MHHS PROGRAMME

Industry-led, Elexon facilitated

E2E Onboarding Guide

Document owner	Document number	Version	Status:	Date
MHHS	**DEL1671**	**V1.8**	**Approved**	**24/11/2023**

1.0 Content and Control

1.1 UPDATES TO ONBOARDING

	Author	Version	Change Detail
26/09/2023	David Gardiner	V1.0	Approved – Issued document
27/09/2023	David Gardiner	V1.1	Included overview of DIP Member Roles – Section 3.2
28/09/2023	David Gardiner	V1.2	Updated the GlobalSign process with a more detailed 14 steps and included detailed screens for guidance through the GlobalSign registration and verification
03/10/2023	David Gardiner	V1.3	Included updates to the Certificate generation and upload process (Sec 4-7)
23/10/2023	David Gardiner	V1.4	Included changes to DNS and new Section 5 screen.
25/10/2023	David Gardiner	V1.5	Included IMPORTANT new ‘Host’ and ‘Domain’ actions in Section 6
27/10/2023	David Gardiner	V1.6	Inclusion of Addendum with OpenSSL guidance and the FAQ
31/10/2023	Dolapo Adeyemi	V1.7	Additional clarification on certificate generation in sections 5 and 6 (slides 33, 38 and 41)
24/11/2023	Dolapo Adeyemi	V1.8	Clarification on GS vetting, how to request DCP Status and how to Nominate a DCP

This Onboarding guide is published for the CIT phase of the MHHS Programme - this is subject to update and change for future phases / enduring / BAU and will be re-published in line with any updates.

1.2 Key Terminology Explained

Term	Description
ADO	Azure DevOps
AKV	Azure Key Vault
API	Application Programmable Interface
ARO	Appointed Responsible Officer
CER	A .CER is an SSL Certificate File Format
CSR	Certificate Signing Request
CSV	Comma-Separated Values
CI	Component Integration Testing
DIP	Data Integration Platform
DCP	DIP Connection Provider
DNS	Domain Name System
GS	GlobalSign
MFA	Multi-Factor Authentication
PFX	Personal Information Exchange
SIT	System Integration Testing
SRO	Senior Responsible Officer
SSL	Secure Socket Layer
SSL OV	SSL Organisation Validation

2.1 Support and Assistance

It is understood that the process to onboard to the DIP has many intricate steps. We fully believe that if prepared correctly, these steps should complete successfully and allow a smooth onboarding, however, we understand that sometimes things do not go as you expect, and a helping hand is needed.

If this situation arises, please send an email to **DIP@mhhsprogramme.co.uk** with your contact details, description of the step/stage you have reached, a short description of the problem you have encountered and someone will respond as soon as possible.

2.2 Preparation Reminder

Before onboarding please complete the following actions:

1. Have ready the assigned Certificate Admin details
2. Have your registered Company Name, the associated Company Number and a brief company description
3. Have your DNS admin prepared and ready for the DNS activity (Section 4)
4. Have your Technical Contact, with the ability to manage through the conversion of certificates, on hand to assist (Section 4 and 5)
5. Do not add additional Market Participants during onboarding: wait until onboarding completion. The User Admin can add new members or/and instigate a DIP Connection Provider (DCP) link after an ACTIVE Certificate has been uploaded

2.3 Post Onboarding

Ensure you have set up to optimise your DIP experience:

1. Read the DIP User Guides to understand the functions and features in detail
2. Ensure at least 2 each of User Admin, Certificate Admin and Message Admin are invited and joined the DIP to allow cover during holiday or absence situations
3. Remember that members can have multiple roles – use according to your needs
4. Try out the ‘links’ and supporting materials

3.1 Introduction

The E2E Onboarding process involves a fixed sequence of activities which must be followed accurately and in the correct order, to ensure successful onboarding completion and therefore readiness to perform the DIP SIT/CIT. The DIP Certification Process Map (DCPM) (available on the MHHS Collaboration Base) provides guidance on each of the critical 17 steps for all Market Participants. The published DIP High-Level Process Model to CIT/SIT provides advice and guidance on pre-registration preparation, extended process steps and suggested test stage actions for each onboarded Market Participant.

3.2 DIP Member Roles

Within the DIP there are four Market Participant member roles which can be assigned. Any organisation member invited to the DIP can have either a single role or be assigned multiple roles (allowing all four assigned to one person).

Section	Section Header	Description
1	User Admin	The User Admin is the person who will receive the invitation from the DIP Team to join the DIP. The User Admin role, when assigned to any member, provides the functions to add other DIP Members and manage DIPID's.
2	Certificate Admin	The Cert Admin is responsible for all certificate management, including registration, GlobalSign verification, completion of the certificate upload, and ongoing certificate maintenance. Given the scope of the role this may be multiple people at different parts of the process. The appointed individual(s) would incorporate the PKI roles of SRO, ARO and TC.
3	Message Admin	Will have the control and ownership of all activities relating to message processing, replay and management.
4	Analytics Reader	Will only have access to review the DIP Dashboard feature.

3.2 Onboarding Guide Overview

The following table provides the overview of the onboarding sections requiring completion for onboarding – each to be followed in sequence.

Section	Section Header	Description
1	User Admin Invitation	Invitation to advised User Admin to join the DIP and sign in instructions
2	Cert Admin Registration	Cert Admin sign-in and GlobalSign registration initiation
3	GlobalSign Registration & API Key Generation	Cert Admin conducts the GlobalSign instructions through to validation
4	Create a PFX certificate to Upload to the DIP	Ensure DNS is correctly set up and prepare PFX for DIP
5	Upload the PFX file to the DIP and set DNS	Upload the PFX file to the DIP and ensure DNS has been validated
6	Complete the DIP set up	Activate the certificate and conclude onboarding to the DIP
Optional	How to Add / Edit Members	Provides advice on how to add new members and edit current member roles
Optional	Nominate a DIP Connection Provider (DCP)	Provides the actions required to nominate a DCP for your organisation
Addendum	**Advice for using OpenSSL**	The set of useful commands for OpenSSL instead of Azure Key Vault, which can be used at the relevant points during onboarding
Addendum	**FAQs**	A list of common questions and advice needed

Section 1 – User Admin Invitation to Join the DIP

The Invitation to Join the DIP

The process for onboarding will commence with the Market Participant’s (MP) nominated **MP User Admin** receiving an email from the Programme **DIP Manager/Team** inviting them to join the DIP: The DIP Team will contact your organisation prior to your onboarding to receive the name of the MP User Admin.

The email sent to the MP User Admin will contain a link to the DIP ‘Sign in’ home page which is shown in the forthcoming pages. The MP User Admin must complete sign-in and then verify/complete the company profile and assign a nominated **MP Certificate Admin (SRO/ARO)** who will then request, generate and conclude the creation and upload of their certificate so they are ready to start the relevant DIP CIT/SIT testing.

Multi-Factor Authentication (MFA) is a mandatory set up for all users who will be accessing the DIP. The MFA set up will initiate during the first sign in of each invited user and an MFA request will occur each time any user signs in thereafter.

Preparation

In advance of the MP User Admin clicking the link to the Elexon DIP ‘Sign in’ page:

1. Have a name ready for the assignment of the Certificate Admin role
2. Complete and return your **DIP Onboarding Preparation Pro-Forma** to dip@mhhsprogramme.co.uk
3. Ensure the Company Name used is the full legal registered name at Companies House

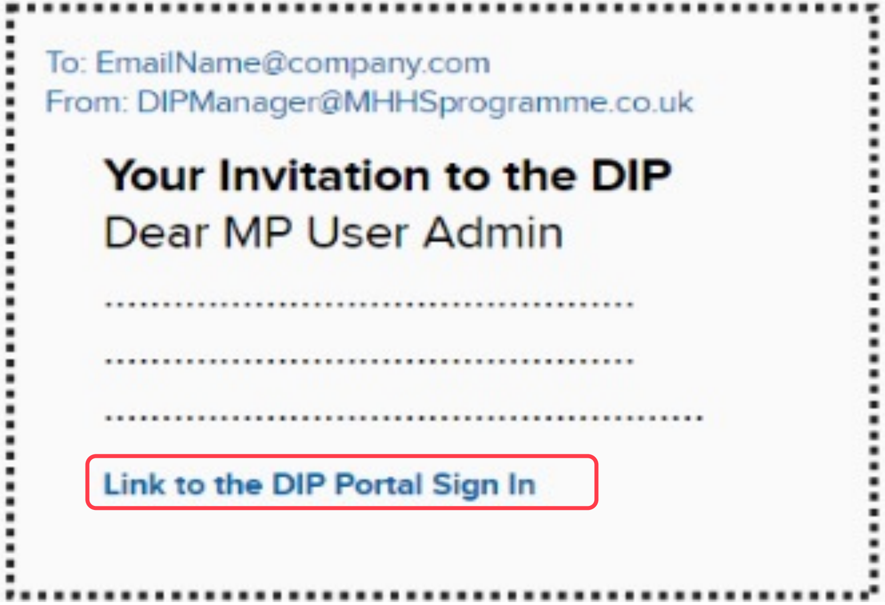
IMPORTANT

The onboarding process is the same for both MP’s and DIP Connection Providers (DCP).

Invitation to join the DIP

The invitation from the DIP Manager/Team will arrive to the **MP User Admin** email address provided. The process will begin with the MP User Admin clicking on the 'link to the DIP Portal Sign in' within the email invitation they receive from the DIP Team.

Example email>



To: EmailName@company.com
From: DIPManager@MHHSprogramme.co.uk

Your Invitation to the DIP

Dear MP User Admin

....

....

....

Link to the DIP Portal Sign In

NOTE: The DIP has been designed to operate optimally on current or current-1 versions of Chrome or Edge browsers.

Other browsers may work but may not perform in an optimal way.

If you do not receive the invite, once you are advised it has been sent, please use this link to get started: **Https://Portal.SIT.energydataintegrationplatform.co.uk**

You should ensure this is WHITE listed and is not subject to quarantine or a suspected phishing delay.

The initial Sign-in to the DIP

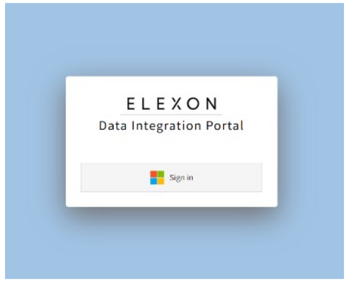
Sign in to DIP:

1. You will be able to use your own, current email address to sign in
2. Set up your authenticator tool on your mobile or secondary device in advance: Microsoft Authenticator is recommended

Sign-in to the DIP

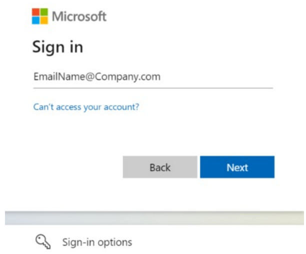
Please follow steps 1-9 to complete the User Admin set up and Certificate Admin invitation.

1 Click SIGN IN

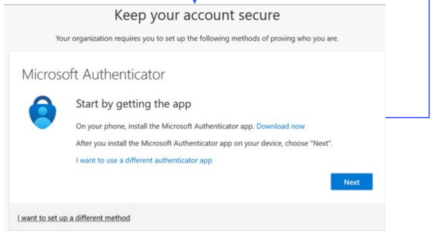


ELEXON
Data Integration Portal

2 Sign in and complete MFA



Microsoft
Sign in
EmailName@Company.com
Can't access your account?



Keep your account secure

Your organization requires you to set up the following methods of proving who you are.

Microsoft Authenticator

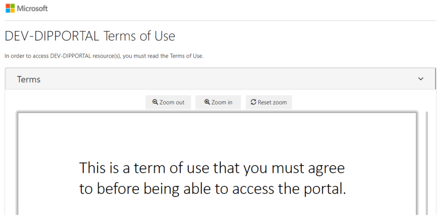
Start by getting the app

On your phone, install the Microsoft Authenticator app. Download now

After you install the Microsoft Authenticator app on your device, choose "Next".

I want to use a different authenticator app

3 Read the Terms of Use



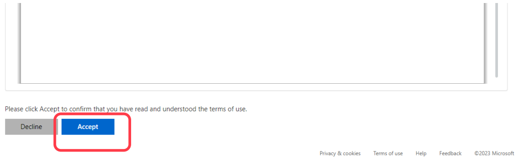
Microsoft

DEV-DIPPORTAL Terms of Use

In order to access DEV-DIPPORTAL resource(s), you must read the Terms of Use.

This is a term of use that you must agree to before being able to access the portal.

4 Click SUBMIT to accept Terms of Use



Please click Accept to confirm that you have read and understood the terms of use.

If you have assigned a NEW EMAIL ADDRESS to an enrolling individual there will be a request to 'Reset your Password'. Please follow instructions given.

Complete and/or verify Company Details

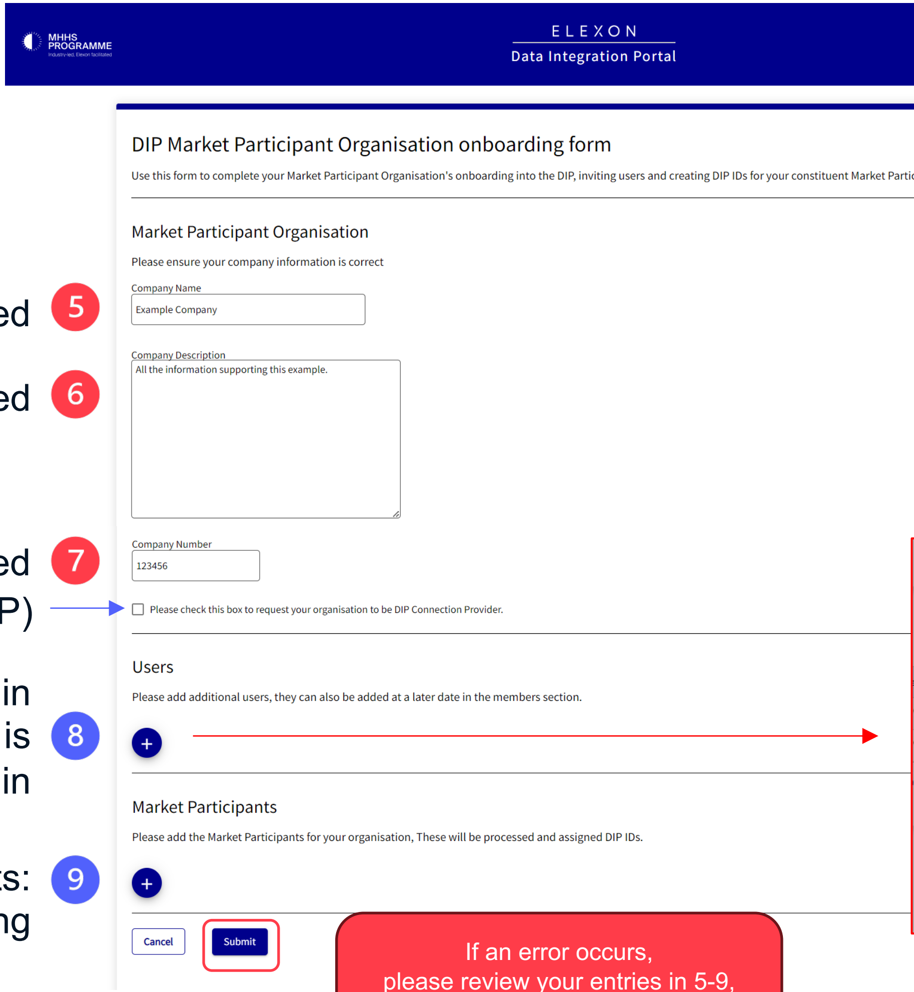
The User Admin must enter/check the company details and create a Certificate Admin user or assign Cert Admin role to themselves if operating in both roles.

● Optional

● Mandatory

Note for Step 8

Your first Cert Admin must be a permanent member of your organisation. Once vetting and registration is complete, you may now add more cert admins which may include technical contacts or 3rd parties



DIP Market Participant Organisation onboarding form

Use this form to complete your Market Participant Organisation's onboarding into the DIP, inviting users and creating DIP IDs for your constituent Market Participants.

Market Participant Organisation

Please ensure your company information is correct

Company Name: Example Company

Company Description: All the information supporting this example.

Company Number: 123456

□ Please check this box to request your organisation to be DIP Connection Provider.

Users

Please add additional users, they can also be added at a later date in the members section.

+

Market Participants

Please add the Market Participants for your organisation, These will be processed and assigned DIP IDs.

+

Cancel Submit

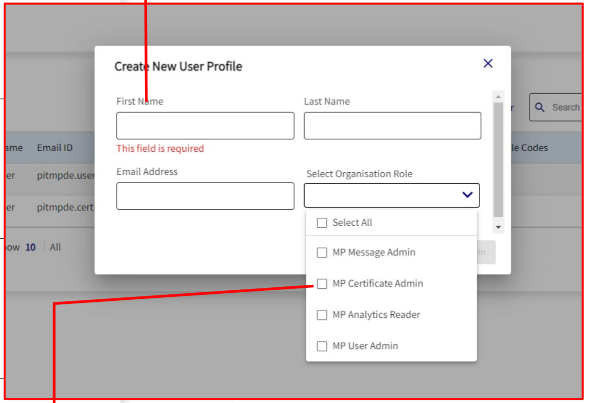
Check/ amend Company Name if required 5

Check/ amend Company Description if required 6

Check/ amend Company Number if required 7
(Click here if you are acting as a DCP in the DIP)

Click the '+' to create a Cert Admin
if the Pro-forma has not advised the User Admin is also the Cert Admin 8

Please DO NOT ADD any Market Participants:
This is not relevant to your company's onboarding 9



Create New User Profile

First Name:

This field is required

Last Name:

Email Address:

Select Organisation Role:

□ Select All

□ MP Message Admin

□ MP Certificate Admin

□ MP Analytics Reader

□ MP User Admin

Enter full name and email of the user

Select the user role from the drop down (a user can have multiple roles)

If an error occurs,
please review your entries in 5-9,
rectify errors and click **SUBMIT**
again.

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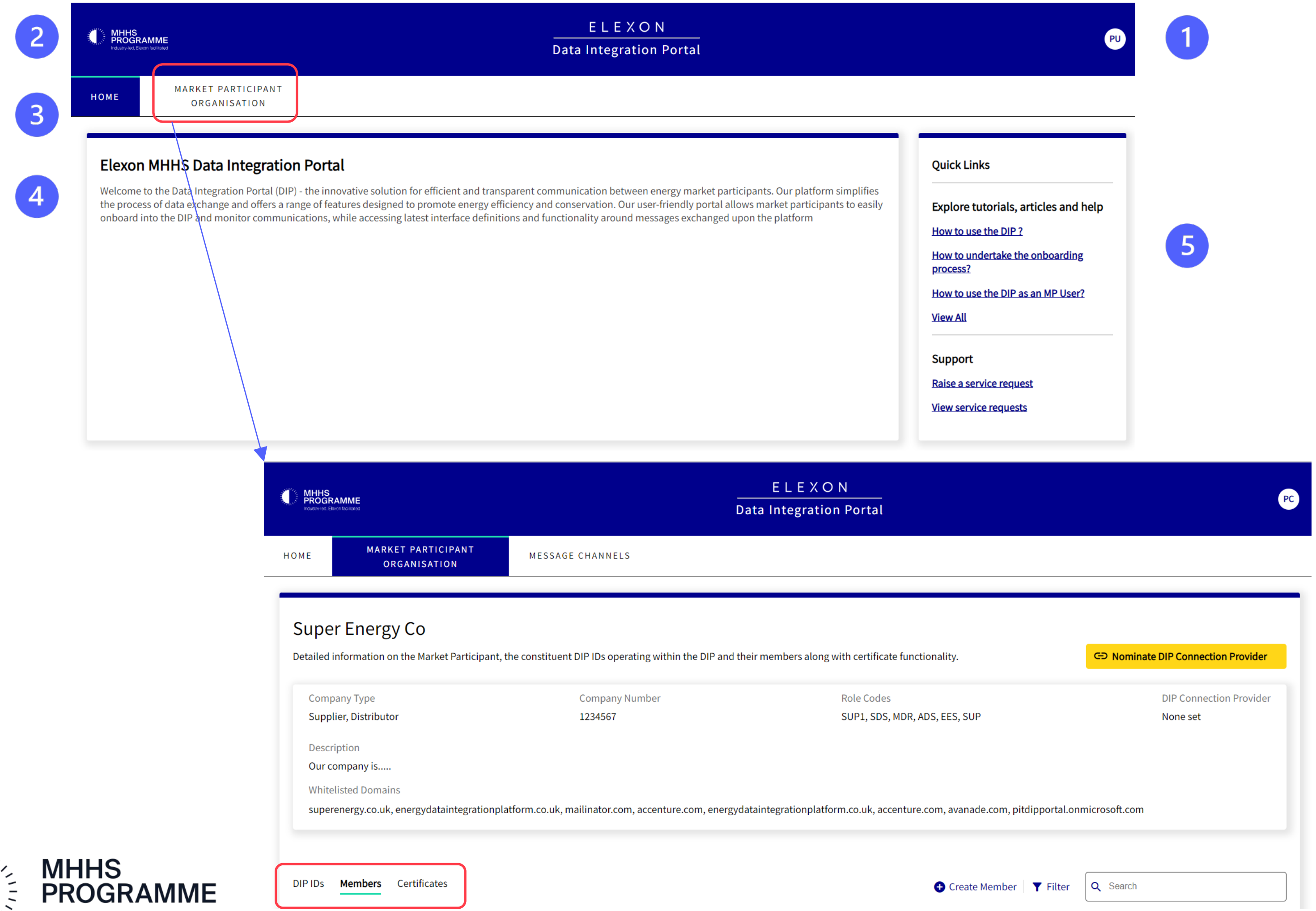
The User Admin Home Page

On completion of a successful submission of the required details the following screen will be displayed for the User Admin.

The User Admin will be provided the ‘DIP IDs’ and ‘Members’ tab, Cert Admin the ‘Certificates’ tab, and if you have both roles all three will appear.



Elexon MHHS Data Integration Portal

Welcome to the Data Integration Portal (DIP) - the innovative solution for efficient and transparent communication between energy market participants. Our platform simplifies the process of data exchange and offers a range of features designed to promote energy efficiency and conservation. Our user-friendly portal allows market participants to easily onboard into the DIP and monitor communications, while accessing latest interface definitions and functionality around messages exchanged upon the platform

Quick Links

Explore tutorials, articles and help

How to use the DIP ?

How to undertake the onboarding process?

How to use the DIP as an MP User?

View All

Support

Raise a service request

View service requests

Super Energy Co

Detailed information on the Market Participant, the constituent DIP IDs operating within the DIP and their members along with certificate functionality.

Nominate DIP Connection Provider

Company Type	Company Number	Role Codes	DIP Connection Provider
Supplier, Distributor	1234567	SUP1, SDS, MDR, ADS, EES, SUP	None set

Description

Our company is.....

Whitelisted Domains

superenergy.co.uk, energydataintegrationplatform.co.uk, mailinator.com, accenture.com, energydataintegrationplatform.co.uk, accenture.com, avanade.com, pitdipportal.onmicrosoft.com

Portal Area	Description
1	Identity of the logged in user
2	ELEXON Header Bar
3	Navigation/Menu options
4	Welcome Area
5	Common tools and functions

Further details of functions and features, by Portal Role Types, will be available in the MHHS **DIP Portal User Guide**

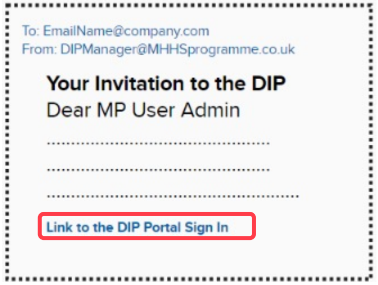
This concludes the User Admin registration

Section 2 –
Certificate Admin Registration

Certificate Admin Sign in

Once the User Admin has completed Step 8 of the previous process, the Certificate Admin will receive an email invitation, from the User Admin, to join the DIP.

The email will contain the details for sign in to DIP. Click the 'Link to DIP Portal Sign in' contained within the email invitation to commence registration.



To: EmailName@company.com
From: DIPManager@MHHSprogramme.co.uk

Your Invitation to the DIP

Dear MP User Admin

....

....

....

Link to the DIP Portal Sign In

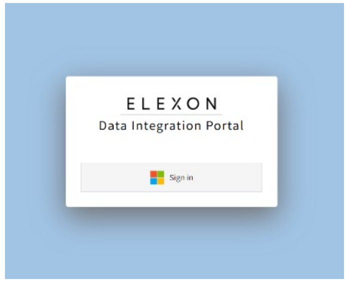
NOTE: The DIP has been designed to operate optimally on current or current-1 versions of Chrome or Edge browsers.

