

配置CMS Edge示例

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簡介

本文檔介紹如何配置思科Meeting Server (CMS)邊緣。

必要條件

需求

思科建議您瞭解以下CMS 3.X元件：

- Webbridge 3
- 呼叫
- C2W
- 防火牆
- Turn伺服器

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- CMS3.X開放式虛擬裝置(OVA)
- Chrome瀏覽器122.0.6261.112
- Firefox瀏覽器123.0.1 (20240304104836)

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

設定

預先設定

1. 配置網路時間協定(NTP)伺服器：

最好在CMS Edge和核心伺服器上配置相同的NTP伺服器。

2. 配置域名伺服器(DNS)：

1. 為CMS Core伺服器配置內部DNS (內部DNS CMS Edge A記錄指向CMS Edge內部IP地址；如果不可能，則必須配置兩個CMS Edge A記錄，一個指向CMS內部IP地址，另一個指向外部IP地址)。
2. 為CMS邊緣伺服器配置外部DNS。外部DNS A CMS記錄指向CMS邊緣的外部IP地址。

3. CMS Core使用內部CMS Edge A記錄進行連線。

4. 公共使用者透過公共IP地址訪問CMS Edge。

5. 使用者域：cms.demo：

a. CMS Edge的記錄：

- edge.cms.demo (internal user login with this A record)
- edge.cms.demo (public user also use same A record from internet, you could specify the different external A record)

b. CMS Core之紀錄：

core.cms.demo

6. 取得CMS核心與邊緣伺服器認證：

a. 製作認證

- cmscore-fullchain.cer (所有服務都涉及實驗中的全鏈證書，您也可以涉及伺服器證書)
- cmsedge-fullchain.cer (所有服務都涉及實驗中的全鏈證書，您也可以涉及伺服器證書)

