm : !--- The gatekeeper sends an ACF to
gwy-01. { requestSeqNum 31077 bandWidth 640 callModel
direct : NULL destCallSignalAddress ipAddress : { ip
'AC160101'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 } }

```

从配置情形2，接纳和呼叫路由进程

```

!--- Refer to Understanding H.323 Gatekeepers !--- for
more information on the gatekeeper admission process and
!--- gatekeeper-gateway call flows. !-----
----- !--- Action: A call is
placed from extension x81690 (gwy-02 FXS port) to !---
x81550 (gwy-01 --> PBX). Call disconnect is not
captured. !--- Output is suppressed. GKKK *Oct 31
13:50:49.911: RAS INCOMING PDU ::= value RasMessage ::=
admissionRequest : { requestSeqNum 2105 callType
pointToPoint : NULL callModel direct : NULL
endpointIdentifier {"631E269800000002"} destinationInfo
{ e164 : "8#81550" } srcInfo { e164 : "91000", h323-ID :
{"gwy-02@zone-one.com"} } } bandWidth 640
callReferenceValue 195 nonStandardData {
nonStandardIdentifier h221NonStandard : { t35CountryCode
181 t35Extension 0 manufacturerCode 18 } data '000000'H

```

```
} conferenceID '76F6F2EEA9AC01AB0000000005B41E78'H
activeMC FALSE answerCall FALSE canMapAlias TRUE
callIdentifier { guid
'76F6F2EEA9AC01AC0000000005B41E78'H } willSupplyUIEs
FALSE } *Oct 31 13:50:49.915: RAS OUTGOING PDU ::= value
RasMessage ::= admissionConfirm : { requestSeqNum 2105
bandWidth 640 callModel direct : NULL
destCallSignalAddress ipAddress : { ip 'AC160101'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 } } ----- maui-gwy-01#debug
voip ccapi inout voip ccAPI function enter/exit
debugging is on maui-gwy-01# *Mar 17 05:44:48.555:
cc_api_call_setup_ind (vdbPtr=0x621EB2C0,
callInfo={called=8#81550,
called_oct3=0x91,calling=91000,calling_oct3=0x91,calling
_oct3a=0x0,calling_xlated=false,
subscriber_type_str=Unknown,fdest=1,peer_tag=2,
prog_ind=0},callID=0x626A6BC8) *Mar 17 05:44:48.555:
cc_api_call_setup_ind type 0 , prot 1 *Mar 17
05:44:48.555: cc_api_call_setup_ind (vdbPtr=0x621EB2C0,
callInfo={called=8#81550, calling=91000, fdest=1
peer_tag=2}, callID=0x626A6BC8) *Mar 17 05:44:48.555:
cc_process_call_setup_ind (event=0x6230CA38) *Mar 17
05:44:48.555: >>>>CCAPI handed cid 134 with tag 2 to app
"DEFAULT" *Mar 17 05:44:48.555: sess_appl:
ev(24=CC_EV_CALL_SETUP_IND), cid(134), disp(0) *Mar 17
05:44:48.555: sess_appl: ev(SSA_EV_CALL_SETUP_IND),
cid(134), disp(0) *Mar 17 05:44:48.555: ssaCallSetupInd
*Mar 17 05:44:48.559: ccCallSetContext (callID=0x86,
context=0x626B4A30) *Mar 17 05:44:48.559:
ssaCallSetupInd cid(134), st(SSA_CS_MAPPING),oldst(0),
ev(24)ev->e.evCallSetupInd.nCallInfo.finalDestFlag = 1
