

在CUCM 11.5的本地呼叫排队增进

Contents

[Introduction](#)

[Components Used](#)

[背景信息](#)

[功能概述](#)

[配置](#)

[H.225 Trunk \(Gatekeeper Controlled\)](#)

[集群间中继线\(被控制的非网守\)](#)

[集群间中继线\(Gatekeeper Controlled\)](#)

[H.323网关](#)

[SIP 配置文件](#)

[MGCP \(E1 PRI、T1 PRI、T1 CAS和BRI\)](#)

[日志分析](#)

[Troubleshoot](#)

Introduction

Cisco Unified通信Manager(CUCM)在队列提供呼叫排队安置呼叫人，直到搜索成员是可用答复他们。管理员能设置默认值，因此呼叫人接受一个最初的问候公告，在呼叫延伸到代理程序前或可以更改默认值，因此最初的公告作用，在呼叫人在Music on Hold或Tone on Hold之后跟随的队列放置。如果呼叫人在队列保持特定的时间，一个附属公告被显示在一个配置的间隔，直到呼叫可以应答或，直到最大等待计时器到期。

Components Used

- Cisco Unified Communications管理器版本11.5.1
- Cisco IP电话版本8.6.6.0

背景信息

此部分在增进之前描述本地呼叫排队基本功能在CUCM 11.5

当呼叫进来并且到达寻线引导时，提供这些功能：

- 呼叫人可以被联络到一个最初的可定制的问候公告前面进行。
- 如果一个或更多线路成员登陆对寻线引导并且在一个空闲状态，并且，如果呼叫不是排队，呼叫延伸到是空闲在最长的时期的线路成员。
- 如果线路成员不应答呼叫，该呼叫人在队列没有安置。呼叫路由对新建目标或者断开，根据设置，当搜索成员答案，没有登陆或者注册。
- 如果线路成员不应答一次队列启用呼叫，该线路成员注销Hunt Group只有当选项自动地退出没有答案的搜索成员在线群选择设置窗口。

- 只有当所有成员是繁忙的，呼叫在队列安置。
 - 在队列被联络的呼叫人能听到Music on Hold和重复(可定制的)定期公告。
 - 在线路成员变得空闲后，有最久的等待时间的呼叫人在多个Hunt Group间是延伸到闲置线路成员。如果闲置线路成员不应答呼叫，呼叫人返回对在队列的早先位置。
 - 如果一次排队的呼叫超出其最长等待时间或在队列允许的呼叫人的最大数量是超出，呼叫可以路由到一个备选编号或如何可以是断开的，根据配置寻线引导。备选编号可以是下列之一：与排队二者之一的寻线引导DN启用或禁用的语音邮件DN线路DN共有的DN
 - 线路成员能显示他们的队列启用搜索飞行员的队列状态。队列状态显示提供信息的以下类型：寻线引导模式排队的呼叫人的编号每寻线引导的最久的等待时间
- 呼叫排队与现有的搜索飞行员一道工作，但是没有在搜寻操作的工作情况的上变化排队的或非nonqueuing的搜索飞行员的。寻找安排呼叫排队被启用提供以下功能的飞行员：

- 排队启用寻线引导呼叫可能由线路成员每次只收到一次呼叫。两排队启用寻线引导呼叫不可能为线路成员提供。线路成员能收到呼叫直接地对DN或从非排队搜索飞行员。
- 不应答呼叫由搜索飞行员路由的线路成员自动地logouted。A如果线路成员接受一次排队启用搜索，线路成员自动地被注销在设备外面在超时出现前，试验呼叫，并且不应答呼叫。一旦共用线的配置，所有设备配置有同一条共享线路logouted。您能配置此工作情况从线群设置窗口通过自动选择退出没有答案的搜索成员。线路只有当此复选框被检查，成员logouted。

在最初的公告期间，使用工作呼叫排队如所描述有终端用户会听到断线或沉默的许多实例，因而造成用户的认为呼叫不是成功的。当一端不可能支持在呼叫的早媒体此情况将出现。

功能概述

开始从Cisco Unified Communications Manager Release 11.5，您能配置入局呼叫更改到已连接的呼叫状态在显示排队公告前，而呼叫延伸到a寻找排队启用寻线引导的成员。

