SYNERGY SKY

Synergy JOIN Installation and Configuration Guide

Synergy JOIN 4.0

January 2020

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Introduction

About Synergy JOIN

New technologies have made it possible for enterprise collaboration solutions to work seamlessly together. Today Skype for Business users and video conferencing users participate in joint meetings as standard, with high-quality video, audio and content sharing. There are still some challenges, however, when it comes to the user experience.

Joining a meeting using Skype is easy, but the video conference user has to dial the meeting address from a video touch pad or a remote control. It may not even be possible to dial the address from an endpoint if the meeting is hosted in Office365 (Skype Online). Automating the connection process is therefore of great value to organizations.

Synergy JOIN (JOIN) solves this by automatically connecting video-enabled meeting-rooms to Skype meetings using Cisco One Button To Push (Cisco OBTP) or Polycom Click To Join (Polycom CTJ). The end-user simply schedules a new Skype meeting in Microsoft Outlook and adds the required video-enabled meeting-rooms. JOIN manages the connection and brings the Cisco OBTP or Polycom CTJ information to the video endpoint. You can also forward a Skype meeting invitation to a video-enabled meeting-room and automatically enable Cisco OBTP or Polycom CTJ. JOIN removes the risk of typing errors, and ensures that all meetings start on time.

In addition, JOIN can be used to schedule meetings in personal VMRs, and for Cisco and Pexip environments, in one-time-VMRs, sending the Cisco OBTP or Polycom CTJ information to the scheduled video endpoints and dialing out to endpoints that do not support Cisco OBTP or Polycom CTJ.

JOIN is shipped as a Windows installer with a simple setup wizard that enables quick deployment.

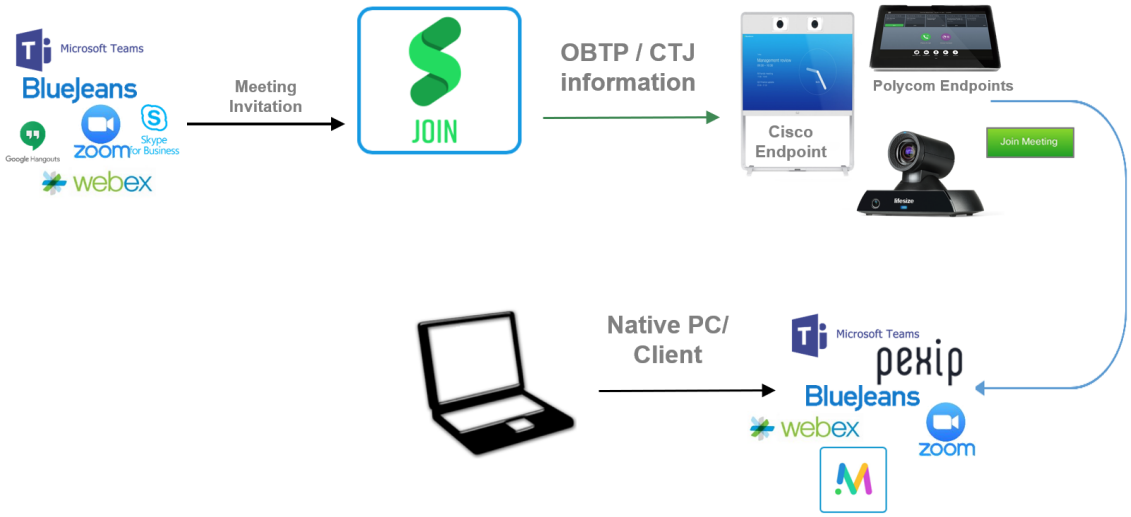
The solution supports Pexip, Cisco CMS and StarLeaf Cloud environments, and on-premises installations of Skype and Microsoft Exchange as well as Office 365.

How Synergy JOIN works

Feature overview

JOIN supports the following feature set:

- Booking Skype or Teams meetings using Outlook: JOIN creates a Skype/Teams URI for the meeting that is sent as Cisco One Button To Push (Cisco OBTP) or Polycom Click To Join (Polycom CTJ) to all video endpoints scheduled in the same meeting.
- Booking One-time-VMRs (Cisco and Pexip only): the endpoints receive the URI as Cisco OBTP or Polycom CTJ.
- JOIN can identify patterns in meeting room invitations so that the endpoint can be populated with Cisco OBTP or Polycom CTJ information for personal VMRs (e.g. meet.js@example.org).
- JOIN dials out to booked endpoints that don't support Cisco OBTP or Polycom CTJ.
- Emails containing the dial-in information for the meeting can automatically be sent to the meeting participants.



Overall process from install to end user

1. After installation, video admins add the following information into the JOIN configuration tool:
   - **Exchange** or **Google server connection settings**.
   - MCU details (Pexip MCU that acts as Skype Gateway, Cisco CMS MCU for Dual Home meetings, Videonor as MCU and Skype Gateway or StarLeaf Cloud).
   - Exchange video-enabled meeting-room resources or Google Hangouts meeting resources.
2. Users book a Skype, personal VMR or One-time-VMR video meeting from Outlook, inviting one or more video-enabled meeting-room resources.
   - Users book a Google meeting from their Google Calendar, inviting one or more video enabled meeting-room resources.
3. JOIN monitors the meeting-rooms at the interval specified in **Polling interval in minutes**, to check if they receive a meeting invite. This is how it works with a Pexip MCU:
   - Skype invitations sent to meeting-room resources include a URI in this format: *sip:js@example.org;gruu;opaque=app:conf:focus:id:TTC86056* which JOIN rewrites to a URI the meeting-room endpoint can call eg: *S4B.TTC86056.js@example.org* (this format is defined in **Matching Rules** in the configurator).
   - For one-time-VMR meetings, the URI is generated based on the format defined in **Matching Rules** in the configurator.
   - For personal VMR meetings, the URI in the invite body is identified as the URI.
4. The URI is sent to the endpoint as Cisco OBTP or Polycom CTJ ready for attendees to start the meeting.
5. The call is routed either through Pexip or CMS to the Skype server, using a gateway rule on the MCU, or through Cisco CMS to the Skype server, using the Dual Home technology, or through the StarLeaf Cloud to the Skype server.

Limitations

Cisco CMS

At this time JOIN can only dial out from one-time-vmrs on CMS, not from personal VMRs and Skype for Business (S4B) meetings. This means that for S4B calls and personal VMR calls when using CMS, the meeting can only be joined via Cisco OBTP/Polycom CTJ.

StarLeaf Cloud

At this time JOIN can be used to enable Cisco OBTP/Polycom CTJ for the following scheduled meetings:

- Office 365 / Skype for Business on-premises
- StarLeaf Cloud

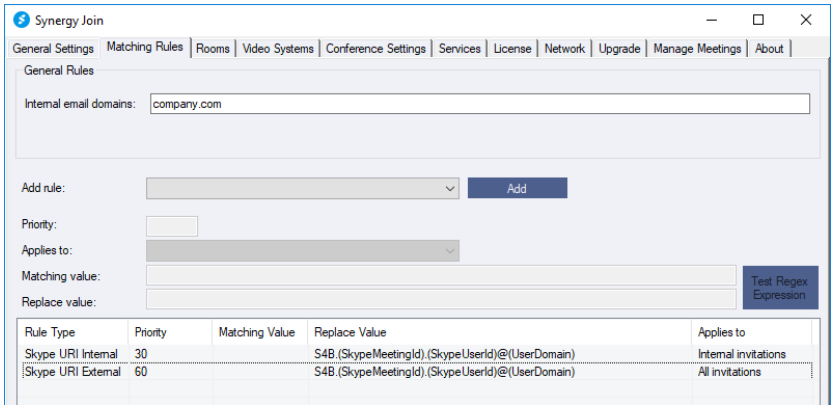
How the Skype URIs are generated

Skype URIs for JOIN should be based on your company dial plan.

Pexip / Videonor / Videxio

In this example, using a Pexip MCU, our **URI Prefix** is S4B (for Skype for Business). We recommend using a prefix that easily identifies these URIs on your network as Synergy JOIN Skype for Business URIs.

NB. The prefix for Videxio is usually `__sfb__` (two underscores + sfb + two underscores) but should be confirmed on installation.



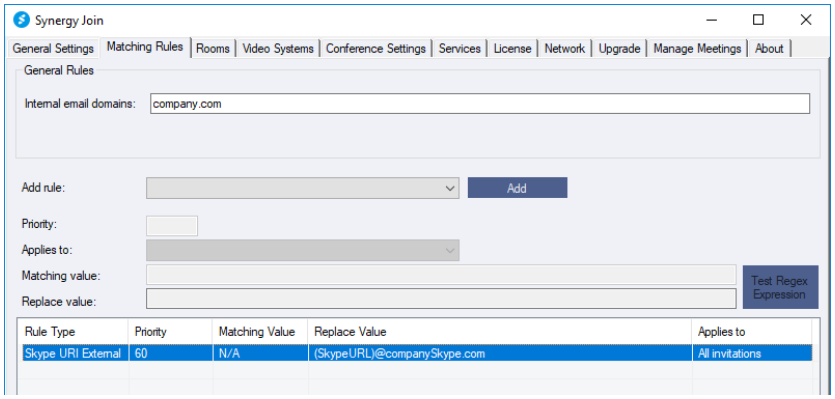
The second part of the URI is the **Skype Meeting ID**, and the last part is the **Skype User ID**.

A URI created from our matching rule pattern looks like this:

URI Prefix	Skype Meeting ID	Skype User ID	Full URI
S4B	TTC86056	js@example.org	S4B.TTC86056.js@example.org

Cisco CMS

With CMS, the format of the replace value is *(SkypeURL)@CompanyCMSDomain.local* where “CompanySkype.com” is the routing domain that ensures the call is routed to the CMS.



This domain must also be added as a "Targets Lync Simplejoin" domain on the CMS under **Configuration > Incoming Calls**.

Incoming call handling

Call matching

	Domain name	Priority	Targets spaces	Targets users	Targets IVRs	Targets Lync	Targets Lync Simplejoin	Tenant	
☐	synergysky.com	0	yes	yes	no	no	no	no	[edit]
☐	synergyskype.com	0	yes	yes	yes	no	yes	no	[edit]

StarLeaf Cloud

The Skype URI sent to the endpoint is the URI of the gateway call provisioned in the StarLeaf Cloud by JOIN.

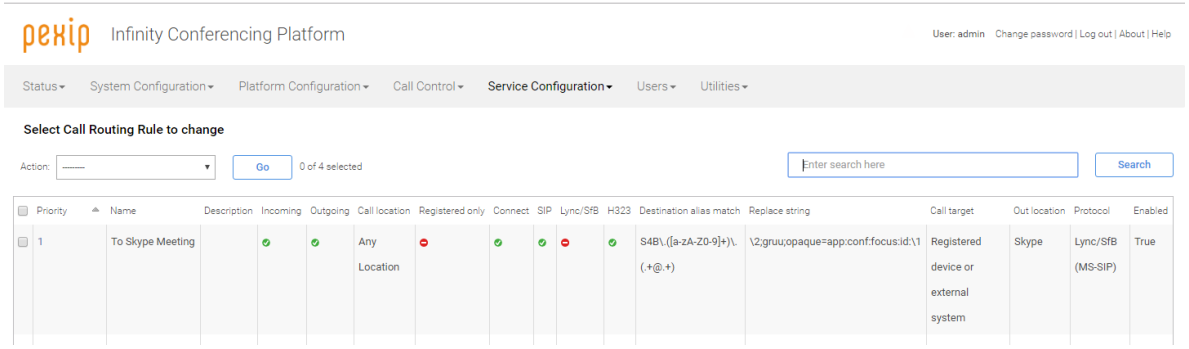
This URI is in this format: *numeric@customername.call.sl000000*

How the call is routed

Pexip / Videonor / Videoxio

There must be a **Destination alias match** in a gateway rule on the Pexip that corresponds to the matching rule URI pattern so that when the endpoint dials the skype URI, it is routed correctly.

The protocol for this rule must be MS-SIP.



Destination alias match	Replace string	Protocol
S4B\.([a-zA-Z0-9]+)\.(.+@.+)	\2;gruu;opaque=app:conf:focus:id:\1	Lync (MS-SIP)

See Pexip documentation for more information on creating gateway rules.

Note: If calls go through a VCS, you need a search rule on the VCS to send calls corresponding with the prefix of your URI pattern to Pexip (in our example, S4B).

Cisco CMS

The call is routed through the CMS to Skype using the Dual Home functionality:

1. When a Skype meeting is forwarded to a video-enabled meeting-room that has been added to JOIN, JOIN tells the endpoint to call URL@simplejoindomain.
2. The VCS routes the call to CMS.
3. On CMS, the call hits the incoming calls simplejoin rule and CMS sets up the call.

Note: The “Lync simplejoin domain” must be present on the VCS.

StarLeaf Cloud

1. The endpoint calls out to the StarLeaf Cloud using the URI it received from JOIN.
2. The StarLeaf Cloud calls the Skype meeting.

Requirements

Windows Server software

Operating system	Additional features required
Windows Server 2008 r2 64 bit (or newer)	Microsoft .NET 4.5.1 Framework

Windows Server hardware

Number of video-enabled meeting rooms	CPU	RAM	HDD
0 - 100	4 Cores	8 GB	20 GB
100 - 300	4 Cores	16 GB	50 GB
300 - 900	4 Cores	32 GB	100 GB
900 - 2000	6 Cores	40 GB	150 GB
2500 +	8 Cores	64GB	250 GB

Network requirements

Source	Destination	Protocol	Port (TCP unless otherwise stated)	Description
Synergy JOIN	Microsoft Exchange	HTTPS	443	Scheduling.
Synergy JOIN	Cisco TMS	HTTP HTTPS	80 443	Tracking codecs on DHCP.
Synergy JOIN	Pexip Management Node	HTTPS	443	Initiating dial-out calls. Provisioning one-time VMRs.
Synergy JOIN	Pexip Conference Node	HTTPS	443	Optional: JOIN requires access to one Pexip conference node for displaying “End of Conference Warnings”
Synergy JOIN	StarLeaf Cloud: https://api.starleaf.com	HTTPS	443	Provisioning gateway call in StarLeaf Cloud.
Synergy JOIN	Cisco CMS	HTTP HTTPS	80 443	Initiating dial-out calls. Provisioning one-time VMRs.
Synergy JOIN	Cisco codecs	HTTP HTTPS	80 443	Updating codecs with Cisco OBTP information.
Synergy JOIN	Polycom codecs	N/A	N/A	N/A - JOIN does not talk to the codec - the Polycom endpoints get the meetings from Exchange.
Synergy JOIN	Synergy SKY Upgrade service	HTTP	80	Automatic upgrade of JOIN via this URL: *http://synergysky.com/upgradeService/*
Synergy JOIN	Internet	HTTP HTTPS	80 443	JOIN requires internet access to find the address to the Skype meeting for CMS Office 365 meetings, and for all external Skype invitations that are forwarded.
Synergy JOIN	Cisco IX, TX and CTS Codecs	HTTP	8081/9501	Updating the IX,TX and CTS Codecs with Cisco OBTP information

Port forwarding to Cisco endpoints

Cisco video systems that are on external networks can be reached directly over the internet by setting up a port forwarding rule in the firewall to allow direct access to the video system.

Note the following if using port forwarding to Cisco endpoints:

• Ensure the Port Forwarding rule only accepts requests from the specific IP address that JOIN will connect from.

• Ensure the Port Forwarding rule forwards requests to the HTTPS service of the Video System.

- Ensure the Video System's HTTPS service is enabled.
- Ensure the Video System has a strict password set.
- Include the port number after the IP address when configuring the Video System in JOIN (e.g. 213.112.33.179:8081).

Service accounts

Account type	Permissions required
Microsoft Exchange User (with a mailbox)	Read and Write access to Meeting room resource mailboxes (Editor access to user mailboxes required if using in-body update)
Pexip MCU	Admin API account or LDAP API account.
Cisco CMS	Admin API account.
StarLeaf Cloud	You need to have **Allow scheduling external conferences** enabled on your organization's account. See "How to create a StarLeaf Cloud authorization token" on page 118
Cisco codecs	Admin user account.
Polycom codecs	N/A - JOIN does not talk to the codec - the Polycom endpoints get the meetings from Exchange.
Cisco TMS (optional - used to track codecs on DHCP)	Site administrator user account.
Google API Access	API Scopes to allow for calendar access
Google Service Account	Google Super Admin account in GSuite(admin.google.com). Additionally, Enable Domain Wide Delegation on the service account(console.cloud.google.com)

Device Support

Devices that are supported with Synergy Join

Device	Version	Comments
Microsoft Exchange	On Prem and 0ffice 365 (Exchange Online) • 2010 SP2 and later • 2013 all SPs • 2016	
Cisco TMS	12.0 - 15.5	
Pexip MCU	13 - 20	
Cisco CMS	1.8 - 2.4	Must be configured with Dual Home: The “Lync simplejoin domain” must be present on the VCS if the endpoints route calls through one. Also, the CMS must have a working Lync outbound rule set up (Trunk type: Lync).
StarLeaf Cloud	N/A	You need to have **Allow scheduling external conferences** enabled on your organization’s account. See "How to create a StarLeaf Cloud authorization token" on page 118
Cisco codecs: • C-series • MX-series • SX-series • EX-series • DX-series • IX -series • TX-series • Cisco Spark Room Kit • Cisco Webex Room 55 Single & Dual • Cisco Webex Room 70 G2 • Cisco Webex Room Kit Mini, Room Kit, Room Kit Plus & Room Kit Pro	• TC5.x and newer • CE8.x and newer	
Polycom codecs: • HDX • Group series • Trio	All versions supporting Polycom CTJ	The endpoints must be configured to poll calendar data from Exchange using the Polycom Calendaring service: • The Polycom endpoints must be configured to get the meetings from their own room account in Exchange. • JOIN will rewrite the body of these meetings in the Exchange room accounts to embed the URI of the meeting in a Polycom-friendly way. **NOTE:** The Polycom Trio is supported with Polycom Click To Join for one-Time-VMRs and regex/static VMRs in Synergy JOIN version 2.6. Microsoft Skype and Teams support is available in JOIN version 3.0. The reason is that the Trio will incorrectly try to call the hidden Skype GRUU if it finds it in the meeting invitation header when there is a different URI in the Polycom VMR token Synergy JOIN generates, even if the Trio is not registered towards a Skype server.

Exchange Resource Account Requirements

When deploying Synergy JOIN, we recommend running the following scripts on all of the rooms in Microsoft Exchange in order to unlock the full potential of the product:

Add-MailboxPermission -Identity <roomAlias> -User <ServiceAccount> -AccessRights FullAccess

Set-CalendarProcessing <roomalias> -DeleteComments $false -DeleteSubject $false -RemovePrivateProperty $false -AddOrganizerToSubject $false -ProcessExternalMeetingMessages $true

The embedded test tool in the JOIN Configurator can be used to verify most of these properties, and suggests PowerShell commands to configure the rooms according to the JOIN recommendations.

The function of the various Exchange resource properties are explained in the table below.

Exchange Resource properties

Property name	Function in Microsoft Exchange	Function in Synergy JOIN	Recommended Setting	Required
DeleteComments	The **DeleteComments** parameter specifies whether to remove or keep any text in the message body of incoming meeting requests. Valid input for this parameter is *$true* or *$false*. This parameter is used only on resource mailboxes where the **AutomateProcessing** parameter is set to *AutoAccept*.	When set to *$true*, Exchange deletes the body of the meeting invitation when booking rooms. As the matching rules rely on reading content in the body of the email, this stops Regex and the **Skype URI in Body** rule from working in JOIN.	*$false*	Yes, so that your matching rules work correctly.
DeleteSubject	Specifies whether to remove or keep the subject of incoming meeting requests. Valid input for this parameter is *$true* or *$false*. The default value is *$true*. This parameter is used only on resource mailboxes where the **AutomateProcessing** parameter is set to *AutoAccept*.	When set to *$true*, Exchange deletes the subject of the meeting which means JOIN does not display a meeting title on the touch panel of the video system. If you want the subject of the meeting to be hidden, you can select the Private flag when booking the meeting in Outlook, even if this property is set to *$false*. See also **RemovePrivateProperty**.	*$false*	Yes, if you want the meeting title to be displayed on the touch panel.
RemovePrivateProperty	The **RemovePrivateProperty** parameter specifies whether to clear the private flag for incoming meeting requests. Valid input for this parameter is *$true* or *$false*. The default value is *$true*. By default, the private flag for incoming meeting requests is cleared. To ensure the private flag that was sent by the organizer in the original request remains as specified, set this parameter to *$false*.	When set to *$true*, Exchange removes the Private flag when a Room is booked as a resource in a meeting flagged as Private in Outlook. This means that the meeting title is visible to everyone for all meetings. By setting this property to *$false* you can hide the title on meetings that are booked as Private in Outlook, while showing the title of all other meetings.	*$false*	No.
AddOrganizerToSubject	The AddOrganizerToSubject parametors specifies whether to add the organizers name toe the subject line. Valid input for this parameter is *$true* or *$false*. The default value is *$true*.	When set to *$true*, Exchange adds the organizers first name and last name to the subject line of the meeting. If you do not want to display the meeting name, at minimum we recommend to set this field to ***$true***	***$false***	Yes, if you want to hide the meeting title on the touch panel.

Property name	Function in Microsoft Exchange	Function in Synergy JOIN	Recommended Setting	Required
ProcessExternalMeetingMessages	The **ProcessExternalMeetingMessages** parameter specifies whether to process meeting requests that originate outside the Exchange organization. Valid input for this parameter is *$true* or *$false*. The default value is *$false*. By default, meeting requests that originate outside of the organization are rejected.	When set to *$false*, Exchange will not allow external users to book Rooms resources. However, a room is booked on behalf of the organizer if a user forwards an invite into a room. This setting must therefore be set to *$true* to allow internal users to forward invitations to external Skype meetings into their meeting rooms, so that they can benefit from easy calling into external Skype meetings. **Note**: Administrators can still avoid external users booking their rooms directly by using an internal domain in the room's alias (e.g. *meetingroom@synergysky.local*)	*$true*	Yes, so that forwarding invites from external users works correctly.
AutomateProcessing	The **AutomateProcessing** parameter enables or disables calendar processing on the mailbox. This parameter takes the following values: • *None* Both the resource booking attendant and the Calendar Attendant are disabled on the mailbox. • *AutoUpdate* Only the Calendar Attendant processes meeting requests and responses. • *AutoAccept* Both the Calendar Attendant and resource booking attendant are enabled on the mailbox. This means that the Calendar Attendant updates the calendar, and then the resource booking assistant accepts the meeting based upon the policies. The default value on a resource mailbox is *AutoAccept*. The default value on a user mailbox is *AutoUpdate*, but you can't change the value on a user mailbox.	Meetings that are booked in Room resources are stored as *Tentative* unless this setting is set to *AutoAccept*. Tentative meetings are not processed by JOIN, as you can book multiple tentative meetings within the same time interval in one resource.	*AutoAccept*	Yes.
AllRequestInPolicy **AllRequestOutOfPolicy** **RequestInPolicy** **RequestOutOfPolicy**	These parameters specify whether to allow users to submit policy requests. Valid input for these parameters are *$true* or *$false*. The default value is *$false*.	Meetings booked in Room resources that are configured with either of these properties that require meetings to be approved by a delegate, will not be processed by JOIN until they are approved. This will lead to a significant delay for the meeting organizers, and is therefore not recommended.	*$false*	Recommended: configure so that approval is not required.

Enabling forwarding of external meeting invitations

Microsoft will only process meeting requests for meetings booked by external users if the settings ProcessExternalMeetingMessages is set to "$true". Enabling this setting potentially exposes your meeting rooms from being booked directly by external users, but can be mitigated in one of two ways:

- Either stop direct emails from external users from ever reaching the room mailboxes; which can be done by a transport rule in the Hub Transport server in Microsoft Exchange. The rule can be set to stop emails from external users from reaching the mailboxes in a specific distribution list like the list of meeting rooms
- Alternatively you can change the alias of the rooms to a domain that is only available internally in the Exchange environment; i.e. changing boardroom@acme.com to boardroom@acme.local. The acme.local domain should not be reachable from the outside, but will be available for internal users.

Either of these changes will enable users to forward invitations they receive from the outside to their meetings rooms, while hindering any external users from booking their meeting rooms directly.

NOTE. Enabling ProcessExternalMeetingMessages does not in any way expose the information of existing meetings to external users.

Microsoft Graph API

Microsoft will be deprecating Basic Auth access for EWS in October 13th, 2020. In line with this change, Microsoft have created anew authentication method known as Microsoft Graph. Microsoft Graph allows for increased performance towards the Microsoft Cloud. Over time, Microsoft have introduced OAuth 2.0 for authentication and authorization, which is a more secure and reliable way than Basic Authentication to access data.

You can find additional information relating to Microsft Graph here

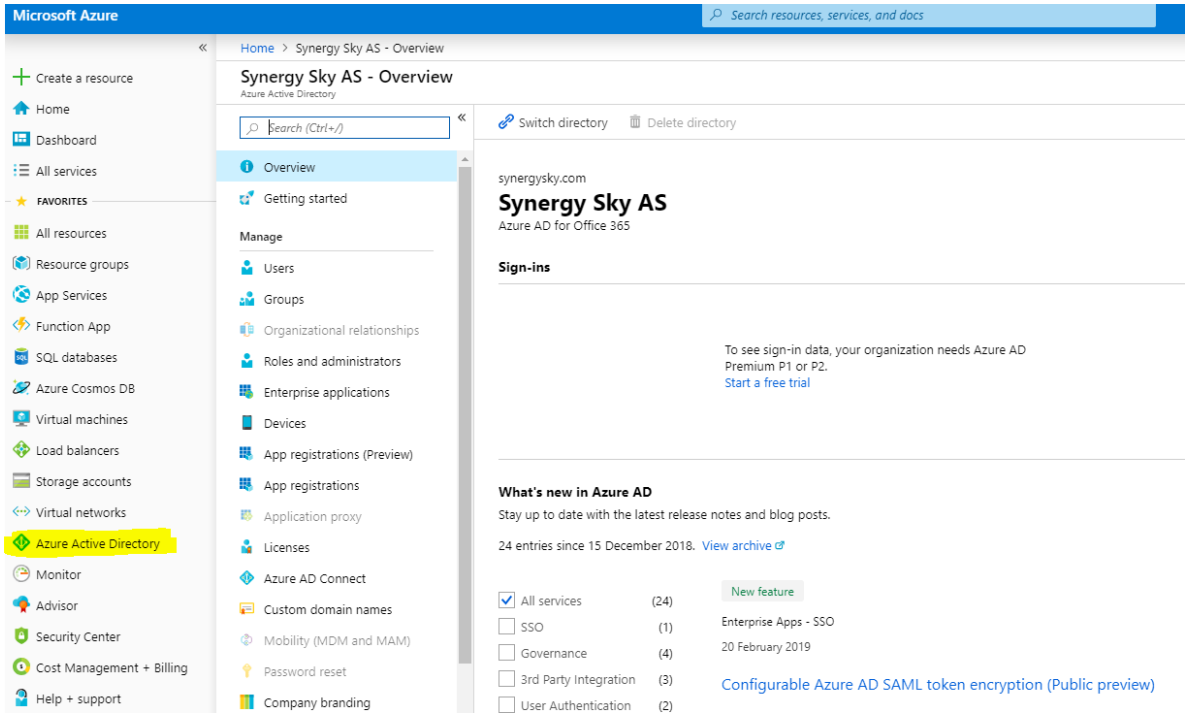
We have provided instructions on how to set up Microsoft Graph with Synergy JOIN below.

Configuring Microsoft Graph API

1. Log In to https://portal.azure.com

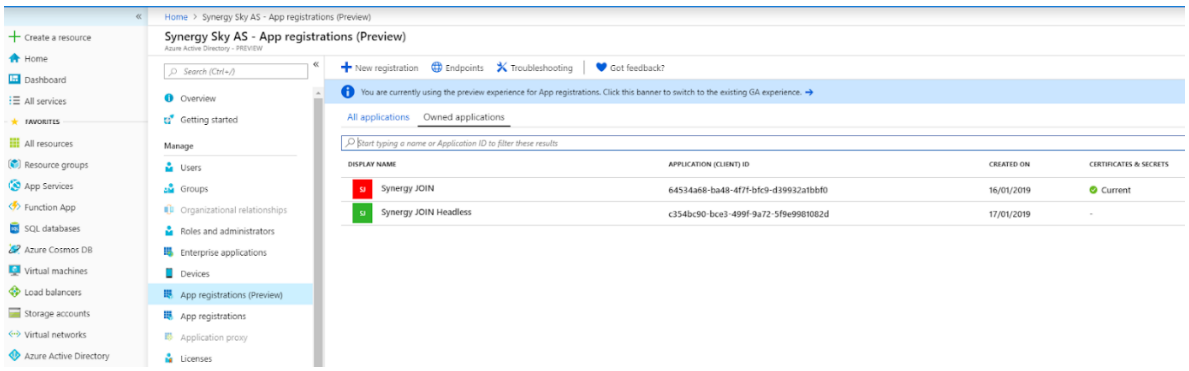
2. Click on Azure Active Directory

3. Select App Registrations



4. Click on New Registration

5. Enter a name and click on Register



6. Copy the fields Application (client) ID and Directory (tenant) ID

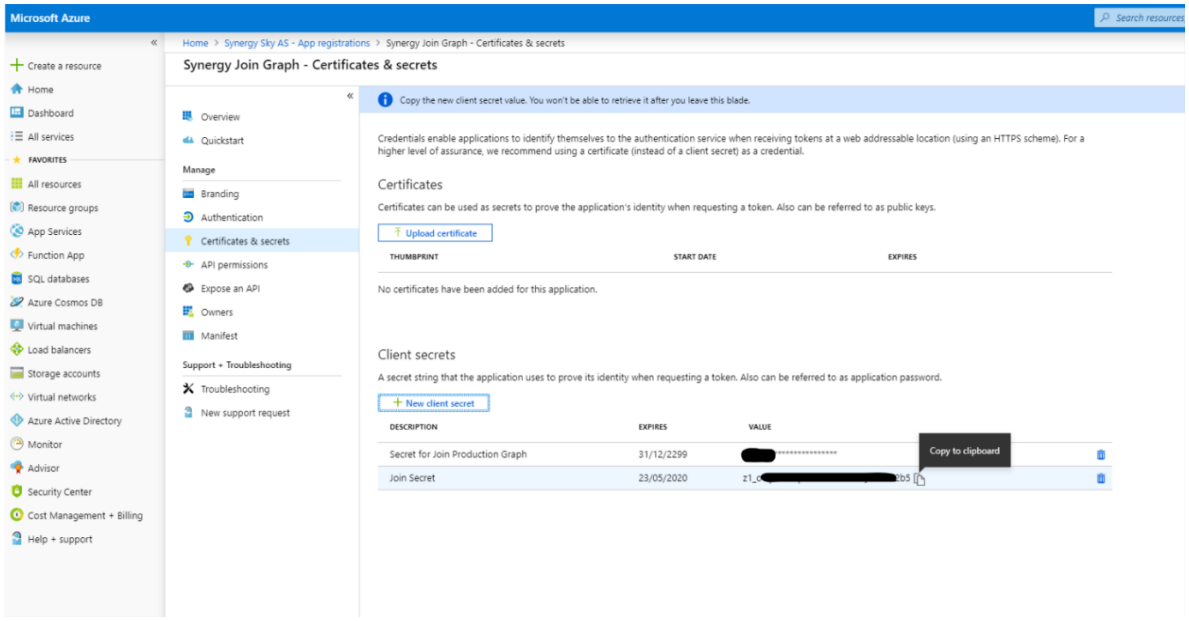
a. These are to be used when configuring Synergy JOIN

7. Click on Certificates & Secrets

8. Click on New client secret, then give it a name and set it to never expire. Click on add

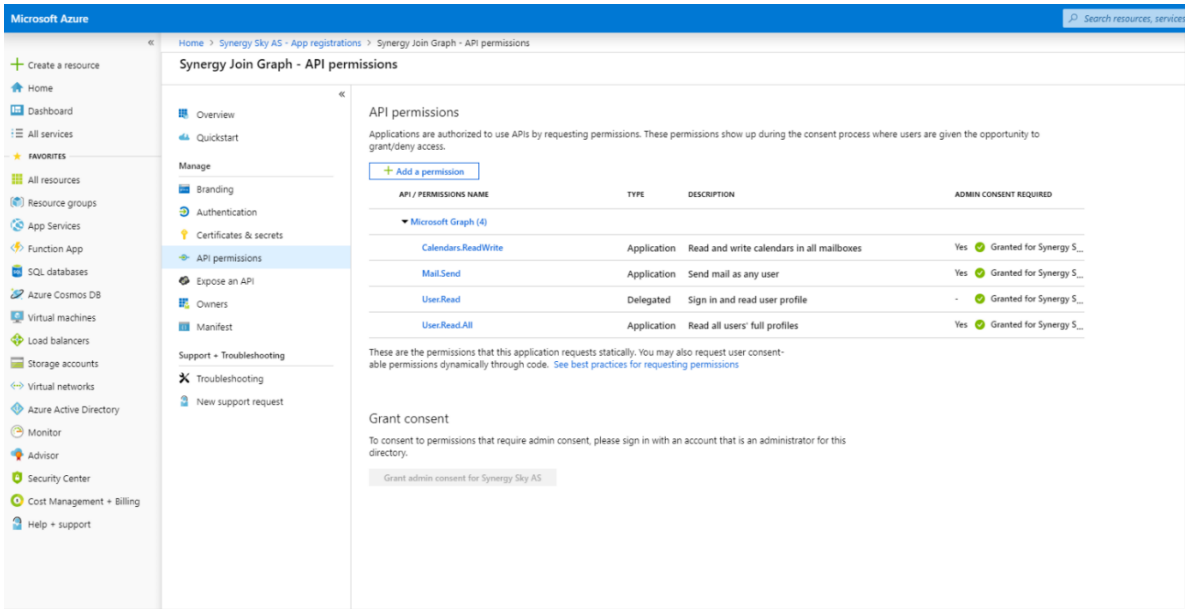
9. Copy the client secret

Note: This secret is to be used when configuring Synergy JOIN



10. Click on API Permissions

11. Click on Add a permission, Microsoft Graph, Application permissions. Check Calendar.ReadWrite, User.Read.All and Mail.Send, then click the Add permissions button



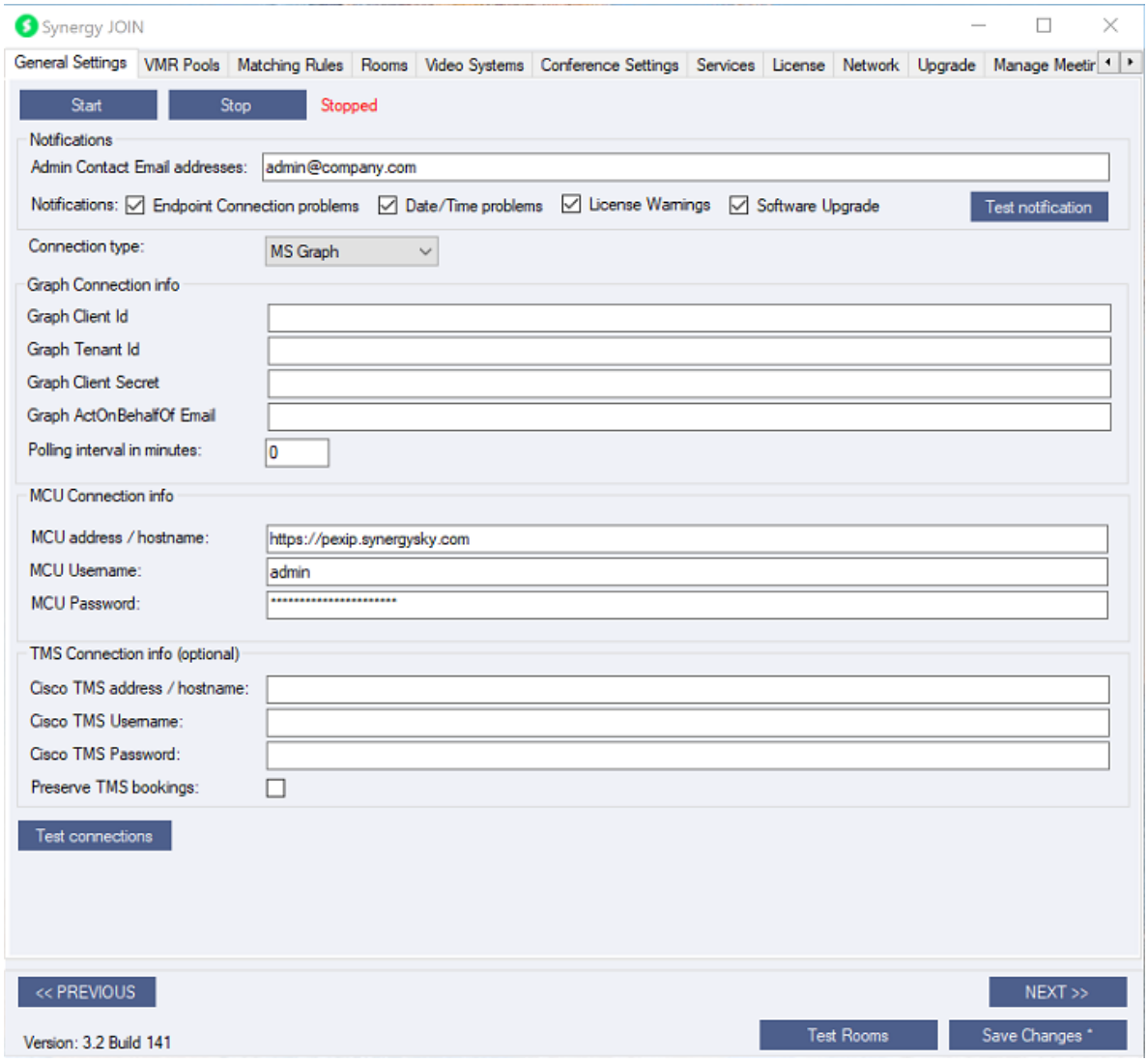
Grant Consent

12. An admin account would need to login and click the “Grant admin consent” button

Configuring Microsoft Graph API in Synergy JOIN

Once you have completed the above setup in the Azure Active Directory, you will have to go to your Synergy JOIN installation and paste the Client ID, Tenant ID and Client Secret from your above configuration.

Once you have also selected the Graph ActOnBehalfOfEmail, you have completed the setup.



Click on Test Connections to make sure your configuration is correct.

Configurable Options for Graph API

Graph API provides the ability to customize how Synergy JOIN is collecting information from your Exchange environment. These values are to be changed manually in the config.json file.
If installed int he default directory, the Config.json file can be found in the following location:
C:\SynergySKY\SynergySKYEnterpriseScheduling\config\config.json

"CalendarSyncWindowSizeDays": 180, - Specifies how many days in the future Synergy JOIN can collect meeting information

"CalendarSyncWindowRefreshIntervalDays": 30, - Specifies how often Synergy JOIN should re-sync its database with the room calendar

i.e The 'CalendarSyncWindowSizeDays' does not apply to Recurring Meetings. When a recurring meeting is detected by Syneegy JOIN, the entire series is synced and provided with OBTP information

Google Cloud Platform Configuration

Introduction

In order to install Synergy Sky JOIN with Google Calendar integration, the G Suite environment must be prepared. This is done through the following 4 steps

1. Create a Google Cloud Platform Project or use an existing project

2. Enable three distinct APIs and Services

3. Create a service account or use an existing service account. This account must be given correct permissions. A private key must be generated and copied to the JOIN server.

4. Appropriate Calendar Access must be given to the Service Account via the G Suite Domain

Google Cloud Platform

A Google Cloud Console Project is required in order for JOIN to be able to read calendar resource accounts, user accounts and also have access to APIs that enable the JOIN integration.

Create a Google Cloud Platform Project or use an existing Project. The Project will be used for the API integration as well as for the Service Account.

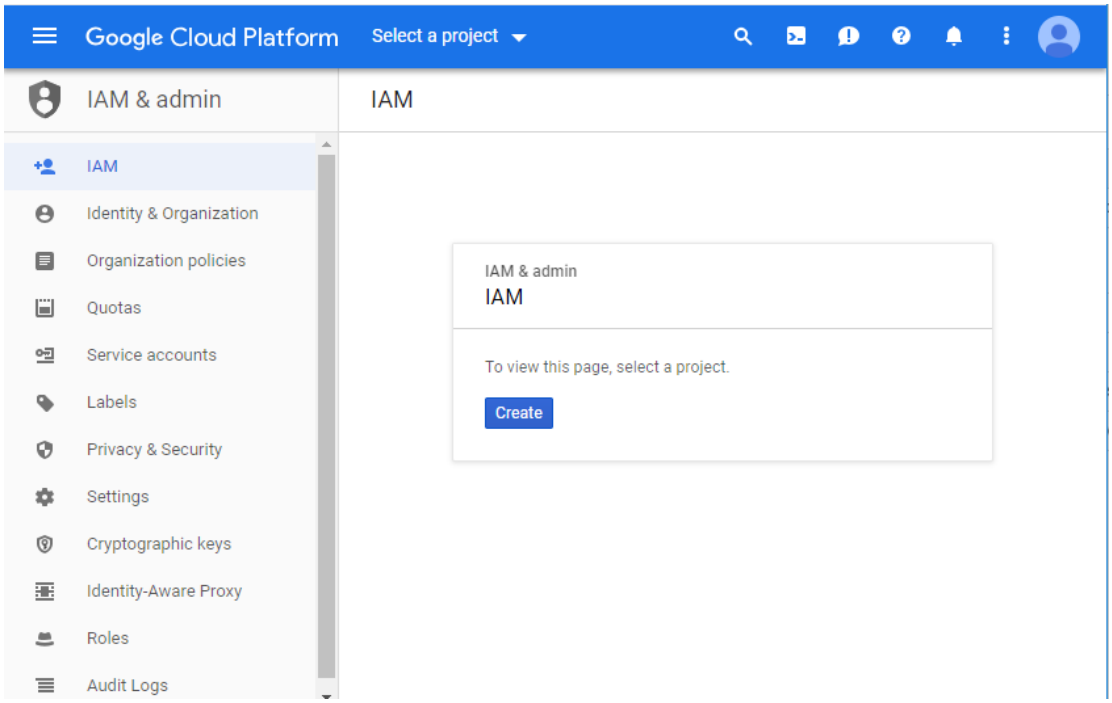
Logging into the Google Cloud Platform console:

- Browse to the following URL: https://console.cloud.google.com/iam-admin/serviceaccounts
- Log in with your admin user account to manage your Google cloud console.

Creating a Project

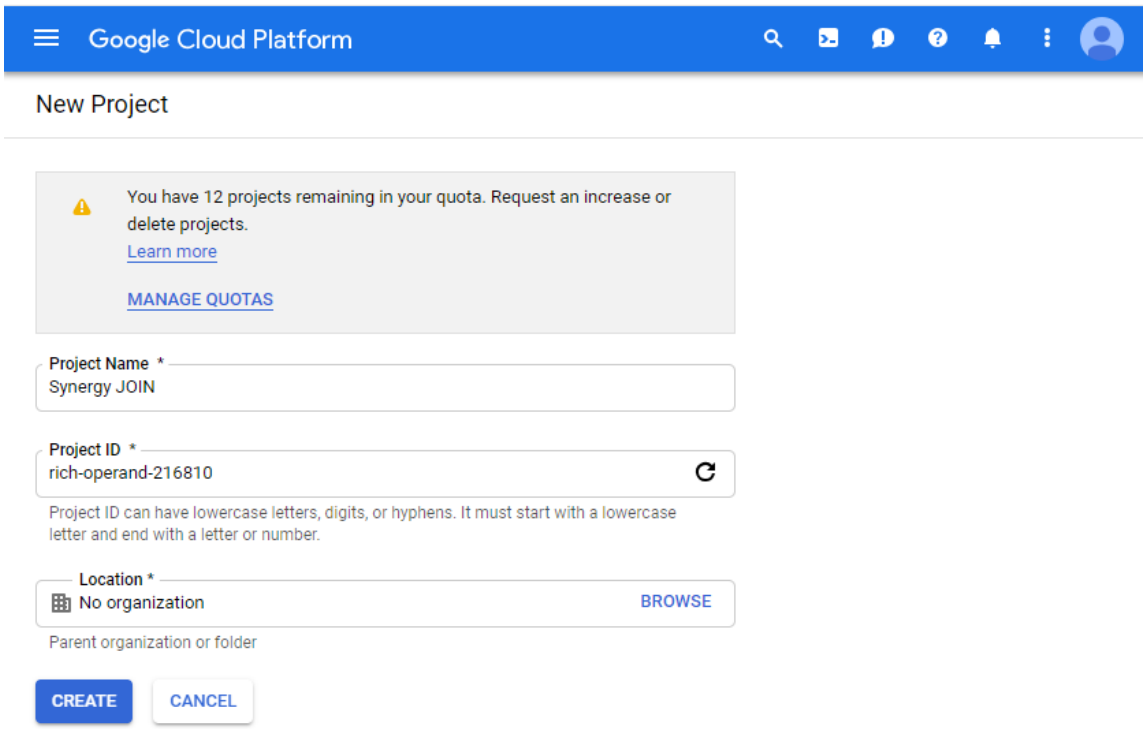
(Skip this section if you already have a project you want to add this account to)

N.B on some occasions, Google fails to create the project and as such, sometimes you may need to create the project twice



To create new Google Cloud Console project,

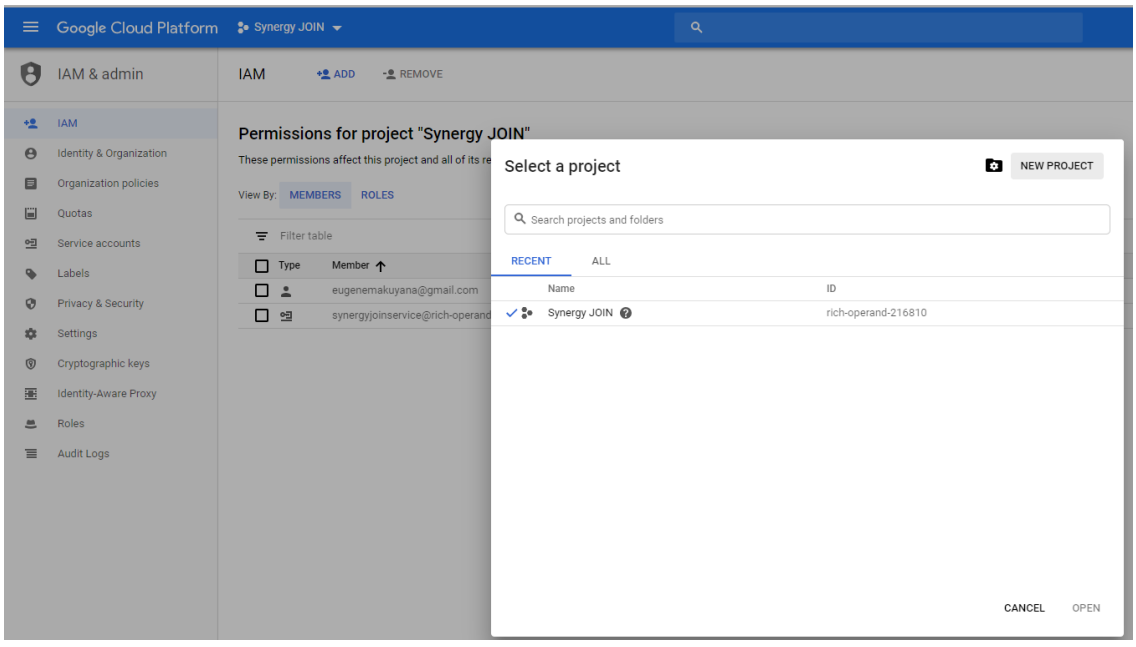
- Select IAM & Admin
- Click the 'Create' button.