*Mar 17 05:44:48.559: ssaCallSetupInd finalDest
cInng(91000), cIled(8#81550) *Mar 17 05:44:48.559:
ssaCallSetupInd cid(134),
st(SSA_CS_CALL_SETTING),oldst(0),
ev(24)dpMatchPeersMoreArg result= 0 *Mar 17
05:44:48.559: ssaSetupPeer cid(134) peer list: tag(1)
called number (8#81550) *Mar 17 05:44:48.559:
ssaSetupPeer cid(134), destPat(8#81550), matched(1),
prefix(), peer(622FCB48), peer->encapType (1) *Mar 17
05:44:48.559: ccCallProceeding (callID=0x86,
prog_ind=0x0) *Mar 17 05:44:48.559: ccCallSetupRequest
(Inbound call = 0x86, outbound peer =1, dest=,
params=0x62318A18 mode=0, *callID=0x62318D80, prog_ind =
0) *Mar 17 05:44:48.559: ccCallSetupRequest
numbering_type 0x91 *Mar 17 05:44:48.559: dest pattern
8#....., called 8#81550, digit_strip 1 *Mar 17
05:44:48.559: callingNumber=91000, calledNumber=8#81550,
redirectNumber= display_info= calling_oct3a=0 *Mar 17
05:44:48.559: accountNumber=, finalDestFlag=1,
guid=76f6.f2ee.a9ac.01c3.0000.0000.05b7.2984 *Mar 17
05:44:48.559: peer_tag=1 *Mar 17 05:44:48.559:
ccIFCallSetupRequestPrivate: (vdbPtr=0x62627630, dest=,
callParams= {called=8#81550,called_oct3=0x91,
calling=91000,calling_oct3=0x91, calling_xlated=false,
subscriber_type_str=Unknown, fdest=1,
voice_peer_tag=1},mode=0x0) vdbPtr type = 6 *Mar 17
05:44:48.559: ccIFCallSetupRequestPrivate:
(vdbPtr=0x62627630, dest=, callParams= {called=8#81550,
called_oct3 0x91, calling=91000,calling_oct3 0x91,
```

```
calling_xlated=false, fdest=1, voice_peer_tag=1},
mode=0x0, xltrc=-5) *Mar 17 05:44:48.559:
ccSaveDialpeerTag (callID=0x86, dialpeer_tag= *Mar 17
05:44:48.563: ccCallSetContext (callID=0x87,
context=0x626A2DB0) *Mar 17 05:44:48.563:
ccCallReportDigits (callID=0x86, enable=0x0) *Mar 17
05:44:48.563: cc_api_call_report_digits_done
(vdbPtr=0x621EB2C0, callID=0x86, disp=0) *Mar 17
05:44:48.563: sess_appl:
ev(52=CC_EV_CALL_REPORT_DIGITS_DONE), cid(134), disp(0)
*Mar 17 05:44:48.563:
cid(134)st(SSA_CS_CALL_SETTING)ev(SSA_EV_CALL_REPORT_DIG
ITS_DONE) oldst(SSA_CS_MAPPING)cfid(-
1)csize(0)in(1)fDest(1) *Mar 17 05:44:48.563: -
cid2(135)st2(SSA_CS_CALL_SETTING)oldst2(SSA_CS_MAPPING)
*Mar 17 05:44:48.563: ssaReportDigitsDone cid(134) peer
list: (empty) *Mar 17 05:44:48.563: ssaReportDigitsDone
callid=134 Reporting disabled. *Mar 17 05:44:48.603:
cc_api_call_proceeding(vdbPtr=0x62627630, callID=0x87,
prog_ind=0x0) *Mar 17 05:44:48.603: sess_appl:
ev(21=CC_EV_CALL_PROCEEDING), cid(135), disp(0) *Mar 17
05:44:48.603:
cid(135)st(SSA_CS_CALL_SETTING)ev(SSA_EV_CALL_PROCEEDING
) oldst(SSA_CS_MAPPING)cfid(-1)csize(0)in(0)fDest(0)
*Mar 17 05:44:48.607: -