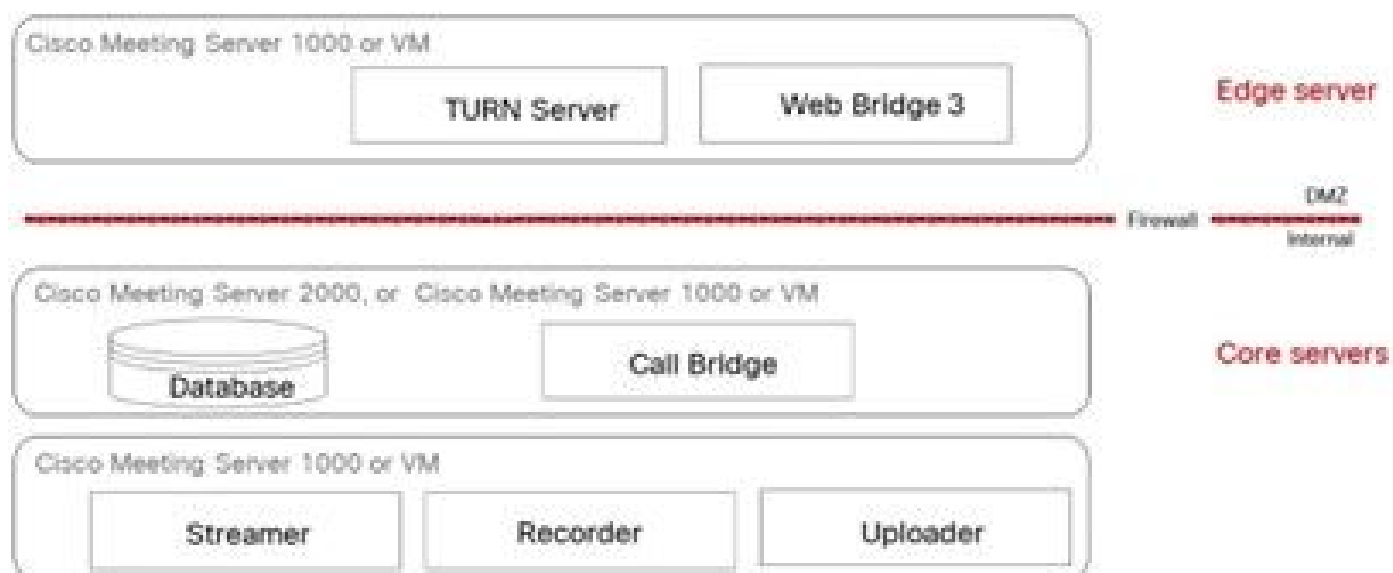
b. 產生兩台伺服器的全鏈式認證。

- cmscore-fullchain.cer (此憑證包含根憑證)
- cmsedge-fullchain.cer (此憑證包含根憑證)

網路圖表

Table 7: Call capacities for server specifications with recommended hardware

Type of calls	1 x 4 vCPU VM call capacity	1 x 16 vCPU VM call capacity
Full HD calls 1080p30 video	100	350
HD calls 720p30 video	175	700
SD calls 440p30 video	250	1000
Audio calls (Q.711)	850	3000



