**eDelivery Webinar for PCN appointed bodies (ECHA, DIGIT, Spanish Ministry of Justice)**
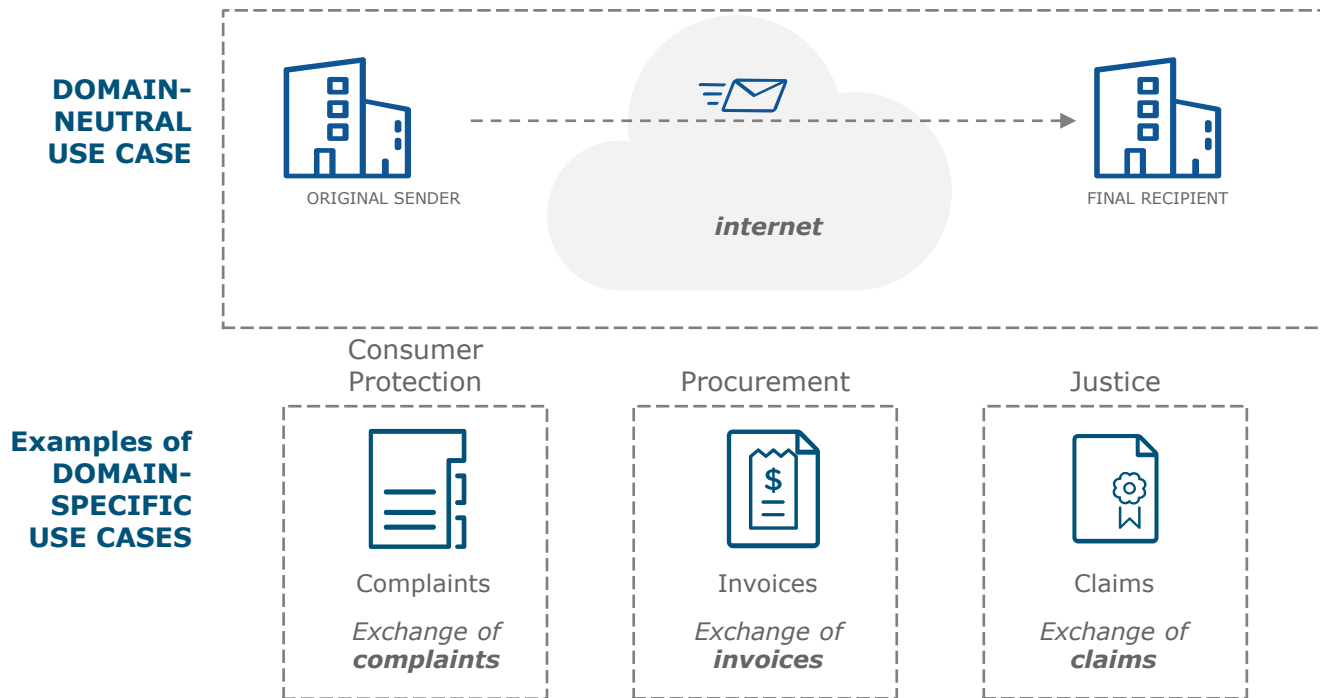
# Agenda

- **Introduction to eDelivery (DIGIT)**
- **eDelivery in the context of PCN (ECHA)**
- **Technical overview of ECHA's eDelivery network (ECHA)**
- **On-boarding overview (ECHA)**
- **ECHA eDelivery service support (ECHA)**
- **CEF eDelivery services (DIGIT)**
- **The Spanish poison centre case (Ministry of Justice, ES)**
- **Q & A (all)**
- **Domibus demo (DIGIT)**

# Introduction to eDelivery

- **The eDelivery Use-Case**
- **Why eDelivery?**
- **Why AS4?**
- **eDelivery Service Offering**

Ines Costa, DIGIT

# The eDelivery Use-Case



**DOMAIN-NEUTRAL USE CASE**

ORIGINAL SENDER

*internet*

FINAL RECIPIENT

**Examples of DOMAIN-SPECIFIC USE CASES**

Consumer Protection

Procurement

Justice

Complaints

*Exchange of* **complaints**

Invoices

*Exchange of* **invoices**

Claims

*Exchange of* **claims**

European Commission

# Why eDelivery? 8 benefits of eDelivery

**1. Standard based** i.e. the specifications are not proprietary and controlled by one vendor

**2. Reliable** i.e. recovers automatically if transmission is unsuccessful due to temporary disruption

**3. Multi-vendor** i.e. multiple products and solutions are available from different vendors

**4. Domain-independent** i.e. it can be used in every policy domain of the EU

**5. Trust** i.e. eIDAS enabler and aligned to the Electronic Registered Delivery Service

**6. Scalable** i.e. it has no inherent limits on number of participants or messages

**7. Security** i.e. multiple security options supported

**8. Interoperability** i.e. allows interoperability between public administrations and businesses

European Commission

# 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 eDelivery 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 | KEY SPECIFICATIONS |
|---|---|
| **Access Point** | ➢ eDelivery AS4 profile of the ebMS3/AS4 OASIS Standards |
| **Service Metadata Locator (SML)** | ➢ eDelivery Profile based on the OASIS BDXL Specification<br>➢ eDelivery ebCore Party ID Profile |
| **Service Metadata Publisher (SMP)** | ➢ eDelivery Profile based on the OASIS BDX-SMP Specification |

European Commission

# eDelivery workflow

**1** **Submit**
Sender sends message to sending AP

**2** **Send**
Sending AP processes message
a) Validation and compression of the user message;
b) Signing of the compressed message;
c) Encryption of the signed compressed message.

