

排除由于WebEx的“500内部服务器错误”导致的网真呼叫故障到混合CMR

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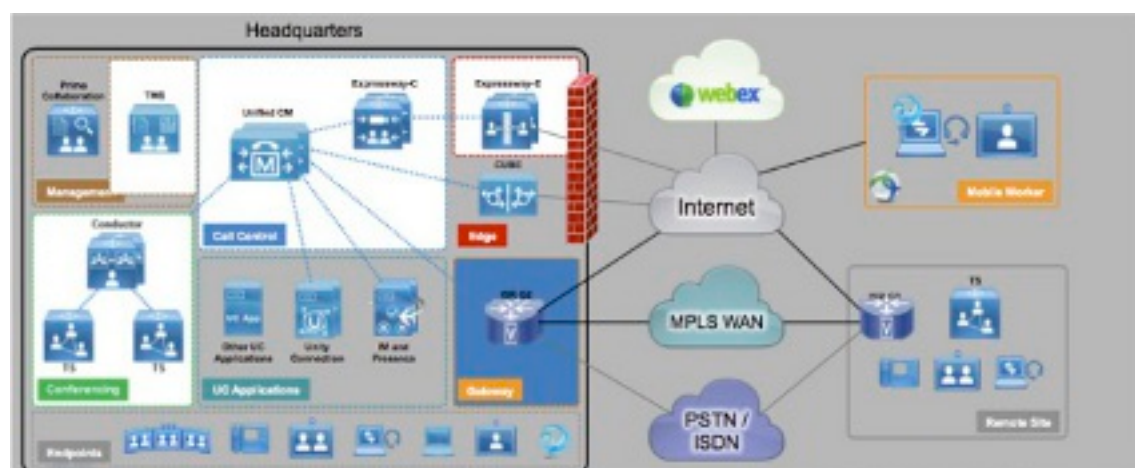
在多集群系统中配置Early Offer（连接到枝叶集群的TelePresence Conductor）

简介

本文档介绍当思科协作会议室(CMR)混合会议呼叫因来自Cisco WebEx云的**500内部服务器错误**而失败时遇到的问题。

问题

以下是本文档中描述的示例所使用的拓扑：



从本地设备呼叫Cisco WebEx端时，您会收到从Cisco Expressway核心到Cisco Expressway边缘的延迟优惠邀请消息，原因是Cisco Unified Communications Manager(CUCM)和Expressway核心之间存在延迟优惠会话发起协议(SIP)中继：

Module="network.sip" Level="DEBUG": Action="Received" Local-ip="172.28.21.110"
Local-port="7011" Src-ip="172.28.21.104" Src-port="25048"
Msg-Hash="3314200182494138210"
SIPMSG:
| INVITE sip:34IBJumtlZRvmrI5t7WQjMhA@company.webex.com SIP/2.0
Via: SIP/2.0/TLS 172.28.21.104:5061;egress-zone=TraversalClientB2B;branch=z9hG4bKae647bb81b403d0562281463002ad68a379858.bdfb90811a812d6a11d607f3e17095a1;
proxy-call-id=fdbf1c60-62e1-4204-884a-00fe8664ee66;rport
Via: SIP/2.0/TCP 172.28.21.100:5560;branch=z9hG4bK11c80762b0b051;received=
172.28.21.100;ingress-zone=CUCMNeighborZoneB2B
Call-ID: e7672380-5991e82c-e0ca3-64151cac@172.28.21.100
CSeq: 101 INVITE
Remote-Party-ID: "7221.company.com.au" <sip:172.28.21.100>;party=calling;
screen=yes;privacy=off
Contact: <sip:172.28.21.100:5560;transport=tcp>;video;audio;isFocus;
sip.cisco.multistream;x-cisco-tip;+multiple-codecs-in-ans
From: "7221.company.com.au" <sip:172.28.21.100>;tag=2950560~
3fb53c10-0c98-891d-d84f-6fa87e4135c3-22671423
To: <sip:34IBJumtlZRvmrI5t7WQjMhA@kytec.webex.com>
Max-Forwards: 15
Record-Route: <sip:proxy-call-id=fdbf1c60-62e1-4204-884a-00fe8664ee66@
172.28.21.104:5061;transport=tls;lr>
Record-Route: <sip:proxy-call-id=fdbf1c60-62e1-4204-884a-00fe8664ee66@
172.28.21.104:5060;transport=tcp;lr>
Allow: INVITE,OPTIONS,INFO,BYE,CANCEL,ACK,PRACK,UPDATE,REFER,SUBSCRIBE,NOTIFY
User-Agent: Cisco-CUCM10.5
Expires: 180
Date: Mon, 06 Jul 2015 02:30:04 GMT
Supported: timer,resource-priority,replaces,X-cisco-srtp-fallback,
X-cisco-original-called
Session-Expires: 1800
Min-SE: 1800
Allow-Events: presence
X-TAATag: 4a936c0c-69a7-4fd8-a070-82b7c3ecb3ce
Call-Info: <urn:x-cisco-remotecc:callinfo>;x-cisco-video-traffic-class=DESKTOP
Cisco-Guid: 3882296192-0000065536-0000007914-1679105196