Other browsers may be used but may not perform in an optimal way.

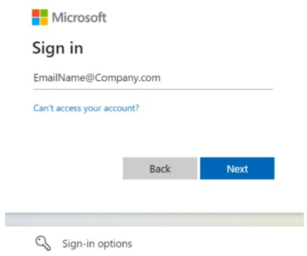
The Cert Admin can use this link if email is not received- Https://Portal.SIT.energydataintegrationplatform.co.uk

Follow the 4-step Sign in process to gain access to the GlobalSign Verification process:

1. Click SIGN IN →



2. Sign in with email/password →

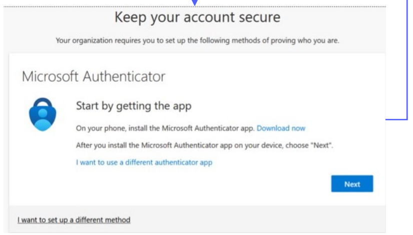


Microsoft

Sign in

EmailName@Company.com

Can't access your account?



Keep your account secure

Your organization requires you to set up the following methods of proving who you are.

Microsoft Authenticator

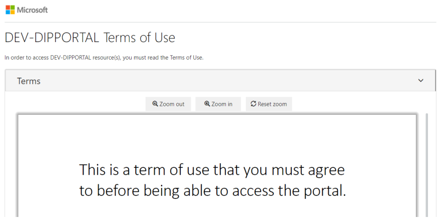
Start by getting the app

On your phone, install the Microsoft Authenticator app. Download now

After you install the Microsoft Authenticator app on your device, choose "Next".

I want to use a different authenticator app

3. Read the Terms of Use →



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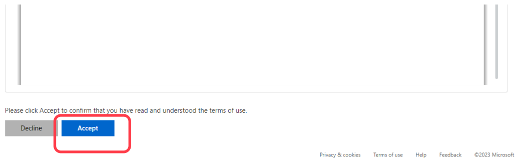
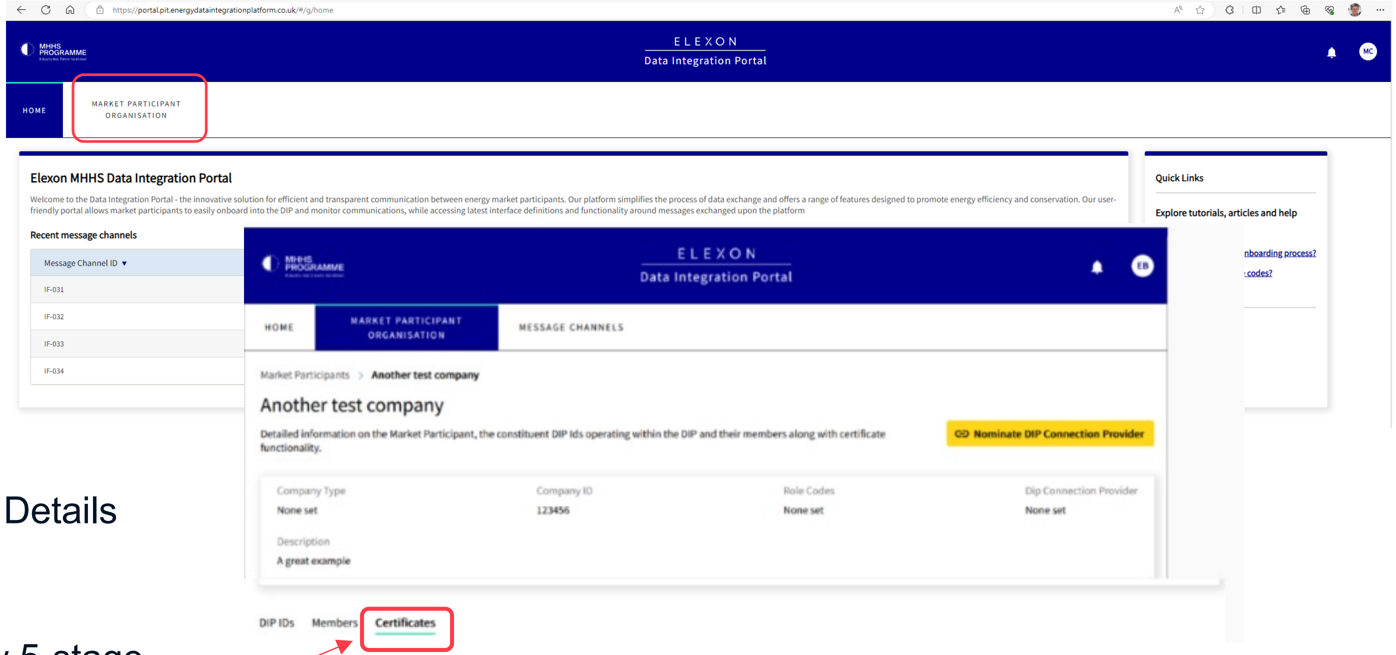


Please click Accept to confirm that you have read and understood the terms of use.

The DIP Certificate Generation Process (GlobalSign)

The Certificate Admin must follow the following 4 Steps to commence the GlobalSign validation process:

1 Select ‘Market Participant’ from the navigation menu



https://portal.pit.energydataintegrationplatform.co.uk/#/g/home

Elexon MHHS Data Integration Portal

Welcome to the Data Integration Portal - the innovative solution for efficient and transparent communication between energy market participants. Our platform simplifies the process of data exchange and offers a range of features designed to promote energy efficiency and conservation. Our user-friendly portal allows market participants to easily onboard into the DIP and monitor communications, while accessing latest interface definitions and functionality around messages exchanged upon the platform

Recent message channels

Message Channel ID ▾
IF-031
IF-032
IF-033
IF-034

Quick Links

Explore tutorials, articles and help

nboarding process?

codes?

Market Participants > Another test company

Another test company

Detailed information on the Market Participant, the constituent DIP Ids operating within the DIP and their members along with certificate functionality.

Company Type	Company ID	Role Codes	Dip Connection Provider
None set	123456	None set	None set

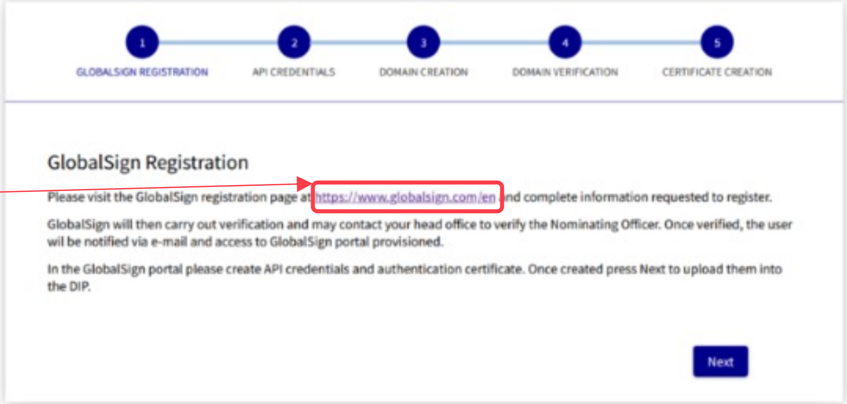
Description

A great example

2 Check details of MP Company Details are correct

3 Select ‘Certificates’ tab to show 5-stage GlobalSign Registration and onboarding screen

4 Click the ‘link’ to GlobalSign MHHS Services registration page



GlobalSign Registration

Please visit the GlobalSign registration page at https://www.globalsign.com/en and complete information requested to register.

GlobalSign will then carry out verification and may contact your head office to verify the Nominating Officer. Once verified, the user wil be notified via e-mail and access to GlobalSign portal provisioned.

In the GlobalSign portal please create API credentials and authentication certificate. Once created press Next to upload them into the DIP.

IMPORTANT

DO NOT CLICK ‘NEXT’ until you complete Sections 3 & 4.

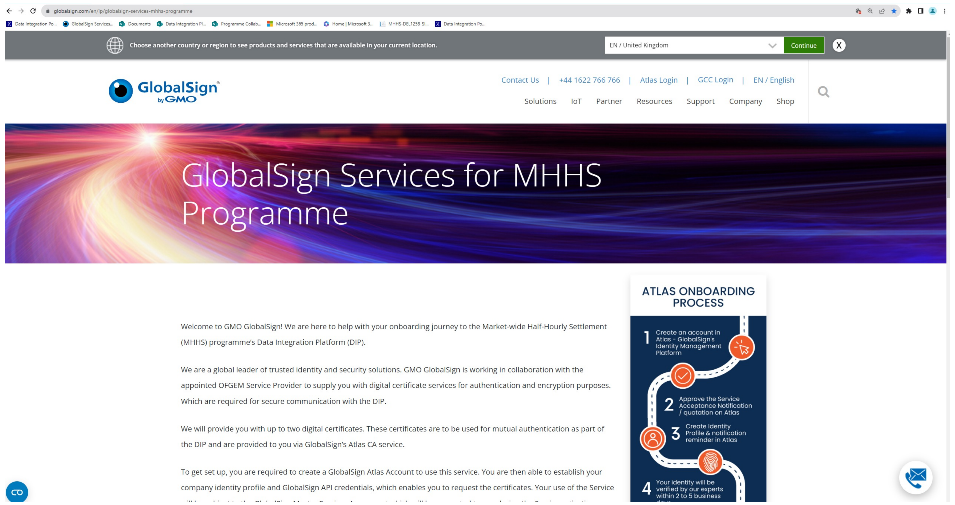
Section 3 – GlobalSign Registration & API Key Generation

The GlobalSign Registration and Verification

After clicking the link to the GlobalSign Services for MHHS home page, the Certificate Admin must complete the following 5 steps.

1

Read the GlobalSign MHHS introduction and scroll down screen



Choose another country or region to see products and services that are available in your current location.

EN / United Kingdom | Continue

GlobalSign by GMO

Contact Us | +44 1622 766 766 | Atlas Login | GCC Login | EN / English

Solutions IoT Partner Resources Support Company Shop

GlobalSign Services for MHHS Programme

Welcome to GMO GlobalSign! We are here to help with your onboarding journey to the Market-wide Half-Hourly Settlement (MHHS) programme's Data Integration Platform (DIP).

We are a global leader of trusted identity and security solutions. GMO GlobalSign is working in collaboration with the appointed OFGEM Service Provider to supply you with digital certificate services for authentication and encryption purposes. Which are required for secure communication with the DIP.

We will provide you with up to two digital certificates. These certificates are to be used for mutual authentication as part of the DIP and are provided to you via GlobalSign's Atlas CA service.

To get set up, you are required to create a GlobalSign Atlas Account to use this service. You are then able to establish your company identity profile and GlobalSign API credentials, which enables you to request the certificates. Your use of the Service

ATLAS ONBOARDING PROCESS

1 Create an account in Atlas - GlobalSign's Identity Management Platform

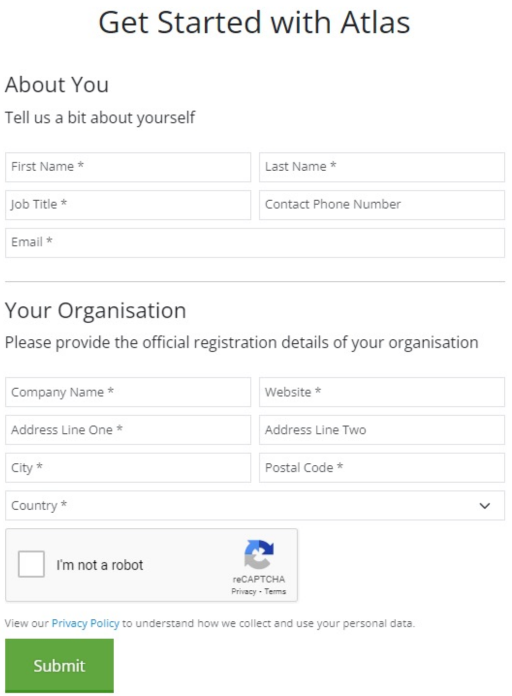
2 Approve the Service Acceptance Notification / quotation on Atlas

3 Create Identity Profile & notification reminder in Atlas

4 Your identity will be verified by our experts within 2 to 5 business

2

Complete the form in the lower half of the GlobalSign MHHS screen



Get Started with Atlas

About You

Tell us a bit about yourself

First Name *	Last Name *
Job Title *	Contact Phone Number
Email *	

Your Organisation

Please provide the official registration details of your organisation

Company Name *	Website *
Address Line One *	Address Line Two
City *	Postal Code *
Country *	

□ I'm not a robot — reCAPTCHA Privacy - Terms

View our Privacy Policy to understand how we collect and use your personal data.

Submit

3

IMPORTANT INSTRUCTIONS

1. The details entered in fields FIRST NAME, LAST NAME, JOB TITLE in the 'About You' section should be the person dealing with the certificate request (Cert Admin) and GlobalSign vetting. Global Sign will contact the named individual and verify they are a current full-time employee and authorised to create a signing certificate.
2. The EMAIL ADDRESS provided is where all Global Sign communications will be sent for vetting only.

   This should be the **Certificate Admin's** email address.

   It is also acceptable to have a 'generic' email which is available to multiple people to monitor but must be accessible by the Cert Admin.
3. Please enter a direct contact number of the Cert Admin into 'Contact Phone Number': utilised to help in case the primary verification is unsuccessful
4. Click 'I am not a robot' then SUBMIT to conclude

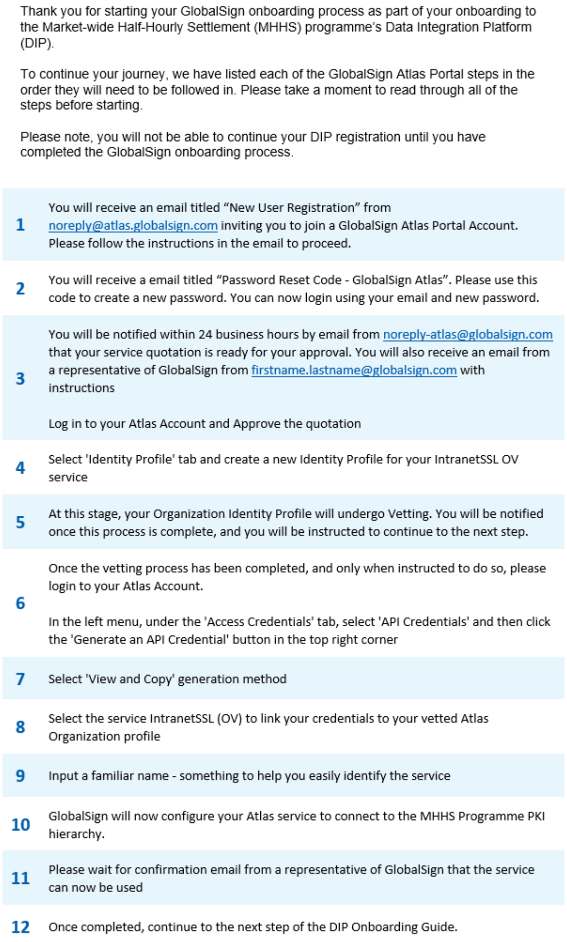
GENERAL NOTES

1. Ensure you follow the GlobalSign steps as outlined in the Onboarding Guide. DO NOT skip any steps / follow steps out of sequence.
2. Always check your spam when you're stuck or expecting an email from GS.
3. Wait for confirmation that account binding is done from GS and API credential ready to use before using your credentials. Otherwise, your certificate will be created before the API Keys gets bound to your account, and you will run into problems with your certificate down the line.

The GlobalSign Registration and Verification

The email from GlobalSign will include their 12-step guide in the way of an itemised checklist – please follow as instructed.

After completing and submitting the GlobalSign Online Form an email will be received (as below) with a 12-step guide



Thank you for starting your GlobalSign onboarding process as part of your onboarding to the Market-wide Half-Hourly Settlement (MHHS) programme's Data Integration Platform (DIP).

To continue your journey, we have listed each of the GlobalSign Atlas Portal steps in the order they will need to be followed in. Please take a moment to read through all of the steps before starting.

Please note, you will not be able to continue your DIP registration until you have completed the GlobalSign onboarding process.

1 You will receive an email titled "New User Registration" from noreply@atlas.globalsign.com inviting you to join a GlobalSign Atlas Portal Account. Please follow the instructions in the email to proceed.

2 You will receive a email titled "Password Reset Code - GlobalSign Atlas". Please use this code to create a new password. You can now login using your email and new password.

3 You will be notified within 24 business hours by email from noreply-atlas@globalsign.com that your service quotation is ready for your approval. You will also receive an email from a representative of GlobalSign from firstname.lastname@globalsign.com with instructions

Log in to your Atlas Account and Approve the quotation

4 Select 'Identity Profile' tab and create a new Identity Profile for your IntranetSSL OV service

5 At this stage, your Organization Identity Profile will undergo Vetting. You will be notified once this process is complete, and you will be instructed to continue to the next step.

6 Once the vetting process has been completed, and only when instructed to do so, please login to your Atlas Account.

In the left menu, under the 'Access Credentials' tab, select 'API Credentials' and then click the 'Generate an API Credential' button in the top right corner

7 Select 'View and Copy' generation method

8 Select the service IntranetSSL (OV) to link your credentials to your vetted Atlas Organization profile

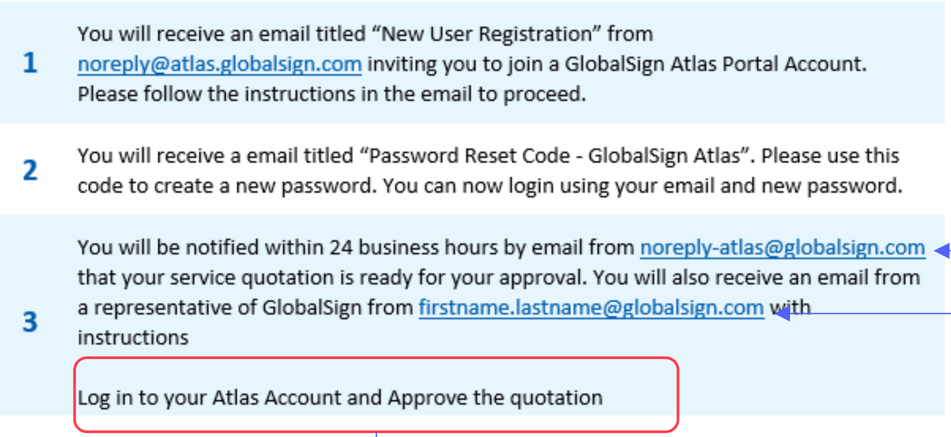
9 Input a familiar name - something to help you easily identify the service

10 GlobalSign will now configure your Atlas service to connect to the MHHS Programme PKI hierarchy.

11 Please wait for confirmation email from a representative of GlobalSign that the service can now be used

12 Once completed, continue to the next step of the DIP Onboarding Guide.

The following pages will provide guidance on the key steps of the GlobalSign ATLAS requirements. Steps 1-4 are self explanatory: note the 24hr window for Step 4.



1 You will receive an email titled "New User Registration" from noreply@atlas.globalsign.com inviting you to join a GlobalSign Atlas Portal Account. Please follow the instructions in the email to proceed.

2 You will receive a email titled "Password Reset Code - GlobalSign Atlas". Please use this code to create a new password. You can now login using your email and new password.

3 You will be notified within 24 business hours by email from noreply-atlas@globalsign.com that your service quotation is ready for your approval. You will also receive an email from a representative of GlobalSign from firstname.lastname@globalsign.com with instructions

Log in to your Atlas Account and Approve the quotation

Email arrival time:

within 30 minutes of completing the online form anc receiving the 12-step email

Within 1 minute of clicking the 'New User Reg' link

Up to 24hrs

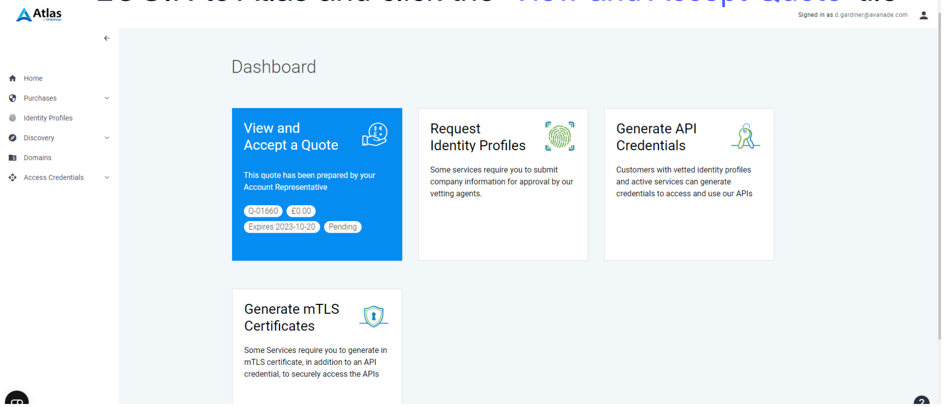
May arrive within 1hr of step 2 completion

See next 2 pages for screens expected to complete your quotation in the Atlas account

STEP 5 – Approve the quotation (1 of 2)

NOTICE: Your quotation is ready', a BLUE TILE will appear in your dashboard. Click this to continue through the onboarding process.

1 On receiving the email advising you're your quotation is ready, LOGIN to Atlas and click the 'View and Accept Quote' tile



Dashboard

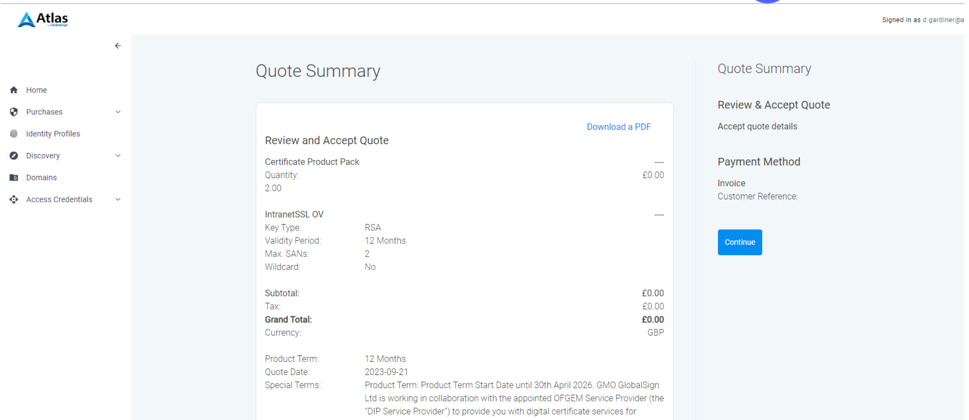
View and Accept a Quote
This quote has been prepared by your Account Representative
Q-01660 £0.00 Expires 2023-10-20 Pending

Request Identity Profiles
Some services require you to submit company information for approval by our vetting agents.

Generate API Credentials
Customers with vetted identity profiles and active services can generate credentials to access and use our APIs

Generate mTLS Certificates
Some Services require you to generate in mTLS certificate, in addition to an API credential, to securely access the APIs

2 The **£0** quotation will appear. Scroll down the page to complete the quotation acceptance see step 3



Quote Summary

Review and Accept Quote

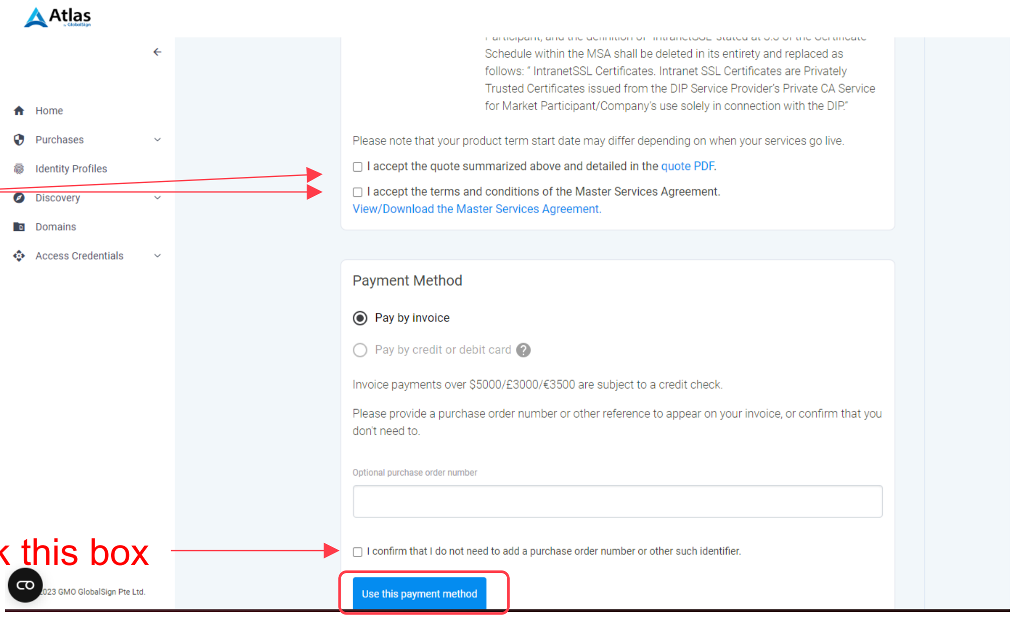
Certificate Product Pack		----
Quantity:		£0.00
2.00		
IntranetSSL OV		----
Key Type:	RSA	
Validity Period:	12 Months	
Max. SANs:	2	
Wildcard:	No	
Subtotal:		£0.00
Tax:		£0.00
Grand Total:		**£0.00**
Currency:		GBP
Product Term:	12 Months	
Quote Date:	2023-09-21	
Special Terms:	Product Term: Product Term Start Date until 30th April 2026. GMO GlobalSign Ltd is working in collaboration with the appointed OFGEM Service Provider (the "DIP Service Provider") to provide you with digital certificate services for	

Quote Summary

Review & Accept Quote
Accept quote details

Payment Method
Invoice
Customer Reference:

3 Follow the guidance in the email and complete the tick box selections shown



Schedule within the MSA shall be deleted in its entirety and replaced as follows: " IntranetSSL Certificates. Intranet SSL Certificates are Privately Trusted Certificates issued from the DIP Service Provider's Private CA Service for Market Participant/Company's use solely in connection with the DIP."