**3** **Receive**
Receiving AP processes message
a) Receives and decrypts the encrypted message;
b) Verifies the sender's signature;
c) Decompresses the decrypted message;
d) Validates the original user message;
e) Sends the acknowledgement to the sending AP;
f) Archives the user message.

**4** **Deliver**
recipient receives message from receiving AP
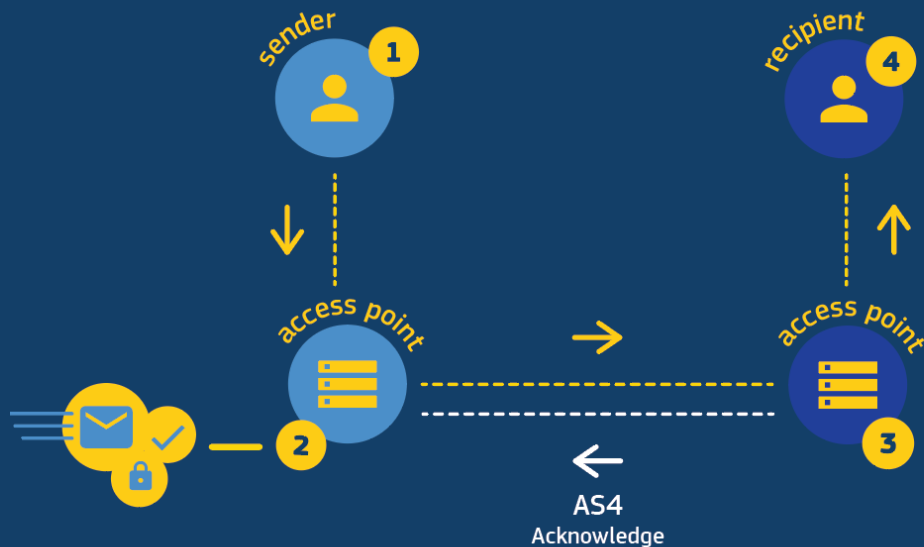
# Why AS4?

- Reliable
- Trusted
- State of the art
- Flexible and configurable
- Payload agnostic
- Supported

✓ **Preconfigured profile, fixes values** for many configuration parameters (simplifies configuration, obviates need for specialist AS4 consultants)

✓ **Specification and feature set** based on input from, and thoroughly reviewed by, industry experts

✓ Validated for **real-life production** use in multiple domains

✓ **Multi-layer redundant security** (TLS and message-level)

✓ Selection of **state-of-the-art security algorithms**, reviewed by information security experts from EU ENISA agency, deemed sufficient for near term (at least ten years) future systems use (obviates need for specialist security consultants)

✓ Multiple confirmed **conformant implementations** (offers users competitive choice)

✓ **Sizeable ecosystem** of (prospective) users for solution providers (incentives implementations)

✓ **CEF Conformance Testing Service** available for implementers (avoids problems of incompatible or untested products)

European Commission

# CEF enables the European Digital Transformation

**1** **Sectorial Projects**

| Justice, home affairs and citizens' rights | | Science and Technology | Business | Employment and Social Rights |
|---|---|---|---|---|
| **eJustice Portal** | **ODR** | **Open Data** | **BRIS** | **EESSI** |

etc.

**2** **Building Blocks**

IDENTIFY *with*
eID

SIGN *with*
eSignature

EXCHANGE *with*
eDelivery

INVOICE *with*
eInvoicing

TRANSLATE *with*
eTranslation

**3** **Grants**

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

European Commission

# eDelivery in the context of PCN

# Goals

Dispatching of Poison Center Notifications to Appointed Bodies

- Securely, reliably,…

Facilitate integration with existing systems

Reused component (developed by DIGIT/CEF)

Reusable component (potentially new uses within ECHA and appointed bodies)

# Secure delivery of notifications

Message-level security (Domibus)

- Encryption with strong cipher algorithms
- Signing the messages

Key management (eDelivery PCN PKI service)

- Certificate based public keys
- Public key encryption is used for key transportation
  - encrypting and decrypting symmetric keys used for encryption of message

Transport layer security (HTTPS)

- Standard TLS connections between the access points

# Timeline

- **From July: Appointed bodies can start the eDelivery on-boarding process with ECHA (includes requesting certificates from CEF)**
- **From autumn: On-boarded ABs can start receiving PC notifications using eDelivery (including previously submitted notifications)**