新在演奏排队公告复选框前连接入局呼叫被添加到以下Trunk和网关配置窗口：

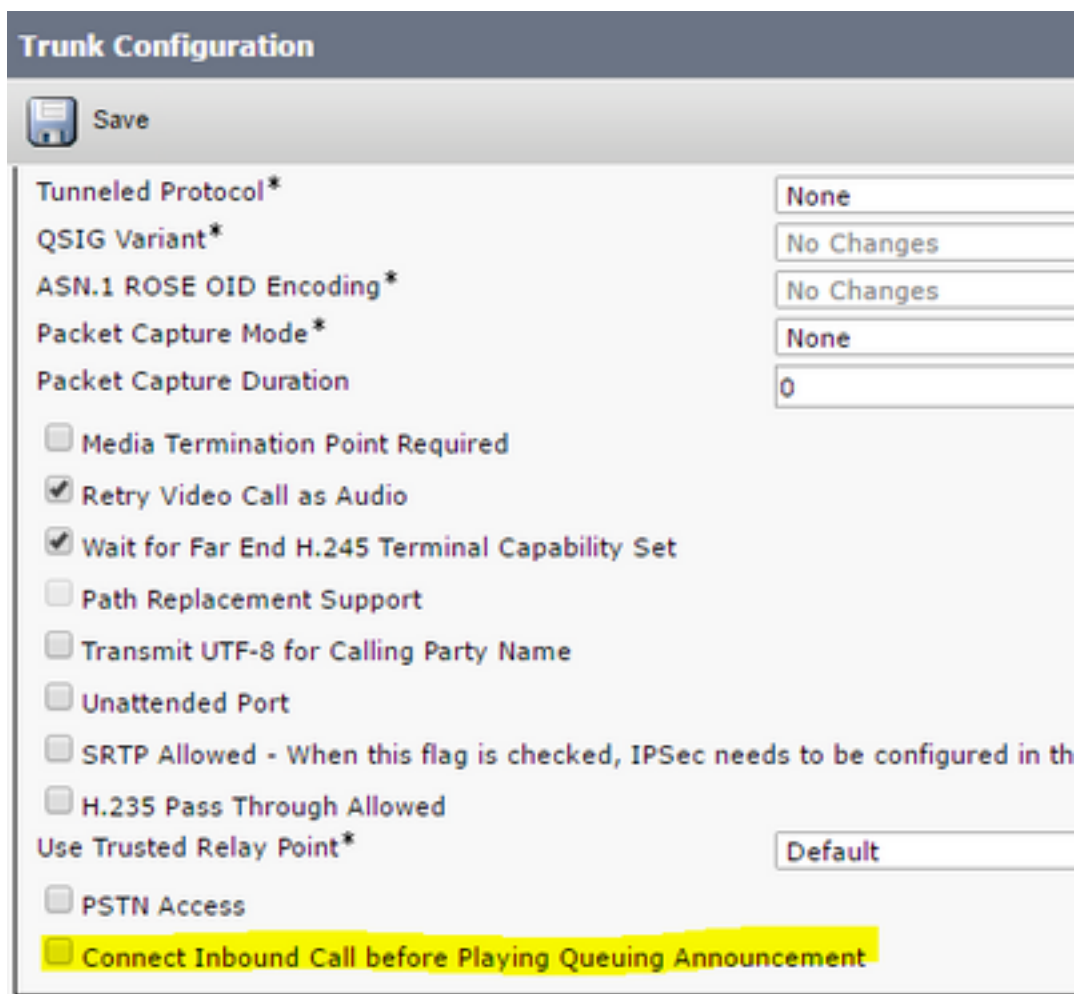
- H.225 Trunk (Gatekeeper Controlled)
- 集群间中继线(非Gatekeeper Controlled)
- 相互簇Trunk (Gatekeeper Controlled)
- H.323网关(网关类型)
- SIP配置文件(Trunk特定配置)
- MGCP (E1 PRI、T1 PRI、T1 CAS和BRI)

一旦用户检查此机箱，CUCM在100Trying以后将发送200OK在SIP的情况下，并且在H323/MGCP的情况下CUCM将发送在寻线引导呼叫流的一连接。这保证用户能听到最初的公告而不是沉默或断线，万一另一个末端不能支持早媒体。

配置

下面与新加的参数的配置快照在CUCM

H.225 Trunk (Gatekeeper Controlled)