Please note that your product term start date may differ depending on when your services go live.

□ I accept the quote summarized above and detailed in the quote PDF.

□ I accept the terms and conditions of the Master Services Agreement.
View/Download the Master Services Agreement.

Payment Method

● Pay by invoice

○ Pay by credit or debit card

Invoice payments over $5000/£3000/€3500 are subject to a credit check.

Please provide a purchase order number or other reference to appear on your invoice, or confirm that you don't need to.

Optional purchase order number

□ I confirm that I do not need to add a purchase order number or other such identifier.

Click both boxes

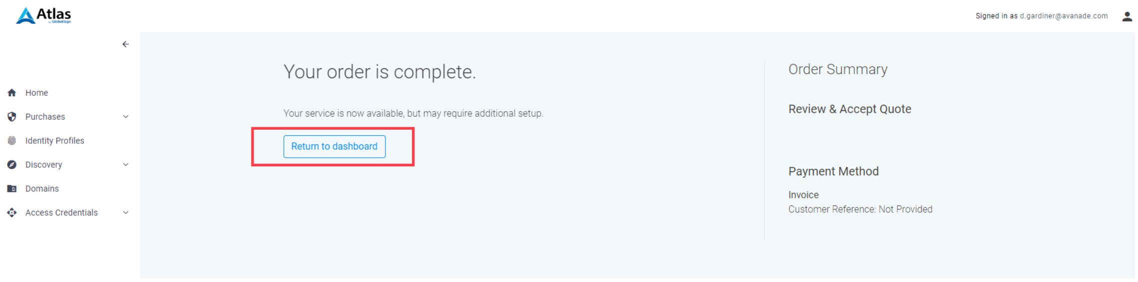
Click this box

Complete quotation acceptance by clicking 'Use this payment method' button

Please find the link to the GlobalSign MSA here:
https://www.globalsign.com/en/repository/GlobalSign_Master_Services_Agreement.pdf

STEP 5 – Approve the quotation (2 of 2)

4 The following screen will appear when you accept the payment method – please click RETURN to DASHBOARD



Your order is complete.

Your service is now available, but may require additional setup.

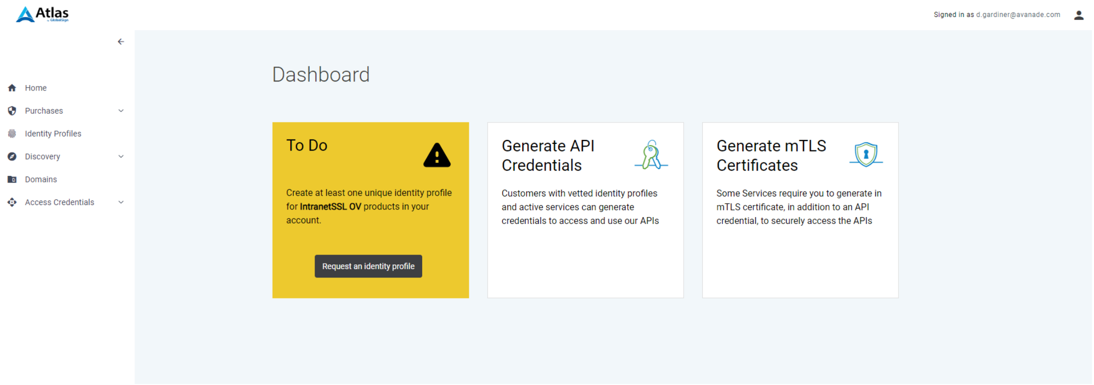
Order Summary

Review & Accept Quote

Payment Method

Invoice
Customer Reference: Not Provided

5 Start STEP 4 (of the 12-step guide on slide 19) by clicking the new mustard coloured tile.



Dashboard

To Do

Create at least one unique identity profile for **IntranetSSL OV** products in your account.

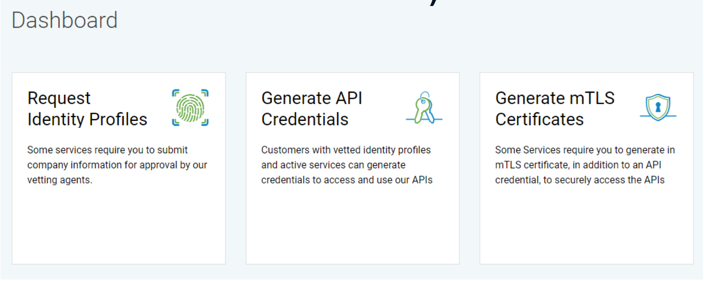
Generate API Credentials

Customers with vetted identity profiles and active services can generate credentials to access and use our APIs

Generate mTLS Certificates

Some Services require you to generate in mTLS certificate, in addition to an API credential, to securely access the APIs

The DASHBOARD will default to the below 3 tiles – please await the **MUSTARD TILE in Step 5 before proceeding (up to 20-30 minutes)**



Dashboard

Request Identity Profiles

Some services require you to submit company information for approval by our vetting agents.

Generate API Credentials

Customers with vetted identity profiles and active services can generate credentials to access and use our APIs

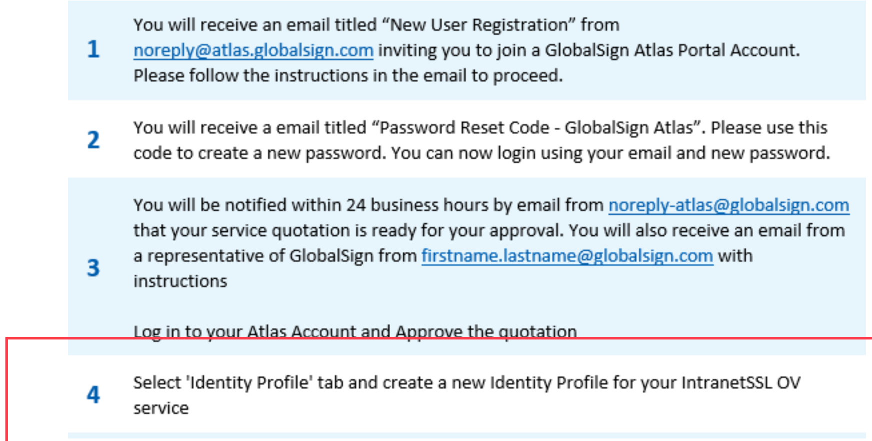
Generate mTLS Certificates

Some Services require you to generate in mTLS certificate, in addition to an API credential, to securely access the APIs

Step 6 – Create the Identity Profile

Step 4 requires accuracy in completion of the Identity Profile. Each field will be used to verify the name provided is a known full-time employee of the company ORGANISATION NAME (O).

ADVICE – let your receptionist know an anonymous call may be received to avoid issue



1 You will receive an email titled "New User Registration" from noreply@atlas.globalsign.com inviting you to join a GlobalSign Atlas Portal Account. Please follow the instructions in the email to proceed.

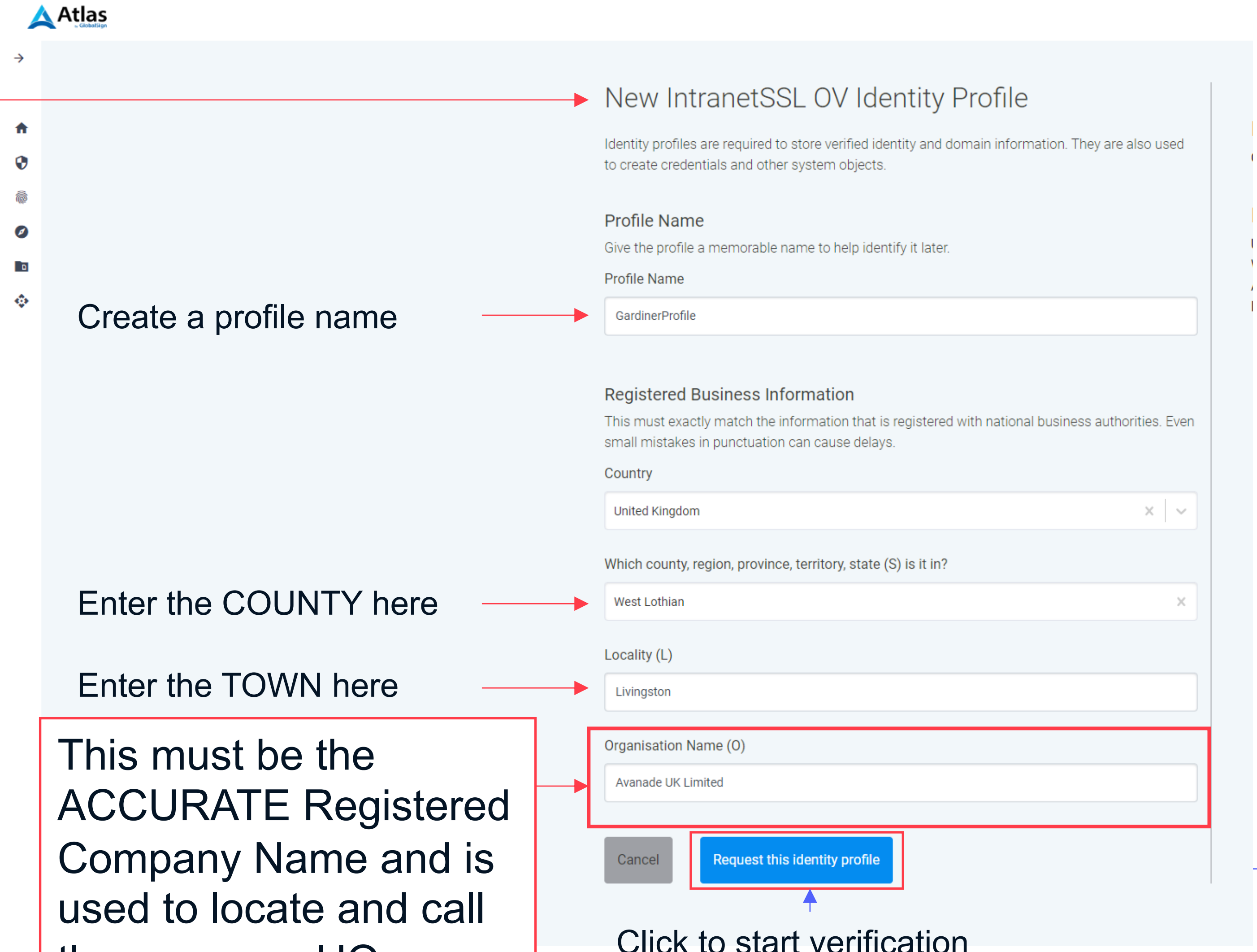
2 You will receive a email titled "Password Reset Code - GlobalSign Atlas". Please use this code to create a new password. You can now login using your email and new password.

3 You will be notified within 24 business hours by email from noreply-atlas@globalsign.com that your service quotation is ready for your approval. You will also receive an email from a representative of GlobalSign from firstname.lastname@globalsign.com with instructions

Log in to your Atlas Account and Approve the quotation

4 Select 'Identity Profile' tab and create a new Identity Profile for your IntranetSSL OV service

Please note that the 'identity profile' tab is the MUSTARD TILE shown step 5 on the previous page



New IntranetSSL OV Identity Profile

Identity profiles are required to store verified identity and domain information. They are also used to create credentials and other system objects.

Profile Name

Give the profile a memorable name to help identify it later.

Profile Name: GardinerProfile

Registered Business Information

This must exactly match the information that is registered with national business authorities. Even small mistakes in punctuation can cause delays.

Country: United Kingdom

Which county, region, province, territory, state (S) is it in?: West Lothian

Locality (L): Livingston

Organisation Name (O): Avanade UK Limited

Create a profile name

Enter the COUNTY here

Enter the TOWN here

This must be the ACCURATE Registered Company Name and is used to locate and call the company HQ.

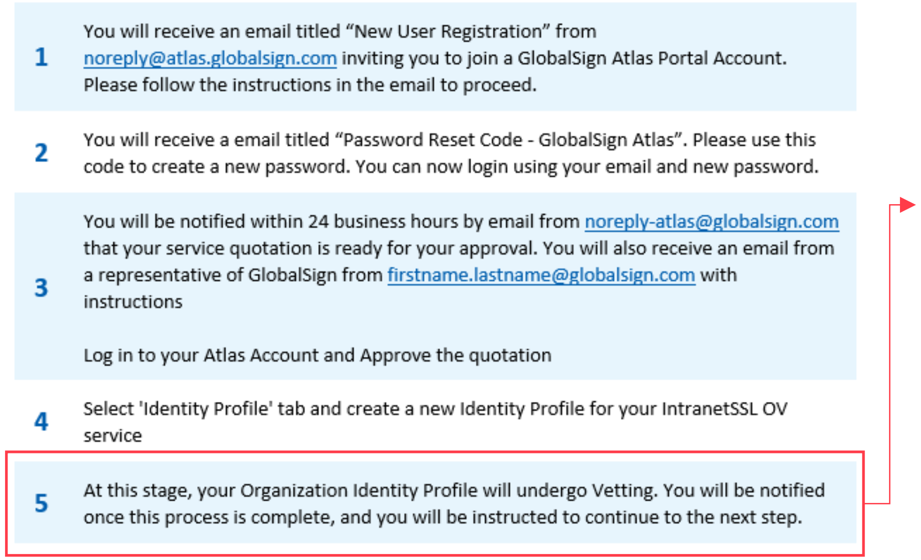
Click to start verification

Step 7 - GlobalSign Verification

Step 5 is the pause in the middle of the process where GlobalSign, through their own mechanisms, will conclude the vetting.

As shown below, there is a 72hr window for verification before you can proceed with steps 6-12.

Step 5 involves the original submitted name (Cert Admin) being vetted by telephone call, against the 'Organisation Name' entered in the Identity Profile



1	You will receive an email titled "New User Registration" from noreply@atlas.globalsign.com inviting you to join a GlobalSign Atlas Portal Account. Please follow the instructions in the email to proceed.
2	You will receive a email titled "Password Reset Code - GlobalSign Atlas". Please use this code to create a new password. You can now login using your email and new password.
3	You will be notified within 24 business hours by email from noreply-atlas@globalsign.com that your service quotation is ready for your approval. You will also receive an email from a representative of GlobalSign from firstname.lastname@globalsign.com with instructions Log in to your Atlas Account and Approve the quotation
4	Select 'Identity Profile' tab and create a new Identity Profile for your IntranetSSL OV service
5	At this stage, your Organization Identity Profile will undergo Vetting. You will be notified once this process is complete, and you will be instructed to continue to the next step.

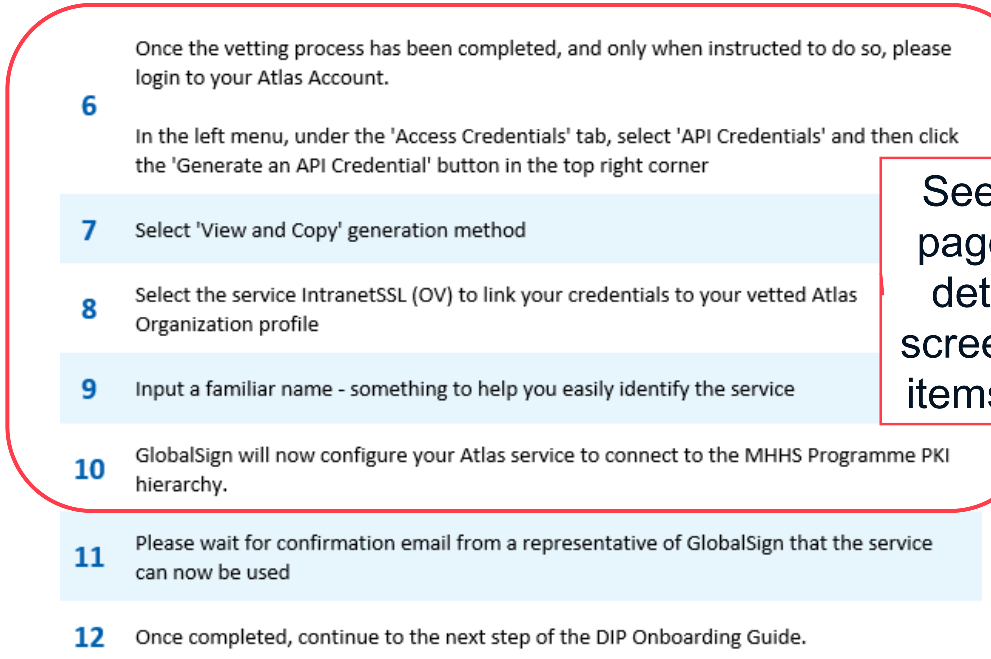
The completion of the IDENTITY PROFILE starts the 72hr verification process

The time taken for verification may take only a few hours however it should not exceed 72hrs after completing step 6

DO NOT PROCEED UNTIL A VERIFICATION EMAIL HAS BEEN RECEIVED!

Complete items 6-10 when verification is received.

Step 11 – you must await the email confirming verification was successful before finishing the onboarding 12



6	Once the vetting process has been completed, and only when instructed to do so, please login to your Atlas Account. In the left menu, under the 'Access Credentials' tab, select 'API Credentials' and then click the 'Generate an API Credential' button in the top right corner
7	Select 'View and Copy' generation method
8	Select the service IntranetSSL (OV) to link your credentials to your vetted Atlas Organization profile
9	Input a familiar name - something to help you easily identify the service
10	GlobalSign will now configure your Atlas service to connect to the MHHS Programme PKI hierarchy.
11	Please wait for confirmation email from a representative of GlobalSign that the service can now be used
12	Once completed, continue to the next step of the DIP Onboarding Guide.

See next pages for detailed screens for items 6-10

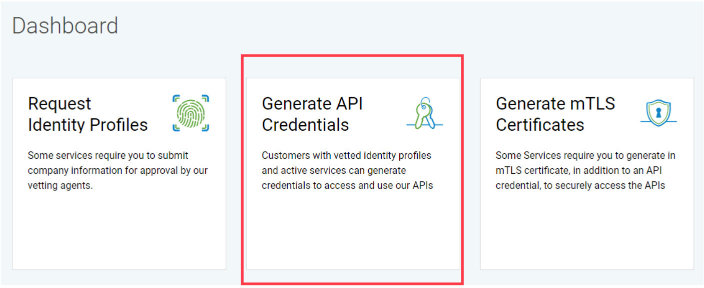
What happens during GlobalSign (GS) vetting?

GS will call the HQ number that they have uncovered from their secure vetting process. It doesn't matter if the contact is located at the HQ, or not; what they seek is that the HQ either i) transfers their call to the contact so they can speak with them; or ii) gives them the contact's phone number (can be landline or mobile) or email address so they can contact them. If neither of the above happens, GS they will send a postal challenge letter for that contact, to the registered business address so that they (GS) can be contacted directly.

Steps 6-10 - Generating API credentials

The Certificate Admin must complete the API Certificate generation within the Global Sign Atlas system once ‘Identity Validation’ has been confirmed.

6 Login to GlobalSign Atlas.
Select ‘Generate API Credentials’ option



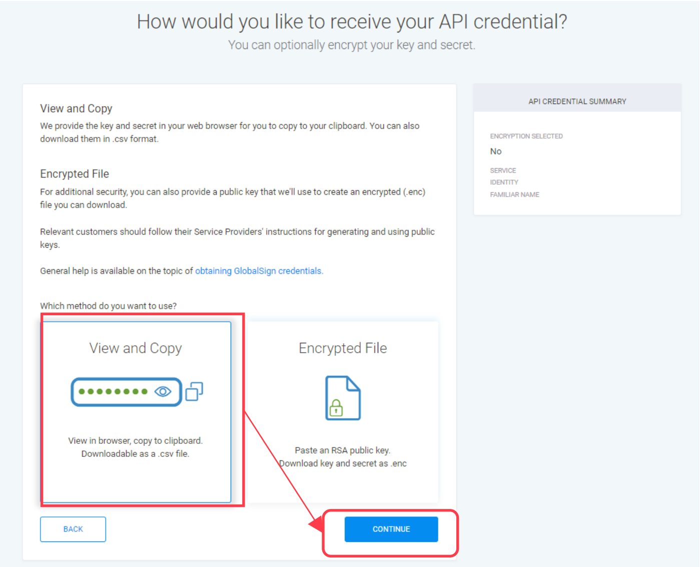
Dashboard

Request Identity Profiles
Some services require you to submit company information for approval by our vetting agents.

Generate API Credentials
Customers with vetted identity profiles and active services can generate credentials to access and use our APIs

Generate mTLS Certificates
Some Services require you to generate in mTLS certificate, in addition to an API credential, to securely access the APIs

7 You must select ‘View and Copy’ in the ‘How would you like to receive your API credentials’ page, then Click CONTINUE



How would you like to receive your API credential?
You can optionally encrypt your key and secret.

View and Copy
We provide the key and secret in your web browser for you to copy to your clipboard. You can also download them in .csv format.

Encrypted File
For additional security, you can also provide a public key that we'll use to create an encrypted (.enc) file you can download.

Relevant customers should follow their Service Providers' instructions for generating and using public keys.

General help is available on the topic of obtaining GlobalSign credentials.

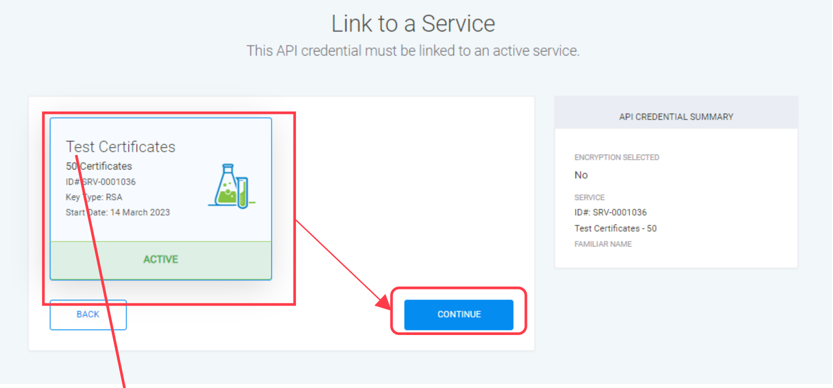
Which method do you want to use?

View and Copy
View in browser, copy to clipboard. Downloadable as a .csv file.

Encrypted File
Paste an RSA public key. Download key and secret as .enc

API CREDENTIAL SUMMARY
ENCRYPTION SELECTED
No
SERVICE
IDENTITY
FAMILIAR NAME

8 Select ACTIVE certificate to assign Internet SSL to your credentials, then Click CONTINUE



Link to a Service
This API credential must be linked to an active service.