CMS核心和邊緣配置

1. 啟用CMS核心伺服器相關服務。

a. 配置訊號網路。

啟用網路介面：

<#root>

ipv4 a add 10.124.56.224/24 10.124.56.1

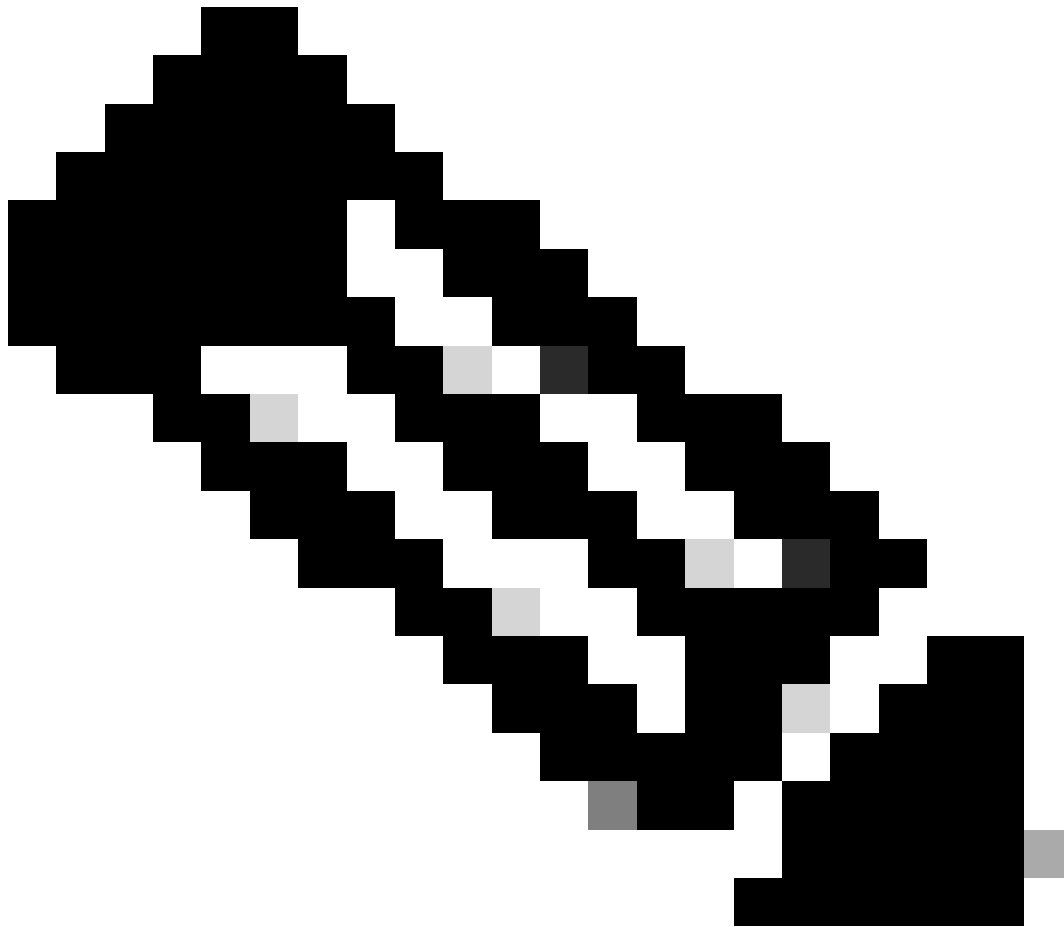
b. 啟用Callbridge元件。

<#root>

```
callbridge listen a
callbridge certs core.key cmscore-fullchain.cer
callbridge trust c2w cmsedge-fullchain.cer (if not, which result in WebRTC failed)
callbridge enable
```

