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The bridge to possible

# Troubleshooting the Cisco Webex Video Integration for Microsoft Teams

O'Bryan Stull – Technical Leader, CX Centers

BRKCOL-2058

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# Cisco Webex App

## Questions?

Use Cisco Webex App to chat with the speaker after the session

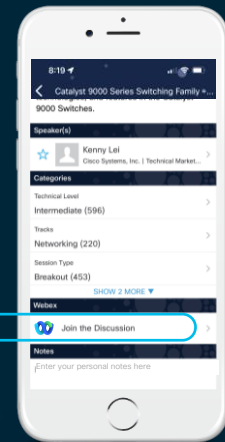
## How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 17, 2022.



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<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKCOL-2058>

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# Abstract

The Cisco Webex Video Integration for Microsoft Teams(VIMT) offers users a seamless experience to join Microsoft Teams meetings from Cisco or any SIP capable video device registered either in the cloud or on-premises. If you are considering deploying, in the process of, or already have deployed the solution, ask yourself do you know how to troubleshoot it? In this session, you will learn how to isolate problems and efficiently resolve issues with the Cisco Webex VIMT solution. This session will cover real-world troubleshooting examples and the most common issues relating to:

- Initial deployment
- Scheduling
- Call set up for SIP-registered endpoints and Cloud-registered endpoints
- In meeting experience including media quality issues

Although troubleshooting any hybrid solution involving multiple vendors can be incredibly complex, this session aims to equip you with the knowledge to troubleshoot the Cisco Webex VIMT solution like an expert.



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<https://www.flickr.com/photos/gillesgonthier/412590265/in/photostream/>

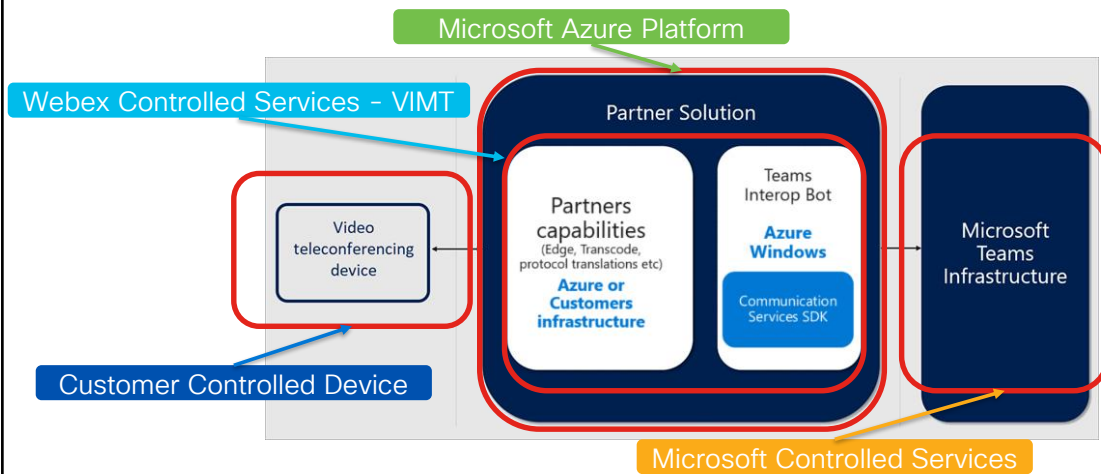
# Agenda

- Overview of the Solution
- Troubleshooting
  - Initial Deployment
  - Scheduling
  - Call Setup
  - In Meeting Experience
- Conclusion

# Overview of the Solution

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# What is VIMT



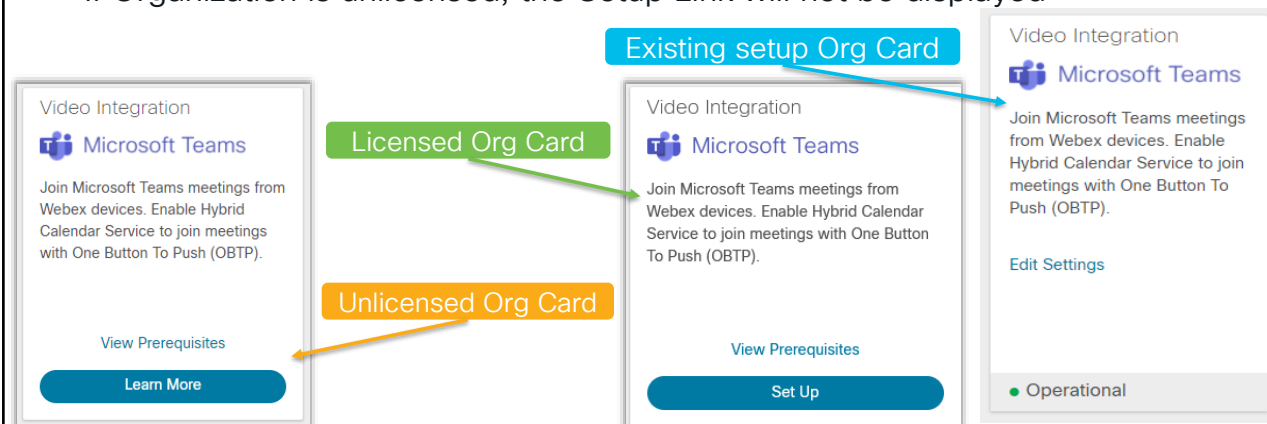


# Initial deployment troubleshooting

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# VIMT Deployment Options

- Configuration card located in Control Hub under Hybrid Services
- If Organization is unlicensed, the Setup Link will not be displayed



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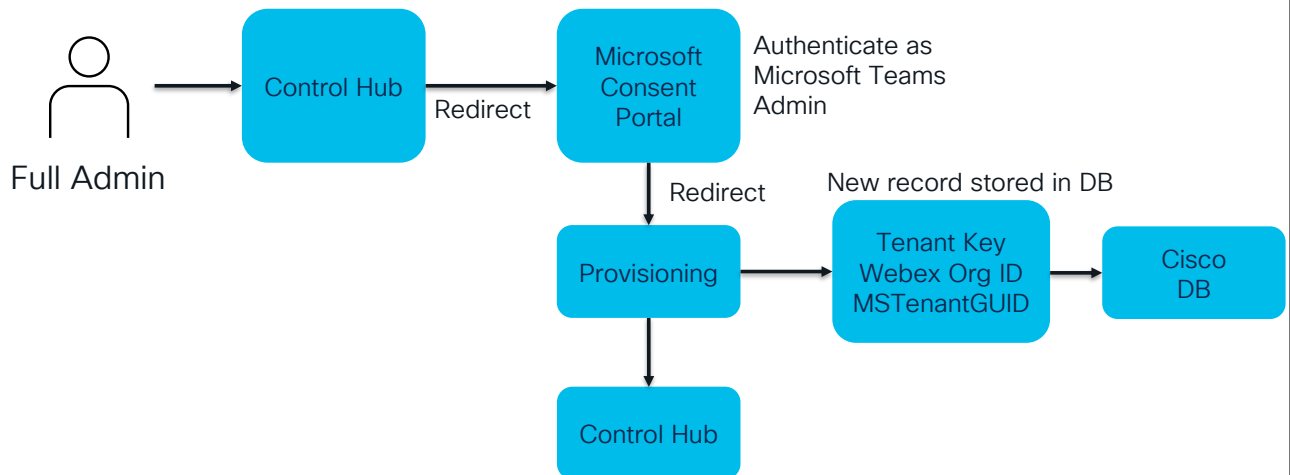
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# Provisioning Flow



# Setup Considerations

Paste into PowerShell the first configuration line provided by the Setup Page within Control hub

The second configuration line is provided with the 'Global' flag. This enables the feature for all Microsoft Teams user in the Org.