Test Certificates
50 Certificates
ID# SRV-0001036
Key Type: RSA
Start Date: 14 March 2023
ACTIVE

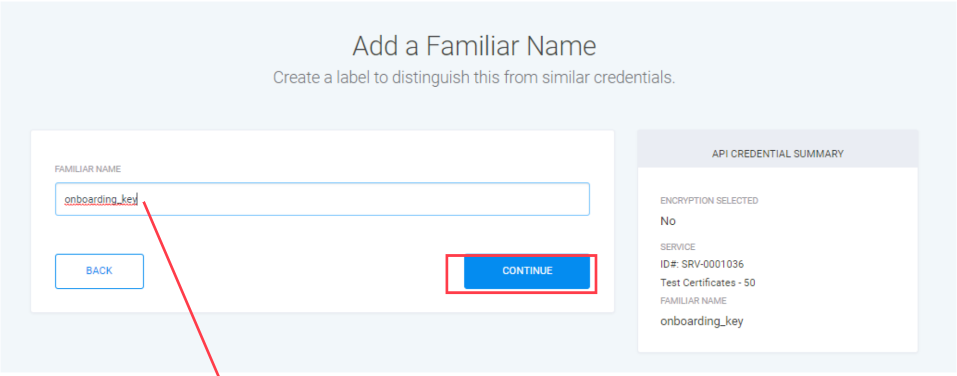
API CREDENTIAL SUMMARY
ENCRYPTION SELECTED
No
SERVICE
ID#: SRV-0001036
Test Certificates - 50
FAMILIAR NAME

This will be titled differently e.g. MHHS DIP Certificates

Generating API credentials with GlobalSign

Continued……

9 Give the credential a familiar name (any text you wish) and record this safely and click ‘CONTINUE’



Add a Familiar Name

Create a label to distinguish this from similar credentials.

FAMILIAR NAME

onboarding_key

BACK

CONTINUE

API CREDENTIAL SUMMARY

ENCRYPTION SELECTED

No

SERVICE

ID#: SRV-0001036

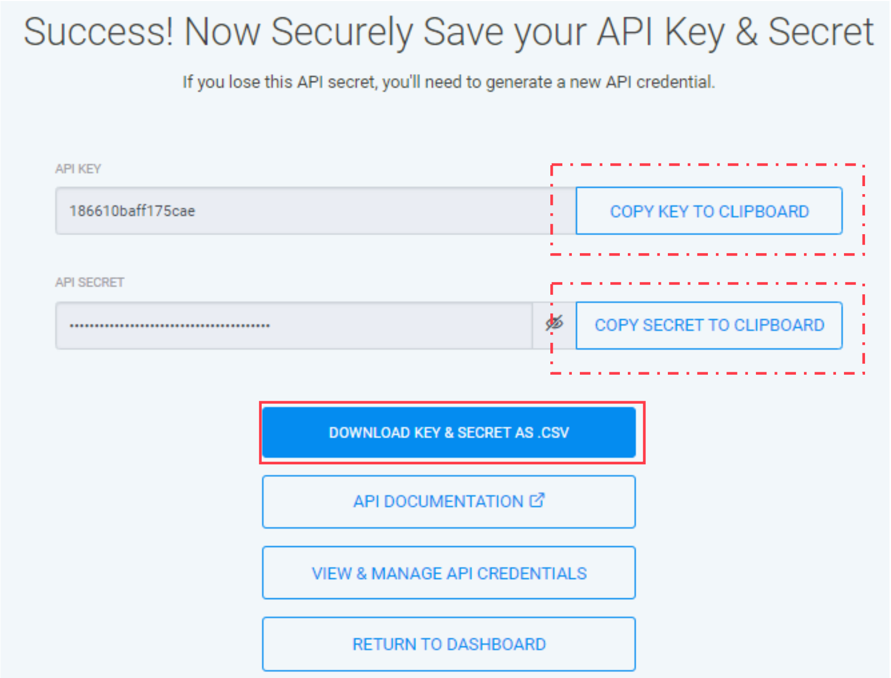
Test Certificates - 50

FAMILIAR NAME

onboarding_key

Enter and take a note of your ‘**familiar name**’ then click CONTINUE

10 Click ‘Download key and secret as .csv’ button and save file. Alternatively (and) click both the API Key and API Secret ‘Copy Key to clipboard’ and store in a .txt file for the next stage.



Success! Now Securely Save your API Key & Secret

If you lose this API secret, you'll need to generate a new API credential.

API KEY

186610baff175cae

COPY KEY TO CLIPBOARD

API SECRET

••

COPY SECRET TO CLIPBOARD

DOWNLOAD KEY & SECRET AS .CSV

API DOCUMENTATION

VIEW & MANAGE API CREDENTIALS

RETURN TO DASHBOARD

PLEASE NOTE!

You must DOWNLOAD the .CSV.

Once you navigate away from this page you cannot return to access this content.

Section 4 –
Create a PFX Certificate for Upload to the DIP

Guidance for Certificate Admin

Up to this point in the process, the Certificate Admin has been responsible for the vetting process and completion.

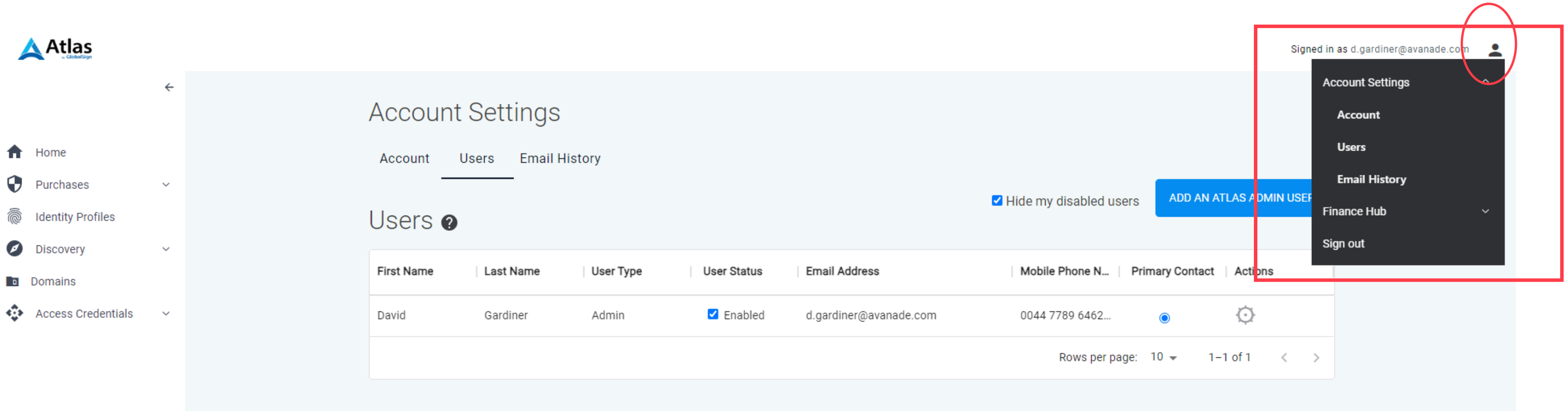
At this point of the process you may wish to assign additional Cert Admins to complete the upcoming sections as more technical knowledge is required to complete the next onboarding steps. Please note, this could be someone from the DCP or a 3rd Party technical Person.

As well as adding the Cert Admin to the DIP they should also be added as a new User Admin within GlobalSign. See next page for details.

Please Note:
Additional Cert Admins are not mandatory at this point – you can continue through the process should you wish. If you decide to not add a new Cert Admin please ignore the next slide.

See **slide 43** on how to Add a new Cert Admin

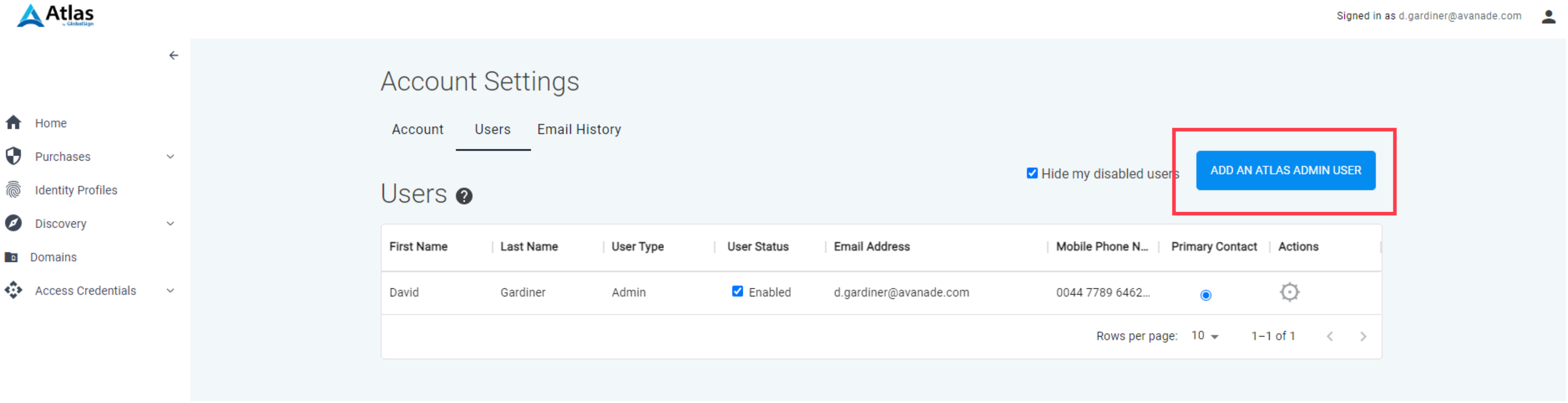
Assigning a new Cert Admin to GlobalSign Atlas account



First Name	Last Name	User Type	User Status	Email Address	Mobile Phone N...	Primary Contact	Actions
David	Gardiner	Admin	☑ Enabled	d.gardiner@avanade.com	0044 7789 6462...	●	⚙

Rows per page: 10 1–1 of 1

Click the profile icon in the top-right corner. Select ‘Account Settings’ and then ‘Users’ to obtain the new user ADD screen



First Name	Last Name	User Type	User Status	Email Address	Mobile Phone N...	Primary Contact	Actions
David	Gardiner	Admin	☑ Enabled	d.gardiner@avanade.com	0044 7789 6462...	●	⚙

Rows per page: 10 1–1 of 1

Select ‘Add an Atlas Admin User’ and add your new Cert Admin to the account.

This will result in a ‘New User Registration’ email being sent to that person.

Generating the Certificate

GlobalSign provided the API Key and Secret. The DIP requires a validated certificate in PFX format together with these API credentials. The following will be conducted outside of the DIP **by someone with technical understanding of generating a certificate**.

Select a CSR generation tool and create a CSR Certificate: All examples shown are based on the use of **Azure Key Vault**. *See Addendum if using OpenSSL.*

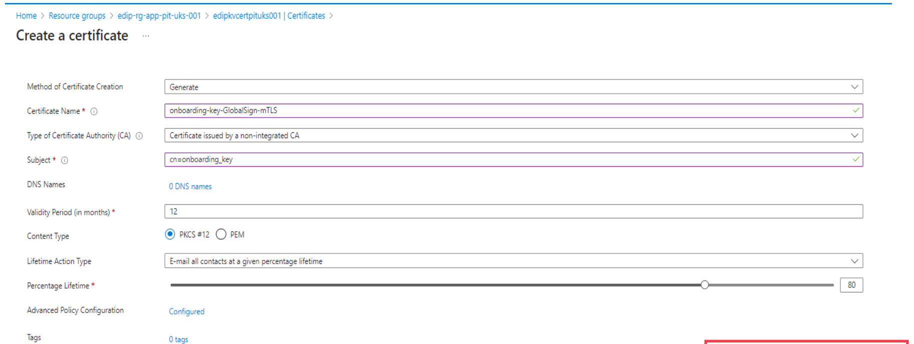
1 Decide which tool you wish to use to create your CSR file

2 Create a CSR with any subject name.
YOU MUST select **Key Size 4096** in Advanced Policy Config.
Click DOWNLOAD CSR to save your CSR file.

3 Open the CSR to check structure is correct.

The CSR certificate can be generated using any suitable/preferred tool.

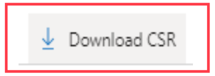
The example here is using Azure Key Vault

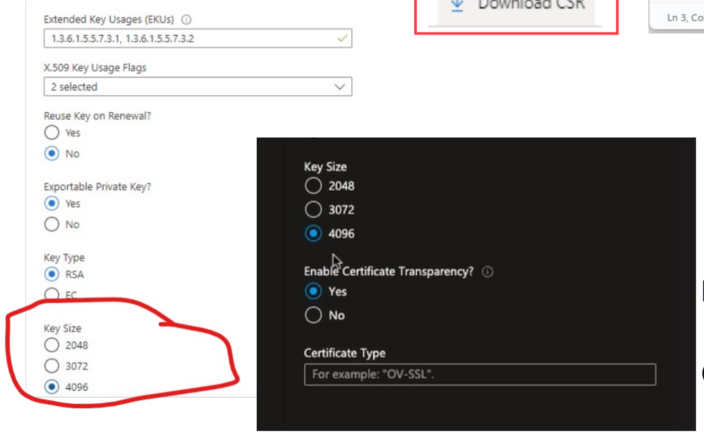


Home > Resource groups > edip-rg-app-pit-uks-001 > edipkvcertpituks001 | Certificates >

Create a certificate

- Method of Certificate Creation: Generate
- Certificate Name *: onboarding-key-GlobalSign-mTLS
- Type of Certificate Authority (CA): Certificate issued by a non-integrated CA
- Subject *: cn=onboarding_key
- DNS Names: 0 DNS names
- Validity Period (in months) *: 12
- Content Type: ● PKCS #12 ○ PEM
- Lifetime Action Type: E-mail all contacts at a given percentage lifetime
- Percentage Lifetime *: 80
- Advanced Policy Configuration: Configured
- Tags: 0 tags

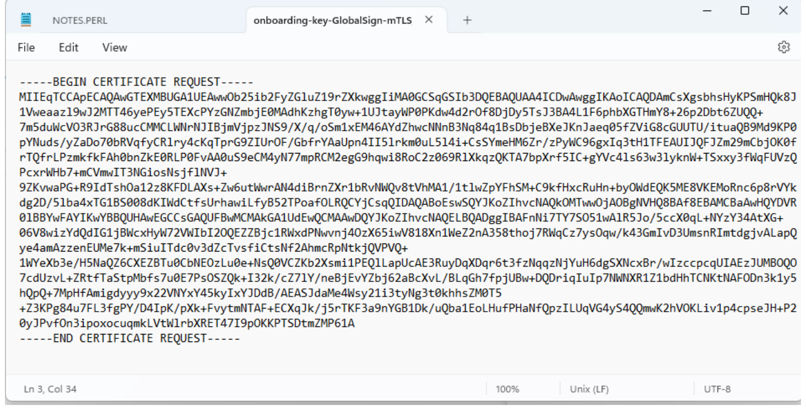




- Extended Key Usages (EKUs): 1.3.6.1.5.5.7.3.1, 1.3.6.1.5.5.7.3.2
- X.509 Key Usage Flags: 2 selected
- Reuse Key on Renewal? ○ Yes ● No
- Exportable Private Key? ● Yes ○ No
- Key Type: ● RSA ○ EC
- Key Size: ○ 2048 ○ 3072 ● 4096

- Key Size: ○ 2048 ○ 3072 ● 4096
- Enable Certificate Transparency? ● Yes ○ No
- Certificate Type: For example: "OV-SSL".

Please ensure you select Key Size 4096



```
-----BEGIN CERTIFICATE REQUEST-----
MIIEqTCCApECAQAwGTEXMBUGA1UEAwwOb25ib2FyZGluZ19rZXkwggIiMA0GCSqGSIb3DQEBAQUAA4ICDwAwggIKAoICAQDAmCsXgsbhsHyKPSmHQk8J
1Vweaazl9wJ2MTT46yePEy5TEXcPYzGNZmbjE0MAdhKzhgT0yw+1UJtayWP0PKdw4d2rOf8DjDy5TsJ3BA4L1F6phbXGTHmY8+26p2Dbt6ZUQQ+
7m5duWcVO3RJrG88ucCMMCLWNrNJIBjmVjpzJNS9/X/q/oSm1xEM46AYdZhwcNNnB3Nq84q1BsDbjeBXeJKnJaeq05fZViG8cGUUTU/ituaQB9Md9KP0
pYNuds/yZaDo70bRVqfyCRlry4cKqTprG9ZIUrOF/GbfrYAaUpn4II5lrkm0uL5l4i+CsSYmeHM6Zr/zPyWC96gxIq3tH1TFEAUIJQFJZm29mCbjOK0f
rTQfrLPzmkfkFAh0bnZkE0RLP0FvAA0uS9eCM4yN77mpRCM2egG9hqwi8RoC2z069RlXkqzQKTA7bpXrf5IC+gYVc4ls63w3lyknW+TSxxy3fWqFUVzQ
PcxrWHb7+mCVmwIT3NGiosNsjflNVJ+
9ZKvwaPG+R9IdTshOa12z8KFDLAXs+Zw6utWwrAN4diBrnZXr1bRvNWQv8tVhMA1/1tlwZpYFhSM+C9kfHxcRuHn+byOWdEQK5ME8VKEMoRnc6p8rVYk
dg2D/5lba4xTG1BS008dKIWdCtfsUrhawiLfyB52TPoafOLRQCYjCsqQIDAQABoEswSQYJKoZIhvcNAQkOMTwwOjAOBgNVHQ8BAf8EBAMCBaAwHQYDVR
01BBYwFAYIKwYBBQUHAwEGCCsGAQUFBwMCMAkGA1UdEwQCMAAwDQYJKoZIhvcNAQELBQADggIBAFnNi7TY7SO51wAlR5Jo/5ccX0qL+NYzY34AtXG+
06V8wizYdQdIG1jBWcxHyW72VWIbI2OQEZZBjc1RWxdPNwvnj4OzX65iwV818Xn1WeZ2nA358thoj7RWqCz7ysOqw/k43GmIvD3UmsnRImtdgjvALapQ
ye4amAzzenEUMe7k+mSiuITdc0v3dZcTvsfiCtsNf2AhmcRpNtkjQVPVQ+
1WYeXb3e/H5NaQZ6CXEZBTu0CbNEOzLu0e+NsQ0VCZKb2Xsmi1PEQlLapUcAE3RuyDqXDqr6t3fzNqqzNjYuH6dgSXNcxBr/wIzccpcqUIAEzJUMBOQO
7cdUzvL+ZRtfTaStpMbfs7u0E7PsOSZQk+I32k/cZ7lY/neBjEvYZbj62aBcXvL/BLqGh7fpjUBw+DQDriqIuIp7NWNXR1Z1bdHhTCNKtNAFODn3k1y5
hQpQ+7MpHfAmigdyyy9x22VNYxY45kyIxYJDdB/AEASJdaMe4Wsy21i3tyNg3t0khhsZM0T5
+Z3KPg84u7FL3fgPY/D4IpK/pXk+FvytmNTAF+ECXqJk/j5rTKF3a9nYGB1Dk/uQba1EoLHufPHaNfQpzILUqVG4yS4QQmwK2hVOKLiv1p4cpseJH+P2
0yJPvfOn3ipoxocuqmkLVtWlrbXRET47I9pOKKPTSDtmZMP61A
-----END CERTIFICATE REQUEST-----
```

Please click 'YES' to Enable Cert Transparency

Certificate Type must be blank – no entry!

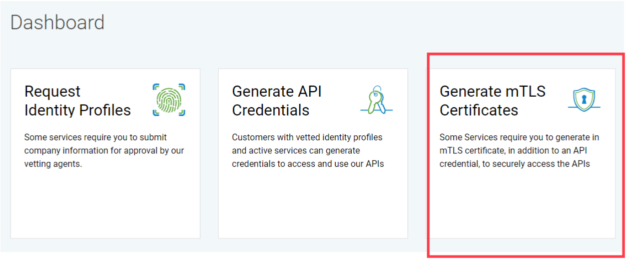
Generating the correct key format for upload to the DIP

The Certificate Admin must return to the GlobalSign Atlas system to complete the next stage of certificate preparation for the DIP.

NOTE: If you have appointed a new Cert Admin into the Atlas account, they can complete the following steps.

1

Sign in to the Atlas system.
Open your Dashboard.
Select ‘Generate mTLS Certificates’.



Dashboard

Request Identity Profiles

Some services require you to submit company information for approval by our vetting agents.

Generate API Credentials

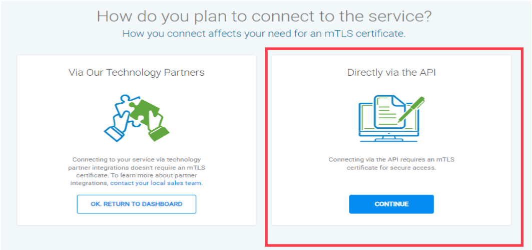
Customers with vetted identity profiles and active services can generate credentials to access and use our APIs

Generate mTLS Certificates

Some Services require you to generate in mTLS certificate, in addition to an API credential, to securely access the APIs

2

On the subsequent screen, select the option ‘Directly via the API’



How do you plan to connect to the service?

How you connect affects your need for an mTLS certificate.

Via Our Technology Partners

Connecting to your service via technology partner integrations doesn't require an mTLS certificate. To learn more about partner integrations, contact your local sales team.

OK. RETURN TO DASHBOARD

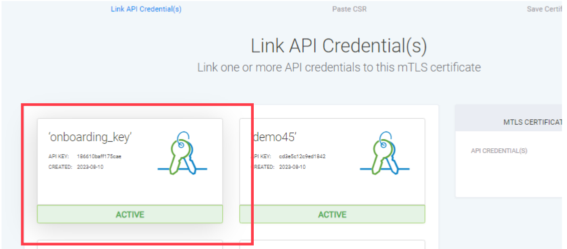
Directly via the API

Connecting via the API requires an mTLS certificate for secure access.

CONTINUE

3

Select the API Credentials just made using the ‘**Familiar Name**’



Link API Credential(s) | Paste CSR | Save Certi

Link API Credential(s)

Link one or more API credentials to this mTLS certificate

'onboarding_key'
API KEY: 186610baff175cae
CREATED: 2023-08-10
ACTIVE

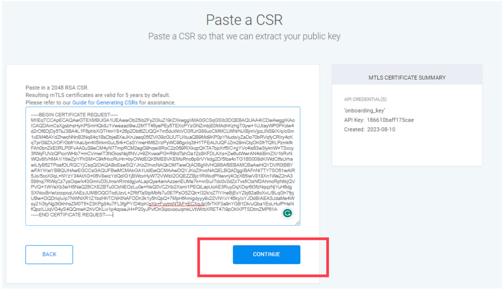
demo45'
PI KEY: cd3e5c12c9ed1842
REATED: 2023-08-10
ACTIVE

MTLS CERTIFICAT

API CREDENTIAL(S)

4

Paste the CSR generated into the space provide then click CONTINUE



Paste a CSR

Paste a CSR so that we can extract your public key

Paste in a 2048 RSA CSR.
Resulting mTLS certificates are valid for 5 years by default.
Please refer to our Guide for Generating CSRs for assistance.

```
-----BEGIN CERTIFICATE REQUEST-----
MIIEqTCCApECAQAwGTEXMBUGA1UEAwwOb25ib2FyZGluZ19rZXkwggIiMA0GCSqGSIb3DQEBAQUAA4ICDwAwggIKAo
ICAQDAmCsXgsbhsHyKPSmHQk8J1VweaazI9wJ2MTT46yePEy5TEXcPYzGNZmbjE0MAdhKzhgT0yw+1UJtayWP0PKdw4
d2rOf8DjDy5TsJ3BA4L1F6phbXGTHmY8+26p2Dbt6ZUQQ+7m5duWcVO3RJrG88ucCMMCLWNrNJIBjmVjpzJNS9/X/q/oSm
1xEM46AYdZhwcNNnB3Nq84q1BsDbjeBXeJKnJaeq05fZViG8cGUUTU/ituaQB9Md9KP0pYNuds/yZaDo70bRVqfyCRIry4cK
qTprG9ZIUrOF/GbfrYAaUpn4Il5lrkm0uL5I4i+CsSYmeHM6Zr/zPyWC96gxIq3tH1TFEAUIJQFJZm29mCbjOK0frTQfrLPzmkfk
FAh0bnZkE0RLP0FvAA0uS9eCM4yN77mpRCM2egG9hqwi8RoC2z069RIXkqzQKTA7bpXrf5IC+gYVc4ls63w3lyknW+TSxy
3fWqFUVzQPcxrWHb7+mCVmwIT3NGiosNsjfINVJ+9ZKvwaPG+R9IdTshOa12z8KFDLAXs+Zw6utWwrAN4diBmZXr1bRvN
WQv8tVhMA1/1tlwZpYFhSM+C9kfHxcRuHn+byOWdEQK5ME8VKEMoRnc6p8rVYkdg2D/5lba4xTG1BS008dKIWdCtfsUrha
wiLfyB52TPoafOLRQCYjCsqQIDAQABoEswSQYJKoZIhvcNAQkOMTwwOjAOBgNVHQ8BAf8EBAMCBaAwHQYDVR0lBBY
wFAYIKwYBBQUHAwEGCCsGAQUFBwMCMAkGA1UdEwQCMAAwDQYJKoZIhvcNAQELBQADggIBAFnNi7TY7SO51wAIR
5Jo/5ccX0qL+NYzY34AtXG+06V8wizYdQdIG1jBWcxHyW72VWlbI2OQEZZBjc1RWxdPNwvnj4OzX65iwV818Xn1WeZ2nA3
58thoj7RWqCz7ysOqw/k43GmlvD3UmsnRImtdgjvALapQye4amAzzenEUMe7k+mSiulTdc0v3dZcTvsfiCtsNf2AhmcRpNtkjQV
PVQ+1WYeXb3e/H5NaQZ6CXEZBTu0CbNEOzLu0e+NsQ0VCZKb2Xsmi1PEQILapUcAE3RuyDqXDqr6t3fzNqqzNjYuH6dg
SXNcxBr/wIzccpcqUIAEzJUMBOQO7cdUzvL+ZRtfTaStpMbfs7u0E7PsOSZQk+I32k/cZ7IY/neBjEvYZbj62aBcXvL/BLqGh7fpj
UBw+DQDriqIuIp7NWNXR1Z1bdHhTCNKtNAFODn3k1y5hQpQ+7MpHfAmigdyyy9x22VNYxY45kyIxYJDdB/AEASJdaMe4W
sy21i3tyNg3t0khhsZM0T5+Z3KPg84u7FL3fgPY/D4IpK/pXk+FyytmNTAF+ECXqJk/j5rTKF3a9nYGB1Dk/uQba1EoLHufPHaN
fQpzILUqVG4yS4QQmwK2hVOKLiv1p4cpseJH+P20yJPvfOn3ipoxocuqmkLVtWlrbXRET47I9pOKKPTSDtmZMP61A
-----END CERTIFICATE REQUEST-----
```

BACK

CONTINUE

MTLS CERTIFICATE SUMMARY

API CREDENTIAL(S)
'onboarding_key'
API Key: 186610baff175cae
Created: 2023-08-10

Global Sign Validation Process Continued….

