



EUROPEAN COMMISSION

DIGIT  
Connecting Europe Facility

# **CEF eDelivery Conformance Testing Service**

Version 2.07

## **Service Offering Description**

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V1.04	27/04/2016	CEF PAO	Updated figures and processes
V1.05	12/05/2016	CEF PAO	Implemented comments from e-SENS community
V1.06	20/05/2016	CEF PAO	Added terms and conditions
V2.01	25/05/2016	CEF PAO	Reviewed Terms and Conditions
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V2.03	30/05/2016	CEF PAO	Updated to the latest version of the template
V2.04	02/06/2016	CEF PAO	Update of the purpose and benefits
V2.05	16/06/2016	CEF PAO	Condition on the delivery of services
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V2.07	30/01/2018	CEF Support	Added difference between connectivity and conformance testing.

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## **APPROACH AND PURPOSE OF THE DOCUMENT**

The present document is the Service Offering Description (SOD) of the CEF eDelivery Conformance Testing service. Key content includes an explanation of the roles and responsibilities and the process description of the CEF eDelivery Conformance Testing service.

This document is intended for software providers implementing the specifications of CEF eDelivery and service providers reusing the sample software of CEF eDelivery.

## **Glossary**

The key terms used in this Service Offering Description are defined in the CEF Definitions section on the CEF Digital Single Web Portal:

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/CEF+Definitions>

The key acronyms used in this Service Offering Description are defined in the CEF Glossary on the CEF Digital Single Web Portal:

<https://ec.europa.eu/cefdigital/wiki/pages/viewpage.action?spaceKey=CEFDIGITAL&title=CEF+Glossary>

# 1. INTRODUCTION

This document describes the Conformance Testing service provided by CEF eDelivery. It introduces the purpose of the service, its users, its scope, its benefits, the related role and responsibilities and the overall process.

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

- Conformance Testing service:

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

The goal of the CEF eDelivery Conformance Testing service 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.

- Connectivity Testing service

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

The goal of the CEF eDelivery Connectivity Testing service 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.

This document only describes the Conformance Testing service.

## 1.1. Purpose of the service

The goal of the CEF eDelivery Conformance Testing service is to verify that an implementation of the CEF eDelivery Access Point specifications, a software package either commercial or Open Source, conforms to the specifications of the CEF eDelivery Access Point, i.e. e-SENS AS4 profile and SMP profile.

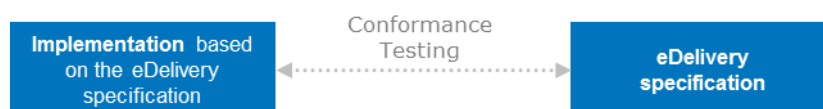


Figure 1 - CEF eDelivery Conformance Testing

CEF eDelivery provides ready to use test cases, a testing platform, and supports the users of the CEF eDelivery Conformance Testing service during the entire testing process.

The overall approach to Conformance Testing is presented in the figure below:

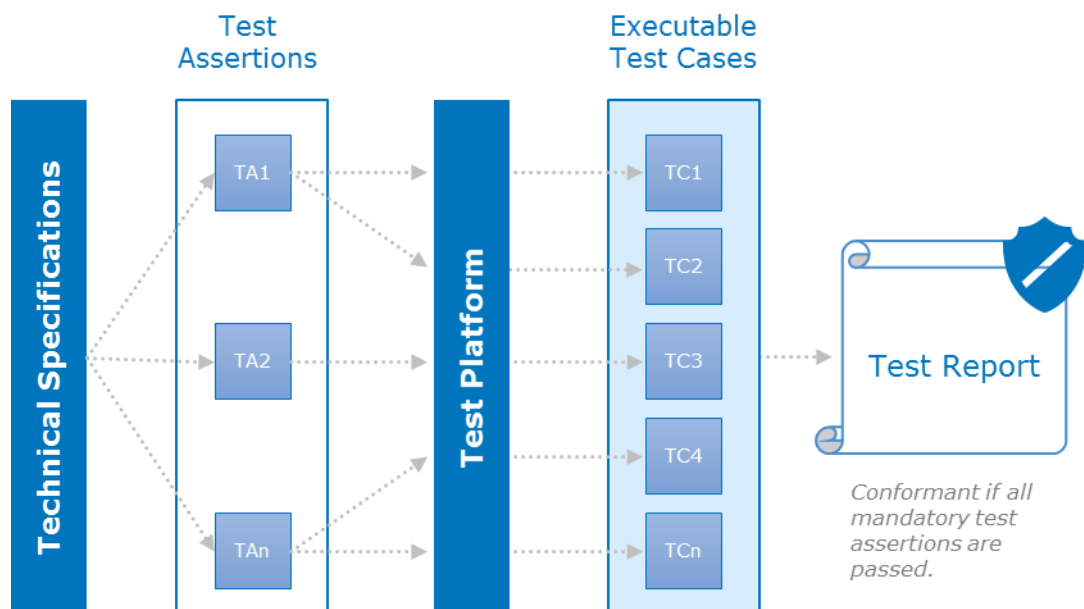


Figure 2 - Conformance Testing Approach

The technical specifications are translated in test assertions (a measurable statement for evaluating the conformance of an implementation). These test assertions are the main unit for testing and reporting the conformance of an implementation. An implementation can only pass the Conformance Testing process in case all mandatory test assertions have successfully been completed.

Based on the test assertions a set of test cases are derived which are implemented on the test platform in the form of executable test scripts. The outcome of the test execution is documented in the test report. In case the test report shows that all mandatory test assertions have been passed, the software or implementation becomes conformant.

The CEF eDelivery Conformance Testing service provides ready to use test assertions, test cases and a test platform. The Conformance Testing service also provides support during the set-up of the connection with the test platform and the actual test execution. A list of key terminology related to Conformance Testing is defined in the table below.

Terminology	Definition
<b>Test assertion document</b>	The test assertion document contains a list of testable and measurable statements for evaluating the conformance of an implementation to the specifications. It is derived directly from the specifications and is the starting point for implementing test cases. Moreover, software and service providers can use the test assertions to perform a first conceptual assessment if their implementation conforms to the specifications.
<b>Test cases</b>	Executable test cases are derived from the test assertion document and are implemented on the test platform. Typically they are implemented in a programming or scripting language and can be automated to produce reliable and consistent results.
<b>Test suite</b>	A set of test cases grouped into a logically coherent set.

<b>Test Platform</b>	<p>A tool that facilitates the creation, maintenance and execution of tests. It's main features/components are:</p> <ul style="list-style-type: none"> <li>• <b>Test repository:</b> typically holds the test assertions and test cases. Both can be edited by the test managers and viewed by the users of the platform.</li> <li>• <b>Wrapping support:</b> connecting the system under test to the test bed platform either directly or by means of an application programming interface (API).</li> <li>• <b>Core testing:</b> execution of the test cases, either manually by the testers and/or users or automatically through test scripts. All traceable and observable behaviour from the implementation under test is captured in the test log during the test process for further analysis.</li> <li>• <b>Content validation:</b> validation of the outputs (e.g. documents) produced by the implementation under test against the requirements specified by the specifications.</li> <li>• <b>Test report generation:</b> documenting the results of verifying the behaviour and outputs of the implementation under test into a structured test report.</li> </ul>
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**Table 1 - CEF eDelivery Conformance Testing service Key Terminology**

## 1.2. Users

The CEF eDelivery Conformance Testing service is intended for the following type of users:

- **Software providers (Build)** - to confirm that their software product is conform to the CEF eDelivery specifications.
- **Service Providers (Re-use)** - to confirm that their implementation of the CEF eDelivery sample software or one of its stand-alone services is conform to the CEF eDelivery specifications.