2. 啟用CMS Edge伺服器相關服務：

a. 配置兩個網路介面。



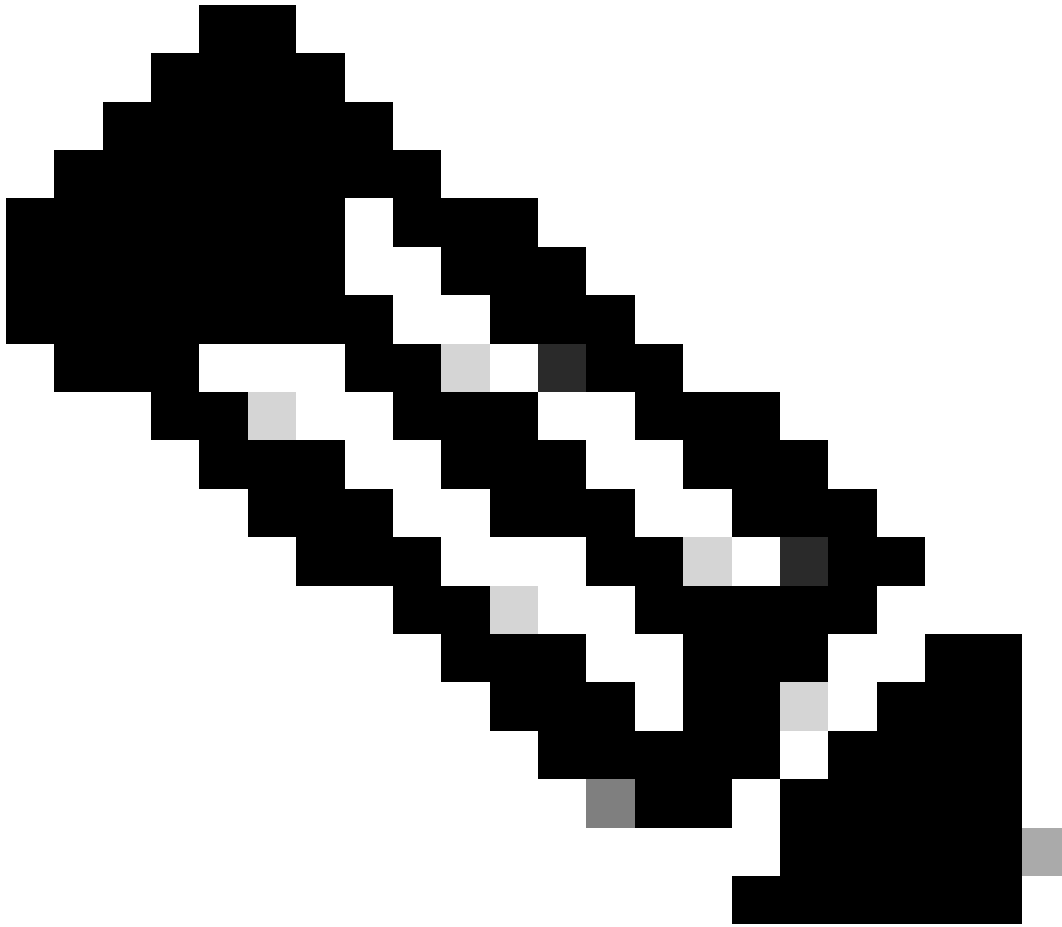
注意：'b'是公共網路介面，a是內部網路介面。

- 啟動網路a、b
- 配置預設網關為b (它是公共網路介面)
- 配置內部網關a

```
ipv4 a add 10.124.144.80/24 10.124.144.1  
ipv4 b add 10.124.42.112/24 10.124.42.1  
ipv4 b default
```

b.啟動車削元件。

```
turn certs edge.key cmsedge-fullchain.cer  
turn listen a b  
turn credentials <username> <password> <cms.demo> (cms.demo is actual domain deployment)  
turn public-ip x.x.x.x  
turn tls 447  
turn enable
```



附註：

1. x.x.x.x 是NAT對映公有IP地址；如果沒有NAT對映，則不需要配置此步驟。

- 埠可以自行定義，請參閱相關CMS指南。

c. 啟用webbridge3元件。

webbridge3 https certs cmsedge.key cmsedge-fullchain.crt (cmsedge-fullchain.crt ,please refer to CMS fullchain document)

webbridge3 https listen b:445 (b is public network interface , this step just provide public users WebRTC service)

webbridge3 https listen a:445 b:445 (this step could provide both internal and external WebRTC service, but need to edge.cms.demo has two A records on

webbridge3 c2w certs edge.key cmsedge-fullchain.crt

webbridge3 c2w listen a:6000 (a is internal network interface, 6000 is self-defined port which need to keep the same with the below Webbridge URL)

webbridge3 c2w trust cmscore-fullchain.cer (if no this step, result in WebRTC failed)

webbridge3 enable

3. 建立相關元件之間的通訊。

a. Callbridge <—> Turn (公共媒體服務)

b. Callbridge <—> WebBridge3 (WebRTC服務)

在CMS核心上配置turn和webbridge3 :

a. 配置Callbridge和Turn之間的連線，並啟用公共媒體服務。

登入Webadmin GUI，導航至Configuration > General。

General configuration

The screenshot shows the 'General configuration' page in the Webadmin GUI. It is divided into three main sections: 'TURN Server settings', 'Lync Edge settings', and 'IVR'.
