

Welcome to the CEF eDelivery Live Hands-on Webinar: Send your first AS4 message!

Start 10:00 (CET)

Ground Rules for the Live Webinar



Please mute your microphone before the webinar starts



To chat with other participants and submit questions, please use the Chat function to the right of your screen

To connect your audio go to the Quick Start tab and connect your audio (dial-in, dial-out or connect via computer)



CEF eDelivery

Hands-on Webinar: Send your first AS4 message!

Maarten Daniels - DIGIT
Ioana Dragusanu - DIGIT

Today's speakers

Maarten Daniels

Maarten Daniels has more than 12 years of ICT experience and has been working at DIGIT on the e-PRIOR, e-TrustEx and CEF eDelivery projects as a business analyst, with a strong focus on analysis, test management, user on-boarding and helping Member States implementing the solutions of the various projects. He has gained sound expertise in the technical aspects of the solutions and their underlying international standards and additionally was able to combine that with a thorough business modelling and analysis expertise.

Ioana Dragusanu

Ioana Dragusanu has more than 12 years of ICT experience and has been working for the past two years at DIGIT on the CEF eDelivery project, helping CEF implementing Domibus - the open source, e-SENS AS4 conformant Access Point. She has a strong understanding and practical experience in creating robust SOAP and REST web-services using J2EE technologies, SOA principles and enhanced knowledge on the B2B communication area, ebMS3.0 standard, e-SENS AS4 profile, SOAPWA protocol, x.509 digital certificates for encryption and signing.

Agenda

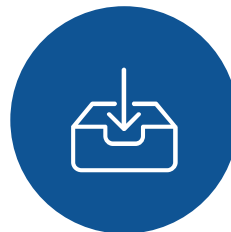
- | | | |
|---|---|-----|
| 1 | Introduction to CEF eDelivery Maarten Daniels – DIGIT | 10' |
| 2 | CEF eDelivery Service offering Maarten Daniels – DIGIT | 10' |
| 3 | Hands-on session - Send your first AS4 message: Launch instance on Fiware Lab PMode Configuration Security File Configuration Message sending Ioana Dragusanu- DIGIT | 45' |
| 4 | Q&A and sharing of experiences All | 25' |

Highlights of the webinar

DURING

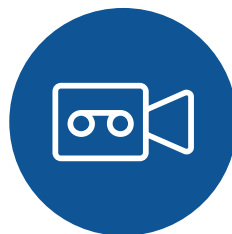


Ask questions



Download the presentation

AFTER



Download the webinar recording



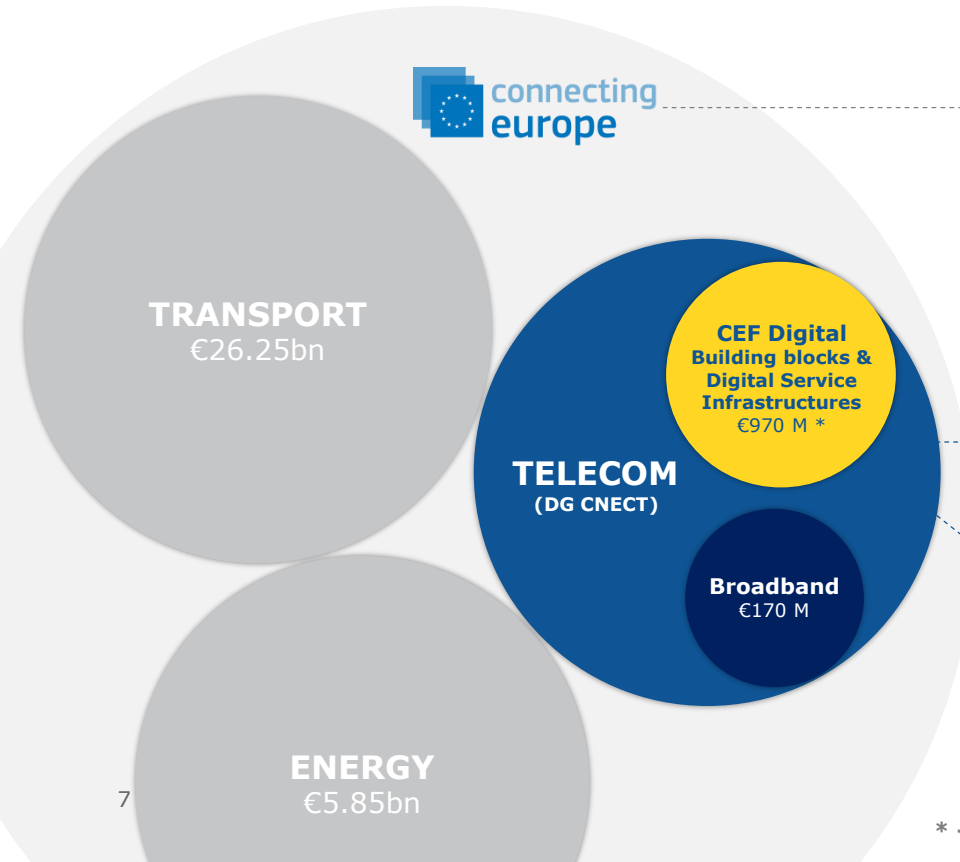
Interact with our online community

1

Introduction to CEF eDelivery

Maarten Daniels – DIGIT

The CEF building blocks are funded by the Connecting Europe Facility



CEF Regulation

The Connecting Europe Facility (CEF) is a regulation that defines how the Commission can finance support for the establishment of trans-European networks to reinforce an interconnected Europe.

CEF Telecom Guidelines

The CEF Telecom guidelines cover the specific objectives and priorities as well as eligibility criteria for funding of broadband networks and Digital Service Infrastructures (DSIs).

CEF Work Programmes

Translates the CEF Telecom Guidelines in general objectives and actions planned on a yearly basis.

CEF is a funding instrument that will contribute to the completion of the European Digital Single Market

1

Funds Commission projects to digitise key sectors under the condition that they use CEF building blocks

Justice, home affairs and citizens' rights



eJustice Portal



ODR

Science and Technology



Open Data

Business



BRIS

Employment and Social Rights



EESSI

etc.