Trunk Configuration

Save

Tunneled Protocol*

QSIG Variant*

ASN.1 ROSE OID Encoding*

Packet Capture Mode*

Packet Capture Duration

Media Termination Point Required

Retry Video Call as Audio

Wait for Far End H.245 Terminal Capability Set

Path Replacement Support

Transmit UTF-8 for Calling Party Name

Unattended Port

SRTP Allowed - When this flag is checked, IPsec needs to be configured in th

H.235 Pass Through Allowed


Use Trusted Relay Point*

PSTN Access

Connect Inbound Call before Playing Queuing Announcement

集群间中继线(被控制的非网守)

Trunk Configuration

 Save

Tunneled Protocol*	None
QSIG Variant*	No Changes
ASN.1 ROSE OID Encoding*	No Changes
Packet Capture Mode*	None
Packet Capture Duration	0
<input type="checkbox"/> Media Termination Point Required	
<input checked="" type="checkbox"/> Retry Video Call as Audio	
<input type="checkbox"/> Path Replacement Support	
<input type="checkbox"/> Transmit UTF-8 for Calling Party Name	
<input type="checkbox"/> Unattended Port	
<input type="checkbox"/> SRTP Allowed - When this flag is checked, IPsec needs to be configured	
<input type="checkbox"/> H.235 Pass Through Allowed	
<input type="checkbox"/> Enable SAF	
Use Trusted Relay Point*	Default
<input type="checkbox"/> PSTN Access	
<input checked="" type="checkbox"/> Connect Inbound Call before Playing Queuing Announcement	
<input type="checkbox"/> Run On All Active Unified CM Nodes	

集群间中继线(Gatekeeper Controlled)

Trunk Configuration



Save

Tunneled Protocol*	None
QSIG Variant*	No Changes
ASN.1 ROSE OID Encoding*	No Changes
Packet Capture Mode*	None
Packet Capture Duration	0
<input type="checkbox"/> Media Termination Point Required	
<input checked="" type="checkbox"/> Retry Video Call as Audio	
<input type="checkbox"/> Path Replacement Support	
<input type="checkbox"/> Transmit UTF-8 for Calling Party Name	
<input type="checkbox"/> Unattended Port	
<input type="checkbox"/> SRTP Allowed - When this flag is checked, IPsec needs to be configured	
<input type="checkbox"/> H.235 Pass Through Allowed	
Use Trusted Relay Point*	Default
<input type="checkbox"/> PSTN Access	
<input type="checkbox"/> Connect Inbound Call before Playing Queuing Announcement	

H.323网关

Gateway Configuration

Save

Queue Name: [No Changes]

ASN.1 ROSE OID Encoding*: [No Changes]

Use Trusted Relay Point*: [Default]

Signaling Port*: [1720]

Media Termination Point Required

Retry Video Call As Audio

Wait for Far End H.245 Terminal Capability Set

Path Replacement Support

Transmit UTF-8 for Calling Party Name

SRTP Allowed - When this flag is checked, IPsec needs to be config

H.235 Pass Through Allowed

PSTN Access

Connect Inbound Call before Playing Queuing Announcement

SIP 配置文件

SIP Profile Configuration

Save

Calling Line Identification Presentation*: [Default]

Session Refresh Method*: [Invite]

Early Offer support for voice and video calls*: [Disabled (Default)]

Enable ANAT

Deliver Conference Bridge Identifier

Allow Passthrough of Configured Line Device Caller Information

Reject Anonymous Incoming Calls

Reject Anonymous Outgoing Calls

Send ILS Learned Destination Route String

Connect Inbound Call before Playing Queuing Announcement

MGCP (E1 PRI、T1 PRI、T1 CAS和BRI)

Gateway Configuration

Save

Confidential Access Level	< None >
<input type="checkbox"/> Handle DTMF Precedence Signals	
<input type="checkbox"/> Encode Voice Route Class	
Load Information	
Port Selection Order*	Top Down
Digit Sending*	DTMF
Network Locale	United States
SMDI Base Port*	0
Use Trusted Relay Point*	Default
Route Class Signaling Enabled*	Off
<input type="checkbox"/> V150 (subset)	
Called Party Transformation CSS	< None >
<input checked="" type="checkbox"/> Use Device Pool Called Party Transformation CSS	
<input type="checkbox"/> PSTN Access	
<input type="checkbox"/> Connect Inbound Call before Playing Queuing Announcement	