cid2(134)st2(SSA_CS_CALL_SETTING)oldst2(SSA_CS_CALL_SETT
ING) *Mar 17 05:44:48.607: ssaCallProc *Mar 17
05:44:48.607: ccGetDialpeerTag (callID=0x) *Mar 17
05:44:48.607: ssaIgnore cid(135),
st(SSA_CS_CALL_SETTING),oldst(1), ev(21) *Mar 17
05:44:48.607: cc_api_call_alert(vdbPtr=0x62627630,
callID=0x87, prog_ind=0x0, sig_ind=0x1) *Mar 17
05:44:48.607: sess_appl: ev(7=CC_EV_CALL_ALERT),
cid(135), disp(0) *Mar 17 05:44:48.611:
cid(135)st(SSA_CS_CALL_SETTING)ev(SSA_EV_CALL_ALERT)
oldst(SSA_CS_CALL_SETTING)cfid(-1)csize(0)in(0)fDest(0)
*Mar 17 05:44:48.611: -
cid2(134)st2(SSA_CS_CALL_SETTING)oldst2(SSA_CS_CALL_SETT
ING) *Mar 17 05:44:48.611: ssaAlert *Mar 17
05:44:48.611: ccGetDialpeerTag (callID=0x) *Mar 17
05:44:48.611: ccCallAlert (callID=0x86, prog_ind=0x0,
sig_ind=0x1) *Mar 17 05:44:52.363:
cc_api_call_connected(vdbPtr=0x62627630, callID=0x87),
prog_ind = 1651166880 *Mar 17 05:44:52.363: sess_appl:
ev(8=CC_EV_CALL_CONNECTED), cid(135),disp(0) *Mar 17
05:44:52.363:
cid(135)st(SSA_CS_ALERT_RCVD)ev(SSA_EV_CALL_CONNECTED)
oldst(SSA_CS_CALL_SETTING)cfid(-1)csize(0)in(0)fDest(0)
*Mar 17 05:44:52.363: -
cid2(134)st2(SSA_CS_ALERT_RCVD)oldst2(SSA_CS_CALL_SETTIN
G) *Mar 17 05:44:52.363: ssaConnect *Mar 17
05:44:52.363: ccGetDialpeerTag (callID=0x) *Mar 17
05:44:52.363: ccConferenceCreate (confID=0x62318E04,
callID1=0x86, callID2=0x87, tag=0x0) *Mar 17
05:44:52.367: cc_api_bridge_done (confID=0x1D,
srcIF=0x621EB2C0, srcCallID=0x86, dstCallID=0 x87,
disposition=0, tag=0x0) *Mar 17 05:44:52.367:
cc_api_bridge_done (confID=0x1D, srcIF=0x62627630,
srcCallID=0x87, dstCallID=0 x86, disposition=0, tag=0x0)
*Mar 17 05:44:52.367: cc_api_caps_ind
(dstVdbPtr=0x621EB2C0, dstCallId=0x86, srcCallId=0x87,
caps={codec=0x2887F, fax_rate=0x7F, vad=0x3, modem=0x2
codec_bytes=0, signal_type=3}) *Mar 17 05:44:52.367:
cc_api_caps_ind (Playout: mode 0, initial 60,min 40, max
```

```
200) *Mar 17 05:44:52.367: cc_api_caps_ind
(dstVdbPtr=0x62627630, dstCallId=0x87, srcCallId=0x86,
caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x0
codec_bytes=20, signal_type=2}) *Mar 17 05:44:52.367:
cc_api_caps_ind (Playout: mode 0, initial 60,min 40, max
200) *Mar 17 05:44:52.367: cc_api_caps_ack
(dstVdbPtr=0x62627630, dstCallId=0x87, srcCallId=0x86,
caps={codec=0x4, fax_rate=0x2, vad=0x2, modem=0x0
codec_bytes=20, signal_type=2}) *Mar 17 05:44:52.367:
cc_api_caps_ack (dstVdbPtr=0x621EB2C0, dstCallId=0x86,
srcCallId=0x87, caps={codec=0x4, fax_rate=0x2, vad=0x2,
modem=0x0 codec_bytes=20, signal_type=2}) *Mar 17
05:44:52.367: cc_api_voice_mode_event , callID=0x87 *Mar