# The 4-Corner architecture

C1             C2                          C3                    C4

Notifications

**eDelivery AP
ECHA**

**eDelivery AP
MS AB**

ACK

ECHA PCN
Store

Appointed
Body Notif.
Store
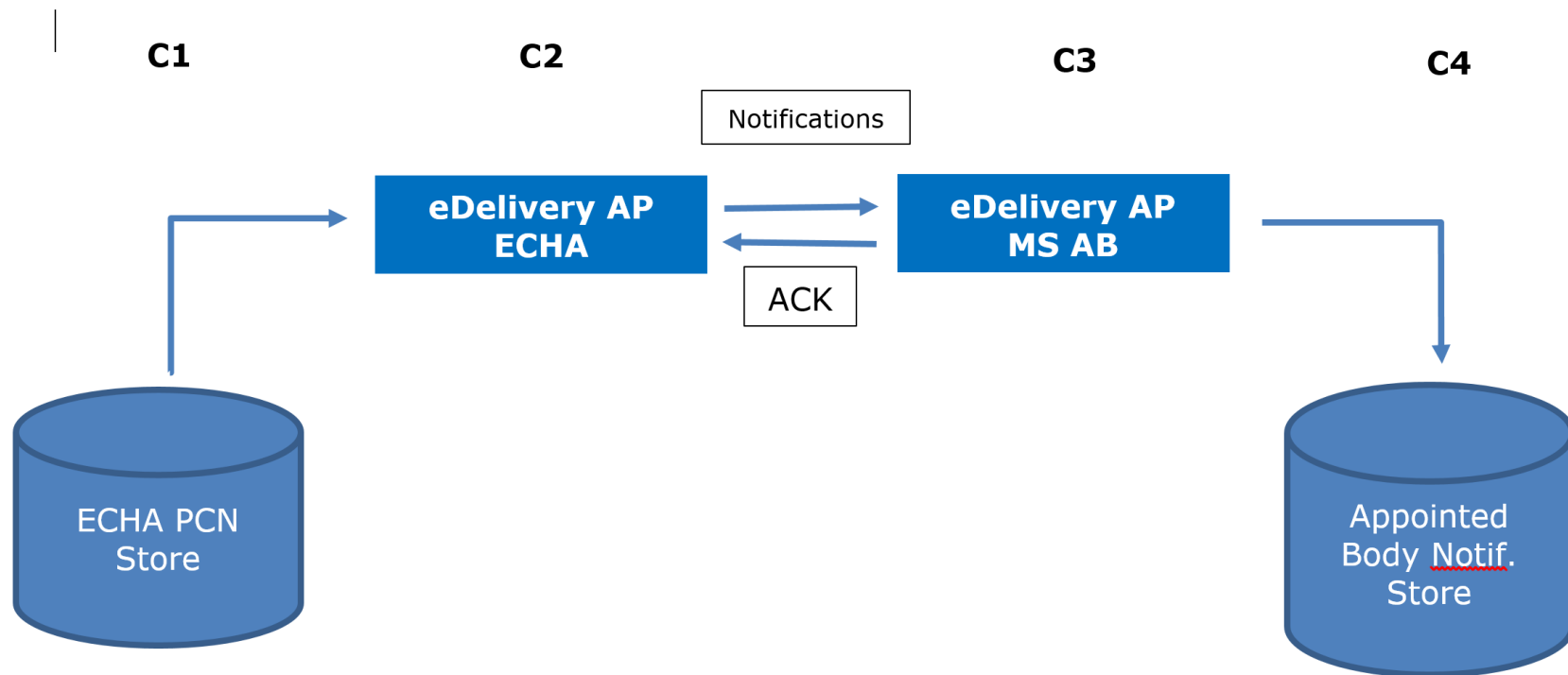
# PCN Messaging
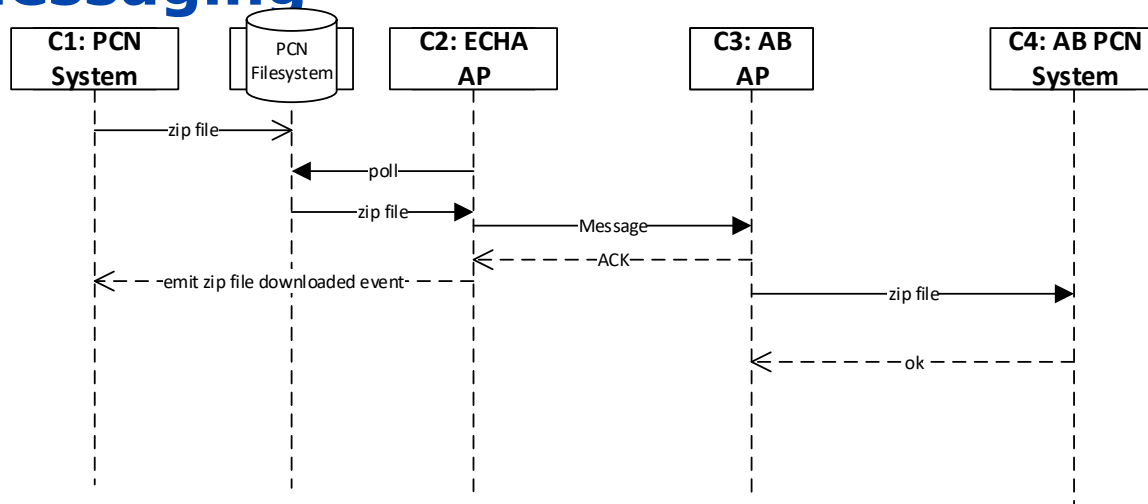


