

# CTS Endpoints Conferenced with MCU 4505 Cannot Share Presentation



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## Introduction

This document describes a problem that might occur when MCU 4505 is used in order to conference native Cisco Telepresence devices, such as Cisco TelePresence System (CTS) 3000, and CTS 1000.

## Problem

CTS Endpoints do not negotiate the content channel when in a MCU 4505 conference and the presentation does not work.

**Scenario 1:** CTS Endpoint is in a call with a C-series endpoint. The C-Series endpoint receives a second call and adds the second call into a Multiway conference with MCU 4505.

**Scenario 2:** CTS Endpoint-A and CTS Endpoint-B are in a Point-to-Point (P2P) call. CTS Endpoint-A adds CTS Endpoint-C into the conference with MCU 4505.

## Log Analysis

Scenario 1 is explained in detail here. The behavior is the same for the second scenario as well.

1. CTS makes the first call to C60 and the UDP / Binary Floor Control Protocol (BFCP) is negotiated. This time, CTS is negotiated as a Server only (s-only).
2. C60 receives this as a second call and tries to add CTS into a Multiway conference. Click ***Accept and conference***.
3. After the call is answered, C60 sends a REFER message to CTS via Cisco Unified Communications Manager (CUCM).
4. CUCM updates the CTS and establishes a new call leg towards MCU.
5. CUCM sends a Re-INVITE on the other existing call leg towards CTS.

6. MCU sends a 200 OK response to CUCM.

The call leg towards MCU > MCU sends a 200 OK for the INVITE from CUCM.

In this, MCU sends *s-only* in the UDP/BFCP line:

```
38967255.005 |10:58:33.776 |AppInfo |SIPtcp - wait_SdlReadResp: Incoming SIP TCP
message from 10.8.151.10 on port 5060 index 18434 with 3552 bytes:
[13108787,NET]
SIP/2.0 200 OK
Via: SIP/2.0/TCP 10.8.234.5:5060;branch=z9hG4bK140caf40663a0b;received=10.8.234.5;
ingress-zone=CUCMPUB
Call-ID: 6da10800-3fe17eb9-130803-5ea080a@10.8.234.5
CSeq: 101 INVITE
Contact: <sip:60943@vrl.com.au;gr=urn:uuid:d46fa924-ab3f-58cf-8c52-acb4b9639851>;
isfocus
From: "JAM-CPL-G-5 - 30001" <sip:30001@vrl.com.au>;tag=4514743~ab08cd8f~bad4-4697-
95a3-fb104231f445-28328644
To: <sip:60943@10.8.151.10>;tag=8E2210B3C0600003
Record-Route: <sip:proxy-call-id=baec7051-f984-45e9-88f0-f186e9e8ffee@10.8.151.10:
5060;transport=tcp;lr>
Record-Route: <sip:proxy-call-id=baec7051-f984-45e9-88f0-f186e9e8ffee@10.8.151.10:
5060;transport=tcp;lr>
Allow: INVITE,ACK,CANCEL,OPTIONS,UPDATE,INFO,NOTIFY,BYE,REFER
User-Agent: Codian MCU 4505 v4.4 (3.54)
Supported: timer
Session-Expires: 1800;refresher=uas
Content-Type: application/sdp
Content-Length: 2684

v=0
o=CODIAN 1774889505 1774889505 IN IP4 10.8.151.12
s=-
i=Codian MCU 4505 v4.4 (3.54)
c=IN IP4 10.8.151.12
b=AS:4000
t=0 0

m=application 56903 UDP/BFCP *
a=floorctrl:s-only
a=confid:1498387409
a=floorid:2 mstrm:12
a=userid:45083
a=connection:new

=====
```

7. On the other side, CTS sends a 200 OK response to CUCM.

In this 200 OK also, CTS sends *s-only* in the UDP/BFCP line. This is because the CTS has negotiated *s-only* in its original call leg towards C60. Since this is a Re-INVITE, CTS should send both *s-only* and *c-only* in its UDP / BFCP response.

```
38967403.002 |10:58:33.893 |AppInfo |SIPtcp - wait_SdlReadResp: Incoming SIP TCP
message from 10.8.151.50 on port 40731 index 21181 with 2524 bytes:
[13108796,NET]
SIP/2.0 200 OK
```