IDENTIFY with
eID



SIGN with
eSignature



EXCHANGE with
eDelivery



INVOICE with
eInvoicing



TRANSLATE with
eTranslation

2

Funds Member States to participate in the sectorial projects

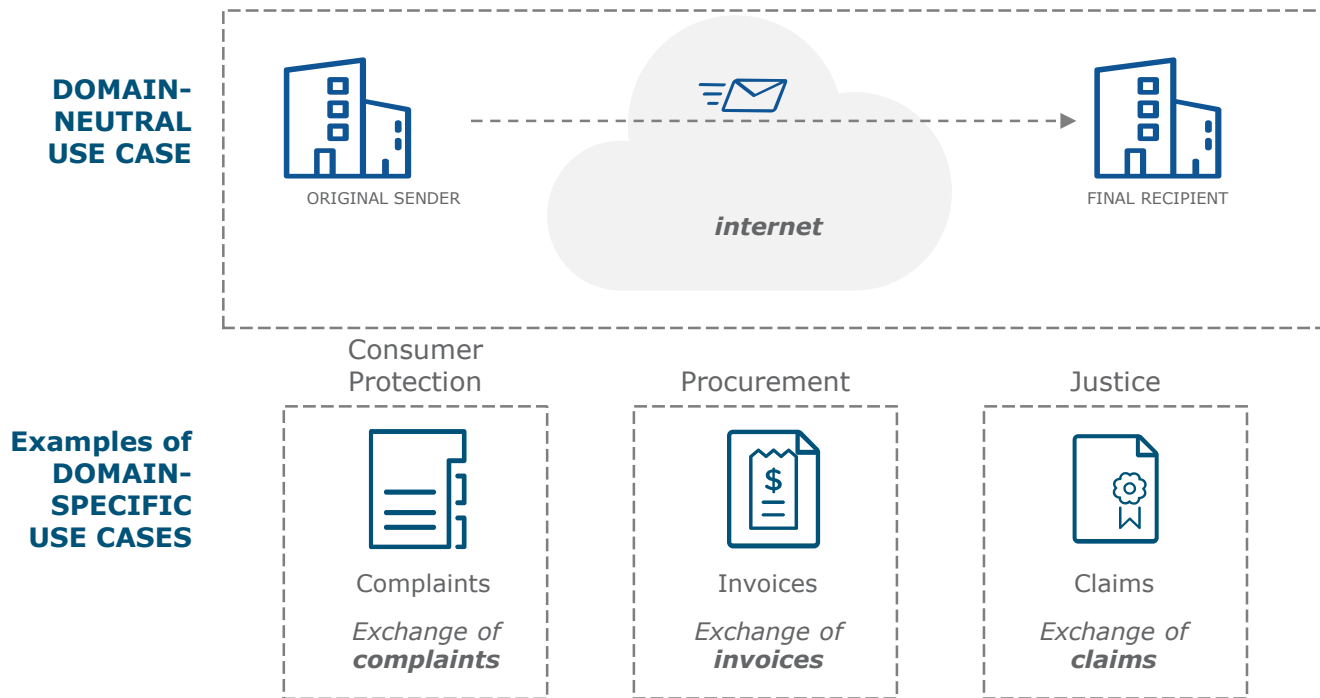


Typically 'deployment' projects at national level (up to 75% of eligible cost)

3

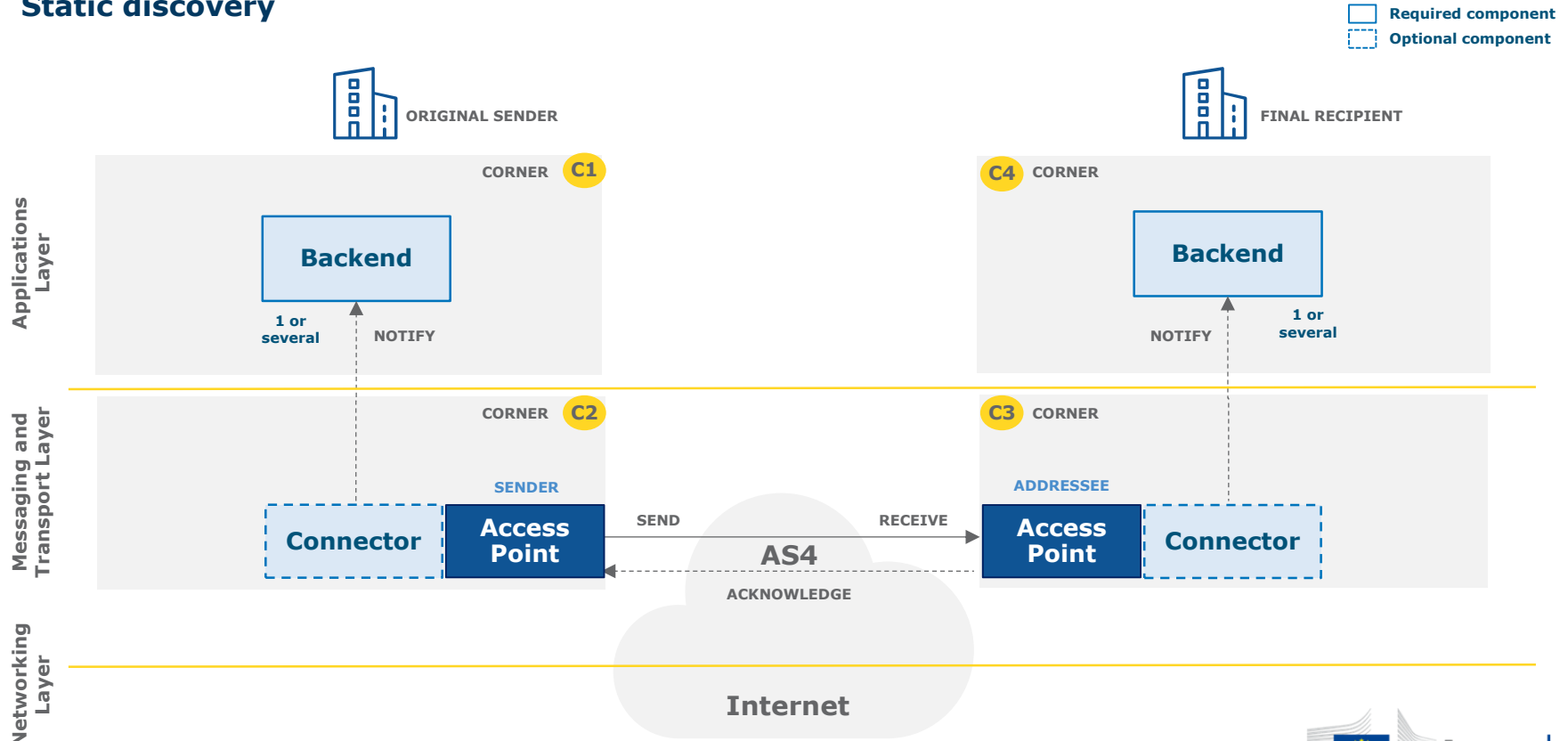
Funds the use of building blocks in these sectors by the Commission and in the Member States