- Fill in your project name, i.e. 'SynergyJOIN'.
- Select Create

Choosing an Existing Project

Follow these steps if you already have existing projects you would like to use for this project,



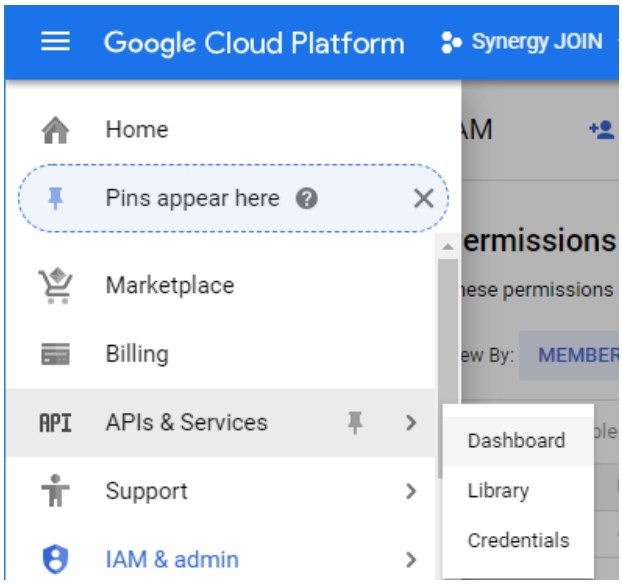
- Click on the Project Drop down arrow at the top left corner and you will be presented with the 'Select a Project Window'.
- Select your desired project and click 'Open'

Enabling API's and Services

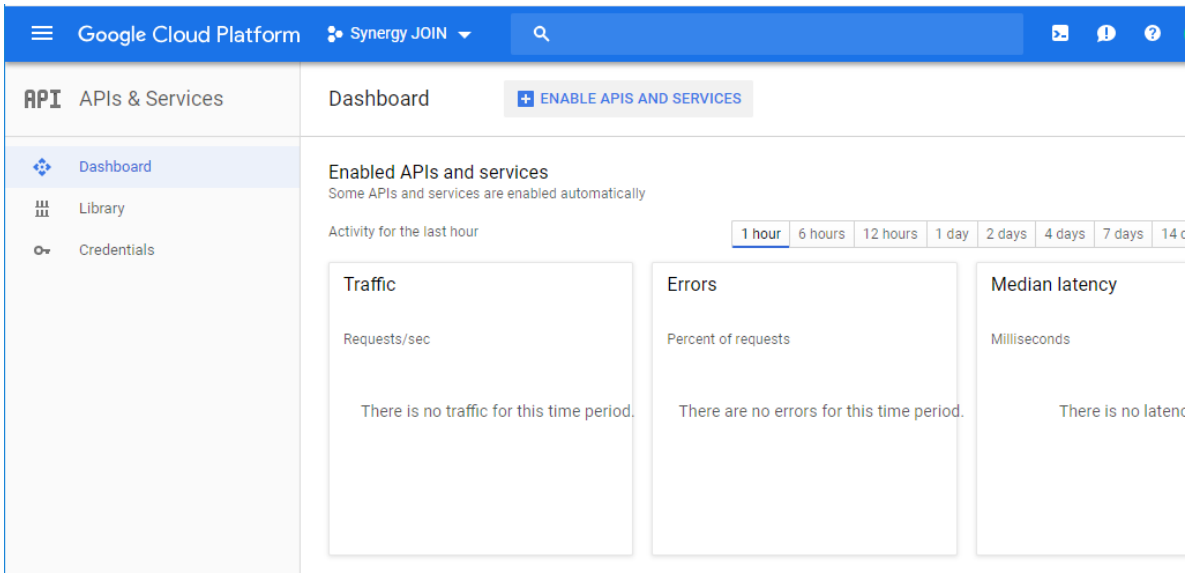
You will have to enable API's to work with the project you have created. The API's you will have to enable are Google Calendar API, GMail API & Admin SDK.

- Google Calendar API - To allow reading and updating resource calendars
- GMail API - To allow sending email
- Admin SDK - To allow listing out current available resources from the configuration tool

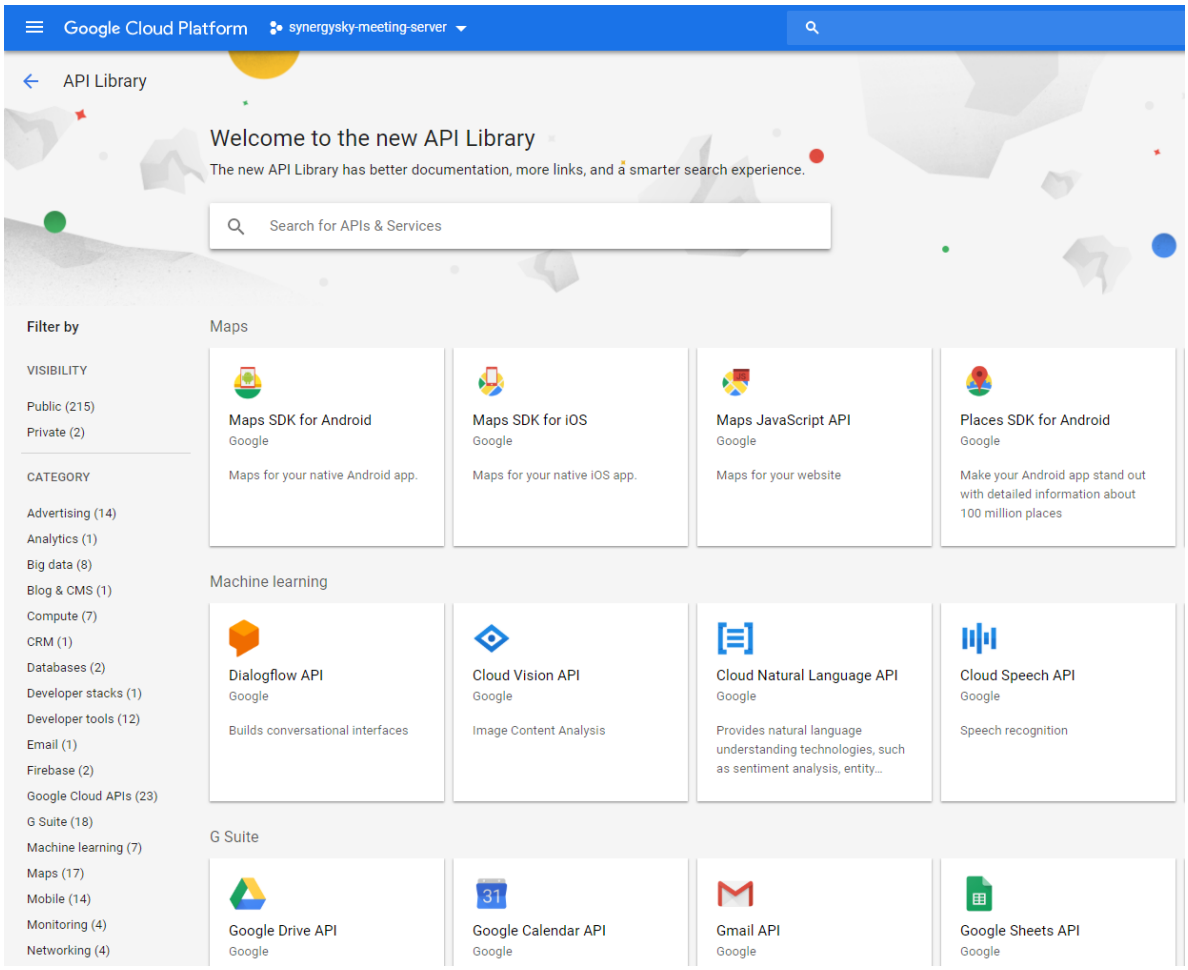
You need to enable one API at a time



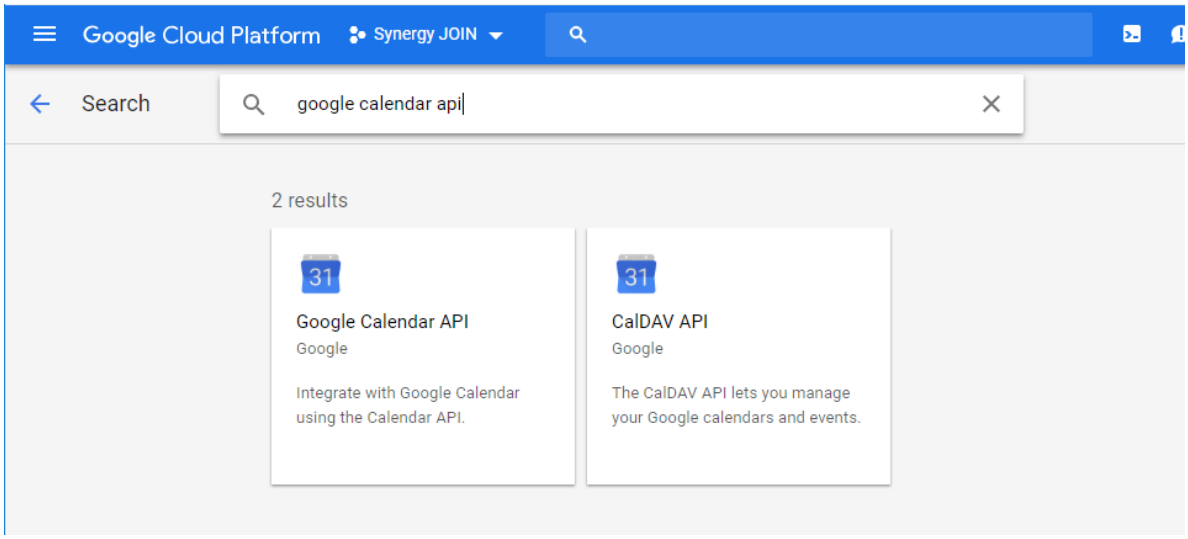
Go to the Menu, Select APIs & Services > Dashboard



Select 'Enable APIs and Services'



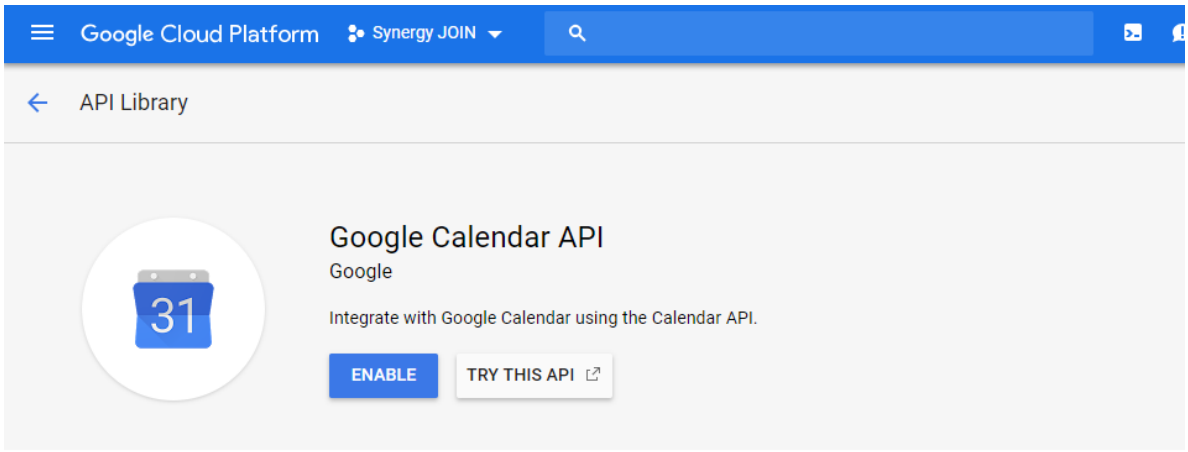
You should now be presented with the API Library.



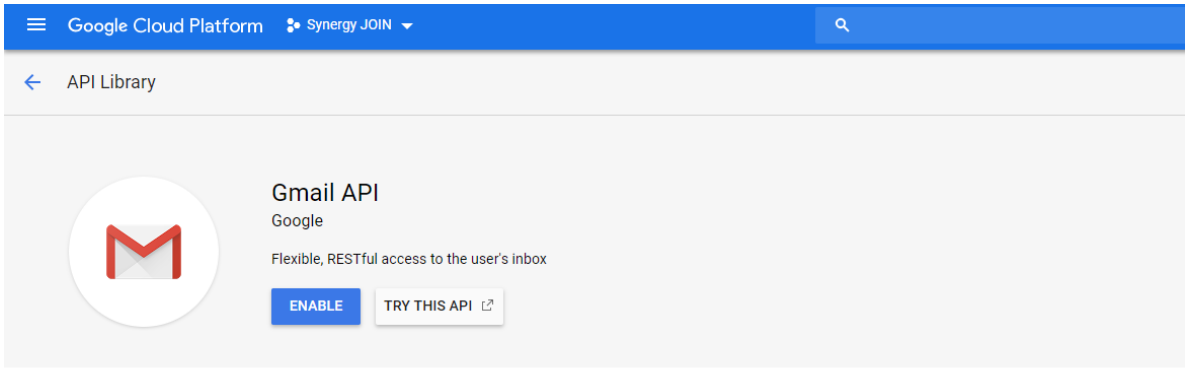
You will have to search for the APIs from this screen.

First, Search for 'Google Calendar API'

Select the 'Google Calendar API.

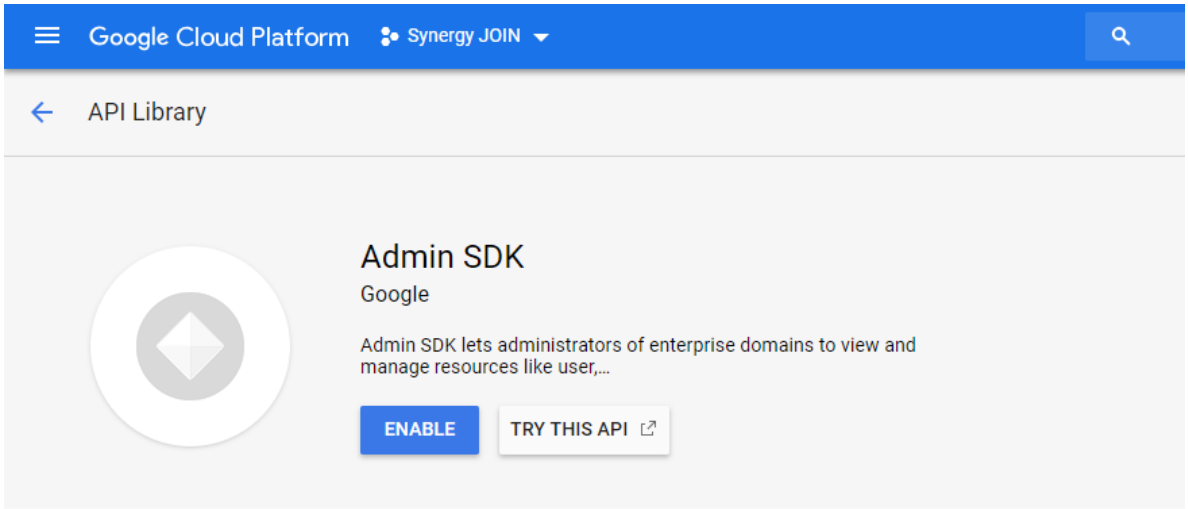


Click Enable



Once you have found this API, you will then have to perform a new search for GMail API

Select Enable for the GMail API

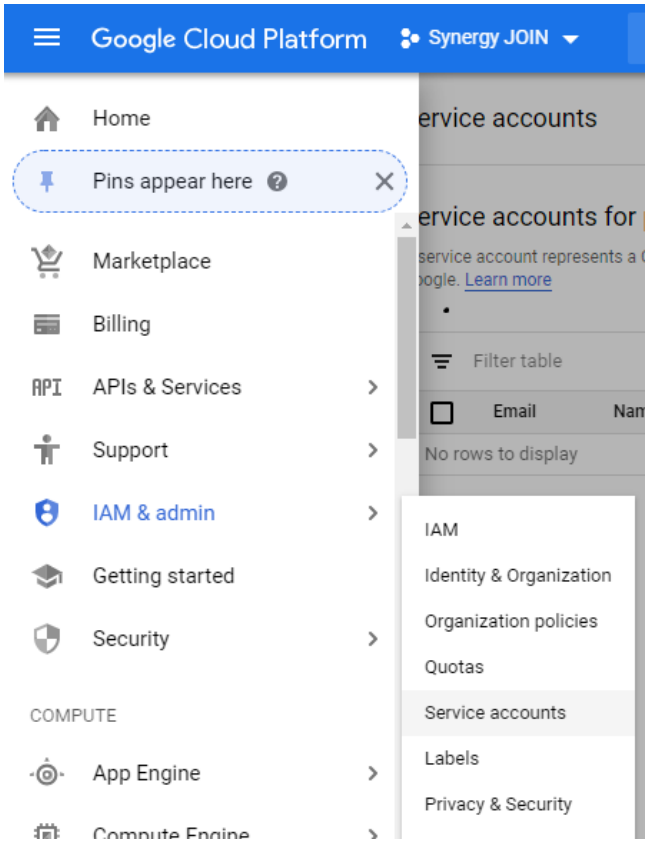


Once you have found this API, you will then have to perform a new search for Admin SDK API

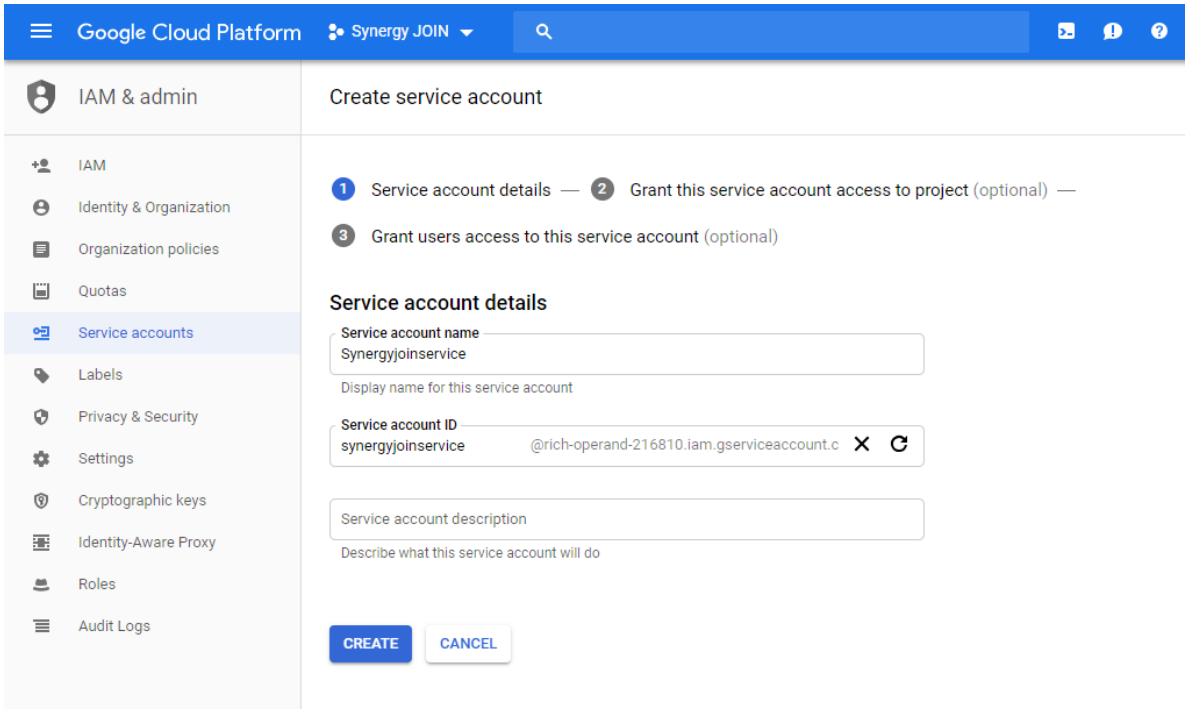
Select Enable for the Admin SDK API

Service Account

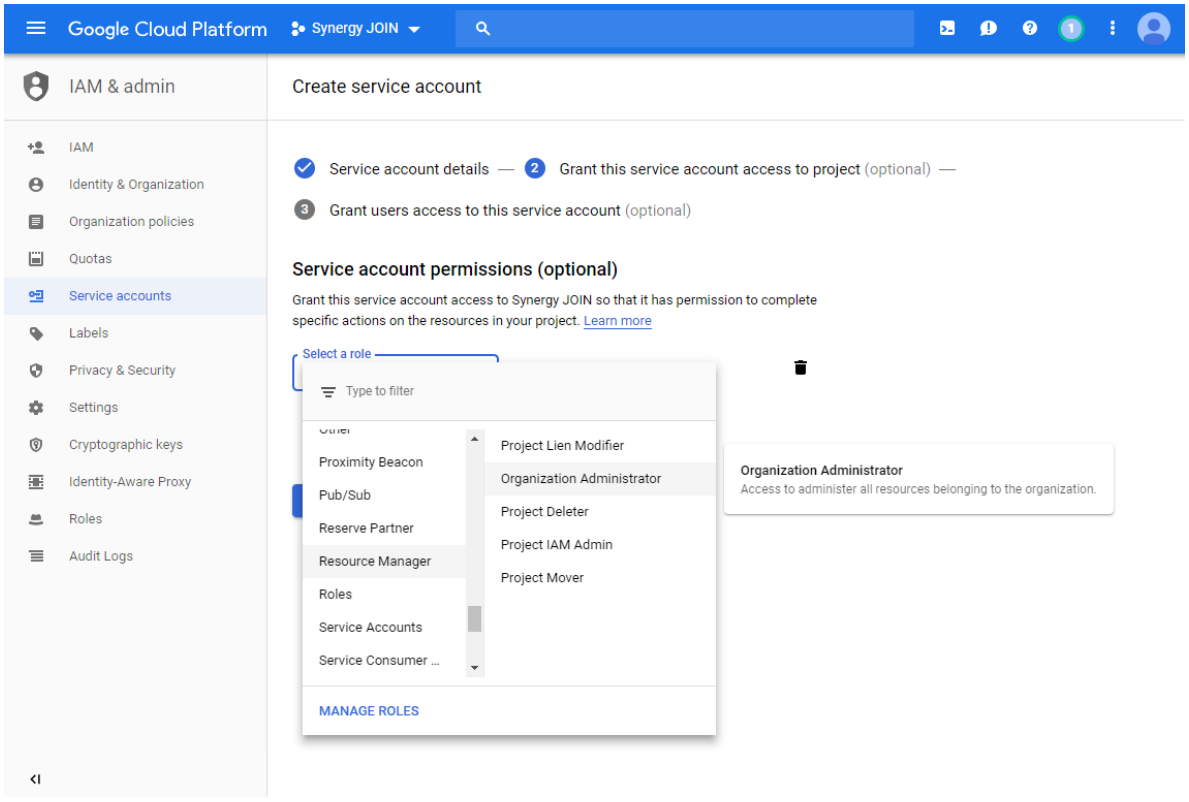
Create Service Account



Select IAM & Admin and Choose 'Service Accounts



Enter a Service Account Name and select Create

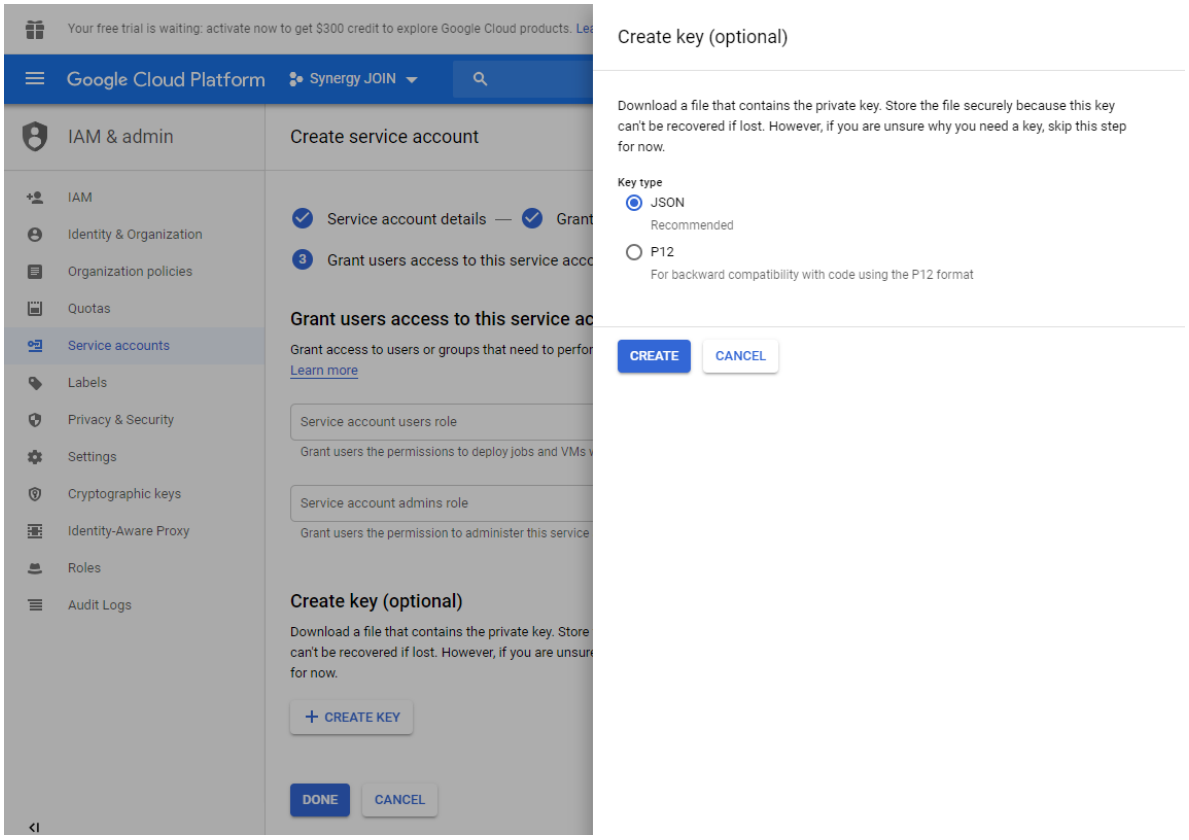


Select the role for this service account. Resource Manager > Organization Administrator.

This will allow the service account to manage the meeting room resources.

Once you have selected the role, Click the 'Create Key' Button.

Create a Private Key for JOIN

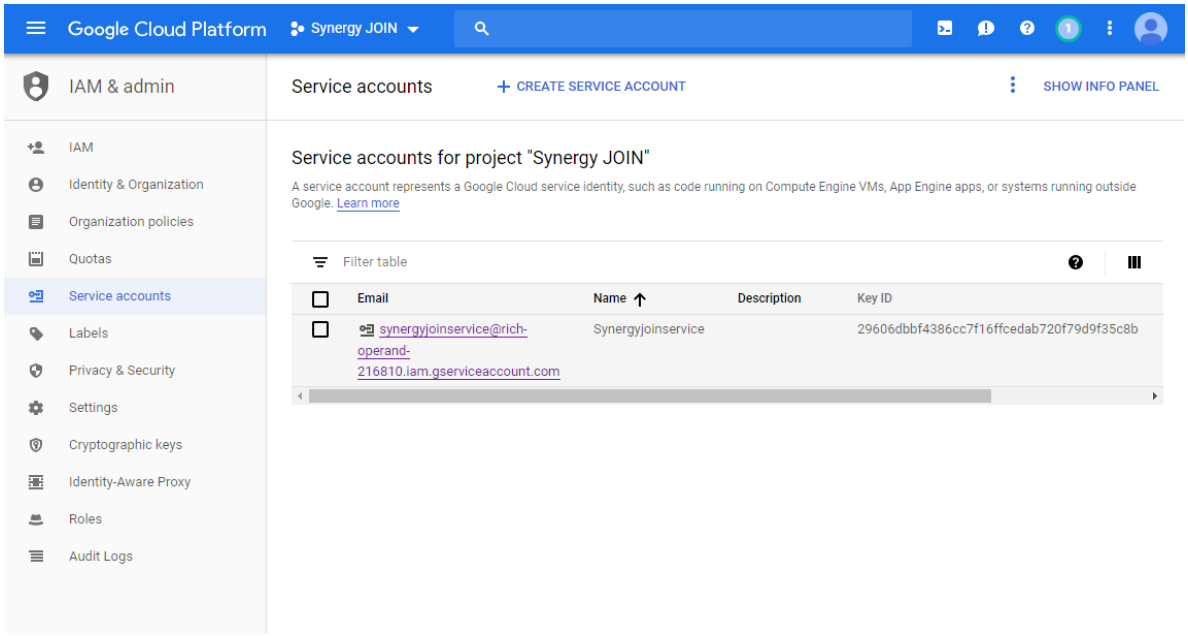


On the next screen, choose the JSON radio button and click 'Create'

A file will be downloaded to your disk, this is your authentication information to be used by the JOIN application.

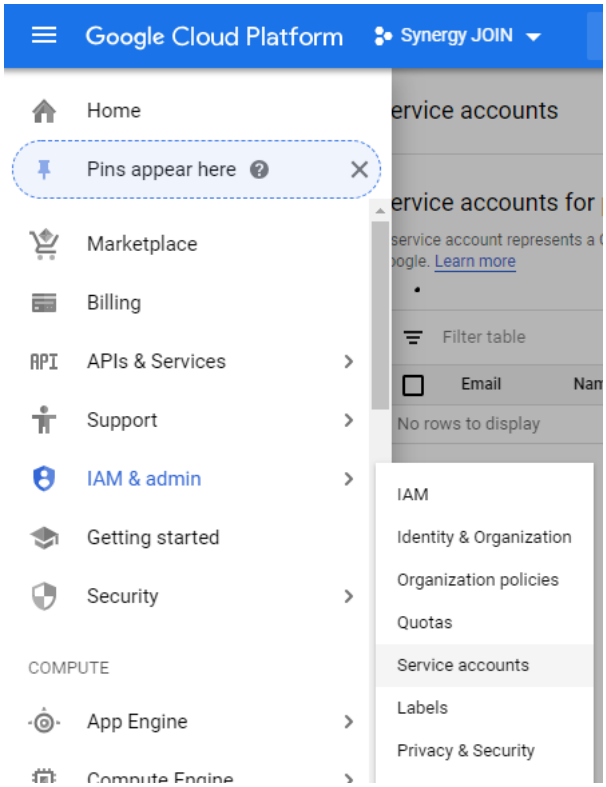
- Copy this file to the same directory as the JOIN application. (i.e. c:\SynergySKY\SynergySKYEnterpriseScheduling).
- Keep a secure copy of this file, since a new service account is required to be created if its lost.

Once you are have moved the file to the same directory as the JOIN application and you click 'Done' you will be presented with a screen similar to the below with your newly created service account visible in the list.

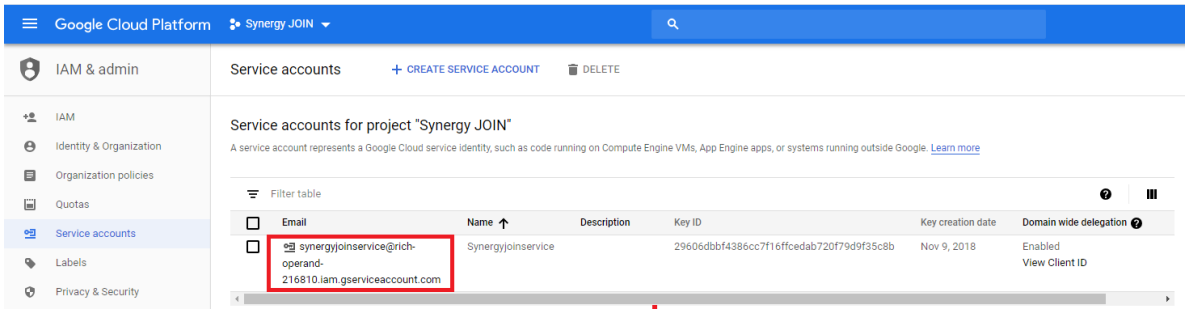


Enable Service accounts to access Calendar Resources

In order to enable Service accounts, first we need to find the Service account ID for the service account on https://console.cloud.google.com



Select IAM & Admin and Choose 'Service Accounts

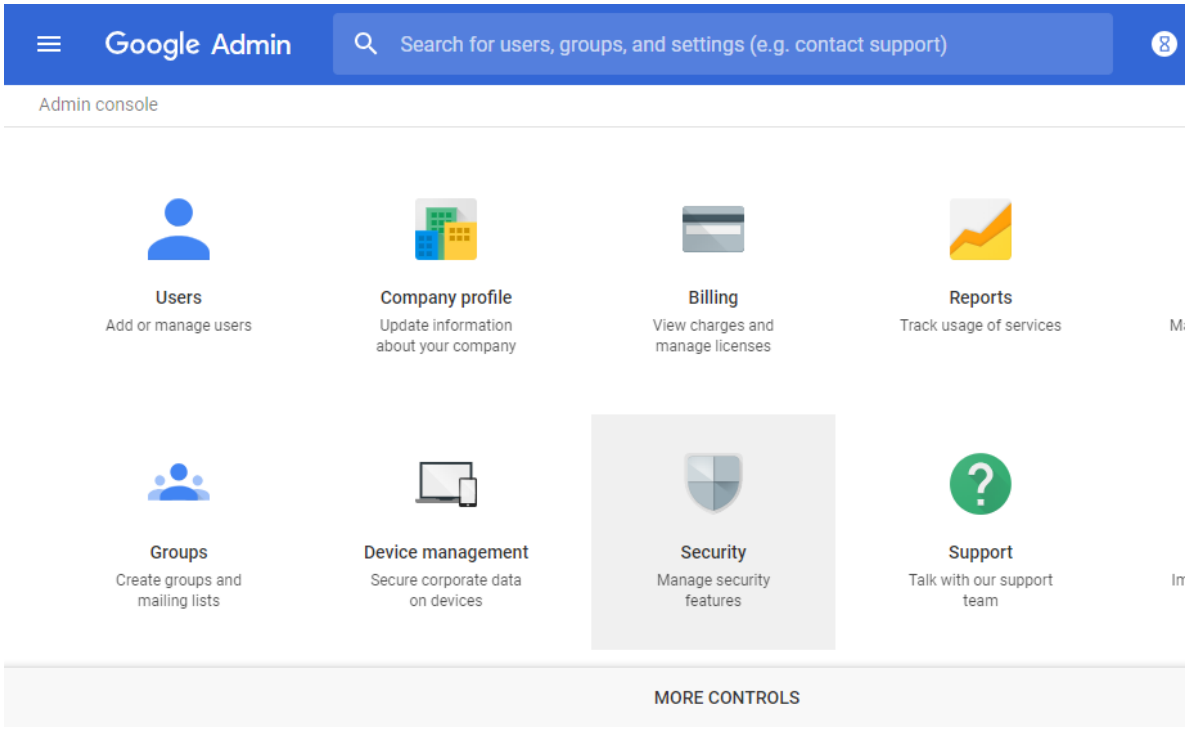


Copy the service account ID

An Administrator of the G Suite domain must complete the next steps

Google Admin Console

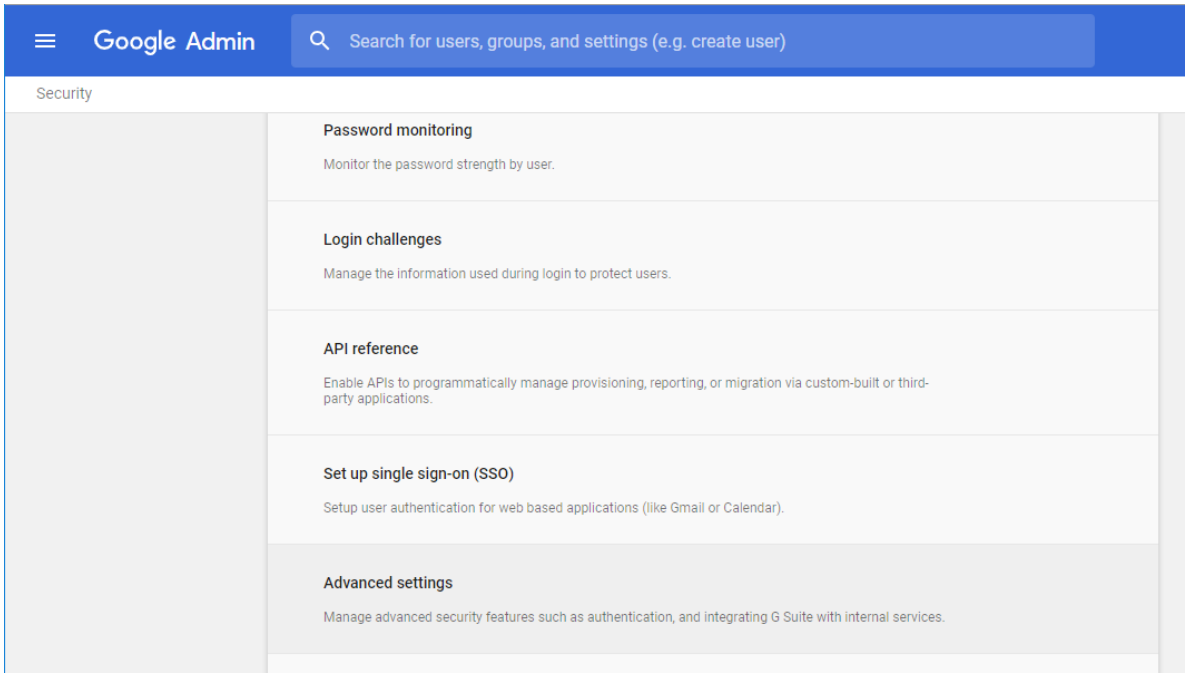
Browse to the Google Admin Console https://admin.google.com



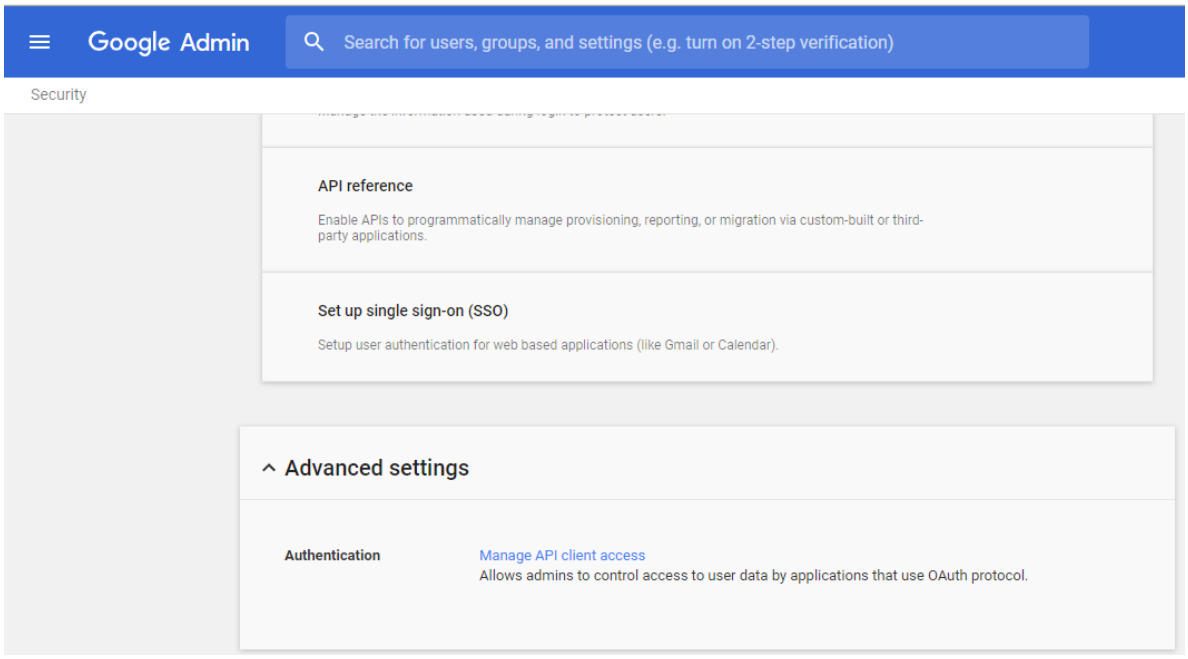
Select Security from the list of controls.

If you don't see Security listed, select **More controls** from the gray bar at the bottom of the page, then select Security from the list of controls.

N.B If you can't see the controls, make sure you're signed in as an administrator for the domain.



Select Advanced settings from the list of options



Select 'Manage API client access' in the Authentication section

1. In the Client Name field enter the service account's Client ID or Service account ID (which we copied in the previous step).

In the One or More API Scopes field enter this list of scopes:

https://www.googleapis.com/auth/admin.directory.resource.calendar.readonly
- To populate Available Rooms in the JOIN config tool

https://www.googleapis.com/auth/calendar.readonly
- To allow JOIN to access room calendars enabled in JOIN

https://www.googleapis.com/auth/gmail.send
- To allow JOIN to send notifications to its administrators as well as dial-in instructions for certain workflows (e.g. one-time VMRs).

https://www.googleapis.com/auth/calendar
- For workflows requiring calendar invitation updates, such as the green button for Polycom endpoints (if the EWS emulator is not used) or meeting invitation body updates, JOIN also has to have a write calendar access for those rooms.

https://www.googleapis.com/auth/calendar.events
- For workflows requiring calendar invitation updates, such as the green button for Polycom endpoints (if the EWS emulator is not used) or meeting invitation body updates, JOIN also has to have a write calendar access for those rooms. If read-only is sufficient, it should be at least this one set there: https://www.googleapis.com/auth/calendar.events.readonly

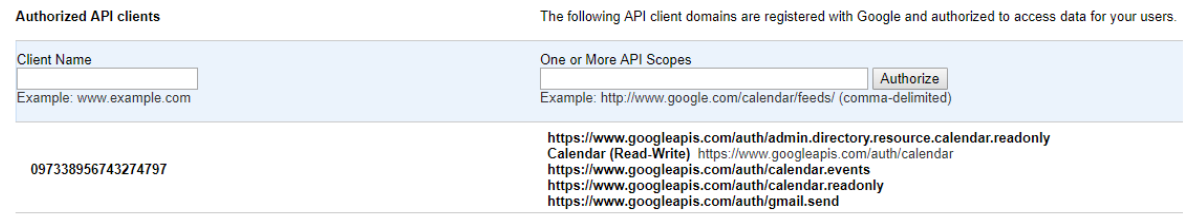
Note: All of the scopes are required for the integration of Synergy JOIN with Google G Suite. It is not possible to exclude some of the scopes as this will cause parts of the integration not to work

You can copy and paste the below api scopes as they are into the 'One or More API Scops' field box

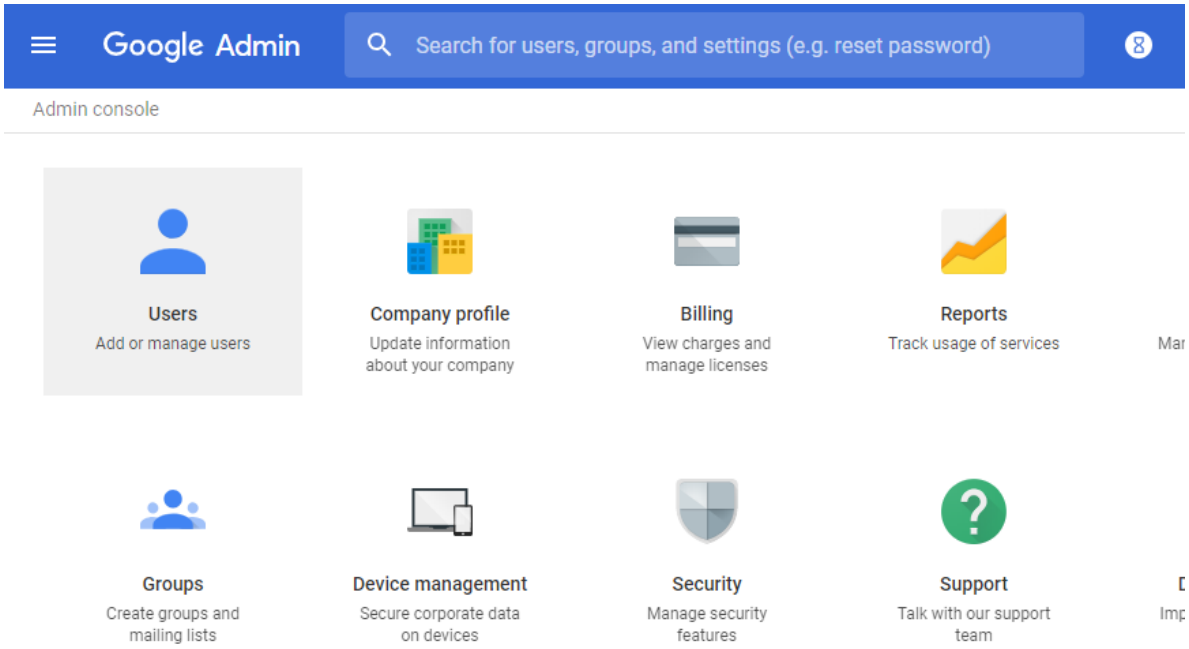
https://www.googleapis.com/auth/admin.directory.resource.calendar.readonly,
https://www.googleapis.com/auth/calendar,https://www.googleapis.com/auth/calendar.readonly,
https://www.googleapis.com/auth/gmail.send,https://www.googleapis.com/auth/calendar.events

Click Authorize.