### Video Integration Setup

#### Microsoft Teams

✓ We verified the admin permissions required for the integration exist and are valid.

To complete the setup, open a PowerShell session to your O365 tenant and [import the SkypeOnlineConnector Module](#).

Then, copy & paste the following commands, which define and enable the integration for all users in your organization, to PowerShell.

To enable or disable the integration for specific users, see the [Microsoft documentation](#) on Grant-CsTeamsVideoInteropServicePolicy

```
New-CsVideoInteropServiceProvider -Name Cisco -TenantKey "dmzlab@m.webex.com" -InstructionUri "https://www.webex.com/msteams?confid={ConfId}&tenantkey=dmzlab&domain=m.webex.com" -AllowAppGuestJoinsAsAuthenticated True -AadApplicationIds "98e39cfc-3aa9-4856-918e-..."
```

```
Grant-CsTeamsVideoInteropServicePolicy -PolicyName CiscoServiceProviderEnabled -Global
```

Once you've run the commands, click Ok

Ok

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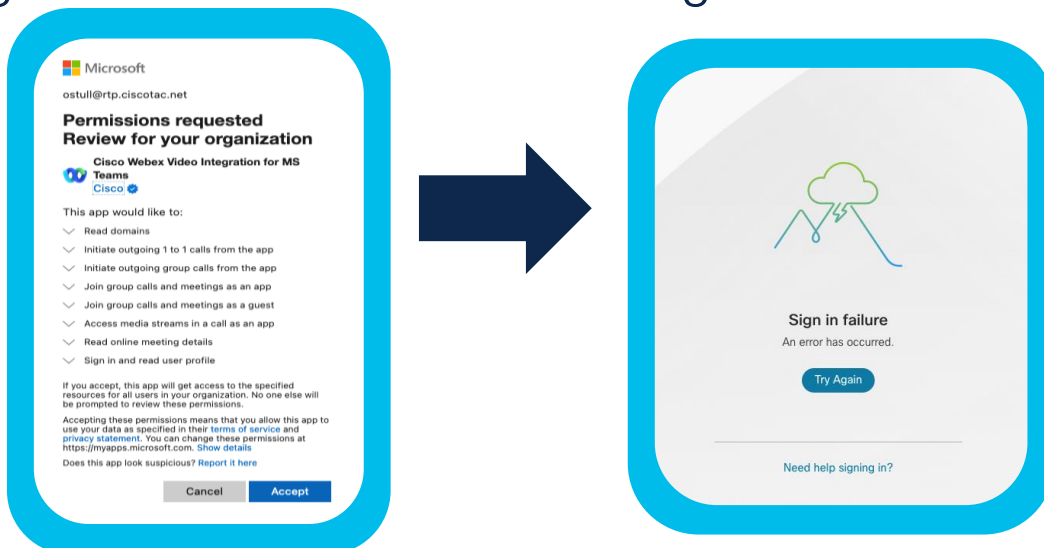
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Sign in error

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# Sign in failure after authenticating with Microsoft



# Identifying sign in failure

- Issue caused by Microsoft Tenant being tied to a different Org
- Browser inspection provides debug view of situation



Error=Tenant in another org or Tenant Key not available

Status	Method	Domain	File	Initiator	Type	Transferred	Size
200	GET	aadcdn.msauth.net	marching_ants_white_166de53471265253ab3a456defe6da234	img	gif	cached	4.1...
200	GET	aadcdn.msauth.net	marching_ants_b540a8e518037192a32c4fe58bf2dbab.gif	img	gif	cached	4.1...
382	POST	login.microsoftonline.com	Set	document	html	4.18 KB	2.4...
382	GET	interop-mapper-a.webx2.com	provisionO365tenant?admin_consent=True&tenant=d9b81e60-60f4-4133-8af6-a05e866207cf&state=1924828e-3169-43a1-b963-68d6565958ef	document	html	1.57 KB	2.4...
200	GET	admin.webex.com	setup_retry?cOrgId=94363409-c9be-49da-b43f-ad850b4921	document	html	3.98 KB	2.4...
200	GET	admin.webex.com	styles.b9612a...			121.19 KB	0.9...
200	GET	admin.webex.com	runtime.co4b3...			6.72 KB	6.8...
200	GET	admin.webex.com	polyfills.0105...			24.48 KB	62...
200	GET	admin.webex.com	scripts.23ce7...			718.05 KB	2 MB
200	GET	admin.webex.com	main-14f898f...			720.33 KB	3.6...
200	GET	admin.webex.com	main-43dd70...			167.07 KB	1.0...
200	GET	admin.webex.com	main-af1b6b...			782.95 KB	6.7...
200	GET	admin.webex.com	main-bde52c...			6.87 KB	23...
200	GET	admin.webex.com	main-c0575fe...			856.86 KB	3.6...
200	GET	admin.webex.com	main-e2ae3a23-a687550ed62921ae1e89.js	script	js	cached	0 B

113 requests 48.43 MB / 8.53 MB transferred Finish: 39.56 s DOMContentLoaded: 943 ms load: 1.66 s

GET https://interop-mapper-a.webx2.com/esp/v1/teams/provisionO365tenant?admin\_consent=True&tenant=d9b81e60-60f4-4133-8af6-a05e866207cf&state=1924828e-3169-43a1-b963-68d6565958ef

Status: 382 Found

Version: HTTP/2

Transferred: 1.57 KB (2.44 KB size)

Referrer Policy: strict-origin-when-cross-origin

Response Headers (6/27 B)

- cache-control: no-cache, no-store
- content-language: en-US
- content-length: 0
- content-type: text/html; charset=utf-8

location: https://admin.webex.com/hybrid-services/teams/setup\_retry?cOrgId=94363409-c9be-49da-b43f-ad850b4921&tenantGuid=d9b81e60-60f4-4133-8af6-a05e866207cf&authCode=400&error=Tenant in another org or Tenant Key not available

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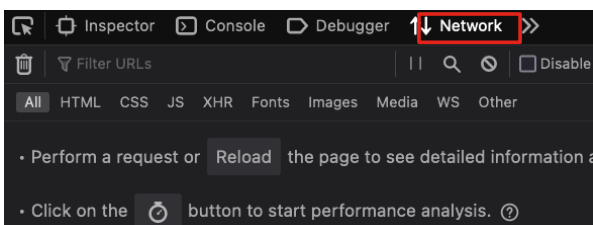
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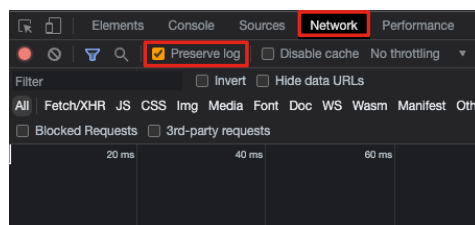
# How to capture browser trace