日志分析

下面的部分着重在跟踪文件看到的区别，当“请在显示排队公告前连接入局呼叫”时被检查并且被不选定。

SIP Normal Call Flow

Incoming Invite to the CUCM

```
00455394.002 |18:33:30.036 |AppInfo |SIPTcp - wait_SdlReadRsp: Incoming SIP TCP message from
10.127.227.7 on port 55522 index 16 with 1182 bytes:
[14599,NET]
INVITE sip:0000@10.106.111.105:5060 SIP/2.0
Via: SIP/2.0/TCP 10.127.227.7:5060;branch=z9hG4bK4e222dea4e0
From: <sip:888819@10.127.227.7>;tag=107999~6c65cba7-94a0-4069-84c7-4774aecf0647-33198813
To: <sip:0000@10.106.111.105>
.
.
//Truncated Output
```

100 Trying Sent

```
00455398.001 |18:33:30.037 |AppInfo |SIPTcp - wait_SdlSPISignal: Outgoing SIP TCP message to
10.127.227.7 on port 55522 index 16
[14600,NET]
SIP/2.0 100 Trying
Via: SIP/2.0/TCP 10.127.227.7:5060;branch=z9hG4bK4e222dea4e0
```

From: <sip:888819@10.127.227.7>;tag=107999~6c65cba7-94a0-4069-84c7-4774aecf0647-33198813
To: <sip:0000@10.106.111.105>

.
.
//Truncated Output

Digit Analysis takes place

00455415.007 |18:33:30.038 |AppInfo |Digit analysis: match(pi="2", fqcn="",
cn="888819",plv="5", pss="", TodFilteredPss="", dd="0000",dac="0")
00455415.008 |18:33:30.038 |AppInfo |Digit analysis: analysis results
00455415.009 |18:33:30.038 |AppInfo ||PretransformCallingPartyNumber=888819
|CallingPartyNumber=888819
|DialingPartition=
|DialingPattern=0000
|FullyQualifiedCalledPartyNumber=0000

Allocate Annunciater for the Initial Announcement

00455426.001 |18:33:30.039 |AppInfo |QueueControlCdr(17) - get_call_info_SsCallInfoRes,
huntPilotQueueProfile.alwaysplayinitialannouncement=1
00455432.001 |18:33:30.039 |AppInfo |MediaResourceCdpc(22)::waiting_MrmAllocateAnnResourceReq -
CI = 21438416

Media Negotiation takes place for initial announcement

00455454.001 |18:33:30.041 |AppInfo |ARBTRY-ConnectionManager-
wait_MediaConnectRequest(21438414,21438416)
00455478.001 |18:33:30.041 |AppInfo |ARBTRY-ConnectionManager-
wait_MediaConnectReply(21438414,21438416)

183 Session Progress sent for early media with SDP a=sendonly

00455494.001 |18:33:30.143 |AppInfo |SIPTcp - wait_SdlSPISignal: Outgoing SIP TCP message to
10.127.227.7 on port 55522 index 16
[14601,NET]
SIP/2.0 183 Session Progress
Via: SIP/2.0/TCP 10.127.227.7:5060;branch=z9hG4bK4e222dea4e0
From: <sip:888819@10.127.227.7>;tag=107999~6c65cba7-94a0-4069-84c7-4774aecf0647-33198813
To: <sip:0000@10.106.111.105>;tag=4705~8b68bd5c-f78f-44c5-b1ce-8ea93a8efbb6-21438414
. .

//Truncated Output
. .

v=0
o=CiscoSystemsCCM-SIP 4705 1 IN IP4 10.106.111.105
s=SIP Call
c=IN IP4 10.106.111.105
t=0 0
m=audio 4000 RTP/AVP 0 8 18
a=X-cisco-media:umoh+ConnSendOnly
a=rtpmap:0 PCMU/8000
a=rtpmap:8 PCMA/8000
a=rtpmap:18 G729/8000
a=fmtp:18 annexb=no
a=sendonly

SIP Call Flow with "Connect Inbound Call before Playing Queuing Announcement" checked

Incoming Invite to the CUCM

00452822.002 |18:22:22.842 |AppInfo |SIPTcp - wait_SdlReadRsp: Incoming SIP TCP message from
10.127.227.7 on port 56658 index 14 with 1182 bytes:
[14494,NET]
INVITE sip:0000@10.106.111.105:5060 SIP/2.0