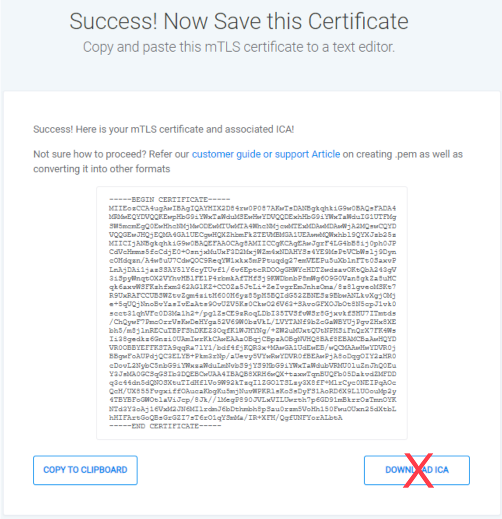
The output from the GlobalSign system requires the key to be converted to PFX format. This is completed as follows using AKV:

This section is OUTSIDE DIP and GlobalSign

5

If successful the following screen appears.

You must now Copy to Clipboard (or Cut-n-paste) the certificate into **a Notepad file**. Save the Notepad file as a **.cer** e.g. *'certname.cer'*



Success! Now Save this Certificate

Copy and paste this mTLS certificate to a text editor.

Success! Here is your mTLS certificate and associated ICA!

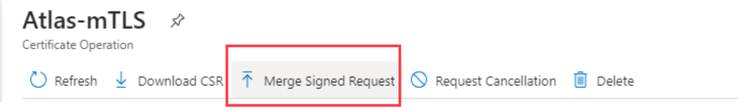
Not sure how to proceed? Refer our customer guide or support Article on creating .pem as well as converting it into other formats

```
-----BEGIN CERTIFICATE-----
MIIEozCCA4ugAwIBAgIQAYHIX2D84rw0P087AKwTsDANBgkqhkiG9w0BAQsFADA4
MRMwEQYDVQQKEwpHbG9iYWxTaWduMSEwHwYDVQQDExhHbG9iYWxTaWduIG1UTFMg
SW5mcmEgQ0EwHhcNMjMwODEwMTUwMTA4WhcNMjcwMTExMDAwMDAwWjA2MQswCQYD
VQQGEwJHQjEQMA4GA1UECgwHQXZhbmFkZTEVMBMGA1UEAwwMQWxhbl9QYXJzb25z
MIICIjANBgkqhkiG9w0BAQEFAAOCAg8AMIICCgKCAgEAwJgrF4LG4bB8ij0ph0JP
CdVcHmms5fcCdjE0+OsnjxMuUxF3D2MxjWZm4xNDAHYSs4YE9MsPtVCbWs1j9Dyn
cOHdqzn/A4w8uU7CdwQOC9ReqYW1xkx5mPPtuqdg27emVEEPu5uXblnFTt0SaxvP
LnAjDAi1jazSSAY51Y6cyTUvf1/6v6EptcRDOOgGHWYcHDTZwdzavOKtQbA243gV
3iSpyWnqtOX2VYhvHBlFE1P4rbmkAfTHfSj9KWDbnbP8mWg6O9G0Van8gkZa8uHC
qk6axvWSFKzhfxm362AG1KZ+CCOZa5JtLi+ZeIvgrEmJnhzOma/8z8lgveoMSKt7
R9UxRAFCCUBSWZtvZgm4zitH600H6yz85pH5BQIdG52ZBNESz9BbwANLkvXgjOMj
e+5qUQjNnoBvYasIvEaAts9OvU2V5Ks0CkwO26V63+SAvoGFXOJbOt8N5cpJ1vk0
scct31qhVFc0D3Ma1h2+/pglZsCE9zRoqLDbI35TVSfvWSr8GjxvkfSHU7ITmtds
/ChQywF7PmcOrrVsKwDeHYga52V69W0bzVkL/LVYTANf9bZcGaWBYUjPgvZHx8XE
bh5/m8j1nRECuTBPFShDKEZ3OqfK1WJHYNg/+ZW2uMUxtQUtNPHSiFnQrX7FK4Ws
Ii38gedkz6Gnzi0UAmIwrKkCAwEAAaOBqjCBpzAOBgNVHQ8BAf8EBAMCBaAwHQYD
VR0OBBYEFFKSTA9qqRa71Y1/bdf4fjKQR3x+MAwGA1UdEwEB/wQCMAAwHwYDVR0j
BBgwFoAUPdjQC3ELYB+Pkm3rNp/aUevy5VYwRwYDVR0fBEAwPjA8oDqgOIY2aHR0
cDovL2NybC5nbG9iYWxzaWduLmNvbS9jYS9HbG9iYWxTaWdubVRMU0luZnJhQ0Eu
Y3JsMA0GCSqGSIb3DQEBCwUAA4IBAQB8XRH6wQX+taxwTqnBUQFb05DakvdZMFDD
q3c44dn5dQNOSXtuTIdHflVo9W92kTzqI1ZGO1TSLzy3X8fF+M1rCycONEIPqAOc
QcH/UX855FvgxiffOAucaKbgKu5mjNuvWPKRlsKoSsDyFS1AoRD6X9L1UOouMp2y
4TBYBFoGWOtlaViJcp/8Jk//1MegP890JVLxVILUwrth7p6GD91mBkrrOzTmnOYK
NTd3Y3oAj16VxM2JN6MI1rdmJ6bDthmbh8pSau0rzm5VoHh150FwuOUxn25dXtbL
hHIFArtGoQBsGrGZI7sT6r01qY8mMa/IR+XFH/QgfUNFYorALbtA
-----END CERTIFICATE-----
```

6

Re-open the certificate generation tool
(example shown is **Azure Key Vault**)

Select 'Merge Signing Request', or similar option, from the menu to **merge the private key and public key**

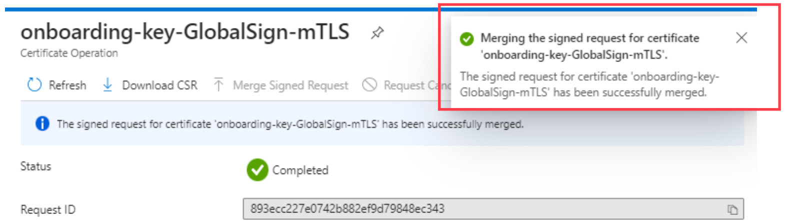


Atlas-mTLS

Certificate Operation

Select the file created in Step 5, e.g. *certname.cer*

A 'toast' pop-up will confirm the merge was successful



onboarding-key-GlobalSign-mTLS

Certificate Operation

Merging the signed request for certificate 'onboarding-key-GlobalSign-mTLS'.

The signed request for certificate 'onboarding-key-GlobalSign-mTLS' has been successfully merged.

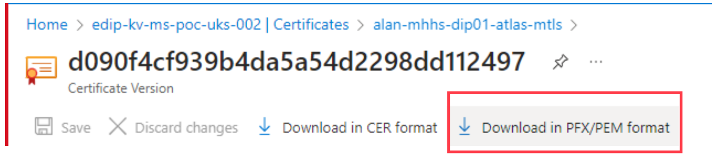
The signed request for certificate 'onboarding-key-GlobalSign-mTLS' has been successfully merged.

Status: Completed

Request ID: 893ecc227e0742b882ef9d79848ec343

7

Download the certificate as a PFX file, **ensuring no password is specified.**
(Example shown is Azure Key Vault)

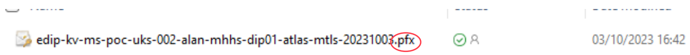


Home > edip-kv-ms-poc-uks-002 | Certificates > alan-mhhs-dip01-atlas-mtls >

d090f4cf939b4da5a54d2298dd112497

Certificate Version

The resulting PFX format file will be listed in a download area ready for the next step



edip-kv-ms-poc-uks-002-alan-mhhs-dip01-atlas-mtls-20231003.pfx 03/10/2023 16:42

Section 5 –
Upload the PFX file to the DIP and set DNS

Clarification on DNS and Certificates

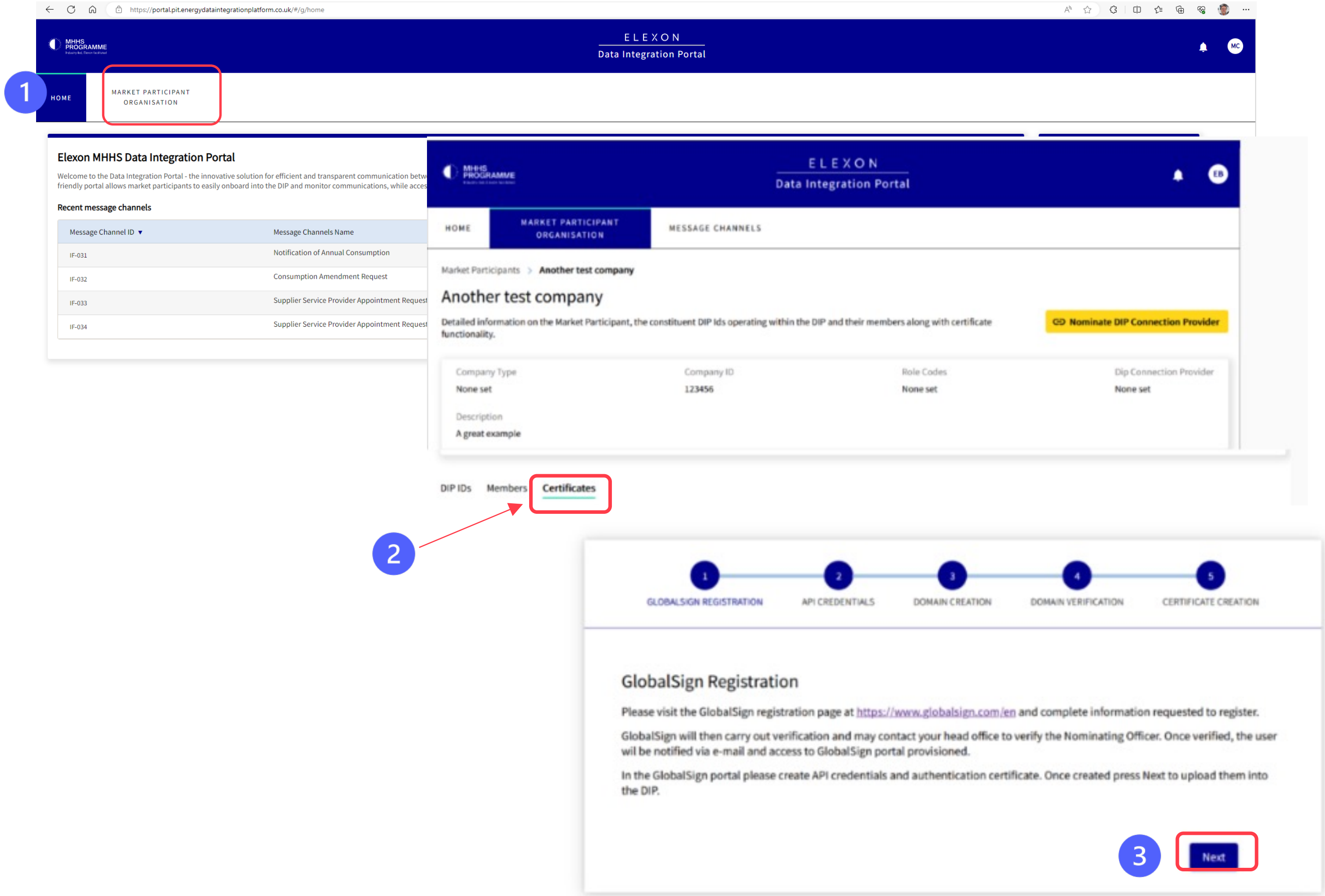
As part of the Ofgem requirement around non-repudiation, each Market Participant is responsible for their own message signing, therefore, whether you are using a DIP Connection Provider (DCP/Adaptor Service) or not, the Market Participant must complete the DNS and Certificate process for message signing.

The DNS is validated by GlobalSign and therefore must belong to the Market Participant. The DNS can be the Market Participant’s web domain or any other domain associated with the organisation.

If using a DIP Connection Provider (DCP), the DCP should use their own mTLS certificate, and then use the MPs certificates for signing messages. The respective Market Participant’s Signing certificate **must** be used to sign their messages.

Return to the DIP to complete the certificate registration

The Certificate Admin will return to the ‘Certificates’ tab as below and click the NEXT button to proceed:



Elexon MHHS Data Integration Portal

Welcome to the Data Integration Portal - the innovative solution for efficient and transparent communication betw
friendly portal allows market participants to easily onboard into the DIP and monitor communications, while acces

Recent message channels

Message Channel ID ▼	Message Channels Name
IF-031	Notification of Annual Consumption
IF-032	Consumption Amendment Request
IF-033	Supplier Service Provider Appointment Request
IF-034	Supplier Service Provider Appointment Request

Market Participants > Another test company

Another test company

Detailed information on the Market Participant, the constituent DIP Ids operating within the DIP and their members along with certificate functionality.

Company Type	Company ID	Role Codes	Dip Connection Provider
None set	123456	None set	None set

Description
A great example

GlobalSign Registration

Please visit the GlobalSign registration page at https://www.globalsign.com/en and complete information requested to register.

GlobalSign will then carry out verification and may contact your head office to verify the Nominating Officer. Once verified, the user wil be notified via e-mail and access to GlobalSign portal provisioned.

In the GlobalSign portal please create API credentials and authentication certificate. Once created press Next to upload them into the DIP.

Click ‘NEXT’ to move to on to ‘API Credentials’ entry

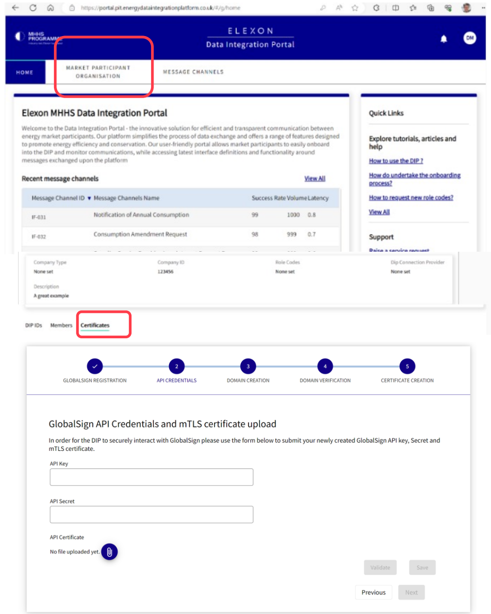
SECTION 5 – Upload PFX file to the DIP and validate with Domain

Upload API details and PFX Certificate to the DIP

The Certificate Admin must now upload the GlobalSign API Key & Secret, together with the PFX Certificate, to the DIP.

1

Certificate Admin will Sign In to DIP and click the 'Market Participant' and select 'Certificates' tab to display the process page



Elexon MHHS Data Integration Portal

Welcome to the Data Integration Portal - the innovative solution for efficient and transparent communication between energy market participants. Our platform simplifies the process of data exchange and offers a range of features designed to promote energy efficiency and conservation. Our user-friendly portal allows market participants to easily onboard into the DIP and monitor communications, while accessing latest interface definitions and functionality around messages exchanged upon the platform

Explore tutorials, articles and help

Recent message channels — View All

Message Channel ID	Message Channels Name	Success Rate	Volume	Latency
IF-031	Notification of Annual Consumption	99	1000	0.8
IF-032	Consumption Amendment Request	98	999	0.7

Company Type	Company ID	Role Codes	Dip Connection Provider
None set	123456	None set	None set

Description: A great example

GlobalSign API Credentials and mTLS certificate upload

In order for the DIP to securely interact with GlobalSign please use the form below to submit your newly created GlobalSign API key, Secret and mTLS certificate.

API Key:

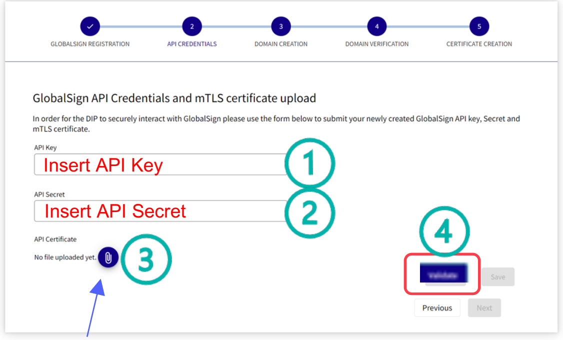
API Secret:

API Certificate: No file uploaded yet.

2

The process will have moved to STEP 2 'API Credentials' Add the Global Sign generated information:

1. Insert the API Key (1)
2. Insert the API Secret (2)
3. Click 🖇 to upload the PFX Certificate (3)
4. Click 'Validate' button (4)



GlobalSign API Credentials and mTLS certificate upload

In order for the DIP to securely interact with GlobalSign please use the form below to submit your newly created GlobalSign API key, Secret and mTLS certificate.

API Key: Insert API Key

API Secret: Insert API Secret

API Certificate: No file uploaded yet.

Click 🖇 and select your PFX version of the API Certificate

Entries Accepted ?

Y

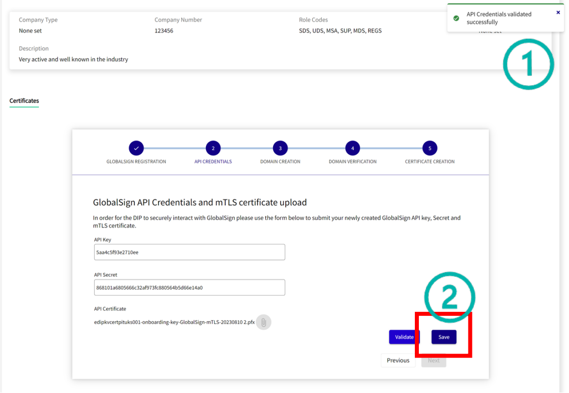
N

If this error repeats please contact DIP@MHHSprogramme.co.uk

Please review API fields for completeness to continue

3

If the API entries are confirmed, A pop-up 'Added successfully' appears (1) click 'Save' to continue (2)



API Credentials validated successfully

Company Type	Company Number	Role Codes
None set	123456	SDS, UDS, MSA, SUP, MDS, REGS

Description: Very active and well known in the industry

GlobalSign API Credentials and mTLS certificate upload

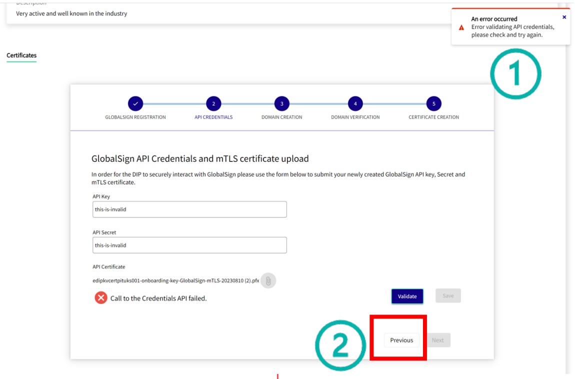
In order for the DIP to securely interact with GlobalSign please use the form below to submit your newly created GlobalSign API key, Secret and mTLS certificate.

API Key: 5aa4c5f93e2710ee

API Secret: 868101a6805666c32af973fc880564b5d66e14a0

API Certificate: edipkvcertpituks001-onboarding-key-GlobalSign-mTLS-20230810 2.pfx

If the message is 'An error has occurred' (1), click 'Previous' (2) and restart upload



Description: Very active and well known in the industry

An error occurred
Error validating API credentials, please check and try again.

GlobalSign API Credentials and mTLS certificate upload

In order for the DIP to securely interact with GlobalSign please use the form below to submit your newly created GlobalSign API key, Secret and mTLS certificate.

API Key: this-is-invalid

API Secret: this-is-invalid

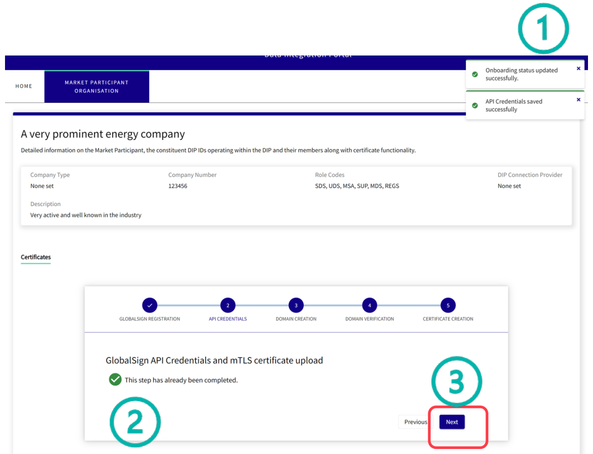
API Certificate: edipkvcertpituks001-onboarding-key-GlobalSign-mTLS-20230810 (2).pfx

Call to the Credentials API failed.

4

The following screen will appear 'Onboarding status updated successfully'.

1. Confirmation with 'Toast' Pop-up (1)
2. Confirmation onscreen message (2)
3. Click 'Next' to progress to DNS set up (3)



Onboarding status updated successfully.

API Credentials saved successfully

A very prominent energy company

Detailed information on the Market Participant, the constituent DIP IDs operating within the DIP and their members along with certificate functionality.

Company Type	Company Number	Role Codes	DIP Connection Provider
None set	123456	SDS, UDS, MSA, SUP, MDS, REGS	None set

Description: Very active and well known in the industry

GlobalSign API Credentials and mTLS certificate upload

This step has already been completed.

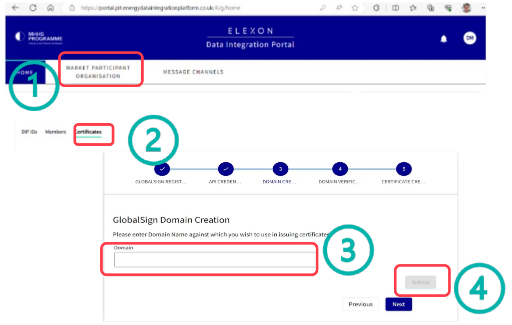
SECTION 5 – Upload PFX file to the DIP and set Domain in DNS

Register the Domain in DNS and validate in the DIP Portal

The Certificate Admin will work with a DNS domain admin to complete the Domain registration in DNS.

1

Follow steps 1-3 to enter the MPs **Domain Name being used for GlobalSign verification** into the GlobalSign Domain Creation field **DOMAIN**, then click 'SUBMIT' (4)'

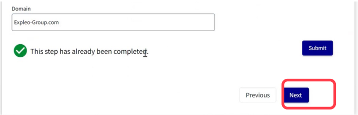


GlobalSign Domain Creation

Please enter Domain Name against which you wish to use in issuing certificates

Domain

You should get a green tick and message 'This step has already been completed' Click NEXT Button (4)'

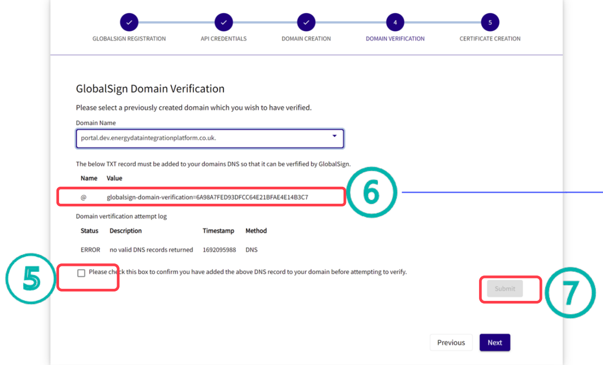


Domain: Expleo-Group.com

✓ This step has already been completed.