The outcome should look like the below example:

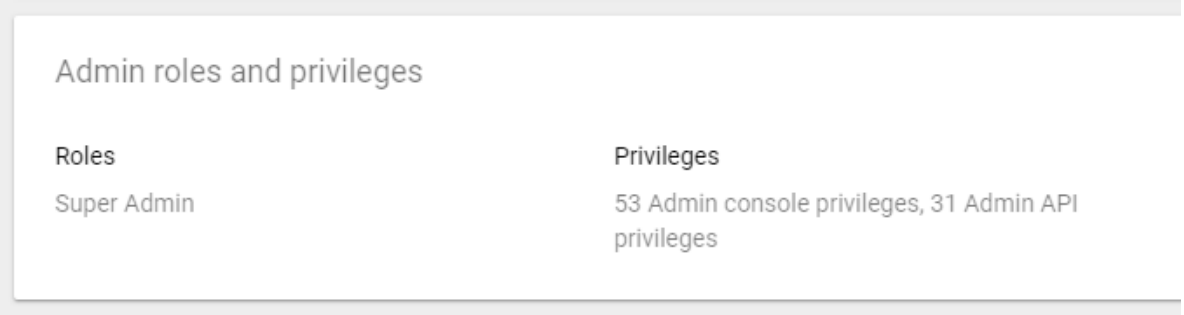


Service-act-on-behalf-of Email



Browse to the dashboard and select 'Users'

In the users section, select the user that you would like to use as the 'service-act-on-behalf-of Email' in Synergy JOIN.



Scroll down to the 'Admin roles and privileges' section and verify that the user you would like to use has the role of 'Super Admin' enabled.

Once you have verified this, copy the email address from this user and paste this into the 'service-act-on-behalf-of email' text button in the 'General Settings' tab in the Synergy JOIN configuration tool.

More information on the general settings tab can be found here

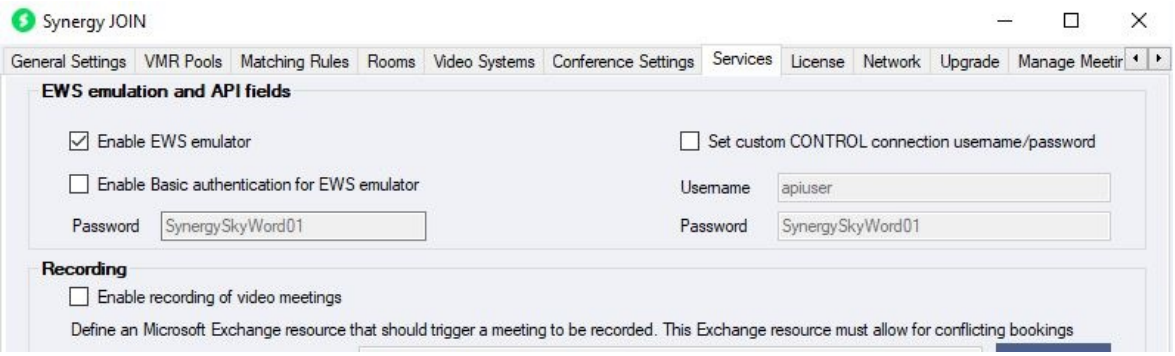
Polycom EWS Emulator

There are instances when the Polycom Endpoint is unable to communicate with the Exchange Server and as such, the endpoint is unable to use the built in Polycom Click To Join technology. The EWS emulator within Synergy JOIN brings back the ability to utilize the Polycom Click To Join technology on your Polycom Endpoints.

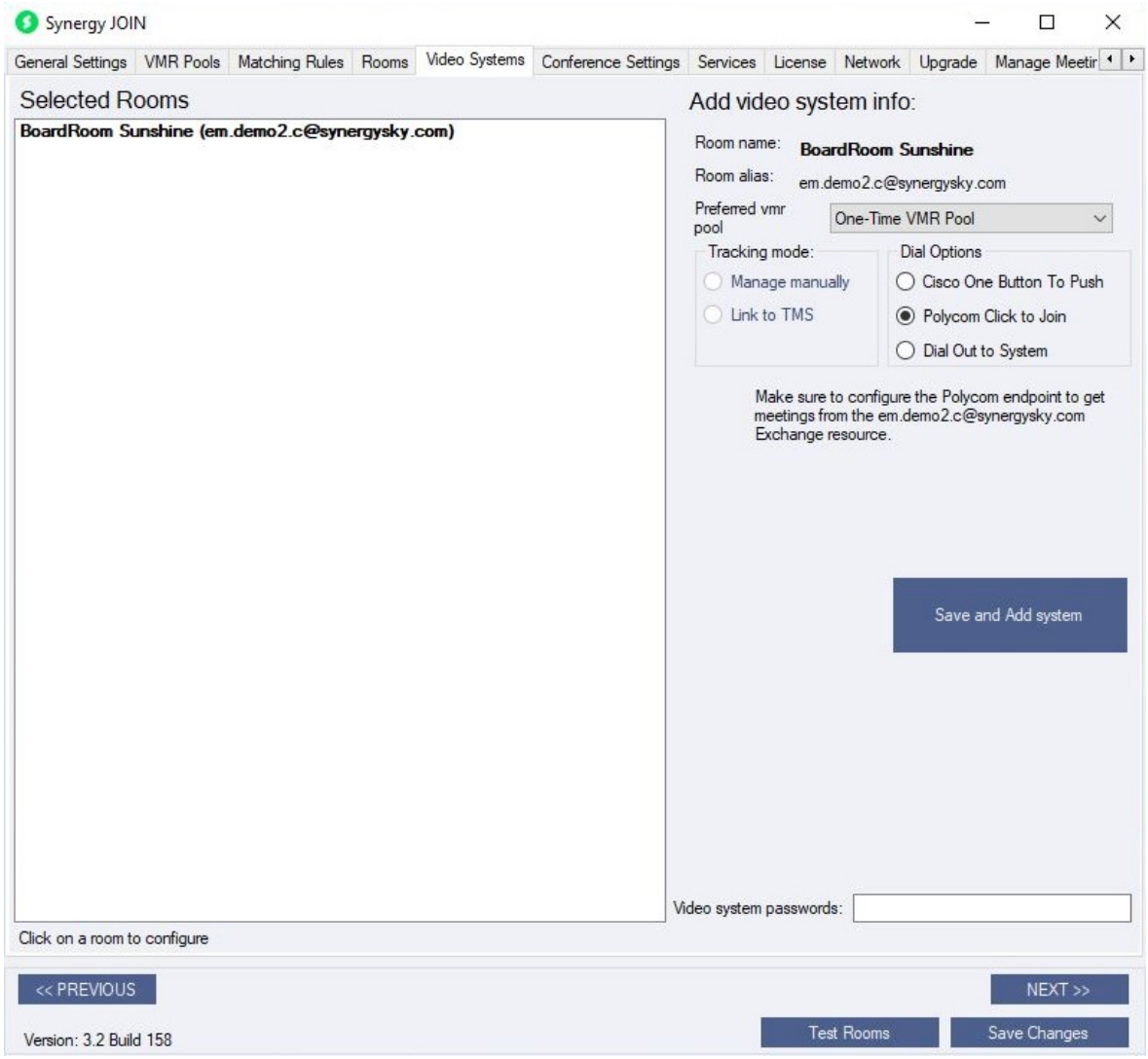
The EWS Emulator is **compatible with the HDX, Group Series and Trio endpoints**.

Configuring Synergy JOIN

The Polycom Exchange Web Service (EWS) Emulator in Synergy JOIN acts as an Exchange Web Server. This means Synergy JOIN will retrieve the calendar information from exchange and populate this to the endpoint.
Within Synergy JOIN you have to Enable the EWS Emulator from the Services tab.



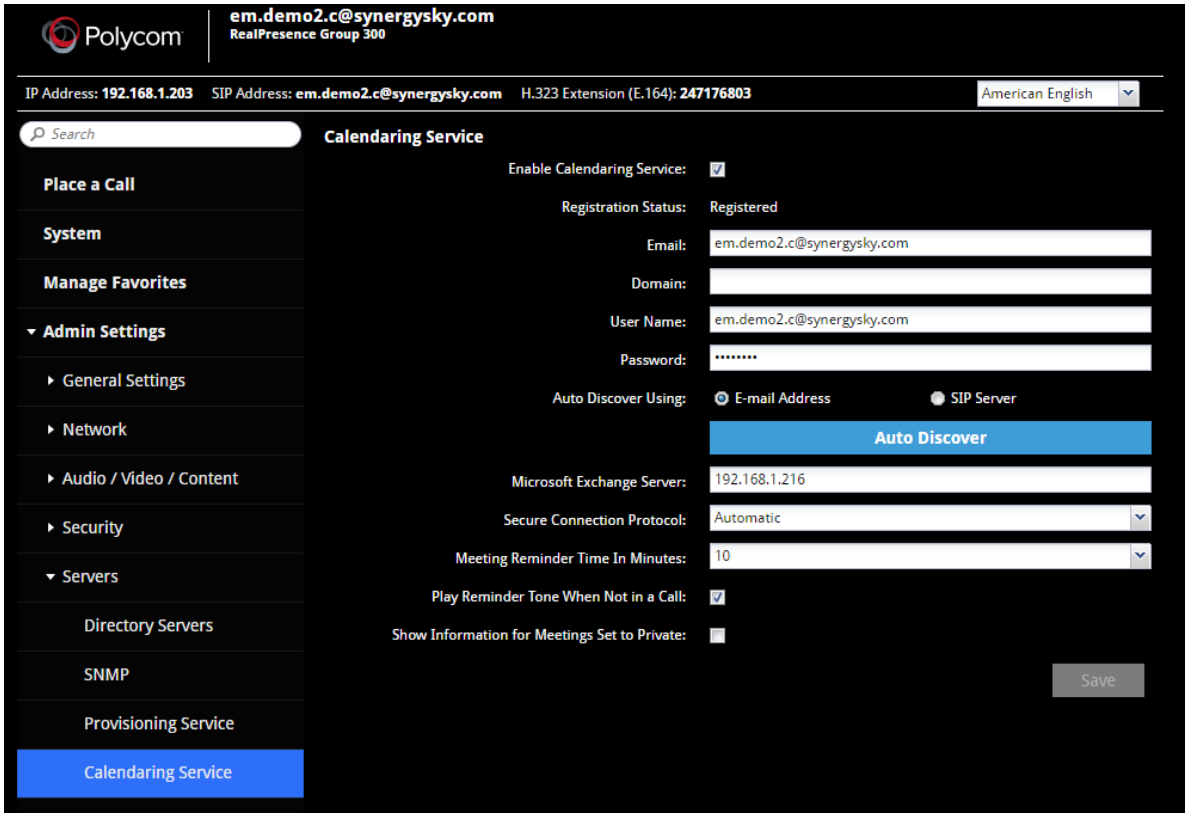
You have to then configure your Video System as a Polycom endpoint. Once you do this, Synergy JOIN will know to send the Polycom Click To Join Token to that endpoint.



Configuring the HDX and Group Series Polycom Endpoint

The Polycom endpoints must be configured to poll calendar information from the JOIN server which will be acting as an Exchange Web Server.

Instructions on how to configure this on a Polycom Group Series endpoint are below:



1. Navigate to the Calendaring Service configuration section within your Polycom Codec.
2. Tick the 'Enable Calendaring Service' tick box
3. **Email**: This should be the room/ resource email address that you have configured within Synergy JOIN.
4. **Domain:** This field is not always required. If you are unable to register your endpoint to the EWS Emulator with this field blank, you will have to enter your domain
5. **User Name:** This should be the room/ resource email address
6. **Password:** This is the password configured in the 'EWS Emulation' section in the 'Services' tab of Synergy JOIN
7. Microsoft Exchange Server: This is the IP address of the JOIN server

Once you have configured the rest of the settings to your liking, click 'Save'

When the Registration Status is 'Registered', you can start booking video meetings and start utilizing Polycom Click To Join.

Configuring the Trio Series Polycom Endpoint

You have to meet the following requirements in order to start using the EWS Emulator with Polycom Trio

- You have to be running Synergy JOIN build 3.2.163 or above
- You have to tick the 'Enable Basic Authentication for EWS Emulator' within the Services tab in Synergy JOIN
- The Trio has to have a line registered as SIP
- You have to have physical access to the touch panel to set a username & password
- If you are running 5.9 firmware, AD Photo fetch needs to be disabled.
  - `feature.contactPhotoIntegration.enabled = 0`
  - More information about this can be found here - https://documents.polycom.com/bundle/trio-sfb-dg-5-9-0-AA/page/c3189620.html
- Trio, if running 5.9.1.10419 - must upgrade to 5.9.1.11135 and set basic auth to enabled
  - https://community.polycom.com/t5/VoIP-SIP-Phones/Software-Trio-UC-Software-5-9-1-11135-RevAC/m-p/107281
  - `feature.exchange.allowBasicAuth= "1"`

Setting a Polycom Profile

The following setup information has been taken from the Polycom support website. The below configuration is what is required in order for the EWS Emulator to work with the Trio.
The full Polycom documentation can be found here: https://otd.plcm.vc/support/docs/devices/polycom-trio#configure-device-profile

Configure Device Profile

1. Go to the management section of the device. You can get there by entering the IP address of the device into the browser address.
   Note: You must log in as an administrator.
2. Select **Simple Setup** from the tab menu.
3. Ensure **Generic** is selected for the Base Profile. The Trio will not function with One Touch Dial service using the other profile options.

Configure Device Calendaring

1. Go to the management section of the device. You can get there by entering the IP address of the device into the browser address. Note: You must log in as an administrator.
   Example: `https://<ip-address-of-trio>/`
2. Select **Settings > Applications > Exchange Applications.**
3. Enter the following fields:
   - **Enable**: Exchange Calendar
   - **Disable**: AutoDiscover
   - **Exchange Server URL**: https://ipaddressofjoin/EWS/Exchange.asmx
     - **NOTE:** Exchange URL is case sensetive
4. Click Save.

Configure Device Credentials

1. Provide calendaring credentials. This must be done on the device itself.
2. On the device touch panel go to **Settings > Basic > Login Credentials.**
3. Enter the following fields:
   - **Domain**: Example OTD
   - **Username**: Example roomname@company.com
     - This is the room alias as it is configured in JOIN
   - **Password**: Example F3kDFyu1bD
     - This is the JOIN EWS Emulator password
4. Click **Save**. The Registration Status should display **Registered** and the calendar should appear in a few seconds.

Exchange In-Body Update Requirements

N.B You only have to follow the below steps if you would like to enable in-body update in your Synergy JOIN installation.

The "In-body Update" feature allows for updating the organizer's meeting invitation in their calendar and sending an updated meeting invitation to all invitees, rather than sending a separate email with dial-in information to everyone. This feature requires more permissions in the Microsoft Exchange environment than sending dial-in information emails.

The work flow of this feature involves Synergy JOIN logging into the calendar of the meeting Organizer and updating the appointment with the dial-in information for the meeting based upon the email template specified in "Configuring Email templates" on page 105. The invitation will be re-sent to the invitees with the updated appointment body once successfully updated. An email with the dial-in information will be sent to the meeting organizer if the body could not be updated. The administrator will also be notified when a meeting could not be updated.

Note: Synergy JOIN will not monitor each user's calendar for changes to meetings, but rather base this on changes to invitations sent to room/ resource accounts.

The following permissions are required for the Calendar Update method to work. It is recommended that these commands are added to the powershell script used when creating new users so that all new users are set up with the right permissions:

- The Exchange service account needs "**Editor**" access to the calendar of each user to update the calendar appointment with the dial-in information. This is normally accomplished by running the following command. However the calendar folder name may be something else than "calendar" if the user is not set up with an English mailbox (e.g. Calendrier in

French)

- **Add-MailboxFolderPermission -Identity jane.smith@company.com:\Calendar -User meetingroommanager@company.com -AccessRights Editor**

- The Exchange service account needs "**sendas**" permissions for each user to send an updated invitation to all recepients in the appointment
  - **Add-RecipientPermission -Identity jane.smith@company.com -Trustee meetingroommanager@company.com -AccessRights sendas -Confirm:$false**

- Note: some Microsoft Exchange environments require the command to be in the following format:
  - **Add-ADPermission -Identity jane.smith@company.com -User meetingroommanager@company.com -AccessRights ExtendedRight -ExtendedRights "Send As"**

Updating calendars in other languages

Note that the script will find the localized name of the calendar to apply the permissions to the right folder.

The following script can be used to update all existing users in the organization with the right permissions.

The sections that you have to ammend are highlighted in red

```
$resourceAccount = 'meetingroommanager@company.com'

foreach($mbx in Get-Mailbox -RecipientTypeDetails usermailbox -ResultSize Unlimited | Select-Object -ExpandProperty Alias){

$userAccount=$Mbx

$Mbx += ':\' + [string](Get-mailboxfolderstatistics -Identity $Mbx -folderscope calendar | where-object {$_.FolderType -eq "Calendar"}).Name

$test = Get-MailboxFolderPermission -Identity $mbx -erroraction silentlycontinue

if($test -ne $null)

{

Write-Host "Setting Editor access on $mbx"

Add-MailboxFolderPermission -Identity $mbx -User $resourceAccount -AccessRights Editor

Write-Host "Setting sendas permissions for $userAccount"

Add-RecipientPermission -Identity $userAccount -Trustee $resourceAccount -AccessRights sendas -Confirm:$false

}

}
```

The following script can be used to update just one user while letting the script figuring out the correct name of the calendar folder:

The sections that you have to ammend are highlighted in red

```
$userAccount = 'jane.smith@company.com'

$resourceAccount = 'meetingroommanager@company.com'

foreach($mbx in Get-Mailbox -RecipientTypeDetails usermailbox -Identity $userAccount -ResultSize Unlimited | Select-Object -ExpandProperty Alias){

$Mbx += ':\' + [string](Get-mailboxfolderstatistics -Identity $Mbx -folderscope calendar | where-object {$_.FolderType -eq "Calendar"}).Name

$test = Get-MailboxFolderPermission -Identity $mbx -erroraction silentlycontinue

if($test -ne $null)

{

Write-Host "Setting permissions for $mbx"
```

```
Add-MailboxFolderPermission -Identity $mbx -User $resourceAccount -AccessRights Editor

Write-Host "Setting sendas permissions for $userAccount"

Add-RecipientPermission -Identity $userAccount -Trustee $resourceAccount -AccessRights sendas -
Confirm:$false

}

}
```

Private appointments

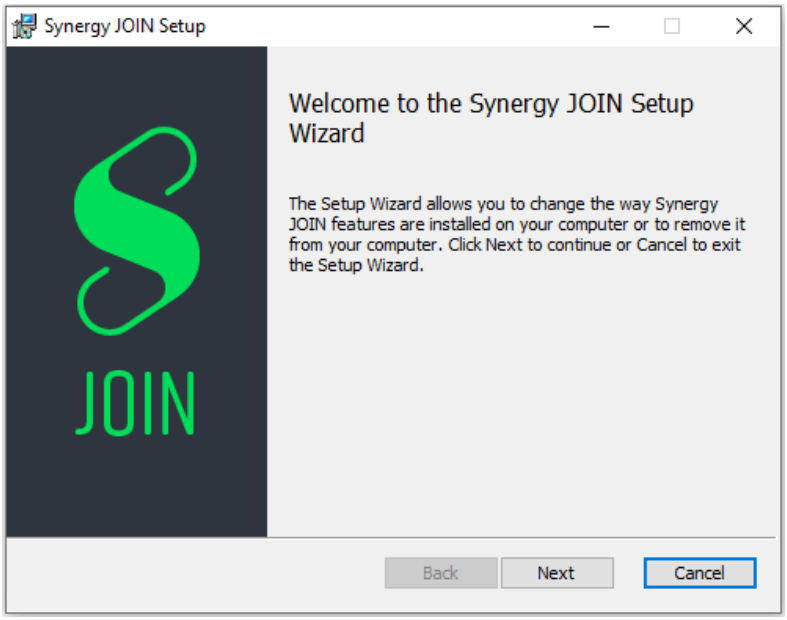
The scripts above do not allow for updating the invitation body of meetings that are booked as Private in Outlook. The line in the script with "Add-MailboxFolderPermission" must be replaced with the line below which includes SharingPermissionFlags for allowing the update of private meetings:

```
Add-MailboxFolderPermission -Identity $mbx -User $resourceAccount -AccessRights Editor -
SharingPermissionFlags delegate,canviewprivateitems -SendNotificationToUser $true
```

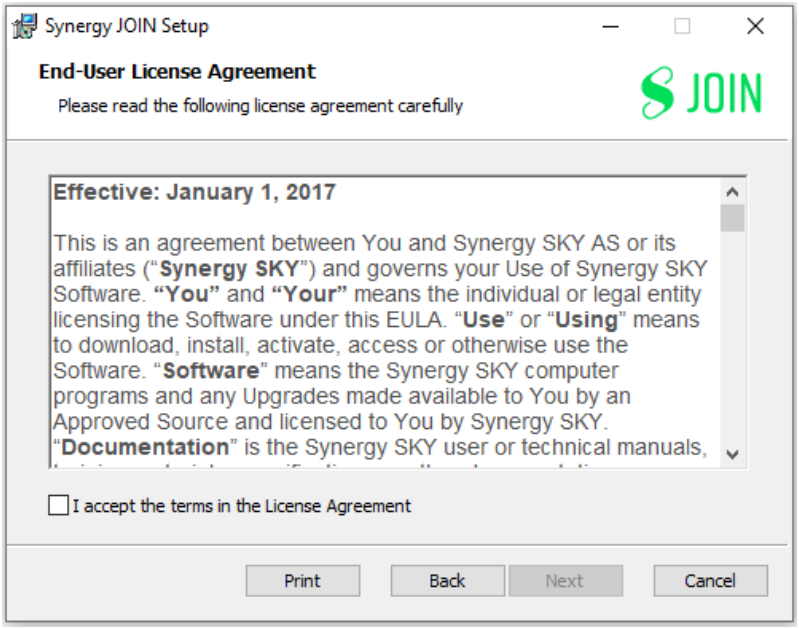
Installing & Upgrading to Synergy JOIN 4.0

You will be provided with an installer: *SynergySKYJoinInstaller.v.4.x.xxx*

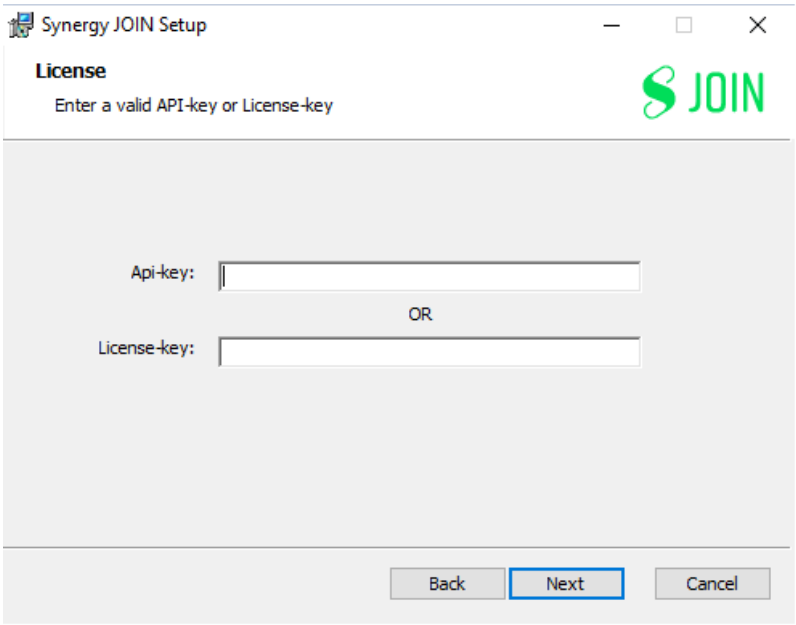
1. Double click to run the installer.



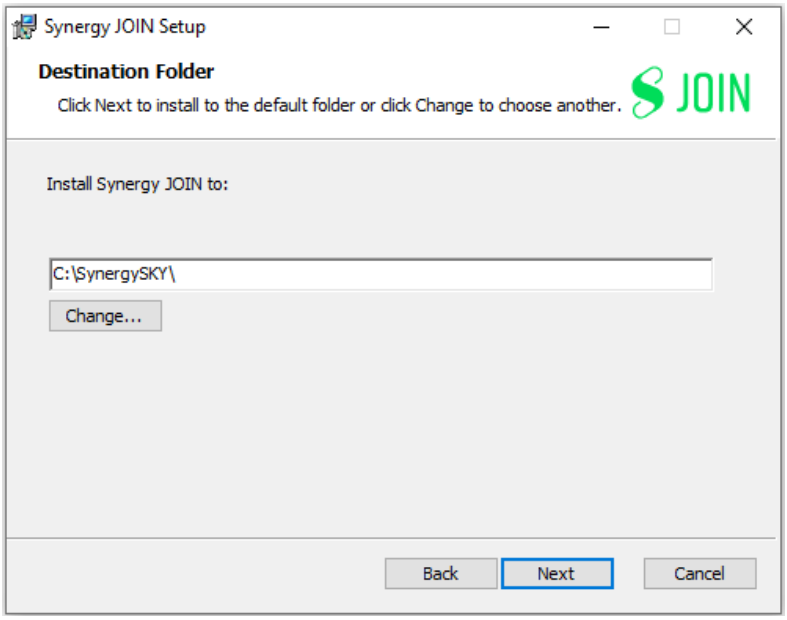
2. Follow the simple install wizard, clicking **Next** to accept the license agreement.



3. If upgrading to Synergy JOIN, you will have to Enter the API Key or License Key provided to your by your Synergy SKY Representative



4. Select the install location, and click Next to confirm that you would like to start your installation.



5. Once the install has completed, you will see a shortcut to the configuration tool on the desktop.

Synergy JOIN 4.0

When installing Synergy JOIN 4.0, a PostgreSQL database server is also installed. Additionally, there are two services that are installed at the same time.

Service Name	Service Operation
Synergy JOIN	Runs the Synergy JOIN threads and process.
SynergyJOINPostgreSQL	Runs the Synergy JOIN PostGreSQL Database

Synergy JOIN PostgreSQL connection information:

Username: postgres

Password: postgres

Port: 5432

A backup of the database can be performed by running the script in scripts\synergysky_db_export.bat. This will create a file named synergysky_db_export.txt which contains all the data from the database.

This should be done on a regular basis.

The first time JOIN 4.0 starts, it will create the database and perform a migration of any pre-existing data.

Synergy JOIN Quick Setup Guide

- Start the configuration tool by double-clicking on the JOIN icon on the desktop.

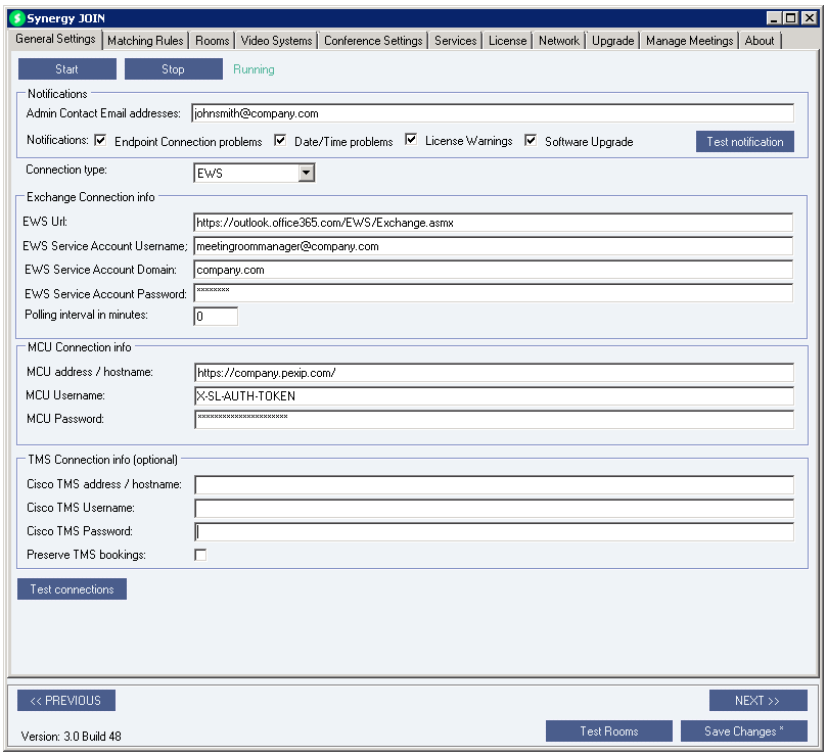
  Note: On start-up, the server checks for updates, so if you do not have internet access configured on the server, you will see an error here.

- Click **Install Service** to install the JOIN service on the server - once installed this button disappears from the configuration tool.
  The **Start** and **Stop** buttons are used once the service is installed to stop and start the service when necessary.

General Settings

1. Enter an Admin Contact Email Address that Synergy JOIN can send notifications to.
2. **Enter the EWS URL, Service Account User-name/Email address and password**.
   - This should be configured by the Exchange Admin Prior to the configuration process of Synergy JOIN. Requirements for the service account can be found here
3. If you have an MCU that you would like to use with your Synergy JOIN installation, **enter the MCU Details under the 'MCU Connection info' section**. Additional information and configuration details can be found here

The next step is to add the video meeting rooms that Synergy JOIN is going to use to read existing appointments and book future meetings in your organization.

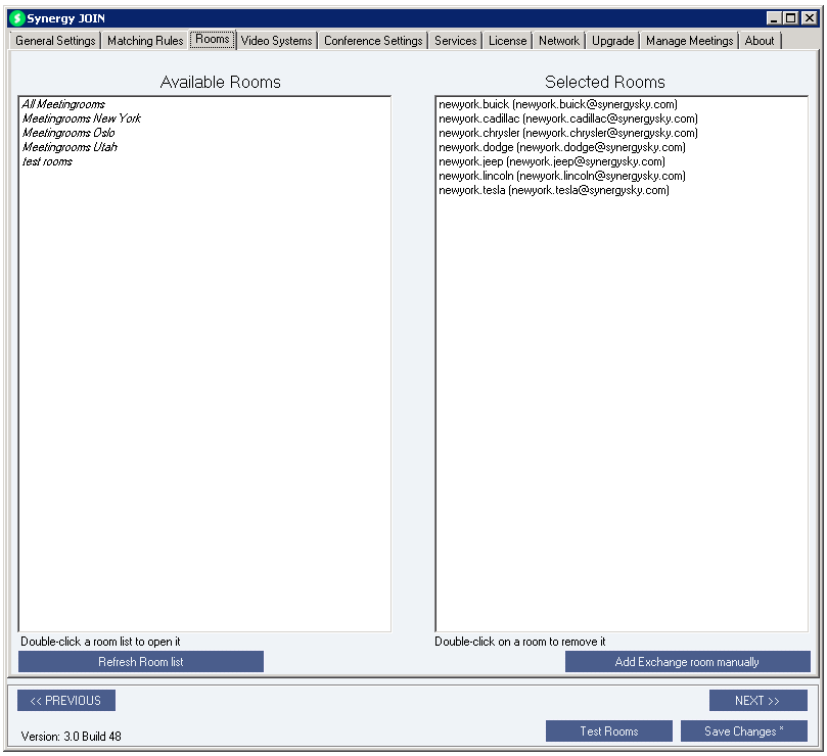


Rooms

Note: If you are not going to add any video enabled rooms to your environment you can skip this step and go straight to Conference Settings tab.

Once you have added your Exchange information in the General Settings tab, the 'Available Rooms' section under the **Rooms tab will prepopulate all of the rooms that it finds within your Exchange Room List**. If you would like to add a room, simply double click on the room name and it will be added to the 'Selected Rooms' section.

During the POC (Proof of Concept) phase, we recommend only adding two or three rooms that you are going to use for testing.



Video Systems

This is where you connect the Exchange meeting-room resources to the Video Systems. Once a room has been added via the Rooms tab, it will automatically appear on the Video Systems tab. Video Systems can be added as Cisco One Button To Push, Polycom Click To Join or Dial Out to System.

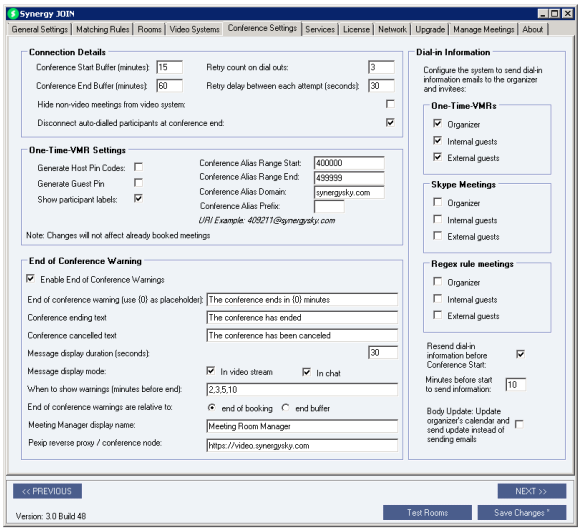
Additional information on the separate fields within this tab can be found here

Conference Settings

The Conference settings tab defines conference configuration, One-time VMR/URI details, Dial-In Information settings and End of Conference warning settings.

Conference Start Buffer: This defines how long before the start and end of meetings, the Virtual Meeting Room(VMR) should be provisioned or deprovisioned

End of Conference Warning: This defines the message that will be displayed on the endpoint when the meeting is almost finished. You can also choose how many minutes before the end the message should be displayed. **(Only available when an MCU is added)**



Dial-In Information: This section specifies whether the organizer, internal guests and external guests should receive a dial-in information email when meetings are booked.

Body Update: This setting will enable Synergy JOIN to log into the calendar of each meeting's organizer to update the calendar invite and send an update to all invitees on their behalf, instead of sending multiple emails containing dial information. Enabling this function requires additional settings on user mailboxes. Exchange settings can be found here

Synergy JOIN can be used in multiple ways and as such, we have created additional quick guides tailored to your specific environment.

Synergy JOIN with Skype / Microsoft Teams

Synergy JOIN with Webex, Blue Jeans or Zoom

Synergy JOIN with Dynamic VMRs

Synergy JOIN with Static VMRs

Matching Rules for Skype for Business & Teams Meetings

Matching Rules in Synergy JOIN will search the email for characters that are similar to you Skype invitation and will provide you with a OBTP option on your endpoint.

The matching rules in JOIN allow you to define how calendar bookings should be processed.

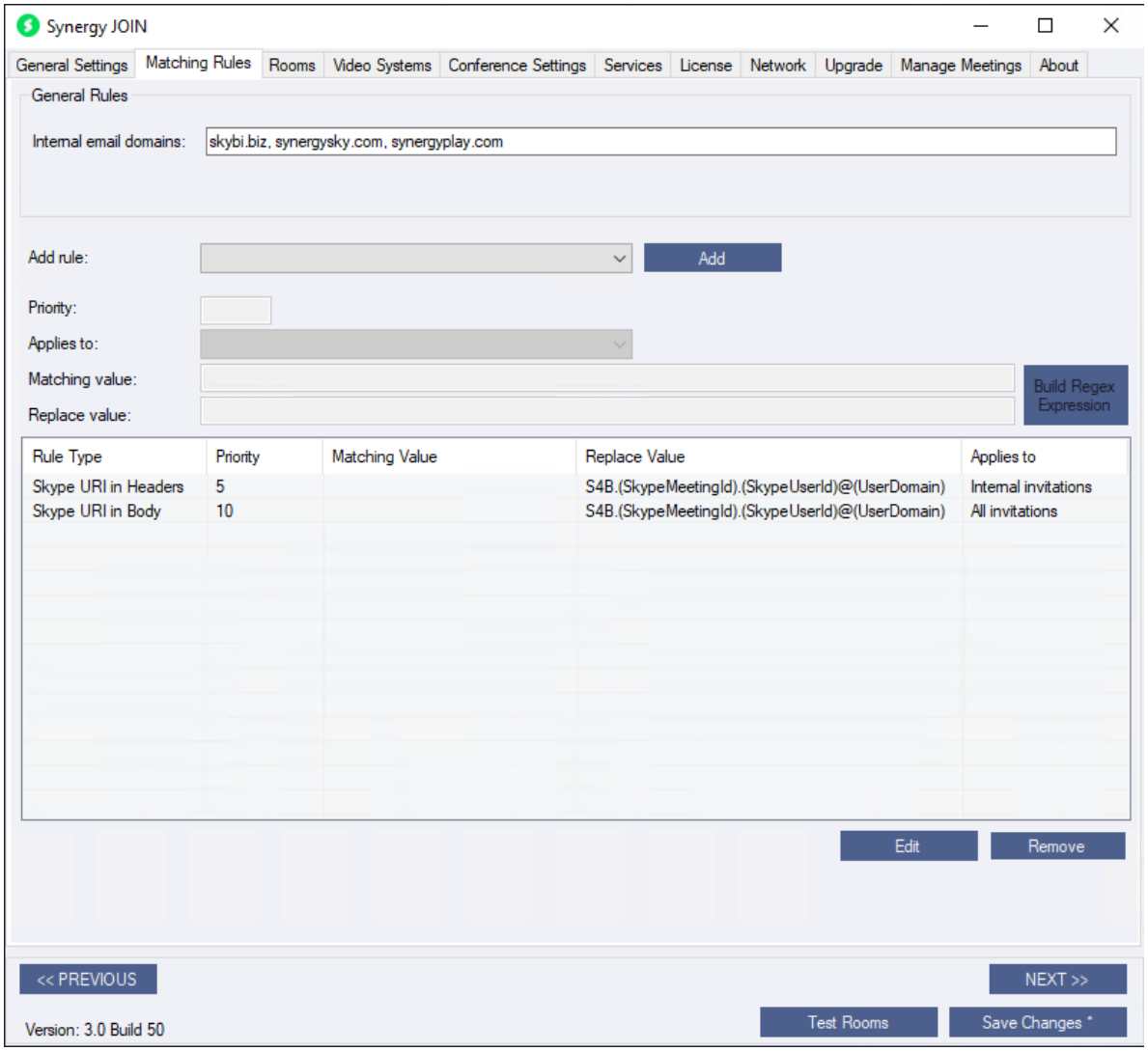
Configure the **General Rules** as follows:

Field	Description
Internal email domains	Specify a comma separated list of the email domains your organization uses. This list is used to determine whether a meeting room invitation is sent from an internal or external user. It is also used to determine which users are internal and external when sending out connection information emails. (e.g. *synergysky.com, synergysky.eu, synergysky.us*)

Skype for Business Matching Rule	Microsoft Teams Matching Rule
1. Click on the 'Add Rule' dropdown box and choose **'Skype URI in Headers'**	1. Click on the 'Add Rule' dropdown box and choose **'Teams URI in Headers'**
2. Add a Priority. The lowest number gives the highest priority. (E.g. 5 is processed before 10).	2. Add a Priority. The lowest number gives the highest priority. (E.g. 5 is processed before 10).
3. Select 'Add'.	3. Select 'Add'.
4. Click on the 'Add Rule' dropdown box and choose **'Skype URI in Body'**	4. Click on the 'Add Rule' dropdown box and choose **'Teams URI in Body'**
5. Add a Priotry	5. Add a Priotry
6. Select 'Add'	6. Select 'Add'

The Skype URI matching rules will scan the header and/or the body of the email to find the URI of the Skype meeting

NOTE: This function requires Synergy JOIN to have access over HTTPS to the Skype server where the meeting is hosted; either directly or via a proxy server.



Once you are confident your Regex Rules are set correctly, click 'Save'.

Remember to Select **'Save Changes *'** at the bottom right hand corner

Now go ahead and **start booking test meetings in Synergy JOIN**

If you would like to enable extra functions such as enabling **recordings services**, **Skype IVR service** or enabling the built in **Exchange Emulator**, you can follow additional steps here

Matching Rules for Hangouts Meetings

Matching Rules in Synergy JOIN will search the email for characters that are similar to you WebRTC client and will provide both a OBTP option on your endpoint as well as a button your invitees can click on within their email invitation.

The matching rules in JOIN allow you to define how calendar bookings should be processed.

Configure the **General Rules** as follows:

Field	Description
Internal email domains	Specify a comma separated list of the email domains your organization uses. This list is used to determine whether a meeting room invitation is sent from an internal or external user. It is also used to determine which users are internal and external when sending out connection information emails. (e.g. *synergysky.com, synergysky.eu, synergysky.us*)

Hangouts Matching Rule

1. Click on the 'Add Rule' dropdown box and choose 'Hangout Meet'

2. Add a Priority. The lowest number gives the highest priority. (E.g. 5 is processed before 10).

3.Click on the 'Add' button

Once you are confident your Regex Rules are set correctly, click 'Save'.

Remember to Select **'Save Changes *'** at the bottom right hand corner

Now go ahead and **start booking test meetings in Synergy JOIN**

If you would like to enable extra functions such as enabling **recordings services**, **Skype IVR service** or enabling the built in **Exchange Emulator**, you can follow additional steps here

Matching Rules for WebRTC Meetings

Matching Rules in Synergy JOIN will search the email for characters that are similar to you WebRTC client and will provide both a OBTP option on your endpoint as well as a button your invitees can click on within their email invitation.

The matching rules in JOIN allow you to define how calendar bookings should be processed.

Configure the **General Rules** as follows:

Field	Description
Internal email domains	Specify a comma separated list of the email domains your organization uses. This list is used to determine whether a meeting room invitation is sent from an internal or external user. It is also used to determine which users are internal and external when sending out connection information emails. (e.g. *synergysky.com, synergysky.eu, synergysky.us*)

Web RTC Matching Rule

1. Click on the 'Add Rule' dropdown box and choose 'Regex Rule'

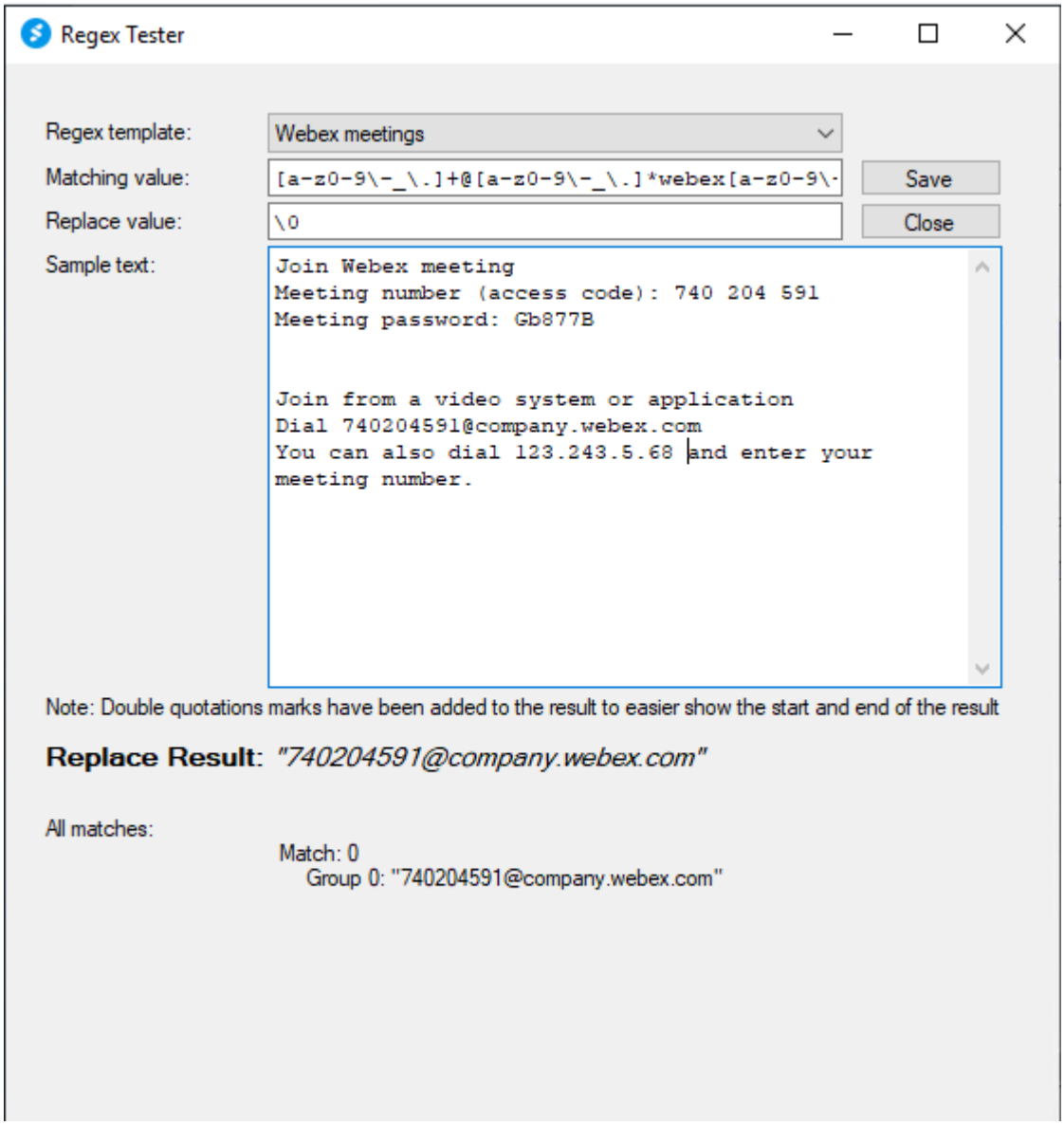
2. Add a Priority. The lowest number gives the highest priority. (E.g. 5 is processed before 10).