The eDelivery Use-Case



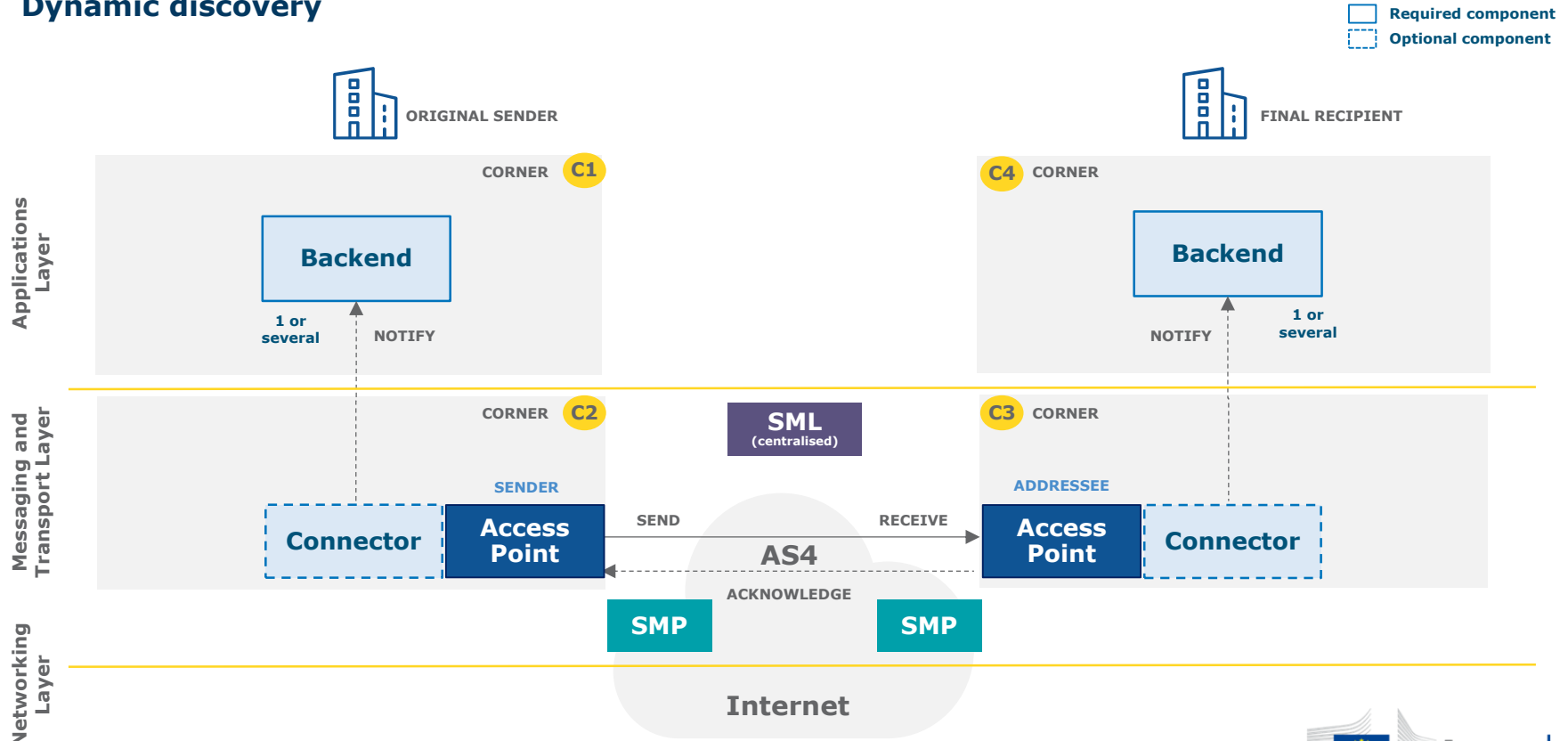
eDelivery Messaging Infrastructure based on the 4-Corner Model

Static discovery



eDelivery Messaging Infrastructure based on the 4-Corner Model

Dynamic discovery



CEF eDelivery specifications

•The approach employed by eDelivery is to promote the use of existing technical specifications and standards rather than to define new ones.

•The profiling work of e-SENS and PEPPOL on these standards, i.e. constraining configuration choices, is equally taken on board. Even though eDelivery makes software available implementing these specifications, the use of commercial software or other Open Source software projects is also possible.

COMPONENT

Access Point

Digital Certificates

Connector

Service Metadata Locator (SML)

Service Metadata Publisher (SMP)

KEY SPECIFICATIONS

- **e-SENS AS4 profile of the ebMS3/AS4 OASIS Standards**
- **PEPPOL AS2 profile of AS2 and SBDH (for the eProcurement only)**
- **ETSI – Electronic Signatures and Infrastructures profile**
- **ETSI REM for evidences**
- **e-SENS Profile based on the OASIS BDXL Specification**
- **e-SENS ebCore Party ID Profile**
- **e-SENS Profile based on the OASIS BDX-SMP Specification**

Roadmap to deploy CEF eDelivery

Domain Owner

Participants in eDelivery Messaging Infrastructure



PHASE

ELICIT

requirements

DESIGN

eDelivery infrastructure

SELECT

eDelivery solutions

DEPLOY

eDelivery solutions

INTEGRATE

with backend(s) with partners

OPERATE

eDelivery solutions



CEF TEAM

Technical Specifications

Onboarding

Self-Assessment tool

Documentation (COD, SOD, ...)