1. **TURN Server settings:** Includes fields for 'TURN Server address (CMS)' (containing 'internal IP address'), 'TURN Server address (web app)' (containing 'Public IP address' and highlighted with a blue border), 'Username', 'Password', and 'Confirm password'.
2. **Lync Edge settings:** Includes fields for 'Server address', 'Username', and 'Number of registrations'.
3. **IVR:** Includes a field for 'IVR numeric ID' and a dropdown menu for 'Joining scheduled Lync conferences by ID' (set to 'not allowed').
A 'Submit' button is located at the bottom of the form.

b. 配置Callbridge和Webbridge3之間的連線，並啟用WebRTC服務。

透過CMS上的API建立Webbridge，然後增加C2W連線，例如c2w://edge.cms.demo:6000(埠必須與Webbridge3服務配置保持一致)。

/api/v1/webBridges/aa292aed-57bb-4305-b89d-eacd72172e4f

url	<input type="checkbox"/>	<input type="text" value="c2w://edge.cms.demo:6000"/>	(URL) - present
tenant	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="Choose"/>
tenantGroup	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="Choose"/>
callBridge	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="Choose"/>
callBridgeGroup	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="Choose"/>
webBridgeProfile	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="Choose"/>
<input type="button" value="Modify"/>			

restart Callbridge component and apply all configuration
callbridge restart (go to CLI)

4. 啟用防火牆功能並停用公共22埠(ssh)。

firewall a default allow (a is the external/public network interface)
firewall a deny 22
firewall a enable