3. Select 'Build Regex Expression'. This will open the Regex Tester

4. Select the 'Regex template' dropdown box and choose your WebRTC meeting type (Webex, BlueJeans, StarLeaf Cloud, Videxio VMR Meeting, or Zoom Meeting)

Testing, editing and deleting rules

The tool will help you identify any errors in your regex by testing a **Matching Value** and **Replace Value** towards a text field



Once you are confident your Regex Rules are set correctly, click 'Save'.

Remember to Select **'Save Changes *'** at the bottom right hand corner

Now go ahead and **start booking test meetings in Synergy JOIN**

If you would like to enable extra functions such as enabling **recordings services**, **Skype IVR service** or enabling the built in **Exchange Emulator**, you can follow additional steps here

Synergy JOIN with Dynamic VMR's

Note: This function only works if you have configured an MCU

The One-Time-VMR (Dynamic VMR) option in JOIN enables users to easily schedule video meetings without any plug-ins in the email client. Synergy JOIN will will create a temporary virtual meeting room on the MCU defined in the General Settings tab, with a URI within the range defined in the Conference Settings tab. The One-Time VMR information will then be sent to all the video

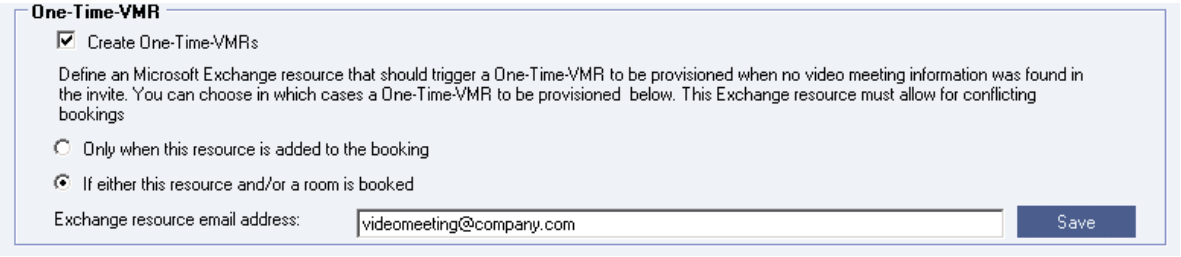
systems that are included in the meeting invitation. All invitees will also receive the dial-in information so that they can join from their personal device if they prefer that

Conference Settings

1. Browse to the 'Conference Settings' tab
2. Configure your Conference Alias Range (Start and End)
3. Configure the Conference Alias Domain that you would like to be used for your dynamic VMR's
4. Enter your Conference Alias Prefix (If required)

One Time VMR's

1. Browse to the 'Services' tab
2. Tick the 'Create One-Time VMRs' tickbox
3. Type in an email address that you would like to be used as a trigger for onetime VMR's to be created.



Now each time you book a meeting without any dial in information present, a one-time VMR will be created for that meeting.

Remember to Select **'Save Changes *'** at the bottom right hand corner

Now go ahead and **start booking test meetings in Synergy JOIN**

If you would like to enable extra functions such as enabling **recordings services**, **Skype IVR service** or enabling the built in **Exchange Emulator**, you can follow additional steps here

Matching Rules for Static VMR's

Matching Rules in Synergy JOIN will search the email for characters that are similar to you Static VMR's and will provide both a OBTP option on your endpoint as well as a button your invitees can click on within their email invitation.

The matching rules in JOIN allow you to define how calendar bookings should be processed.

Configure the **General Rules** as follows:

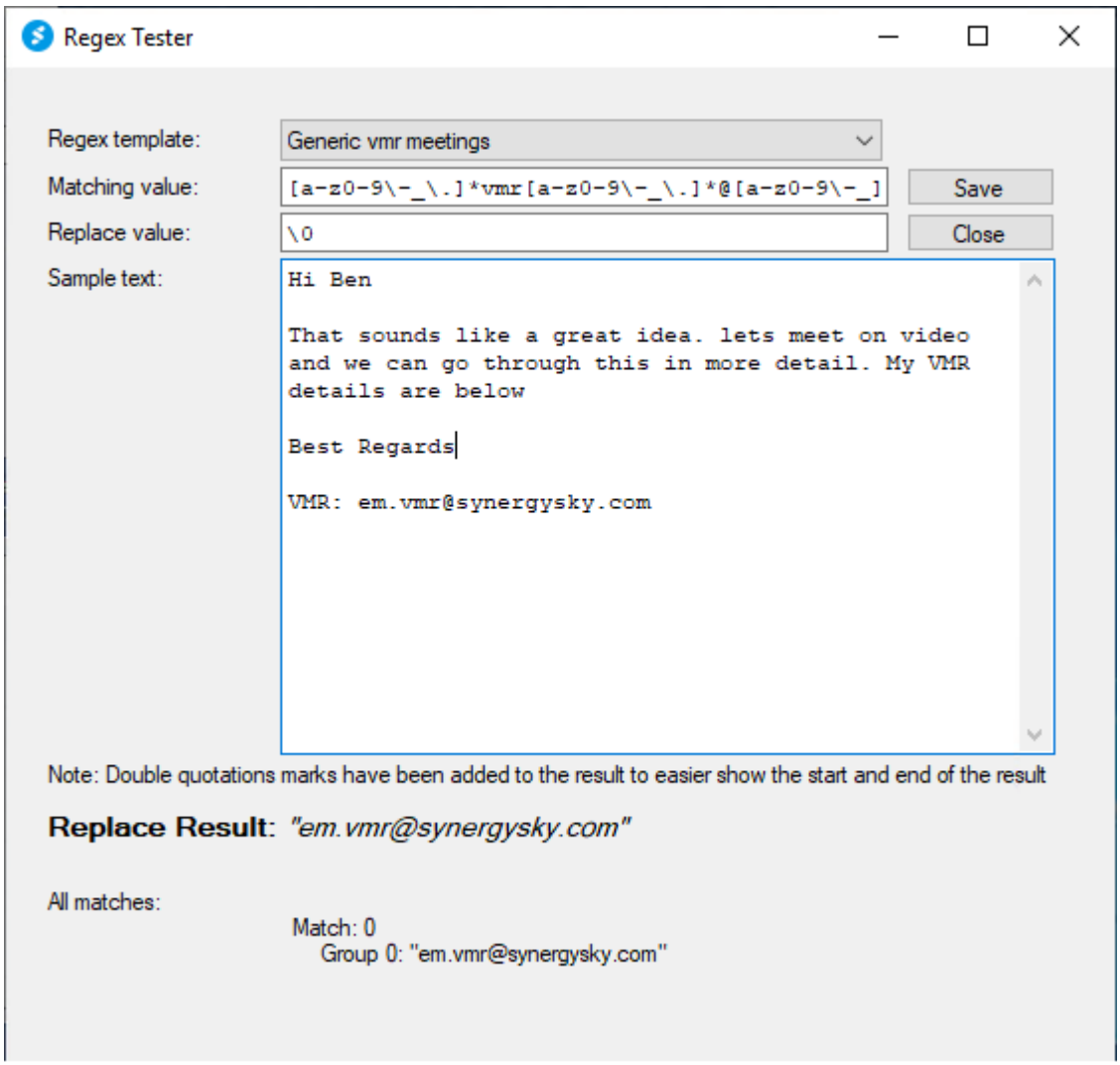
Field	Description
Internal email domains	Specify a comma separated list of the email domains your organization uses. This list is used to determine whether a meeting room invitation is sent from an internal or external user. It is also used to determine which users are internal and external when sending out connection information emails. (e.g. *synergysky.com, synergysky.eu, synergysky.us*)

Static VMR Matching Rule

1. Click on the 'Add Rule' dropdown box and choose 'Regex Rule'
2. Add a Priority. The lowest number gives the highest priority. (E.g. 5 is processed before 10).
3. Select 'Build Regex Expression'. This will open the Regex Tester
4. Select the 'Regex template' dropdown box and choose 'Generic vmr meetings'

Testing, editing and deleting rules

The tool will help you identify any errors in your regex by testing a **Matching Value** and **Replace Value** towards a text field



The matching value above will search the email for any line of text that has got ****.vmr@company.com.

Once you are confident your Regex Rules are set correctly, click 'Save'.

Remember to Select **'Save Changes *'** at the bottom right hand corner

Now go ahead and **start booking test meetings in Synergy JOIN**

If you would like to enable extra functions such as enabling **recordings services**, **Skype IVR service** or enabling the built in **Exchange Emulator**, you can follow additional steps here

Configuring Synergy JOIN

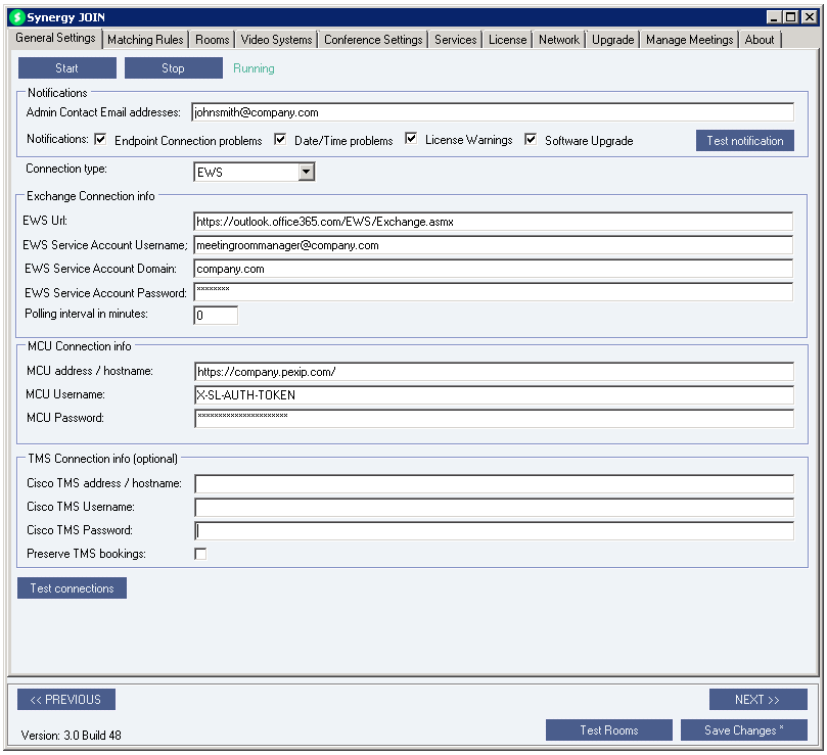
All configuration of the Synergy JOIN is done using the configuration tool.

Task 1: Launching the configuration tool and installing the service

1. Start the configuration tool by double-clicking on the JOIN icon on the desktop.

   Note: On startup, the server checks for updates, so if you do not have internet access configured on the server, you will see an error here.

2. Click **Install Service** to install the JOIN service on the server - once installed this button disappears from the configuration tool.
   The **Start** and **Stop** buttons are used once the service is installed to stop and start it, as necessary.



Note: Pressing Ctrl + F5 reveals the **Uninstall Service** button in the place of the **Install Service** button, which when clicked, uninstalls the service from the server.

Google Cloud Platform Configuration

Introduction

In order to install Synergy Sky JOIN with Google Calendar integration, the G Suite environment must be prepared. This is done through the following 4 steps

1. Create a Google Cloud Platform Project or use an existing project

2. Enable three distinct APIs and Services

3. Create a service account or use an existing service account. This account must be given correct permissions. A private key must be generated and copied to the JOIN server.

4. Appropriate Calendar Access must be given to the Service Account via the G Suite Domain

Google Cloud Platform

A Google Cloud Console Project is required in order for JOIN to be able to read calendar resource accounts, user accounts and also have access to APIs that enable the JOIN integration.

Create a Google Cloud Platform Project or use an existing Project. The Project will be used for the API integration as well as for the Service Account.

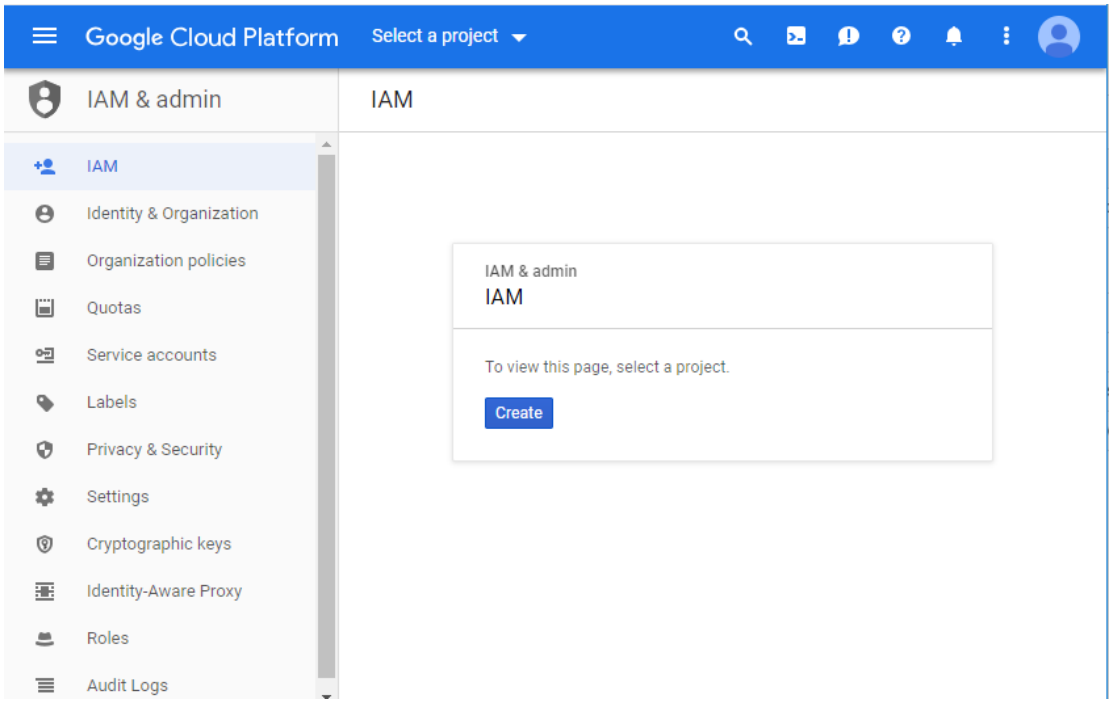
Logging into the Google Cloud Platform console:

- Browse to the following URL: https://console.cloud.google.com/iam-admin/serviceaccounts
- Log in with your admin user account to manage your Google cloud console.

Creating a Project

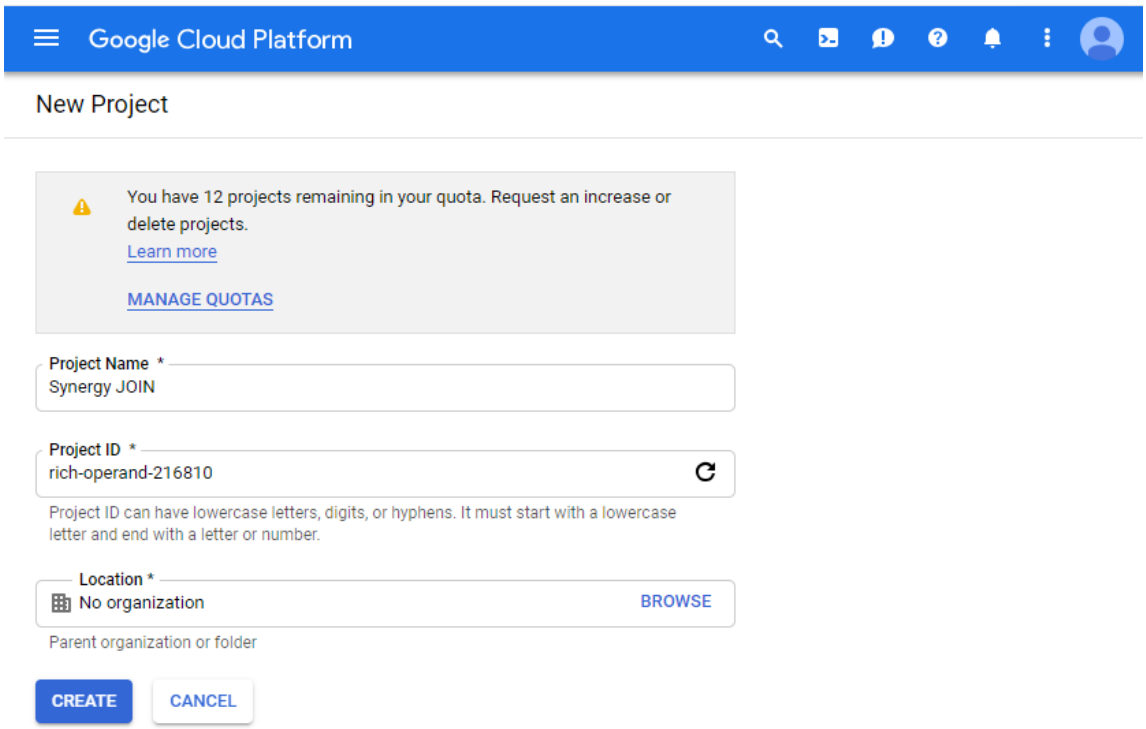
(Skip this section if you already have a project you want to add this account to)

N.B on some occasions, Google fails to create the project and as such, sometimes you may need to create the project twice



To create new Google Cloud Console project,

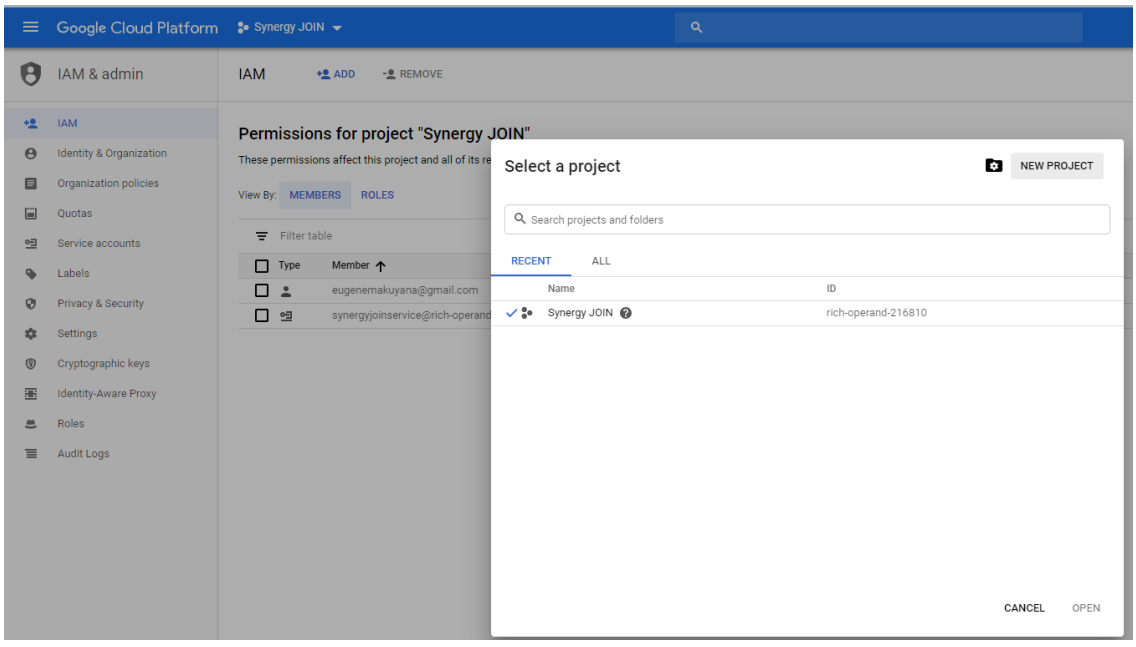
- Select IAM & Admin
- Click the 'Create' button.



- Fill in your project name, i.e. 'SynergyJOIN'.
- Select Create

Choosing an Existing Project

Follow these steps if you already have existing projects you would like to use for this project,



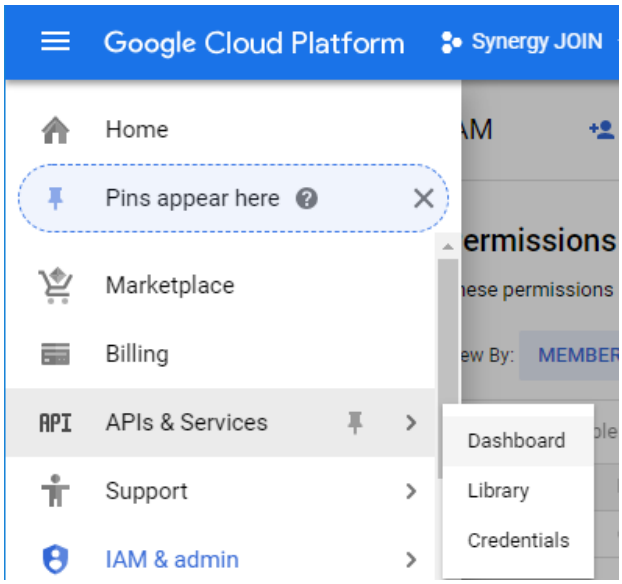
- Click on the Project Drop down arrow at the top left corner and you will be presented with the 'Select a Project Window'.
- Select your desired project and click 'Open'

Enabling API's and Services

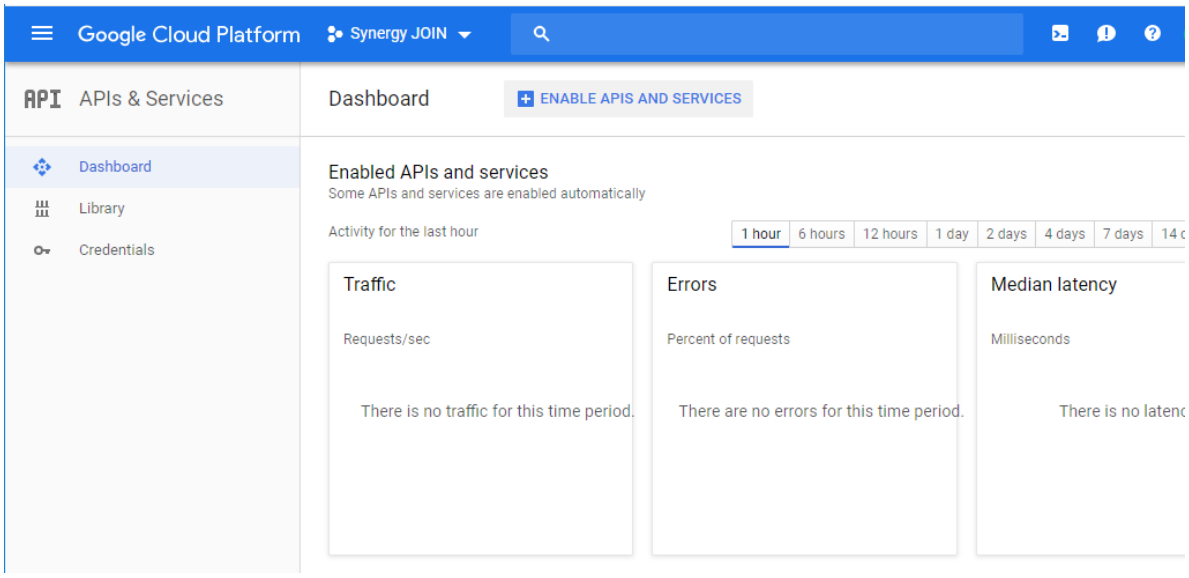
You will have to enable API's to work with the project you have created. The API's you will have to enable are Google Calendar API, GMail API & Admin SDK.

- Google Calendar API - To allow reading and updating resource calendars
- GMail API - To allow sending email
- Admin SDK - To allow listing out current available resources from the configuration tool

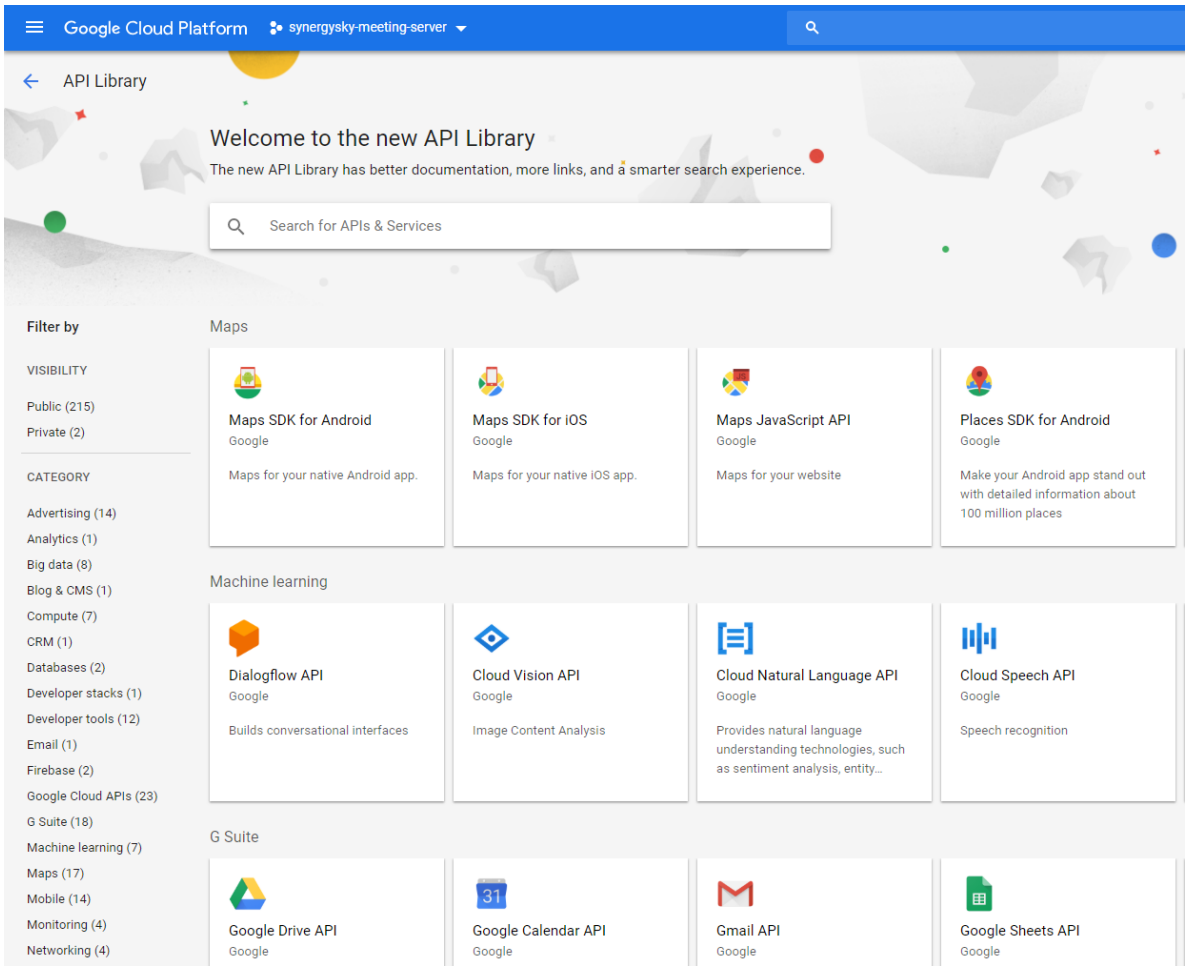
You need to enable one API at a time



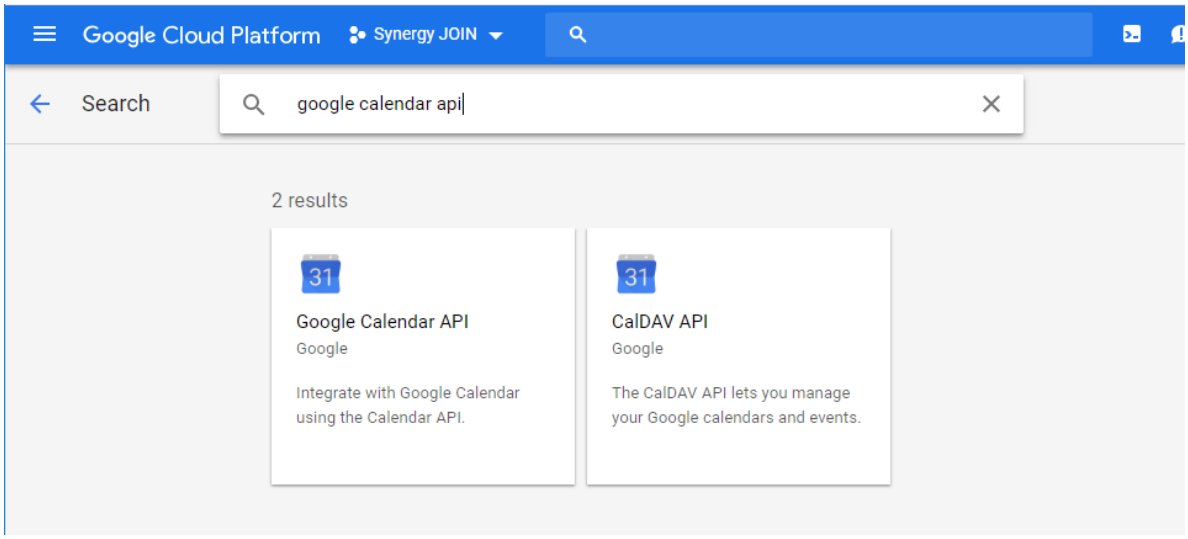
Go to the Menu, Select APIs & Services > Dashboard



Select 'Enable APIs and Services'



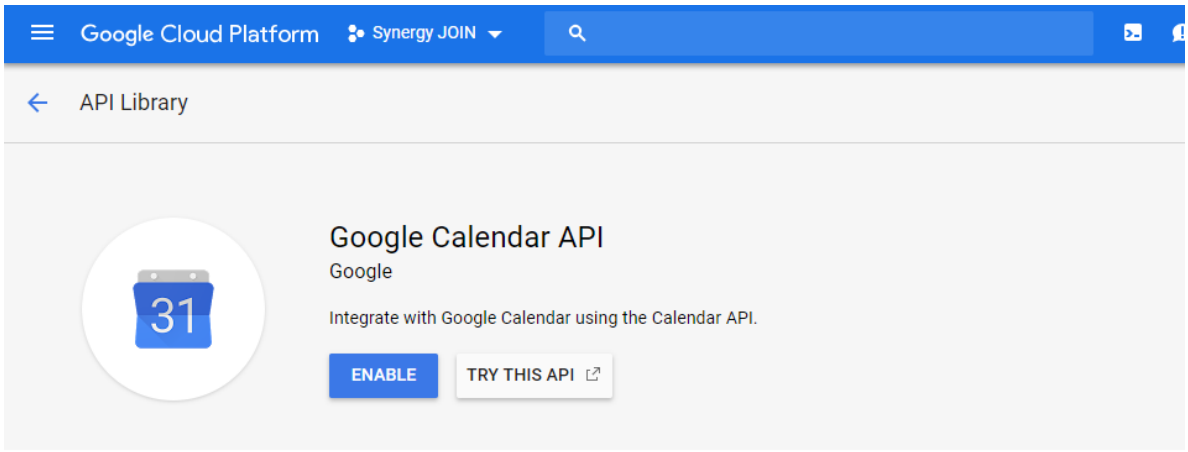
You should now be presented with the API Library.



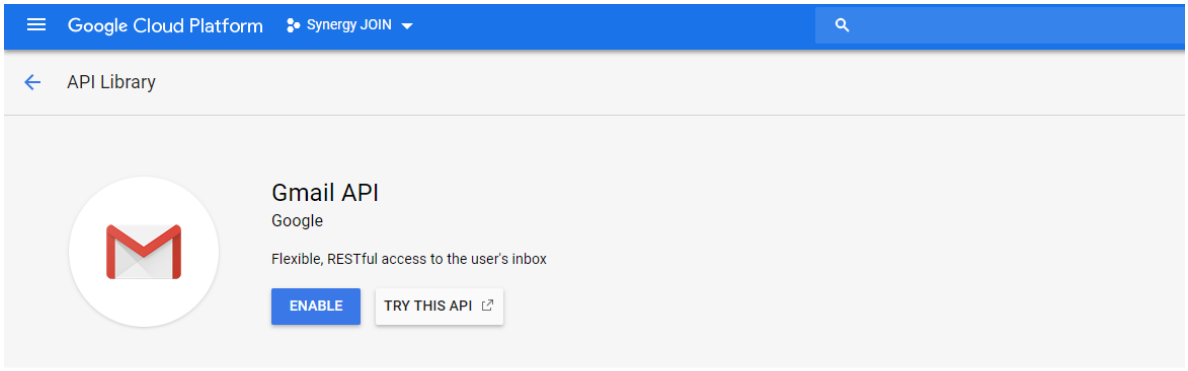
You will have to search for the APIs from this screen.

First, Search for 'Google Calendar API'

Select the 'Google Calendar API.

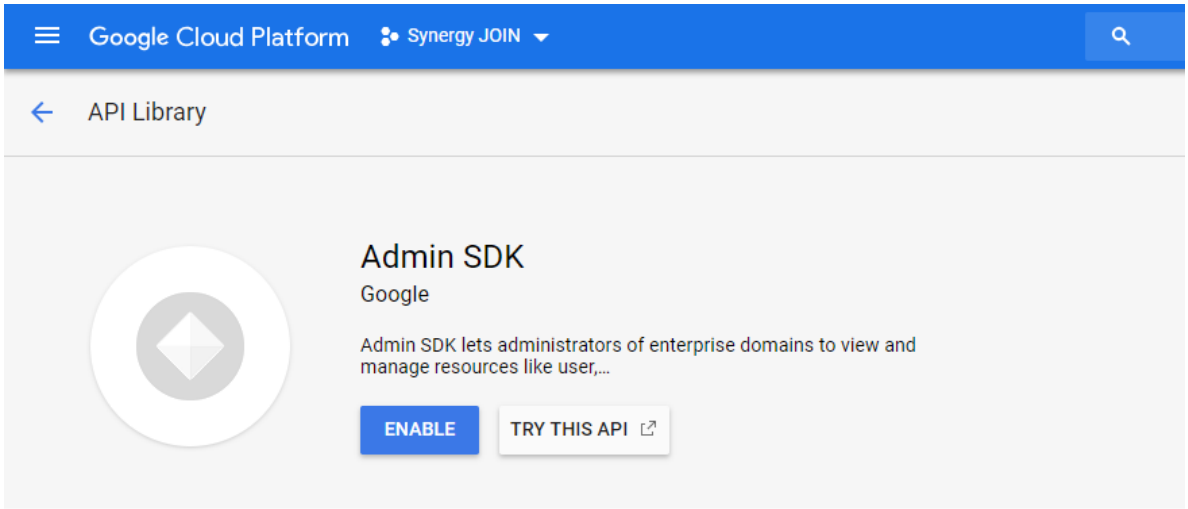


Click Enable



Once you have found this API, you will then have to perform a new search for GMail API

Select Enable for the GMail API

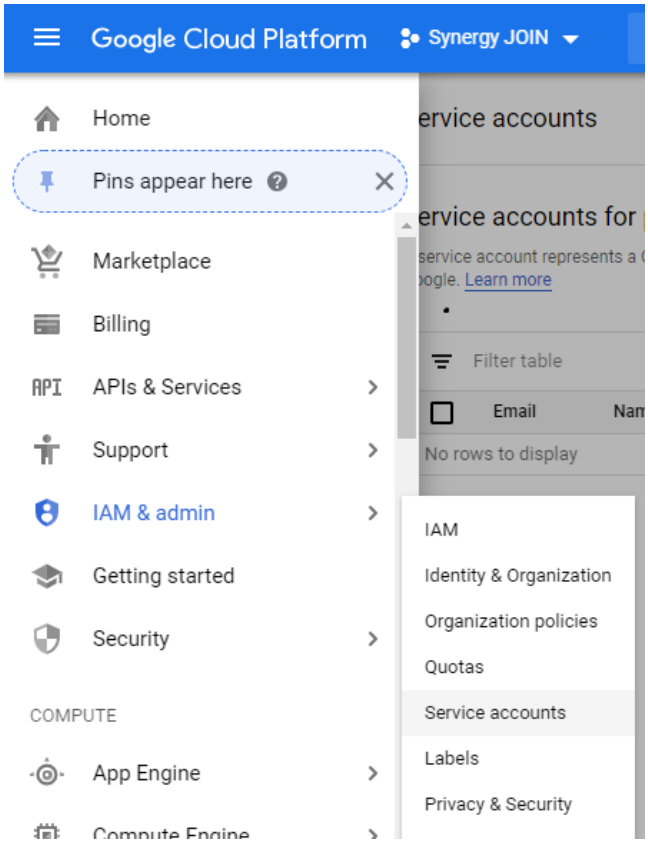


Once you have found this API, you will then have to perform a new search for Admin SDK API

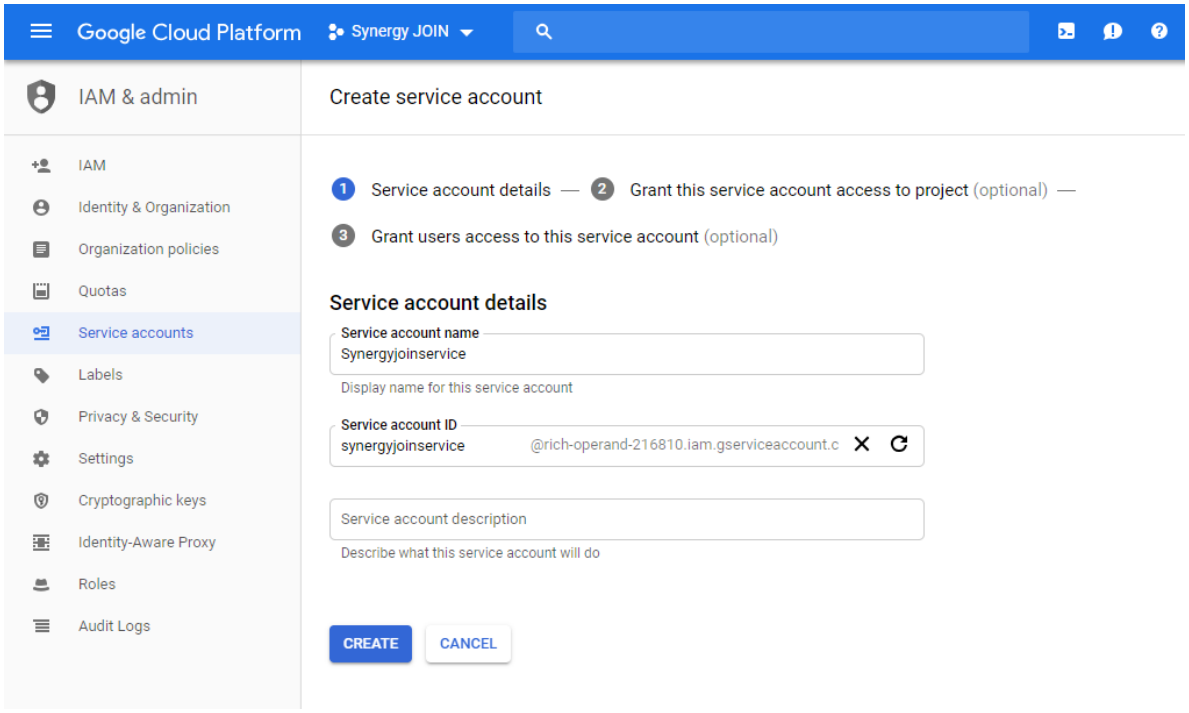
Select Enable for the Admin SDK API

Service Account

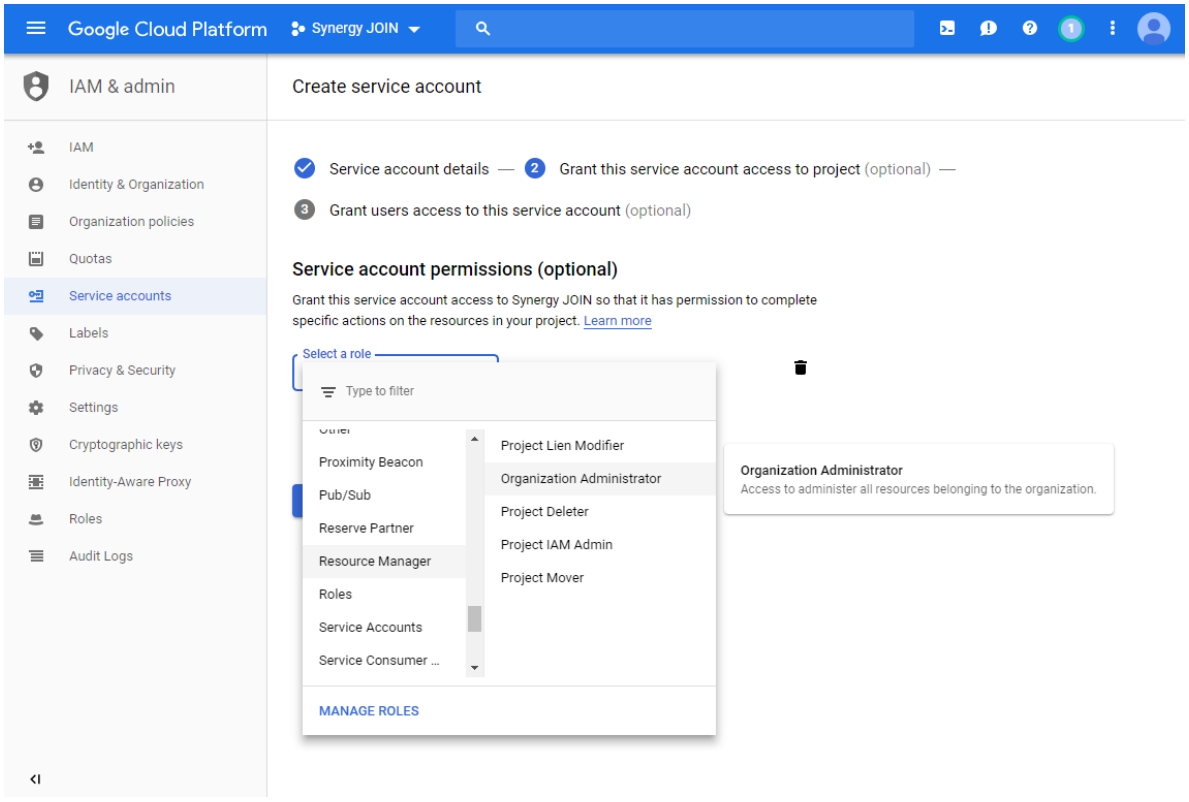
Create Service Account



Select IAM & Admin and Choose 'Service Accounts



Enter a Service Account Name and select Create

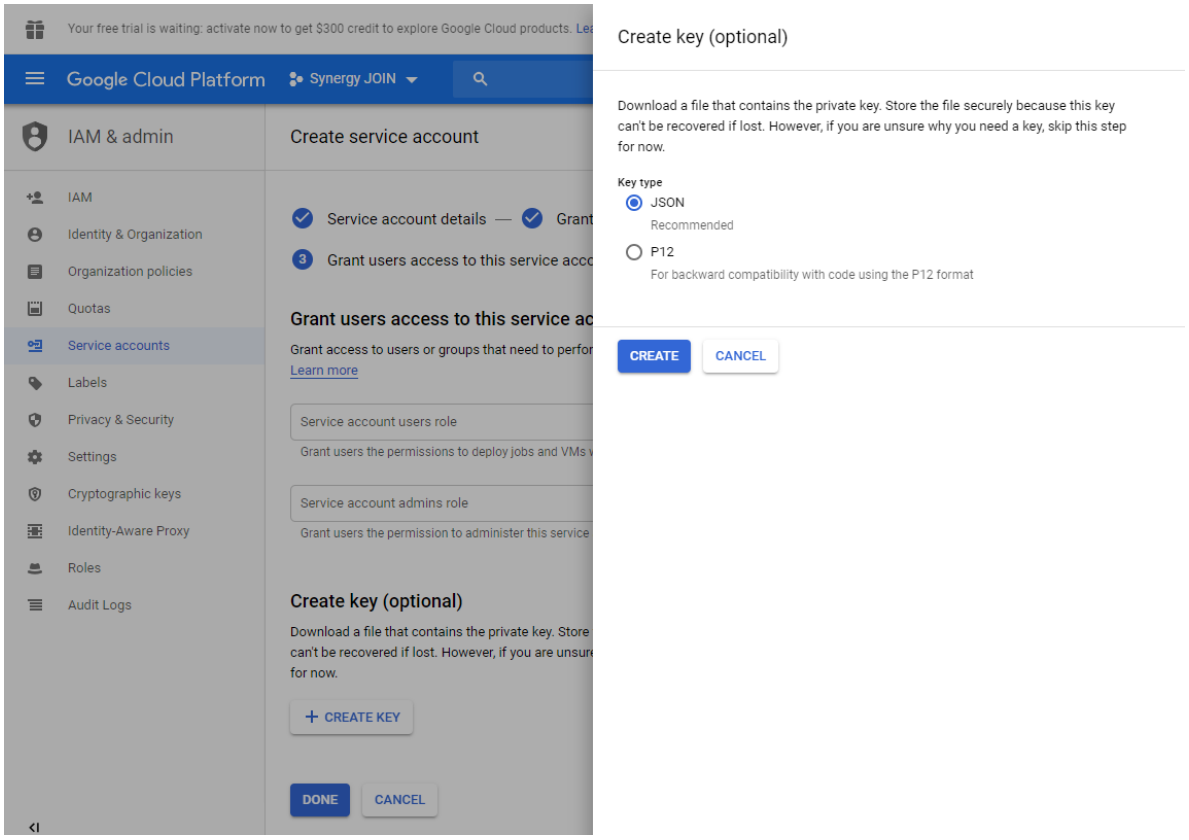


Select the role for this service account. Resource Manager > Organization Administrator.