Design message exchange model

List of Software solutions

SML Service

PKI Service

Service Desk

Training and deployment

Connectivity Testing

Service Desk

CEF eDelivery Community



YOUR TEAM

- Attend workshops
- Complete self-assessment tool
- Identify business requirements
- Carry out feasibility study

- Design discovery model
- Design security model
- Design integration approach
- Participate in the writing of a SDD
- PoC (optional)

Open source

- Assess OSS projects
- Customise/extend solution

Commercial solution

- Assess Vendors
- Buy solution

Custom built

- Build solution

- Deploy components
- Configure components

- Integrate with eDelivery Access Point
- Perform Integration testing
- Perform Pre-production testing

- Participate in Connectivity testing
- Perform Pre-production testing

Open source

- Hosting
- Maintenance

Commercial solution

- Hosting
- Fees

Custom built

- Hosting
- Maintenance


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CEF eDelivery Service offering

Maarten Daniels – DIGIT

CEF eDelivery Service offering



-  Available
-  Coming soon



Service offering Description (SoD)

All services are described in an SoD describing its purpose, the users for which it is for, its benefits and the process to obtain it



Service Level Arrangements (SLA)

Documents that describe Service Level Targets to be reached when delivering Building Block Services.



eLearning, videos, success stories

Some services feature multimedia such as eLearnings, instructional videos or success stories to help grasp what the service is about

CEF Digital platform

CEF eDelivery service offering, and more about the building block, can be found online

[CEF Digital >](#)

Operations services

Managed services

OBJECTIVE OF THE SERVICE

Sample software centrally hosted and managed by the EC, based on sample implementations that are based on technical specifications of CEF eDelivery.

The European Commission develops, maintains and provides software as a service for the following components of a CEF eDelivery solution:

- Public Key Infrastructure (PKI)
- Service Metadata Locator (SML)

These services facilitate the re-use of CEF eDelivery by different Policy Domains.

BENEFITS

- Reduced cost of hosting the service, which is sustained by the European Commission
- Full support by the European Commission
- Defined and agreed Service Levels



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Connectivity testing

OBJECTIVE OF THE SERVICE

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. If successful, these tests confirm that the new Access Point is in all likelihood correctly deployed and configured.

The CEF Support Team facilitates the Connectivity Testing by making available a sample AS4 Access Point in a cloud environment, as well as providing guidelines and support during the testing process.

BENEFITS

- Confirm that newly deployed AS4 Access Points can successfully communicate with a neutral organization i.e. the sample Access Point of the European Commission;
- Testing anywhere at anytime
- Testing supported by professional staff of the European Commission



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Conformance testing

OBJECTIVE OF THE SERVICE

Verify that an implementation of the CEF eDelivery Access Point and SMP specifications, a software package either commercial or Open Source, conforms to the specifications of the CEF eDelivery Access Point.

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

- e-SENS AS4 Profile
- e-SENS SMP Profile

The CEF eDelivery Team 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.

BENEFITS

- Confirm and assure your users/customers that your software package or implementation of the CEF eDelivery Access Point conforms to the CEF eDelivery specifications
- Testing anywhere at anytime
- Testing supported by professional staff of the European Commission



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e-SENS AS4 conformant solutions

The screenshot shows the CEF Digital website with a navigation menu and a sidebar. The main content area is titled "e-SENS AS4 conformant solutions" and lists three vendors: Domibus, Flame, and Holodeck B2B. Each vendor entry includes a logo, a "CONFORMANT" badge, and links for "Latest release", "Test report", and "Contact".

| Vendor | Status | Latest release | Test report | Contact |
|--------------|------------|---|----------------|------------------------------------|
| Domibus | CONFORMANT | Download Domibus v3.1.1 | Download (zip) | CEF-EDELIVERY-SUPPORT@ec.europa.eu |
| Flame | CONFORMANT | Download FMS Server and Light Client v5.3 | Download (zip) | info@flamems.com |
| Holodeck B2B | CONFORMANT | Download Holodeck B2B v2.0 | Download (zip) | info@holodeck-b2b.org |

More information on CEF Digital

[Conformant Solutions >](#)

DOMIBUS

FLAME

HOLODECK

IBM

LAURENTIUS

MENDELSON

RSSBus

ADES

Integration cloud

iFenix

Conformant

Ongoing

Software

Sample software maintained by the EC

OBJECTIVE OF THE SERVICE

Standard software implementations of the technical specifications of CEF eDelivery. The European Commission maintains and develops sample software that is openly available to be re-used. The following components of a CEF eDelivery solution are provided:

- Access Point
- Service Metadata Publisher (SMP)
- Service Metadata Locator (SML)

Through the "Operational Management Board", CEF eDelivery stakeholders define the evolution of these solutions, by suggesting features that are then developed by the CEF's team.

BENEFITS

- Released under an open source license
- Viable solutions for use in production environment
- Fully supported by the European Commission
- Based on market-driven technical specifications



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Domibus – Access Point

Specifications

- e-SENS AS4 Profile
- OASIS AS4 Profile
- ebMS3 Core

App serves

- Tomcat 8, WebLogic 12, Wildfly 9

Databases

- MySQL, Oracle

Technologies

- SOAP 1.2 *with attachments*
- Apache CXF
- Apache WSS4J
- GZIP
- WS and JMS plugins



- Messages
- Message Filter
- Error Log
- PMODE
- JMS Monitoring
- Truststore
- Users

Truststore

Rows: 10 [Show columns](#)

| Name | Subject | Issuer | Valid from | Valid until |
|---------|-------------------------------|-------------------------------|--------------------------|--------------------------|
| blue_gw | C=BE, O=eDelivery, CN=blue_gw | C=BE, O=eDelivery, CN=blue_gw | 14-09-2017 09:27:39GMT+2 | 01-12-2025 08:27:39GMT+1 |
| red_gw | C=BE, O=eDelivery, CN=red_gw | C=BE, O=eDelivery, CN=red_gw | 14-09-2017 09:26:47GMT+2 | 01-12-2025 08:26:47GMT+1 |