## 1.3. Scope

The following specifications are tested within the scope of this service:

Specifications	Description	Link	Test Assertion Document	Test Platform
<b>e-SENS Profile</b>	<b>AS4</b> This standard is designed to support solid and secure document exchange using web services. The AS4 profile of CEF eDelivery is based on the e-SENS profile of the AS4 technical specifications.	<a href="https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Access+Point+specifications">https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Access+Point+specifications</a>	<a href="https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Conformance+testing">https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Conformance+testing</a>	Minder
<b>e-SENS Profile</b>	<b>SMP</b> The SMP (Service Metadata Publisher) contains the exact location and the capabilities of participants within a document exchange network. The specifications were originally developed by OpenPEPPOL and generalized and standardized by OASIS. The e-SENS SMP profile is building upon the OASIS specifications.	<a href="https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Service+Metadata+Specifications">https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Service+Metadata+Specifications</a>	<a href="https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Conformance+testing">https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Conformance+testing</a>	Minder

Table 2 - CEF eDelivery Conformance Testing service Specifications and related Test Assertions



Minder is the test platform used for e-SENS AS4 profile and SMP Conformance Testing. Minder is a generic online programmable flow control engine that provides capabilities for interconnecting different systems in one node and enables to create-group-edit-execute test cases and inspect and publish reports and logs about the results.

Minder was developed as an open source project in e-SENS and is now reused by the CEF program. More information on Minder can be found via the following link: <http://wiki.ds.unipi.gr/display/ESENS/SBB+-+Minder+-+0.6.0>

## **1.4. Benefits**

The CEF eDelivery Conformance Testing service has been designed to generate a list of benefits to the users of the service:

- Confirm and assure your users/customers that your software package or implementation of the CEF eDelivery Access Point is conform the CEF eDelivery specifications
- Testing supported by professional staff of the European Commission
- Quick testing cycle with reduced cost and time
- Testing anywhere at anytime
- Tests are fully domain-neutral
- Ready to use test cases and test platform with a common and standardised plugin

## 2. ROLES AND RESPONSIBILITIES

This section describes the main roles in the CEF eDelivery Conformance Testing service and their responsibilities.

The following table summarises the split of roles and responsibilities between the different actors in the CEF eDelivery Conformance Testing process in the form of a RACI matrix where:

- **Responsible (R):** indicates the entities that perform the process-step. Every process-step has at least one responsible entity. Responsibilities can also be shared.
- **Accountable (A):** indicates the entity that is ultimately accountable for the process-step. Every process-step has only one accountable entity.
- **Consulted (C):** indicates the entities that give feedback or are consulted during the process-step. This is a two-way process. Not every process-step has an entity that is being consulted.
- **Informed (I):** indicates the entities that needs to be informed on the results of the process-step. This is a one-way process. Not every process-step has an entity that is being informed.

The process is described in detail in Section 3.

Process/Service	Responsible Entity <sup>1</sup>			
	Software / Service Provider	CEF Support Team	CEF eDelivery Testing Team	CEF Stakeholder Management Office (SMO)
Step 1: Registration	R	A/R	R	
Step 2: Preparation	A/R	I	C	
Step 3: Execution	A/R	I	R/C	
Step 4: Closing	I	A/R	I	R

Table 3 - CEF eDelivery Conformance Testing service Roles and Responsibilities

<sup>1</sup> RACI: R = Responsible; A = Accountable; C = Consulted, I = Informed.

## 2.1. Software / Service Provider

**Role:** user (of the CEF eDelivery Conformance Testing service)

**Responsibilities:**

- Request the service and provide the necessary information for registration.
- Integrate the software product or implementation with the testing tool and perform basic connectivity tests<sup>2</sup>.
- Test the software product or implementation based on the specifications and related test assertions.
- Provide the CEF eDelivery Testing Team with a version of the software product or implementation that is ready for conformance testing.

