



EUROPEAN COMMISSION

DIRECTORATE-GENERAL INFORMATICS

AS4 Connectivity Test Procedure

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Table of Contents

1. INTRODUCTION	4
2. OVERVIEW OF THIS DOCUMENT	7
3. STATIC DISCOVERY AS4 CONNECTIVITY REGISTRATION	8
Step 1: Send a Registration Request to CEF Support	8
Step 2: Registration details received from CEF Support	9
4. DYNAMIC DISCOVERY AS4 CONNECTIVITY REGISTRATION	10
4.1. DYNAMIC DISCOVERY SCENARIO 1	11
Step 1: Send a Registration Request to CEF Support	11
Step 2: Registration details received from CEF Support	12
4.2. DYNAMIC DISCOVERY SCENARIO 2	13
Step 1: Send a Registration Request to CEF Support	13
Step 2: Registration details received from CEF Support	14
Step 4 : Configure the SMP.....	14
Step 5: Register the Access Point metadata into the SMP.....	14
5. ACCESS POINT SETUP	15
5.1. General guidelines	15
5.1.1. Certificate configuration.....	15
5.2. Specific guidelines for Domibus.....	15
5.2.1. Certificate configuration.....	15
5.2.2. PMode configuration	16
6. TESTING	16
6.1. General testing guidelines	16
6.2. Specific guidelines for Testing	17
7. CONTACT INFORMATION	19

1. INTRODUCTION

CEF e-Delivery offers two different types of testing services:

- Connectivity Testing service: the goal is to test if a newly installed AS4 Access Point, conformant with the CEF eDelivery specifications, can successfully communicate with the sample AS4 Access Point hosted by the European Commission or if a newly installed SMP server, conformant with the CEF eDelivery specifications, can respond to sample requests. If successful, these tests confirm that the relevant component is in all likelihood correctly deployed and configured.

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Connectivity+testing>

- Conformance Testing service: the goal is to verify that an implementation of the CEF eDelivery Access Point and SMP specifications, a software package either commercial or Open Source, conforms to the relevant CEF eDelivery specifications.

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Conformance+testing>

This document will only cover the connectivity testing service. It provides guidance on how Companies can test if a specific installation and configuration of a CEF eDelivery conformant AS4 Access Point can effectively communicate with the Access Point implementation of the connectivity test platform.

This document covers both static and dynamic discovery testing.

The CEF eDelivery team is facilitating this connectivity testing by deploying an AS4 conformant Access Point implementation using Domibus in a cloud environment and offering services and support to external parties.

The test involves the Participant's Access Point sending (and receiving from) messages to the European Commission AS4 Connectivity Test Access Point.

The **Static Discovery** procedure implies that the Participant Access Point is configured with the static address of the European Commission Access Point and vice versa. Figure 1 shows the process of sending and receiving the message.

