Configure CMS Scheduler and Schedule a Meeting on Web App

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Introduction

This document describes how to configure Cisco Meeting Server (CMS) Scheduler on CMS 3.3 and how to schedule a meeting.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Call Bridge
- Web Bridge

Components Used

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

- CMS Version 3.3
- Cisco Meeting Management (CMM)

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, ensure that you understand the potential impact of any command.

Background Information

web app. Web app users can schedule meetings, modify the scheduled meetings, and notify participants via email.

Note: In version 3.4, the Scheduler component was released as a fully supported feature on Meeting Server 1000 and Virtualized deployments. Version 3.5 introduces the support for Scheduler on Meeting Server 2000. It is now supported on Meeting Server 1000, Meeting Server 2000, and Meeting Server on Virtualized deployments.

Note: The scheduler component deletes the temporary spaces that are created when you schedule the meeting through an internal task that runs every 24 hours at 1:15 GMT. If the meeting has ended 24 or more hours before the task is run, the temporary space is removed.

Configure

The web app is configured without a scheduler as shown in the image.

Μ		0
Saiacano's space		
	Sai acano's Home	
	Last login 2021-08-21 at 09:36. See details	
	Join a meeting	
	My spaces	
	Saiacano's space saiacano.cs	
	Cisco Meeting Server web app vergion master.PR.6617 © 2019-2021 Cisco and/or its affiliates. All rights reserved.	

The scheduler is a beta component of CMS 3.3. New Mainboard Management Processor (MMP) command is set to configure the scheduler highlighted as shown in the image.

cms39> help scheduler Configure scheduler

Usage: scheduler scheduler https listen <interface> <port> scheduler https listen none scheduler https certs <key-file> <crt-fullchain-file> scheduler https certs none scheduler c2w certs <key-file> <crt-fullchain-file> scheduler c2w certs none scheduler c2w trust <bundle> scheduler c2w trust none scheduler email server <hostname|address> <port> scheduler email server none scheduler email username <smtp username> scheduler email remove username scheduler email protocol <smtp|smtps> scheduler email auth <enable|disable> scheduler email starttls <enable/disable> scheduler email trust <bundle> scheduler email trust none scheduler timedLogging scheduler timedLogging (webBridge|api|email) <time> scheduler enable scheduler disable scheduler restart scheduler status CMS39>

Scheduler C2W - Web Bridge Connection Explained

When the scheduler is enabled, it makes API requests to the Call Bridge over the loopback interface. It is therefore a requirement that the scheduler is deployed on a Meeting Server which also hosts a Call Bridge. It is not possible to configure the scheduler to use a remote Call Bridge.

C2W connections are established to each Web Bridge similar to how the Call Bridge also establishes a C2W connection to each Web Bridge. No explicit configuration is required to enable the connection between the scheduler and Call Bridge because this happens automatically over the loopback interface. Similarly, the C2W connections are all automatic but it is necessary to configure a trust bundle between the scheduler and Web Bridges.



Scheduler Connections:

1. Configure C2W Trust:

C2W is a TLS-based WebSocket connection established from the scheduler to each Web Bridge. In this release, each scheduler needs to be able to connect to each Web Bridge in a cluster. The scheduler requires the configuration of a client certificate and key to be used for this connection. Since the Scheduler is required to run on a server which also has a colocated Call Bridge, it is possible to use the Call Bridge certificate and C2W trust cert for the Scheduler service for ease of deployment. This ensures that the certificate used is already included in the Web Bridge C2W trust.

To do this, create a certificate and upload it to the Meeting Server via Secure File Transfer Protocol (SFTP) or use the Public Key Infrastructure (PKI) MMP commands to create a certificate.

scheduler c2w certs CB344748.key BUN344748.cer

Where BUN344748.cer is a full chain certificate. A full chain certificate is to be offered by the Scheduler service when you establish a secure connection to Web Bridge servers.

It is important for the scheduler to be able to trust each Web Bridge it connects to. So bundle all Web Bridge certificates and have the scheduler trust Web Bridge Bundle.