1. Right-click > **Inspect**
2. Select **Network**
3. Load page



1. Right-click > **Inspect**
2. Select **Network**
3. Check **Preserve Log**
4. Load page



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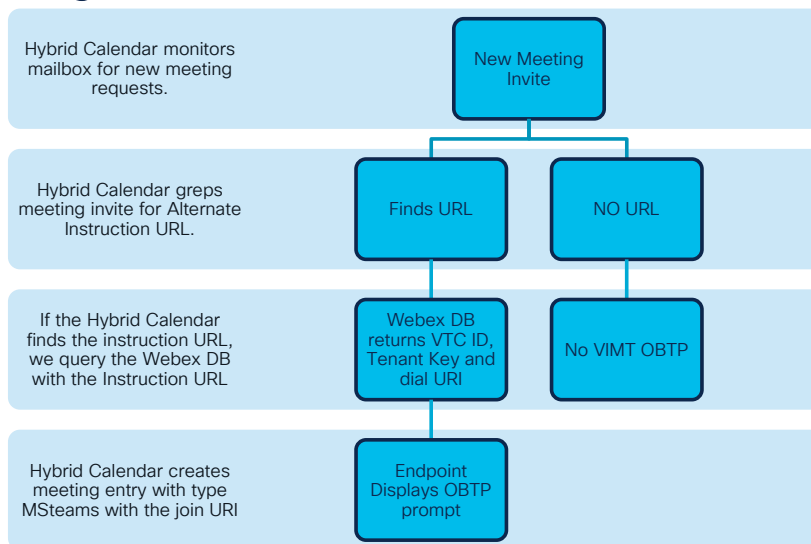
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# Scheduling troubleshooting

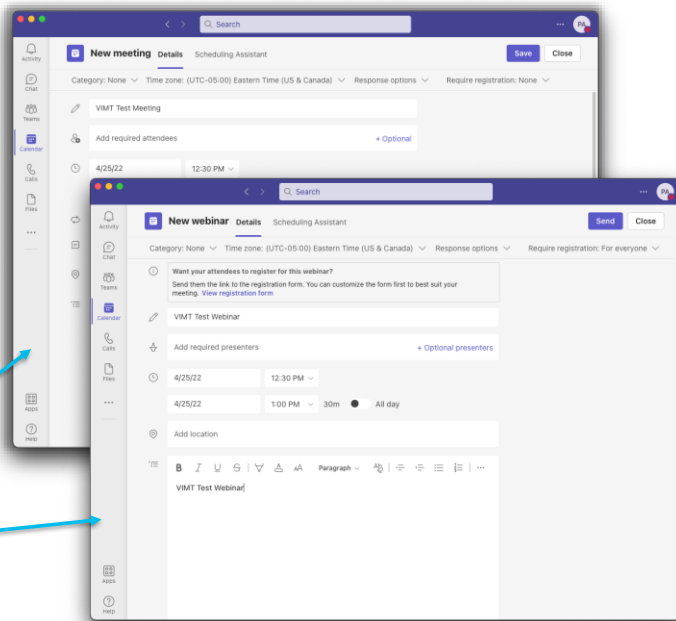
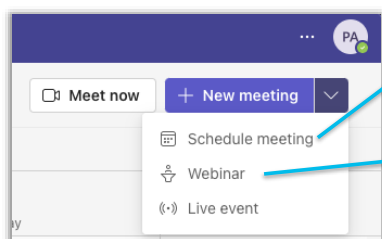
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# Scheduling Flow



# Scheduling Methods

- Scheduled Meetings  
Webinar and Live event support VIMT
- Meetings are scheduled from Microsoft Teams Client; all supported meetings will get the VIMT Decoration



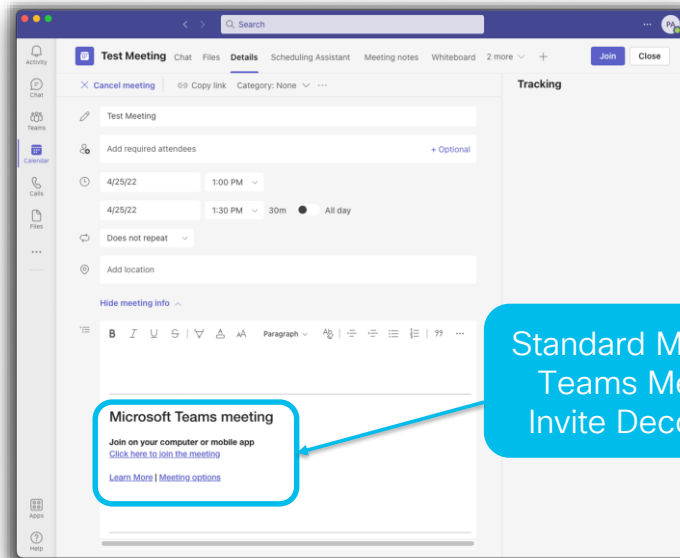
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# The Meeting Invite



Standard Microsoft  
Teams Meeting  
Invite Decoration

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# The Meeting Invite

The image shows a screenshot of a Cisco Webex meeting invite interface. The interface is divided into two main sections: a left sidebar with navigation options (Cancel meeting, Copy link, Category: None) and a main content area. The main content area is titled "Test Meeting with VIMT" and includes fields for "Add required attendees", "Does not repeat", and "Add location". Below these fields is a "Hide meeting info" link. The interface also displays a "Microsoft Teams meeting" section with a "Join with a video conferencing device" option, showing a "Video Conference ID: 112 038 8903" and a "Alternate VTC instructions" link. A "Join meeting directly" section is also present, with a "Join meeting directly" link and a "Join through a prompt for VTC conference ID" link. A "Tracking" section is visible on the right side of the interface.

Meeting Invite with VIMT decoration

Link to additional join information provided by Webex

URI to join meeting directly bypassing the IVR

**Cisco Webex**  
Video Meeting Invitation

Join meeting directly  
Enter [1120388903.ostulxyz@m.webex.com](https://1120388903.ostulxyz@m.webex.com) on a Cisco Webex Room or other video (SIP/VTC) endpoint

Join through a prompt for VTC conference ID  
Enter [ostulxyz@m.webex.com](https://ostulxyz@m.webex.com) and then the VTC conference ID 1120388903 followed by #

Powered by Cisco Webex Video Integration for Microsoft Teams

**Microsoft Teams meeting**  
Join on your computer or mobile app  
[Click here to join the meeting](#)

Join with a video conferencing device  
[ostulxyz@m.webex.com](https://ostulxyz@m.webex.com)  
Video Conference ID: 112 038 8903  
[Alternate VTC instructions](#)  
[Learn More](#) | [Meeting options](#)