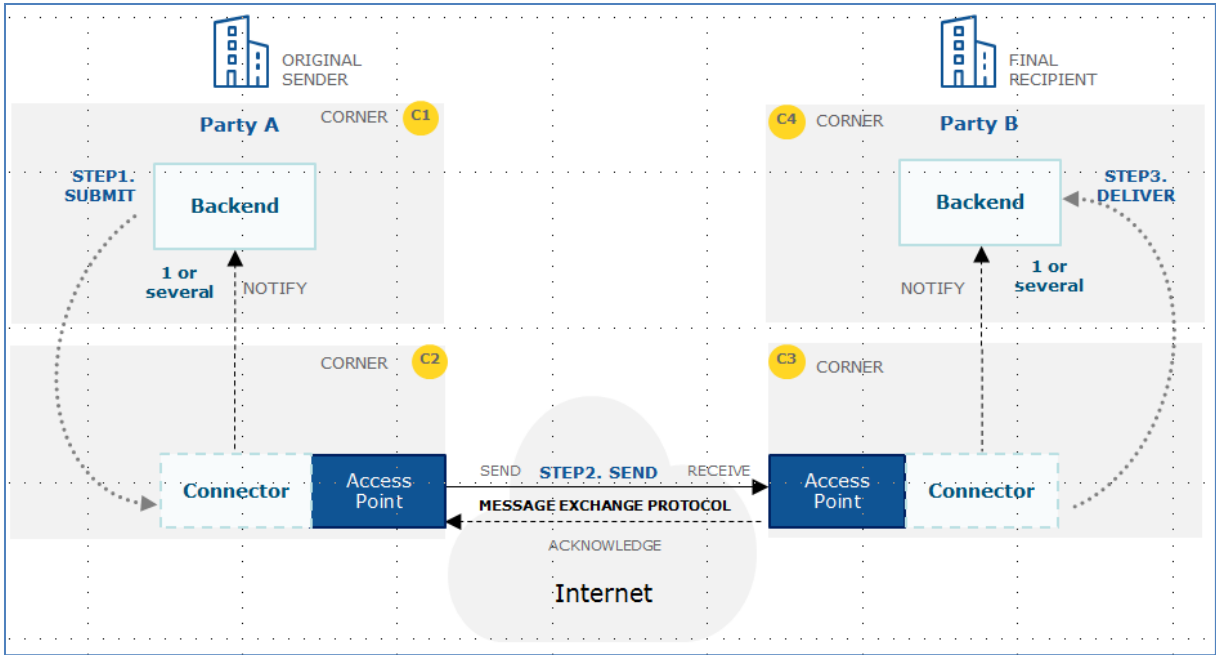


Figure 1. Static Discovery

The **Dynamic Discovery** procedure implies that each Participant Access Point must dynamically, during the message sending phase, obtain the Receiver Access Point address through a DNS and SMP lookup. The procedure also includes the use and configuration of the SMPs and SML (SMK) used. Figure 2 shows the process of sending and receiving the message using Dynamic Discovery via DNS, SML and the SMP.

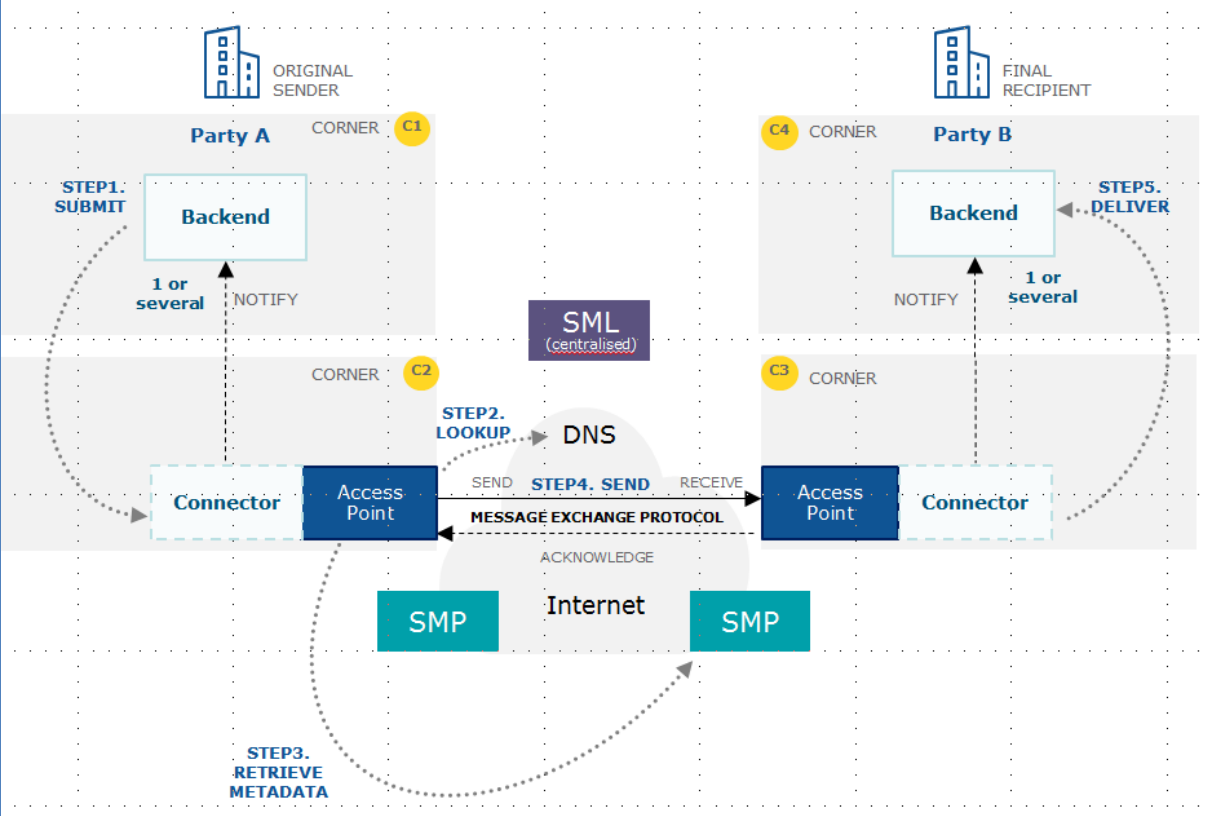


Figure 2. Dynamic Discovery

2. OVERVIEW OF THIS DOCUMENT

This document outlines the procedure and the detailed steps to be followed by connecting companies to:

- Register for the connectivity tests.
- Set up a CEF eDelivery conformant Access Point for the connectivity tests.
- Test connectivity by sending and receiving a sample message to/from the connectivity test platform.
- Contact the CEF eDelivery Support team in case of questions or issues during the connectivity test operation.

The document will provide general guidelines that can be used by companies or their IT providers to set up their components and send/receive the sample messages.

In addition to that, the document will also provide Domibus specific guidelines for those companies that are re-using the same CEF eDelivery Access Point implementation as the connectivity test platform. Domibus can be downloaded via

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Domibus>.

It is important to note that the information in this document will be used for connectivity testing only. Although the aim of the connectivity test is to provide a fair level of assurance of connectivity, it is important to note that this specific setup can be different from a specific setup used in the production environment of a particular project. Examples of potential differences are as following:

- The Access Point for the connectivity test environment is not hosted in the same data centre as the production environment and where the SML is hosted.
- The Access Point version that can be used in production could use different technology stacks (e.g. Weblogic/Tomcat/Wildfly with Oracle/MySQL DBMS) from the version deployed in the connectivity test environment (Tomcat/Mysql).
- The sample request and response are not based on the same data model as the particular project.
- The PMode configurations are aligned with the eDelivery AS4 profile, but could be updated in the production environment (e.g. to take into account the correct service and action elements for a particular project).

The AS4 connectivity testing service offers the use of either **Static Discovery** or **Dynamic Discovery**. The participant should choose which one they wish to use depending on their needs.

The platform hosted by the European Commission uses a Domibus Access Point. Connecting companies can choose to connect via any other Access Point as long as it is conformant to the eDelivery AS4 profile. In the rest of this document, the term CEF eDelivery Access Point refers to a conformant Access Point.

3. STATIC DISCOVERY AS4 CONNECTIVITY REGISTRATION

The **Static Discovery** procedure implies that the Participant Access Point is configured with the static address of the European Commission Access Point and vice versa.

Provide the information of your company's AS4 Access Point to the CEF eDelivery Support team.

Step 1: Send a Registration Request to CEF Support

To initiate the process of connectivity testing between your Access Point and the test Access Point, send the information in the below format to the CEF eDelivery Support team.

Static Discovery form:

Email To: CEF-EDELIVERY-SUPPORT@ec.europa.eu

Subject: Static Discovery AS4 Connectivity test

Body:

Hello,

I am person [X] from company [Y], project [Z].

I am contacting you in the context of the AS4 connectivity.

Please find my requested details below and provide me with the certificates and configuration details.

Parameter	Value
Company Name	
AS4 Access Point Service URL	
The AS4 Gateway implementation (Holodeck, domibus, flame...)	
Are you performing the connectivity tests in the context of an INEA grant (Yes/No)? If Yes, please specify the CEF action number for the INEA grant (e.g.: 2015-NL-IA-XXXX).	
Business Domain (e.g.: EUCEG/ODR) (optional)	
Your technical team contact details, during connectivity tests.	Email: Telephone:

Best Regards, X

Step 2: Registration details received from CEF Support

As a response, you will receive an email with:

1. The **Certificate** for the Access Point (Truststore and Keystore).
2. The Endpoint URL of the test AS4 Access Point.
3. The **PMode settings**: This is the Domibus specific PMode XML file if Domibus is used. If another Access Point Software is used, this is a generic description of the PMode settings.
4. For Domibus only: A **SoapUI** Project to use for sending and receiving messages using the default WS plugin. It includes a "sendMessage" request for Static Discovery.

4. DYNAMIC DISCOVERY AS4 CONNECTIVITY REGISTRATION

The **Dynamic Discovery** procedure implies that each Participant Access Point must dynamically, during the message sending phase, obtain the Receiver Access Point address through a DNS and SMP lookup.

Dynamic Discovery involves the use of an SMP and the SML (called SMK in the testing environment) and is supporting the OASIS standards. . For more information, please refer to the SMP and SML documentation ¹.