2

Once you have clicked next, you will be asked to **reselect the DOMAIN Name from the dropdown and a** TXT Record will appear (6)
NOTE that a '.' may appear after the Domain Name – this is not an issue and you should proceed



GlobalSign Domain Verification

Please select a previously created domain which you wish to have verified.

Domain Name: portal.dev.energydataintegrationplatform.co.uk.

The below TXT record must be added to your domains DNS so that it can be verfified by GlobalSign.

Name	Value
@	globalsign-domain-verification=6A98A7FED93DFCC64E21BFAE4E14B3C7

Domain verification attempt log

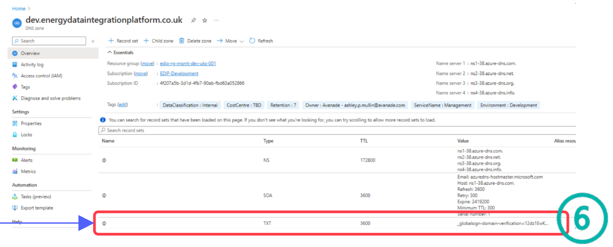
Status	Description	Timestamp	Method
ERROR	no valid DNS records returned	1692095988	DNS

☐ Please check this box to confirm you have added the above DNS record to your domain before attempting to verify.

Please take a note of the '**Name**' = '**@**' and the **VALUE is a 'txt'**, and pass both to **DNS Admin** for insertion into the DNS BEFORE clicking (5).

3

DNS Admin should add the record details into the DNS (6) with the values specified = '@' and the txt into VALUE



dev.energydataintegrationplatform.co.uk
DNS zone

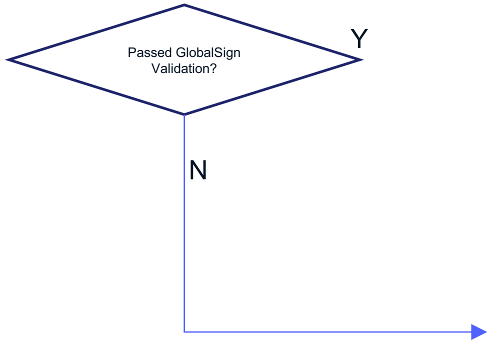
Resource group (move) : edip-rg-mgmt-dev-uks-001
Subscription (move) : EDIP-Development
Subscription ID : 4f207a5b-3d1d-4fb7-90ab-fbd63a052866
Name server 1 : ns1-38.azure-dns.com.
Name server 2 : ns2-38.azure-dns.net.
Name server 3 : ns3-38.azure-dns.org.
Name server 4 : ns4-38.azure-dns.info.
Tags (edit) : DataClassification : Internal | CostCentre : TBD | Retention : 7 | Owner : Avanade - ashley.p.mullin@avanade.com | ServiceName : Management | Environment : Development

You can search for record sets that have been loaded on this page. If you don't see what you're looking for, you can try scrolling to allow more record sets to load.

Search record sets

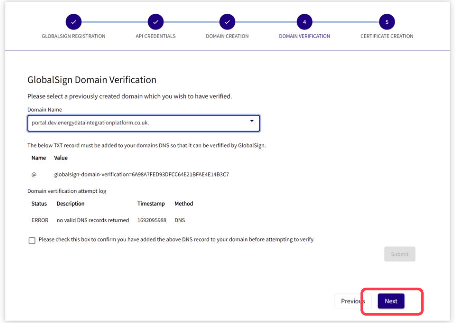
Name	Type	TTL	Value	Alias resou
@	NS	172800	ns1-38.azure-dns.com. ns2-38.azure-dns.net. ns3-38.azure-dns.org. ns4-38.azure-dns.info.	
@	SOA	3600	Email: azuredns-hostmaster.microsoft.com Host: ns1-38.azure-dns.com. Refresh: 3600 Retry: 300 Expire: 2419200 Minimum TTL: 300 Serial number: 1	
@	TXT	3600	_globalsign-domain-verification=12dz1EwK...	

Certificate Admin, on confirmation DNS Record has been added (can be up to 1Hr), will click the Check box (5) and then click the SUBMIT button (7)



4

Certificate Admin can check SUCCESS or FAIL of verification: If Successful click 'Next'



GlobalSign Domain Verification

Please select a previously created domain which you wish to have verified.

Domain Name: portal.dev.energydataintegrationplatform.co.uk.

The below TXT record must be added to your domains DNS so that it can be verfified by GlobalSign.

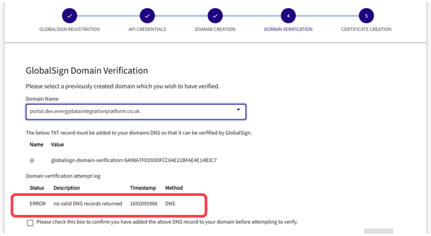
Name	Value
@	globalsign-domain-verification=6A98A7FED93DFCC64E21BFAE4E14B3C7

Domain vertification attempt log

Status	Description	Timestamp	Method
ERROR	no valid DNS records returned	1692095988	DNS

☐ Please check this box to confirm you have added the above DNS record to your domain before attempting to verify.

Domain Validation Successful
The DNS entry should not be removed as it is used for renewals



GlobalSign Domain Verification

Please select a previously created domain which you wish to have verified.

Domain Name: portal.dev.energydataintegrationplatform.co.uk.

The below TXT record must be added to your domains DNS so that it can be verified by GlobalSign.

Name	Value
@	globalsign-domain-verification=6A98A7FED93DFCC64E21BFAE4E14B3C7

Domain verification attempt log

Status	Description	Timestamp	Method
ERROR	no valid DNS records returned	1692095988	DNS

☐ Please check this box to confirm you have added the above DNS record to your domain before attempting to verify.

Domain Validation Failed!

Return to Step 2 and repeat DNS verification process

Section 6 –
Complete DIP Setup

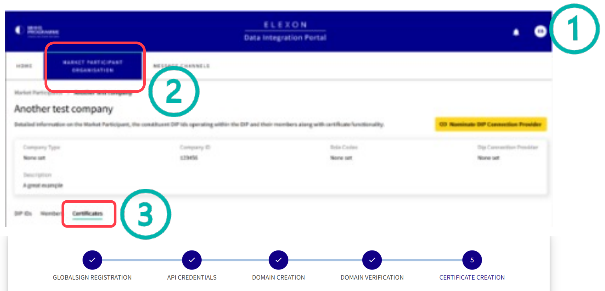
Certificate Admin: Generate mTLS & Signing Cert within the DIP

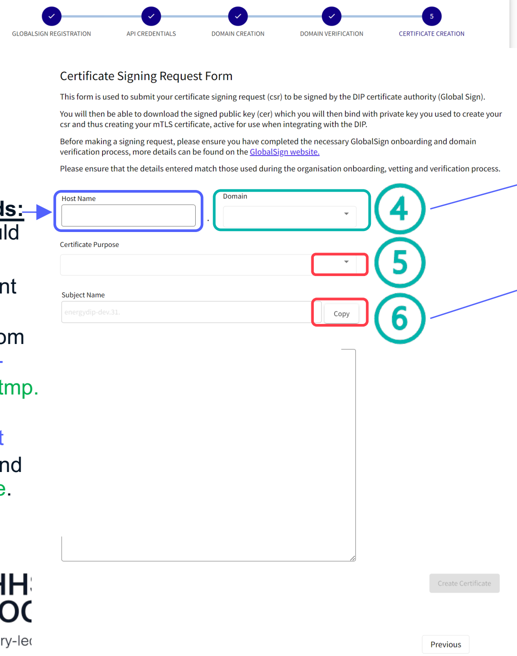
1

Login to the DIP as Certificate Admin (1)

Select MP MENU (2) then 'Certificates' Tab (3)

1. Enter the required Host Name & Domain (4)
2. Select 'Certificate Purpose' to choose a "mTLS" (for DCPs), "Signing" (for MPs) or "mTLS & Signing" certificates (both) (5)
3. SUBJECT NAME is pre-set – CLICK 'COPY' (6)





Certificate Signing Request Form

This form is used to submit your certificate signing request (csr) to be signed by the DIP certificate authority (Global Sign).

You will then be able to download the signed public key (cer) which you will then bind with private key you used to create your csr and thus creating your mTLS certificate, active for use when integrating with the DIP.

Before making a signing request, please ensure you have completed the necessary GlobalSign onboarding and domain verification process, more details can be found on the GlobalSign website.

Please ensure that the details entered match those used during the organisation onboarding, vetting and verification process.

Host Name . Domain

Certificate Purpose

Subject Name: energydip-dev.31.

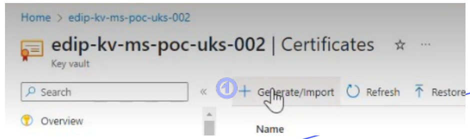
Enter both fields: overall this should make up the address you want to receive messages on from the DIP (e.g. sit-dipwebhook.testmp.co.uk) where First part is Host Name and second is Domain Name.

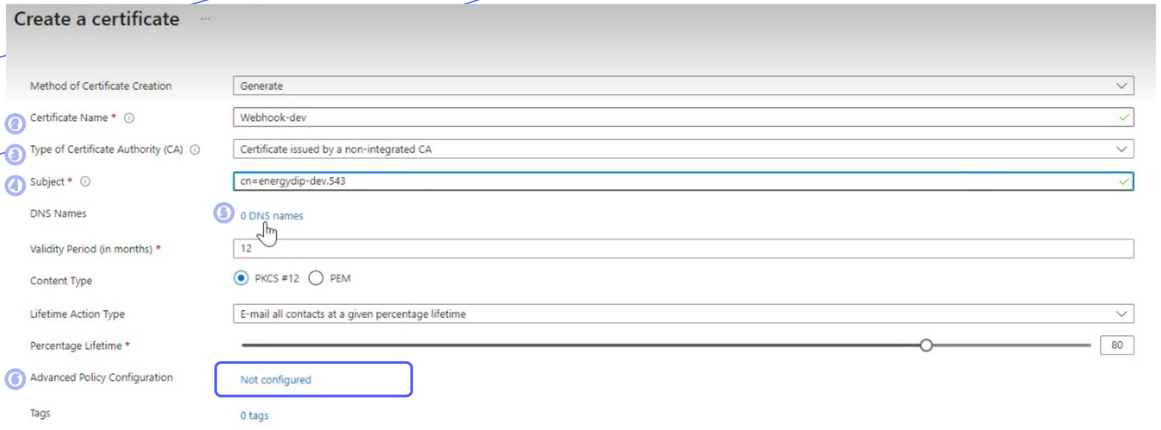
2

It is critical that a new CSR is generated using the details from the previous step

Open the Certificate Creation Tool (e.g. Azure Key Vault)

1. Click (select) to generate a certificate (in AKV click Generate/Import)
2. Give the certificate a name (no spaces)
3. Choose 'Certificate used by non-integrated CA' from drop down
4. Enter '**cn=**' then paste the SUBJECT NAME copied in STEP 1 (6)
5. IMPORTANT – click 'DNS Names' and complete the 2 entries
6. Click 'Not configured' next and ensure Key Size is 4096


Home > edip-kv-ms-poc-uks-002
edip-kv-ms-poc-uks-002 | Certificates
Key vault
Search
1
Generate/Import
Refresh
Restore
Overview
Name



Create a certificate

Method of Certificate Creation: Generate

Certificate Name *: Webhook-dev

Type of Certificate Authority (CA): Certificate issued by a non-integrated CA

Subject *: cn=energydip-dev.543

DNS Names: 0 DNS names

Validity Period (in months) *: 12

Content Type: ● PKCS #12 ○ PEM

Lifetime Action Type: E-mail all contacts at a given percentage lifetime

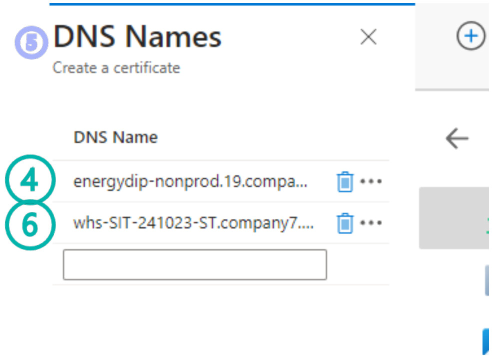
Percentage Lifetime *: 80

Advanced Policy Configuration: Not configured

Tags: 0 tags

3

You must add DNS Name entries as advised from 4 and 6



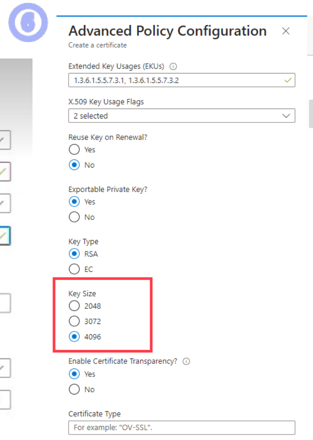
DNS Names

Create a certificate

DNS Name

energydip-nonprod.19.compa...

whs-SIT-241023-ST.company7....



Advanced Policy Configuration

Create a certificate

Extended Key Usages (EKUs): 1.3.6.1.5.5.7.3.1, 1.3.6.1.5.5.7.3.2

X.509 Key Usage Flags: 2 selected

Reuse Key on Renewal? ○ Yes ● No

Exportable Private Key? ● Yes ○ No

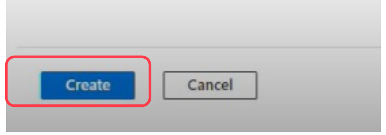
Key Type ● RSA ○ EC

Key Size ○ 2048 ○ 3072 ● 4096

Enable Certificate Transparency? ● Yes ○ No

Certificate Type: For example: "OV-SSL".

To complete the certificate creation click 'Create' button

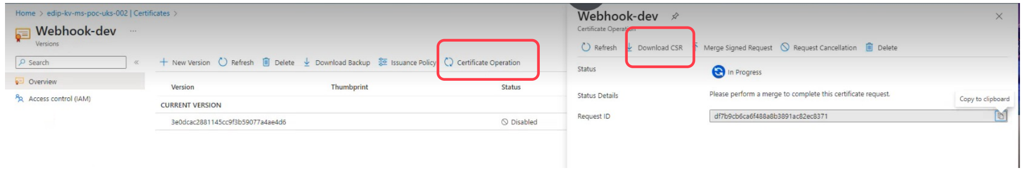


Certificate Admin: Generate mTLS & Signing Cert within the DIP

1

Open the generated CSR and download – example here is Azure Key Vault

1. Select ‘Certificate Operations’
2. Select ‘Download CSR’

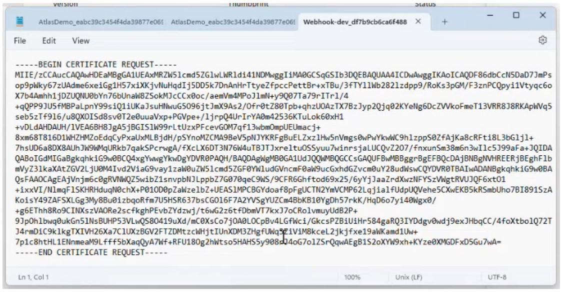


Status: In Progress

Status Details: Please perform a merge to complete this certificate request.

Request ID: df7b9cb6ca6f488a8b3891ac82ec8371

3. Open the downloaded file in a text editor


AtlasDemo_eabc39c3454f4da39877e06
AtlasDemo_eabc39c3454f4da39877e06
Webhook-dev_df7b9cb6ca6f488
File
Edit
View
Ln 1, Col 1
100%
Unix (LF)
UTF-8

```
-----BEGIN CERTIFICATE REQUEST-----
MIIE/zCCAucCAQAwHDEaMBgGA1UEAxMRZW5lcmd5ZGlwLWRldi41NDMwggIiMA0GCSqGSIb3DQEBAQUAA4ICDwAwggIKAoICAQDF86dbCcN5DaD7JmPs
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+vDLdAHDAUH/1VEA6BH8JgA5jBGIS1W99rLtUzxPFcevGOM7qf13wbmOmpUEUmacj+
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7hsUD6a8DX8AUhJW9WMqURkb7qakSPcrwgA/fXcLX6DT3N76W4uTBJTJxreltuOSSyuu7winrsjaLUCQvZ207/fnxunSm38m6n3wIlc5J99aFa+JQIDA
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QsFAAOCAgEAjVnjm6c0gRVNWQZ5wibZ1snvpbNJLppbZ7G070qeC9WS/9CFR6Ghftod69x25/6yYjJaaZrdXwzNFYSzVWgtRVUJQF6xtO1
+ixxVI/NlmqF1SKHRHduqN0chX+P01OD0pZaWzelbZ+UEASlMPCBGYdoaf8pFgUCTN2YmVCMP62LqjialfUdpUQVehe5CXwEKB5kRSmbUho7BI891SzA
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+g6ETh8Ro9CINXszVAORe2scfkghPEvbZYdzwj/t6wG2z6tfDbmVT7kxJ7oCRolvmuyUdB2P+
9JpOhlbwq0ukGn5lNsBUHP53VLwQS8O419uXd/mC0XsCo7jOA0LOCpBv4LGfWci/GkcsPZBiUiHr584gaRQ3IYDdgv0wdj9exJHbqCC/4foXtbolQ72T
J4rmDiC9klkgTXIVH26Xa7ClUXzBGV2FTZDMtzcWHjtIUnXDM3ZHgfUWq3ZiViM8kceL2jkjfxe19aWKamd1Uw+
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-----END CERTIFICATE REQUEST-----
```
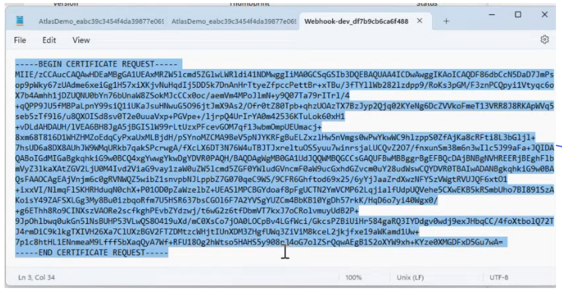

4. Select the Certificate Text


AtlasDemo_eabc39c3454f4da39877e06
AtlasDemo_eabc39c3454f4da39877e06
Webhook-dev_df7b9cb6ca6f488
File
Edit
View
Ln 3, Col 34
100%
Unix (LF)
UTF-8

```
-----BEGIN CERTIFICATE REQUEST-----
MIIE/zCCAucCAQAwHDEaMBgGA1UEAxMRZW5lcmd5ZGlwLWRldi41NDMwggIiMA0GCSqGSIb3DQEBAQUAA4ICDwAwggIKAoICAQDF86dbCcN5DaD7JmPs
op9pWky67zUAdme6xeiGg1H57xiXKjvNuHqdIj5DD5k7DnAnHrTtyeZfpccPettBr+xTBu/3fTY1lWb282lzdpp9/RoKs3pGM/F3znPCQpyi1Vtyqc6o
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seb5zTf916/u8QXOISd8sv0T2e0uuaVxp+PGVpe+/1jrpQ4UrIrYA0m42536KTuLok60xH1
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mVyZ3lkaXAtZGV2LjU0M4Ivd2ViaG9vay1zaW0uZW5lcmd5ZGF0YWludGVncmF0aW9ucGxhdGZvcm0uY28udWswCQYDVR0TBAIwADANBgkqhkiG9w0BA
QsFAAOCAgEAjVnjm6c0gRVNWQZ5wibZ1snvpbNJLppbZ7G070qeC9WS/9CFR6Ghftod69x25/6yYjJaaZrdXwzNFYSzVWgtRVUJQF6xtO1
+ixxVI/NlmqF1SKHRHduqN0chX+P01OD0pZaWzelbZ+UEASlMPCBGYdoaf8pFgUCTN2YmVCMP62LqjialfUdpUQVehe5CXwEKB5kRSmbUho7BI891SzA
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J4rmDiC9klkgTXIVH26Xa7ClUXzBGV2FTZDMtzcWHjtIUnXDM3ZHgfUWq3ZiViM8kceL2jkjfxe19aWKamd1Uw+
7p1c8htHL1ENnmeaM9Lfff5bXaqQyA7Wf+RFU18Og2hWtso5HAHS5y908rJ4oG7olZSrQqwAEgB1S2oXYW9xh+KYze0XMGDFxD5Gu7wA=
-----END CERTIFICATE REQUEST-----
```
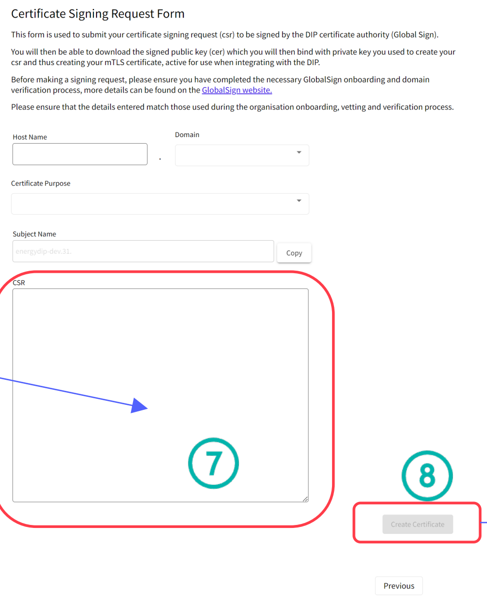

2

5. PASTE the Certificate Text into the CSR field in DIP (7)
6. Click ‘Create Certificate’ (8)



Certificate Signing Request Form

This form is used to submit your certificate signing request (csr) to be signed by the DIP certificate authority (Global Sign).

You will then be able to download the signed public key (cer) which you will then bind with private key you used to create your csr and thus creating your mTLS certificate, active for use when integrating with the DIP.

Before making a signing request, please ensure you have completed the necessary GlobalSign onboarding and domain verification process, more details can be found on the GlobalSign website.

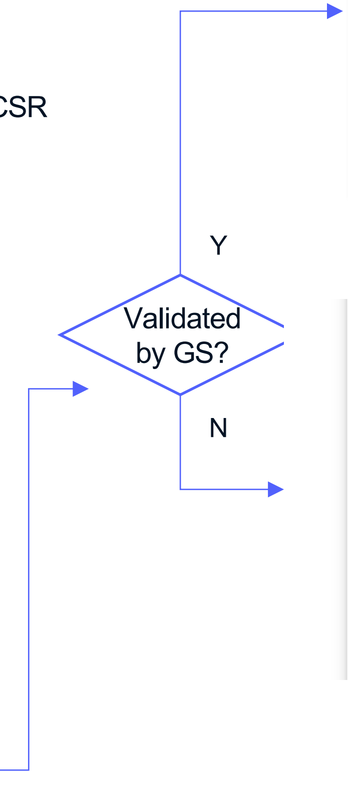
Please ensure that the details entered match those used during the organisation onboarding, vetting and verification process.

Host Name: ______ . Domain: ______

Certificate Purpose: ______

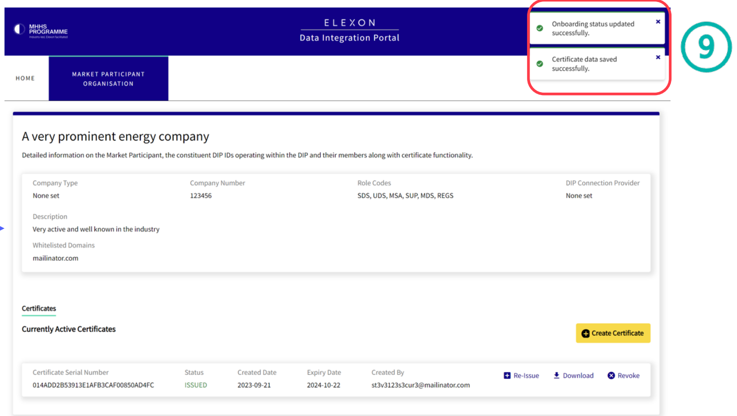
Subject Name: energydip-dev.31. Copy

CSR: ______



3

Certificate Signing Completion
PROCEED if ‘Toast’ advises ‘Successful’ (9)



Onboarding status updated successfully.

Certificate data saved successfully.

A very prominent energy company

Detailed information on the Market Participant, the constituent DIP IDs operating within the DIP and their members along with certificate functionality.