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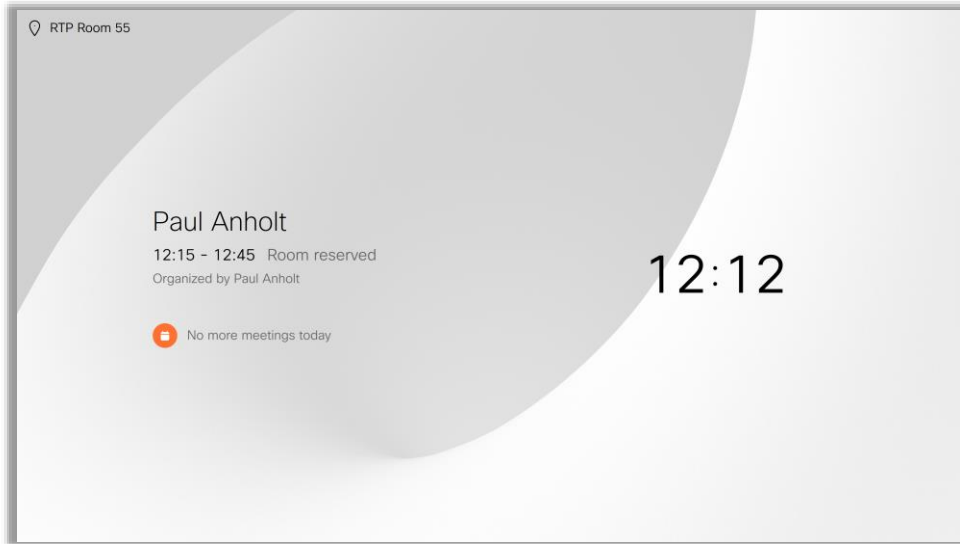
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No OBTP Join  
prompt on  
Endpoint

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# No OBTP Join Button



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# Check Resource Mailbox Configuration

The following command can be used to retrieve resource mailbox configuration;

`Get-CalendarProcessing -identity "room" | fl`

New resource mailboxes have the following default configuration;  
Delete Comments: True  
Delete Subject: True  
Add Organizer to Subject: True

```
PS /Users/ostull> Get-CalendarProcessing -identity RTPofficeroom550ostull.xyz | fl

RunspaceId          : 8b147bab-3178-45d9-ba1f-423e6d856ee
AutomatedProcessing : AutoAccept
AllowConflicts       : False
AllowContradictionGroup : True
AllowMultipleResources : True
BookingType          : Standard
BookingInTimeInDays  : 180
MaximumDurationInMinutes : 1440
MinimumDurationInMinutes : 0
AllowDuringMeetings   : True
EnforceAdjacencyAsOverlap : False
EnforceCapacity       : False
EnforceSchedulingHorizon : True
ScheduleOnlyDuringWorkHours : False
ConflictPercentageAllowed : 0
MaximumConflictInstances : 0
ForwardRequestsToDelegates : True
DeleteAttachments     : True
DeleteComments        : True
DeleteSubject         : True
AddOrganizerToSubject : True
CreateNewCalendarItem : True
TentativePendingApproval : True
EnableResponseGroups : True
OrganizerResponseGroups : True
ResourceCategories    : {}
RequestInPolicy        : {}
AllowRequestsOutOfPolicy : False
BookInPolicy           : {}
AllBookInPolicy        : True
RequestInPolicy         : {}
AllRequestInPolicy      : False
AdditionalResponse      : False
RemoveOldMeetingMessages : True
AddNewRequestsTentatively : True
ProcessExternalMeetingMessages : False
RemoveForwardedMeetingNotifications : False
AutoReplyConfiguration : Microsoft.Exchange.Data.Storage.AutoReplyConfiguration
MailboxOwner          : RTP Office Paul Cube
Identity              : RTP Office Paul Cube
IsValid               : True
ObjectState            : Changed
```



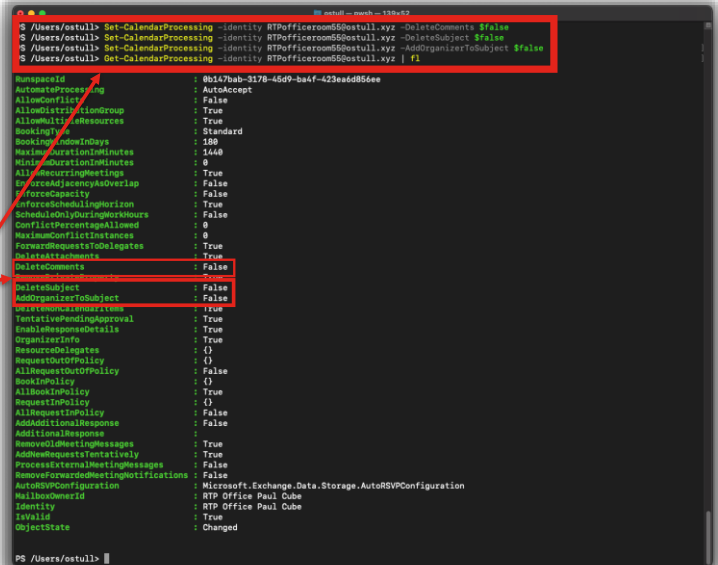
# Correcting Mailbox Configuration

Exchange Administrator can run the following commands on all shared mode devices enabled for Hybrid Calendar

Set-CalendarProcessing -identity "room" -DeleteComments \$false

Set-CalendarProcessing -identity "room" -DeleteSubject \$false

Set-CalendarProcessing -identity "room" -AddOrganizerToSubject \$false



```
PS /Users/ostull> Set-CalendarProcessing -identity RTPofficeroom5@ostull.xyz -DeleteComments $false
PS /Users/ostull> Set-CalendarProcessing -identity RTPofficeroom5@ostull.xyz -DeleteSubject $false
PS /Users/ostull> Set-CalendarProcessing -identity RTPofficeroom5@ostull.xyz -AddOrganizerToSubject $false
PS /Users/ostull> Set-CalendarProcessing -identity RTPofficeroom5@ostull.xyz | fl

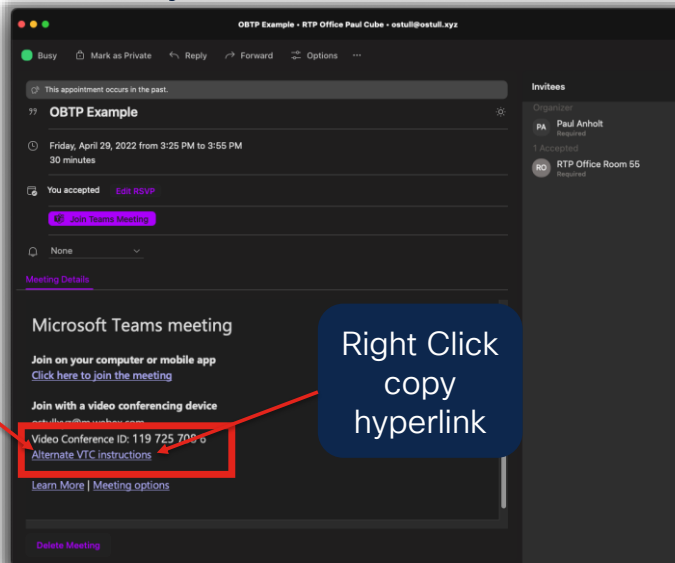
NameSpaceId : 0b167bab-3178-45d9-ba4f-423eadd85dee
AutoAccept : False
AutoAcceptConflict : False
AllowMultipleInstances : True
AllowMultipleResources : True
Bookings : Standard
BookingWindowInDays : 1440
MaxDurationInMinutes : 0
MinDurationInMinutes : 0
AllOccurringMeetings : True
ForwardAdjacencyAsOverlap : False
ForwardCapacity : True
ForwardSchedulingHorizon : True
ScheduleOnlyDuringWorkHours : False
ConflictPercentagesAllowed : 0
MaxNumConflictInstances : 0
ForwardRequestsToDelegates : True
DeleteComments : True
DeleteComments : False
DeleteSubject : False
AddOrganizerToSubject : False
DeleteConflictsAndRevisions : True
GeneratePendingApproval : True
EnableResponseDetails : True
OrganizerInfo : True
ResourceDelegates : ()
RequestOutOfPolicy : ()
AllRequestOutOfPolicy : False
BookPolicy : ()
AllBookInPolicy : True
RequestInPolicy : ()
AllRequestInPolicy : False
AddAdditionalResponse : False
AdditionalResponse : 
RemoveOldMeetingMessages : True
AddNewRequestsTentatively : True
ProcessExternalMeetingMessages : False
RemoveForwardedMeetingNotifications : False
AutoRSVPConfiguration : Microsoft.Exchange.Data.Storage.AutoRSVPConfiguration
MailboxOwnerId : RTP Office Paul Cube
IsValid : True
ObjectState : Changed
```