For the purpose of the AS4 Connectivity Test Procedure, two test scenarios are available with Dynamic Discovery:

1- **Dynamic Discovery scenario 1:**

The user deploys an Access Point and wants to use the **SMP connectivity test server** deployed by **CEF Support**.

2- **Dynamic Discovery scenario 2:**

The user deploys an Access Point and an **SMP**, which is not yet registered in the **EC SML Acceptance** (or **SMK**).

¹ Information on dynamic discovery, SMP and SML can be found on:
<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/SML+specifications> and
<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/SMP+specifications>.

4.1. DYNAMIC DISCOVERY SCENARIO 1

Step 1: Send a Registration Request to CEF Support

To initiate the process of connectivity testing for this scenario, send the information in the below format to the CEF eDelivery Support team.

Dynamic Discovery Scenario 1 form:

Email To: CEF-EDELIVERY-SUPPORT@ec.europa.eu

Subject: Dynamic Discovery Scenario 1 AS4 Connectivity test

Body:

Hello,

I am person [X] from company [Y], project [Z].

I am contacting you in the context of the Dynamic Discovery Scenario 1 AS4 connectivity.

Please find my requested details below and provide me with the certificates and configuration details.

-

Parameter	Value
Company Name (CN)	
AS4 Access Point Service URL	
The AS4 Gateway implementation (Holodeck, domibus, flame...)	
Are you performing the connectivity tests in the context of an INEA grant (Yes/No)? If Yes, please specify the CEF action number for the INEA grant (e.g.: 2015-NL-IA-XXXX).	
Business Domain (e.g.: EUCEG/ODR) (optional)	
Your technical team contact details, during connectivity tests.	Email: Telephone:

Best Regards, X

Step 2: Registration details received from CEF Support

As a response, you will receive an email with:

1. The **Certificate** for the Access Point (Truststore and Keystore).
2. The **Participant ID, Participant Scheme, Document ID** and the **Document Scheme**.
3. The **PMode settings**: This is the Domibus specific PMode XML file if Domibus is used. If another Access Point Software is used, this is a generic description of the PMode settings.
4. For Domibus only: A **SoapUI** Project to use for sending and receiving messages using the default WS plugin. It includes a "sendMessage" request for Dynamic Discovery.
5. A User Guide with the detailed description of all the artefacts and information on set up of Access point.

4.2. DYNAMIC DISCOVERY SCENARIO 2

Prerequisites:

The user must have already deployed an SMP.

Step 1: Send a Registration Request to CEF Support

To initiate the process of connectivity testing for this scenario, send the information in the below format to the CEF eDelivery Support team.

Dynamic Discovery Scenario 2 form:

Email To: CEF-EDELIVERY-SUPPORT@ec.europa.eu
Subject: Dynamic Discovery Scenario 2 AS4 Connectivity test
Body:

Hello,

I am person [X] from company [Y], project [Z].

I am contacting you in the context of the Dynamic Discovery Scenario 2 AS4 connectivity.

Please find my requested details below and provide me with the certificates and configuration details.

Parameter	Value
Company Name	
AS4 Access Point Service URL	
SMP Endpoint URL	
The AS4 Gateway implementation (Holodeck, domibus, flame...)	
Are you performing the connectivity tests in the context of an INEA grant (Yes/No)? If Yes, please specify the CEF action number for the INEA grant (e.g.: 2015-NL-IA-XXXX).	
Business Domain (e.g.: EUCEG/ODR) (optional)	
Your technical team contact details, during connectivity tests.	Email: Telephone:

Best Regards, X

Step 2: Registration details received from CEF Support

As a response, CEF Support will **register your SMP in the SMK** under the connectivity test Domain. You will then receive an email with:

1. The **Certificate** for the Access Point (Truststore and Keystore)
2. The **Participant ID, Participant Scheme, Document ID, Document Scheme** and the **SMP ID**
3. The **PMode settings**: This is the Domibus specific PMode XML file if Domibus is used. If another Access Point Software is used, this is a generic description of the PMode settings.
4. For Domibus only: A **SoapUI** Project to use for sending and receiving messages. It includes a "**sendMessage**" request for Dynamic Discovery.
5. The **Certificates** for your **SMP**.
6. **A User Guide**- with the detailed description of all the artefacts and information on set up of Access point and SMP.

Remark:

Step 4 and Step 5 are specific to CEF SMP. For other conformant implementations, please refer to the corresponding documentation.

Step 4 : Configure the SMP

Please refer to the [SMP Administration Guide](#) in section 5 "SMP Configuration".