Via: SIP/2.0/TCP 10.127.227.7:5060;branch=z9hG4bK4d2425c95ba
From: <sip:888819@10.127.227.7>;tag=107977~6c65cba7-94a0-4069-84c7-4774aecf0647-33198808
To: <sip:0000@10.106.111.105>

.
.
//Truncated Output

100 Trying sent

00452826.001 |18:22:22.843 |AppInfo |SIPTcp - wait_SdlSPISignal: Outgoing SIP TCP message to
10.127.227.7 on port 56658 index 14

[14495,NET]

SIP/2.0 100 Trying

Via: SIP/2.0/TCP 10.127.227.7:5060;branch=z9hG4bK4d2425c95ba

From: <sip:888819@10.127.227.7>;tag=107977~6c65cba7-94a0-4069-84c7-4774aecf0647-33198808

To: <sip:0000@10.106.111.105>

.
.
//Truncated Output

Digit Analysis takes place

00452843.007 |18:22:22.844 |AppInfo |Digit analysis: match(pi="2", fqcn="",
cn="888819",plv="5", pss="", TodFilteredPss="", dd="0000",dac="0")

00452843.008 |18:22:22.844 |AppInfo |Digit analysis: analysis results

00452843.009 |18:22:22.844 |AppInfo ||PretransformCallingPartyNumber=888819

|CallingPartyNumber=888819

|DialingPartition=

|DialingPattern=0000

|FullyQualifiedCalledPartyNumber=0000

Annunciater allocated for Initial announcement

00452854.001 |18:22:22.845 |AppInfo |QueueControlCdr(15) - get_call_info_SsCallInfoRes,
huntPilotQueueProfile.alwaysplayinitialannouncement=1

00452860.001 |18:22:22.845 |AppInfo |MediaResourceCdpc(19)::waiting_MrmAllocateAnnResourceReq -
CI = 21438406

Media Negotiation for the initial announcement

00452882.001 |18:22:22.846 |AppInfo |ARBTRY-ConnectionManager-
wait_MediaConnectRequest(21438404,21438406)

00452906.001 |18:22:22.847 |AppInfo |ARBTRY-ConnectionManager-
wait_MediaConnectReply(21438404,21438406)

200 OK with SDP a=sendonly sent instead of 183 session progress thus connecting the call rather than an early media.

00452928.001 |18:22:22.848 |AppInfo |SIPTcp - wait_SdlSPISignal: Outgoing SIP TCP message to
10.127.227.7 on port 56658 index 14

[14496,NET]

SIP/2.0 200 OK

Via: SIP/2.0/TCP 10.127.227.7:5060;branch=z9hG4bK4d2425c95ba

From: <sip:888819@10.127.227.7>;tag=107977~6c65cba7-94a0-4069-84c7-4774aecf0647-33198808

To: <sip:0000@10.106.111.105>;tag=4690~8b68bd5c-f78f-44c5-b1ce-8ea93a8efbb6-21438404

.
.
//Truncated Output

.
.
v=0

o=CiscoSystemsCCM-SIP 4690 1 IN IP4 10.106.111.105

s=SIP Call

c=IN IP4 10.106.111.105

t=0 0

m=audio 4000 RTP/AVP 0 8 18

a=X-cisco-media:umoh+ConnSendOnly

a=rtpmap:0 PCMU/8000

a=rtpmap:8 PCMA/8000

```
a=rtpmap:18 G729/8000
a=fmtp:18 annexb=no
a=sendonly
```

H323正常呼叫流

Incoming H323 Setup Message

```
00091345.011 |09:03:06.341 |AppInfo |SPROCRas - {
  h323-uu-pdu
  {
    h323-message-body setup :
    {
      protocolIdentifier { 0 0 8 2250 0 5 },
      sourceAddress
      {
        dialedDigits : "999919",
        h323-ID : {"999919", {0, 0, 0, 0}, ...}
      }
    }
  }
}
//Truncated Output
```

Digit Analysis takes place

```
00091367.006 |09:03:06.384 |AppInfo |Digit analysis: match(pi="2", fqcn="",
cn="999919",plv="5", pss="", TodFilteredPss="", dd="0000",dac="0")
00091367.007 |09:03:06.384 |AppInfo |Digit analysis: analysis results
00091367.008 |09:03:06.384 |AppInfo ||PretransformCallingPartyNumber=999919
|CallingPartyNumber=999919
|DialingPartition=
|DialingPattern=0000
```

