

VT Advantage Outbound Calls Fail from CallManager Through H.323 Gateways to PSTN

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Introduction

This document discusses how to resolve problems that occur when you place outbound calls from a Cisco CallManager video-enabled IP phone through an H.323-configured gateway that is connected to the Public Switched Telephone Network (PSTN). These problems pertain to Cisco IOS® images that support H.323 version 4.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- Cisco Video Telephony (VT) Advantage version 1.x
- H.323 version 4

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Problem

If you run the VT Advantage client on a PC and attempt an outbound call through an H.323 gateway, the call can fail. You see a release complete from the gateway that is similar to this:

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```
Inbound H225 RELEASE_COMP message from 10.0.0.23 at timestamp 07/28/2004
11:44:42.077 RELEASE_COMP, pd = 8, callref = 0x81AC, Message Size = 65 bytes
Cause i = 0x80E4 - Invalid IE contents User-User, i =
0x052580060008914A000201110000C0D408B0FE911DAC0100000A0001180
6A00100130140B50000120C60010400010805080380E404
```

The IE field displays as `Invalid`. This IE can consist of many different information elements (IEs) that describe the features and capabilities of a particular call. For instance, a single Setup message contains more than 15 different IEs, including these:

- Called party number
- Calling party number
- Bearer capability
- Transit network selection
- Date and time

The bearer capability IE is important when you address issues in which the setup is released due to invalid contents. The bearer capability IE identifies the capabilities that a call requests from the network. Also, the bearer capability IE conveys the actual call characteristics to the called device and negotiates between both devices. This IE must be present and valid in the Setup message for the call to succeed.

In this case, the bearer capability is `i = 0x8890A2`, which translates to this:

- Information transfer capability **Unrestricted digital information**
- Transfer mode **Circuit mode**
- Information transfer rate **Multirate**
 - ◆ **64 kbps base rate**
 - ◆ **Rate = 384 kbps**
 - ◆ **== 6 B channels**
- User information Layer 1 protocol **H.221 and H.242**

The release is generated because Cisco CallManager sets up a call with video capabilities enabled, and the H.323 version 4 gateway device is not able to accept the call.

Solution

The workaround to this problem is to configure the Cisco IOS gateway voice port to ignore video capabilities at an attempt to call from a video-enabled IP phone out to the PSTN via the H.323 Cisco IOS gateway.

Issue the **bearer-cap speech** command under the voice port. This command forces the calls to use audio only and allows the calls to work. This use of audio only bypasses the bearer capabilities mismatch.

If a call is across an H.323 gateway to the PSTN, video calls are not necessary. Therefore, there is no problem with a disablement of video call capability.

Configuration on the Cisco IOS Gateway

This section provides sample output of the Cisco IOS gateway configuration.

```
IOSGateway#configure terminal
IOSGateway(config)#voice-port 0:D
```

```
IOSGateway(config-voiceport)#bearer-cap ?
3100hz enable 3100hz
speech enable speech
IOSGateway(config-voiceport)#bearer-cap speech
```

!--- Output suppressed.

```
IOSGateway#show run
```

```
!
```

```
voice-port 0:D
```

```
bearer-cap Speech
```

```
!
```

Note: If you run Cisco IOS Software Release 12.2(11)T, with which H.323 version 4 runs on your router, you can also experience trouble with Microsoft Windows NetMeeting. For details, refer to Cisco bug ID CSCdw49975 (registered customers only) .

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Related Information

- **IP Telephony/Voice over IP (VoIP) Design TechNotes**
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