# Checking for Email Security

Some security software checks links and can also rewrite links.

```
1 https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.webex.com%2Fmsteams%3Fconfid%3D1143195865%26tenantkey%3Dostullxyz%26domain%3Dm.webex.com&data=05%7C01%7C0stull%40ostull.xyz%7C206643af1aeb43486cd908da25630f9b7C7f6c230dc23a47f4bd15c087cbd7afec7C1%7C0%7C637863404650031040%7CUnknown%7CTWFpbGZsb3d8eyJWIjoIMC4wLjAwMDAiLCJQIjoiv2luMzIiLCJBTiI6IkhawWILCJVCi6Mn0%3D%7C3000%7C%7C&sdata=1YpJGuDFt51NTTl7kTScPYkJega0J%2FZmI3mg3T6DZ%2FE%3D&reserved=0
```

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## Check ICS from Room Mailbox

Grab ICS file from room mailbox and open in text editor

Inside the description of the ICS file, you can see the join link is edited by Safe links

[illegible]

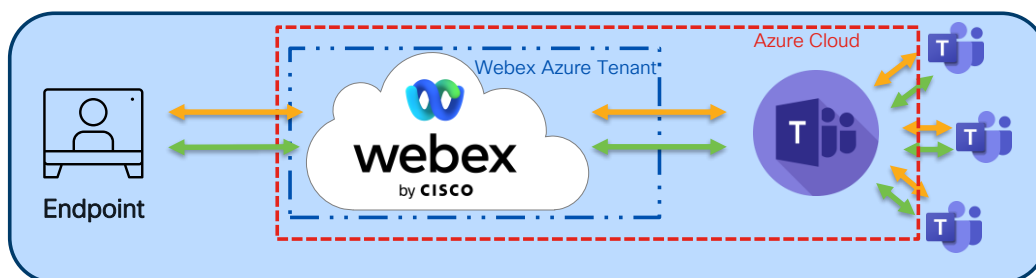
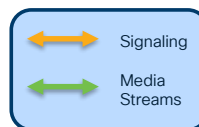
# Call setup troubleshooting

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# Call Flow

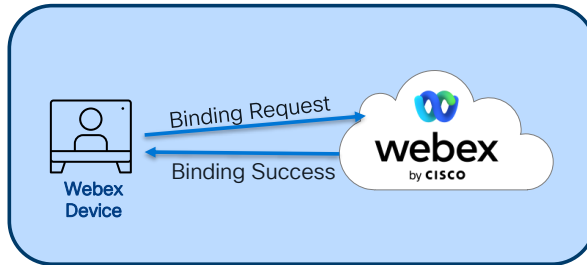
## Webex Registered Endpoint

- Call Signaling over TCP port 443
- Media path established using STUN



# Media Requirements

## Webex Registered Devices



- Webex Registered Devices utilize STUN to establish media path.
  - Port preference for media:
    1. UDP 5004
    2. UDP 9000
    3. TCP 5004

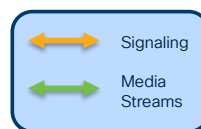
## Destination IP Ranges

- US East:
  - 52.232.210.0/24
  - 20.57.87.0/24
- UK South:
  - 20.68.154.0/24
  - 20.108.99.0/24
- West Europe:
  - 20.50.235.0/24
  - 20.76.127.0/24
- Australia East:
  - 20.53.87.0/24
- Southeast Asia:
  - 40.119.234.0/24

# Call Flow

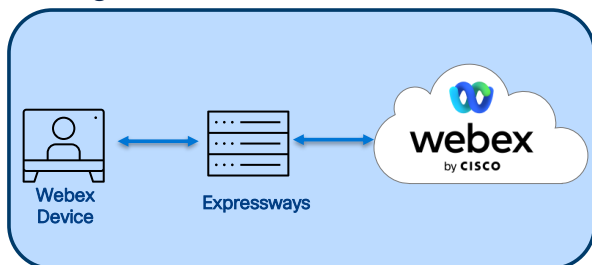
## SIP Registered Endpoint

- Call Signaling over TCP 5060/5061
- Media established via Expressway Traversal Pair



# Media Requirements

## SIP Registered Devices



- SIP Registered Devices utilize Expressways to establish media path.
- Media Port Range: UDP 36000-59999

### Destination IP Ranges

- US East:
  - 52.232.210.0/24
  - 20.57.87.0/24
- UK South:
  - 20.68.154.0/24
  - 20.108.99.0/24
- West Europe:
  - 20.50.235.0/24
  - 20.76.127.0/24
- Australia East:
  - 20.53.87.0/24
- Southeast Asia:
  - 40.119.234.0/24

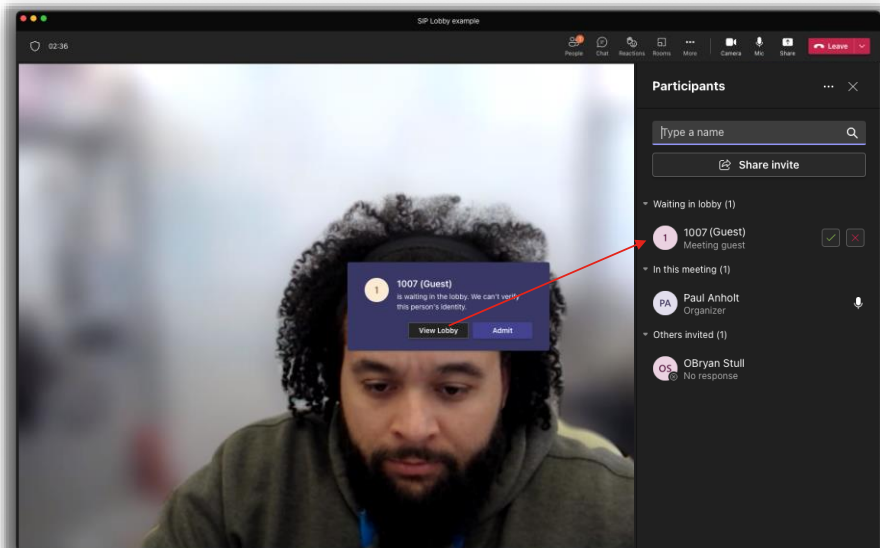


Callers do not  
bypass the lobby

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# Callers do not bypass the Lobby

- Unverified SIP endpoints and Cloud registered endpoints outside of your organization may join the lobby of Microsoft Teams Meetings.