 $Configure \ the \ scheduler \ with \ the \ command: \ scheduler \ c_{2w} \ trust \ webbridge_bundle.cer$

For example: scheduler c2w trust wbbundle.cer, where wbbundle.cer is a bundle of trust of all Web Bridge certificates.

It is also necessary for the Web Bridge to be able to trust the scheduler. So, bundle all scheduler certificates and have Web Bridge trust Scheduler Bundle:webbridge3 c2w trust <crt-bundle> All the necessary certificates for both schedulers and Call Bridges can be included in the <crt-bundle>.

For example, webbridge3 c2w trust schedulerbun.cer, where schedulerbun.cer is a bundle of all scheduler certificates and Call Bridge certificates.

cms1> webbridge3		
Enabled	:	true
HTTPS listening ports and interfaces	:	a:443
HTTPS Key file	:	CB344748.key
HTTPS Full chain certificate file	:	BUN344748.cer
HTTPS Frame-Ancestors	:	none
HTTP redirect	:	Disabled
C2W listening ports and interfaces	:	a:8443
C2W Key file	:	CB344748.key
C2W Full chain certificate file	:	BUN344748.cer
C2W Trust bundle	:	schedulerbun.cer
Beta options	:	none
cms1>		

The scheduler maintains Full mesh connections with all Web Bridges. In this scenario deployment has:

- 3 call bridges
- 3 Web bridges
- 2 Schedulers

All Call Bridges talk to all Web Bridges. Schedulers 1 and 2 are aware of web-bridge 3 because web-bridge 3 was presented to the scheduler service in the initial API call made to Call Bridge when the scheduler is enabled.



You can also configure the scheduler HTTPS interface. The scheduler has its own HTTPS interface which if enabled, can be used to configure scheduler meetings with the scheduler APIs. Here are the commands to configure:

```
scheduler https listen <interface> <port>
scheduler https certs <key-file> <crt-fullchain-file>
scheduler https listen a 9443
scheduler https certs CB344748.key BUN344748.cer
Scheduler configured on CMS 1:

[ms1> scheduler https listen a 9443
ms1> scheduler https certs CB344748.key BUN344748.cer
cms1> scheduler c2w certs CB344748.key BUN344748.cer
ms1> scheduler c2w trust wbbundle.cer
```

cms1> scheduler enable SUCCESS: HTTPS Key and certificate pair match SUCCESS: HTTPS full chain of certificates verifies correctly SUCCESS: C2W Key and certificate pair match SUCCESS: C2W full chain of certificates verifies correctly SUCCESS: scheduler enabled

Scheduler enabled on CMS 1:

cms1> scheduler		
Enabled	:	true
Https interface	:	a
Https port	:	9443
Https key file	:	CB344748.key
Https certificate file	:	BUN344748.cer
C2W Key file	:	CB344748.key
C2W Full chain certificate file	:	BUN344748.cer
C2W Trust bundle	:	wbbundle.cer
Email Server		none
Email Port	:	none
Email Username	:	none
Email Password		none

Scheduler enabled on CMS 2:

cms2> scheduler		
Enabled	:	true
Https interface	:	a
Https port	:	9443
Https key file	:	CB344748.key
Https certificate file	:	BUN344748.cer
C2W Key file	:	CB344748.key
C2W Full chain certificate file	:	BUN344748.cer
C2W Trust bundle	:	wbbundle.cer
Email Server	:	none
Email Port	:	none
Email Username	:	none
Email Password	:	none
cme?		

Logs snippets show:

The list of configured Web Bridges is retrieved by the scheduler with the use of the Call Bridge APIs. Persistent C2W connections are established to each Web Bridge similar to how the Call Bridge also establishes a C2W connection to each Web Bridge.