- **SMP ID** Configuration: Use the SMP ID provided in the response email from CEF Support.
- **SML URL Configuration**: `regServiceRegistrationHook.regLocatorUrl=`
`https://acc.edelivery.tech.ec.europa.eu/edelivery-sml/manageparticipantidentifier.`
- **SML Acceptance Authentication**: Use the SMP Kkeystore provided by CEF Support.

Step 5: Register the Access Point metadata into the SMP

Please refer to the [SMP Administration Guide](#) in section 8 to create the required service group and register you Access Point Metadata in your SMP.

5. ACCESS POINT SETUP

5.1. General guidelines

Configure your AS4 Access Point using the details received in the connectivity registration response email.

Remark:

If Dynamic Discovery is used, make sure that the Access Point is configured for Dynamic Discovery operations.

5.1.1. Certificate configuration

[YourCompanyName].zip file contains your private key, certificate, keystore and truststore.

The password of the keystore and truststore is **test123**.

Update the certificate stores of your AS4 Access Point implementation with the relevant certificates.

Remark:

*Replace the password attribute by the password received by email and also replace the default alias by the one received by email according to the syntax: "[Partyname]"
e.g : **connectivityta002gw**.*

5.2. Specific guidelines for Domibus

The guidelines described here are specific to Domibus and are not be valid when using other AS4 conformant Access point software.

Remark:

If Dynamic Discovery is used:

- Refer to Section 14 of the [Domibus Administration Guide](#) for specific configuration steps.
- Set **domibus.smlzone=connectivitytest.acc.edelivery.tech.ec.europa.eu** in the **domibus.properties** file.

5.2.1. Certificate configuration

[YourPartyName].zip file contains your private key, certificate, keystore and truststore.

The passwords for the keystore and truststore are normally set to **test123** for connectivity test purposes, unless specifically indicated otherwise in the email sent by CEF Support.

Put the keystore and truststore file in the location `.../domibus/conf/Domibus/keystores`.

Modify the **domibus-properties** file at location: `.../domibus/conf/domibus` as described in the [Domibus Administration Guide](#).

Replace the relevant passwords by the one specified by default or received by email.

Replace the key by the [Partyname]: e.g. **connectivityta002gw**

5.2.2. PMode configuration

Upload the PMode XML file to the Admin Console if you are running a Domibus AS4 instance.

6. TESTING

The goal of the AS4 connectivity testing is to verify whether Companies that want to connect via a specific installation and configuration of a CEF conformant eDelivery Access Point can effectively communicate with the Access Point implementation of the connectivity test platform.

More specifically, this test scenario involves firstly the sending of a sample message from your AS4 Access Point of the connectivity test platform and secondly the receiving of a sample message from the AS4 Access Point of the connectivity test platform.

6.1. General testing guidelines

- Send the following XML file from your AS4 Access Point to the AS4 Access Point of the platform.

```
<?xml version="1.0" encoding="UTF-8"?>
<Request>
eDelivery AS4 Connectivity test. Sending Message
</Request>
```

- Verify if your AS4 Access Point has correctly sent the message.
- Contact the CEF eDelivery Support team by email indicating that the request message has been sent.
- The CEF eDelivery Support team will check if the request has been correctly received and will verify its content.
- The CEF eDelivery Support team will inform you about the status of the request and if positive, will send back the following XML file from the AS4 Access Point of the platform to your AS4 Access Point.

```
<?xml version="1.0" encoding="UTF-8"?>
<Response>
eDelivery AS4 Connectivity test conducted with success</ Response >
```

- Check your AS4 Access Point if the response message has been correctly received and verify its content.
- Inform the CEF eDelivery Support team by email about the status of the response.
- If both the request and response message have been sent/received correctly, the connectivity test has been completed successfully.

6.2. Specific guidelines for Testing

If the default Domibus backend integration plugin is deployed in your AS4 Access Point installation, then the following procedure can be used. When using other AS4 conformant Access points, the procedure should be adapted accordingly.

- Import the SoapUI project that was provided in the connectivity registration response email.
- Expand **SendMessage** operation (under BackendService_1_1_SoapBinding). Edit the "from" PartyID according to your PMode data (it should be your PartyID provided in the mail).
- Submit the request (GREEN Button).
- Make a note of message id in the SoapUI response window (for example in our test case here **f7b96438-Odd9-4296-aeba-0da3be739d7@_@domibus.eu**).
- Your AS4 Access Point will now try to send the request to the AS4 Access point of the connectivity test platform.
- In the Admin Console of Domibus, check the most recent message under **Messages**.
- In our test case, the message with ID **f3d2edd1-911b-4e5f-847a-b7466f693366@domibus.eu** has **Message Status ACKNOWLEDGED**. This status means that your AS4 Access Point has correctly sent the message.