Zip file including 2 files

- 1 Poison Centre Notification
- 1 Validation report

# Domibus

Open Source

eDelivery Sample implementation

Production-ready

Supported by CEF

**Stack used at ECHA**

- **JDK 8**

- **MySQL**

- **Wildfly**

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

# ECHA deployment view
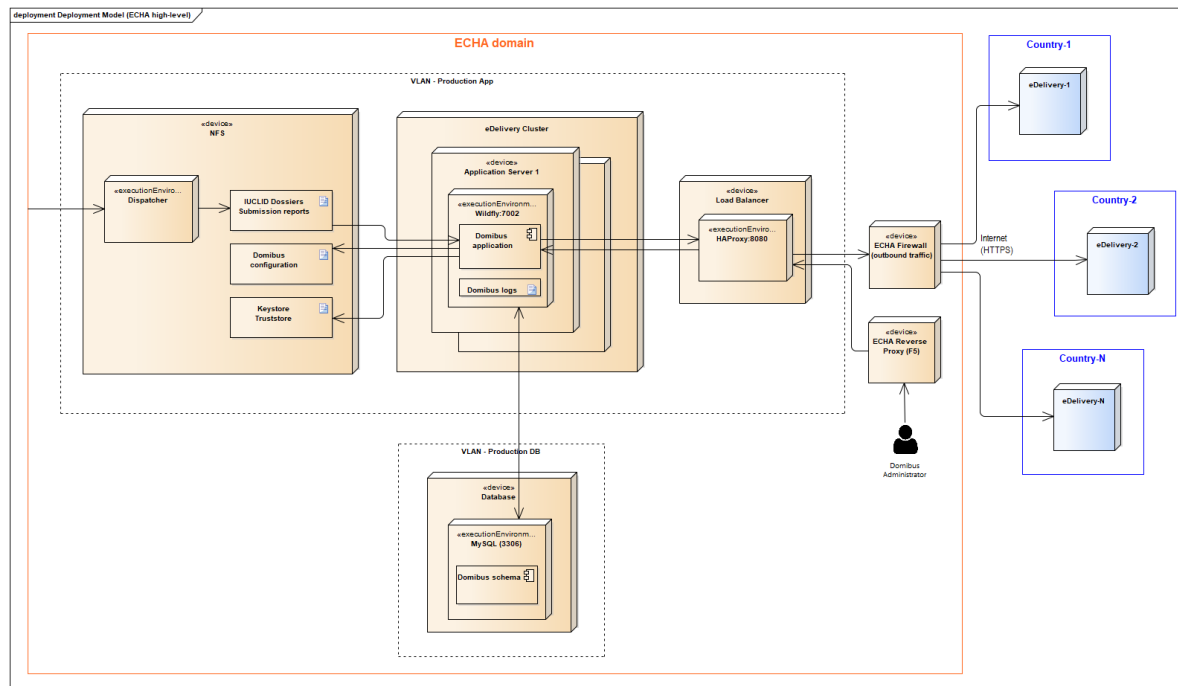
# ECHA servers specification

1.      Application server:

Mem:                    7.7G

Swap:                   5.1G

CPU(s):                 4

Disks:      /dev/sda: 21.5 G

            /dev/sdb: 20 G

2.      Database:

Same specs as application server

3.      NFS

Mem:                    7.7G

Swap:                   5.1G

CPU(s):                 4

Disk:  10G (Shared – Dockerized autoextended)