Scheduler service enabled:

```
Aug 21 11:53:22.408 daemon.info cms1 scheduler_backend[2056]: INFO CmsWebSchedulerApplication - starting CmsWebSchedulerApplication with PID 1 (/app started by ? in /)
The scheduler makes an API query to Call Bridge, a list of Web Bridges configured calls pulled by the scheduler service via API call:
```

getWebBridges - totalCount=3

Aug 21 11:53:28.999 daemon.info cms1 scheduler_backend[2056]: INFO C2WSupervisor - getWebBridges - added=3

Connection is attempted by C2W to connect to all Web Bridges:

Aug 21 11:53:29.011 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Connecting to webBridge=10.106.80.34:8443

Aug 21 11:53:29.015 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Connecting to webBridge=10.106.80.47:8443

Aug 21 11:53:29.015 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Connecting to webBridge=10.106.80.48:8443

Aug 21 11:53:29.069 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Received guid b6859515-3ea3-4bdc-9dce-a8b3033e62d7 from webbridge 10.106.80.34:8443

Aug 21 11:53:29.069 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Received guid 09b94d9c-9f70-452e-863b-99f099c774e9 from webbridge 10.106.80.47:8443

Aug 21 11:53:29.070 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Received guid 994190fa-1917-4c49-a9e6-3c05f1b8be91 from webbridge 10.106.80.48:8443

Scheduler service connects to Web Bridges VIA C2W and provides scheduler TAB:

Aug 21 11:53:31.016 daemon.info cms1 scheduler_backend[2056]: INFO C2WSupervisor - C2W connection for webbridge 10.106.80.34:8443 UP

Aug 21 11:53:31.017 daemon.info cms1 scheduler_backend[2056]: INFO C2WSupervisor - C2W connection for webbridge 10.106.80.47:8443 UP

Aug 21 11:53:31.017 daemon.info cms1 scheduler_backend[2056]: INFO C2WSupervisor - C2W connection for webbridge 10.106.80.48:8443 UP

The scheduler maintains FULL MESH Connections with All web bridges. This deployment has:

- 3 Call Bridges
- 3 Web Bridges
- 2 Schedulers

All Call Bridges talk to all Web Bridges. Schedulers 1 and 2 are aware of Web Bridge 3 because Web Bridge 3 was presented to the Scheduler service at the time of the initial API call made when the scheduler is enabled.

Aug 21 11:53:28.999 daemon.info cms1 scheduler_backend[2056]: INFO C2WSupervisor getWebBridges - totalCount=3
Aug 21 11:53:28.999 daemon.info cms1 scheduler_backend[2056]: INFO C2WSupervisor getWebBridges - added=3

Aug 21 11:53:29.011 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Connecting to

Aug 21 11:53:29.015 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Connecting to webBridge=10.106.80.47:8443

Aug 21 11:53:29.015 daemon.info cms1 scheduler_backend[2056]: INFO C2WService - Connecting to webBridge=10.106.80.48:8443

Scheduler status:



Note: You must sign In to be able to access the scheduler functionality and it is not available for the Guest/Join users landing page.

After Scheduler is configured, the client web app schedules a meeting tab.

M 🙂		0
Saiacano's space	Sai acano's Home Join a meeting Schedule meeting My scheduled meetings You have no upcoming scheduled meetings. Siacano's space	See more
() Help	Cisco Meeting Server web app version master.PR.6617 © 2019-2021 Cisco and/or its affiliates. All rights reserved.	

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Schedule a Meeting (Optional)

Note: This is your environment-specific configuration.

Additionally, you can configure a CoSpaceTemplatesto assign it to the meeting. CoSpaceTemplates provides meeting access methods to the organizer and participant.

Create a CoSpace Template:

Object configuration	
name	CoSpaceTemp-Scheduler
callProfile	19bb9c44-fb13-4acf-92fd-4bc333f745d8
callLegProfile	157b2822-8c03-4684-8675-431823a7dc93
numAccessMethodTemplates	0
description	CST-External/Internal Access

/api/v1/coSpaceTemplates/19577d25-f7cf-4524-9a26-5fd418dd5f96									
name 🗌 CoSpaceTemp-Scheduler									
description		CST-External/Internal Access		- present					
callProfile		19bb9c44-fb13-4acf-92fd-4bc333f745d8	Choose	- present					
callLegProfile		157b2822-8c03-4684-8675-431823a7dc93	Choose	- present					
dialInSecurityProfile			Choose)					
defaultAccessMethodTemplate	GUID (n	one available)							
	Mo	dify							