17 05:44:52.367: Call Pointer =626A2DB0 *Mar 17
05:44:52.371: sess_appl: ev(29=CC_EV_CONF_CREATE_DONE),
cid(134), disp(0) *Mar 17 05:44:52.371:
cid(134)st(SSA_CS_CONFERENCING)ev(SSA_EV_CONF_CREATE_DON
E)
oldst(SSA_CS_CALL_SETTING)cfid(29)csize(2)in(1)fDest(1)
*Mar 17 05:44:52.371: -
cid2(135)st2(SSA_CS_CONFERENCING)oldst2(SSA_CS_ALERT_RCV
D) *Mar 17 05:44:52.371: ssaConfCreateDone *Mar 17
05:44:52.371: ccCallConnect (callID=0x86), prog_ind = 2
*Mar 17 05:44:52.371: ssaFlushPeerTagQueue cid(134) peer
list: (empty) *Mar 17 05:44:52.371: sess_appl:
ev(50=CC_EV_VOICE_MODE_DONE), cid(135), disp(0) *Mar 17
05:44:52.371:
cid(135)st(SSA_CS_ACTIVE)ev(SSA_EV_VOICE_MODE_DONE)
oldst(SSA_CS_ALERT_RCVD)cfid(29)csize(2)in(0)fDest(0)
*Mar 17 05:44:52.371: -
cid2(134)st2(SSA_CS_ACTIVE)oldst2(SSA_CS_CONFERENCING)
*Mar 17 05:44:52.371: ssaIgnore cid(135),
st(SSA_CS_ACTIVE),oldst(5), ev(50) *Mar 17 05:44:52.371:
cc_process_notify_bridge_done (event=0x6230E2C0) maui-
gwy-01#debug isdn q931 ISDN Q931 packets debugging is on
maui-gwy-01# maui-gwy-01# maui-gwy-01# *Mar 17
05:49:01.451: ISDN Se3/0:23: TX -> SETUP pd = 8 callref
= 0x0036 *Mar 17 05:49:01.451: Bearer Capability i =
0x8090A2 *Mar 17 05:49:01.451: Channel ID i = 0xA98381
*Mar 17 05:49:01.451: Calling Party Number i = 0x91,
'91000', Plan:ISDN, Type: International *Mar 17
05:49:01.455: Called Party Number i = 0x91, '81550',
Plan:ISDN, Type: International *Mar 17 05:49:01.495:
ISDN Se3/0:23: RX <- CALL_PROC pd = 8 callref = 0x8036
*Mar 17 05:49:01.495: Channel ID i = 0xA98381 *Mar 17
05:49:01.499: ISDN Se3/0:23: RX <- ALERTING pd = 8
callref = 0x8036 *Mar 17 05:49:13.563: ISDN Se3/0:23: RX
<- CONNECT pd = 8 callref = 0x8036 *Mar 17 05:49:13.563:
Progress Ind i = 0x8182 - Destination address is non-
ISDN *Mar 17 05:49:13.567: ISDN Se3/0:23: TX ->
CONNECT_ACK pd = 8 callref = 0x0036 maui-gk-01#debug
gatekeeper main 5 maui-gk-01# maui-gk-01# maui-gk-01#
maui-gk-01# maui-gk-01# maui-gk-01# maui-gk-01# maui-gk-
01# *Oct 31 14:02:09.747: gk_rassrv_arq:
arqp=0x631FCA90, crv=0xD9, answerCall=0 *Oct 31
14:02:09.747: gk_dns_locate_gk(): No Name servers *Oct
31 14:02:09.747: rassrv_get_addrinfo(8#81550): Matched
tech-prefix 8# *Oct 31 14:02:09.747:
rassrv_get_addrinfo(8#81550): unresolved zone prefix,
using source zone GK-01.zone-one.com *Oct 31
14:02:09.771: gk_rassrv_arq: arqp=0x62E80920, crv=0x3E,
answerCall=1
```


相关信息

- [网守注册问题的故障排除](#)
- [了解呼入和呼出拨号对端如何在IOS平台上被匹配](#)
- [网守注册问题的故障排除](#)
- [了解Cisco IOS网守呼叫路由](#)
- [配置H.323网守和代理](#)
- [网守终端控制增强](#)
- [语音技术支持](#)
- [语音和IP通信支持资源](#)
- [Cisco IP 电话故障排除](#)
- [技术支持和文档 - Cisco Systems](#)