This will allow the service account to manage the meeting room resources.

Once you have selected the role, Click the 'Create Key' Button.

Create a Private Key for JOIN

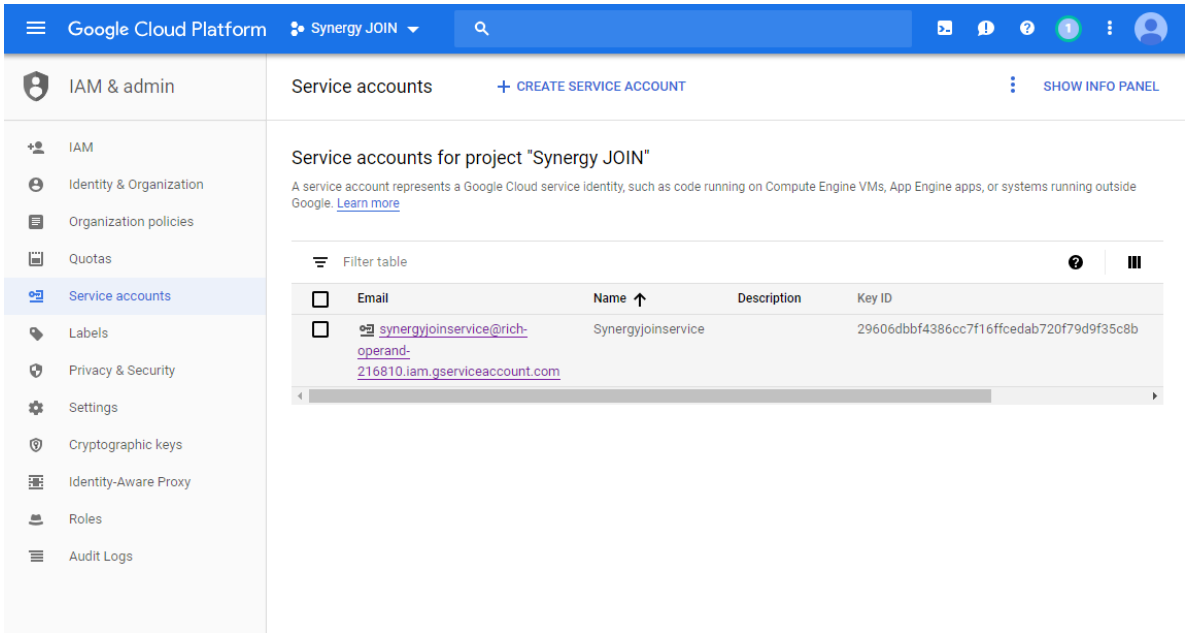


On the next screen, choose the JSON radio button and click 'Create'

A file will be downloaded to your disk, this is your authentication information to be used by the JOIN application.

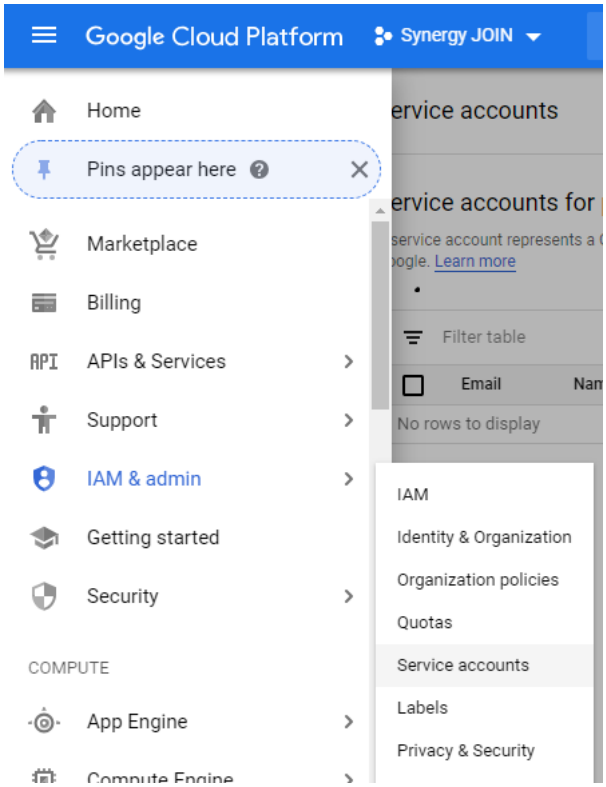
- Copy this file to the same directory as the JOIN application. (i.e. c:\SynergySKY\SynergySKYEnterpriseScheduling).
- Keep a secure copy of this file, since a new service account is required to be created if its lost.

Once you are have moved the file to the same directory as the JOIN application and you click 'Done' you will be presented with a screen similar to the below with your newly created service account visible in the list.

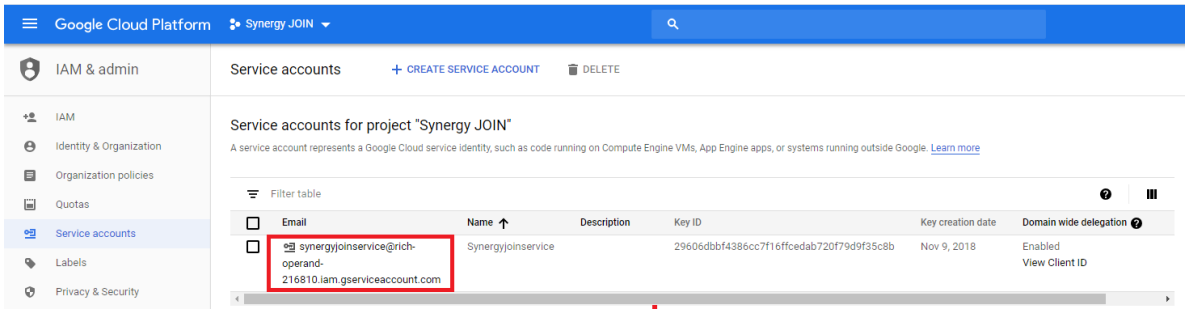


Enable Service accounts to access Calendar Resources

In order to enable Service accounts, first we need to find the Service account ID for the service account on https://console.cloud.google.com



Select IAM & Admin and Choose 'Service Accounts

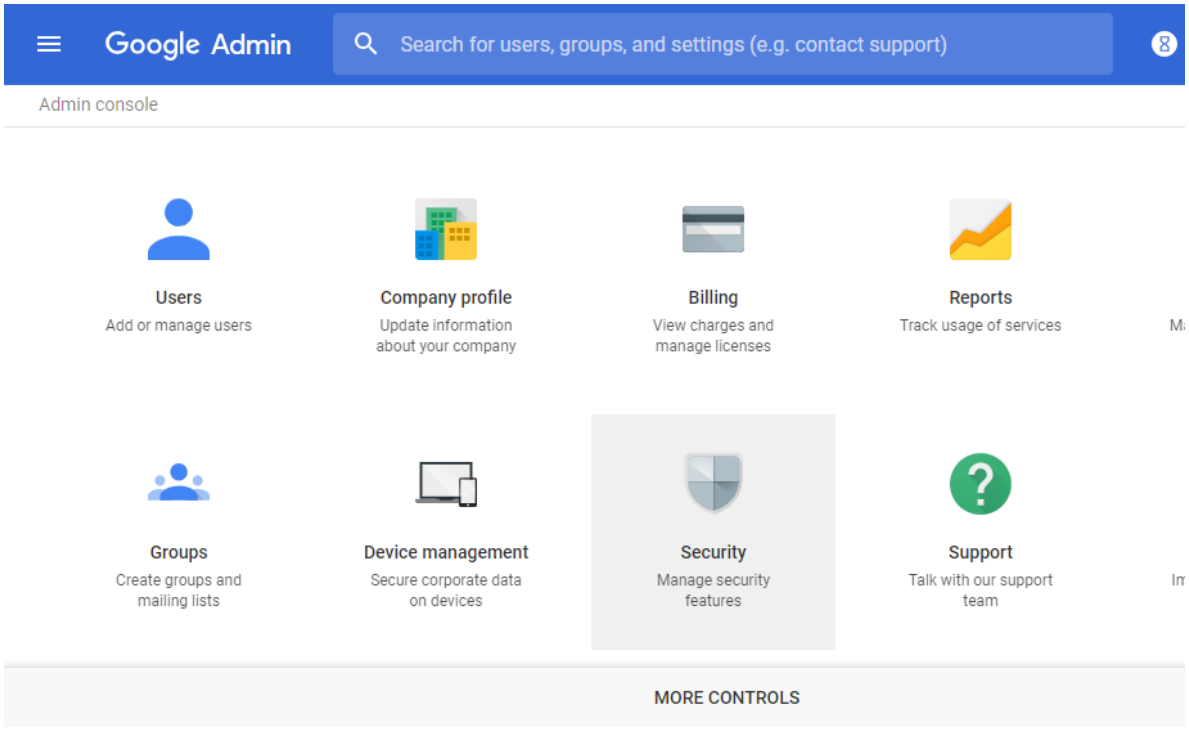


Copy the service account ID

An Administrator of the G Suite domain must complete the next steps

Google Admin Console

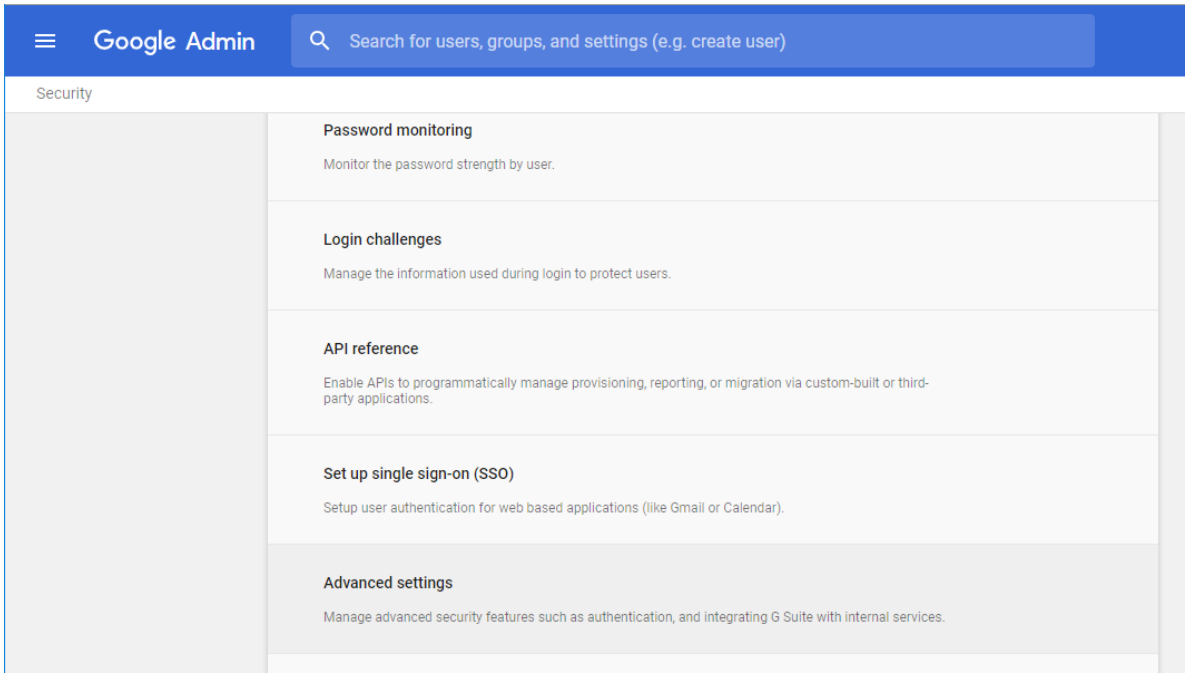
Browse to the Google Admin Console https://admin.google.com



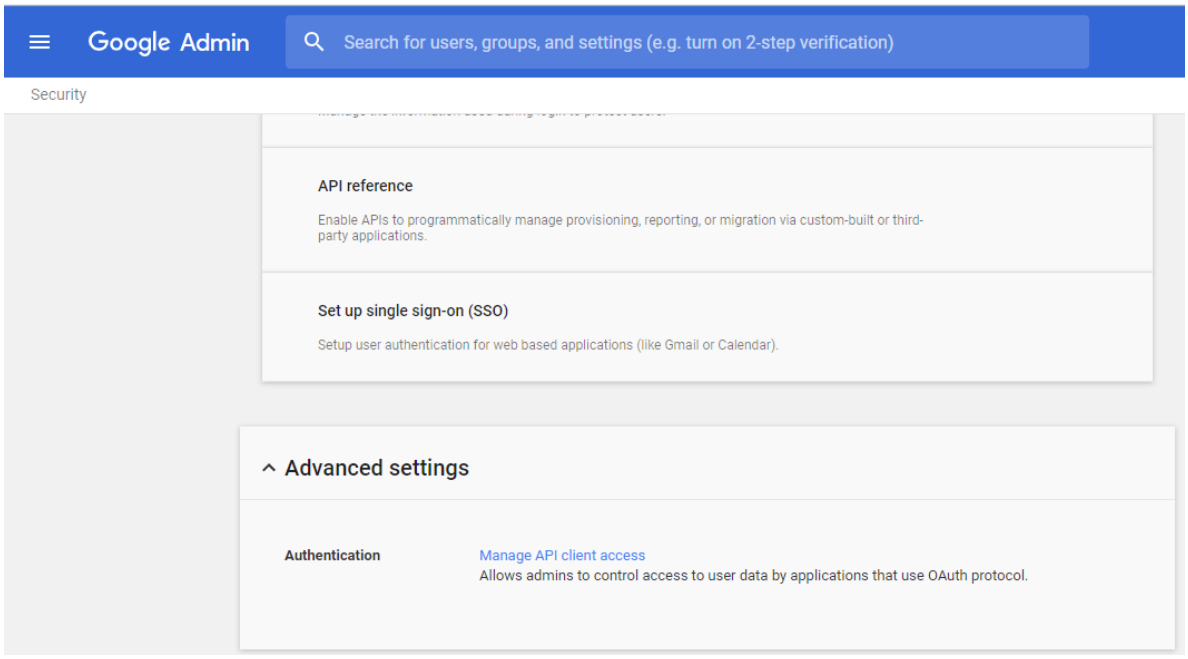
Select Security from the list of controls.

If you don't see Security listed, select **More controls** from the gray bar at the bottom of the page, then select Security from the list of controls.

N.B If you can't see the controls, make sure you're signed in as an administrator for the domain.



Select Advanced settings from the list of options



Select 'Manage API client access' in the Authentication section

1. In the Client Name field enter the service account's Client ID or Service account ID (which we copied in the previous step).

In the One or More API Scopes field enter this list of scopes:

https://www.googleapis.com/auth/admin.directory.resource.calendar.readonly
- To populate Available Rooms in the JOIN config tool

https://www.googleapis.com/auth/calendar.readonly
- To allow JOIN to access room calendars enabled in JOIN

https://www.googleapis.com/auth/gmail.send
- To allow JOIN to send notifications to its administrators as well as dial-in instructions for certain workflows (e.g. one-time VMRs).

https://www.googleapis.com/auth/calendar
- For workflows requiring calendar invitation updates, such as the green button for Polycom endpoints (if the EWS emulator is not used) or meeting invitation body updates, JOIN also has to have a write calendar access for those rooms.

https://www.googleapis.com/auth/calendar.events
- For workflows requiring calendar invitation updates, such as the green button for Polycom endpoints (if the EWS emulator is not used) or meeting invitation body updates, JOIN also has to have a write calendar access for those rooms. If read-only is sufficient, it should be at least this one set there: https://www.googleapis.com/auth/calendar.events.readonly

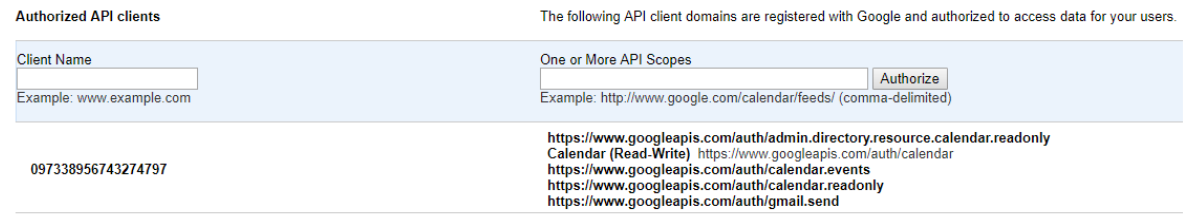
Note: All of the scopes are required for the integration of Synergy JOIN with Google G Suite. It is not possible to exclude some of the scopes as this will cause parts of the integration not to work

You can copy and paste the below api scopes as they are into the 'One or More API Scops' field box

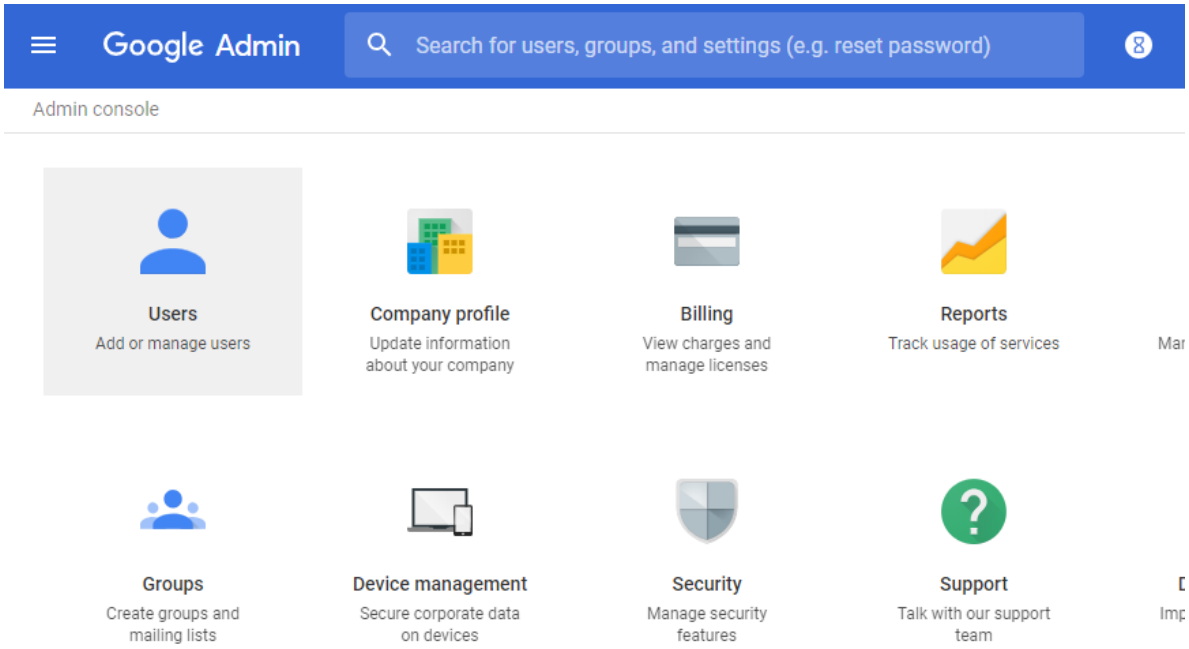
https://www.googleapis.com/auth/admin.directory.resource.calendar.readonly,
https://www.googleapis.com/auth/calendar,https://www.googleapis.com/auth/calendar.readonly,
https://www.googleapis.com/auth/gmail.send,https://www.googleapis.com/auth/calendar.events

Click Authorize.

The outcome should look like the below example:

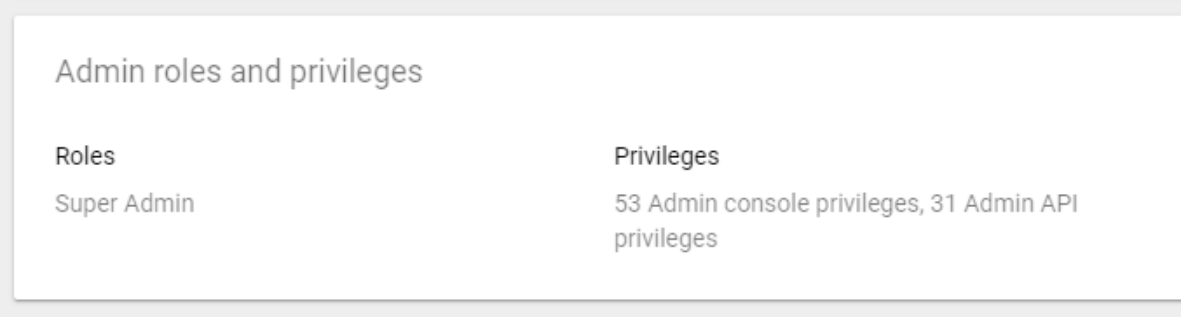


Service-act-on-behalf-of Email



Browse to the dashboard and select 'Users'

In the users section, select the user that you would like to use as the 'service-act-on-behalf-of Email' in Synergy JOIN.



Scroll down to the 'Admin roles and privileges' section and verify that the user you would like to use has the role of 'Super Admin' enabled.

Once you have verified this, copy the email address from this user and paste this into the 'service-act-on-behalf-of email' text button in the 'General Settings' tab in the Synergy JOIN configuration tool.

More information on the general settings tab can be found here

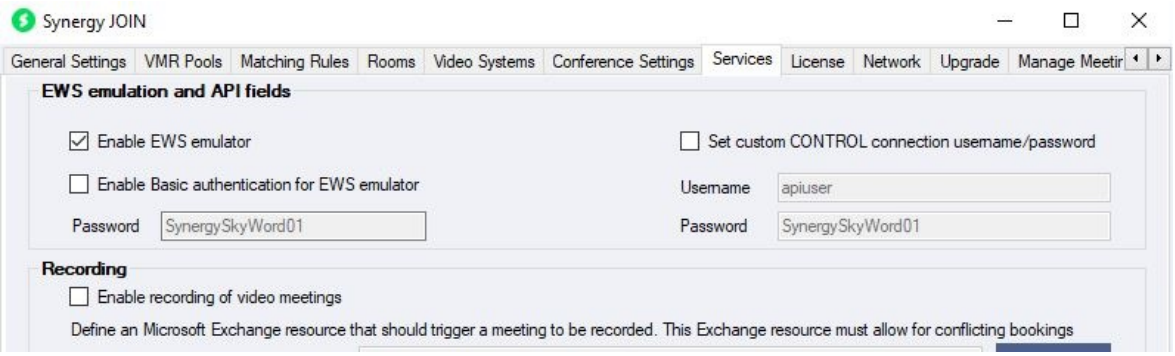
Polycom EWS Emulator

There are instances when the Polycom Endpoint is unable to communicate with the Exchange Server and as such, the endpoint is unable to use the built in Polycom Click To Join technology. The EWS emulator within Synergy JOIN brings back the ability to utilize the Polycom Click To Join technology on your Polycom Endpoints.

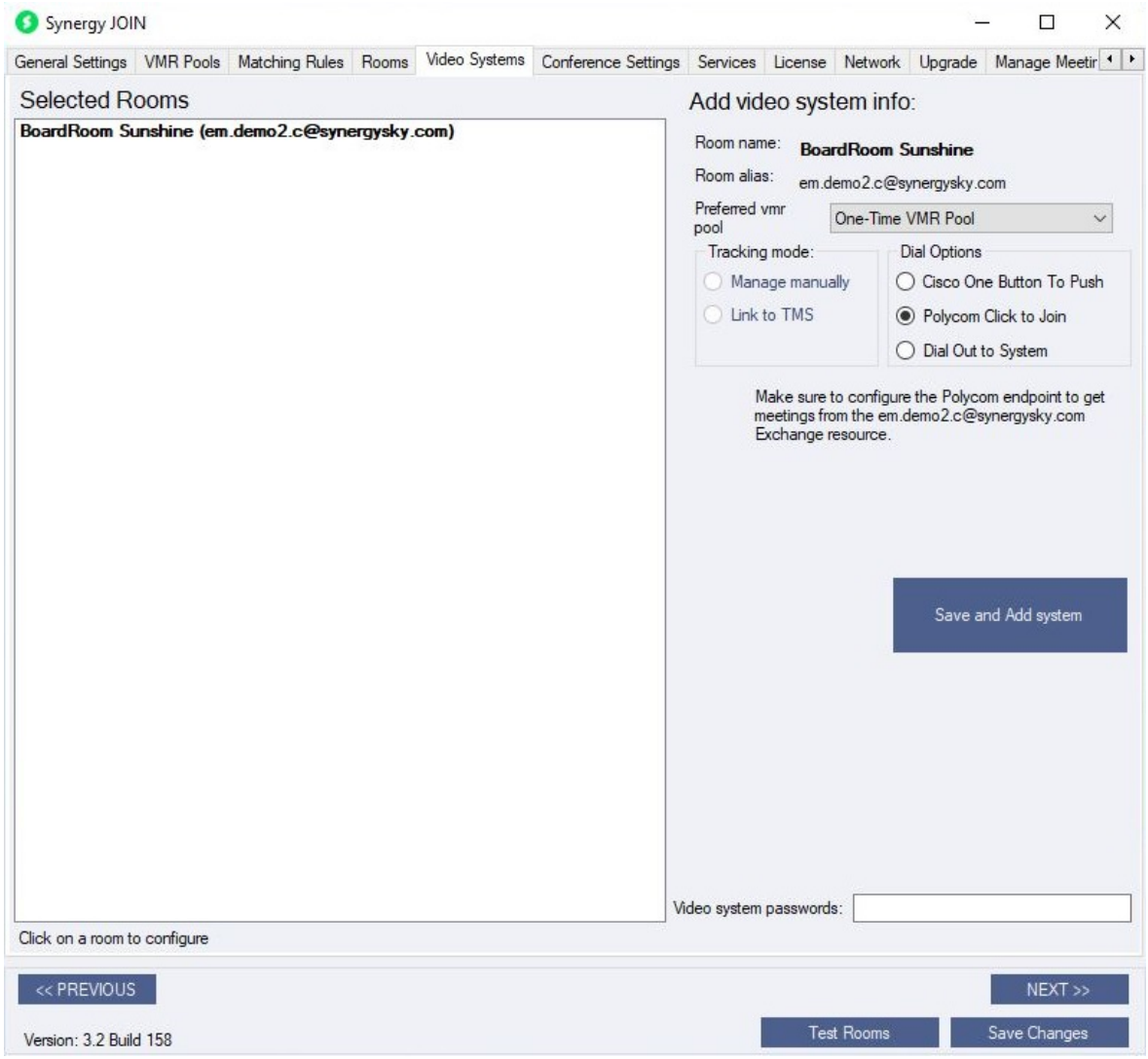
The EWS Emulator is **compatible with the HDX, Group Series and Trio endpoints**.

Configuring Synergy JOIN

The Polycom Exchange Web Service (EWS) Emulator in Synergy JOIN acts as an Exchange Web Server. This means Synergy JOIN will retrieve the calendar information from exchange and populate this to the endpoint.
Within Synergy JOIN you have to Enable the EWS Emulator from the Services tab.



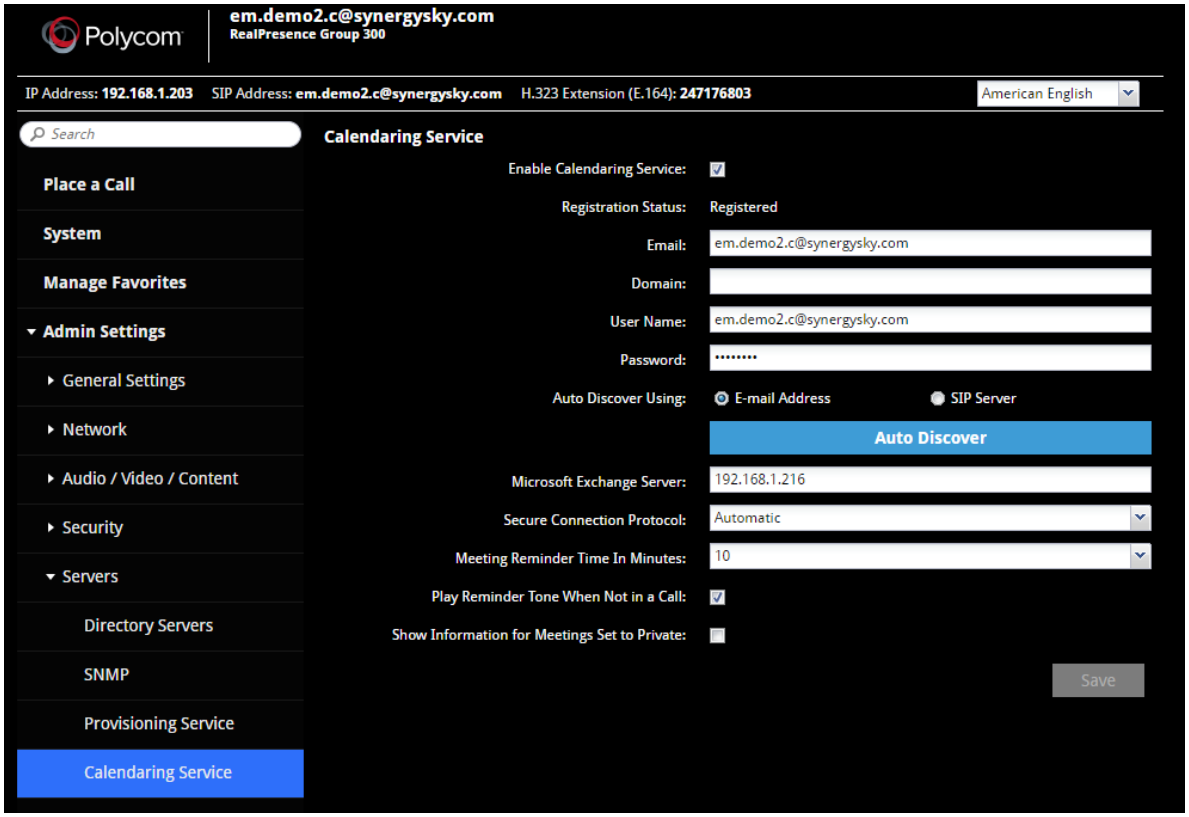
You have to then configure your Video System as a Polycom endpoint. Once you do this, Synergy JOIN will know to send the Polycom Click To Join Token to that endpoint.



Configuring the HDX and Group Series Polycom Endpoint

The Polycom endpoints must be configured to poll calendar information from the JOIN server which will be acting as an Exchange Web Server.

Instructions on how to configure this on a Polycom Group Series endpoint are below:



1. Navigate to the Calendaring Service configuration section within your Polycom Codec.
2. Tick the 'Enable Calendaring Service' tick box
3. **Email**: This should be the room/ resource email address that you have configured within Synergy JOIN.
4. **Domain:** This field is not always required. If you are unable to register your endpoint to the EWS Emulator with this field blank, you will have to enter your domain
5. **User Name:** This should be the room/ resource email address
6. **Password:** This is the password configured in the 'EWS Emulation' section in the 'Services' tab of Synergy JOIN
7. Microsoft Exchange Server: This is the IP address of the JOIN server

Once you have configured the rest of the settings to your liking, click 'Save'

When the Registration Status is 'Registered', you can start booking video meetings and start utilizing Polycom Click To Join.

Configuring the Trio Series Polycom Endpoint

You have to meet the following requirements in order to start using the EWS Emulator with Polycom Trio

- You have to be running Synergy JOIN build 3.2.163 or above
- You have to tick the 'Enable Basic Authentication for EWS Emulator' within the Services tab in Synergy JOIN
- The Trio has to have a line registered as SIP
- You have to have physical access to the touch panel to set a username & password
- If you are running 5.9 firmware, AD Photo fetch needs to be disabled.
  - `feature.contactPhotoIntegration.enabled = 0`
  - More information about this can be found here - https://documents.polycom.com/bundle/trio-sfb-dg-5-9-0-AA/page/c3189620.html
- Trio, if running 5.9.1.10419 - must upgrade to 5.9.1.11135 and set basic auth to enabled
  - https://community.polycom.com/t5/VoIP-SIP-Phones/Software-Trio-UC-Software-5-9-1-11135-RevAC/m-p/107281
  - `feature.exchange.allowBasicAuth= "1"`

Setting a Polycom Profile

The following setup information has been taken from the Polycom support website. The below configuration is what is required in order for the EWS Emulator to work with the Trio.
The full Polycom documentation can be found here: https://otd.plcm.vc/support/docs/devices/polycom-trio#configure-device-profile

Configure Device Profile

1. Go to the management section of the device. You can get there by entering the IP address of the device into the browser address.
   Note: You must log in as an administrator.
2. Select **Simple Setup** from the tab menu.
3. Ensure **Generic** is selected for the Base Profile. The Trio will not function with One Touch Dial service using the other profile options.

Configure Device Calendaring

1. Go to the management section of the device. You can get there by entering the IP address of the device into the browser address. Note: You must log in as an administrator.
   Example: `https://<ip-address-of-trio>/`
2. Select **Settings > Applications > Exchange Applications.**
3. Enter the following fields:
   - **Enable**: Exchange Calendar
   - **Disable**: AutoDiscover
   - **Exchange Server URL**: https://ipaddressofjoin/EWS/Exchange.asmx
     - **NOTE:** Exchange URL is case sensetive
4. Click Save.

Configure Device Credentials

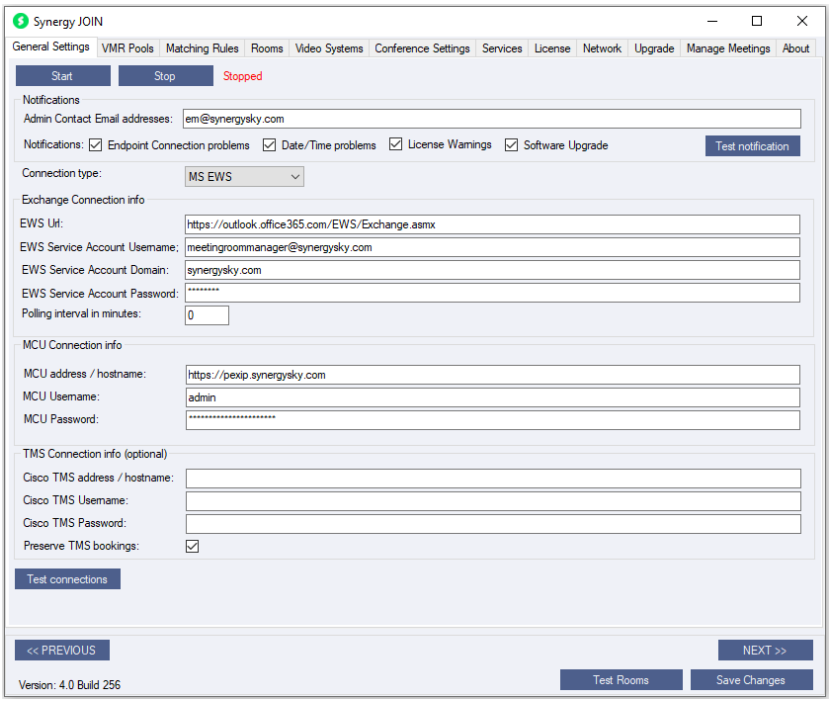
1. Provide calendaring credentials. This must be done on the device itself.
2. On the device touch panel go to **Settings > Basic > Login Credentials.**
3. Enter the following fields:
   - **Domain**: Example OTD
   - **Username**: Example roomname@company.com
     - This is the room alias as it is configured in JOIN
   - **Password**: Example F3kDFyu1bD
     - This is the JOIN EWS Emulator password
4. Click **Save**. The Registration Status should display **Registered** and the calendar should appear in a few seconds.

Task 2: Launching the configuration tool and installing the service

1. Start the configuration tool by double-clicking on the JOIN icon on the desktop.

   Note: On startup, the server checks for updates, so if you do not have internet access configured on the server, you will see an error here.

2. Click **Install Service** to install the JOIN service on the server - once installed this button disappears from the configuration tool.
   The **Start** and **Stop** buttons are used once the service is installed to stop and start it, as necessary.



Note: Pressing Ctrl + F5 reveals the **Uninstall Service** button in the place of the **Install Service** button, which when clicked, uninstalls the service from the server.

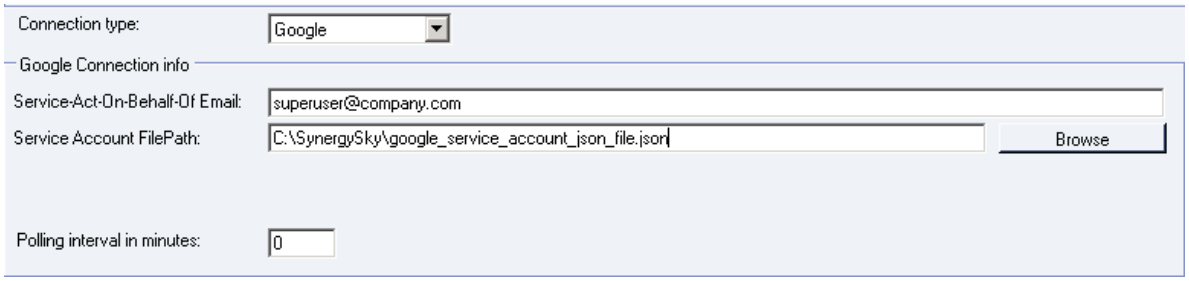
Task 3: Configuring the General Settings

Fill in the fields in the **General Settings** tab as follows:

Section/Field name	Description
Notifications	Contact details for the administrator who should receive notifications of any problems in the platform, for example if JOIN fails to push Cisco OBTP or Polycom CTJ information to endpoints.
Admin Contact Email Addresses	The email addresses of administrators who will receive email notifications for the specified events. Use a comma to separate multiple email addresses.
Notifications	Specify which events will trigger an email to be sent to the administrator email addresses specified above.

Connection Types

Section/Field name	Description
Exchange Connection info	The Exchange Web Service (EWS) details for your Exchange environment.
EWS Url	The Exchange Web Service (EWS) URL: if using Office 365, then you can normally use the default value already populated here: *https://outlook.office365.com/EWS/Exchange.asmx*
EWS Service Account Username	The username of the EWS service account. Microsoft Exchange sometimes requires the username to be in the format of "domain\username" and sometimes "username@domain". In the latter cases the domain field is optional For details of the permissions required for the service account, see "Exchange Resource Account Requirements" on page 12
EWS Service Account Domain	The domain of the EWS service account.
EWS Service Account Password	The password of the EWS service account.
Google connection info	The details for your G-suite setup
Service-Act-On_Behalf-Of email	A super administrator in the admin.google.com section of the configuration. (Additional information can be found in the Google Cloud Platform Configuration)
Service Account FilePath	Filepath to the service account json file you have downloaded in connection with the creation of the service account (This is the json file that was copied in the Google Configuration section under 'Create a Private Key for JOIN')
Polling interval in minutes	The number of minutes between JOIN checking the mailbox. If you notice any issues with your connection to your mailboxes taking longer than expected, we advise to set your Polling interval in minutes to 0.



Continuing with General Settings:

Section/Field name	Description
MCU Connection info	A Pexip Infinity Management Node, Cisco CMS Master Node or StarLeaf Cloud URL is required so that JOIN can: • launch outbound calls to non-Cisco OBTP or Polycom CTJ systems • provision one-time-VMRs when booking non-Skype meetings (Cisco and Pexip only) Note that for StarLeaf you need to request an authentication token that gives you access to Skype for Business interworking.
MCU address / hostname	The address of the MCU. Will normally start with *https://* For StarLeaf Cloud enter *https://api.starleaf.com* For Videonor Cloud enter *https://core.videonor.net*
MCU Username	The username of an admin account on the MCU. For StarLeaf Cloud, this field will show *X-SL-AUTH-TOKEN* For Videonor Cloud, this field will show *x-auth-token*
MCU Password	The password of an admin account on the MCU. For StarLeaf Cloud, enter the access token from the StarLeaf Portal. See "How to create a StarLeaf Cloud authorization token" on page 118 For Videonor Cloud, enter the access token you have been provided by Videonor support
TMS Connection info (optional)	Optionally you can add Cisco TMS to your JOIN; this is of value if the video systems are configured with dynamic IP addresses (DHCP) in your environment. JOIN will then query TMS for updated IP addresses if it is unable to connect to the video systems. Adding TMS also makes it easier to add video systems, as they can then be selected from a list instead of having to enter their IP addresses manually.
Cisco TMS address / hostname	The hostname or IP address of the TMS server. This could be prefixed with either *http://* or *https://*. JOIN assumes TMS is installed on the default web application named /TMS (e.g. *http://tms.company.com/tms*).
Cisco TMS Username	The username of a Site Administrator in TMS. The username would normally be prefix with the NETBIOS domain (e.g. *company\admin*).
Cisco TMS Password	The password of a Site Administrator in TMS.
Preserve TMS Bookings*	Check the checkbox if JOIN should preserve meetings that are pushed to the codec by other booking systems such as Cisco TMS. Enabling this feature will result in more network activity and higher cpu usage on the codec and on JOIN because JOIN will increase the verification rate to ensure the video conferencing system has the correct meetings added. We recommend that you only enable this feature during a trial or migration phase.

*Note that TMS pushes out the meetings later than JOIN and therefore overwrites the meetings that are pushed out by JOIN. Note the following regarding using the **Preserve TMS Bookings** setting above:

TMS	JOIN without Preserve TMS Bookings	JOIN with Preserve TMS Bookings
Pushes out a list of all meetings to endpoint when a meeting is booked, updated or deleted.	Pushes out a list of meetings for the next 24 hours when a meeting is booked, updated or deleted.	Pushes out a list of meetings for the next 24 hours when a meeting is booked, updated or deleted.
	Verifies and overwrites (if necessary) the meeting list on the endpoint every hour with meetings stored in JOIN for the next 24 hours.	Verifies and merges (with TMS meetings if necessary) the meeting list on the endpoint every hour with meetings stored in JOIN for the next 24 hours.
	Verifies and overwrites (if necessary) the meeting list on the endpoint at **Conference Start Buffer** before every meeting starts (start-up buffer is by default 10 minutes) with meetings stored in JOIN for the next 24 hours.	Verifies and merges (with TMS meetings if necessary) the meeting list on the endpoint at **Conference Start Buffer** before every meeting starts (start-up buffer is by default 10 minutes) with meetings stored in JOIN for the next 24 hours.
		Verifies and merges (with TMS meetings if necessary) the meeting list on the endpoint continuously while a meeting is in progress with meetings stored in JOIN for the next 24 hours.

Task 4: Testing that email is working

Click **Test notification email** to send a test email to the **Admin Contact Email Addresses** using the **EWS Service Account** or the **service-act-on-behalf-of email** defined in the sections above.

Task 5: VMR Pools

JOIN 3.1 and later introduces the concept of VMR pools.