Create an Access method template, and assign it to a **CoSpaceTemplates**:

/api/v1/coSpaceTemplates/19577d25-f7cf-4524-9a26-5fd418dd5f96/accessMethodTemplates Table view XML view

Object configuration	
name	ExternalAccessMeth
uriGenerator	\$.guest
callLegProfile	092771c9-5c3e-43b2-89cb-0dff8294fa1d
generateUniqueCallId	true

/api/v1/coSpaceTemplates/19577d25-f7cf-4524-9a26-5fd418dd5f96/accessMethodTemplates/72d4029d-c70b-4b9c-a3d5-03f0800cf710								
name		ExternalAccessMeth		- present				
uriGenerator		\$.guest		- present				
callLegProfile		092771c9-5c3e-43b2-89cb-0dff8294fa1d	Choose	- present				
generateUniqueCallId		true v - present						
dialInSecurityProfile			Choose					
scope		<unset> ></unset>						
	Mo	dify						

Assign additional access method if you have:

Object configuration	
name	InternalAccessMeth
uriGenerator	\$.host
callLegProfile	2e287c15-8908-43cd-b725-12c4bb502578

/api/v1/coSpaceTemplates/19577d25	5-f7	cf-4524-9a26-5fd418dd5f96/accessN	1et	hodTemplates/382effbb-dcf4-45a7-a50f-c16322819bb1
name		InternalAccessMeth		- present
uriGenerator		\$.host		- present
callLegProfile		2e287c15-8908-43cd-b725-12c4bb502578 Choose	e -	present
generateUniqueCallId		<unset> v</unset>		
dialInSecurityProfile		Choose	e	
scope		<unset> v</unset>		

You can now assign this **CoSpaceTemplates** to an LDAP user. For test purposes assign it to 1 user.

/api/v1/users/5d275edc-ca86-425c-98bb-df1b333c42f9/userCoSpaceTemplates

	-	CMS - Mozilla Eirefox				-		
Related objects: /api/v1/users /api/v1/users/5d275edc-ca86-425c-98bb-df1b333c42f9	(C A https://10.106.80.34:7445/	/api_id_selector.	html?id=id_coSpaceT	emplate&checkbox=include_id	_coSpace	⊤☆ ≡	
« start < prev none next > Table view XML view	0	oSpaceTemplate object	selector					
object id coSpar no objects of this type are present, or none match any filters that may be in use	CC PI	lease select the coSpaceTemplate ob	ject to use in this	s configuration operatio	n.		-	
		start < prev 1 - 1 (of 1) next >		Filter Table view	v XML view		die 17	6
/api/v1/users/5d275edc-ca86-425c-98bb-df1b333c42f9/userCoSpaceTemplat coSpaceTemplate CoSpaceTemplate CoSpaceTemplate	te: »	Select 19577d25- f7cf-4524-9a26-5fd418dd5f96	CoSpaceTemp- Scheduler	19bb9c44- fb13-4acf- 92fd-4bc333f745d8	157b2822-8c03-4684-8675-431	823a7dc9	3	SIC
Create	F							

Once the template is assigned to the LDAP user. Sign in on the web app to schedule a meeting.

JS/portal		☆
G Home	⊕ EN (US) ⑦	
	M	
Cisco M	leeting Server	
Sign ir	to web app	
saiacano@s.c	com	
© 2019-2021 Cisco	Sign in and/or its affiliates. All rights	
	ı ı.ı ı. cısco	
	JS/portal	JS/portal The Definition of the server The sign in to web app Sign in to web app Sign in Sign in

After the user has signed in, click on **Schedule meeting** in order to schedule a meeting.

s Saiacano's space				
Test-XRP	Sai acano's Home Last login 2021-08-21 at 13:21. See details Join a meeting Schedule meeting			
	My scheduled meetings		See more	
	Today, Aug 21, 2021			
	8:00 PM - 9:00 PM Test-XRP Now Space: Test-XRP	Organized by: You	D: Join	
	My spaces		Meeting created This meeting has been created X	
	Saiacano's space			

Give a name to the newly scheduled meeting and select a **cospace** that already exists or create a new one.