Content-Length: 0

匹配相关搜索规则后，呼叫将发送到WebEx端：

2015-07-06T12:30:03+10:00 vcse tvcs: UTCTime="2015-07-06 02:30:03,033"
Module="network.search" Level="DEBUG": Detail="Considering search rule
'Route WebEx calls to WebEx' towards target 'WebEx DNS Zone' at priority
'150' with alias '34IBJumtlZRvmrI5t7WQjMhA@company.webex.com' "

以下是作为延迟优惠发送到WebEx端的邀请消息：

2015-07-06T12:30:03+10:00 vcse tvcs: UTCTime="2015-07-06 02:30:03,758"
Module="network.sip" Level="DEBUG": Action="Sent" Local-ip="172.28.252.1"
Local-port="25129" Dst-ip="Webex IP address" Dst-port="5061"
Msg-Hash="2892679945940486042"
SIPMSG:
| INVITE sip:34IBJumtlZRvmrI5t7WQjMhA@company.webex.com SIP/2.0
Via: SIP/2.0/TLS 58.162.48.4:5061;egress-zone=DNSZoneB2B;branch=z9hG4bK6f09b6c9d2
5bf7f92fa25e6f9a336a0b52417.3f21ed7645b445bb8e55e174caa5935c;proxy-call-id=b8fb1
c34-d048-472b-8b41-81c96abb19d1;rport
Via: SIP/2.0/TLS 172.28.21.104:5061;egress-zone=TraversalClientB2B;branch=z9hG4bK
ae647bb81b403d0562281463002ad68a379858.bdfb90811a812d6a11d607f3e17095a1;
proxy-call-id=fdbf1c60-62e1-4204-884a-00fe8664ee66;received=172.28.21.104;rport=
25048;ingress-zone=TraversalServerB2B
Via: SIP/2.0/TCP 172.28.21.100:5560;branch=z9hG4bK11c80762b0b051;received=
172.28.21.100;ingress-zone=CUCMNeighborZoneB2B

Call-ID: e7672380-5991e82c-e0ca3-64151cac@172.28.21.100
CSeq: 101 INVITE
Remote-Party-ID: "7221.company.com.au" <sip:172.28.21.100>;party=calling;screen=yes;privacy=off
Contact: <sip:172.28.21.100:5560;transport=tcp>;video;audio;isFocus;sip.cisco.multistream;x-cisco-tip;+multiple-codecs-in-ans
From: "7221.company.com.au" <sip:172.28.21.100>;tag=2950560~3fb53c10-0c98-891d-d84f-6fa87e4135c3-22671423
To: <sip:34IBJumtlZRvmrI5t7WQjMhA@company.webex.com>
Max-Forwards: 14
Record-Route: <sip:proxy-call-id=b8fb1c34-d048-472b-8b41-81c96abb19d1@58.162.48.4:5061;transport=tls;lr>
Record-Route: <sip:proxy-call-id=b8fb1c34-d048-472b-8b41-81c96abb19d1@172.28.21.110:7011;transport=tls;lr>
Record-Route: <sip:proxy-call-id=fdbf1c60-62e1-4204-884a-00fe8664ee66@172.28.21.104:5061;transport=tls;lr>
Record-Route: <sip:proxy-call-id=fdbf1c60-62e1-4204-884a-00fe8664ee66@172.28.21.104:5060;transport=tcp;lr>
Allow: INVITE,OPTIONS,INFO,BYE,CANCEL,ACK,PRACK,UPDATE,REFER,SUBSCRIBE,NOTIFY
User-Agent: Cisco-CUCM10.5
Expires: 180
Date: Mon, 06 Jul 2015 02:30:04 GMT
Supported: timer,resource-priority,replaces,X-cisco-srtp-fallback,X-cisco-original-called
Session-Expires: 1800
Min-SE: 1800
Allow-Events: presence
X-TAATag: 4a936c0c-69a7-4fd8-a070-82b7c3ecb3ce
Call-Info: <urn:x-cisco-remotecallinfo>;x-cisco-video-traffic-class=DESKTOP
Cisco-Guid: 3882296192-0000065536-0000007914-1679105196
Content-Length: 0