Company Type	Company Number	Role Codes	DIP Connection Provider
None set	123456	SDS, UDS, MSA, SUP, MDS, REGS	None set

Description: Very active and well known in the industry

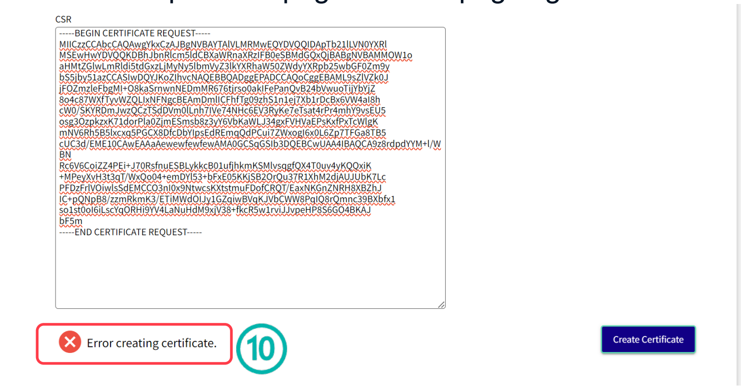
Whitelisted Domains: mailinator.com

Certificates

Currently Active Certificates

Certificate Serial Number	Status	Created Date	Expiry Date	Created By
014ADD2B53913E1AFB3CAF00850AD4FC	ISSUED	2023-09-21	2024-10-22	st3v3123s3cur3@mailinator.com

If an ERROR appears (10) please repeat steps 1-6 from previous page and this page again



CSR

```
-----BEGIN CERTIFICATE REQUEST-----
MIICzzCCAbcCAQAwgYkxCzAJBgNVBAYTAlVLMRMwEQYDVQQIDApTb21lLVN0YXRl
MSEwHwYDVQQKDBhJbnRlcm5ldCBXaWRnaXRzIFB0eSBMdGQxQjBABgNVBAMMOW1o
aHMtZGlwLmRldi5tdGxzLjMyNy5lbmVyZ3lkYXRhaW50ZWdyYXRpb25wbGF0Zm9y
bS5jby51azCCASIwDQYJKoZIhvcNAQEBBQADggEPADCCAQoCggEBAML9sZlVZk0J
jFOZmzleFbgMI+O8kaSrnwnNEDmMR676tjrso0akIFePanQvB24bVwuoTijYbYjZ
8o4c87WXfTyvWZQLIxNFNgcBEAmDmlICFhfTg09zhS1n1ej7Xb1rDcBx6VW4aI8h
cW0/SKYRDmJwzQCzTSdDVm0lLnh7IVe74NHc6EV3RyKe7eTsat4rPr4mhY9vsEU5
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BN
Rc6V6CoiZZ4PEi+J70RsfnuESBLykkcB01ufjhkmKSMlvsqgfQX4T0uv4yKQQxiK
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so1st0oI6iLscYqORHi9YV4LaNuHdM9xjV38+fkcR5w1rviJJvpeHP8S6GO4BKAJ
bF5m
-----END CERTIFICATE REQUEST-----
```

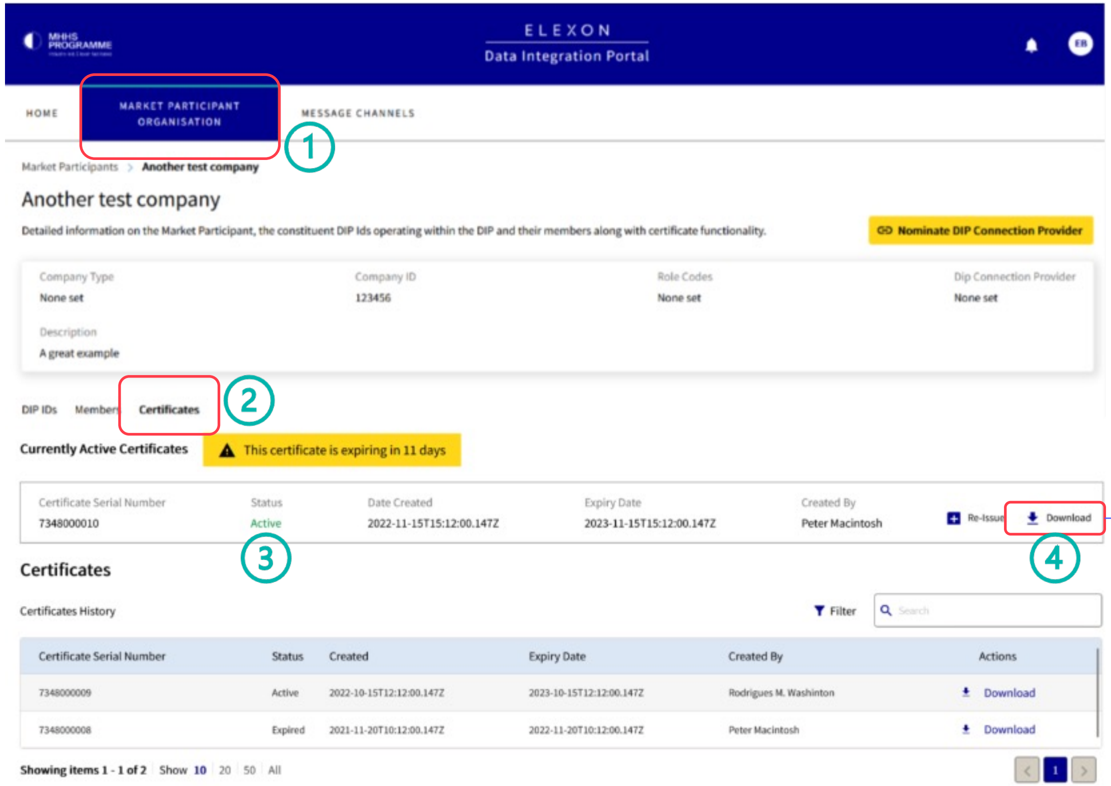
Error creating certificate.

Certificate Admin will check certificate is now ACTIVE within the DIP

The Certificate Admin will be presented with a list of certificates associated with the organisation and can DOWNLOAD the ACTIVE certificate.

1

The list of your available certificates are displayed within Market Participant menu (1)
Click 'Certificates' tab (2) and check certificate is ACTIVE (3).
Click Download (4) to utilise the new ACTIVE certificate.



Market Participants > Another test company

Another test company

Detailed information on the Market Participant, the constituent DIP Ids operating within the DIP and their members along with certificate functionality.

Nominate DIP Connection Provider

Company Type	Company ID	Role Codes	Dip Connection Provider
None set	123456	None set	None set

Description
A great example

DIP IDs Members Certificates

Currently Active Certificates ⚠ This certificate is expiring in 11 days

Certificate Serial Number	Status	Date Created	Expiry Date	Created By	
7348000010	Active	2022-11-15T15:12:00.147Z	2023-11-15T15:12:00.147Z	Peter Macintosh	Re-Issue Download

Certificates

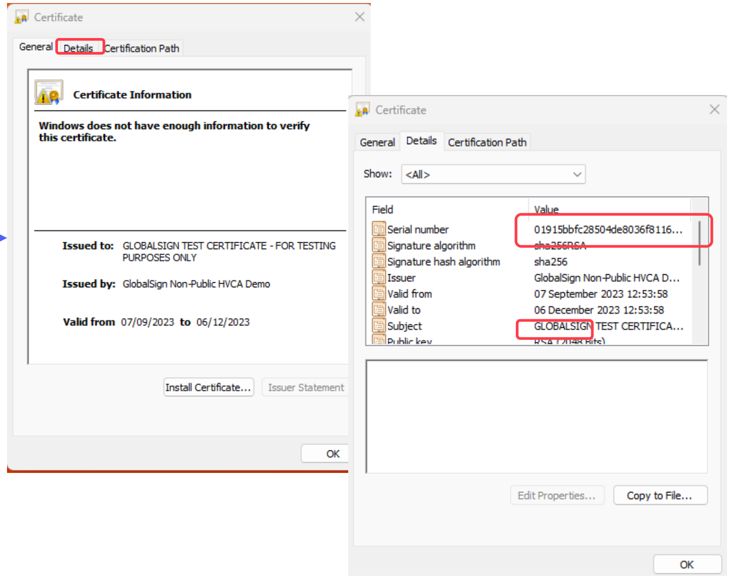
Certificates History Filter Search

Certificate Serial Number	Status	Created	Expiry Date	Created By	Actions
7348000009	Active	2022-10-15T12:12:00.147Z	2023-10-15T12:12:00.147Z	Rodrigues M. Washinton	Download
7348000008	Expired	2021-11-20T10:12:00.147Z	2022-11-20T10:12:00.147Z	Peter Macintosh	Download

Showing items 1 - 1 of 2 Show 10 | 20 | 50 | All

2

Open the downloaded Certificate file and Click 'Details' Tab.
Check validity by comparing **Serial Number** matches.
Check **Subject** is as expected.



Certificate Information

Windows does not have enough information to verify this certificate.

Issued to: GLOBALSIGN TEST CERTIFICATE - FOR TESTING PURPOSES ONLY

Issued by: GlobalSign Non-Public HVCA Demo

Valid from 07/09/2023 **to** 06/12/2023

Show: <All>

Field	Value
Serial number	01915bbfc28504de8036f8116...
Signature algorithm	sha256RSA
Signature hash algorithm	sha256
Issuer	GlobalSign Non-Public HVCA D...
Valid from	07 September 2023 12:53:58
Valid to	06 December 2023 12:53:58
Subject	GLOBALSIGN TEST CERTIFICA...
Public key	RSA (2048 Bits)

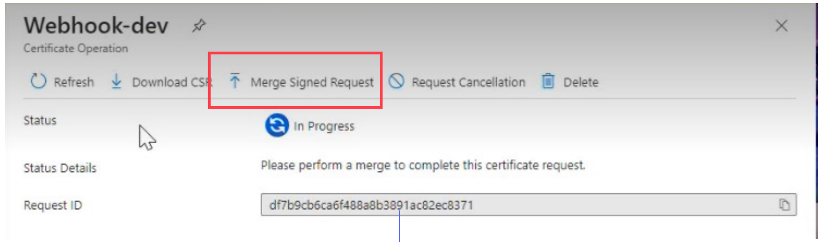
Merge the signed certificate

Final stage of the process must be conducted within the Certificate Generation tool chosen earlier (e.g. Key Vault)

3

At this stage you must **re-open the tool you generated your certificate** from (e.g. Azure Key Vault)

Select menu option ‘Merge Signing Request’ (or similar option)



Webhook-dev

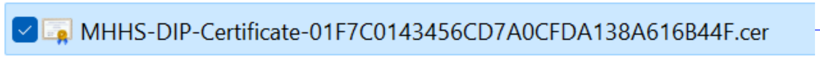
Certificate Operation

Status: In Progress

Status Details: Please perform a merge to complete this certificate request.

Request ID: df7b9cb6ca6f488a8b3891ac82ec8371

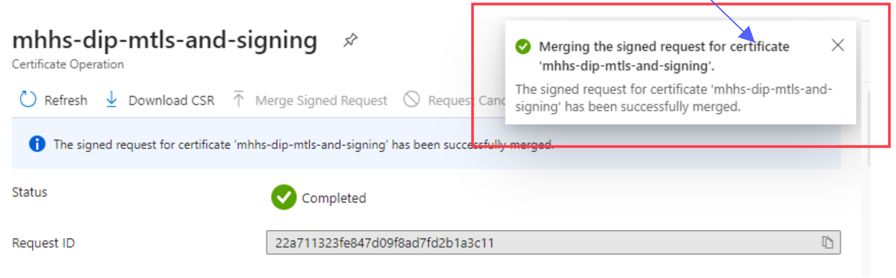
Select the FILE downloaded from the DIP Portal
(a .cer file – example shown below)



MHHS-DIP-Certificate-01F7C0143456CD7A0CFDA138A616B44F.cer

4

A ‘toast’ pop-up will confirm the merge was successful



mhhs-dip-mtls-and-signing

Certificate Operation

Merging the signed request for certificate 'mhhs-dip-mtls-and-signing'.

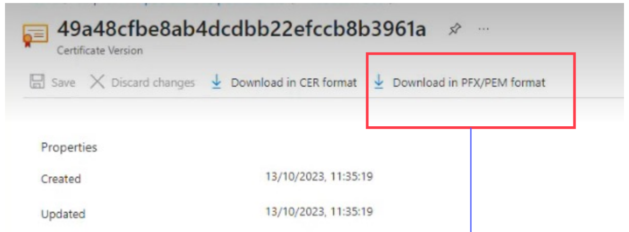
The signed request for certificate 'mhhs-dip-mtls-and-signing' has been successfully merged.

The signed request for certificate 'mhhs-dip-mtls-and-signing' has been successfully merged.

Status: Completed

Request ID: 22a711323fe847d09f8ad7fd2b1a3c11

The certificate must now be downloaded as a PFX WITHOUT Password
Select the certificate and choose ‘Download in PFX/PEM Format’



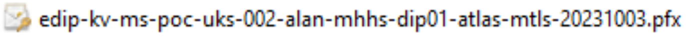
49a48cfbe8ab4dcdbb22efccb8b3961a

Certificate Version

Properties

Created: 13/10/2023, 11:35:19

Updated: 13/10/2023, 11:35:19



edip-kv-ms-poc-uks-002-alan-mhhs-dip01-atlas-mtls-20231003.pfx

5

This certificate is now available to be used for mTLS and signing when sending messages to the DIP

If you are using a DCP you must give this to your DCP. Use certificate to sign messages (See CoCo for how to sign a message)

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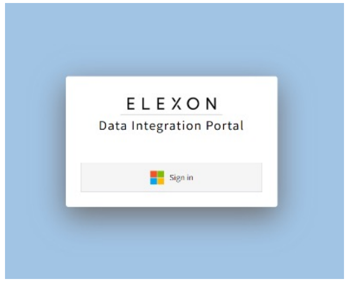
You have successfully onboarded to the DIP

How to Add/Edit DIP Members

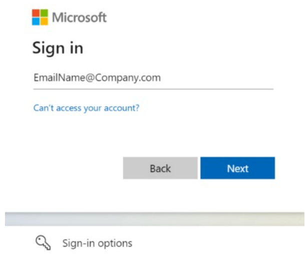
User Admin Management of User Roles

The User Admin will ‘Sign In’ to the DIP and add new members (users). It is advised that a Message Admin is added as a first task.

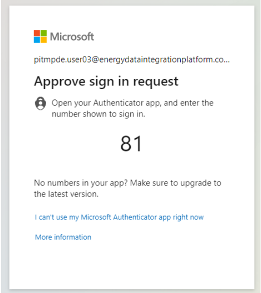
1 Click SIGN IN



2 Sign in with email/password



3 Complete MFA



pitmpde.user03@energydataintegrationplatform.co...

Approve sign in request

Open your Authenticator app, and enter the number shown to sign in.

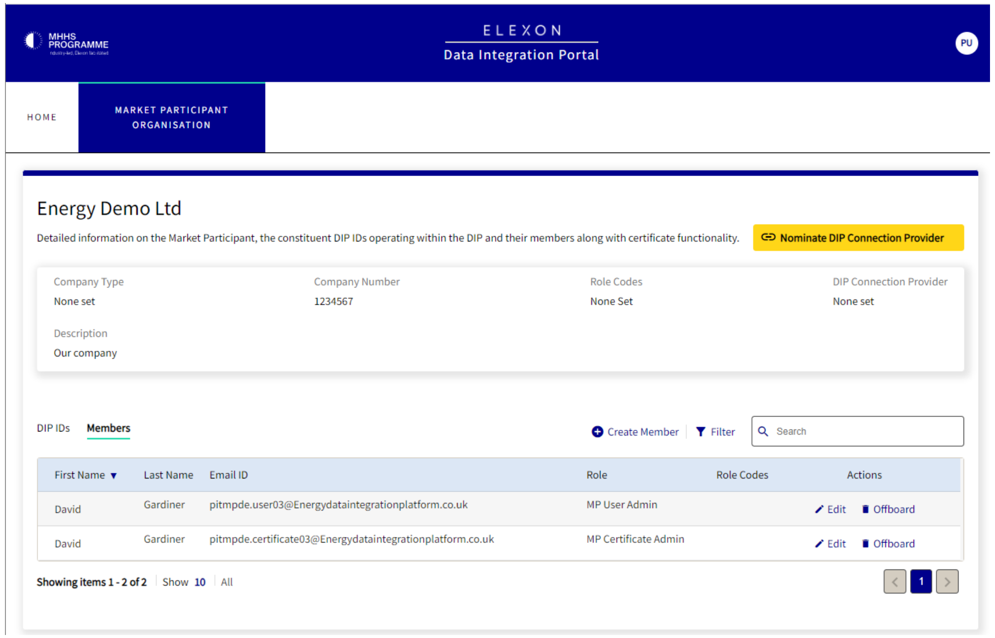
81

No numbers in your app? Make sure to upgrade to the latest version.

I can't use my Microsoft Authenticator app right now

More information

4 Review the Members list



Energy Demo Ltd

Detailed information on the Market Participant, the constituent DIP IDs operating within the DIP and their members along with certificate functionality.

Company Type	Company Number	Role Codes	DIP Connection Provider
None set	1234567	None Set	None set

Description
Our company

First Name ▼	Last Name	Email ID	Role	Role Codes	Actions
David	Gardiner	pitmpde.user03@Energydataintegrationplatform.co.uk	MP User Admin		Edit Offboard
David	Gardiner	pitmpde.certificate03@Energydataintegrationplatform.co.uk	MP Certificate Admin		Edit Offboard

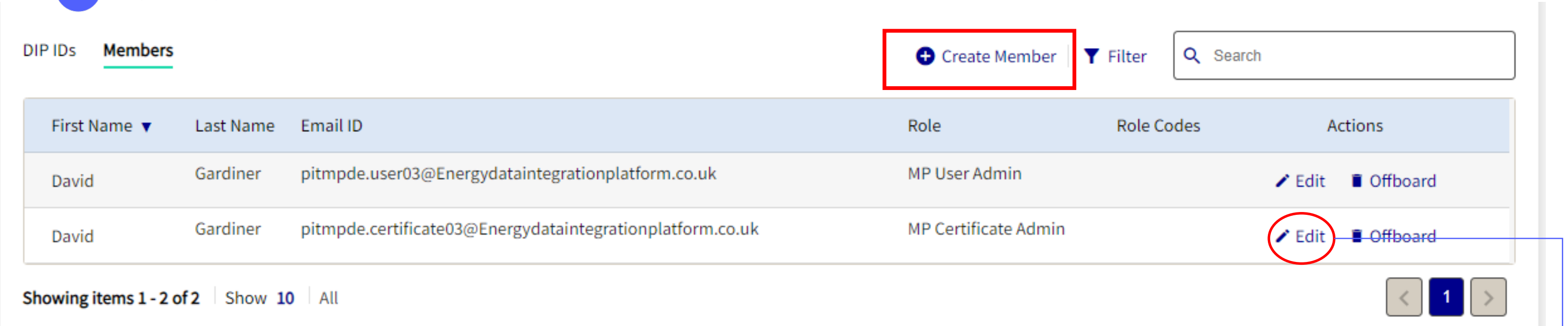
Showing items 1 - 2 of 2 | Show 10 | All

If using a DCP then the Cert Admin (TC) can be people outside your organisation

Adding the Message Admin and Additional Users

The User Admin should sign in, access the Members tab in Market Participants, and create the **Message Admin** using ‘Create Member’:

1 Click ‘Create Member’ in the Members tab



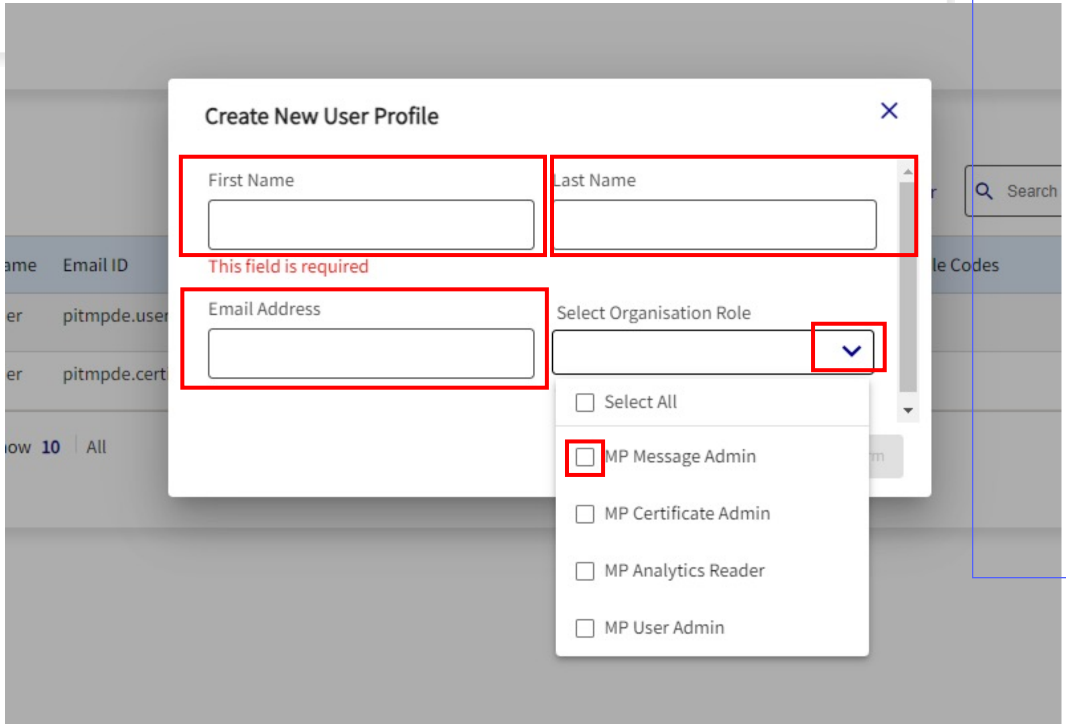
First Name ▼	Last Name	Email ID	Role	Role Codes	Actions
David	Gardiner	pitmpde.user03@Energydataintegrationplatform.co.uk	MP User Admin		Edit Offboard
David	Gardiner	pitmpde.certificate03@Energydataintegrationplatform.co.uk	MP Certificate Admin		Edit Offboard

Showing items 1 - 2 of 2 Show 10 All

2 Add First Name, LAST Name and a valid Email Address

Click drop-down to see available roles

Select ‘MP Message Admin’



Create New User Profile

First Name

Last Name

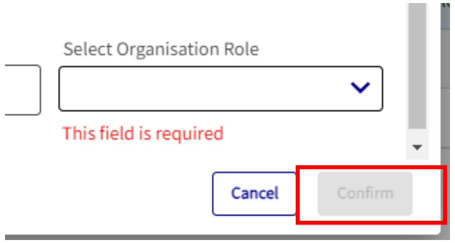
This field is required

Email Address

Select Organisation Role

- □ Select All
- □ MP Message Admin
- □ MP Certificate Admin
- □ MP Analytics Reader
- □ MP User Admin

3 Click ‘Confirm’ to send the invitation



Select Organisation Role

This field is required

4 **Recommended Action:**

It is advised that each Market Participant has at least 2 User Admin, 2 Certificate Admin and 2 Message Admin’s to ensure cover is provided during potential situations of absence.

It is also acceptable for one person to hold multiple roles.

Please ensure you have cover for all potential access needs.

To Edit a members role, click the Edit button against that members name.