	Step 1 of 3			
	General			
	Test-XRP			
	Space		Template	
	Create a space for this meeting	~	Select a space template	~
	Create a space for this meeting			
	Use an existing space for this meeting Saiacano's space			
	·			

Choose the **coSpace** template you created earlier:

M 🕒				C
Saiacano's space	Schedule a meeting			
	Step 1 of 3 General Name Test-XRP			
	Space Create a space for this meeting	CoSpaceTer CST-External/In	mp-Scheduler Internal Access	~
⑦ Help	Cancel			Next >

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Click Next and set a meeting schedule (time/date/repeat or ad-hoc) as shown in the image.

Saiacano's space	Schedule a meeting		
	Step 2 of 3		
	Time		
	Date	Repeat	
	Sat, Aug 21, 2021	No repeat	\sim
	From To	Yearly	
	20:00 () 21	Monthly Weekly	
		Daily	
		No repeat	
	Duration 01h 00m		
	01h 00m		

Add participants on the next page. Here you can define which participant has what access method.

M 🕘				Q
Saiacano's space	Schedule a meeting			
	Step 3 of 3 Attendees			
	Organizer		Role	
	You		ExternalAccess ~	
	Attendee		InternalAccessMeth	
	⊕ ivrman@s.com	0	ExternalAccessMe ~	Add
	Organizer You Attendee ⊕ ivrman@s.com	¢	Role ExternalAccess ExternalAccessMeth InternalAccessMeth ExternalAccessMet	Add

Schedule a meeting and click create in order to populate on the web app.

M 🙂		Q
Saiacano's space	Schedule a meeting	
	Step 3 of 3 Attendees Organizer	Role
	You Attendee	Role InternalAccess × Role
	ivrman (ivrman@s.com)	ExternalAccess 🗸
		$\overline{\mathbf{Q}}$
⑦ Help	Cancel	< Back Create

You can then click on Join a meeting Or Schedule meeting to initiate a meeting as shown in the image.

Saiacano's space			
T Test-XRP	Sai acano's Home		
	Last login 2021-08-21 at 13:21. See details		
	Join a meeting Schedule meeting		
	My scheduled meetings		See more
	Today, Aug 21, 2021		
	8:00 PM - 9:00 PM Test-XRP Now Space: Test-XRP	Organized by: You	□⊧ Join
	My spaces	Q	Meeting created This meeting has been created X
	Saiacano's space		successfully
			Participants (2) × n In meeting (2) SA Sai acano You & G Gogi gog@s.com
	Ì		
Speaking You 🛇			
Ø 😡			
<u>کا</u>			
0			

The scheduled call connects to a cluster of CMS:

i C	 sco		
Statu	is 🔻 🛛 🔿	onfiguration 🔽	Logs 🔻
Activ	ve Calls		
Filter			Set Show only calls with alarms Set
	Confe	rence: Test-XI distributed call to call duration incoming media outgoing media remote address SIP call ID	RP 2 active calls; 1 local participant; 1 remote participant) CB1 [less] (call 7, outgoing, encrypted - AES-128) 1 minute, 27 seconds 0PUS, H.264, 1280 x 720 9.9fps, 8.01 Kb/s OPUS, H.264, 1168 x 658 10.4fps, 7.41 Kb/s 06b103190000002@10.106.80.34 163436f9-62d2-4ce2-8e52-0e4ffaf1c812
	web app	Gogi [less] call duration incoming media outgoing media remote address	(call 8, incoming, encrypted - AES-128) 1 minute, 27 seconds OPUS, H.264, 1280 x 720 10.0fps, 3.84 Kb/s OPUS, H.264, 864 x 486 9.9fps, 156 Kb/s gogi@s.com

Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.