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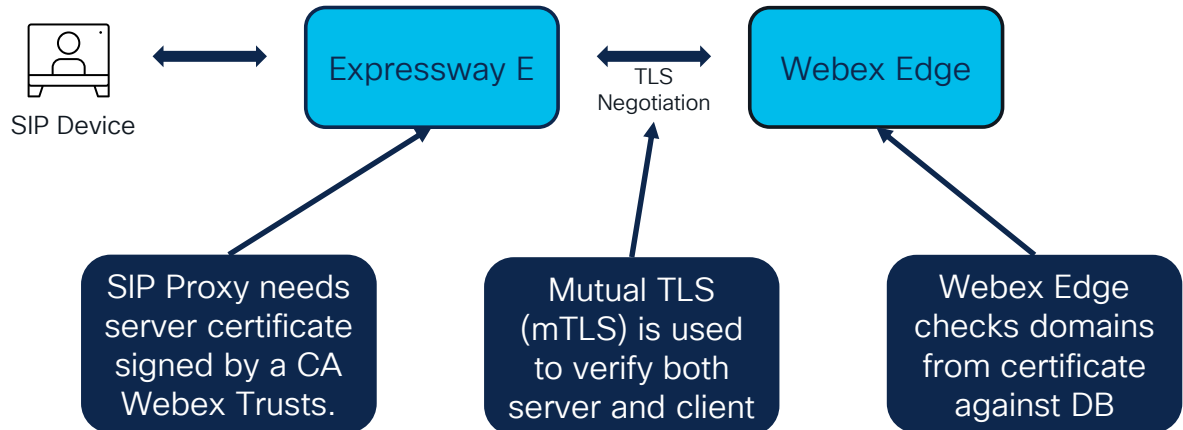
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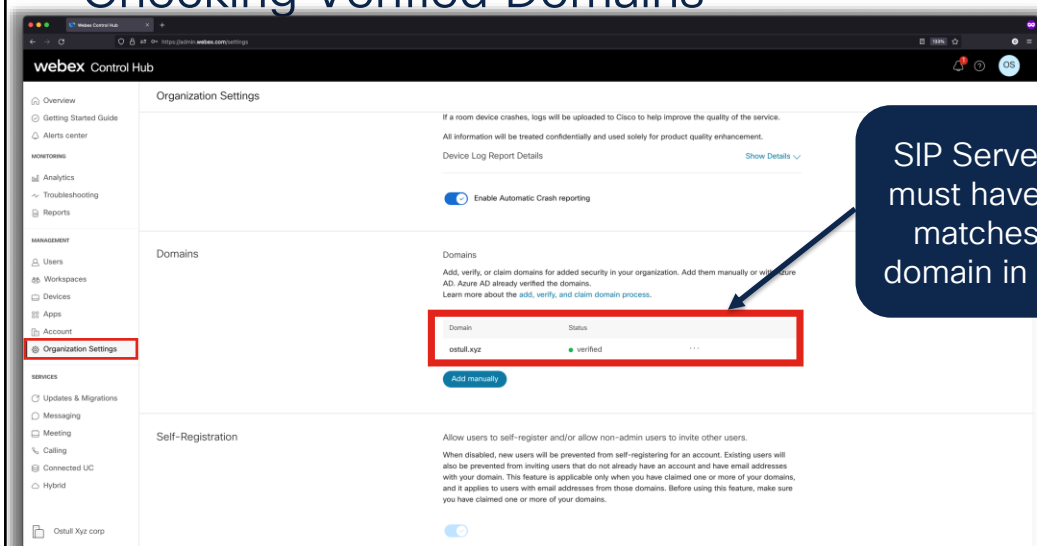
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# Callers do not bypass the Lobby

SIP registered device



# Checking Verified Domains



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# Validating Certificate SANs

The image shows a Cisco Expressway-E configuration interface on the left and a certificate details window on the right. The configuration window has a 'Server certificate' section with buttons for 'Show (decoded)' and 'Show (PEM file)'. A blue callout box points to these buttons with the text: 'SAN list must contain a match for a verified domain in Control Hub'. The certificate details window shows the following information:

- Certificate:**
  - Version: 3 (0x2)
  - Serial Number: 40:81:80:3c:ef:8c:ae:8a:8d:ef:3d:f7:00:51:a3:95
  - Signature Algorithm: sha256WithRSAEncryption
  - Issuer: C=US, O=IdenTrust, OU=HydrantID Trusted Certificate Service, CN=HydrantID Server CA 01
  - Validity
    - Not Before: Apr 18 13:49:33 2022 GMT
    - Not After: Apr 18 13:49:32 2023 GMT
  - Subject: CN=exp-e.rtp.ciscotac.net, O=Cisco Systems Inc., L=San Jose, ST=California, C=US
  - Subject Public Key Info: Public Key Algorithm: rsaEncryption
- X509v3 extensions:**
  - Exponent: 65537 (0x10001)
  - X509v3 Key Usage: critical
    - Digital Signature, Key Encipherment
  - Authority Information Access:
    - OCSP - URI: http://commercial.ocsp.identrust.com
    - CA Issuers - URI: http://validation.identrust.com/certs/
  - X509v3 Authority Key Identifier: keyID:0:BB:9B:86:9E:ED:FB:B0:C6:BD:00:EC:67:4E:3C:A3:00
  - X509v3 Certificate Policies:
    - Policy: 2.16.840.1.113839.0.6.3
    - Policy: 2.23.140.2.2
    - CPS: https://security.identrust.com/certificates/policy/ts/
    - User Notice:
      - Explicit Text: This TrustID Server Certificate has been issued in accordance with IdenTrust's TrustID Certificate Policy
  - X509v3 CRL Distribution Points:
    - Full Name:
      - URI: http://validation.identrust.com/crl/hydrantidca01.crl
  - X509v3 Subject Alternative Name:
    - DNS: amer-expressway01.ciscotac.net, DNS: exp-e.rtp.ciscotac.net, DNS: rtp.ciscotac.net
  - X509v3 Extended Key Usage:
    - AB:BA:75:00:CB:EC:1F:C1:AE:B4:FA:E6:74:D5:10:51:1C:E9:1D:B4
    - X509v3 Extended Key Usage:
      - TLS Web Server Authentication, TLS Web Client Authentication

A blue callout box points to the 'Subject Alternative Name' field with the text: 'Signed by a Certificate Authority Webex Trusts'. The bottom of the image features the Cisco Live logo and the text: '#CiscoLive BRKCOL-2058 © 2022 Cisco and/or its affiliates. All rights reserved. Cisco Public 37'.