0 selected / 2 total

[Upload](#)



- Messages
- Message Filter
- Error Log
- PMODE
- JMS Monitoring
- Truststore
- Users

Messages

Message Id: _____ Message Status: _____ From Party Id: _____ To Party Id: _____

[Search](#) [Advanced](#)

Rows: 10 [Show columns](#)

| Message Id | From Party Id | To Party Id | Message Status | Received | AP Role | Message Type | Actions |
|---|---------------|-------------|----------------|--------------------------|---------|--------------|---------|
| e5ba2950-4d0b-4d85-acc4-2b7f5d31c0d1@domibus.eu | domibus-blue | domibus-red | ACKNOWLEDGED | 25-09-2017 15:09:04GMT+2 | SENDING | USER_MESSAGE | ⬇️ ⬅️ |
| 00347886-eb64-456d-a5a8-2694a5fc4d8f@domibus.eu | domibus-blue | domibus-red | ACKNOWLEDGED | 25-09-2017 15:07:42GMT+2 | SENDING | USER_MESSAGE | ⬇️ ⬅️ |
| 89308d0b-e82e-4482-b9fb-b9608552e4bb@domibus.eu | domibus-blue | domibus-red | ACKNOWLEDGED | 20-09-2017 16:24:37GMT+2 | SENDING | USER_MESSAGE | ⬇️ ⬅️ |
| 6b5c949b-c3c2-41e9-ba9d-8bb3dfc4b25a@domibus.eu | domibus-blue | domibus-red | ACKNOWLEDGED | 20-09-2017 16:24:33GMT+2 | SENDING | USER_MESSAGE | ⬇️ ⬅️ |
| d45c1663-951b-4c2f-8296-29562c9b9685@domibus.eu | domibus-blue | domibus-red | ACKNOWLEDGED | 20-09-2017 16:24:09GMT+2 | SENDING | USER_MESSAGE | ⬇️ ⬅️ |
| e9b36993-e24e-463d-945a-980c798307fd@domibus.eu | domibus-blue | domibus-red | ACKNOWLEDGED | 20-09-2017 16:21:37GMT+2 | SENDING | USER_MESSAGE | ⬇️ ⬅️ |
| b89ae706-47cb-4ed9-a618-6c8968675840@domibus.eu | domibus-blue | domibus-red | SEND_FAILURE | 20-09-2017 16:07:59GMT+2 | SENDING | USER_MESSAGE | ⬇️ ⬅️ |
| 6b824351-da7e-4818-8009- | domibus-blue | domibus-red | ACKNOWLEDGED | 20-09-2017 | SENDING | USER_MESSAGE | ⬇️ ⬅️ |

Operations services

Supporting services

OBJECTIVE OF THE SERVICE

The CEF eDelivery team offers:

- **Service Desk** – a Single Point of Contact (SPOC) to address questions, incidents, requests and changes reported by the Users with regards to the CEF eDelivery service offering.
- **Training and deployment support** - Training sessions about the technical specifications underpinning the components of CEF eDelivery, the services offered by the Commission and its sample implementations, and interactive sessions to support in the deployment of the solution.

BENEFITS

- Day to day monitoring and 24h/7days service to maintain a high-level of availability and capacity of the CEF eDelivery Managed Services
- Proactive incident detection and resolution
- Increased autonomy of the Public Administration in handling and maintaining the CEF eDelivery components



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Onboarding services

OBJECTIVE OF THE SERVICE

CEF offers onboarding services for new projects interested in re-using CEF eDelivery:

- **Self-assessment tool** - a survey that maps the requirements of the users to the CEF eDelivery Service Offering. During the self-assessment, users assign different scores to the relevant requirements of their business system and the eDelivery messaging infrastructure. Based on the answers provided, the tool calculates how CEF eDelivery can help users achieve their goals by indicating which services provided by CEF eDelivery will allow them to meet their specified needs and requirements.
- **Onboarding of new stakeholders** – A direct contact point for all policy domains interested in re-using CEF eDelivery, that will facilitate the understanding, adoption and deployment of the solutions.

BENEFITS

- Business-driven and time-efficient assessment
- Comparability – the self-assessment tool provides a benchmarking with use cases of other projects already re-using CEF eDelivery
- Direct and easy contact with the CEF eDelivery technical teams, through the onboarding services



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Stakeholder management services

Community management

OBJECTIVE OF THE SERVICE

Develop, expand and engage with a community of developers contributing to the evolution of CEF eDelivery's open source sample implementations.

Among the 5 components that the CEF eDelivery team develops, CEF manages an online community of developers interested in contributing to the code of the sample implementations.

BENEFITS

- Cost effective development
- Wide set of skills
- Faster response to emerging requirements



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Developers

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Hands-on session - Send your first AS4 message:

Launch instance on Fiware Lab

PMode Configuration

Security File Configuration

Message sending

Ioana Dragusanu- DIGIT

Let's get started



eDelivery
Connecting Europe

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



FIWARE

Catalogue



<https://catalogue.fiware.org/enablers/electronic-data-exchange-domibus>



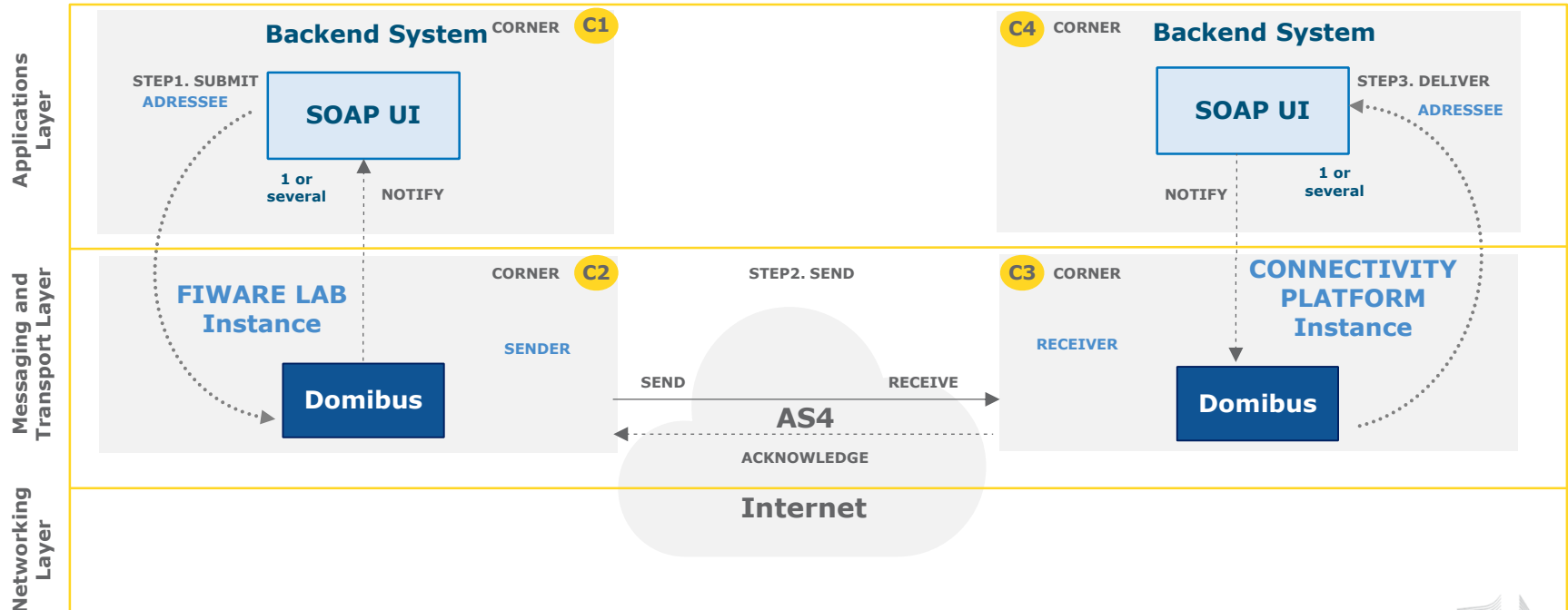
FIWARE

Lab

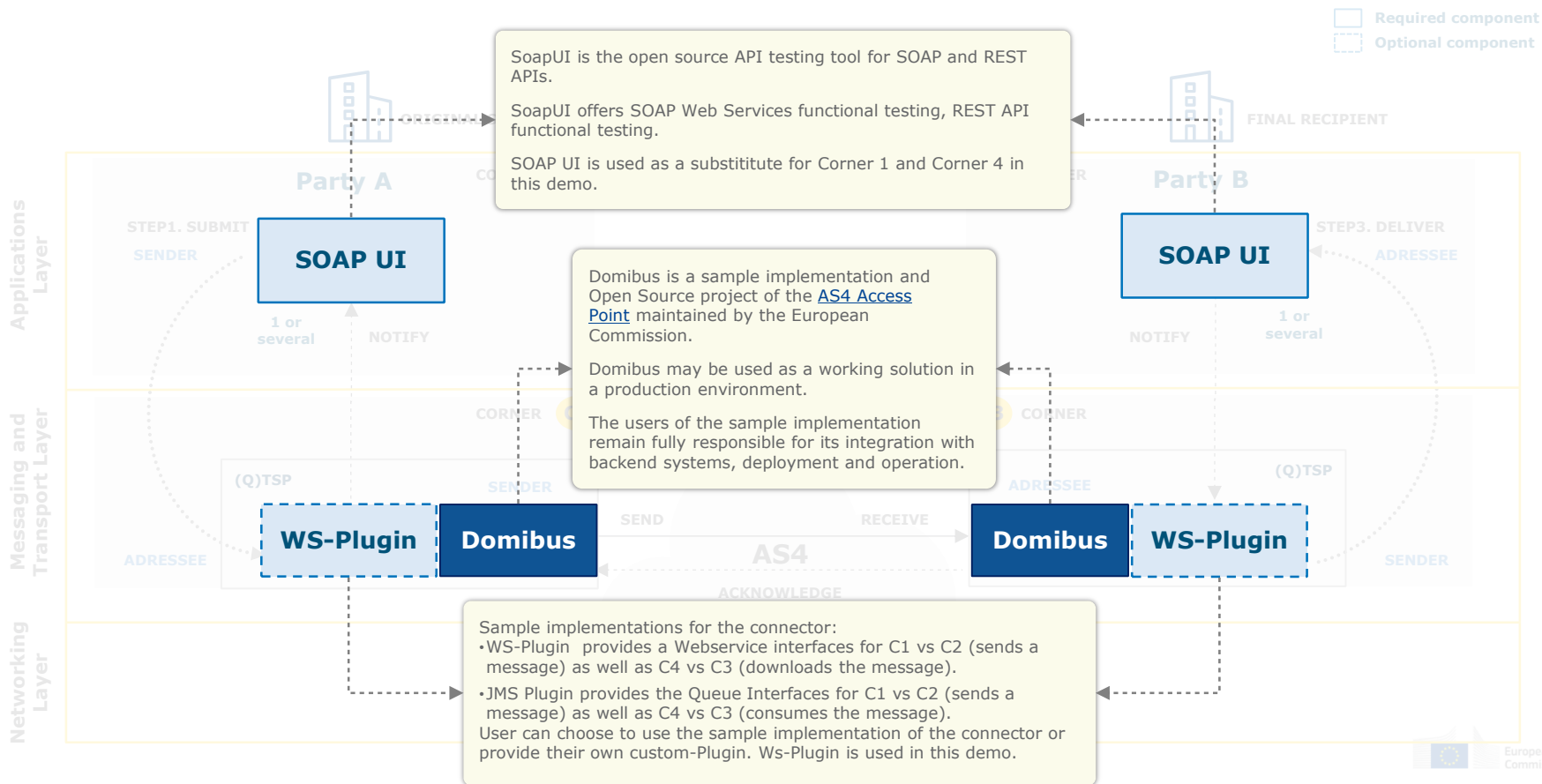


<https://www.fiware.org/lab/>

Demo in detail



Demo scenario



Demo Steps

DEMO TIME

Launch instance

FIWARE LAB Instance

- Launch an instance based on a public VM image on the FIWARE lab.