# Suggested deployment view for ABs
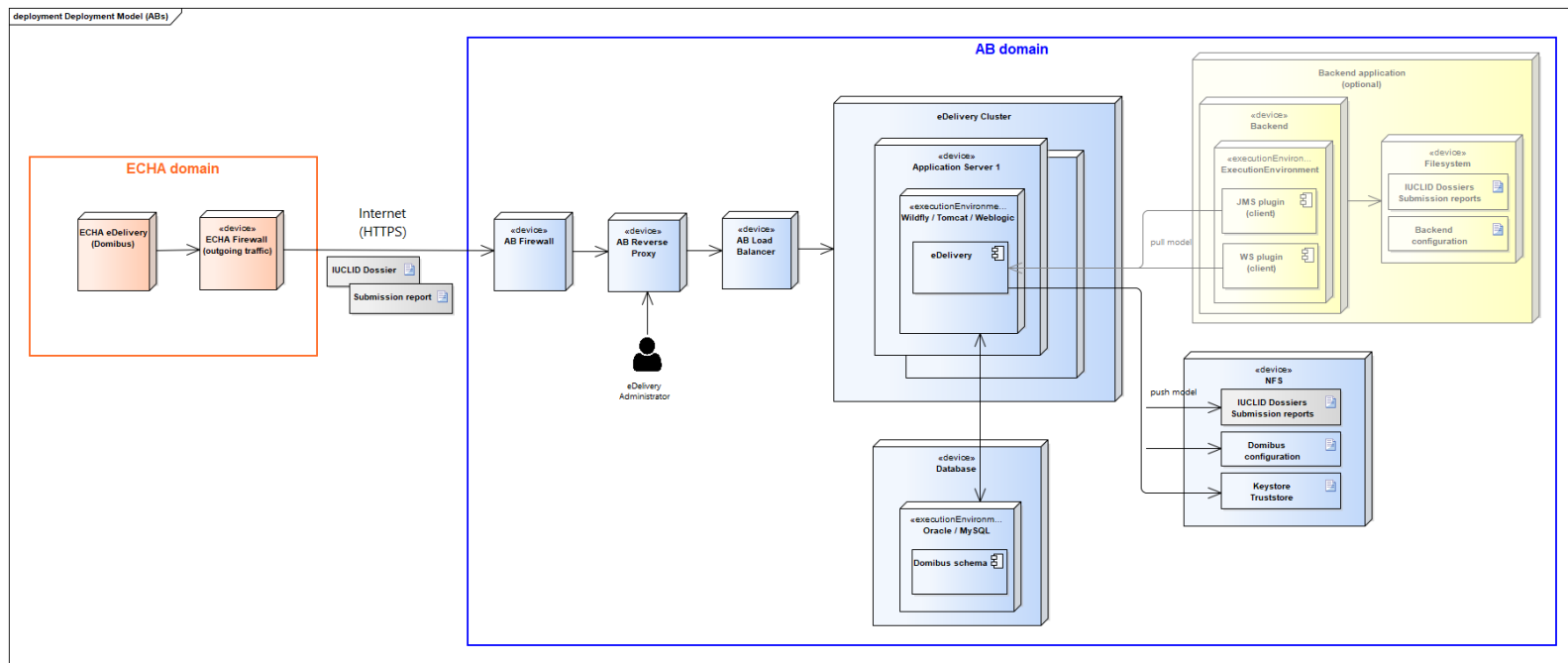
# Poison Centre Notification

IUCLID I6Z file

Contains all the notification information

More info in [Preparing a PCN dossier](#) document
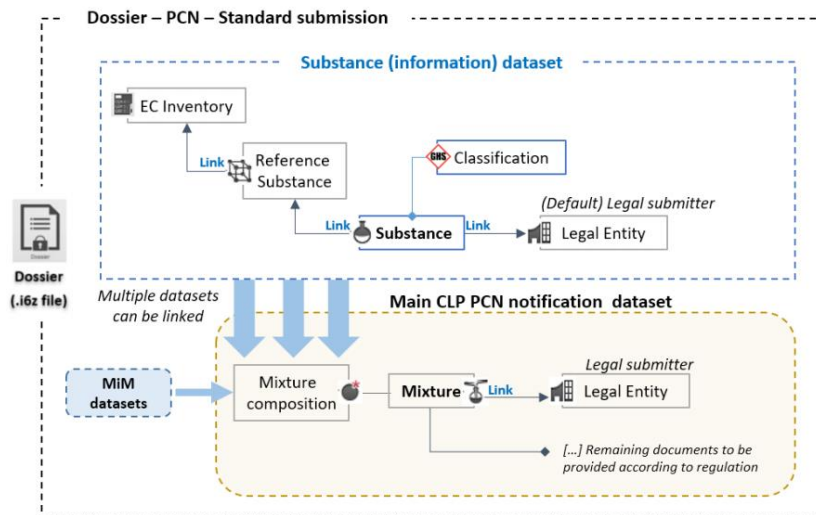
# Validation report