## 2.2. Connecting Europe Facility (CEF) Support Team

**Role:** first line support

**Responsibilities:**

- Register new requests from software or service providers applying for the CEF eDelivery Conformance Testing service.
- Act as first line support to coordinate and follow-up the work between the software / service provider and the CEF eDelivery Testing Team.
- Provide the software or service provider with information about the specifications, related test assertion and the testing tool.
- Sign off the final test report for submission to the software or service provider.

## 2.3. Connecting Europe Facility (CEF) eDelivery Testing Team

**Role:** second line & technical support

**Responsibilities:**

- Act as the technical single point of contact to the software or service provider and provide support during the connection to the test platform and test execution.
- Conduct a final test run and generate the test report.

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<sup>2</sup> These AS4 Basic Connectivity Tests are a group of tests to verify the connectivity to the Conformance Test Platform only. They are not related to the CEF e-Delivery Connectivity Testing service described in <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Connectivity+testing>

## **2.4. Connecting Europe Facility (CEF) Stakeholder Management Office (SMO)**

**Role:** communication and stakeholder management

**Responsibilities:**

- Publish and maintain an overview of conformant software products or implementations and the related test reports on the CEF Digital Single Web Portal.

### 3. HOW TO USE THE SERVICE STEP BY STEP

This section describes the processes that are part of the CEF eDelivery Conformance Testing Service.

#### 3.1. Process Overview

The figure below presents the four main steps of the CEF eDelivery Conformance Testing service process. Each of the four process steps is described in more detail in the next sections.

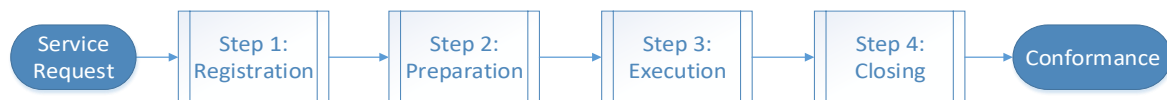


Figure 3 - CEF eDelivery Conformance Testing Process Steps

#### 3.2. Step 1: Registration

**Purpose:** register the service request and exchange the necessary information and documentation to set up an account on the test platform.

**Actors:**

- Software / Service Provider
- CEF Support Team
- CEF eDelivery Testing Team

**Process:**

1. The Software / Service provider sends an email to the CEF Support Team to request the CEF eDelivery Conformance Testing service. The request should contain the following information:
  - Name and version of the software product / implementation to be tested
  - Specifications to be tested ( e-SENS AS4 Profile and/or e-SENS SMP Profile)
  - Planned start date of the tests
  - Single Point of Contact at the Software / Service Provider side
2. The CEF Support Team registers the service request and informs the CEF eDelivery Testing Team.
3. The CEF Support Team provides information and documentation to the Software / Software Provider. This information includes:
  - Information on the specifications
  - Test assertion document

- Information on the test platform
4. The CEF eDelivery Testing Team assigns a Single Point of Contact for the request.
  5. The CEF eDelivery Testing Team creates an account on the testing platform and sends the login details to the Software / Service Provider.

The overview of the registration process is shown in the diagram below.