DEMO TIME

Configuration *(pre-configured)*

PMode File

- Configure the parties, endpoint URLs for the sending and receiving Access Points
- Configure compression, number of retries, etc.

Truststore .jks

- Configure the public certificate of the CTP

DEMO TIME

Runtime Scenario

Backend C1 sends the message to Access Point C2

The Message is sent from sender Access Point C2 to receiving Access Point C3

An acknowledgement is sent from C3 to C2

C4 downloads the message from C3

I. Launch instance

Image: **domibus3.2_r5.4**

II. Configuration

a. PMode Configuration

Configure Parties container

PMode[1].businessProcesses.parties.party: This parameter Contains the name of the partner Access Points and the address (endpoint URL) of the Receiver MSH to which User Messages under this PMode are to be sent.

PMode[1].businessProcesses.parties.party.Identifier: This Parameter contains the name of the clients' backend associated to the parent Access Point.

```
<party name="cefsupportgw"
  endpoint="http://40.115.23.114:8080/domibus/services/msh"
  allowChunking="false">
  <identifier partyId="cefsupportgw" partyIdType="partyTypeUrn"/>
</party>
<party name="ceftestparty8gw"
  endpoint="http://domibus.lab.firmware.org:8080/domibus/services/msh"
  allowChunking="false">
  <identifier partyId="ceftestparty8gw" partyIdType="partyTypeUrn"/>
</party>
```

b. Truststore upload

Truststore .jks file

Certificate Hierarchy:

 cefsupportgw

Version: 3

Subject: C=BE,O=eDelivery,CN=cefsupportgw



Issuer: C=BE,O=eDelivery,CN=cefsupportgw



Serial Number: 0x9877F2F02226A379

Valid From: 20/Jun/2017 17:20:42 EEST

Valid Until: 06/Sep/2025 17:20:42 EEST

Public Key: RSA 2048 bits



Signature Algorithm: SHA256WITHRSA

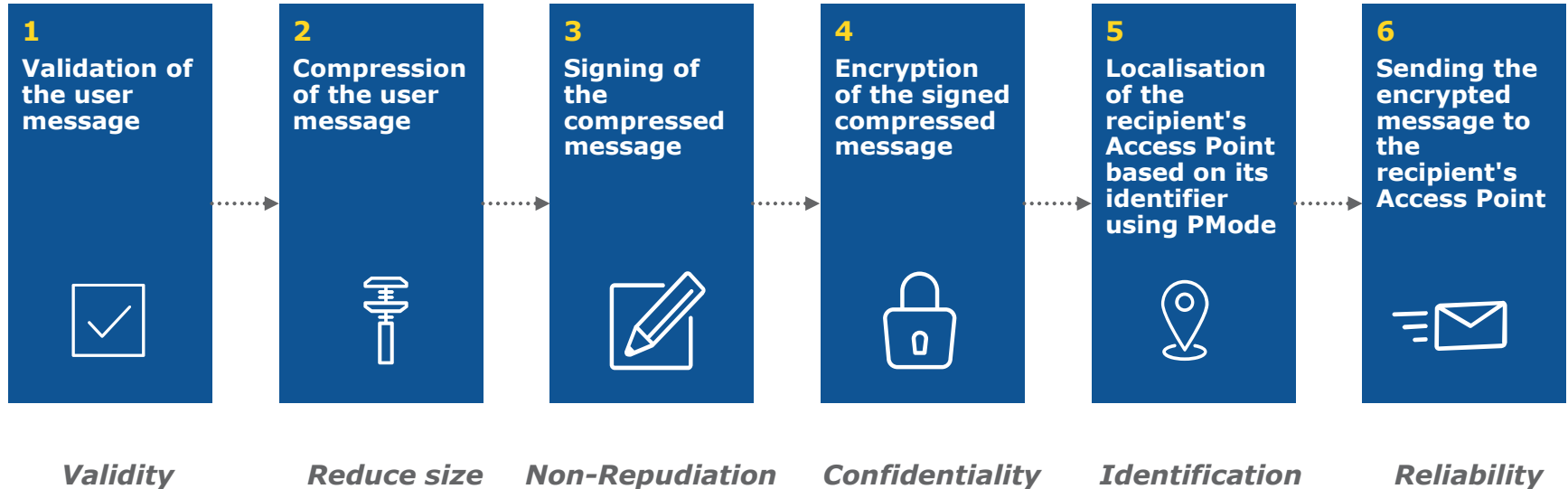
Fingerprint: SHA-1

72:2A:E8:97:2C:5C:07:95:D4:CB:BB:B6:48:1B:36:04:78:7D:

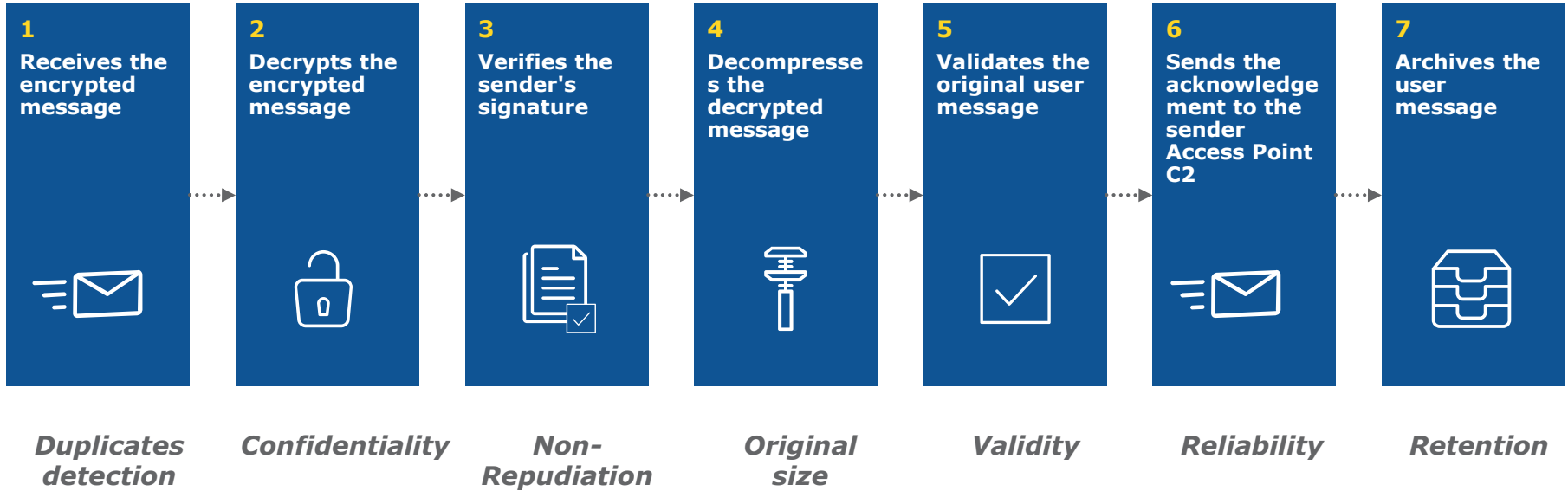


III. Run-time process

SEND: Processing at C2.



RECEIVE: Process at C3



Release 3.2

Specifications

- e-SENS AS4 Profile
- OASIS AS4 Profile
- ebMS3 Core

App serves

- Tomcat 8, WebLogic 12, Wildfly 9

Databases

- MySQL, Oracle

Technologies

- SOAP 1.2 *with attachments*
- Apache CXF
- Apache WSS4J
 - WS-Security: *WSSSMA, WSSX509, WSSSWA,*
 - WS-Policy: *rsa-sha256, aes128-gcm, rsa-oaep, mgf1sha256*
- GZIP
- WS and JMS plugins

Anatomy of a message

```
<?xml version="1.0" encoding="utf-8"?>
<env:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope">
  <env:Header>
    <eb:Messaging xmlns:eb="http://docs.oasis-open.org/ebxml-msg
  <eb:UserMessage mpc="http://docs.oasis-open.org/ebxml-msg           ...
    </eb:UserMessage>
  </eb:Messaging>
  <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss
    <xenc:EncryptedKey xmlns:xenc="http://www.w3.org/2001
      <xenc:EncryptionMethod Algorithm="http://www.w3.
        ...
      </xenc:EncryptedKey>
    <xenc:EncryptedData xmlns:xenc="http://www.w3.org/2001
      <xenc:EncryptionMethod Algorithm="http://www.w3.org/2009/xmlenc11#aes128-gcm"/>
        ...
      </xenc:EncryptedData>
    <ds:Signature xmlns:ds=""http://www.w3.org/2000/09/xmldsig#"
      ...
    </ds:Signature>
  </wsse:Security>
</env:Header>
<env:Body/>
</env:Envelope>
```

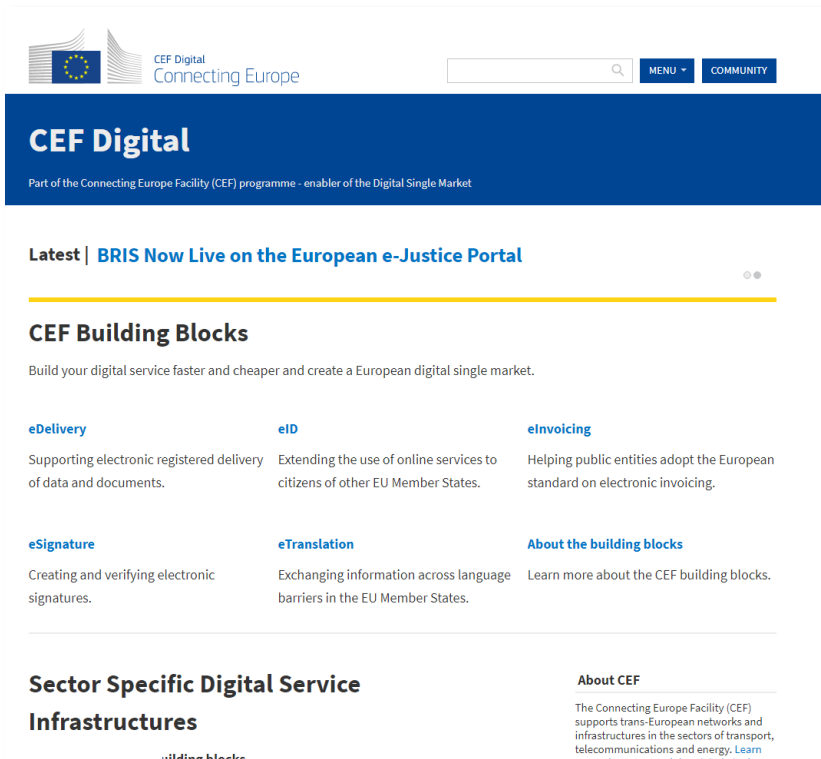

4

Q&A and sharing of experiences

All

Find out more on CEF Digital

ec.europa.eu/cefdigital



The screenshot shows the CEF Digital website homepage. At the top left is the logo for CEF Digital, featuring the European Union flag and the text "CEF Digital Connecting Europe". To the right of the logo is a search bar and two buttons labeled "MENU" and "COMMUNITY". Below the logo is a dark blue header with the text "CEF Digital" and "Part of the Connecting Europe Facility (CEF) programme - enabler of the Digital Single Market". The main content area has a "Latest" section with the headline "BRIS Now Live on the European e-Justice Portal". Below this is a section titled "CEF Building Blocks" with the subtext "Build your digital service faster and cheaper and create a European digital single market." This section contains three columns of information: "eDelivery" (Supporting electronic registered delivery of data and documents), "eID" (Extending the use of online services to citizens of other EU Member States), and "eInvoicing" (Helping public entities adopt the European standard on electronic invoicing). Below these are "eSignature" (Creating and verifying electronic signatures), "eTranslation" (Exchanging information across language barriers in the EU Member States), and "About the building blocks" (Learn more about the CEF building blocks). At the bottom, there is a section for "Sector Specific Digital Service Infrastructures" and "About CEF" (The Connecting Europe Facility (CEF) supports trans-European networks and infrastructures in the sectors of transport, telecommunications and energy. Learn more about CEF Digital Building Blocks).

#BIG

REUSE

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CEF-BUILDING-BLOCKS@ec.europa.eu

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