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<validationReport xmlns="http://echa.europa.eu/namespaces/Val
    <submissionNumber>RMH150371-27</submissionNumber>
    <submittedOn>2019-05-06T15:05:44.789+03:00</submittedOn>
    <legalEntityName>Theodorou CO</legalEntityName>
    <legalEntityUuid>ECHA-83a626b4-1d12-4a39-9832-20c97c1fba4
    <dossierUuid>96084c62-0a77-43f2-bc7e-fffdc5c2557a</dossie
    <validationStatus>VALIDATION_SUCCEEDED</validationStatus>
    <validatedOn>2019-05-06T15:05:49.472+03:00</validatedOn>
    <validations>
        <validation>
            <status>WARN</status>
            <code>QLT512</code>
            <context>
            ValidationContext{src=iuclid6:/96084c62-0a77-43f2
            f2c-8a45-6bedf0d3440d;section=CLP_PCN:1.1/MIXTURE
            URE, title=[ResourceText{template=null, fallback=
            ResourceText{template=null, fallback=1.1, params=
            fallback=Identification (mixture), params=[]}]}</
            <message>Mixture-in-mixture information reminder.
            through the safety data sheet can only be done in
            possibility to obtain full compositional informat
            remind you that for enforcement purposes, you wil
            efforts to obtain this information (e.g. written
            </message>
        </validation>
    </validation>
```
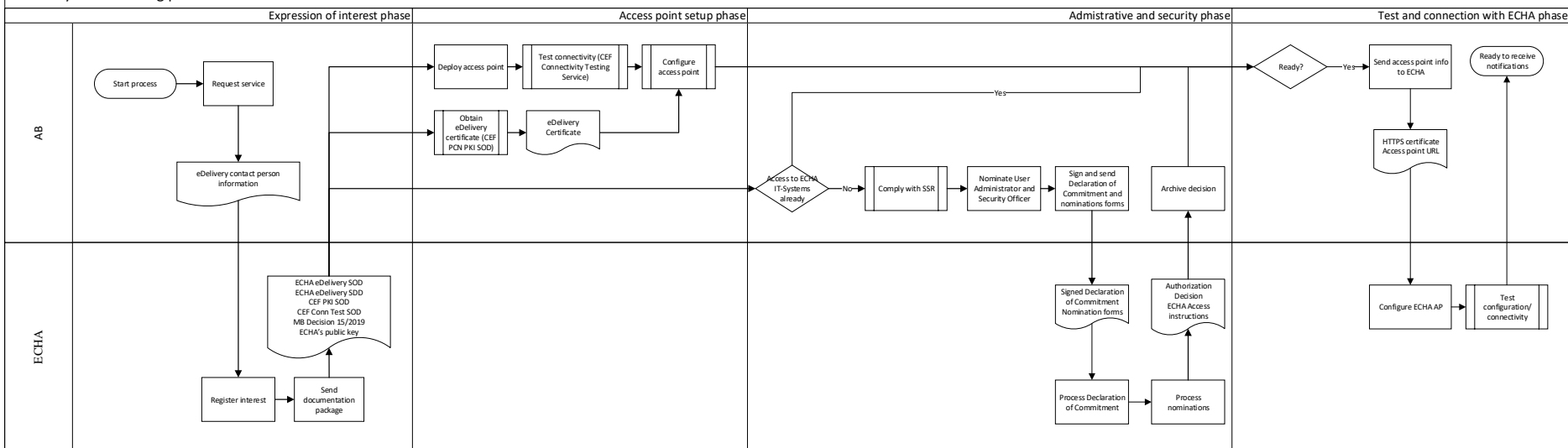
XML file

Metadata regarding the submission

List those business and quality rules that the dossier is not passing

# On-boarding overview

# On-boarding overview



eDelivery: On-boarding process

**Expression of interest phase | Access point setup phase | Admistrative and security phase | Test and connection with ECHA phase**

**AB row:**
- Start process → Request service → eDelivery contact person information
- Deploy access point → Test connectivity (CEF Connectivity Testing Service) → Configure access point
- Obtain eDelivery certificate (CEF PCN PKI SOD) → eDelivery Certificate
- Access to ECHA IT-Systems already → No → Comply with SSR → Nominate User Administrator and Security Officer → Sign and send Declaration of Commitment and nominations forms
- Yes
- Archive decision
- Ready? → Yes → Send access point info to ECHA → Ready to receive notifications
- HTTPS certificate Access point URL

**ECHA row:**
- ECHA eDelivery SOD, ECHA eDelivery SDD, CEF PKI SOD, CEF Conn Test SOD, MB Decision 15/2019, ECHA's public key
- Register interest → Send documentation package
- Signed Declaration of Commitment Nomination forms
- Authorization Decision ECHA Access instructions
- Process Declaration of Commitment → Process nominations
- Configure ECHA AP → Test configuration/ connectivity

# Expression of interest phase

Start of the on-boarding of the appointed body into the ECHA's eDelivery network

Reception of most up-to-date documentation

# Access point setup phase

To deploy AB's access point

Obtain eDelivery certificate from CEF (and T-Systems)

Test connectivity

Configure access point to process PCN messages

# Security and administrative phase

Comply with Specific Security Requirements for access to ECHA's Information Systems

Nominate eDelivery team

Sign the Declaration of Commitment

# Test and connection phase

Check that all the requirements for connection to ECHA's access point are met and set up ECHA's access point

# ECHA eDelivery Service

# Support offered by ECHA

- PCN eDelivery Connectivity Testing and Troubleshooting
- Resending of PCN notifications
- Support for IUCLID software and files

**Contact form for Authorities**

○ I can't login
◉ I need support with

Please select : *

PCNP(v1) ▼

Question/Request (max 2000 characters) *

ℹ **Attachments**

Upload Attachment :

Add attachment          Browse

*Maximum file size is 10 MB.*

ℹ **Contact details**

Title : *

**Used for:**
    **Initial service request**
    **General support and troubleshooting**
    **Security and Administrative issues**