A VMR pool is a defined set of VMRs; either a range or a predefined set of individual VMRs. Currently two types of pools are defined:

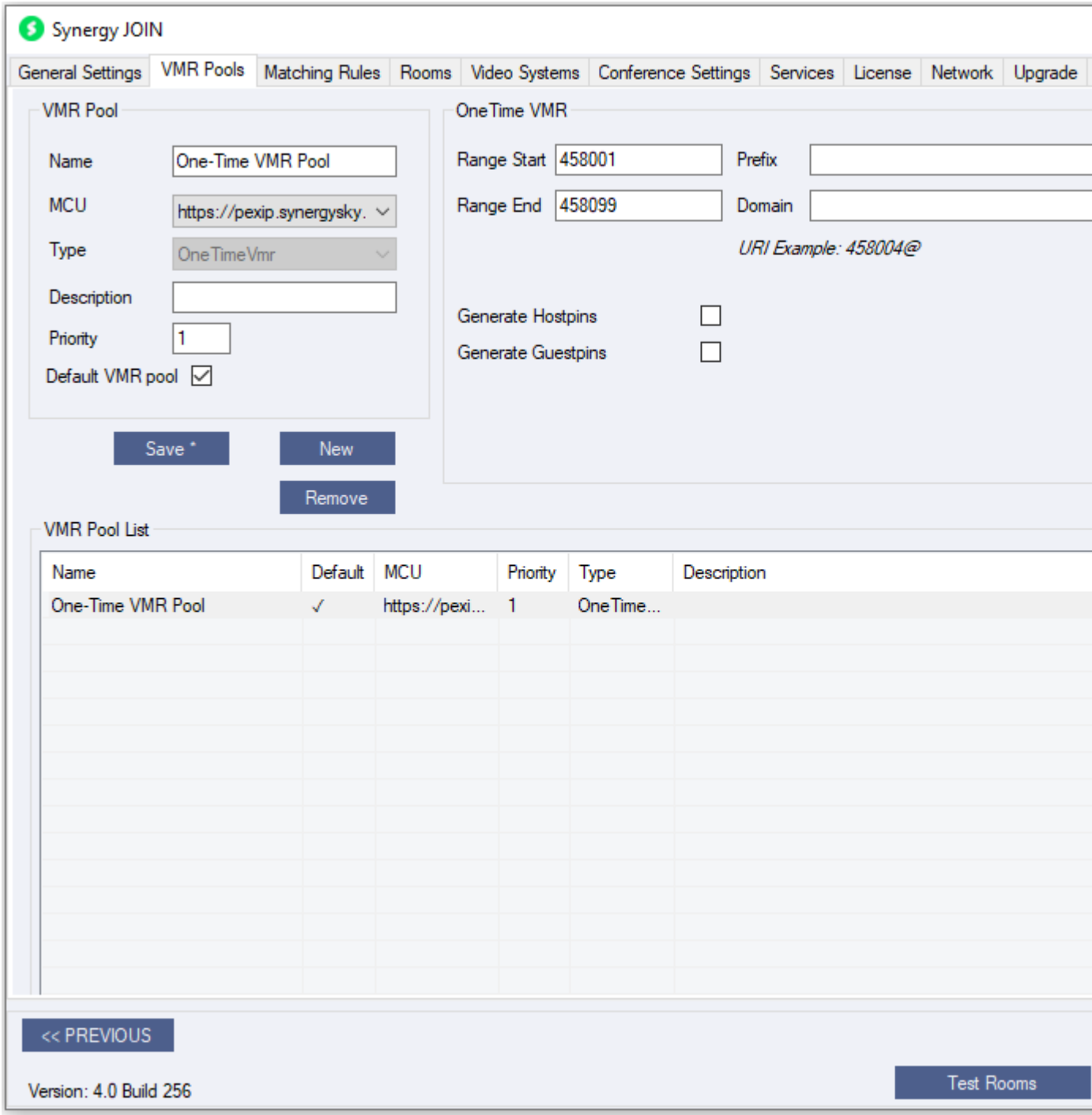
OneTimeVmr

- This defines a range of URIs and will be used when provisioning VMRs on the assigned MCU

PreProvisionedVMR

- This defines a set of URIs and associated variables. These will not be provisioned on any MCU, however JOIN assumes that these URIs/VMR are already provisioned. Join will use these and assign them to meeting bookings, making sure they are assigned in a non-overlapping way similar to the one-time VMRs.

Note: JOIN must have a valid connection the MCU that is hosting these VMR's in order for this functionality to work



Configuring VMR Pools

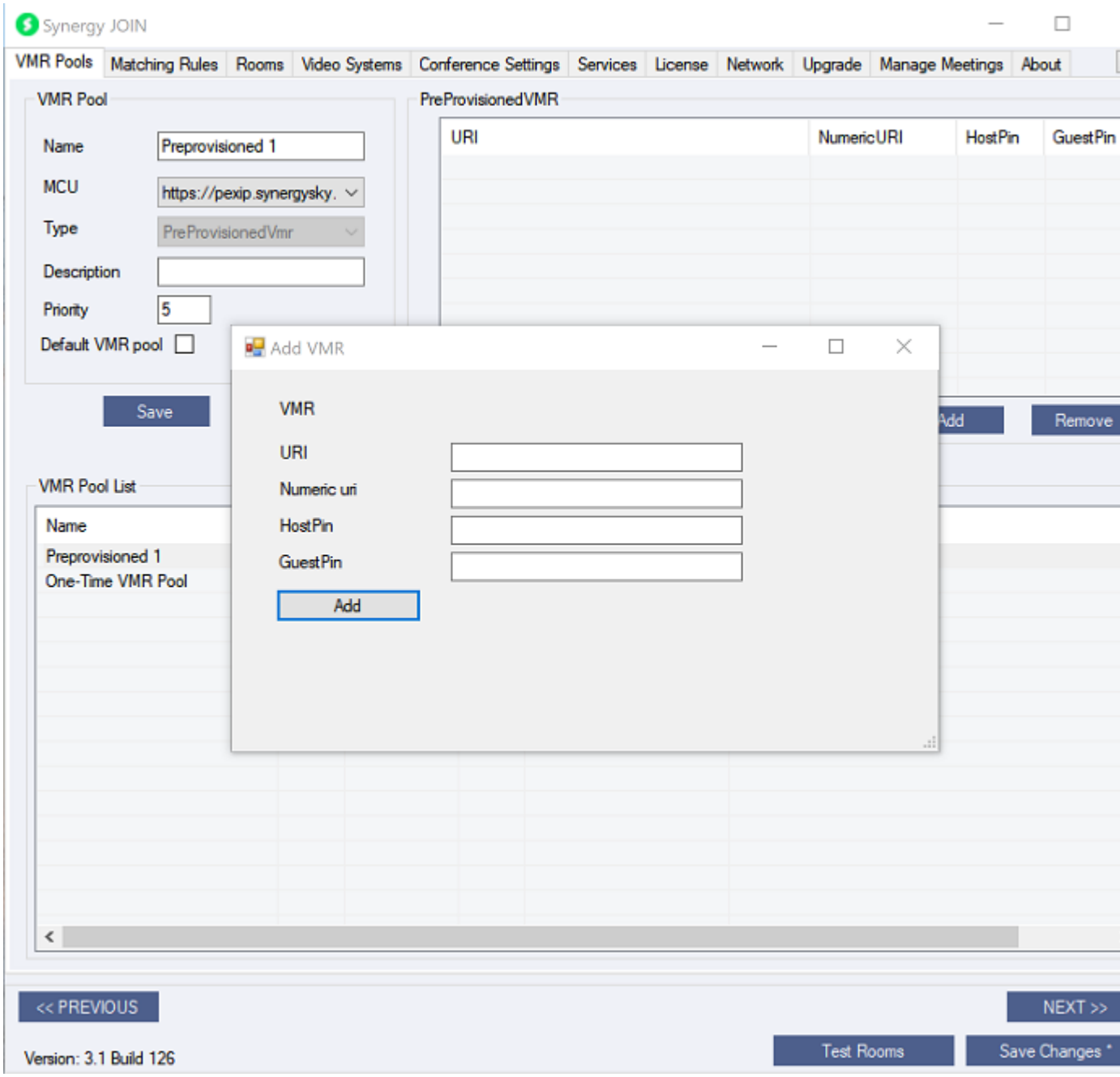
When you upgrade from a version older than JOIN 3.1, you will have a default One-Time VMR Pool already configured. The One-Time VMR Pool settings are taken from your previous configuration and will be copied across to the VMR Pools section. The fields that are carried across are the Range Start, Range End, Prefix and Domain. To configure you own OneTime VMR Pool you have to configure the below information:

Section/Field name	Description
Name	Given name, not used by the service
MCU	Associated MCU (if any) **Note:** MCUs must be configured prior to appearing in this drop down list

Section/Field name	Description
Type	The defined type of pool. Currently two types are supported 'OneTimeVmr' and 'PreProvisionedVmr' Note: Changing type is not supported after it has been saved
Description	Free text field to type the description of this VMR Pool
Priority	Pool priority in case multiple pools are eligible as location for the meeting
Default VMR Pool	One pool has to be set as default. This pool will be used if there is no preference within the meeting booking itself, or if pools of higher priority have no available URI/slot left
Host pin	A 4-digit pin code will be randomly generated for each one-time VMR for hosts to use to start the meeting. See "Configuring Cisco Meeting Server profiles with Synergy JOIN " on page 120 for controlling the behavior of hosts and guests on Cisco Meeting Server
Guest pin	A 4-digit pin code will be randomly generated for each one-time VMR for guests to use to join the meeting.
Conference Alias Range Start	This defines the start value of the number range used to create the URIs (e.g. *900000*).
Conference Alias Range End	This defines the end value of the number range used to create the URI (e.g. *9999999*).
Conference Alias Domain	This defines the domain of the URI.
Conference Alias Prefix	This defines a prefix that will be added in front of the numeric alias for provisioning the URI. The numeric alias will still be provisioned as an alternative alias for the vmr to enable IVR dial-in. NOTE: Videonor Cloud requires all URIs to start with a alphanumeric prefix

To create a PreProvisioned VMR Pool you will have to configure additional parametors for the Pre Provisioned VMR's you would like Synergy JOIN to detect.

Section/Field name	Description
URI	The given URI of the VMR
Numeric URI	The Numeric URI of the VMR
HostPin	(If Applicable)The 4-digit pin code hosts to use to start the meeting within the VMR
GuestPin	(If Applicable)The 4-digit pin code guests have to use to join the VMR



VMR Pool List

The VMR Pool List lists all of the VMR's that exist in Synergy JOIN

Section/Field name	Description
Name	The field will display the given name of the VMR
Default	If the VMR is a default VMR, there will be a ✔ sign to indicate that this is the default VMR
MCU	The MCU that is associated with this VMR Pool
Priority	The pool priority for this VMR Pool

Section/Field name	Description
Type	This field indicates whether this is a OneTimeVmr or a PreProvisionedVmr
Description	This field displays the predefined description of the VMR Pool

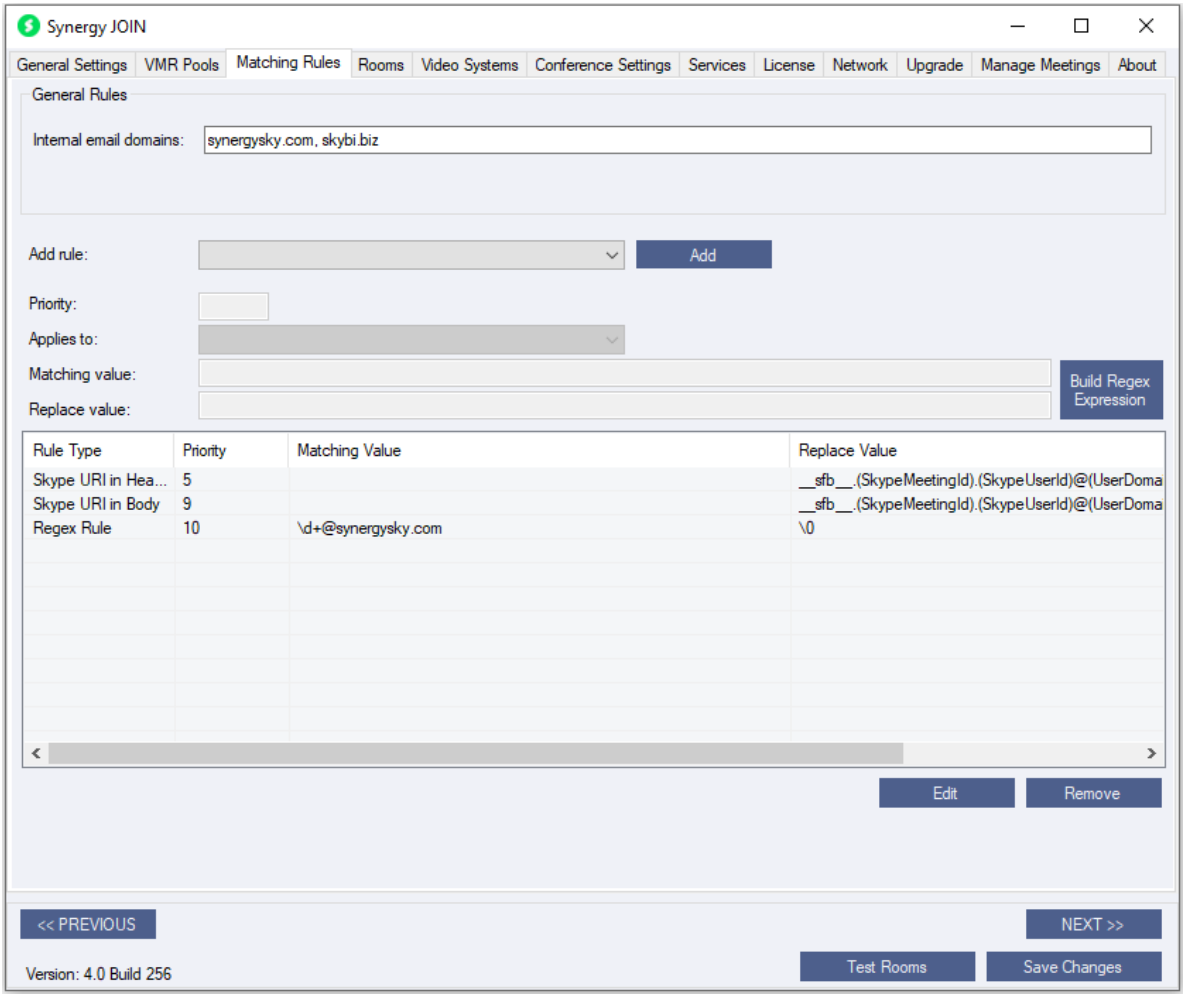
Task 6: Creating Matching Rules

After configuring the **General Settings**, you need to create matching rules.

The matching rules in JOIN allow you to define how calendar bookings should be processed.

As an example, you can create rules that define that JOIN should do the following:

1. Look for personal VMRs in invites from internal users.
2. Look for Skype invites from all users.
3. Create a one-time-VMR if neither 1 or 2 apply.



Configuring the General Rules

Configure the **General Rules** as follows:

Field	Description
Internal email domains	Specify a comma separated list of the email domains your organization uses. This list is used to determine whether a meeting room invitation is sent from an internal or external user. It is also used to determine which users are internal and external when sending out connection information emails. (e.g. *synergysky.com, synergysky.eu, synergysky.us*)

Creating the rules

First, select the type of rule you want to add from the **Add Rule** dropdown menu:

Rule type	Description
Skype URI in Headers	This rule makes JOIN look for Skype invites in hidden text in the invite. This will normally work for all Skype meetings when the invitation is sent internally in the organization. The information may however be lost if the email jumps multiple Exchange servers, or when the invite comes from someone outside the organization.
Skype URI in Body	This rule analyzes the Hyperlink in the body of the invitation to find the URI of the Skype meeting. This will work in most environments, both internally and externally, but is slower. It is therefore recommended to use this as a fallback rule with lower priority than the **Skype URI in Headers** rule. NOTE: This function requires Synergy JOIN to have access over HTTPS to the Skype server where the meeting is hosted; either directly or via a proxy server.
Teams URI in Headers	This rule makes JOIN look for Teams invites in hidden text in the invite. This will normally work for all Teams meetings when the invitation is sent internally in the organization. The information may however be lost if the email jumps multiple Exchange servers, or when the invite comes from someone outside the organization. NOTE: The Teams rule should be added with a high priority than the Skype rules, since Teams invitations also contains an Skype invitation in the header
Teams URI in Body	This rule makes JOIN look for Teams invites in the meeting body via Regex rule. The rule can be adjusted according to the pattern in your Teams setup.
Regex Rule	This rule enables you to use Regex to define how you want JOIN to work. You can define your own pattern matches, and differentiate between invitations from internal and external organizers. You can define both matching patterns and replace patterns to transform the URI when required. This rule can be added multiple times.
Hangout Meet	This rule enables JOIN to look for Google Hangout meetings in the Body of the Google Hangouts Meeting via Regex rule. This rule is prepopulated when you select it

Skype URI in Headers

Configure the remaining fields as follows:

Field	Description
Priority	The priority defines the order in which the rules are applied. The lowest number gives the highest priority. (E.g. 1 is processed before 5).
Applies to	Internal invitations
Matching value	Not applicable

Replace value	**Pexip:**
	`S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)`
	where:
	• `SkypeMeetingId` = alphanumeric meeting Id found in every Skype meeting invite
	• `SkyperUserId` = the userpart of the organizer's Skype SIP URI
	• `UserDomain` = the domain in the organizer's Skype SIP URI
	NOTE: For Organizations with a Pexip Gateway hosted by a Service Provider, the recommended pattern would be:
	`S4B.(SkypeMeetingId).(SkypeUserId)_(UserDomain)@serviceProvidersDomain.com`
	This allows the Service Provider to strip away their domain and replace the underscore with @ before sending the call through the Pexip Gateway.
	CMS:
	`(SkypeURL)@CompanyCMSDomain.local`
	where:
	`CompanyCMSDomain.local` = the routing domain that ensures the call is routed to the CMS.
	Note: This domain must also be added as a "Targets Lync Simplejoin" domain on the CMS under **Configuration > Incoming Calls**.
	StarLeaf Cloud:
	This field is disabled as the required value is automatically configured.

Skype URI in Body

Configure the remaining fields as follows:

Field	Description
Priority	The priority defines the order in which the rules are applied. The lowest number gives the highest priority. (E.g. 1 is processed before 5).
Applies to	All invitations
Matching value	Not applicable
Replace value	**Pexip:** Use the same format as for Skype URI in Headers. **CMS:** Use the same format as for Skype URI in Headers. **StarLeaf Cloud:** This field is disabled as the required value is automatically configured.

Teams URI in Headers

Configure the remaining fields as follows:

Field	Description
Priority	The priority defines the order in which the rules are applied. The lowest number gives the highest priority. (E.g. 1 is processed before 5).
Applies to	Internal invitations
Matching value	Not applicable
Replace value	**Pexip:** `Teams.(TeamsMeetingId)@company.com` where: • `TeamsMeetingId` = alphanumeric meeting Id found in the Teams meeting invite The URI needs to match the Teams gateway rule in the Pexip configuration. Please refer to the Pexip documentation for more details

Teams URI in Body

Configure the remaining fields as follows:

Field	Description
Priority	The priority defines the order in which the rules are applied. The lowest number gives the highest priority. (E.g. 1 is processed before 5).
Applies to	All invitations
Matching value	Not applicable
Replace value	**Pexip:** Use the same format as for Skype URI in Headers.

Hangout Meet

Configure the remaining fields as follows:

Field	Description
Priority	The priority defines the order in which the rules are applied. The lowest number gives the highest priority. (E.g. 1 is processed before 5).
Applies to	All invitations

Field	Description
Matching value	This field defines the Regex rule for matching data . For example: \d*@company.com* will match all URIs starting with a number and ending with *@company.com*) This field is prepopulated to catch all hangout meetings
Replace value	This field defines how the matched data should be transformed before being sent to the endpoint. This field is pre-populated to replace the matching value that has been identified.

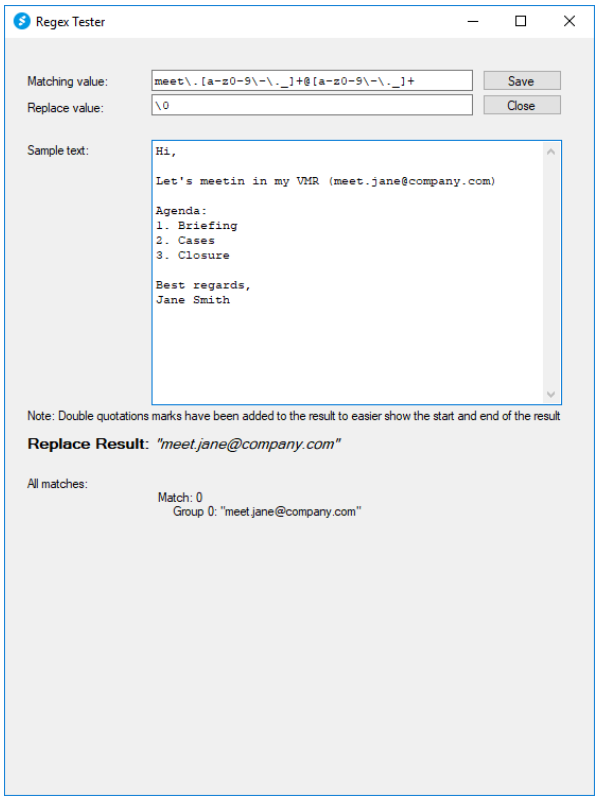
Regex

Configure the remaining fields as follows:

Field	Description
Priority	The priority defines the order in which the rules are applied. The lowest number gives the highest priority. (E.g. 1 is processed before 5).
Applies to	All invitations
Matching value	This field defines the Regex rule for matching data . For example: \d*@company.com* will match all URIs starting with a number and ending with *@company.com*)
Replace value	This field defines how the matched data should be transformed before being sent to the endpoint. **Pexip:** The value `\0` uses the entire matched value, while `\1` matches the first pair of parenthesis and so on. Example: **Matching Value**: Id: (\d) **Replace Value**: \1@video.company.com **Email body**: Conference Id: 123456789 URI = 12346789@video.company.com **CMS:** If you have CMS for internal dual-home, you can use a regex rule to look for "conference id: 123456" from internal meeting organizers.

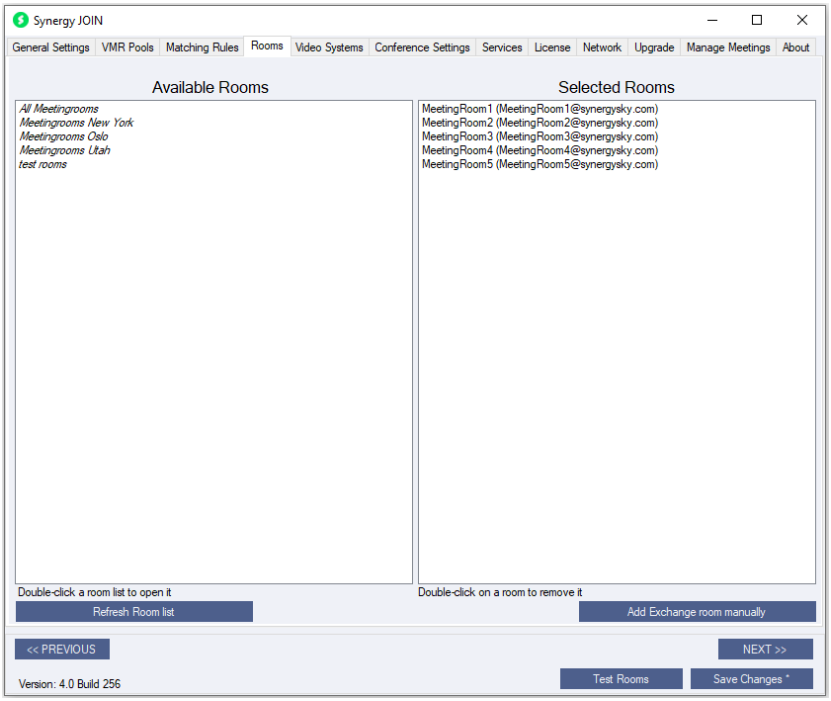
Testing, editing and deleting rules

Click the large **Test** button in the **Add Rules** area of the **Matching Rules** tab to launch the **Regex Test Tool**. The tool will help you identify any errors in your regex by testing a **Matching Value** and **Replace Value** towards a text field:



Task 7: Adding Rooms

This tab is where you choose which meeting-room resources should be monitored by JOIN. The Microsoft Exchange User service account requires Full Calendar Access to these rooms when you have configured your installation with Exchange. For Google mode, a properly set up Google Service account is required along with correctly set Calendar scopes. For more details see Requirements.



This table explains the fields and buttons on the **Rooms** tab:

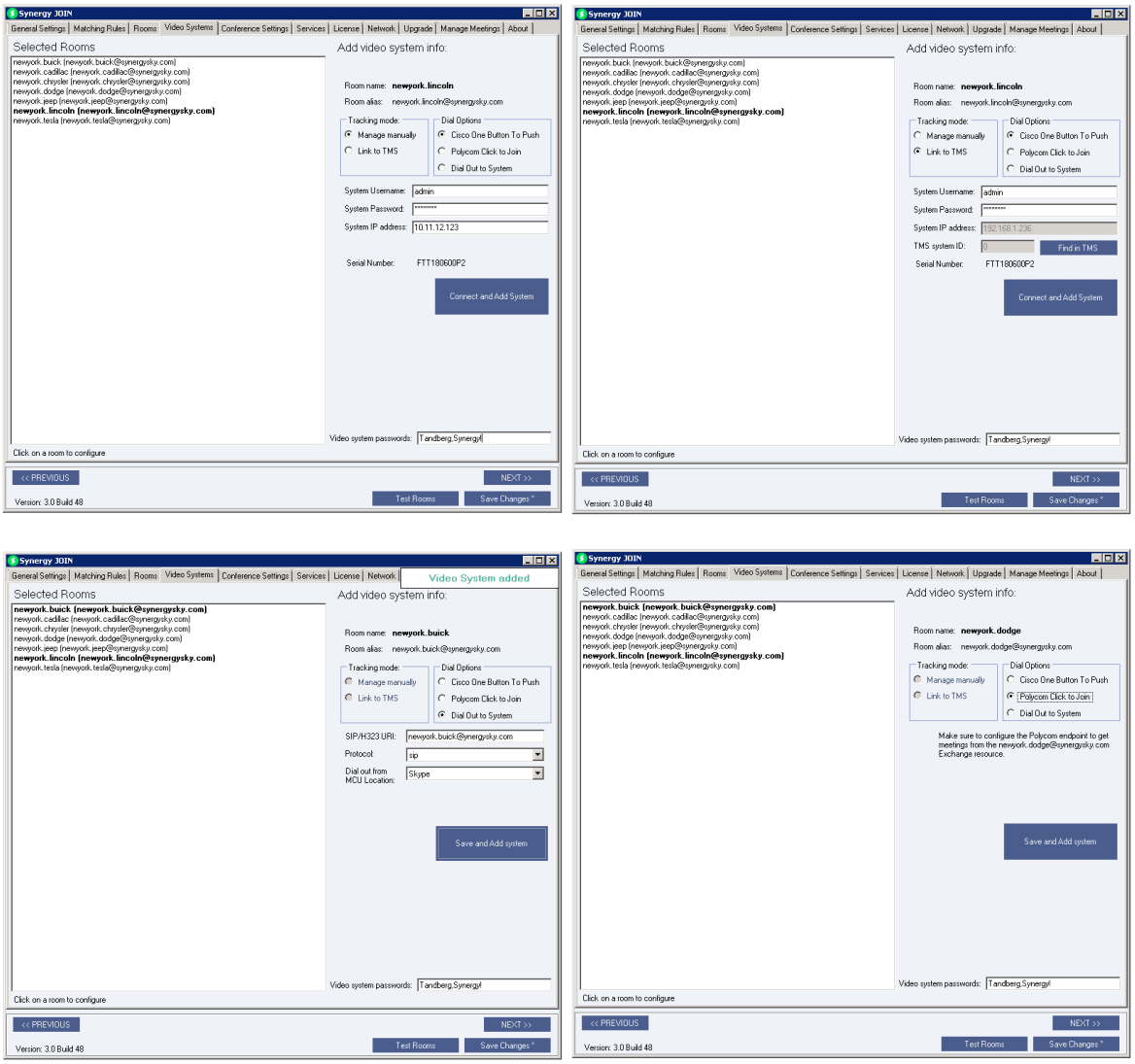
Section/Field name	Description

Available Rooms	This list shows a list of **Room Lists** from your Exchange or Google Environment
	Room lists are special address books in Exchange/ Google that only contain Rooms.
	If no room lists are shown, ask your administrator to create one for you based on the examples below.
	Once a list of Room Lists is shown, double-click a list to open it. You can then double-click rooms to add them to the **Selected Rooms** list.
	Example for creating room lists in the Microsoft Exchange PowerShell tool:
	`$RoomAlias = Get-Mailbox -RecipientTypeDetails RoomMailbox -Filter {Office -eq 'HQ'} | select -ExpandProperty Alias`
	`New-DistributionGroup -RoomList -Name 'HQ Meetingrooms' -Members $RoomAlias`
	`$RoomAlias = Get-Mailbox -RecipientTypeDetails RoomMailbox | select -ExpandProperty Alias`
	`New-DistributionGroup -RoomList -Name 'All Meetingrooms' -Members $RoomAlias`

Selected Rooms	This list shows which rooms are added to JOIN. They must be "connected" to video systems in the **Video Systems** tab before they can be used. Double-clicking rooms in this list will remove them.
Refresh Room list	This button is used to refresh the room list. **Note:** It can take up to 15 minutes before a room list is visible here after adding a room list in Exchange.
Add Exchange room manually	Click this button to add rooms from Exchange manually. This is done by providing a display name and an alias for the room.

Task 8: Adding Video Systems

This is where you connect the Exchange meeting-room resources to the Video Systems. The video systems can be defined manually or retrieved from Cisco TMS.



This table explains the fields and options on the **Video Systems** tab:

Section/Field name	Description
Selected Rooms	This list shows a list of all Exchange Rooms that are added to JOIN. • Correctly configured systems are shown in bold. • Rooms that are not connected to video systems are shown with normal text. • Rooms with incorrect details are show with strike-through text. Select a room to configure it.

Tracking mode	• **Manage manually**: Use if you want to add the video system's details manually (video systems with static IP address).
	• **Link to TMS**: Use if you want the video system to be tracked by TMS (video systems with DHCP). Clicking **Find in TMS** launches a TMS system browser. There may be a delay the first time the system browser launches.
	  ○ **System Username**: The admin account for the video system (e.g. *admin*).
	  ○ **System Password**: The password for the admin account. The system password is not available from TMS, so you will always have to add this manually.
	  ○ **System IP address**: The IP address or hostname of the video system.

Section/Field name	Description

Dial Options	This setting defines whether the video system should get One-Button-to-Push (Cisco OBTP) or Click-to-Join (Polycom CTJ) messages or be dialed out to.
	• **Cisco One Button to Push**: The video system will receive Cisco OBTP information about upcoming meetings (limited to the next 24 hours). For a list of supported video systems, see "Requirements" on page 9.
	• **Polycom Click To Join**: The video system will receive Polycom CTJ information about upcoming meetings. Polycom endpoints will get the meetings for 'today'. The endpoint must get the meetings from Exchange. Note that HDX does not support Office 365. For a list of supported video systems, see "Requirements" on page 9.
	• **Dial Out to System**: The video system will receive an incoming call from the Pexip MCU/GW at the meeting start time. If the connection attempt fails, the MCU will retry connecting according to the settings in the **Conference Settings** tab.
	  ○ **SIP/H323 URI:** The URI the video system can be reached on. This URI must be dialable by the Pexip MCU/GW.
	  ○ **Dial out from MCU Location**: The location the Pexip MCU/GW will use when making the call.

Connect and Add System	Displayed if **Dial Options**: *Cisco One Button To Push* is selected. Click this button to test the connection and add the settings. The serial number of the video system will be saved and remembered by JOIN to ensure it's sending the Cisco OBTP information to the correct video system.
Save and Add System	Displayed if **Dial Options**: *Polycom Click to Join* or *Dial Out to System* are selected. Click this button to add the settings.
Video system passwords	Specify a list of default passwords that JOIN will try when connecting to video systems.

Note: JOIN performs a nightly check of connectivity and time/date of all Cisco OBTP-enabled endpoints. If configured on the **General Settings** tab of the configurator, admins are notified of any issues identified during this check. The check takes place between 2am and 3am local server time; this is non-configurable.

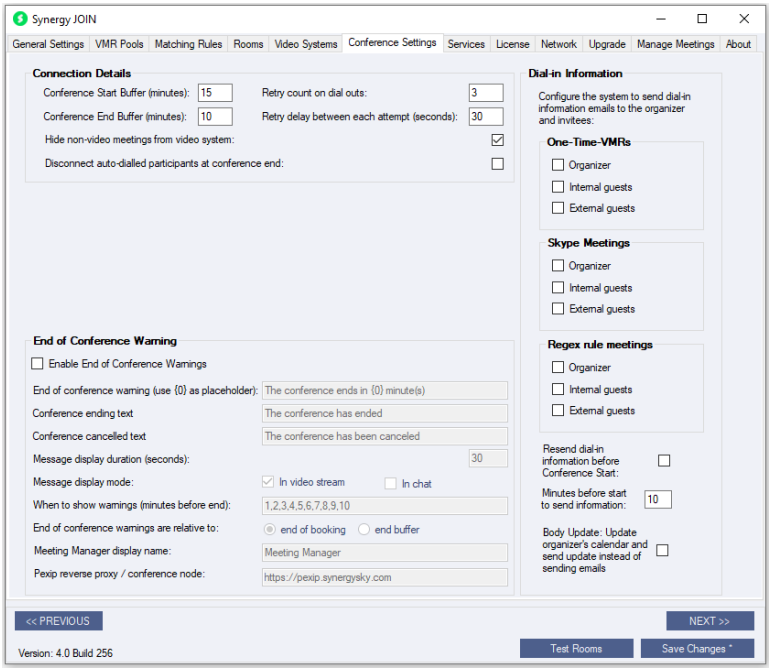
Note: If the video system's codec is replaced for any reason, and the video system is not linked to and imported from Cisco TMS, you must re-add the video system here.

Task 9: Configuring Conference Settings

If you are running Synergy JOIN 3.1 you will have to read the "VMR Pools" on page 66 section to configure One-Time-VMR Settings.

The conference settings define:

- conference configuration
- one-time-VMR pin and URI details
- who receives conference dial-in information emails
- End of Conference Warnings



Configure the fields in the **Conference Settings** tab as follows:

Section/Field name	Description
Connection Details	
Conference Start Buffer (Minutes)	The start buffer defines when VMRs are provisioned and can be dialed into, and it defines when the green button in the Cisco OBTP or Polycom CTJ message can be pressed on the video system. It also defines when Dial-in information is resent to the invitees if **Resend dial-in information at Conference Start Buffer** is ticked.
Conference End Buffer (Minutes)	The end buffer defines when the VMRs are de-provisioned and the remaining participants are disconnected.
Retry count on dial outs	The retry count controls how many call attempts are made to dial-out video systems if the initial connection attempt fails.
Retry delay between	The retry delay controls how long JOIN will wait between the dial out attempts per participant.
Hide non-video meetings from video system	If selected, meetings without dialable URIs will not be visible as Cisco One Button To Push meetings on booked endpoints.
Disconnect auto-dialled participants at conference end	If selected, JOIN will disconnect dial-out calls it has initiated at conference end buffer, or if the meeting is deleted.
One-Time-VMR Settings	If you have specified that JOIN should create one-time VMRs, this is where you define whether the one-time VMRs should be configured with pin codes, and the numeric alias number range and domain so the VMRs can be reached via an IVR from telephones. The pin codes are included in the emails that are sent out to the Organizer and internal/external guests. **Note:** If using pin codes, you must update the email templates to ensure that the host pin is not sent to guest participants.

Section/Field name	Description
Host pin	A 4-digit pin code will be randomly generated for each one-time VMR for hosts to use to start the meeting. See "Configuring Cisco Meeting Server profiles with Synergy JOIN " on page 120 for controlling the behavior of hosts and guests on Cisco Meeting Server
Guest pin	A 4-digit pin code will be randomly generated for each one-time VMR for guests to use to join the meeting.
Conference Alias Range Start	This defines the start value of the number range used to create the URIs (e.g. *900000*).
Conference Alias Range End	This defines the end value of the number range used to create the URI (e.g. *9999999*).
Conference Alias Domain	This defines the domain of the URI.
Conference Alias Prefix	This defines a prefix that will be added in front of the numeric alias for provisioning the URI. The numeric alias will still be provisioned as an alternative alias for the vmr to enable IVR dial-in. NOTE: Videonor Cloud requires all URIs to start with a alphanumeric prefix
End of Conference Warning	
Enable End of Conference Warnings	If ticked, End of Conference Warning notifications will be presented in the video stream X minutes before a conference is about to end. This applies for: • Pexip personal VMRs • Pexip onetime VMRs • CMS onetime VMRs End of Conference Warning Notifications do not work for Gateway calls.
End of conference text (use {0} as placeholder)	Enter the text you want to appear if **Enable End of Conference Warnings** is ticked. The placeholder {0} will display the number of minutes left in the meeting, based on the settings you have entered below.
Conference ending text	The text that will appear when the scheduled end time of a conference is reached.
Conference cancelled text	The text that will appear when a conference the conference end buffer has been reached or if the meeting is deleted.
Message display duration (seconds)	The length of time in seconds that End of Conference Warnings should stay on the screen.
Message display mode	Define if the messages should be visible in the video stream, the chat (WebRTC chat, Skype chat and Pexip/CMS client chat) or both.
When to show warnings (minutes before end)	Specify when the End of Conference Warning Notifications should be displayed. Multiple entries must be separated by a comma.
End of conference warnings are relative to	*end of booking*: durations and other specifications are relative to the end time of the booked conference. *end buffer*: durations and other specifications are relative to the conference end buffer.
Meeting Manager display name	Define the name of the account that will be visible in the roster list while the end of conference message is being displayed. **Note**: Not available for CMS.
Pexip reverse proxy / conference node	Enter the URL for the Pexip reverse proxy / conference node. **Note**: Not required for CMS.
Send Conference Dial-in Information Emails	This section specifies whether the organizer, internal guests and external guests should receive a dial-in information email when meetings are booked. To edit the email templates, go to *C:\SynergySKY\SynergySKYEnterpriseScheduling\emailTemplates* and manually edit the templates using an HTML editor. See "Configuring Email templates" on page 105. **Note:** The email domain list in the **Matching Rules** tab is used to determine which guest participants are internal/external.
One-Time-VMRs	Specify who will receive the dial-in information email when a one-time-vmr meeting is booked.
Skype Meetings	Specify who will receive the dial-in information email when a Skype meeting is booked.
Regex rule meetings	Specify who will receive the dial-in information email when a regex rule meeting is booked.
Resend dial-in information before Conference Start	Specify whether a dial-in information email will be resent to the specified recipients shortly before the conference start time.
Minutes before start to send information	Specify the number of minutes before the conference start time that the dial-in information email will be resent to the specified recipients.

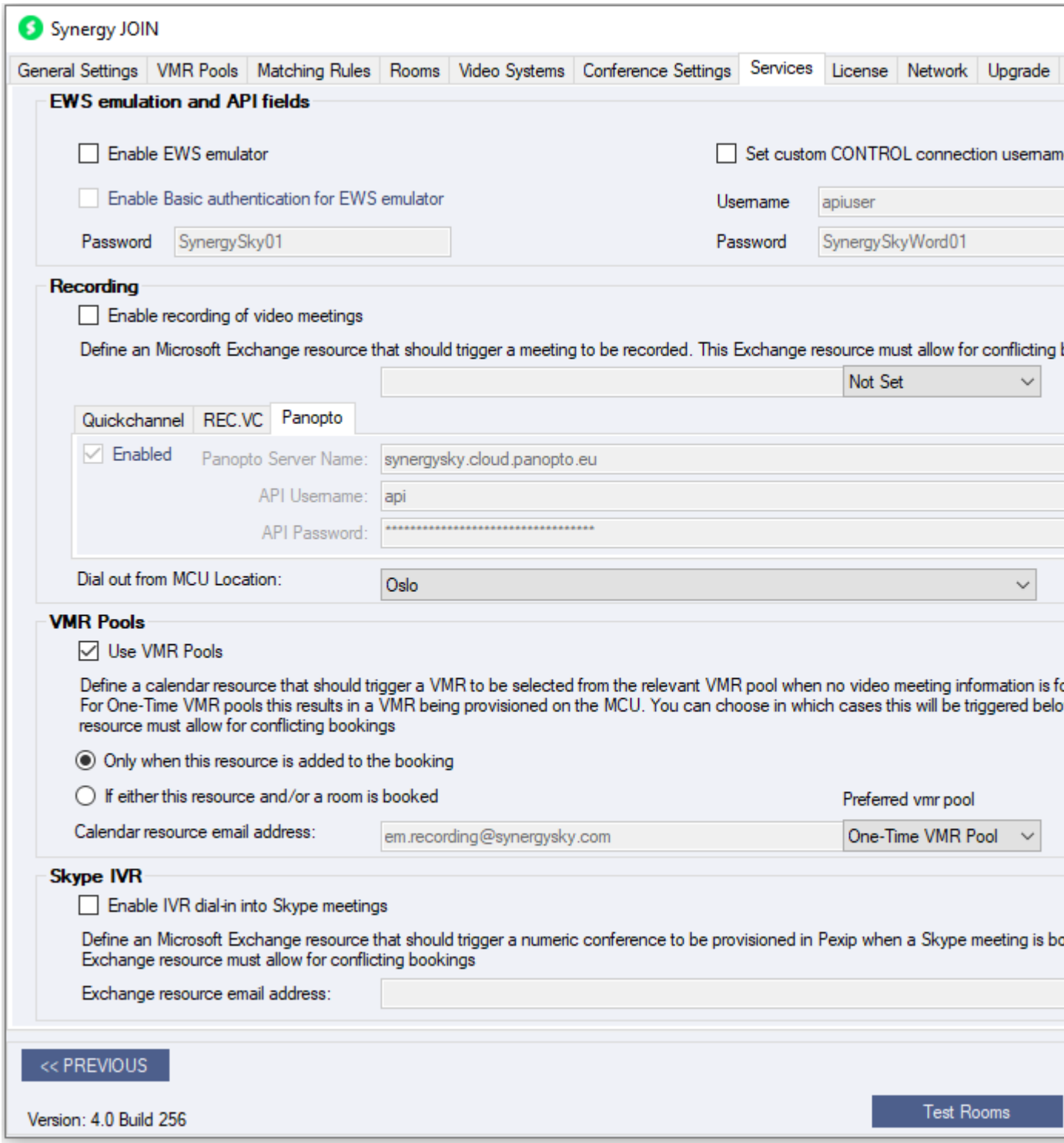
Section/Field name	Description
Body Update: Update organizer's calendar and send update instead of sending emails	This function will enable Synergy JOIN to log into the calendar of each meeting's organizer to update the calendar invite and send an update to all invitees. This end user experience will allow users to book video meeting directly from their native calendar clients without having any custom plug-ins installed, and still have the dial-in information of the video meeting automatically. NOTE: Remember to define in which cases the body of the meeting invitation should be updated in the checkboxes above; i.e. One-Time-VMR, Skype Meeting, Regex rule meeting. Failure to update the calendar will lead to an email being sent to the meeting organizer with the dial-in details, with instructions to update the invite manually. The administrator, defined in the General Settings tab will also be notified about the failure. The notification to the administrator will contain the commands required to fix permissions problems to the organizer's calendar. See "Exchange Resource Account Requirements" on page 12 for information on how to set the correct permissions in Microsoft Exchange required for this feature to operate correctly. for more details Note: Enabling the generation of Host pins for conferences and adding this to the email template will make the host pin visible to all invitees since the same information is sent out to all participants in the meeting. The host pin should therefore be defined in the *hostPin.html* template. See "Configuring Email templates" on page 105 for more details

The below example shows only the 'One-Time VMRs' check-box is ticked along with the 'Body Update' tick box at the bottom. This means that **only** when a one-time VMR is booked, JOIN will update the Organizers calendar instead of sending an email. All of the other guest (internal and external) will receive an email with the updated information.

The same rules apply for Regex Rule Meetings & Skype Meetings.

Task 10: Configuring Services (optional)

JOIN can be set up with extra value added services. These services include EWS Emulators, Recording, One-Time-Vmrs and IVR dial-in functionality for Skype Online Meetings.



EWS Emulation and API fields

EWS Emulation has been integrated in Synergy JOIN to allow Polycom endpoints to connect Synergy JOIN without the need for a direct connection with an Exchange Online server

The JOIN API username/password box is used by Synergy JOIN to communicate with Synergy CONTROL.