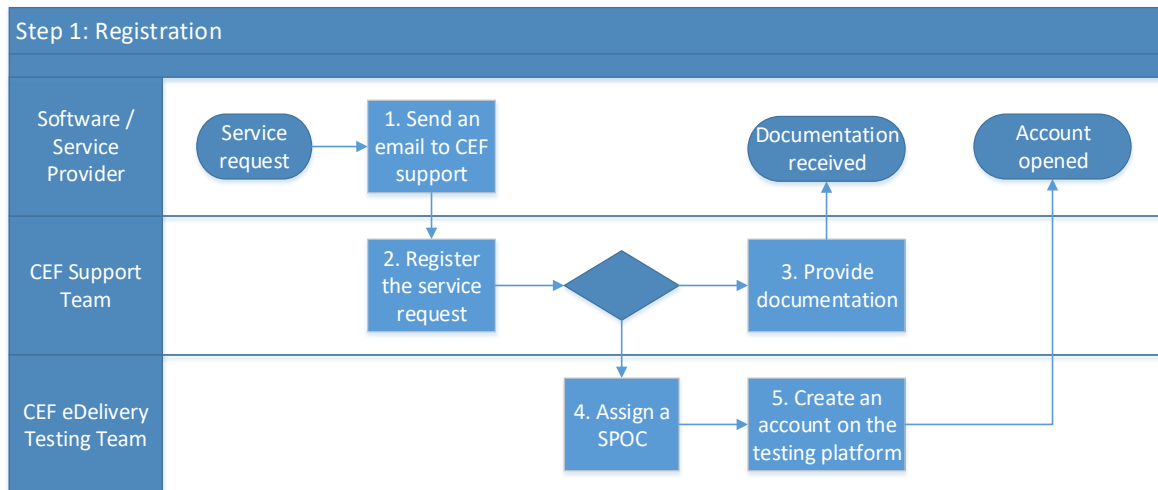


Figure 4 - Step 1: Registration

### 3.3. Step 2: Preparation

**Purpose:** integrate the software product or implementation to be tested with the testing platform.

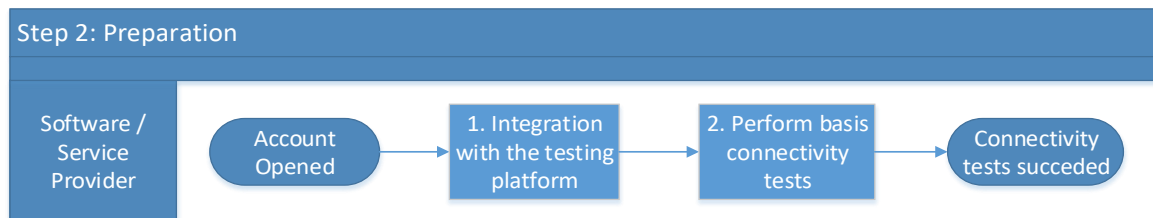
**Actors:**

- Software / Service Provider

**Process:**

1. The Software / Service Provider integrates his product or implementation with the testing platform.
2. The Software / Service Provider performs basic connectivity tests<sup>3</sup>.

The overview of the preparation process is shown in the diagram below.



**Figure 5 - Step 2: Preparation**

**Note:** The CEF eDelivery Testing Team is available for technical questions (via the CEF Support Team or directly).

<sup>3</sup> These AS4 Basic Connectivity Tests are a group of tests to verify the connectivity to the Conformance Test Platform only. They are not related to the CEF e-Delivery Connectivity Testing service described in <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Connectivity+testing>

### 3.4. Step 3: Execution

**Purpose:** execute the conformance tests and generate a test report

**Actors:**

- Software / Service Provider
- CEF eDelivery Testing Team

**Process:**

1. The Software / Service Provider executes the conformance tests using the testing platform and based on the test assertions provided by the CEF eDelivery Building Block.
2. The Software / Service Provider resolves the failed tests (with or without the support of the CEF eDelivery Testing Team).
3. The CEF eDelivery Testing Team provides support to the Software / Service Provider during the execution of the conformance tests and assists in resolving failed tests.
4. The Software / Service Provider informs the CEF eDelivery Testing Team once all conformance tests have passed and the software product or implementation is ready for test report.
5. The CEF eDelivery Testing Team performs a final monitored test run.
6. The CEF eDelivery Testing Team generates the test report and shares it with the CEF Support Team.

The overview of the execution process is shown in the diagram below.