    **Extra testing requests**
    **Renewed eDelivery certificate**
    **Terminate the service**
    **IUCLID support**

**https://comments.echa.europa.eu/comments_cms/ContactFormAuthorities.aspx**

31

# CEF eDelivery Service offering

## SOFTWARE

### Sample software maintained by the EC (with documentation)

| | |
|---|---|
| Access Point (AP) | 📄 🎥 |
| Service Metadata Publisher (SMP) | 📄 |
| Service Metadata Locator (SML) | 📄 |

📄 Available
📄 Coming soon

## OPERATIONS SERVICES

### Managed services

| | |
|---|---|
| Public Key Infrastructure (PKI) | 📄 ⏱ |
| Service Metadata Locator (SML) | 📄 ⏱ |

### Testing services

| | |
|---|---|
| Connectivity testing | 📄 |
| Conformance testing | 📄 🎥 |

### Supporting services

| | |
|---|---|
| Training & Deployment | 📄 🎥 |
| Service Desk | 📄 ⏱ |

## STAKEHOLDER MANAGEMENT SERVICES

### Onboarding services (for stakeholders)

| | |
|---|---|
| Self-assessment tool (reuse approach) | 📄 |
| Onboarding of new stakeholders | 📄 |

### Community management services

| | |
|---|---|
| Developers Community | 📄 |

## (example) TECHNICAL SPECS OF EU-WIDE INITIATIVES

| Access point specifications | SMP specifications | SML specifications | Security control guidance |
|---|---|---|---|

## STANDARDS OF ESOs

| Connector specification |
|---|

---

**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

**USERS**

Policy Domains

**STATUS**

● ● ● Service

● ● ● Documentation

**More info**

CEF Digital       >

**Get started**

Contact us       >

# 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

## USERS

Software Providers
Service Providers

## STATUS

⚫ ⚫ 🟢 Service

⚫ ⚫ 🟢 Documentation

## More info

CEF Digital >

## Get started

Contact us >

# 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:

- eDelivery AS4 Profile
- eDelivery 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

**USERS**

Software Providers
Service Providers

**STATUS**

● ● ● Service
● ● ● Documentation

**More info**

CEF Digital >

**Get started**

Contact us >

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

**USERS**

Software Providers
Service Providers
Policy Domains

**STATUS**

● ● ● Service

● ● ● Documentation

**More info**

CEF Digital >

**Get started**

Contact us >

# eDelivery AS4 conformant solutions

## eDelivery AS4 conformant solutions

This page lists the solutions that have passed or are in the process of passing the conformance testing according to the eDelivery AS4 profile:

- Axway
- B2BRouter
- Bizbrains
- Domibus (EC sample implementation)
- eefacta Server
- EESSI AS4.NET
- Edicom ASx Server
- Data Interchange
- DCS EIP
- Flame

- Holodeck B2B
- IBM
- iFenix
- Laurentius
- Mendelson
- Navitasoft – IP Systems AS4-IP
- RSSBus
- SEEBURGER
- ADES
- Integration Cloud

A document listing all vendors supporting AS4, including the ones that have not gone through the CEF conformance testing process, is available at bottom of this page.

---

More information on CEF Digital

**Conformant Solutions  >**

| Solution | Status |
|---|---|
| **Domibus** | Conformant |
| **Flame** | Conformant |
| **Holodeck** | Conformant |
| **IBM** | Conformant |
| **Laurentius** | Conformant |
| **Mendelson** | Conformant |
| **RSSBus** | Conformant |
| **iFenix** | Conformant |
| **Axway** | Conformant |
| **EESSI AS4.NET** | Conformant |
| **eefacta Server** | Conformant |
| **Bizbrains** | Conformant |
| **Edicom Asx server** | Conformant |
| **Navitasoft** | Conformant |
| **Data Interchange** | Conformant |
| **SEEBURGER** | Conformant |
| **B2BRouter** | Conformant |
| **DCS EIP** | Conformant |
| **ADES** | Ongoing |
| **Integration cloud** | Ongoing |

Conformant
Ongoing

# Domibus – Access Point



**Specifications**
- eDelivery AS4 Profile
- OASIS AS4 Profile
- ebMS3 Core

**App servers**
- Tomcat 8, WebLogic 12, Wildly 12

**Databases**
- MySQL, Oracle

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