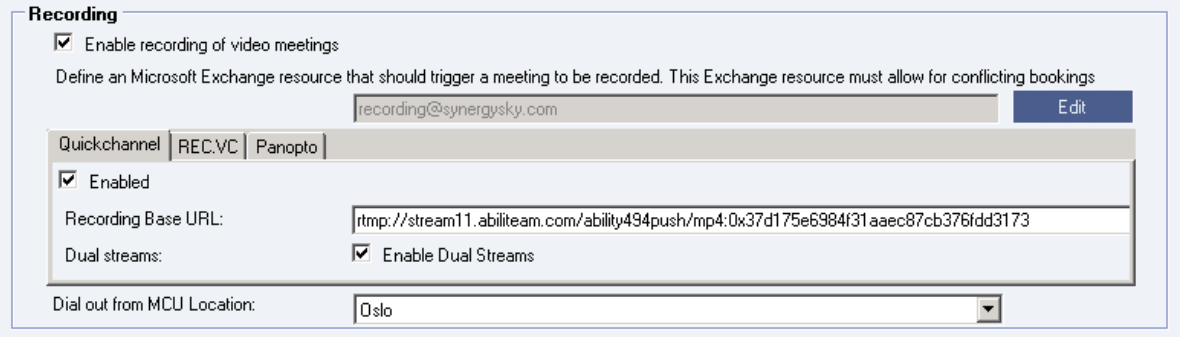
Additional information as well as how to connect your Polycom Endpoint to Synergy JOIN can be found here

Section/Field name	Description
Enable EWS Emulator	Enabling the EWS emulator allows the HDX and Group Series Polycom endpoints to connect to JOIN as video rooms in the rooms tab and can be added to meetings as meeting room resources
Enable Basic authentication for EWS emulator	This enables authentication for the EWS emulator for Polycom endpoints connecting to JOIN. If the box is left unticked, no password is required for the endpoint to connect to JOIN.
Set custom JOIN API usernameÆ/password	Allows you to change the default username and password for JOIN to communicate with CONTROL

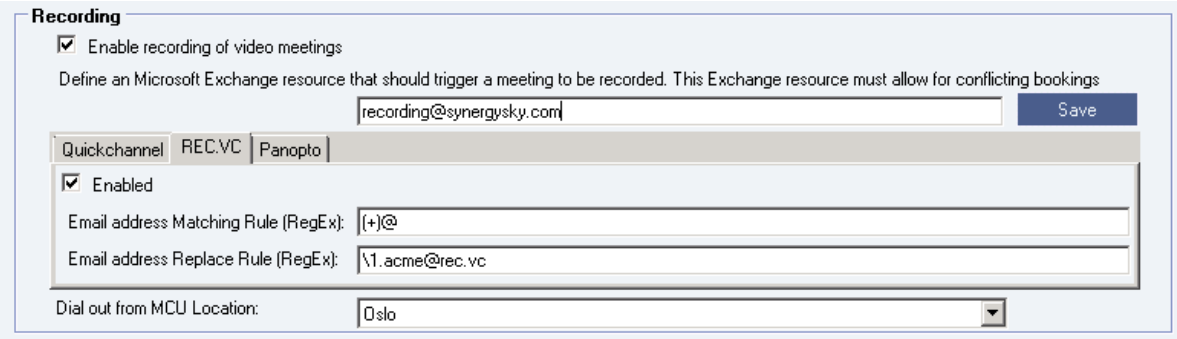
Recording

The recording option in JOIN enables users to easily add recording to a meeting. The integration requires a recording service by one of the supported providers and a resource account in Exchange that users add to their invitation when scheduling a meeting in Outlook. The resource account can even be added to and/or removed from the meeting after the meeting has started to only record a part of the meeting.

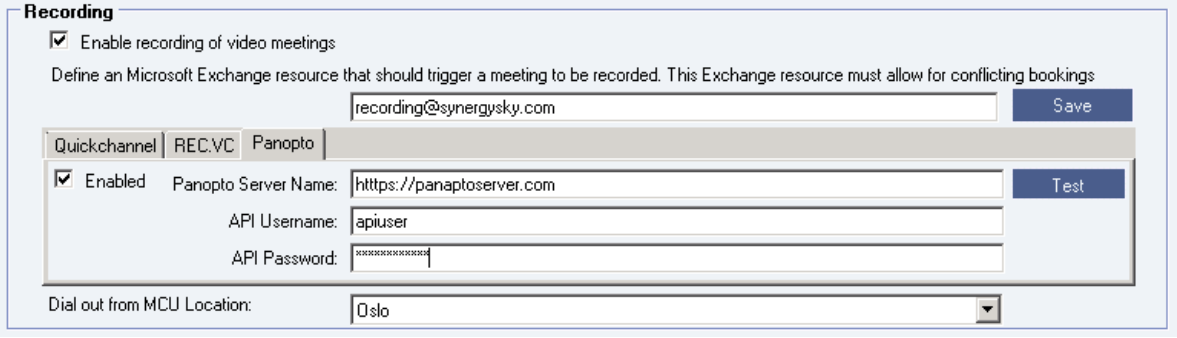
Section/Field name	Description
Quickchannel	Quickchannel delivers a RTMP based recording service which is supported with Pexip Infinity MCU. Recordings are stored in the Quickchannel service under the account of the meeting organizer with the same title that was defined in the meeting invitation. A new account will be created for the organizer if an existing account was not found.
Exchange resource email address	The email addresses of the Microsoft Exchange resource account that should be used for trigger the recording. The account needs the same permissions and processing parameters as the other room accounts, and should also be set up to allow conflicts so that it may be booked in multiple meetings at the same time. Set-CalendarProcessing <resourcealias> -DeleteComments $false -RemovePrivateProperty $false -AddOrganizerToSubject $false -DeleteSubject $false -ProcessExternalMeetingMessages $true -AllowConflicts $true
Recording Base URL	This URL provided by Quickchannel for your recording account. The URL you get may contain more information than should be added here, so everything after the first underscore should be removed (including the underscore) Example: The URL may be: rtmp://stream61.abiliteam.com/ability494push/mp4:0x37d175e6984f31aaec87cb376fdd3141_abcdef12345abcdf_cam1 But should be: rtmp://stream61.abiliteam.com/ability494push/mp4:0x37d175e6984f31aaec87cb376fdd3141
Dual Streams	Check this checkbox if the Quickchannel service should record both the main stream and the content channel. The streams are stored as individual streams but can be played back synchronized by the Quickchannel video player.
Dial out from MCU Location	Select which Pexip location should be used to connect to the Quickchannel recording service



Section/Field name	Description
REC.VC	Media Network Service delivers a SIP based recording service called REC.VC, which is supported with both Pexip Infinity and Cisco Meeting Server. Recordings are stored in the REC.VC under the account of the meeting organizer. The recording requires the organizer to have an account with the REC.VC service, because the call to the service will be connected by a dial-out to a re-written version of the organizer's email address. Example: jane.smith@acme.com schedules a meeting that going to be recorded by REC.VC. Synergy JOIN will at the start time of the meeting initiate a sip call out to jane.smith.acme@rec.vc. The re-write rule is defined in the following settings.
Exchange resource email address	The email addresses of the Microsoft Exchange resource account that should be used for trigger the recording. The account needs the same permissions and processing parameters as the other room accounts, and should also be set up to allow conflicts so that it may be booked in multiple meetings at the same time. Set-CalendarProcessing <resourcealias> -DeleteComments $false -RemovePrivateProperty $false -AddOrganizerToSubject $false -DeleteSubject $false -ProcessExternalMeetingMessages $true -AllowConflicts $true
Email address Matching Rule (Regex)	The Regex rule to identify parts of the organizer's email address to be used in the replace rule below Example: (.+)@acme.com
Email address Replace Rule (Regex)	The Replace value to be used with the regex rule: \1.acme@rec.vc
Dial out from MCU Location	Select which Pexip location should be used to connect to the Quickchannel recording service. **Note**: Not required for CMS.



Section/Field name	Description
Panopto	Panopto delivers a RTMP based recording service which is supported with Pexip Infinity MCU. Recordings are stored in the Panopto cloud service under the account of the meeting organizer with the same title that was defined in the meeting invitation. The recording will be stored in the account of the api user if the organizer did not have a user in Panopto. The Panopto service returns the URL used to view the meeting when the meeting is booked. This URL can be automatically be embedded into the meeting invitation by referring to the %StreamingPath% variable in the recordingFooter.html template. See "'%StreamingPath%" on page 106" for more information.
Exchange resource email address	The email addresses of the Microsoft Exchange resource account that should be used for trigger the recording. The account needs the same permissions and processing parameters as the other room accounts, and should also be set up to allow conflicts so that it may be booked in multiple meetings at the same time. Set-CalendarProcessing <resourcealias> -DeleteComments $false -RemovePrivateProperty $false -AddOrganizerToSubject $false -DeleteSubject $false -ProcessExternalMeetingMessages $true -AllowConflicts $true
Panopto server name	This server name can be found in your Panopto profile. Example: acme.cloud.panopto.eu
API Username	The username of the API account you have created for the integration. The integration user needs to have "admin" permissions in your Panopto account. Example: api
API Password	The password of the API account.
Dial out from MCU Location	Select which Pexip location should be used to connect to the Panopto recording service



Note: It is possible to stop the booking confirmation emails from the recording service account to spam the user's mailbox by setting up a "Second transport rule to remove accept confirmations" on page 113

One-Time-VMR

The One-Time-VMR (Dynamic VMR) option in JOIN enables users to easily schedule video meetings without any plug-ins in the email client. The function will create a temporary virtual meeting room on the MCU defined in the General Settings tab, with a URI within the range defined in the Conference Settings tab. Video systems that are included in the meeting invitation will be provisioned with Cisco One Button To Push and Polycom Click To Join so that they can join the meeting by a push of a button. All invitees will receive the dial-in information so that they can join from their personal device if they prefer that. The dial-in information can sent as a individual emails to each invitee or included in the calendar invite body.

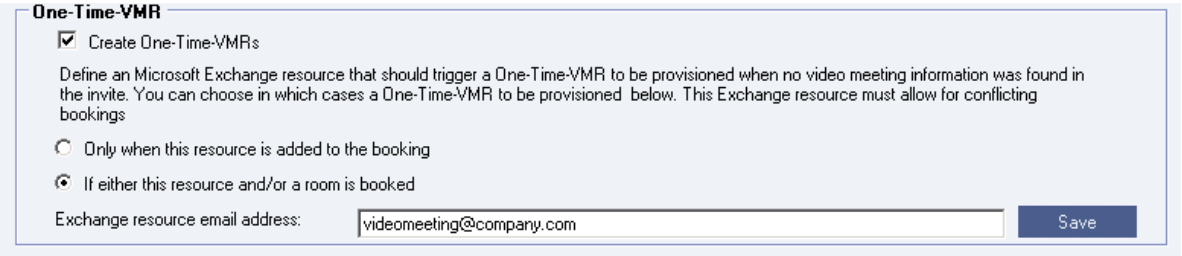
There are potentially three triggers that can be set up to enable One-Time-VMRs, and all three can be used simultaneously

- Adding a video enabled meeting room to the invite (e.g. boardroom@company.com)
- Adding a specific resource to the invite that allow conflicts (e.g. videomeeting@company.com)
- Adding a specific keyword to the meeting invite (e.g. @video)

Section/Field name	Description
Exchange resource email address	The email addresses of the Microsoft Exchange resource account that should be used for trigger the creation of the One-Time-VMR. The account needs the same permissions and processing parameters as the other room accounts, and should also be set up to allow conflicts so that it may be booked in multiple meetings at the same time. Set-CalendarProcessing <resourcealias> -DeleteComments $false -RemovePrivateProperty $false -AddOrganizerToSubject $false -DeleteSubject $false -ProcessExternalMeetingMessages $true -AllowConflicts $true
Only when this resource id added to the booking	This setting restricts the creation of One-Time-VMRs to when the Exchange resource specified above is added to the meeting invitation; either specifically by the user, or automatically by the Exchange transport rule
If either this resource and/or a room is booked	This setting enables JOIN to create a One-Time-VMR if either a room is booked or if the Exchange resource specified above is added to the meeting invitation.

Note 1: using a keyword (e.g. @video) to book video meetings require a "Hub Transport Rules" on page 110 to be set up in the Microsoft Exchange environment

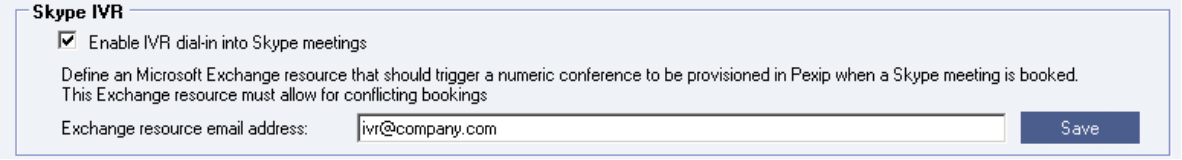
Note 2: It is possible to stop the booking confirmation emails from the One-Time-VMR service account to spam the user's mailbox by setting up a "Second transport rule to remove accept confirmations" on page 113



Skype IVR

The Skype IVR (Skype Interactive Voice Respons) option in JOIN enables users to join Skype Online (Skype for Business Office 365) meetings by dialing into a specific URI (e.g. ivr@company.com) and entering the numeric Conference Id that is automatically inserted into the meeting invitation when booking a Skype Online meeting. The option also make it easy for users to join the Skype meeting via WebRTC which usually has a higher success rate than the Skype Web app. The picture below show how the meeting invitation may look like with the footer describing how to join the meeting.

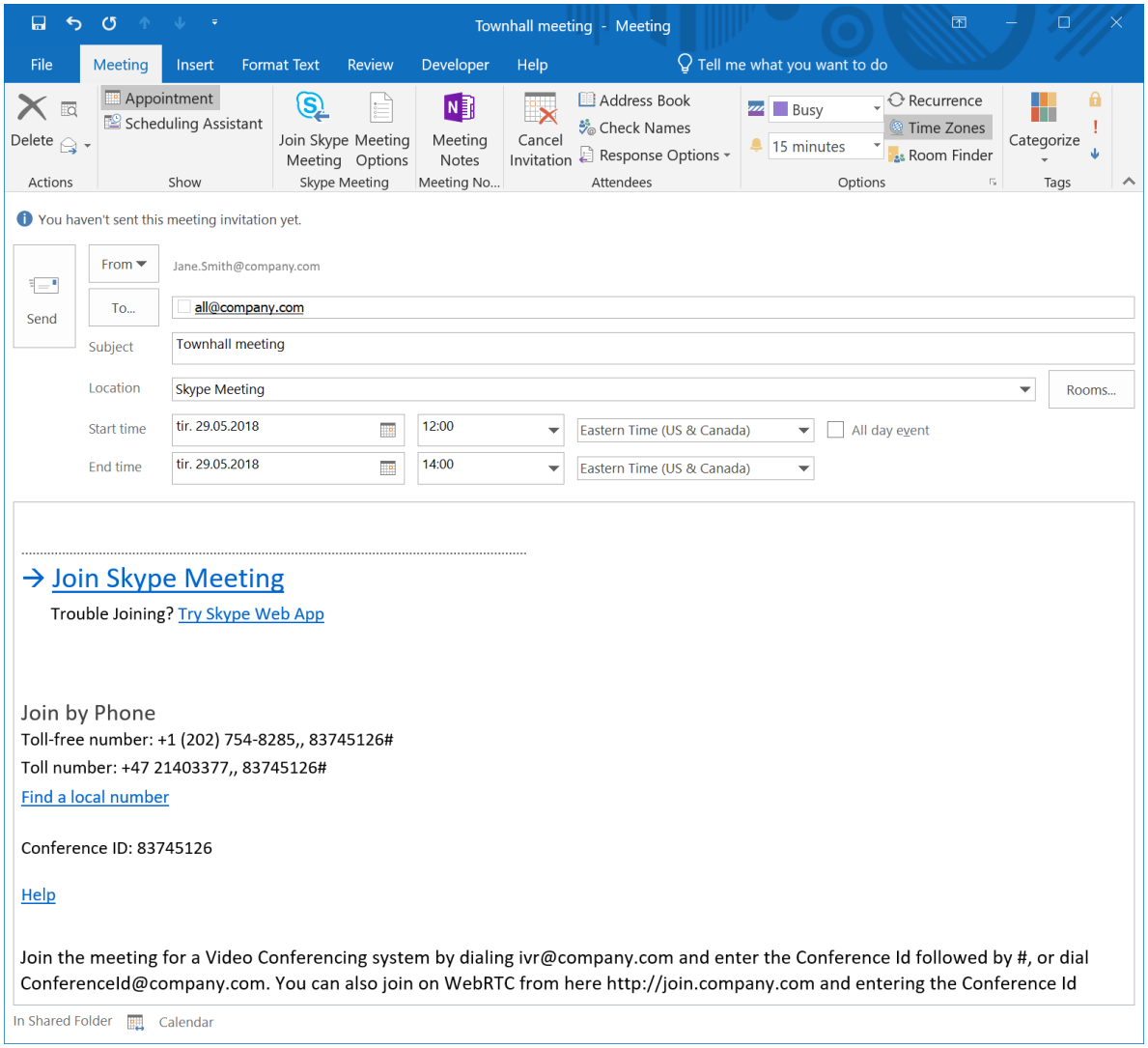
Section/Field name	Description
Exchange resource email address	The email addresses of the Microsoft Exchange resource account that should be used for trigger the IVR option. The account needs the same permissions and processing parameters as the other room accounts, and should also be set up to allow conflicts so that it may be booked in multiple meetings at the same time. Set-CalendarProcessing <resourcealias> -DeleteComments $false -RemovePrivateProperty $false -AddOrganizerToSubject $false -DeleteSubject $false -ProcessExternalMeetingMessages $true -AllowConflicts $true



Note 1: The Skype IVR option requires the Audio Conferencing option to be enabled in the Skype Online subscription so that the Conference Id is populated in the meeting invitation.

Note 2: The Skype IVR option only works with Pexip, and requires a "Local Policy Script" on page 114to be added to the Pexip Management Node

Note 3: It is possible to stop the booking confirmation emails from the IVR service account to spam the user's mailbox by setting up a "Second transport rule to remove accept confirmations" on page 113



Task 11: Adding a License

Add a license for your JOIN installation, obtained from www.synergysky.com or from your Synergy SKY Representative.

The licenscing mechansim from Synergy JOIN version 4.x and above has changed. The licensing now operates via a License Key or an API Key. The

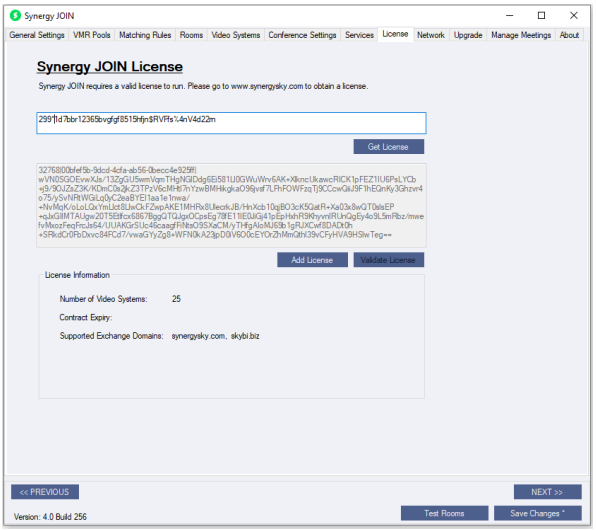
1. **API Key**

Once you have been provided with an API key, paste this into the Product license API Key section. Synergy JOIN will fetch a new License key from the licensing server. The license key will be retrieved and placed into the License Key section. The license key refreshes itself every 14 days therefore JOIN requires access to the Internet in order for the license key to stay active.

2. **License Key**

To obtain an offline license key you will have to get in touch with your Synergy SKY representative or send a request to Synergy Sky Support (support@synergysky.com).

You will have to provide the Machine ID of the hosting server. This can be found by running the following Powershell script `get-wmiobject Win32_ComputerSystemProduct | Select-Object -ExpandProperty UUID`
Once we have the machine ID, we will provide you with a License Key you can paste in to the Licensing tool.



Note: You can choose for administrators to receive email notifications if the license is about to expire, this is configurable on the **General Settings** tab of the configuration tool.

Task 12: Configuring Email templates

Depending on the type of meeting booked, the following emails are sent out to users from JOIN:

Type of email	Description	Email template file name
Error Recurring Meeting	Sent when a recurring meeting is booked with no end date as this is not supported in JOIN.	*error_recurringmeeting.html*
Organizer Invite	Sent to the meeting organizer when a one-time-vmr meeting is booked. NOTE: This information will be inserted into the calendar invite and is resent to all invitees when the Calendar Update function is used	*organizerInvite.html*
Internal Invite	Sent to internal participants when a one-time-vmr meeting is booked. Includes dial-in information for the meeting.	*internalInvite.html*
External Invite	Sent to participants external to your organization when a one-time-vmr meeting is booked. Includes dial-in information for the meeting.	*externalInvite.html*
Organizer Invite Skype	Sent to the meeting organizer when a Skype meeting is booked. NOTE: This information will be inserted into the calendar invite and is resent to all invitees when the Calendar Update function is used	*organizerInviteSkype.html*
Internal Invite Skype	Sent to internal participants when a Skype meeting is booked.	*internalInviteSkype.html*
External Invite Skype	Sent to external participants when a Skype meeting is booked.	*externalInviteSkype.html*
Organizer Invite Static	Sent to the meeting organizer when a regex rule meeting is booked. NOTE: This information will be inserted into the calendar invite and is resent to all invitees when the Calendar Update function is used	*organizerInviteStaticVMR.html*
Internal Invite Static	Sent to the internal participants when a regex rule meeting is booked.	*internalInviteStaticVMR.html*
External Invite Static	Sent to the external participants when a regex rule meeting is booked.	*externalInviteStaticVMR.html*
Information header for emails to meeting organizers when Calendar Update fails	Added to the beginning of the emails to the organizers if the calendar could not be updated automatically	*fallbackHeader.html*
Host pin code email	Enabling the Calendar Update function results in all invitees getting the same information as the organizer since the information is inserted in the calendar body. The Host Pin will therefore be sent to the Organizer as a separate email if Host Pin generation is enabled	*hostPin.html*
Footer for meetings that are being recorded	Added to the end of the email to the	*recordingFooter.html*

The email templates are located here: *C:\SynergySKY\SynergySKYEnterpriseScheduling\emailTemplates* and you can edit them using an HTML editor.

You can edit all text that is not between the % symbols. You can remove any % attributes that you do not want to display in your emails.

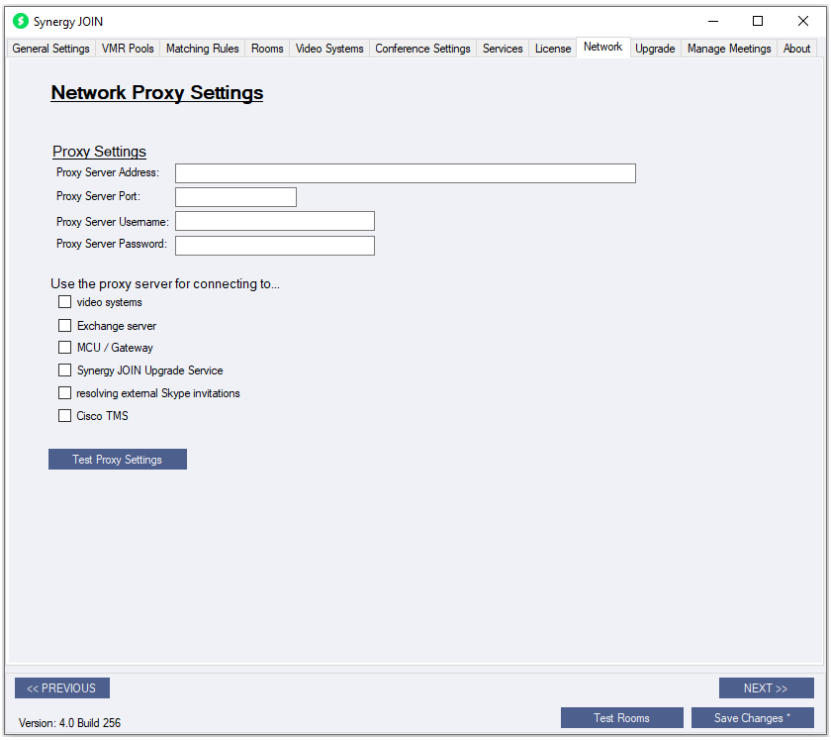
The following attributes can be used in the templates:

Attribute name	Description	Example
%URI%	The full URI of the meeting	12346578@company.com
%NumericVMRURI%	The numeric part of the meeting	12346578
%HostPin%	The pin code for the host of the meeting	2412
%GuestPin%	The pin code for the guests of the meeting	0211
%starttime%	The start time of the meeting	01.01.2017 10:00
%endtime%	The end time of the meeting	01.01.2017 11:00
%subject%	The subject of the meeting	Board meeting
%invitebody%	The full body of the meeting invitation	...
%organizer_firstname%	The first name of the meeting organizer	Jane
%organizer_lastname%	The last name of the meeting organizer	Smith
%organizer_email%	The email address of the meeting organizer	jane.smith@example.org
%invitee%	The name of the person the meeting invite is sent to.	John Jones

Attribute name	Description	Example
%isPrivate%	A flag indicating if the meeting is booked as Private or not	True
%SkypeConferenceId%	The numeric conference Id found in the invite of Skype invitations that have PSTN dial-in capabilities	87564312
%SkypeGRUU%	The Globally Routable Unique Identifier of Skype meetings	sip:john.smith@example.org;gruu;opaque=app:conf:focus:id:TTC86056
%SkypeURL%	The URL found in the Skype meeting invitation	https://meet.lync.com/company-com/jsmith/6LN9569P
%StreamingPath%	The URL to view the live/on-demand video stream from the meeting. Only applicable for Panopto recording	
%HostSecret%	The secret that need to be in the URL to enable one-click-joining as Host on WebRTC in One-time-VMRs on the Cisco Meeting Server	https://cms.company.com/?secret=%HostSecret%&id=%NumericVMRURI%
%GuestSecret%	The secret that need to be in the URL to enable one-click-joining as Guest on WebRTC in One-time-VMRs on the Cisco Meeting Server	https://cms.company.com/?secret=%GuestSecret%&id=%NumericVMRURI%

Task 13: Configuring a proxy server (optional)

You can configure JOIN with a proxy server and specify which components you want to use the proxy server for in the configurator on the **Network** tab. Once configured, you can test whether it is working correctly.



Example meeting scenarios

Scenario 1: Booking a Skype meeting with one or more video-enabled meeting-rooms

Description	Requirements	Example rule

• Meeting organizer schedules a Skype meeting using Outlook.
• The invite includes video-enabled endpoints/meeting-rooms.
• JOIN sends the endpoints/meeting-rooms the Skype meeting URI as the One Button to Push (Cisco OBTP) or Click to Join (Polycom CTJ) message.
	Skype URI in Headers matching rule	• Pexip:
		  ○ S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		• StarLeaf Cloud:
		  ○ Auto-generated

	Skype URI in Body matching rule	• Pexip:
		  ○ S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		• Cisco CMS 2.2 or later + O365 Skype for Business (CMS 2.2 or later):
		  ○ Matching value: None
		  ○ Replace value: (SkypeURL)@CompanyCMSDomain.local
		• StarLeaf Cloud:
		  ○ Auto-generated

	Regex	CIsco CMS + Internal on premises Skype for Business server: • Matching value: id:\s*(\d+) • Replace value: \1@YourInternalVideoDomain.com

Scenario 2: Booking a Personal VMR (Virtual Meeting Room) meeting with one or more video-enabled meeting-rooms

Description	Requirements	Example rule
• Meeting organizer schedules an ordinary Outlook appointment. • The invite includes video-enabled endpoints/meeting-rooms. • The invite email body includes a personal VMR uri, for example in the email signature. • JOIN sends the endpoints/meeting-rooms the personal VMR URI as the Cisco OBTP or Polycom CTJ message.	• Regex matching rule • A valid URI included in the email body, for example in the email signature.	(meet|vrm)\.[a-z0-9\-_\.]+@example\.com

Scenario 3: Booking a One-time-VMR with one or more video-enabled meeting-rooms

Description	Requirements	Example rule
• Meeting organizer schedules an ordinary Outlook appointment. • The invite includes video-enabled endpoints/meeting-rooms. • There is no URI anywhere in the body of the invitation that matches any of the regex matching rules. • JOIN creates a one-time URI on the Pexip MCU and sends the endpoints/meeting-rooms the one-time-VMR URI as the Cisco OBTP or Polycom CTJ message. • An email containing the dial-in information for the one-time-VMR is sent to the invitees (optional).	• In the JOIN Configurator, **Create VMR** is selected.	N/A

Scenario 4: Forwarding an existing invitation to a video-enabled meeting-room

Description	Requirements	Example rules

• User receives a meeting invite from someone internal or external to their organization and wants to join the meeting from a video-enabled endpoint/meeting-room.
• User forwards the invite to the endpoint/meeting-room.
• JOIN understands how to process the meeting from the contents of the invite email.
• JOIN forwards the appropriate dial string to the meeting-room as the One Button to Push (Cisco OBTP) or Click to Join (Polycom CTJ) message.
 	
Currently the following meeting types are supported for forwarding in JOIN:
 	
• Skype
• Teams
• Personal VMR
• One-time-VMR
• BlueJeans
• Cisco Webex
• Starleaf VMR
• StarLeaf Scheduled Meeting
• Videonor
• Videxio
• Univago
• Zoom
 	
Preprogrammed templates for these rules can be found in the Regex builder in the Matching Rules tab.
	• Skype internal/external matching rule
	• Regex matching rules
		• **Microsoft Skype:**
		  ◦ Pexip:
		  ◦ Matching value: None
		  ◦ Replace value: S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		  ◦ Cisco CMS (Internal and External invitations):
		  ◦ Matching value: None
		  ◦ Replace value: (SkypeURL)@CompanyCMSDomain.local
		  ◦ Cisco CMS: (Internal invitations Only)
		  ◦ Matching value: id:\s*(\d+)
		  ◦ Replace value: \1@YourInternalVideoDomain.com
		  ◦ Videxio:
		  ◦ Matching value: None
		  ◦ Replace value: __sfb__(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		  ◦ Videonor:
		  ◦ Get in touch with Videonor support for for your required Skype matching value and replace value
		  ◦ StarLeaf Cloud
		  ◦ No matching rule configuration required
		• **Microsoft Teams:**
		  ◦ Pexip:
		  ◦ Matching value: None
		  ◦ Replace value: Teams.(TeamsMeetingId)@company.com
		• **Generic rules:**
		  ◦ Personal VMR (uris contains the words: meet or vmr)
		  ◦ Matching value: ([a-z0-9\-_\.]*(meet|vmr)[a-z0-9\-_\.]*)@[a-z0-9\-_\.]+
		  ◦ Replace value: \0
		  ◦ One-time-VMR (uris in the format: numeric@domain)
		  ◦ Matching value: \d+@[a-z0-9\-_\.]+
		  ◦ Replace value: \0
		• **Cloud providers:**
		  ◦ BlueJeans
		  ◦ Matching value: https://bluejeans.com/(\d+)
		  ◦ Replace value: \1@sip.bjn.vc
		  ◦ Cisco Webex
		  ◦ Matching value: \d+@[a-z0-9\-_\.]*webex[a-z0-9\-_\.]+
		  ◦ Replace value: \0
		  ◦ Starleaf VMR
		  ◦ Matching value: Meeting ID: ([0-9]+) ([0-9]+)
		  ◦ Replace value: \1\2@synergysky.call.sl
		  ◦ Univago
		  ◦ Matching value: [a-z0-9\-_\.]+@univago.com
		  ◦ Replace value: \0
		  ◦ Videonor
		  ◦ Get in touch with Videonor support for for your required matching value and replace value
		  ◦ Videxio VMR meetings
		  ◦ Matching value: https://my.videxio.com/meet/(\d+)
		  ◦ Replace value: \1@vmr.vc
		  ◦ Zoom
		  ◦ Matching value: https://[a-z0-9\-_\.]*zoom[a-z0-9\-_\.]*/j/(\d+)
		  ◦ Replace value: \1@zoomcrc.com

Manually upgrading JOIN

You can **Check for updates** and **Upgrade** from the **Upgrade** tab in the configurator tool.

A message is displayed to notify you if there is a new version available.

This tab displays the release notes for the current version.

Synergy JOIN can be configured to automatically check for beta releases and release candidates by checking the checkbox in the upper right corner. Remember to click "Save" after enabling the check for beta versions.

Synergy JOIN Troubleshooting

This section provides information on how to Troubleshoot JOIN

Common troubleshooting scenarios

Cisco OBTP or Polycom CTJ button does not appear on the endpoint touch panel

Symptoms	Probable causes	Actions
When booking a Skype or one-time-VMR meeting that includes one or more Exchange resource meeting room(s) as a participant, the Cisco OBTP or Polycom CTJ button never appears on the meeting room(s) touch panel.	JOIN could not find Skype meeting information or VMR information (based on regex rules).	Check the log for details, and correct the rules accordingly.
	JOIN failed in reading the booking in Exchange.	Open the Configuration tool and use the **Test Exchange Rooms** button to test that the rooms are correctly configured.
	JOIN cannot contact the endpoint.	Go to the **Video Systems** and press **Connect and save** to verify that JOIN can connect to the endpoint.

One-Time-VMR is not provisioned on the MCU

Symptoms	Probable causes	Actions
Calls to/from one-time-VMR meetings are failing.	JOIN cannot contact the MCU.	Press the **Test Connections** button in the configuration tool to verify that JOIN can communicate with the MCU.
	VMR licenses are depleted.	Check that you have sufficient VMR licenses on the MCU.
	Conflicting alias on the MCU.	Check the log for details.

One-Time-VMR is not deprovisioned on the MCU

Symptoms	Probable cause	Actions
The VMRs are not disappearing from the MCU after the meeting is finished, which would eat up VMR licenses and potentially stop later one-time-vmr meetings from being provisioned due to conflicting aliases.	JOIN cannot contact the MCU.	• Press the **Test Connections** button in the configuration tool to verify that JOIN can communicate with the MCU. • Check the log for details.

Error in configurator when adding rooms

Symptoms	Probable cause	Actions
Error '401 Unauthorized' when accessing the **Rooms** tab in the configuration tool.	JOIN cannot authenticate to Exchange using the credentials in the configuration tool.	In the JOIN Configurator **General Settings** tab, check the format of the **EWS Service Account Username**. Sometimes Microsoft Exchange requires that the username is entered using one of the following formats: • domain\username • username@domain

Dial-out to meeting room does not happen at meeting start time

Symptoms	Probable cause	Actions
JOIN does not dial out to a meeting room participant at the meeting start time.	• JOIN cannot contact the MCU. • VMR is not correctly provisioned: The MCU location that JOIN is instructing the MCU to dial out from is not correctly configured.	Check JOIN log and MCU log for details.

Dial-out from the video system (Green Cisco OBTP or Polycom CTJ button) does not work

Symptoms	Probable cause	Actions
The Cisco OBTP or Polycom CTJ button is disabled and cannot be pushed.	The button becomes activated at the “startup buffer” time, and cannot be pushed before that.	Check the JOIN configuration.
The button is pushed, but call fails to connect.	VMR is not correctly provisioned: The uri is invalid due to incorrect regex rules.	• Check the JOIN logs and regex configuration. • Check the call history on the endpoint to see what it tried to call. • Check the “Search History” in the VCS to see if there was a call routing issue.

Recipients do not receive dial-in information emails when meeting is booked

Symptoms	Probable cause	Actions
Specified recipients do not receive any email containing dial-in information when meeting is booked	Error in email template.	Check the syntax of the HTML in your email templates.
	JOIN cannot contact the Exchange server - Invalid configuration.	Check the configurator **General Settings** tab to ensure that the server and credentials are correct and that you are using the correct format for the **EWS Service Account Username**.

Exchange permissions

Invalid permissions in Exchange will lead to unexpected behavior in JOIN.

If the Exchange service account does not have appropriate calendar access, you will see authorization errors in the log.

Here are some common errors with setting exchange permissions:

- Failure to set the “DeleteComments=$false” will remove the body of the invitation, and make it impossible for JOIN to find information in the body.
- Failure to set the “AddOrganizerToSubject=$false” and “DeleteSubject=$false” will remove the subject of the meeting, and make JOIN send the incorrect Cisco OBTP or Polycom CTJ information to the video endpoint
- Failure to set “ProcessExternalMeetingMessages=$true” will hinder internal users forwarding invitations to external S4B meetings to the meeting rooms
- Failure to set “RemovePrivateProperty=$false” may make JOIN send the subject of a private meeting as Cisco OBTP or Polycom CTJ information to the video endpoint - thereby exposing a sensitive meeting subject on the video system’s touch panel
- Failure to set “AutomateProcessing=$true” will stop meetings from being processed, thereby hindering JOIN from seeing the meetings

Using the logs

JOIN logs all activity.

There are two sets of log files stored in these default locations:

- Service:
  - C:\SynergySKY\SynergySKYEnterpriseScheduling\logs\
- Config Tool:
  - C:\SynergySKY\SynergySKYEnterpriseScheduling\config\logs\

Log levels:

The default log level is INFO, which gives limited information about events and errors. Increasing the log level to DEBUG will provide more information that can be used to troubleshoot errors. The log level is increased by replacing the text "INFO" with "DEBUG" on line 4 in the log.config files. There is one log.config file for the configuration tool and one for the service, and the change of log level only applies the log.config that is updated. It is not recommended to run in DEBUG log level in normal operation due to the increased disk required.

The log.config files are found here:

- Service:
  - C:\SynergySKY\SynergySKYEnterpriseScheduling\log.config
- Config Tool:
  - C:\SynergySKY\SynergySKYEnterpriseScheduling\config\log.config

Log Size:

The logs will be default roll over once they have reached 10MB, and a maximum of 10 log files are kept. You can increase the size of the log files and the log file history by changing the maximumFileSize and maxSizeRollBackups attributes in the log.config files. You can use KB, MB or GB as suffix when specifying the log maximumFileSize.

Here is example output from the service log from a successfully booked Skype meeting including one JOIN meeting room resource:

```
2017-03-17 13:51:40,713 [MeetingSynchronizerThread] INFO  - 0 cancelled meetings found.
2017-03-17 13:51:40,713 [MeetingSynchronizerThread] INFO  - Total meetings in list: 4.
2017-03-17 13:51:40,713 [MeetingSynchronizerThread] INFO  - Sleeping for 6 second(s)
2017-03-17 13:51:49,166 [MeetingSynchronizerThread] INFO  - Getting body for Test Meeting - 17.03.2017 14:30:00 - 17.03.2017 15:00:00. Isrecurring: False
2017-03-17 13:51:49,916 [MeetingSynchronizerThread] INFO  - sip:ph@example.org;gruu;opaque=app:conf:focus:id:05H8BT73
2017-03-17 13:51:49,916 [MeetingSynchronizerThread] INFO  - Found Skype_URI_Internal rule match: S4B.05H8BT73.ph@example.org
2017-03-17 13:51:49,916 [MeetingSynchronizerThread] INFO  - URI of meeting 'Test Meeting' set to 'S4B.05H8BT73.ph@example.org'
2017-03-17 13:51:51,212 [MeetingSynchronizerThread] INFO  - 1 updated meetings found.
2017-03-17 13:51:51,212 [MeetingSynchronizerThread] INFO  - 0 nonSupported meetings found.
2017-03-17 13:51:51,212 [MeetingSynchronizerThread] INFO  - 0 cancelled meetings found.
2017-03-17 13:51:51,212 [MeetingSynchronizerThread] INFO  - Total meetings in list: 5.
2017-03-17 13:51:51,228 [MeetingSynchronizerThread] INFO  - Sleeping for 6 second(s)
2017-03-17 13:51:53,134 [OBTPThread] INFO  - Sending out OBTP information to endpoint meetingroom1@example.org for meeting 'Test Meeting'.
2017-03-17 13:51:53,134 [OBTPThread] INFO  - Updating endpoint meetingroom1@example.org with OBTP information
2017-03-17 13:51:55,540 [OBTPThread] INFO  - Endpoint meetingroom1@example.org successfully updated with OBTP information
2017-03-17 13:52:00,774 [MeetingSynchronizerThread] INFO  - 0 updated meetings found.
2017-03-17 13:52:00,774 [MeetingSynchronizerThread] INFO  - 0 nonSupported meetings found.
2017-03-17 13:52:00,774 [MeetingSynchronizerThread] INFO  - 0 cancelled meetings found.
2017-03-17 13:52:00,774 [MeetingSynchronizerThread] INFO  - Total meetings in list: 5.
```

We recommend using Baretail to monitor the logs while troubleshooting.

Licenses

JOIN will stop working as soon as the license expires. Administrators configured to receive email notifications about licenses will be notified every 7 days for the months preceding the license expiry date, and for the last 7 days before the license expires.

A license that is expired will stop JOIN from being upgraded.

An expired or invalid license will result in an entry in the log while starting up the JOIN service clearly stating that the license is invalid.

Database

- JOIN uses a file-based database. The default location for the database is: *C:\SynergySKY\SynergySKYEnterpriseScheduling\databases*
- One database file is created per meeting. The databases folder also contains a folder for each Exchange room, in which a synchronization cookie is stored.
  - The cookie ensures that whenJOINqueries Exchange, only updated meetings are returned.
  - You can delete the cookie if you want to perform a full synchronization for a meeting room.
- The database is stored fully in memory on the server, with the file system as a backup. The JOIN service may therefore take a while to start if there are many rooms and/or many future meetings in the database.

Example meeting scenarios

Scenario 1: Booking a Skype meeting with one or more video-enabled meeting-rooms

Description	Requirements	Example rule

• Meeting organizer schedules a Skype meeting using Outlook.
• The invite includes video-enabled endpoints/meeting-rooms.
• JOIN sends the endpoints/meeting-rooms the Skype meeting URI as the One Button to Push (Cisco OBTP) or Click to Join (Polycom CTJ) message.
	Skype URI in Headers matching rule	• Pexip:
		  ○ S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		• StarLeaf Cloud:
		  ○ Auto-generated

	Skype URI in Body matching rule	• Pexip:
		  ○ S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		• Cisco CMS 2.2 or later + O365 Skype for Business (CMS 2.2 or later):
		  ○ Matching value: None
		  ○ Replace value: (SkypeURL)@CompanyCMSDomain.local
		• StarLeaf Cloud:
		  ○ Auto-generated

	Regex	CIsco CMS + Internal on premises Skype for Business server: • Matching value: id:\s*(\d+) • Replace value: \1@YourInternalVideoDomain.com

Scenario 2: Booking a Personal VMR (Virtual Meeting Room) meeting with one or more video-enabled meeting-rooms

Description	Requirements	Example rule
• Meeting organizer schedules an ordinary Outlook appointment. • The invite includes video-enabled endpoints/meeting-rooms. • The invite email body includes a personal VMR uri, for example in the email signature. • JOIN sends the endpoints/meeting-rooms the personal VMR URI as the Cisco OBTP or Polycom CTJ message.	• Regex matching rule • A valid URI included in the email body, for example in the email signature.	(meet|vrm)\.[a-z0-9\-_\.]+@example\.com

Scenario 3: Booking a One-time-VMR with one or more video-enabled meeting-rooms

Description	Requirements	Example rule
• Meeting organizer schedules an ordinary Outlook appointment. • The invite includes video-enabled endpoints/meeting-rooms. • There is no URI anywhere in the body of the invitation that matches any of the regex matching rules. • JOIN creates a one-time URI on the Pexip MCU and sends the endpoints/meeting-rooms the one-time-VMR URI as the Cisco OBTP or Polycom CTJ message. • An email containing the dial-in information for the one-time-VMR is sent to the invitees (optional).	• In the JOIN Configurator, **Create VMR** is selected.	N/A

Scenario 4: Forwarding an existing invitation to a video-enabled meeting-room

Description	Requirements	Example rules

• User receives a meeting invite from someone internal or external to their organization and wants to join the meeting from a video-enabled endpoint/meeting-room.
• User forwards the invite to the endpoint/meeting-room.
• JOIN understands how to process the meeting from the contents of the invite email.
• JOIN forwards the appropriate dial string to the meeting-room as the One Button to Push (Cisco OBTP) or Click to Join (Polycom CTJ) message.
 	