驗證

1. 驗證所有服務是否在CMS Core和Edge上運行：

CMS核心服務狀態：

```
CMS> webadmin Enabled : true TLS listening interface : a TLS listening port : 443 Key file : core.key Certificate file : cmscore-fullchain.cer HTTP redirection : true
```

CMS Edge服務狀態：

```
CMS> webbridge3 Enabled : true HTTPS listening ports and interfaces : a:445 b:445 HTTPS Key file : edge.key HTTPS Full chain certificate file : cmsedge-fullchain.cer
```

2. 驗證webrtc登入狀態並加入會議：

EN (US) ?



Cisco Meeting Server

web app

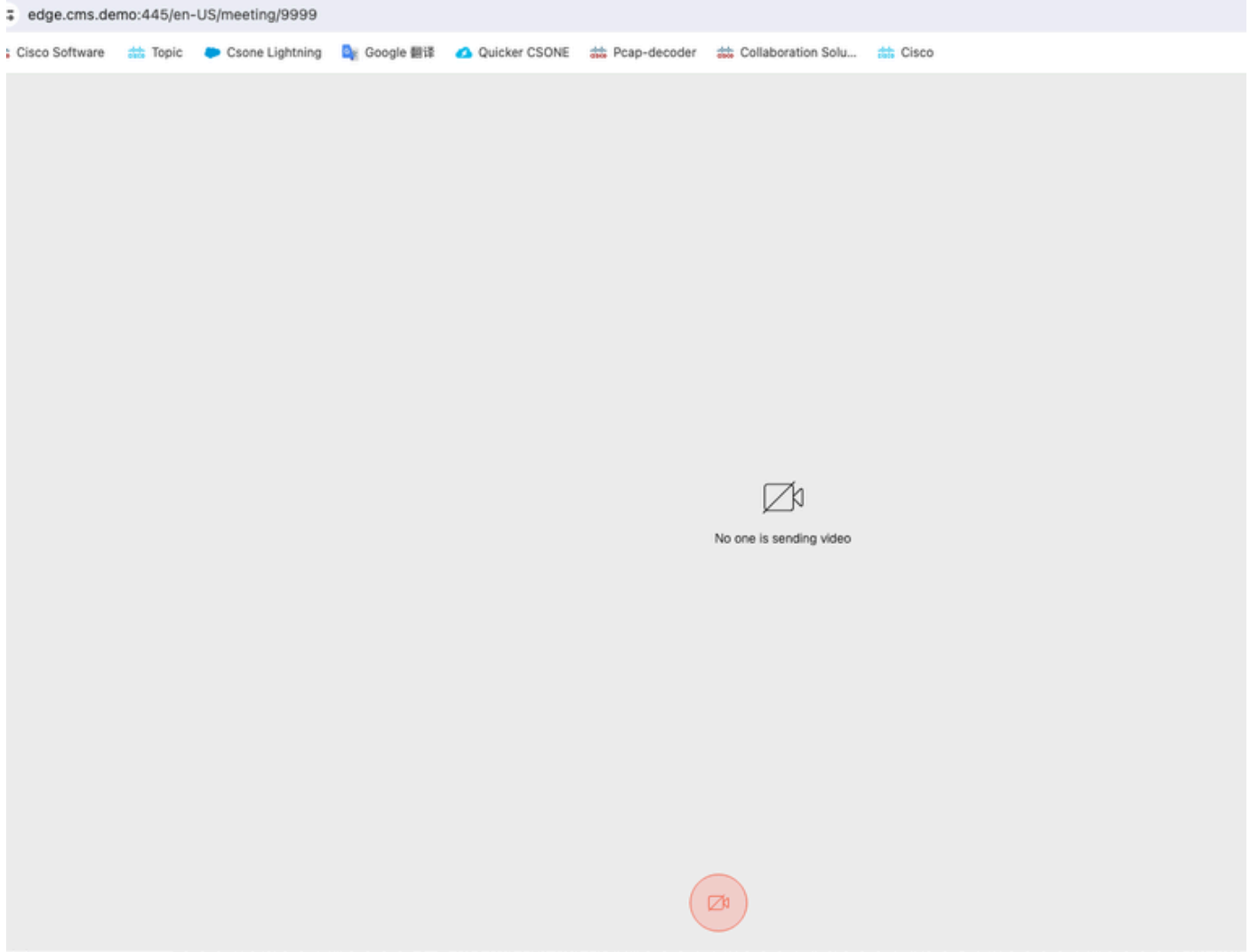
Join meetings, anywhere, anytime

Join a meeting

Sign in

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疑難排解

1. CMS Edge : 您可以看到webrtc參與者「Thomas」加入呼叫。參與者ID : fcf42f4-ac94-4ab2-a14a-f4165ec960a7。

可在CMS核心日誌檔案中找到此參與者ID。

```
Feb 23 09:02:21.588 local0.info CMS client_backend: INFO : WebApp Audit : Session: a77d94b1-ba12-4e4e-8f3e-86b3e9c1de8f : Participant Thomas per
```

```
Feb 23 09:02:21.599 local7.info CMS 3b8086e0e5a0 wb3_frontend: [Join call:fcf42f4-ac94-4ab2-a14a-f4165ec960a7] 10.140.248.52 -- [23/Feb/2024:09
```

```
Feb 23 09:02:21.633 user.info CMS client_backend: INFO : WebSocket : Got authenticated JWT for guest1573064743 callbridge 320d02c3-7af5-4e4f-b51
```

Webrtc參與者離開呼叫 :

```
Feb 23 09:02:37.982 local0.info CMS client_backend: INFO : WebApp Audit : Session: a77d94b1-ba12-4e4e-8f3e-86b3e9c1de8f : Participant Thomas(fcf
```

2. CMS核心 : 紫線是會議ID，當其他參與者加入此會議時，有相同的會議ID。藍線是特定的使用者ID : guest1573064743。

```
Feb 23 09:02:21.594 user.info CMS host:server: INFO : guest login request 1450660605: resolution in progress
```

```
Feb 23 09:02:21.594 user.info CMS host:server: INFO : guest login request 1450660605: call ID lookup scheduled
```