# Check Expressway diagnostic log

Open the logging snapshot file and search for the VIMT SRV record  
\_sips.\_tcp.m.webex.com to see the list of IP addresses we resolved

```
2022-04-29T14:31:58.689-04:00 amer-expressway01 tvcs: UTCTime="2022-04-29 18:31:58,689" Module="network.dns"
Level="DEBUG": Detail="Sending DNS query" Name="_sips._tcp.m.webex.com." Type="SRV (IPv4 and IPv6)"
2022-04-29T14:31:58.814-04:00 amer-expressway01 tvcs: UTCTime="2022-04-29 18:31:58,814" Module="network.dns"
Level="DEBUG": Detail="Resolved hostname to: ['IPv4''TCP''209.197.207.55:5061'] (A/AAAA)
['IPv4''TCP''209.197.207.53:5061'] (A/AAAA) ['IPv4''TCP''209.197.207.52:5061'] (A/AAAA)
['IPv4''TCP''209.197.207.52:5061'] (A/AAAA) ['IPv4''TCP''209.197.207.55:5061'] (A/AAAA)
['IPv4''TCP''209.197.207.53:5061'] (A/AAAA) ['IPv4''TCP''209.197.207.45:5061'] (A/AAAA)
['IPv4''TCP''209.197.207.61:5061'] (A/AAAA) Hostname:'geo-pri-1.cmr.webex.com' Port:'5061' Priority:'20' TTL:'300'
Weight:'100' (SRV) Hostname:'geo-sec-1.cmr.webex.com' Port:'5061' Priority:'40' TTL:'300' Weight:'100' (SRV)
Hostname:'me01sjcp091.amer.pub.webex.com' Port:'5061' Priority:'50' TTL:'300' Weight:'100' (SRV)
Hostname:'me01tacp091.amer.pub.webex.com' Port:'5061' Priority:'60' TTL:'300' Weight:'100' (SRV) Number of relevant
records retrieved: 12"
```



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Webex: 209.197.207.55  
Exp E: 192.168.20.98

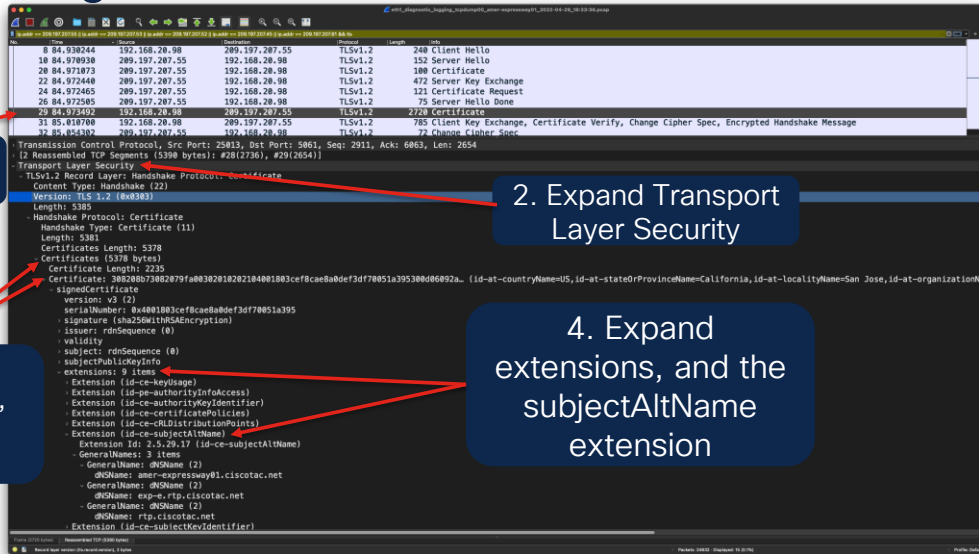
## Check Expressway E packet capture

No.	Time	Source	Destination	Protocol	Length	Info
8	84.930244	192.168.20.98	209.197.207.55	TLSv1.2	240	Client Hello
10	84.970930	209.197.207.55	192.168.20.98	TLSv1.2	152	Server Hello
20	84.971073	209.197.207.55	192.168.20.98	TLSv1.2	100	Certificate
22	84.972440	209.197.207.55	192.168.20.98	TLSv1.2	472	Server Key Exchange
24	84.972465	209.197.207.55	192.168.20.98	TLSv1.2	121	Certificate Request
26	84.972505	209.197.207.55	192.168.20.98	TLSv1.2	75	Server Hello Done
29	84.973492	192.168.20.98	209.197.207.55	TLSv1.2	2720	Certificate
31	85.010700	192.168.20.98	209.197.207.55	TLSv1.2	785	Client Key Exchange, Certificate Verify, Change Cipher Spec, Encrypted Handshake Message

Example filter:

```
ip.addr == 209.197.207.55 || ip.addr == 209.197.207.53 || ip.addr ==  
209.197.207.52 || ip.addr == 209.197.207.45 || ip.addr == 209.197.207.61 && tls
```

# Checking certificate in Wireshark



1. Select packet

2. Expand Transport Layer Security

3. Expand certificates, and server certificate

4. Expand extensions, and the subjectAltName extension

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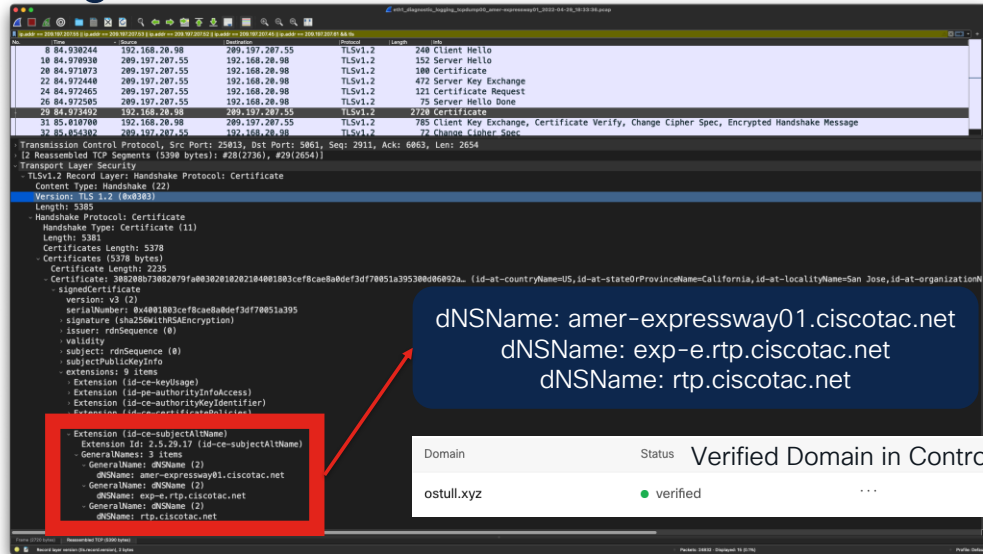
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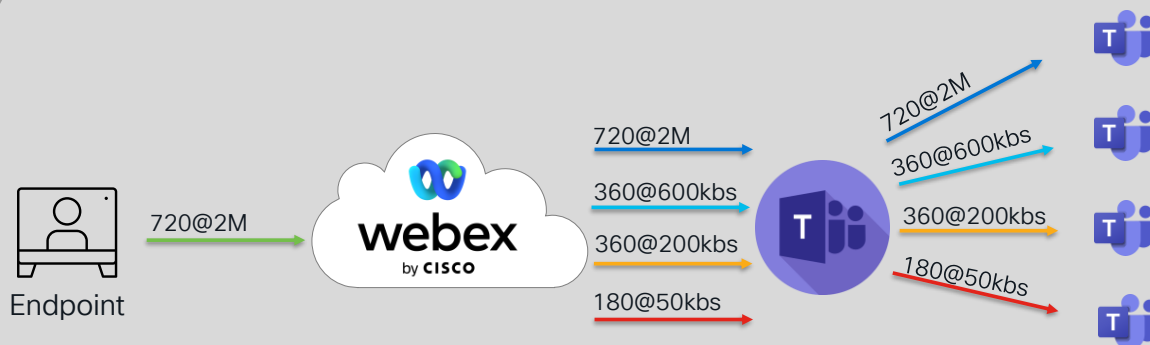
# Checking certificate in Wireshark