Annunciator Allocated for initial announcement

```
00091378.001 |09:03:06.388 |AppInfo |QueueControlCdrc(1) - get_call_info_SsCallInfoRes,
huntPilotQueueProfile.alwaysplayinitialannouncement=1
00091384.001 |09:03:06.388 |AppInfo |MediaResourceCdpc(1)::waiting_MrmAllocateAnnResourceReq -
CI = 25333775
```

Call Proceeding Message sent

```
00091386.005 |09:03:06.389 |AppInfo |{
  h323-uu-pdu
  {
    h323-message-body callProceeding :
    {
      protocolIdentifier { 0 0 8 2250 0 5 },
    }
  }
}
//Truncated Output
```

Media Negotiation takes place for the initial announcement

```
00091407.001 |09:03:06.392 |AppInfo |ARBTRY-ConnectionManager-
wait_MediaConnectRequest(25333773,25333775)

00091447.001 |09:03:06.411 |AppInfo |ARBTRY-ConnectionManager-
wait_MediaConnectReply(25333773,25333775)
```

H323 Progress message sent for early media, which is followed by the H245 messages for media negotiation

```
00091456.005 |09:03:06.411 |AppInfo |SPROCRas - {
  h323-uu-pdu
  {
    h323-message-body progress :
    {
```

```
protocolIdentifier { 0 0 8 2250 0 5 },
```

```
.  
.
```

```
//Truncated Output
```

H323 Call flow with the "Connect Inbound Call before Playing Queuing Announcement" checked

Incoming setup message to the CUCM

```
00092572.010 |09:07:25.234 |AppInfo |SPROCRas - {  
  h323-uu-pdu  
  {  
    h323-message-body setup :  
    {  
      protocolIdentifier { 0 0 8 2250 0 5 },  
      sourceAddress  
      {  
        dialedDigits : "999919",  
        h323-ID : {"999919", {0, 0, 0, 0}, ...}  
      },  
    },  
  },  
}
```

```
.  
.
```

```
//Truncated Output
```

Digit Analysis takes place

```
00092594.006 |09:07:25.236 |AppInfo |Digit analysis: match(pi="2", fqcn="",  
cn="999919", plv="5", pss="", TodFilteredPss="", dd="0000", dac="0")  
00092594.007 |09:07:25.236 |AppInfo |Digit analysis: analysis results  
00092594.008 |09:07:25.236 |AppInfo ||PretransformCallingPartyNumber=999919  
|CallingPartyNumber=999919  
|DialingPartition=  
|DialingPattern=0000
```

Annunciator is invoked for initial announcement

```
00092605.001 |09:07:25.236 |AppInfo |QueueControlCdr(2) - get_call_info_SsCallInfoRes,  
huntPilotQueueProfile.alwaysplayinitialannouncement=1  
00092611.001 |09:07:25.237 |AppInfo |MediaResourceCdpc(2)::waiting_MrmAllocateAnnResourceReq -  
CI = 25333779
```

H323 Proceeding message sent out

```
00092612.005 |09:07:25.237 |AppInfo |{  
  h323-uu-pdu  
  {  
    h323-message-body callProceeding :  
    {  
      protocolIdentifier { 0 0 8 2250 0 5 },  
    },  
  },  
}
```

```
.  
.
```

```
//Truncated Output
```

Media negotiation takes place

```
00092634.001 |09:07:25.238 |AppInfo |ARBTRY-ConnectionManager-  
wait_MediaConnectRequest(25333777,25333779)  
00092674.001 |09:07:25.240 |AppInfo |ARBTRY-ConnectionManager-  
wait_MediaConnectReply(25333777,25333779)
```

Connect message is sent out instead of H323 Progress message placing the call in connected state rather than early media. The H245 messages will be exchanged post this message.

```
00092686.006 |09:07:25.240 |AppInfo |SPROCRas - {  
  h323-uu-pdu  
  {  
    h323-message-body connect :  
    {
```

```
protocolIdentifier { 0 0 8 2250 0 5 },
h245Address ipAddress :
{
    ip '0A6A6F69'H,
    port 34408
},
.
.
//Truncated Output
```

Troubleshoot

目前没有针对此配置的故障排除信息。