Feb 23 09:02:21.594 user.info CMS host:server: INFO : guest login request 1450660605: resolution in progress
Feb 23 09:02:21.597 user.info CMS host:server: INFO : guest login request 1450660605: credential storage scheduled (queue length: 1)
Feb 23 09:02:21.597 user.info CMS host:server: INFO : created guest account with user ID "guest1573064743"
Feb 23 09:02:21.597 user.info CMS host:server: INFO : guest login request 1450660605: credential storage executed
Feb 23 09:02:21.597 user.info CMS host:server: INFO : guest login request 1450660605: credential storage in progress
Feb 23 09:02:21.598 user.info CMS host:server: INFO : guest login request 1450660605: successfully stored credentials
Feb 23 09:02:21.598 user.info CMS host:server: INFO : instantiating user "guest1573064743"
Feb 23 09:02:21.598 user.info CMS host:server: INFO : conference db0fafc3-ad47-43bd-bcbd-47886416451b: locked due to lack of lock consensus
Feb 23 09:02:21.598 user.info CMS host:server: INFO : conference db0fafc3-ad47-43bd-bcbd-47886416451b: lock state has changed to locked
Feb 23 09:02:21.598 user.info CMS host:server: INFO : API "9999" Space GUID: 58ef98d1-5181-4e63-a386-4b60597be7e4 <--> Call Correlator GUID: 5
Feb 23 09:02:21.598 user.info CMS host:server: INFO : unable to apply logo (space '9999') -- no license
Feb 23 09:02:21.599 user.info CMS host:server: INFO : conference db0fafc3-ad47-43bd-bcbd-47886416451b: lock state has changed to unlocked
Feb 23 09:02:21.599 user.info CMS host:server: INFO : API call leg fcf42f4-ac94-4ab2-a14a-f4165ec960a7 in call db0fafc3-ad47-43bd-bcbd-478864164
Feb 23 09:02:21.599 user.info CMS host:server: INFO : conference db0fafc3-ad47-43bd-bcbd-47886416451b has control/media GUID: bf286660-6e5d-40
Feb 23 09:02:21.599 user.info CMS host:server: INFO : conference db0fafc3-ad47-43bd-bcbd-47886416451b named "9999"
Feb 23 09:02:21.601 user.info CMS host:server: INFO : new session created for user "guest1573064743"
Feb 23 09:02:21.603 local0.info CMS postgres[54639]: [6-1] 2024-02-23 09:02:21.603 UTC [54639] LOG: could not send data to client: Broken pipe
Feb 23 09:02:21.603 local0.err CMS postgres[54639]: [7-1] 2024-02-23 09:02:21.603 UTC [54639] FATAL: connection to client lost
Feb 23 09:02:21.768 user.info CMS host:server: INFO : call 11: allocated for guest1573064743 / "Thomas" conference participation (Firefox)
Feb 23 09:02:21.768 user.info CMS host:server: INFO : call 11: configured - API call leg fcf42f4-ac94-4ab2-a14a-f4165ec960a7
Feb 23 09:02:21.768 user.info CMS host:server: INFO : call 11: ActiveControlState change, unknown -> unknown
Feb 23 09:02:21.769 user.info CMS host:server: INFO : call 11: setting up combined RTP session for DTLS (combined media and control)
Feb 23 09:02:21.770 user.info CMS host:server: INFO : call 11: ActiveControlState change, unknown -> inactive
Feb 23 09:02:21.770 user.info CMS host:server: INFO : call 11: ActiveControlState finality change (inactive, final=1)
Feb 23 09:02:21.770 local0.info CMS host:server: INFO : participant "guest1573064743" joined space 58ef98d1-5181-4e63-a386-4b60597be7e4 (9999)
Feb 23 09:02:21.770 user.info CMS host:server: INFO : participant "guest1573064743" (fcf42f4-ac94-4ab2-a14a-f4165ec960a7) joined conference db0fa
Feb 23 09:02:21.772 user.info CMS host:server: INFO : call 11: starting DTLS combined media negotiation (as initiator)

Webrtc使用者離開呼叫 : guest1573064743 「保留空間ID」 : 58ef98d1-5181-4e63-a386-4b60597be7e4 (9999)。

Feb 23 09:02:37.943 user.info CMS host:server: INFO : user "guest1573064743": deactivating due to session resource teardown
Feb 23 09:02:37.943 user.info CMS host:server: INFO : call 11: tearing down ("guest1573064743" conference media)
Feb 23 09:02:37.943 user.info CMS host:server: INFO : call 11: destroying API call leg fcf42f4-ac94-4ab2-a14a-f4165ec960a7
Feb 23 09:02:37.943 local0.info CMS host:server: INFO : participant "guest1573064743" left space 58ef98d1-5181-4e63-a386-4b60597be7e4 (9999)
Feb 23 09:02:37.943 user.info CMS host:server: INFO : removing guest account 'guest1573064743' (name 'Thomas') on call drop
Feb 23 09:02:37.943 user.info CMS host:server: INFO : destroying guest account with user ID "guest1573064743"
Feb 23 09:02:37.944 user.info CMS host:server: INFO : conference bf286660-6e5d-403f-8926-514d385dad3c destroyed

相關資訊

- [Cisco-Meeting-Server-3-8-Single-Combined-Server-Deployment](#)
- [Cisco-Meeting-Server-3-8-Single-Split-Server-部署](#)
- [思科技術支援與下載](#)

關於此翻譯

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