Message ID	Conversation ID	From Party ID	To Party ID	Message Status	Notification Status	AP Role	Message Type	Dated	Received	Send Attempts Max	Send Attempts	Fail For
f7b96438-0d9-4296-aeba-0da3be739d7@_@domibus.eu	38d887a-13d2-4a65-8a47-4686c5d1a1@domibus.eu	domibus-blue	domibus-end	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:30GMT+2	2017-04-08 18:22:30GMT+2	4	0	user:status
039d67b-74da-4d14-a11a-3759401412@domibus.eu	38d1121-8f8b-42aa-847a-9a079a205a@domibus.eu	domibus-blue	domibus-end	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:30GMT+2	2017-04-08 18:22:30GMT+2	4	0	user:status
a058a5c-750f-4d18-977b-761a4d6240@domibus.eu	854862a-4c4f-4d8c-9125-9a2a68f16469@domibus.eu	domibus-blue	domibus-end	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:30GMT+2	2017-04-08 18:22:30GMT+2	4	0	user:status
a607a7b-088c-485-8548-09a2da1197@domibus.eu	E38564f-029a-4d50-a3a1-7c3d8a1a0f2@domibus.eu	domibus-blue	domibus-end	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:30GMT+2	2017-04-08 18:22:30GMT+2	4	0	user:status
a92a8ba-2066-4a16-aaee-7a77ac04122@domibus.eu	5a84901-3400-462-9974-4a6a887782d@domibus.eu	domibus-blue	domibus-end	SEND_FAILURE	NOT_REQUIRED	SENDING	USER_MESSAGE	2017-03-21 15:55:20GMT+1	2017-03-21 15:55:20GMT+1	4	4	user:status
f16d2a9-778c-4c7f-8a7b-102c3a6a00@domibus.eu	7874965-636c-41aa-8a03-990524617a8@domibus.eu	domibus-blue	domibus-end	RECEIVED	NOT_REQUIRED	RECEIVING	USER_MESSAGE	2017-06-13 09:30:00GMT+2	2017-06-13 09:30:00GMT+2	0	0	user:status
44078d1-7c73-499b-8a2c3a601307@domibus.eu	0718f4f-523a-478b-a36a-4a848a8a473@domibus.eu	domibus-blue	domibus-end	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:30GMT+2	2017-04-08 18:22:30GMT+2	4	0	user:status
8a6d863-0327-4c16-8a7b-30a516b4d71@domibus.eu	9a18874-7367-4114-8285-a355a2c7729@domibus.eu	domibus-blue	domibus-end	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:18:09GMT+2	2017-04-08 18:18:09GMT+2	4	0	user:status
1a8d77b-4d11-4196-8d14-3a8a1a0609@domibus.eu	38a4633-4a7b-467b-4a15169-78d77c2a0877@domibus.eu	domibus-blue	domibus-end	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-04-08 18:22:30GMT+2	2017-04-08 18:22:30GMT+2	4	0	user:status
8a6d863-0327-4c16-8a7b-30a516b4d71@domibus.eu	a10380c-0a2b-4a4f-a09c-19961118573@domibus.eu	domibus-blue	domibus-end	ACKNOWLEDGED	NOTIFIED	SENDING	USER_MESSAGE	2017-03-22 09:36:30GMT+1	2017-03-22 09:47:46GMT+1	4	3	user:status

- Contact the CEF eDelivery Support team by email indicating that the request message has been sent.
- The CEF eDelivery Support team will check if the request has been correctly received and will verify its content.
- The CEF eDelivery Support team inform you about the status of the request and if positive, will send back the following XML file from the AS4 Access Point of the platform to your AS4 Access Point.

```
<?xml version="1.0" encoding="UTF-8"?>
<Response>
eDelivery AS4 Connectivity test conducted with success </ Response >
```

- Check your AS4 Access Point if the response message has been correctly received and verify its content.
- Inform the CEF eDelivery Support team by email about the status of the response.
- If both the request and response messages have been sent/received correctly, the connectivity test has been completed successfully.

7. CONTACT INFORMATION

CEF Support Team

By email: CEF-EDELIVERY-SUPPORT@ec.europa.eu

Support Service: 8am to 6pm (Normal EC working Days)