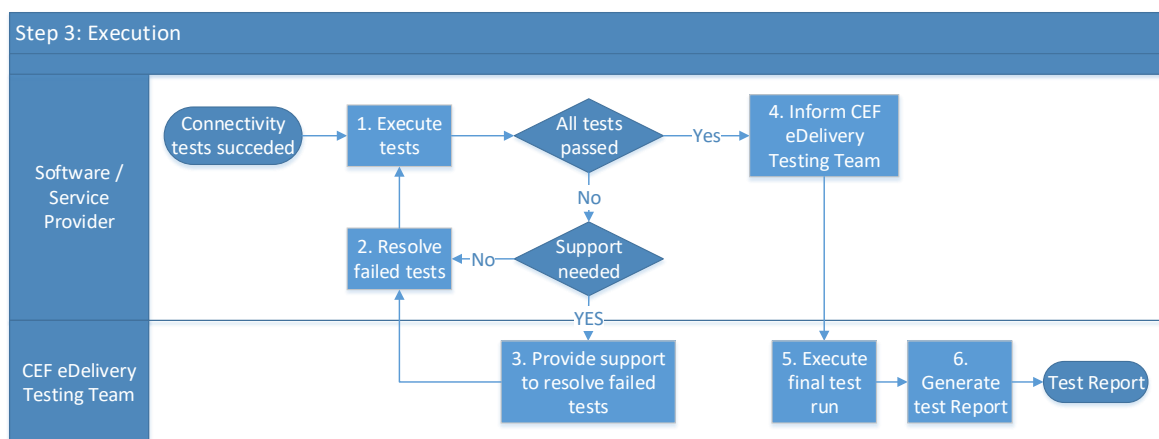


Figure 6 - Step 3: Execution



### 3.5. Step 4: Closing

**Purpose:** provide and publish the test report.

**Actors:**

- Software / Service Provider
- CEF Support Team
- CEF Stakeholder Management Office (SMO)

**Process:**

1. Once the CEF Support Team receives the successful test report it signs the report and sends it to the Software / Service Provider as well as the CEF Stakeholder Management Office (SMO).
2. The Software / Service Provider receives the test report for his software product or implementation.
3. The CEF Stakeholder Management Office (SMO) updates the list of conformant software products or implementations and publishes the test report on the CEF Digital Single Web Portal.<sup>4</sup>

The overview of the closing process is shown in the diagram below.