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Requesting a DCP Status and Creating DCP IDs

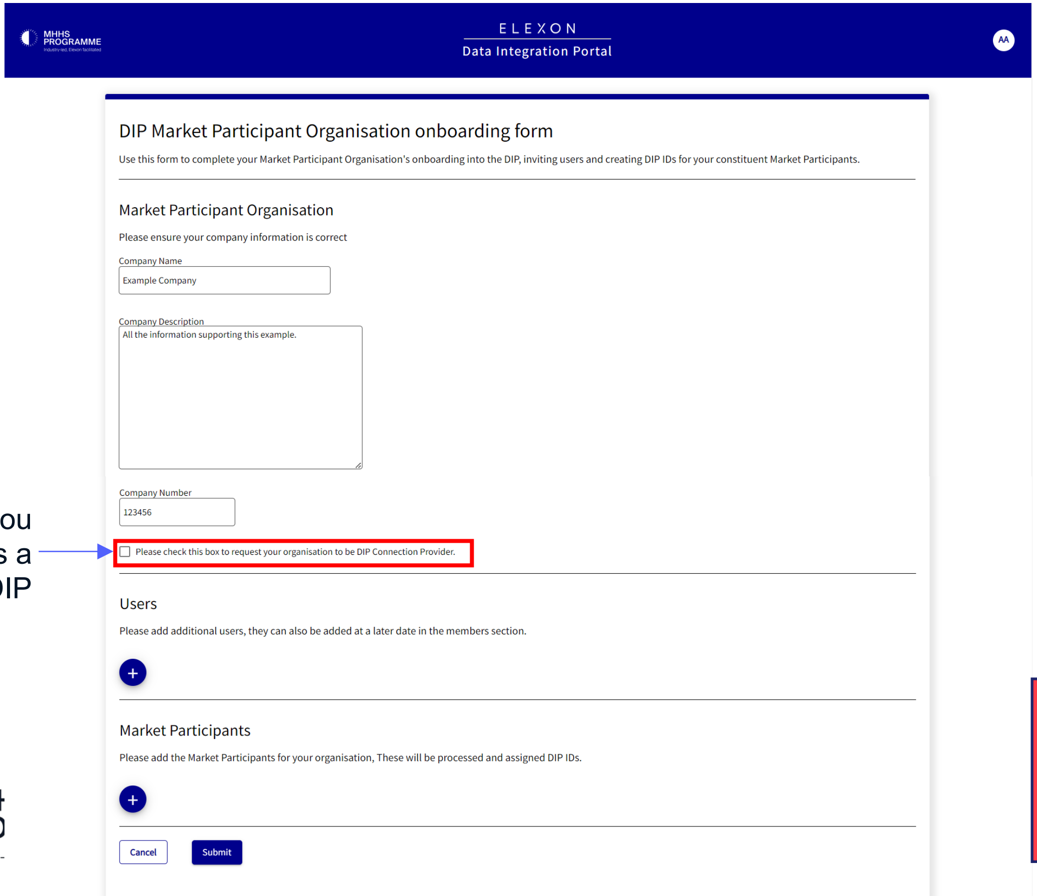
Requesting a DIP Connection Provider (DCP) Status in the DIP – **USER ADMIN**

Requesting a DCP Status

According to the programme, you are a DCP if you will be sending messages into the DIP on behalf of another organisation. Kindly note that previous programmes may have referred to DCPs as an adapter service.

The User Admin gets **2 opportunities to request a DCP status** as follows:

1. When you received your invitation to onboard via email, you would have had the option to tick the highlighted box below if you are a DCP,



DIP Market Participant Organisation onboarding form

Use this form to complete your Market Participant Organisation's onboarding into the DIP, inviting users and creating DIP IDs for your constituent Market Participants.

Market Participant Organisation

Please ensure your company information is correct

Company Name: Example Company

Company Description: All the information supporting this example.

Company Number: 123456

☐ Please check this box to request your organisation to be DIP Connection Provider.

Users

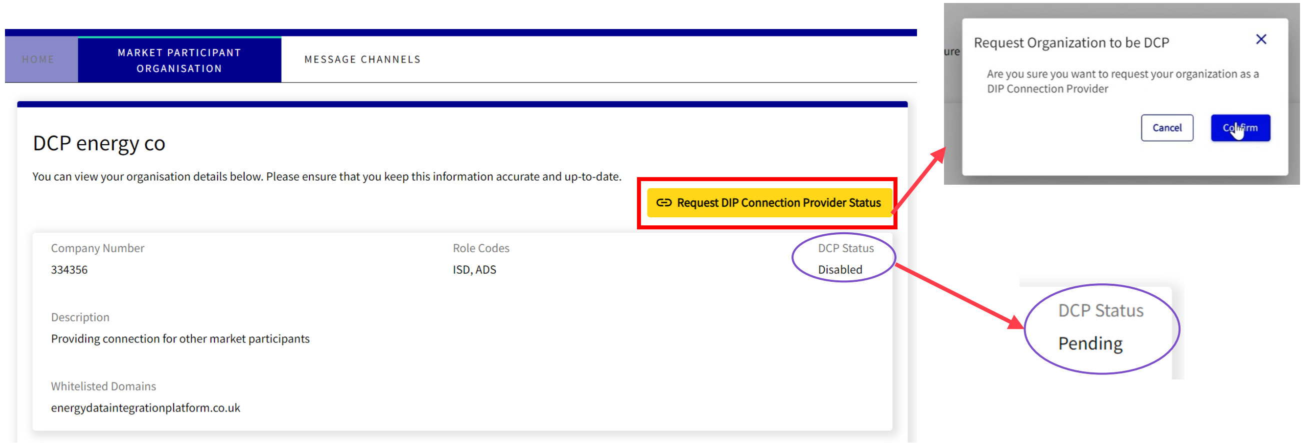
Please add additional users, they can also be added at a later date in the members section.

Market Participants

Please add the Market Participants for your organisation, These will be processed and assigned DIP IDs.

Click here if you are acting as a DCP in the DIP

2. If you do not tick that box, and you are a DCP, once you get to the home page, click on the "Market Participants" tab and you will see a big yellow button prompting you to "Request DIP Connection Provider Status". Click on that yellow button and your **DCP Status** should change from "Disabled" to "Pending"


HOME
MARKET PARTICIPANT ORGANISATION
MESSAGE CHANNELS
Request DIP Connection Provider Status
ure
Cancel
Confirm

DCP energy co

You can view your organisation details below. Please ensure that you keep this information accurate and up-to-date.

Company Number: 334356

Role Codes: ISD, ADS

DCP Status: Disabled

Description: Providing connection for other market participants

Whitelisted Domains: energydataintegrationplatform.co.uk

Request Organization to be DCP

Are you sure you want to request your organization as a DIP Connection Provider

DCP Status: Pending

3. Your request will be immediately passed on to the DIP Manager, who will then approve your request. At this point, you **DCP Status** will change to "**Active**"

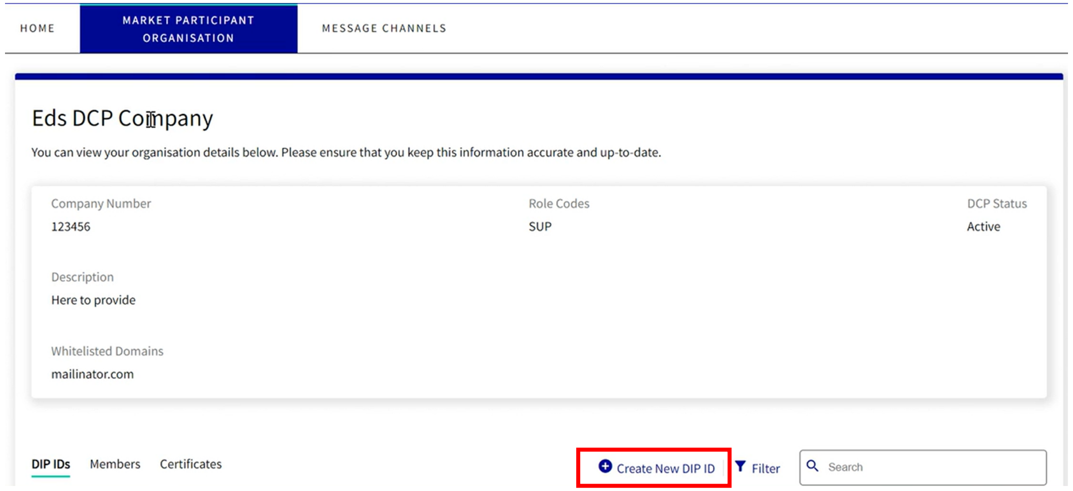
Please Note:
Every participant, regardless of whether they are a DCP or not, will see the yellow button above on their organisation detail page. Please **ignore** the yellow "Request DIP Connection Provider Status" button if you're not a DCP.

Creating your DCP ID

Every DCP is required to create DCP IDs for each role that they will be performing on behalf of another organisation. Once your DCP ID is created, pass it on to your assigning MP as they will need this to nominate you as a DCP.

Follow the steps below to create your DCP ID:

1 From the home page, click on the "Market Participants" tab and select "Create New DIP ID"



Eds DCP Company

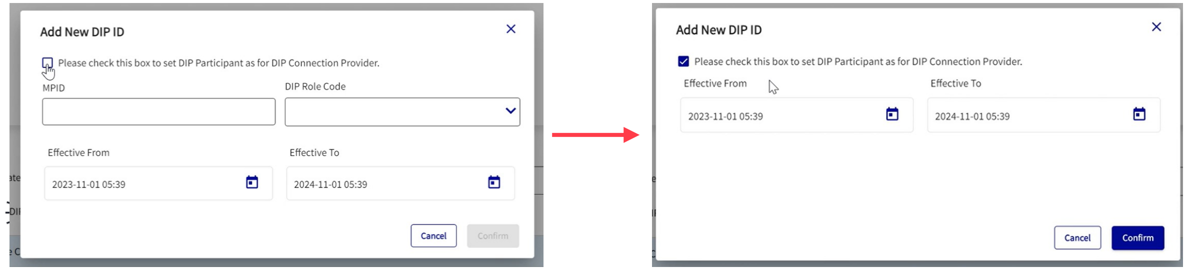
You can view your organisation details below. Please ensure that you keep this information accurate and up-to-date.

Company Number	Role Codes	DCP Status
123456	SUP	Active

Description
Here to provide

Whitelisted Domains
mailinator.com

2 You will see the following pop-up. Tick the box to indicate that the DIP ID you're generating is a DCP ID and "Confirm"



Add New DIP ID

□ Please check this box to set DIP Participant as for DIP Connection Provider.

MPID:

DIP Role Code:

Effective From: 2023-11-01 05:39

Effective To: 2024-11-01 05:39

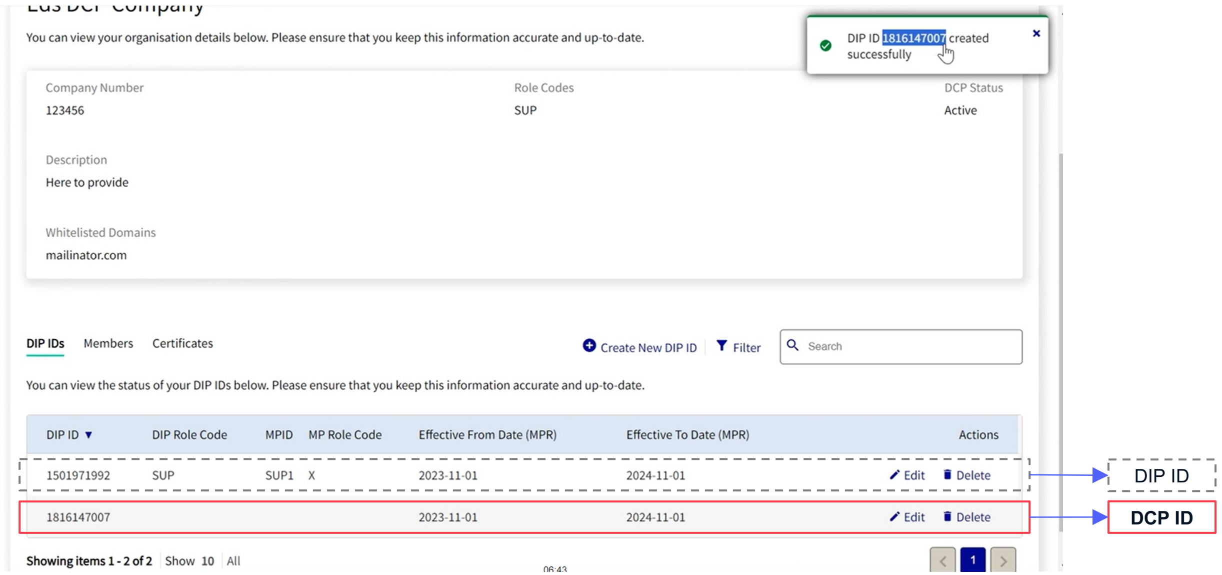
Add New DIP ID

☑ Please check this box to set DIP Participant as for DIP Connection Provider.

Effective From: 2023-11-01 05:39

Effective To: 2024-11-01 05:39

3 You will receive confirmation on the top right corner of your screen that your DIP ID has been created successfully. A **DCP ID differs from a DIP ID** in that a DCP ID has no "DIP Role Code", no "MPID" and no "MP Role Code", These are inherited from the DIP ID that nominates it.



DIP ID 1816147007 created successfully

You can view your organisation details below. Please ensure that you keep this information accurate and up-to-date.

Company Number	Role Codes	DCP Status
123456	SUP	Active

Description
Here to provide

Whitelisted Domains
mailinator.com

You can view the status of your DIP IDs below. Please ensure that you keep this information accurate and up-to-date.

DIP ID ▼	DIP Role Code	MPID	MP Role Code	Effective From Date (MPR)	Effective To Date (MPR)	Actions
1501971992	SUP	SUP1	X	2023-11-01	2024-11-01	Edit Delete
1816147007				2023-11-01	2024-11-01	Edit Delete

Showing items 1 - 2 of 2 Show 10 All

4 Communicate your DCP ID (in this case "1816147007") back to your assigning organisation, and they will now be able to nominate you as a DCP.

Please Note:
Each DCP ID can only be assigned to one role. You therefore need to create a DCP ID for each role you'll be performing for your assigning organisation.

Nominating a DCP in the DIP

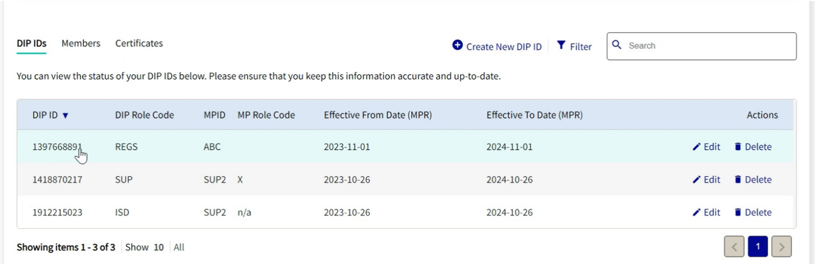
Creating a DCP Connection in the DIP – **USER ADMIN**

Nominating a DCP

As a Market Participant Organisation using a DCP, you can assign a particular role to your chosen DCP. To assign one of your company roles to a DCP, the DCP MUST already have 1) Completed their onboarding in advance 2) Requested and approved DCP Status and 3) Created and shared a DCP ID with you. This process needs to be repeated for each role you wish to use a DCP for, requiring a new DCP ID for each.

Your User Admin will ‘Sign In’ to the DIP and select the ‘Market Participant’ tab. To nominate your DCP complete the following steps.

1. Select the role to which you want to assign a DCP

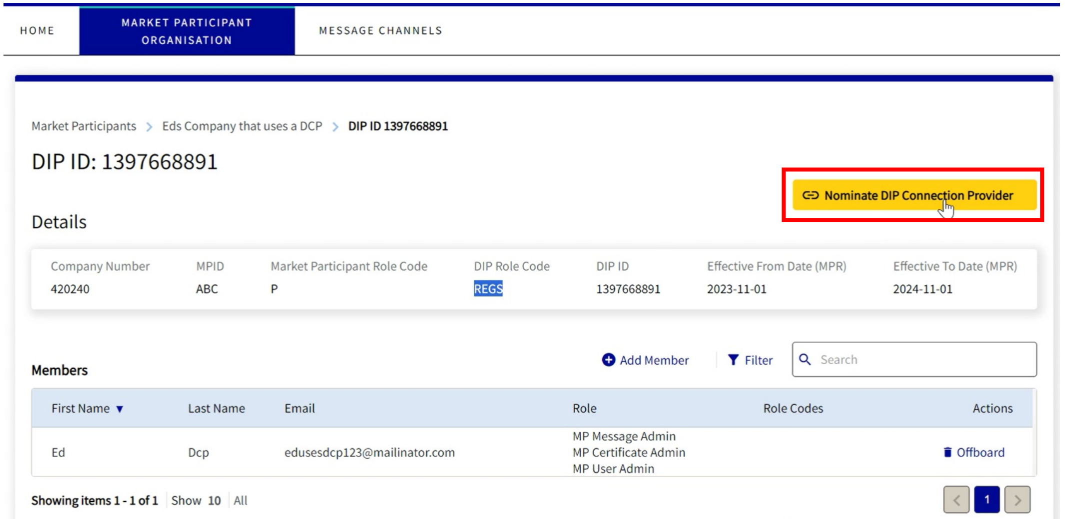


You can view the status of your DIP IDs below. Please ensure that you keep this information accurate and up-to-date.

DIP ID ▼	DIP Role Code	MPID	MP Role Code	Effective From Date (MPR)	Effective To Date (MPR)	Actions
1397668891	REGS	ABC		2023-11-01	2024-11-01	Edit Delete
1418870217	SUP	SUP2	X	2023-10-26	2024-10-26	Edit Delete
1912215023	ISD	SUP2	n/a	2023-10-26	2024-10-26	Edit Delete

Showing items 1 - 3 of 3 Show 10 All

2. Select the YELLOW BOX - ‘Nominate DIP Connection Provider



HOME
MARKET PARTICIPANT ORGANISATION
MESSAGE CHANNELS
Nominate DIP Connection Provider
Add Member
Filter
Search
Offboard

Market Participants > Eds Company that uses a DCP > DIP ID 1397668891

DIP ID: 1397668891

Details

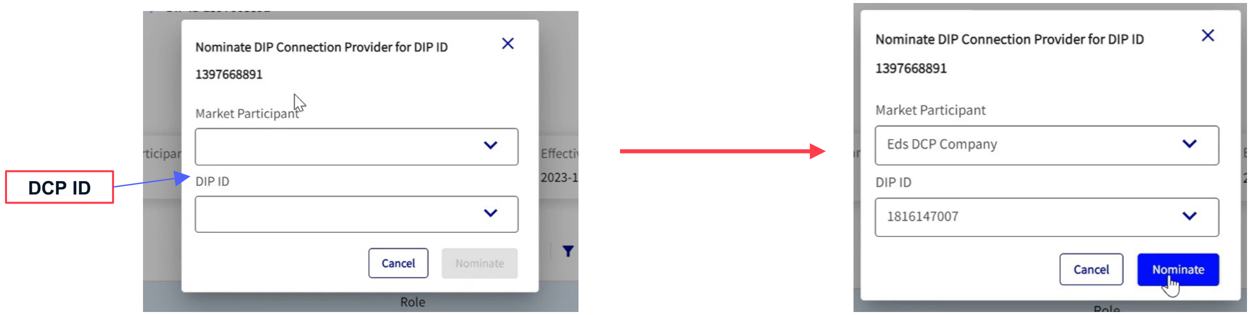
Company Number	MPID	Market Participant Role Code	DIP Role Code	DIP ID	Effective From Date (MPR)	Effective To Date (MPR)
420240	ABC	P	REGS	1397668891	2023-11-01	2024-11-01

Members

First Name ▼	Last Name	Email	Role	Role Codes	Actions
Ed	Dcp	edusesdcp123@mailinator.com	MP Message Admin MP Certificate Admin MP User Admin		Offboard

Showing items 1 - 1 of 1 Show 10 All

3. The pop-up will provide options for the DCP and their DIP ID – type their name or click the down-arrow to see a list of DCPs and corresponding DCP IDs. Select your DCP and click ‘Nominate’.



Nominate DIP Connection Provider for DIP ID
1397668891

Market Participant:

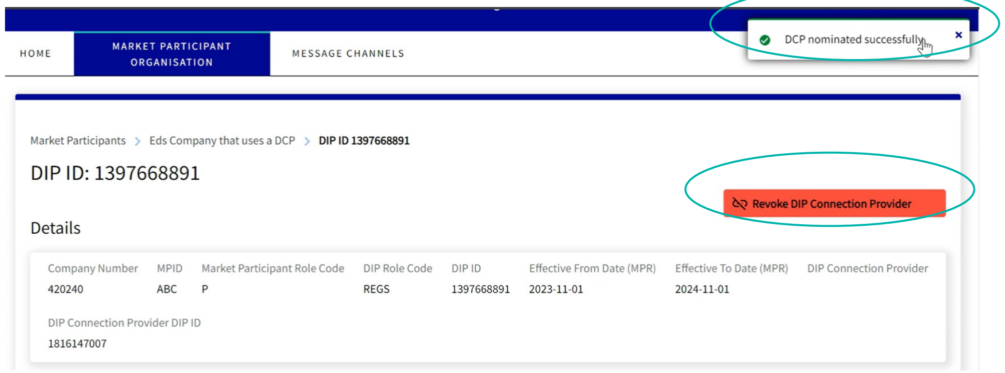
DIP ID:

Nominate DIP Connection Provider for DIP ID
1397668891

Market Participant: Eds DCP Company

DIP ID: 1816147007

4. You will see a notification pop up in the top right corner of your screen that the DCP has been nominated successfully and your Yellow Box will now be red and read “Revoke DIP Connection Provider”



HOME
MARKET PARTICIPANT ORGANISATION
MESSAGE CHANNELS
Revoke DIP Connection Provider

DCP nominated successfully

Market Participants > Eds Company that uses a DCP > DIP ID 1397668891

DIP ID: 1397668891

Details

Company Number	MPID	Market Participant Role Code	DIP Role Code	DIP ID	Effective From Date (MPR)	Effective To Date (MPR)	DIP Connection Provider
420240	ABC	P	REGS	1397668891	2023-11-01	2024-11-01	

DIP Connection Provider DIP ID
1816147007

Support & Assistance

Support and Assistance: REPEAT PAGE FOR CLARITY OF PREPARTION AND SUPPORT

It is understood that the process to onboard to the DIP has many intricate steps. We fully believe that if prepared correctly, these steps should complete successfully and allow a smooth onboarding, however, we understand that sometimes things do not go as you expect, and a helping hand is needed.

If this situation arises, please send an email to **DIP@mhhsprogramme.co.uk** with your contact details, description of the step/stage you have reached, a short description of the problem you have encountered and someone will respond as soon as possible.

Preparation Reminder

In advance of starting the onboarding please complete the following actions:

1. Have ready the assigned Certificate Admin details
2. Have your registered Company Name, the associated Company Number and a brief company description
3. Have your DNS admin prepared and ready for the DNS activity (Section 4)
4. Have your Technical Contact, with the ability to manage through the conversion of certificates, on hand to assist (Section 4 and 5)
5. Do not add additional Market Participants during onboarding: wait until onboarding completion. The User Admin can add new members or/and instigate a DIP Connection Provider (DCP) link after an ACTIVE Certificate has been uploaded

Post Onboarding

Ensure you have set up to optimise your DIP experience:

1. Read the DIP User Guides to understand the functions and features in detail
2. Ensure at least 2 each of User Admin, Certificate Admin and Message Admin are invited and joined the DIP to allow cover during holiday or absence situations
3. Remember that members can have multiple roles – use according to your needs
4. Try out the ‘links’ and supporting materials

The DIP team wish you every success with your DIP experience

FAQ & Advisories

Useful information

No	Question/Note	Response
1	What if I do not receive my DIP invitation when expected	We have noticed that the email can land in JUNK or be trapped due to unusual url domain and link. Please see Pg 9 for url required.
2	I have not received a vetting call from GlobalSign	The primary contact is made to a number GS have from a govt database. The call will be made to your registered HQ. If this fails, they will contact the number entered into the first form on the GlobalSign registration to progress vetting. If this also fails a letter will be sent by 1st class post with instructions and the DIP Team will be informed.
3	I am using OpenSSL but examples are Azure for Certs	Please see the instructions in the Addendum section for OpenSSL. There is a short but sizable video available – please contact the DIP Team.
4	I am using a MAC, what tool for txt file can be used?	We can not give direct action but users have used Notepad ++ successfully. The completion of these task is the MPs responsibility.
5	My cert upload to GlobalSign keeps failing (Pg32)	Check you have pasted your API/Cert info without extra characters (e.g. space or '-'). It is possible the CSR may need regenerated.
6	Whitelisting a DCP / 3rd Party Cert Admin domain	Please contact the DIP Manager to help whitelist any additional domains you wish to provide access to your account

Advice for OpenSSL users

Advice for OpenSSL Users

OpenSSL Commands required during onboarding

API Credential Certificate

To generate the CSR and Private Key:

```
openssl req -new -newkey rsa:4096 -nodes -keyout apicert.key -out apicert.csr -subj "/CN=<enter API credential Subject Name Here>"
```

To merge the Private Key and Certificate into a PFX:

```
openssl pkcs12 -export -out apicert.pfx -inkey apicert.key -in apicert.cer -password pass:
```

mTLS/Signing Certificate

To generate the CSR and Private Key:

```
openssl req -new -newkey rsa:4096 -nodes -keyout mtlscert.key -out mtlscert.csr -subj "/CN=<enter Subject Name here>" -addext "subjectAltName
= DNS:<enter Subject Name here>, DNS:<enter Hostname plus Domain here>“
```

To merge the Private Key and Certificate into a PFX:

```
openssl pkcs12 -export -out mtlscert.pfx -inkey mtlscert.key -in mtlscert.cer -password pass:
```

Thank you