In meeting  
experience  
troubleshooting

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# Video Considerations



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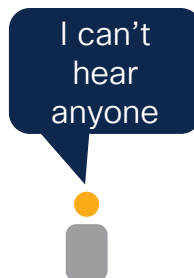
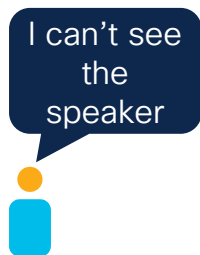
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# Troubleshooting media quality issues

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# Establish the Problem Description

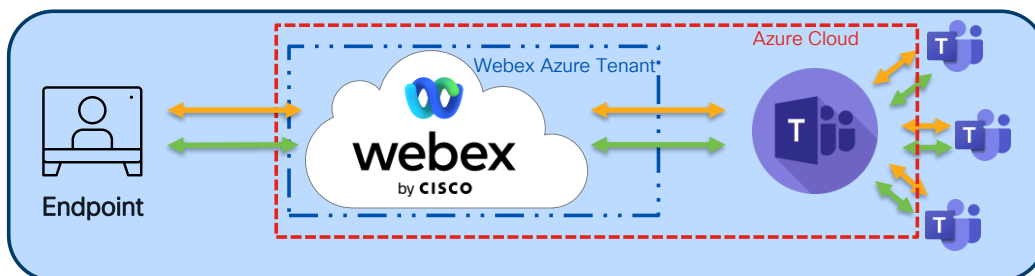
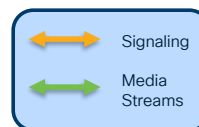


Who

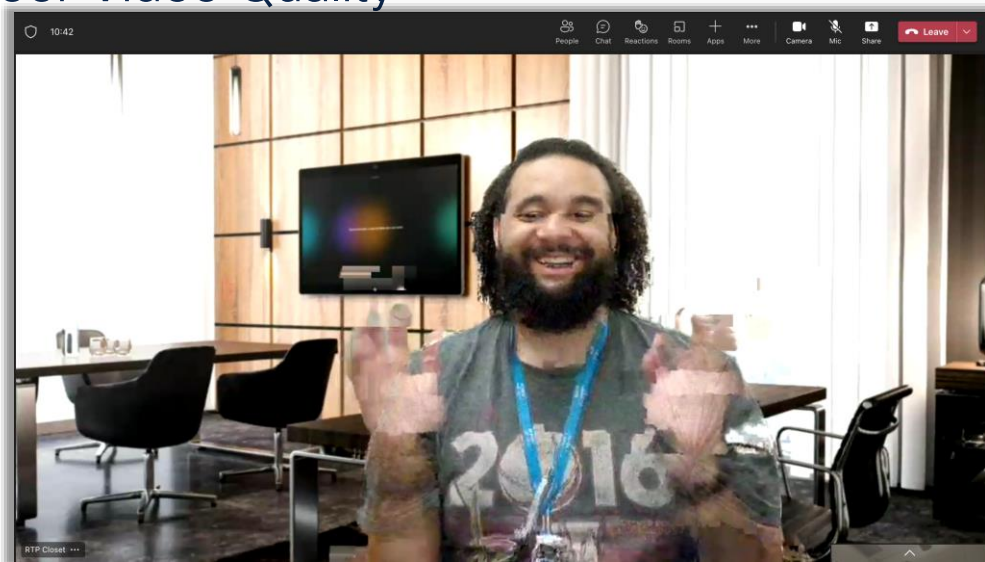
What

# Troubleshooting Media Issues

- Who? What? When?
- Isolate Focus area



## Poor Video Quality



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# Endpoint Statistics

```
*r CallHistoryGetResult Entry 0 CallbackNumber: "spark:1162756595.ostullxyz@m.webex.com"
*r CallHistoryGetResult Entry 0 DisplayName: "Video meeting"
*r CallHistoryGetResult Entry 0 Direction: Outgoing
*r CallHistoryGetResult Entry 0 CallRate: 6000
*r CallHistoryGetResult Entry 0 CallType: Video
*r CallHistoryGetResult Entry 0 EncryptionType: "AES-256-GCM"
*r CallHistoryGetResult Entry 0 StartTimeUTC: "2022-06-08T20:23:01Z"
*r CallHistoryGetResult Entry 0 EndTimeUTC: "2022-06-08T20:34:21Z"
*r CallHistoryGetResult Entry 0 DisconnectCauseType: LocalDisconnect
*r CallHistoryGetResult Entry 0 Video Incoming PacketLoss: "32517/165620"
*r CallHistoryGetResult Entry 0 Video Incoming PacketLossPercent: 20
*r CallHistoryGetResult Entry 0 Video Incoming MaxJitter: 12
*r CallHistoryGetResult Entry 0 Video Outgoing PacketLoss: "6871/97262"
*r CallHistoryGetResult Entry 0 Video Outgoing PacketLossPercent: 7
*r CallHistoryGetResult Entry 0 Video Outgoing MaxJitter: 26
*r CallHistoryGetResult Entry 0 Audio Incoming PacketLoss: "6410/27526"
*r CallHistoryGetResult Entry 0 Audio Incoming PacketLossPercent: 23
*r CallHistoryGetResult Entry 0 Audio Incoming MaxJitter: 9
*r CallHistoryGetResult Entry 0 Audio Outgoing PacketLoss: "4521/33835"
*r CallHistoryGetResult Entry 0 Audio Outgoing PacketLossPercent: 13
** end
```

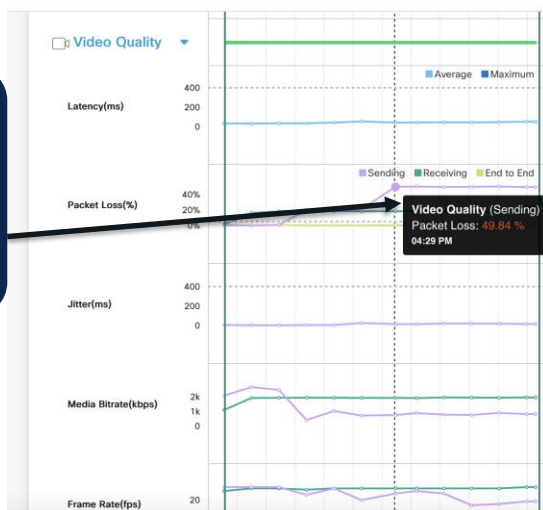




# Control Hub Troubleshooting

Meetings & Calls > RTP Closet → Microsoft VIMT > RTP Closet

49.84%  
packet  
loss on  
sending  
video  
stream



Connection:	ethernet
Media Node:	Washington D.C., USA
Local IP:	152.22.240.176/28
Public IP:	152.22.240.176/30
Audio Transport:	UDP
Video Transport:	UDP
Share Transport:	UDP
Audio Codec:	Opus (Sending) Opus (Receiving)
Video Codec:	H.264 BP (Sending) H.264 BP (Receiving)
Share Codec:	Not Available
Microphone:	Not Available
Speaker:	Not Available
Camera:	Not Available

Indicators ⓘ Signal Quality ⓘ

Sharing	Good
Change	Fair
	Poor

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# Conclusion

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# Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!
- Attendees will also earn 100 points in the Cisco Live Game for every survey completed.
- These points help you get on the leaderboard and increase your chances of winning daily and grand prizes.



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Resource community portal for certifications and learning



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The bridge to possible

# Thank you

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