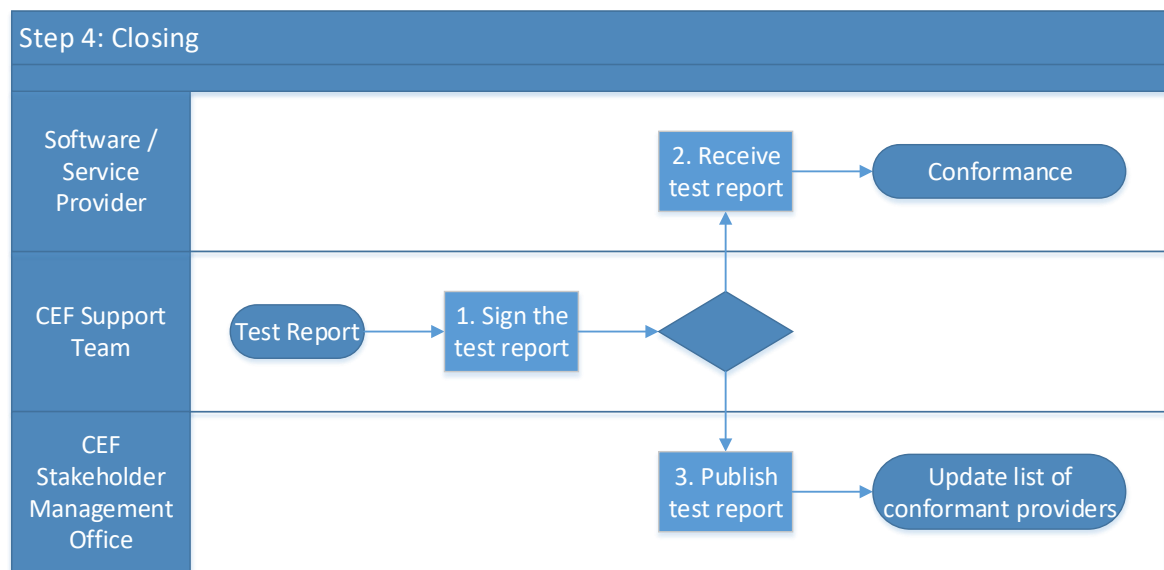


Figure 7 - Step 4: Closing

<sup>4</sup> <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eSENS+AS4+conformant+vendors>

## 4. TERMS AND CONDITIONS

The general terms and conditions of CEF Building Blocks can be consulted in the Master Service Arrangement, available on the CEF Digital Single Web Portal:

<https://ec.europa.eu/cefdigital/wiki/x/DAiZAQ>

The terms and conditions specific to the CEF eDelivery Conformance Testing service are described in the table below.

Term / Condition	Description
<b>Obligations of the Client</b>	<p>It is the responsibility of the Client to :</p> <ul style="list-style-type: none"><li>a) ensure that sufficient information and documents are given in due time to enable the required services to be performed;</li><li>b) fulfil the conformance requirements, including implementing appropriate changes when they are communicated by the European Commission.</li></ul>
<b>Delivery of the services</b>	<p>The European Commission will provide the conformance testing services using reasonable care and skill and in accordance with the technical specifications and procedures outlined in this document.</p> <p>The timing of completion of the conformance testing services and the delivery of the test results is based on best effort.</p> <p>The European Commission is entitled to suspend or terminate the provision of the services in case of failure of the Client to comply with its obligations, as described above, or any other conditions preventing the successful delivery of the service.</p>
<b>Warranty disclaimer</b>	<p>The conformance testing services and the results thereof are provided on the basis of the information, documents and implementations supplied by the Client. The test report issued by the European Commission is issued on an AS-IS basis and will reflect the facts as recorded at the time of testing.</p> <p>The European Commission is under no obligation to refer to, or report upon, any facts or circumstances which are outside the scope of this service and the procedures outlined in this document.</p>
<b>Limitation of liability</b>	<p>In no event shall the European Commission be liable to the Client or anyone claiming through the Client, for any kind of damages resulting from reliance on the test results.</p>

<b>Proof of Conformance</b>	<p>If the product/implementation passes all mandatory test assertions, the Client will receive a Proof of Conformance in the form of a test report. It should be clear that this test report has no legal value. It is a technical report, outlining the test results based on the version of the test platform and test cases in effect at the time of testing.</p> <p>The Proof of Conformance (test report) is restricted only to the product-with version that was subject to testing for a specific test run at a specific date. Other products offered by the Client or versions of that product which have not undergone testing are not considered to be conformant.</p>
<b>Disclosure</b>	<p>The Client is entitled to disclose the fact that the product/implementation passed the conformance test to third parties. Notwithstanding the following conditions:</p> <ul style="list-style-type: none"> <li>a) there should be clear mention of the product-with version to which the Proof of Conformance applies, labelled with the specific test run and date;</li> <li>b) the test reports can only be reproduced in their entirety, if provided by the Client to third parties;</li> <li>c) the test report should not be used in such a manner as to bring the European Commission into disrepute and not make any statement regarding its Proof of Conformance that the European Commission may consider misleading or unauthorized;</li> </ul>

**Table 4 - CEF eDelivery Conformance Testing service Terms and Conditions**

## 5. ANNEX

Not applicable

## 6. CONTACT INFORMATION

### CEF Support Team

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

By phone: +32 2 299 09 09

- Standard Service: 8am to 6pm (Normal EC working Days)
- Standby Service\*: 6pm to 8am (Commission and Public Holidays, Weekends)

*\* Only for critical and urgent incidents and only by phone*