Currently the following meeting types are supported for forwarding in JOIN:
 	
• Skype
• Teams
• Personal VMR
• One-time-VMR
• BlueJeans
• Cisco Webex
• Starleaf VMR
• StarLeaf Scheduled Meeting
• Videonor
• Videxio
• Univago
• Zoom
 	
Preprogrammed templates for these rules can be found in the Regex builder in the Matching Rules tab.
	• Skype internal/external matching rule
	• Regex matching rules
		• **Microsoft Skype:**
		  ○ Pexip:
		  ○ Matching value: None
		  ○ Replace value: S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		  ○ Cisco CMS (Internal and External invitations):
		  ○ Matching value: None
		  ○ Replace value: (SkypeURL)@CompanyCMSDomain.local
		  ○ Cisco CMS: (Internal invitations Only)
		  ○ Matching value: id:\s*(\d+)
		  ○ Replace value: \1@YourInternalVideoDomain.com
		  ○ Videxio:
		  ○ Matching value: None
		  ○ Replace value: __sfb__(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		  ○ Videonor:
		  ○ Get in touch with Videonor support for for your required Skype matching value and replace value
		  ○ StarLeaf Cloud
		  ○ No matching rule configuration required
		• **Microsoft Teams:**
		  ○ Pexip:
		  ○ Matching value: None
		  ○ Replace value: Teams.(TeamsMeetingId)@company.com
		• **Generic rules:**
		  ○ Personal VMR (uris contains the words: meet or vmr)
		  ○ Matching value: ([a-z0-9\-_\.]*(meet|vmr)[a-z0-9\-_\.]*)@[a-z0-9\-_\.]+
		  ○ Replace value: \0
		  ○ One-time-VMR (uris in the format: numeric@domain)
		  ○ Matching value: \d+@[a-z0-9\-_\.]+
		  ○ Replace value: \0
		• **Cloud providers:**
		  ○ BlueJeans
		  ○ Matching value: https://bluejeans.com/(\d+)
		  ○ Replace value: \1@sip.bjn.vc
		  ○ Cisco Webex
		  ○ Matching value: \d+@[a-z0-9\-_\.]*webex[a-z0-9\-_\.]+
		  ○ Replace value: \0
		  ○ Starleaf VMR
		  ○ Matching value: Meeting ID: ([0-9]+) ([0-9]+)
		  ○ Replace value: \1\2@synergysky.call.sl
		  ○ Univago
		  ○ Matching value: [a-z0-9\-_\.]+@univago.com
		  ○ Replace value: \0
		  ○ Videonor
		  ○ Get in touch with Videonor support for for your required matching value and replace value
		  ○ Videxio VMR meetings
		  ○ Matching value: https://my.videxio.com/meet/(\d+)
		  ○ Replace value: \1@vmr.vc
		  ○ Zoom
		  ○ Matching value: https://[a-z0-9\-_\.]*zoom[a-z0-9\-_\.]*/j/(\d+)
		  ○ Replace value: \1@zoomcrc.com

Example meeting scenarios

Scenario 1: Booking a Skype meeting with one or more video-enabled meeting-rooms

Description	Requirements	Example rule

• Meeting organizer schedules a Skype meeting using Outlook.
• The invite includes video-enabled endpoints/meeting-rooms.
• JOIN sends the endpoints/meeting-rooms the Skype meeting URI as the One Button to Push (Cisco OBTP) or Click to Join (Polycom CTJ) message.
	Skype URI in Headers matching rule	• Pexip:
		  ○ S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		• StarLeaf Cloud:
		  ○ Auto-generated

	Skype URI in Body matching rule	• Pexip:
		  ○ S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain)
		• Cisco CMS 2.2 or later + O365 Skype for Business (CMS 2.2 or later):
		  ○ Matching value: None
		  ○ Replace value: (SkypeURL)@CompanyCMSDomain.local
		• StarLeaf Cloud:
		  ○ Auto-generated

	Regex	CIsco CMS + Internal on premises Skype for Business server: • Matching value: id:\s*(\d+) • Replace value: \1@YourInternalVideoDomain.com

Scenario 2: Booking a Personal VMR (Virtual Meeting Room) meeting with one or more video-enabled meeting-rooms

Description	Requirements	Example rule
• Meeting organizer schedules an ordinary Outlook appointment. • The invite includes video-enabled endpoints/meeting-rooms. • The invite email body includes a personal VMR uri, for example in the email signature. • JOIN sends the endpoints/meeting-rooms the personal VMR URI as the Cisco OBTP or Polycom CTJ message.	• Regex matching rule • A valid URI included in the email body, for example in the email signature.	(meet|vrm)\.[a-z0-9\-_\.]+@example\.com

Scenario 3: Booking a One-time-VMR with one or more video-enabled meeting-rooms

Description	Requirements	Example rule
• Meeting organizer schedules an ordinary Outlook appointment. • The invite includes video-enabled endpoints/meeting-rooms. • There is no URI anywhere in the body of the invitation that matches any of the regex matching rules. • JOIN creates a one-time URI on the Pexip MCU and sends the endpoints/meeting-rooms the one-time-VMR URI as the Cisco OBTP or Polycom CTJ message. • An email containing the dial-in information for the one-time-VMR is sent to the invitees (optional).	• In the JOIN Configurator, **Create VMR** is selected.	N/A

Scenario 4: Forwarding an existing invitation to a video-enabled meeting-room

Description	Requirements	Example rules
• User receives a meeting invite from someone internal or external to their organization and wants to join the meeting from a video-enabled endpoint/meeting-room. • User forwards the invite to the endpoint/meeting-room. • JOIN understands how to process the meeting from the contents of the invite email. • JOIN forwards the appropriate dial string to the meeting-room as the One Button to Push (Cisco OBTP) or Click to Join (Polycom CTJ) message. Currently the following meeting types are supported for forwarding in JOIN: • Skype • Teams • Personal VMR • One-time-VMR • BlueJeans • Cisco Webex • Starleaf VMR • StarLeaf Scheduled Meeting • Videonor • Videxio • Univago • Zoom Preprogrammed templates for these rules can be found in the Regex builder in the Matching Rules tab.	• Skype internal/external matching rule • Regex matching rules	• **Microsoft Skype:** ◦ Pexip: ◦ Matching value: None ◦ Replace value: S4B.(SkypeMeetingId).(SkypeUserId)@(UserDomain) ◦ Cisco CMS (Internal and External invitations): ◦ Matching value: None ◦ Replace value: (SkypeURL)@CompanyCMSDomain.local ◦ Cisco CMS: (Internal invitations Only) ◦ Matching value: id:\s*(\d+) ◦ Replace value: \1@YourInternalVideoDomain.com ◦ Videxio: ◦ Matching value: None ◦ Replace value: __sfb__(SkypeMeetingId).(SkypeUserId)@(UserDomain) ◦ Videonor: ◦ Get in touch with Videonor support for for your required Skype matching value and replace value ◦ StarLeaf Cloud ◦ No matching rule configuration required • **Microsoft Teams:** ◦ Pexip: ◦ Matching value: None ◦ Replace value: Teams.(TeamsMeetingId)@company.com • **Generic rules:** ◦ Personal VMR (uris contains the words: meet or vmr) ◦ Matching value: ([a-z0-9\-_\.]*(meet|vmr)[a-z0-9\-_\.]*)@[a-z0-9\-_\.]+ ◦ Replace value: \0 ◦ One-time-VMR (uris in the format: numeric@domain) ◦ Matching value: \d+@[a-z0-9\-_\.]+ ◦ Replace value: \0 • **Cloud providers:** ◦ BlueJeans ◦ Matching value: https://bluejeans.com/(\d+) ◦ Replace value: \1@sip.bjn.vc ◦ Cisco Webex ◦ Matching value: \d+@[a-z0-9\-_\.]*webex[a-z0-9\-_\.]+ ◦ Replace value: \0 ◦ Starleaf VMR ◦ Matching value: Meeting ID: ([0-9]+) ([0-9]+) ◦ Replace value: \1\2@synergysky.call.sl ◦ Univago ◦ Matching value: [a-z0-9\-_\.]+@univago.com ◦ Replace value: \0 ◦ Videonor ◦ Get in touch with Videonor support for for your required matching value and replace value ◦ Videxio VMR meetings ◦ Matching value: https://my.videxio.com/meet/(\d+) ◦ Replace value: \1@vmr.vc ◦ Zoom ◦ Matching value: https://[a-z0-9\-_\.]*zoom[a-z0-9\-_\.]*/j/(\d+) ◦ Replace value: \1@zoomcrc.com

Task 14: Configuring Email templates

Depending on the type of meeting booked, the following emails are sent out to users from JOIN:

Type of email	Description	Email template file name
Error Recurring Meeting	Sent when a recurring meeting is booked with no end date as this is not supported in JOIN.	*error_recurringmeeting.html*
Organizer Invite	Sent to the meeting organizer when a one-time-vmr meeting is booked. NOTE: This information will be inserted into the calendar invite and is resent to all invitees when the Calendar Update function is used	*organizerInvite.html*
Internal Invite	Sent to internal participants when a one-time-vmr meeting is booked. Includes dial-in information for the meeting.	*internalInvite.html*
External Invite	Sent to participants external to your organization when a one-time-vmr meeting is booked. Includes dial-in information for the meeting.	*externalInvite.html*
Organizer Invite Skype	Sent to the meeting organizer when a Skype meeting is booked. NOTE: This information will be inserted into the calendar invite and is resent to all invitees when the Calendar Update function is used	*organizerInviteSkype.html*
Internal Invite Skype	Sent to internal participants when a Skype meeting is booked.	*internalInviteSkype.html*
External Invite Skype	Sent to external participants when a Skype meeting is booked.	*externalInviteSkype.html*
Organizer Invite Static	Sent to the meeting organizer when a regex rule meeting is booked. NOTE: This information will be inserted into the calendar invite and is resent to all invitees when the Calendar Update function is used	*organizerInviteStaticVMR.html*
Internal Invite Static	Sent to the internal participants when a regex rule meeting is booked.	*internalInviteStaticVMR.html*
External Invite Static	Sent to the external participants when a regex rule meeting is booked.	*externalInviteStaticVMR.html*
Information header for emails to meeting organizers when Calendar Update fails	Added to the beginning of the emails to the organizers if the calendar could not be updated automatically	*fallbackHeader.html*
Host pin code email	Enabling the Calendar Update function results in all invitees getting the same information as the organizer since the information is inserted in the calendar body. The Host Pin will therefore be sent to the Organizer as a separate email if Host Pin generation is enabled	*hostPin.html*
Footer for meetings that are being recorded	Added to the end of the email to the	*recordingFooter.html*

The email templates are located here: *C:\SynergySKY\SynergySKYEnterpriseScheduling\emailTemplates* and you can edit them using an HTML editor.

You can edit all text that is not between the % symbols. You can remove any % attributes that you do not want to display in your emails.

The following attributes can be used in the templates:

Attribute name	Description	Example
%URI%	The full URI of the meeting	12346578@company.com
%NumericVMRURI%	The numeric part of the meeting	12346578
%HostPin%	The pin code for the host of the meeting	2412
%GuestPin%	The pin code for the guests of the meeting	0211
%starttime%	The start time of the meeting	01.01.2017 10:00
%endtime%	The end time of the meeting	01.01.2017 11:00
%subject%	The subject of the meeting	Board meeting
%invitebody%	The full body of the meeting invitation	...
%organizer_firstname%	The first name of the meeting organizer	Jane
%organizer_lastname%	The last name of the meeting organizer	Smith
%organizer_email%	The email address of the meeting organizer	jane.smith@example.org
%invitee%	The name of the person the meeting invite is sent to.	John Jones

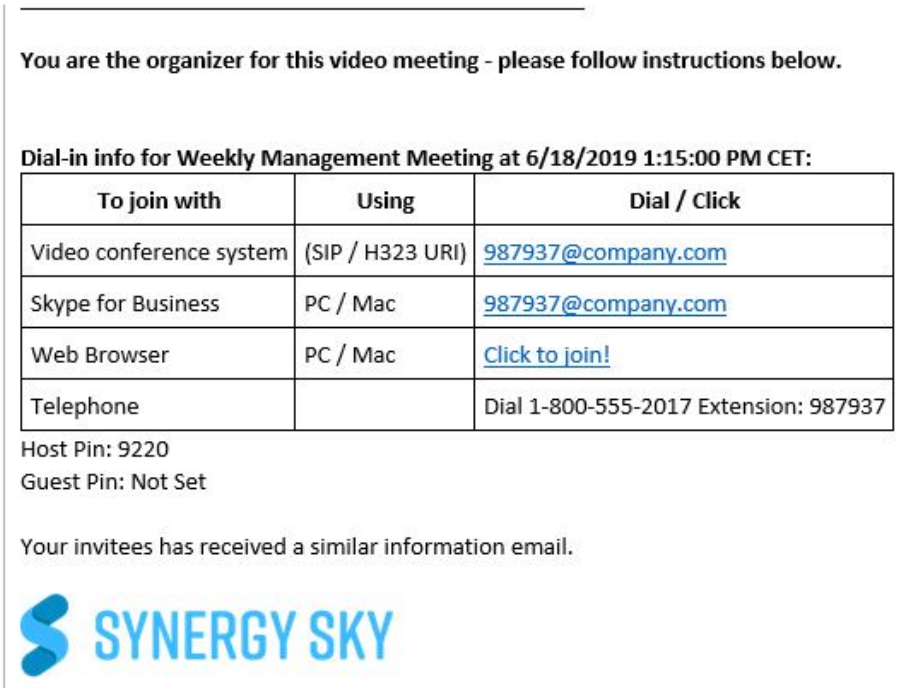
Attribute name	Description	Example
%isPrivate%	A flag indicating if the meeting is booked as Private or not	True
%SkypeConferenceId%	The numeric conference Id found in the invite of Skype invitations that have PSTN dial-in capabilities	87564312
%SkypeGRUU%	The Globally Routable Unique Identifier of Skype meetings	sip:john.smith@example.org;gruu;opaque=app:conf:focus:id:TTC86056
%SkypeURL%	The URL found in the Skype meeting invitation	https://meet.lync.com/company-com/jsmith/6LN9569P
%StreamingPath%	The URL to view the live/on-demand video stream from the meeting. Only applicable for Panopto recording	
%HostSecret%	The secret that need to be in the URL to enable one-click-joining as Host on WebRTC in One-time-VMRs on the Cisco Meeting Server	https://cms.company.com/?secret=%HostSecret%&id=%NumericVMRURI%
%GuestSecret%	The secret that need to be in the URL to enable one-click-joining as Guest on WebRTC in One-time-VMRs on the Cisco Meeting Server	https://cms.company.com/?secret=%GuestSecret%&id=%NumericVMRURI%

Synergy JOIN emailTemplates

Below are some email templates that you can use with your Synergy JOIN installation.
To use the templates you will have to do the following

1. Extract the downloaded zip file
2. Browse to your Synergy JOIN installation path - C:\SynergySky\SynergySKYEnterpriseScheduling\emailTemplates
3. Replace the contents of the emailTemplates folder with your extracted files
4. Open each template and replace the <img src> to your companies image/logo.

Additional information in regards to the attributes that you can use with these templates can be found here



You are the organizer for this video meeting - please follow instructions below.

Dial-in info for Weekly Management Meeting at 6/18/2019 1:15:00 PM CET:

To join with	Using	Dial / Click
Video conference system	(SIP / H323 URI)	987937@company.com
Skype for Business	PC / Mac	987937@company.com
Web Browser	PC / Mac	Click to join!
Telephone		Dial 1-800-555-2017 Extension: 987937

Host Pin: 9220
Guest Pin: Not Set

Your invitees has received a similar information email.

SYNERGY SKY

Click to JOIN via Web Browser	Click to JOIN via Skype for Business

Call this number from a Video System:
492593@company.com

Call this number from a telephone:
Norway: +47 123456789 Ext: 492963#
USA: +1 987-123-4567 Ext: 499853#

Powered By:

Manually upgrading JOIN

You can **Check for updates** and **Upgrade** from the **Upgrade** tab in the configurator tool.

A message is displayed to notify you if there is a new version available.

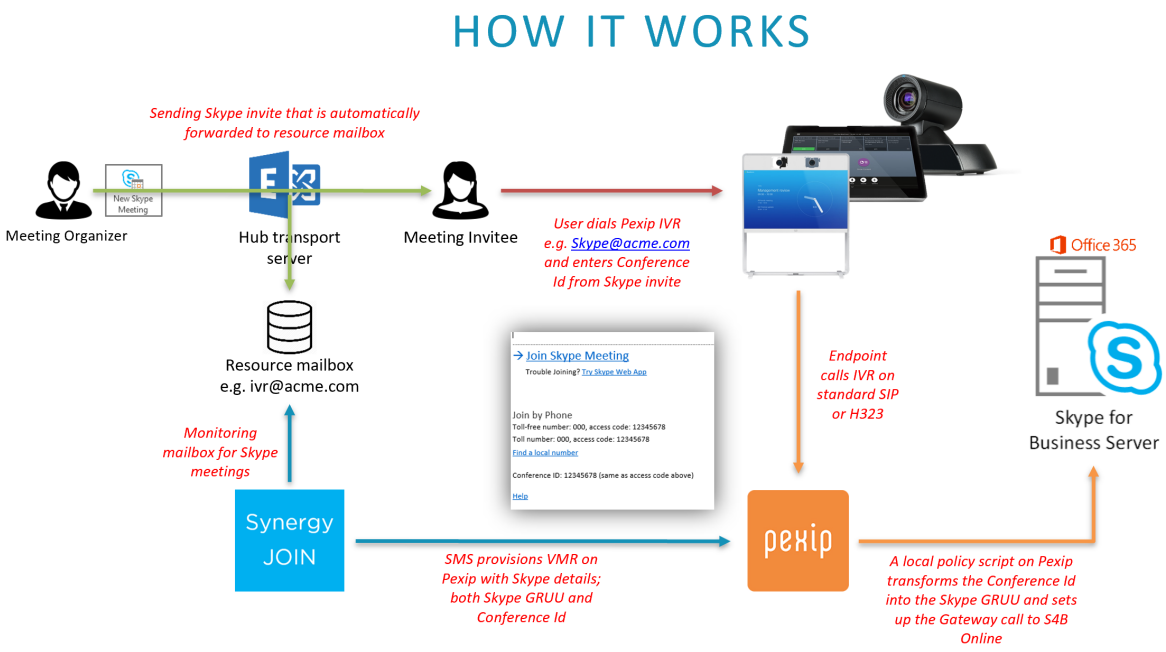
This tab displays the release notes for the current version.

Synergy JOIN can be configured to automatically check for beta releases and release candidates by checking the checkbox in the upper right corner. Remember to click "Save" after enabling the check for beta versions.

Appendix 1: Using Synergy JOIN for Skype IVR with Pexip

The Skype IVR (Skype Interactive Voice Respons) option in JOIN enables users to join Skype Online (Skype for Business Office 365) meetings by dialing into a specific URI (e.g. ivr@company.com) and entering the numeric Conference Id that is automatically inserted into the meeting invitation when booking a Skype Online meeting. The option also make it easy for users to join the Skype meeting via WebRTC which usually has a higher success rate than the Skype Web app. The picture at the end of this chapter shows the work flow of this feature.

Work flow of the JOIN Skype IVR service



Exchange Requirements

JOIN uses Exchange Web Services (EWS) to access the Exchange Online environment.

For supporting Skype Online IVR meetings, the Exchange administrator needs to check or update the Exchange server with the following:

- JOIN IVR Exchange resource account
- Exchange IVR resource account properties adjustments
- IVR URI in Skype invitation footer
- Hub Transport Rules (optional, but strongly recommended)

Skype requirements

- Skype Online E5 licenses or E1/E3 with Enterprice Voice / Audio Conferencing option for all users booking meeting that will have IVR capabilities

Pexip Requirements

- VMR Licenses equal to or above the number of concurrently running Skype conferences
- Local Policy Script in Pexip "Local Policy Script" on page 114
- Virtual Reception Room under Service Configuration > Virtual Receptions

Configuration steps

Note: All sections that you have to amend are highlighted in red

JOIN IVR Resource Account

Create a JOIN IVR resource account. It is used by JOIN to monitor all calendar invitations for Skype meetings - these invitations are hitting the JOIN IVR resource mailbox due to a specific Hub Transport Rule "Hub Transport Rules" below

- Define this resource account in the 'Conference Settings' tab (or VMR Pools tab if you are using Synergy JOIN 3.2 and above) to allow for dialing conference@domain.com to join the conference directly

- Tick the 'Enable IVR dial-in into Skype Meetings' tick box in the 'Services' tab and specify the Exchange resource email address that you are going to use for the IVR function within your environemnt.

JOIN IVR Resource Properties Adjustments

REQUIRED:

For the JOIN IVR mailbox, as multiple meetings will be sent there, conflicts must be allowed.

Set-CalendarProcessing <JOIN-ivrAlias> - AllowConflicts $true

OPTIONAL:

If it is desired to keep the Subject of the meeting when provisioning into Pexip (to help fault finding and identifying a specific meeting by title in the Pexip Admin interface).

Set-CalendarProcessing <JOIN-ivrAlias> - AddOrganizerToSubject $false -DeleteSubject $false

IVR URI in Skype Invitation Footer (Skype for Business configuration)

For general user awareness on how to reach the Skype IVR from their video endpoints that is not provisioned by JOIN with OBTP information, please add the following footer for all Skype invitations.

Example:

Join the meeting from a Video Conferencing system by dialing skype@company.com and enter the Conference ID followed by #.

This “skype@company.com” string is also the phrase your Hub Transport Rule will be checking on (see the next chapter).

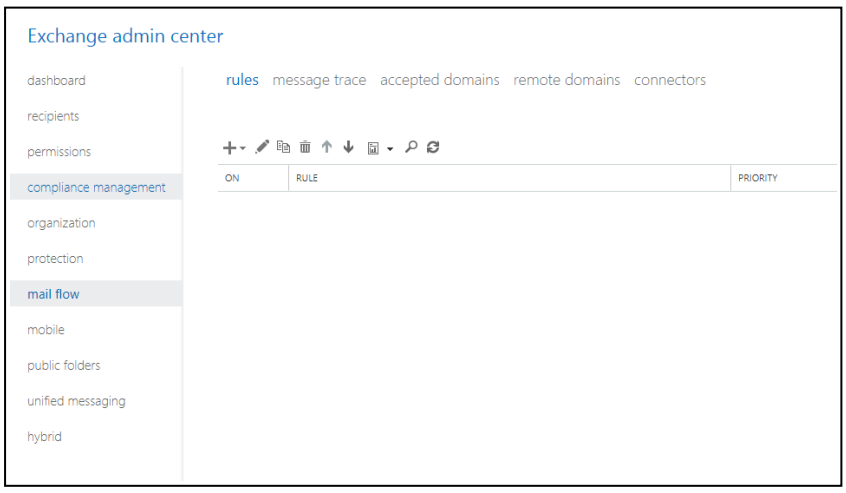
For a PoC, you can manually add the footer to meetings that should be picked up by the JOIN service, or skip the hub transport rule and add the IVR resouce account to the booking, which will make JOIN provision the IVR VMR on the Pexip MCU so that VC systems can dial into the Skype meeting.

Hub Transport Rules

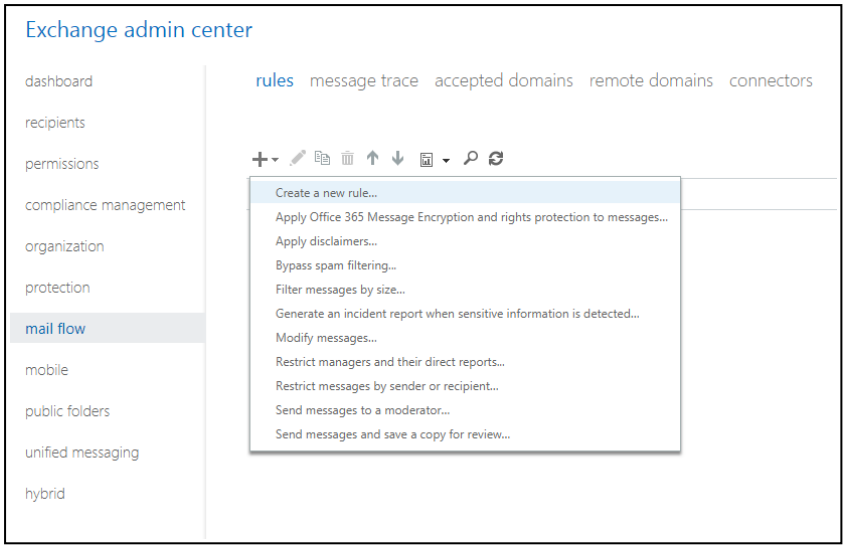
Set up a Hub Transport Rule forwarding all Skype meeting invites to the IVR resource account and consider adding a second transport rule to remove acceptance emails from the IVR, also to avoid the IVR appearing in the participant list in Outlook.

Step-by-step guide

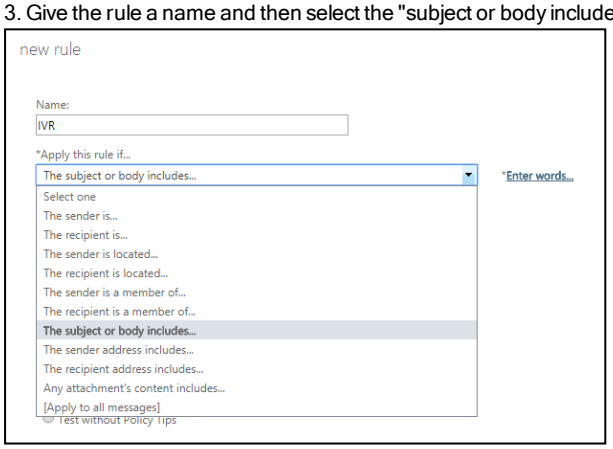
1. Log into the Exchange ECP and click on Mail Flow



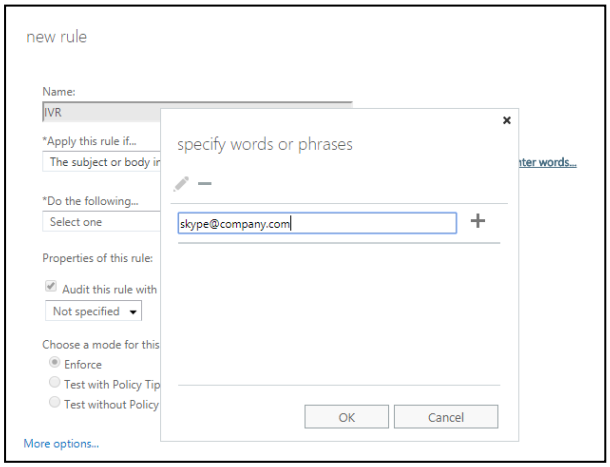
2. Click on the + and Create a new rule



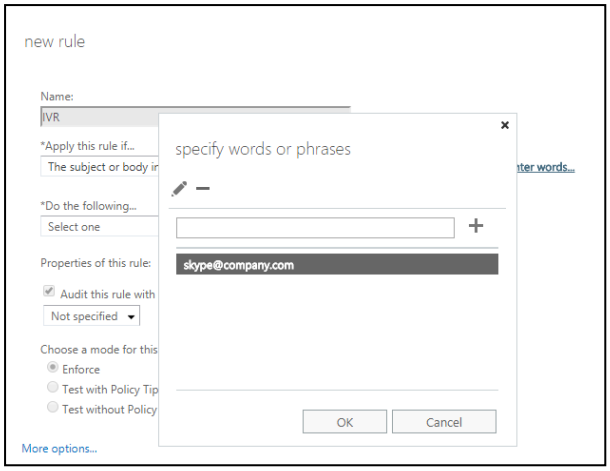
3. Give the rule a name and then select the "subject or body includes"



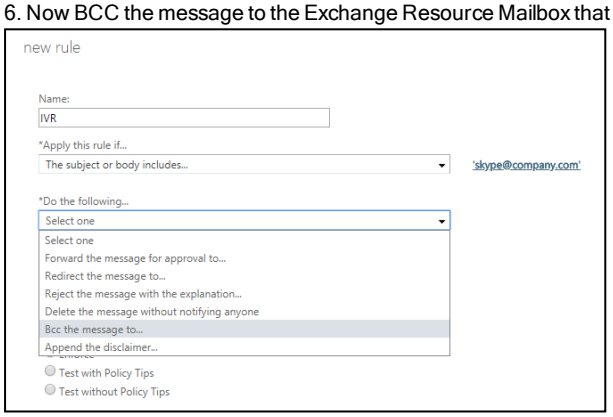
4. Now specify a word or phrase to so that the rule can match when it is scanning the mail. We recommend setting this phrase based on the footer string, i.e. skype@company.com as your IVR SIP address.



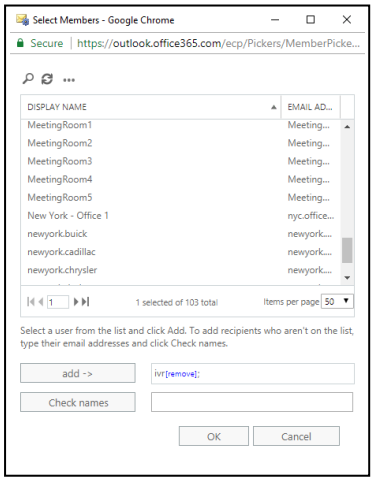
5. Click + and then save



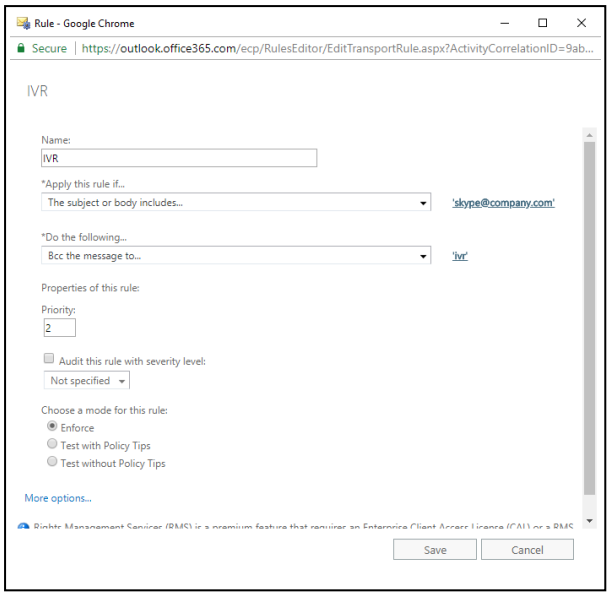
6. Now BCC the message to the Exchange Resource Mailbox that will be used with Synergy Sky



7. Now find the resource mailbox and add this in, and press OK



8. Once all this is done, select Save

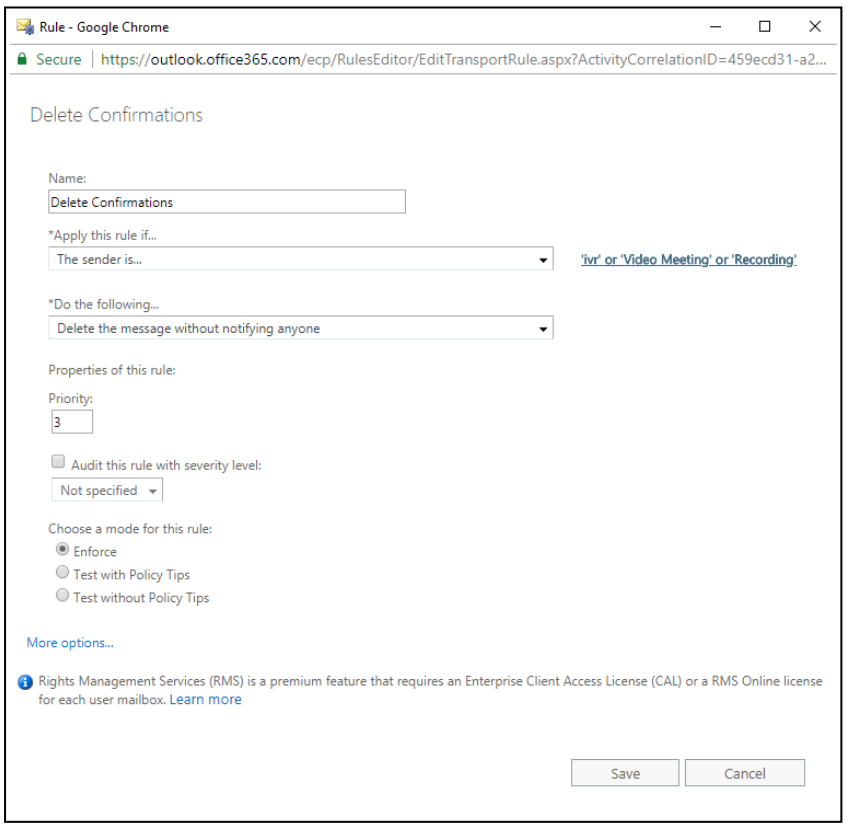


9. You will then see the completed rule in the Exchange Control Panel.

You can now create a Skype Meeting and you can check the Deleted items of the Resource Mailbox to see if the rule has worked. Please, give it a few minutes to ensure it has replicated within Exchange.

Second transport rule to remove accept confirmations

For initial testing it might be useful to get the Accepted message back from this mailbox to confirm the invite was sent there, however when basic functionality is verified, another transport rule should be created to stop messages from the IVR service being sent back to users as illustrated on the following screenshot:



Appendix 2: Pexip Policy Script for use with Synergy JOIN Skype IVR

Note: All sections that you have to amend are highlighted in red

The Skype IVR (Skype Interactive Voice Respons) option in JOIN requires a Local Policy Script to be present on the Pexip server so that Pexip will correctly route call coming in through the IVR to the Skype AV MCU.

1. Add dial-out location if required (see info inside the script)
2. Add the script according to these instructions: https://docs.pexip.com/admin/local_policy.htm

Local Policy Script

```
{
{# Defining the name of the GW session to include from name, from uri, gruu uri,
# meeting id and original name, cap at 250 characters.
#}

{% set gwname = (call_info.remote_display_name + " (" + call_info.remote_alias + ") to " +
service_config.description|pex_regex_replace('^(sip:)?(.+@.+);gruu;opaque=app:conf:focus:id:([a-z0-9A-Z]+)', '\\2 @ \\3') +
" (" + service_config.name + ")")[:250] %}

{#{pex_debug_log("----- call_info ----- ", call_info) }#}
{#{pex_debug_log("----- service_config ----- ", service_config) }#}
{% if service_config %}
"action" : "continue",

{# Only matching if all criterias match:
# Must match an existing conference (meaning it is provisioned by Synergy Meeting Server)
# Must have a service tag that starts with SMS-IVR-GW (if provisioned by Synergy JOIN, it will)
#}

{% if
service_config.service_type == "conference"
and
service_config.service_tag.startswith("SMS-IVR-GW")
%}
{{pex_debug_log("-----> Has SMS-IVR-GW tag: " + gwname ) }}

{# DMZ (federated to SfB) example with no mssip_proxy_name or location #}
"result" : {{service_config|pex_update({
"name": gwname,
"service_type": "gateway",
"outgoing_protocol": "mssip",
"pin":"",
"guest_pin":"",
```

```
"allow_guests" : False,
"local_display_name" : call_info.remote_display_name,
"local_alias": call_info.remote_alias,
# Below line is required for on-premises integration to a FEP.
# "mssip_proxy_name": "Europe SfB Pool 01",
#If theoutbound location to SfB is not the same as in bound location from VC system, amend the below line
# "outgoing_location_name": "Name of location for outgoing SfB Call",
"remote_alias": service_config.description})
|pex_to_json}}
{% else %}
"result" : {{service_config|pex_to_json}}
{% endif %}
{% else %}
"action" : "reject",
"result" : {}
{% endif %}
}
```

Appendix 3: Pexip Virtual Reception for use with Synergy JOIN Skype IVR

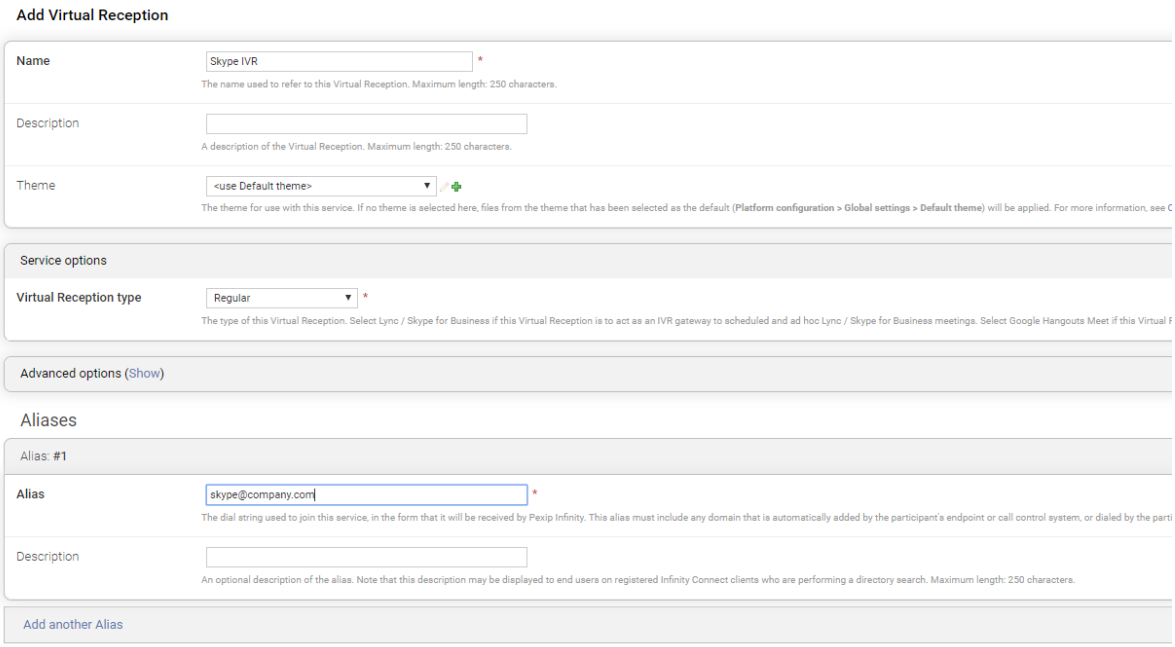
The Skype IVR (Skype Interactive Voice Response) option in JOIN requires a a virtual reception to be present on the Pexip server so that Pexip will correctly route the call coming in through the IVR to the Skype AV MCU.

1. Add new Virtual Reception room. Instructions can be found on the Pexip Support Page

Virtual Reception

1. The Name should be an easily identifiable name

2. The Alias should be the same alias as you specified in the Hub Transport Rules section



Appendix 4: Using Synergy JOIN with AMX/Crestron for Cisco and Polycom endpoints

AMX and Crestron panels are usually custom installations developed to solve a specific issue at a customer site. AV technicians responsible for the custom installation can use the following information to integrate with JOIN:

Cisco One Button To Push

1. Program the AMX/Crestron to listen to changes in the OBTP information (or poll on regular intervals)
2. Register an event listener in the Cisco (C-series and SX-series) CUIL using the following command: **`xfeedback register event/bookings`**
3. When you see this message **`*e Bookings Updated`**, get the updated info with this command: **`xcommand Bookings List`**
   Note that all time/date values returned from the command **`xcommand Bookings List`** are returned in UTC time, therefore the Crestron/AMX integrator must convert this to localtime for the endpoint before presenting it on the touch panel.
   We also recommend that the button to initiate the call should become enabled at the start buffer (x SECONDS before meeting start time) and that it should remain clickable until the endtimebuffer (y MINUTES after the meeting end time) to make it possible to rejoin a meeting that runs over the scheduled time.

4. It is easier to parse the info if you set up the session to get responses in xml. You can do this when you open the session using this command: **`xpreferences outputmode xml`**

5. The URI to dial is extracted from the **`DialInfo`** element in the list of meetings (from point 2). E.g. **Bookings > Booking 1 > DialInfo > Calls > Call 1 > Number:** *meet.someone@synergysky.com*

6. If you want the participant to be presented as the name of the meeting rather than the URI that was dialed, you can use the optional Dial command parameter: **`BookingId`** which allows you to refer back to the booking when launching the call. **`BookingId`** is the Id in the booking list.

More information can be found here: Cisco C Series Codec API Guide

Polycom Click To Join

1. Program the AMX/Crestron to poll the Polycom video system (HDX and Group Series) on regular intervals over SSH/Telnet
2. Get today's meetings by running this command: **`calendarmeetings list today`**
3. Use the start time to determine when to show the button and the title of the meeting to indicate which meeting is starting:
   ```
   calendarmeetings list begin
   meeting|45v6eur3f87hof1pl374jdnl0j|2018-09-12:11:30|2018-09-12:13:30|G-Suite booked meeting with Synergy JOIN
   meeting|62ts1kjtffdun3jtinrr7qlo9s|2018-09-12:19:30|2018-09-12:20:30|Sales meeting
   calendarmeetings list end
   ```

4. Use the meeting id (e.g. 45v6eur3f87hof1pl374jdnl0j) for the meeting to request the URI that should be dialed when clicking the green button. The command to request the meeting details is **`calendarmeetings info <<meetingid>>`**

5. The URI to dial is extracted from the **`dialingnumber`** element in the list of meetings (from point 4). E.g. **`dialingnumber|video|490055@company.com|sip`**

More information can be found here: Integrator's Reference Manual for the Polycom RealPresence® Group Series

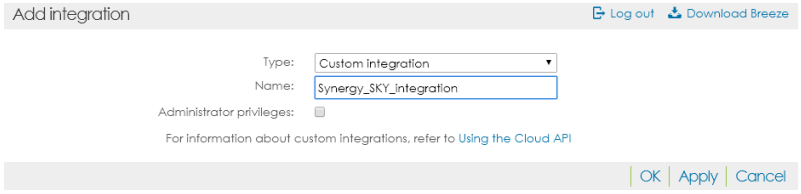
Appendix 5: How to create a StarLeaf Cloud authorization token

To allow JOIN to connect to the StarLeaf Cloud:

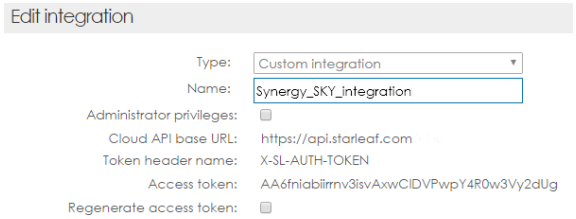
- you must create an integration for it on the StarLeaf Portal. This will give you the access token that JOIN requires. This is described below.
- contact StarLeaf Support and ask for **Allow scheduling external conferences** to be enabled on your organization's account.

Prerequisite:

1. Log in to the StarLeaf Portal: https://portal.starleaf.com.
2. Go to **Integrations > Add integration**:
   - **Type**: *Custom integration*
   - **Name**: Provide a name for this integration
   - Do not enable **Administrator privileges**

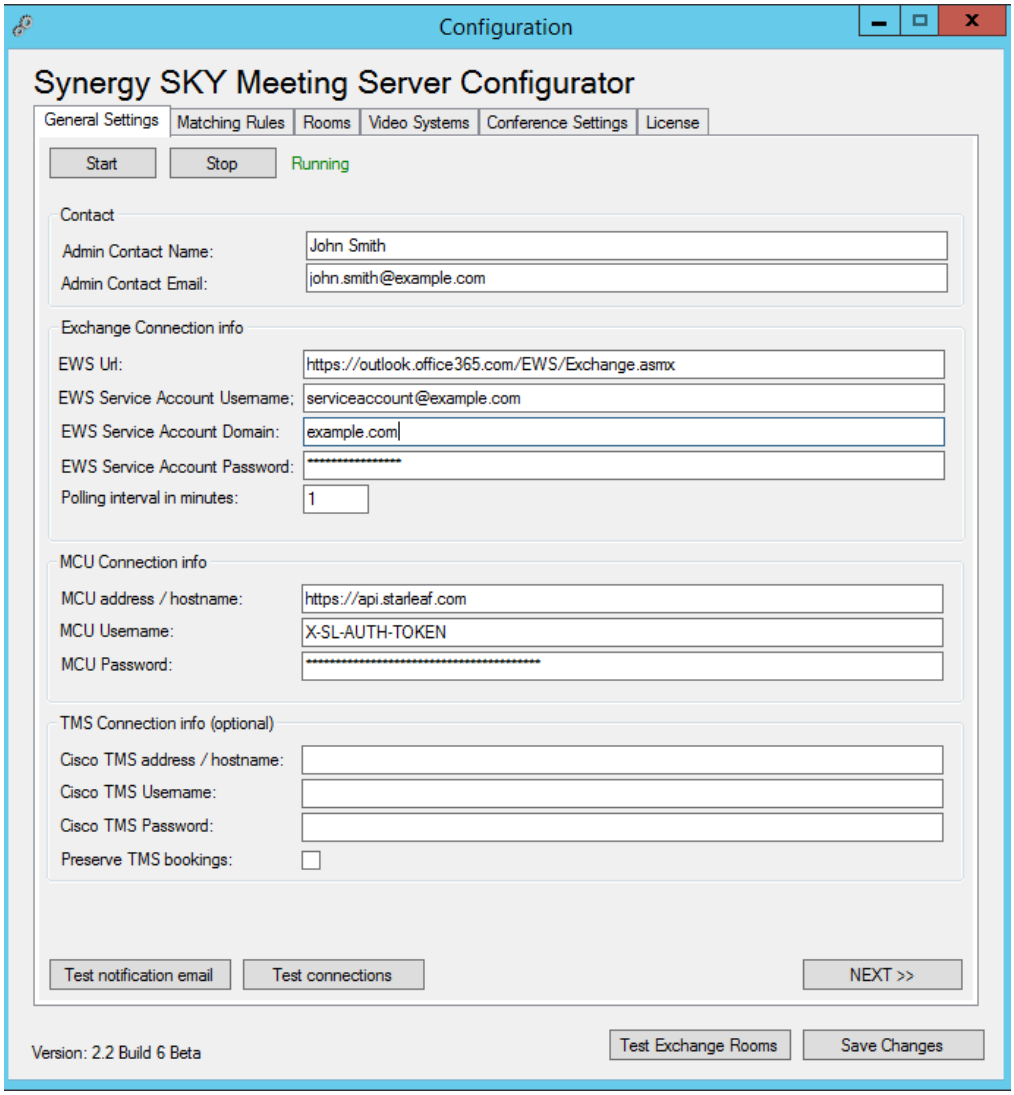


3. Click **Apply**. You will see the access token.
   Note that the image below only shows an example. You must follow this process for the organization that the client will modify.



4. Go to **Synergy SKY server > General Settings**:
   - **MCU address/hostname**: enter *https://api.starleaf.com*
   - **MCU username**: enter *X-SL-AUTH-TOKEN*
   - **MCU password**: enter the **access token** from the StarLeaf Portal

   An example configuration is shown below:



Security

Note: It is worth remembering that the access token provides login access to the organization. Therefore, keep it secret. If you think security of the token has been compromised, regenerate the token.

You can regenerate the access token at any time (**Portal > Integrations > Edit integration**). If you do so, you will need to enter the new token as the **MCU password** in **Synergy SKY server > General Settings**.

Appendix 6: Configuring Cisco Meeting Server profiles with Synergy JOIN

Cisco Meeting Server administrators are familiar with the concept of Profile accessMethods used to customize behavior of Virtual Meeting Rooms (VMRs) to fit the requirements of their organization. CMS deployments needing to specify distinct host/guest behavior using Join's one-time-VRM invitation mechanism can be achieved by modifying the host and guest configuration files. These files can be found in the Synergy Sky Join /configuration folder and are called CMSHostprofile.txt and CMSGuestprofile.txt. The file syntax respects the attributes defined in CMS API Reference Guide and follows the accessMethod nomenclature as per the example.

The available attributes for the profiles can be found in the Cisco CMS API Reference Guide

File Examples:

Note that the attributes must be linked together with the & as the examples below show

CMSHostprofile.txt

muteOthersAllowed=true&disconnectOthersAllowed=true&addParticipantAllowed=true&needsActivation=false&endCallAllowed=true&videoMuteOthersAllowed=true

CMSGuestprofile.txt

muteOthersAllowed=false&disconnectOthersAllowed=false&addParticipantAllowed=false&needsActivation=true&videoMuteOthersAllowed=false

Appendix 7: Deleting unwanted future meetings

If you want to delete future scheduled meetings for an employee who has left the company in order to free up resources, this can be done using JOIN configuration tool.

Simply add the organizer's email address, and one or more words from the meeting title, and all relevant emails will be listed in the table below.

You can then select the meetings you want to delete, and they will be removed from Exchange.