WebEx端以500内部服务器错误响应此邀请消息:

2015-07-06T12:30:04+10:00 vcse tvcs: UTCTime="2015-07-06 02:30:04,887"
Module="network.sip" Level="DEBUG": Action="Received" Local-ip="172.28.252.1"
Local-port="25129" Src-ip="Webex IP address" Src-port="5061"
Msg-Hash="9729181486250604161"
SIPMSG:
|SIP/2.0 500 Internal Server Error
Via: SIP/2.0/TLS 58.162.48.4:5061;branch=z9hG4bK6f09b6c9d25bf7f92fa25e6f9a336a0b52417.3f21ed7645b445bb8e55e174caa5935c;rport=25129;egress-zone=DNSZoneB2B;proxy-call-id=b8fb1c34-d048-472b-8b41-81c96abb19d1
Via: SIP/2.0/TLS 172.28.21.104:5061;branch=z9hG4bKae647bb81b403d0562281463002ad68a379858.bdfb90811a812d6a11d607f3e17095a1;rport=25048;egress-zone=TraversalClientB2B;proxy-call-id=fdbf1c60-62e1-4204-884a-00fe8664ee66;received=172.28.21.104;ingress-zone=TraversalServerB2B
Via: SIP/2.0/TCP 172.28.21.100:5560;branch=z9hG4bK11c80762b0b051;received=172.28.21.100;ingress-zone=CUCMNeighborZoneB2B
Call-ID: e7672380-5991e82c-e0ca3-64151cac@172.28.21.100
CSeq: 101 INVITE
From: "7221.company.com.au" <sip:172.28.21.100>;tag=2950560~3fb53c10-0c98-891d-d84f-6fa87e4135c3-22671423
To: "CiscoWebEx" <sip:34IBJumtlZRvmrI5t7WQjMhA@company.webex.com>;tag=38659d409ccec3f7
Server: TANDBERG/4352 (X8.5.2-b2bua-1.0)
P-Asserted-Identity: "CiscoWebEx" <sip:webex.com>
Warning: 399 114.29.213.174:5071 "Invalid content in far end 200 OK"
Content-Length: 0

解决方案

此问题是由于WebEx云要求仅允许其使用早期产品SIP。此问题的解决方案是在CUCM和Expressway核心之间提供SIP中继。

可以通过以下方法之一在CUCM的SIP中继上实现早期优惠：

- 在SIP中继上启用*Media Termination Point Required*设置。
- 修改SIP中继配置文件中的*Early Offer support for voice and video calls*字段。

启用媒体终端点所需设置

要在SIP中继上启用*Media Termination Point Required*设置，请从CUCM页面导航到**Device > Trunk**并选择相关中继。

在设备信息部分，勾选“需要媒体终端点”复选框，如下所示：

The screenshot displays the Cisco Unified CM Administration web interface. The top navigation bar includes the Cisco logo and the title 'Cisco Unified CM Administration'. Below the navigation bar, there are tabs for 'System', 'Call Routing', 'Media Resources', 'Advanced Features', 'Device', 'Application', 'User Management', 'Bulk Administration', and 'Help'. The 'Device' tab is selected, and the 'Trunk Configuration' page is shown. The page has a 'Status' section with a 'Status: Ready' indicator. Below this is the 'SIP Trunk Status' section, showing 'Service Status: Full Service' and 'Duration: Time In Full Service: 12 days 16 hours 18 minutes'. The main section is 'Device Information', which contains a table of configuration parameters. The 'Media Termination Point Required' checkbox is checked, and the 'Retry Video Call as Audio' checkbox is also checked. Other parameters include 'Product: SIP Trunk', 'Device Protocol: SIP', 'Trunk Service Type: None(Default)', 'Device Name: Trunk_Exp-C_177', 'Description: Trunk to Exp-C', 'Device Pool: Default', 'Common Device Configuration: < None >', 'Call Classification: Use System Default', 'Media Resource Group List: < None >', 'Location: Hub_None', 'AAR Group: < None >', 'Tunneled Protocol: None', 'QSIG Variant: No Changes', 'ASN.1 ROSE Old Encoding: No Changes', 'Packet Capture Mode: None', and 'Packet Capture Duration: 0'.