Via: SIP/2.0/TCP 10.8.234.5:5060;branch=z9hG4bK140cb433de301c  
From: <sip:60302@10.8.234.5>;tag=4514737~ab08cd8f~bad4-4697-95a3-fb104231f445-28328637  
To: "30001" <sip:30001@10.8.234.5>;tag=001da238f59a000e18747fc4-221e3c71  
Call-ID: 001da238-f59a0004-0ce31763-39a27bf8@10.8.151.50  
Date: Thu, 28 Aug 2014 00:58:33 GMT  
CSeq: 105 INVITE  
Server: Cisco-Telepresence-#505/1.0  
Contact: <sip:c2592e5d-9bd0-996c-7e22-daf02cc2a4f4@10.8.151.50:40731;transport=tcp>;  
video;x-cisco-tip;x-cisco-multiple-screen=1  
Allow: ACK,BYE,CANCEL,INVITE,NOTIFY,OPTIONS,REFER,REGISTER,UPDATE,INFO,SUBSCRIBE  
Remote-Party-ID: "30001" <sip:30001@10.8.151.50>;party=calling;id-type=subscriber;  
privacy=off;screen=yes  
Allow-Events: kpml,dialog  
Content-Length: 1686  
Content-Type: application/sdp  
Content-Disposition: session;handling=optional

v=0  
o=Cisco-SIPUA 10770 2 IN IP4 10.8.151.50  
s=SIP Call  
c=IN IP4 10.8.151.50  
b=TIAS:4628000  
t=0 0  
a=X-cisco-mux: cisco  
a=sendrecv

m=application 28932 UDP/BFCP \*  
a=floorctrl:**s-only**  
a=floorid:1 mstrm:12  
a=confid:1  
a=userid:5

=====

8. Since both devices send s-only (in order to try to be the server), CUCM rejects the BFCP and makes it 0.

In the CUCM logs, you see this error message:

```
38967409.120 |10:58:33.895 |AppInfo |DET-SDPMsg-negotiateBFCPFloorCtrlRole :  
Reject BFCP: INVALID BFCPFloorCtrl Role rcv device=2 farEnd=2
```

```
38967443.001 |10:58:33.897 |AppInfo |SIPTcp - wait_SdlSPISignal: Outgoing SIP TCP  
message to 10.8.151.50 on port 40731 index 21181  
[13108797,NET]  
ACK sip:c2592e5d-9bd0-996c-7e22-daf02cc2a4f4@10.8.151.50:40731;transport=tcp SIP/2.0  
Via: SIP/2.0/TCP 10.8.234.5:5060;branch=z9hG4bK140cb561171133  
From: <sip:60302@10.8.234.5>;tag=4514737~ab08cd8f~bad4-4697-95a3-fb104231f445-  
28328637  
To: "30001" <sip:30001@10.8.234.5>;tag=001da238f59a000e18747fc4-221e3c71  
Date: Thu, 28 Aug 2014 00:58:33 GMT  
Call-ID: 001da238-f59a0004-0ce31763-39a27bf8@10.8.151.50  
Max-Forwards: 70  
CSeq: 105 ACK  
Allow-Events: presence  
Content-Type: application/sdp  
Content-Length: 922
```

v=0

```
o=CiscoSystemsCCM-SIP 4514737 4 IN IP4 10.8.234.5
s=SIP Call
b=TIAS:4000000
t=0 0
```

```
m=application 0 UDP/BFCP *
c=IN IP4 10.8.151.12
```

=====

## Solution

This issue is found to be a problem with CTS software. It has to send both s-only and c-only when it responds to the Re-INVITE. But it only sends s-only, which causes the content channel negotiation failure.

This is caused by the Cisco bug ID CSCty37410 in CTS software. It is fixed in CTS Version 1.10.7 and later.

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