Parameter	Value
Product	SIP Trunk
Device Protocol	SIP
Trunk Service Type	None(Default)
Device Name*	Trunk_Exp-C_177
Description	Trunk to Exp-C
Device Pool*	Default
Common Device Configuration	< None >
Call Classification*	Use System Default
Media Resource Group List	< None >
Location*	Hub_None
AAR Group	< None >
Tunneled Protocol*	None
QSIG Variant*	No Changes
ASN.1 ROSE Old Encoding*	No Changes
Packet Capture Mode*	None
Packet Capture Duration	0
Media Termination Point Required	☒
Retry Video Call as Audio	☒
Path Replacement Support	☐
Transmit UTF-8 for Calling Party Name	☐

注意：思科不建议您在SIP中继上启用MTP以解决此问题。此方法强制CUCM调用呼叫的其他资源，这些资源必须支持视频编解码器；否则，视频在通话中将失败。

在SIP配置文件中修改语音和视频呼叫的Early Offer支持字段

在通过此方法启用早期提供之前，必须先验证在SIP中继上配置的SIP配置文件。要验证SIP配置文件，请导航至**Device > Trunk**，选择指向*Exp-C/VCS-C*的中继，滚动至页面底部，并验证*SIP配置文件*字段中的信息：

MTP Preferred Originating Codec*	711ulaw	
BLF Presence Group*	Standard Presence group	
SIP Trunk Security Profile*	Non Secure SIP Trunk Profile For VCS	
Rerouting Calling Search Space	< None >	
Out-Of-Dialog Refer Calling Search Space	< None >	
SUBSCRIBE Calling Search Space	< None >	
SIP Profile*	Standard SIP Profile For Cisco VCS	View Details
DTMF Signaling Method*	No Preference	

验证SIP配置文件后，导航至Device > Device Settings > SIP Profile，然后选择相关配置文件。在 Trunk Specific Configuration(中继特定配置)窗口中，配置Early Offer对语音和视频呼叫的支持，如下所示：

Trunk Specific Configuration

Reroute Incoming Request to new Trunk based on*	Never
RSVP Over SIP*	Local RSVP
Resource Priority Namespace List	< None >
☒ Fall back to local RSVP	
SIP Rel1XX Options*	Disabled
Video Call Traffic Class*	Immersive
Calling Line Identification Presentation*	Default
Session Refresh Method*	Invite
Early Offer support for voice and video calls*	Disabled (Default value) Disabled (Default value) Best Effort (no MTP inserted) Mandatory (insert MTP if needed)
☐ 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	

根据您的环境，部署会有所不同。但是，思科建议采用以下各节中介绍的部署类型以及与之关联的最佳实践。

在单个Unified CM系统中配置Early Offer

在此场景中，Cisco TelePresence Conductor和会议网桥连接到Cisco Unified Call Manager(CM),Unified CM中继到Cisco Expressway。网真终端注册到Unified CM。

在此场景中，必须为提前提供配置这些中继：

- UnifiedCMtoCiscoExpressway-C
- UnifiedCMtoTelePresenceConductor

在多集群系统中配置Early Offer (连接到CUCM SME的TelePresence Conductor)

此场景包括一个或多个具有连接枝叶Unified CM集群的Unified CM会话管理版(SME)集群。TelePresence Conductor和会议网桥连接到Unified CM SME。Unified CM SME中继到Cisco Expressway-C。

在此场景中，必须为提前提供配置这些中继：

- **UnifiedCMSMEtoCiscoExpressway-C**
- **UnifiedCMSMEtoTelePresenceConductor**

注意：在具有三个或多个集群的多集群系统中，其中一个Unified CM集群是专用的Unified CM SME，终端从不注册到Unified CM SME。终端始终注册到枝叶Unified CM集群。

在多集群系统中配置Early Offer (连接到枝叶集群的TelePresence Conductor)

此场景包括一个或多个具有连接枝叶Unified CM集群的Unified CM SME集群。TelePresence Conductor和会议网桥连接到枝叶群集。单个中继将Unified CM SME连接到Cisco Expressway-C。

在此场景中，必须为提前提供配置这些中继：

- **UnifiedCMSMEtoCiscoExpressway-C**
- **LeafUnifiedCMclustertotheTelePresenceConductor**
- **LeafUnifiedCMclusterstotheUnifiedCMSME**

注意：CMR混合配置指南中记录了WebEx Cloud要求提前提供SIP的要求。