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 (on-site only available for public entities) -** 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 business hours (8 am – 6 pm CET) 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

**USERS**

Policy Domains
Software Providers
Service Providers

**STATUS**

● ● ● Service

● ● ● Documentation

**More info**

CEF Digital >

**Get started**

Contact us >

# Hands-on webinar



Event | CEF eDelivery Live Hands-on Webinar: Send your first AS4 message!

- This Hands-on Webinar aims to **showcase the sending of AS4 messages using eDelivery in the [FIWARE Lab](#) instance**.

- During the Webinar attendees will have the opportunity to send an AS4 message via the [FIWARE Lab](#) instance and **get real-time support**.

# Informal Cooperation Network for eDelivery



**CEF DIGITAL**

**Informal Cooperation Network for eDelivery**

- The Informal Cooperation Network is a **platform for Member States' representatives** involved in the setting-up of national eDelivery infrastructures to actively **contribute to the adoption of eDelivery** at national and EU levels.

- The Informal Cooperation Network aims to **promote knowledge sharing, enable collaborative work on cross-border eDelivery networks** and **facilitate discussion** about common challenges.

More info here: https://ec.europa.eu/cefdigital/wiki/x/qqLuAw

# e-CODEX

**(e-Justice Communication via Online Data Exchange)**

## *CEF e-Delivery (DOMIBUS)*

*The experience of the*

*Spanish Ministry of Justice*

# Index

- **Overall view of the Spanish Appointed Body (INTCF)**

- **Why is e-CODEX needed?**

- **What is e-CODEX?**

- **What does e-CODEX e-Delivery support?**

- **e-CODEX Technology Infrastructure**

- **Brief history of the Spanish e-CODEX**

- **Recommendations**

INTCF: Spanish Appointed Body (Art. 45.1_CLP)

INSTITUTO NACIONAL DE TOXICOLOGÍA Y CIENCIAS FORENSES (INTCF): *National Institute of Toxicology and Forensic Science*

Scientific/Technical Body of the Ministry of Justice

▷ No previous experience with ECHA´s secure data trasfer systems (e.g.: REACH, BPR, etc.)

▷ Current notification procedure: .XML files & on-line submission portal

▷ Future notification procedure: *via* ECHA's PCN Portal (S2S) _ 'eDelivery'

▷ Spanish Poison Centre : Servicio de Información Toxicológica (SIT)_INTCF:
    _  shared premises & human/technical resources with the AB
    _  emergency calls: health professionals & general public
    _  single PC in the MS

# Why is e-Codex needed?

❖ Goal:

- Faster, easier and more secure Exchange of documents between European competent judicial authorities.

❖ e-Codex provides:

- Safe working environment
- Interconnection of all judicial authorities of the Member States
- Open platform supporting different judicial use cases

**Established as the unique and common digital secure Exchange platform in the European Union contributing to a faster and more efficient judicial cooperation between Member States.**

DOMIBUS e-Delivery platform
Secure Technology Infrastructure
for Connection and Exchange
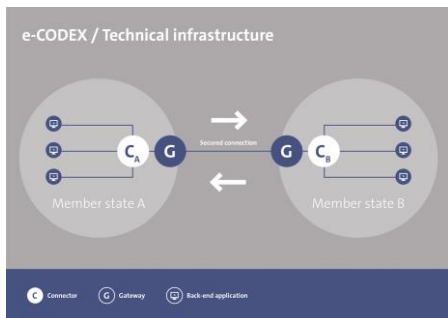
Judicial use cases and associated
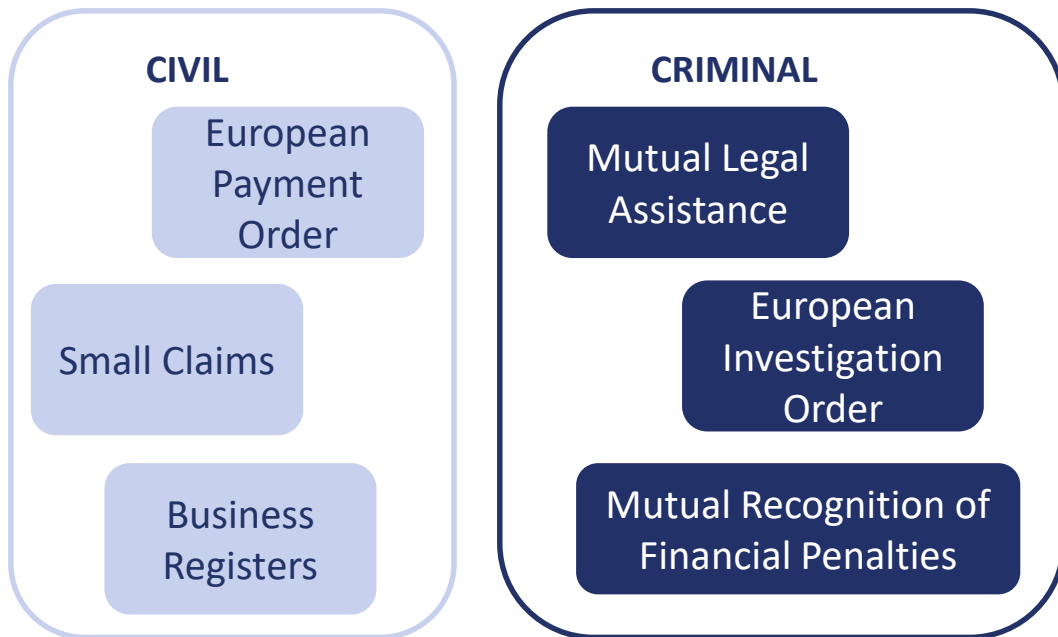laws, business processes, forms and
data to exchange
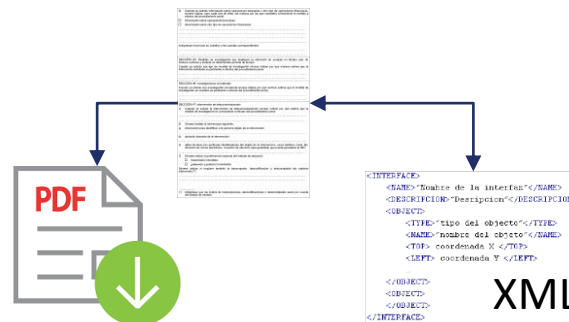


The Actors: Prosecutors, Judges, lawyers…

# What does e-CODEX e-Delivery support?

❖ Different judicial use cases
      ❖ Different appointed bodies
            ❖ From different Member States

## Judicial Use cases

### CIVIL

- European Payment Order
- Small Claims
- Business Registers

### CRIMINAL

- Mutual Legal Assistance
- European Investigation Order
- Mutual Recognition of Financial Penalties

## Member States and other partners



**CCBE** = Council of Bars and Law Society of Europe
**EUBF** = European Bailiffs Foundation
**CNUE** = Council of the Notaries of the European Union

# e-CODEX Technology Infrastructure
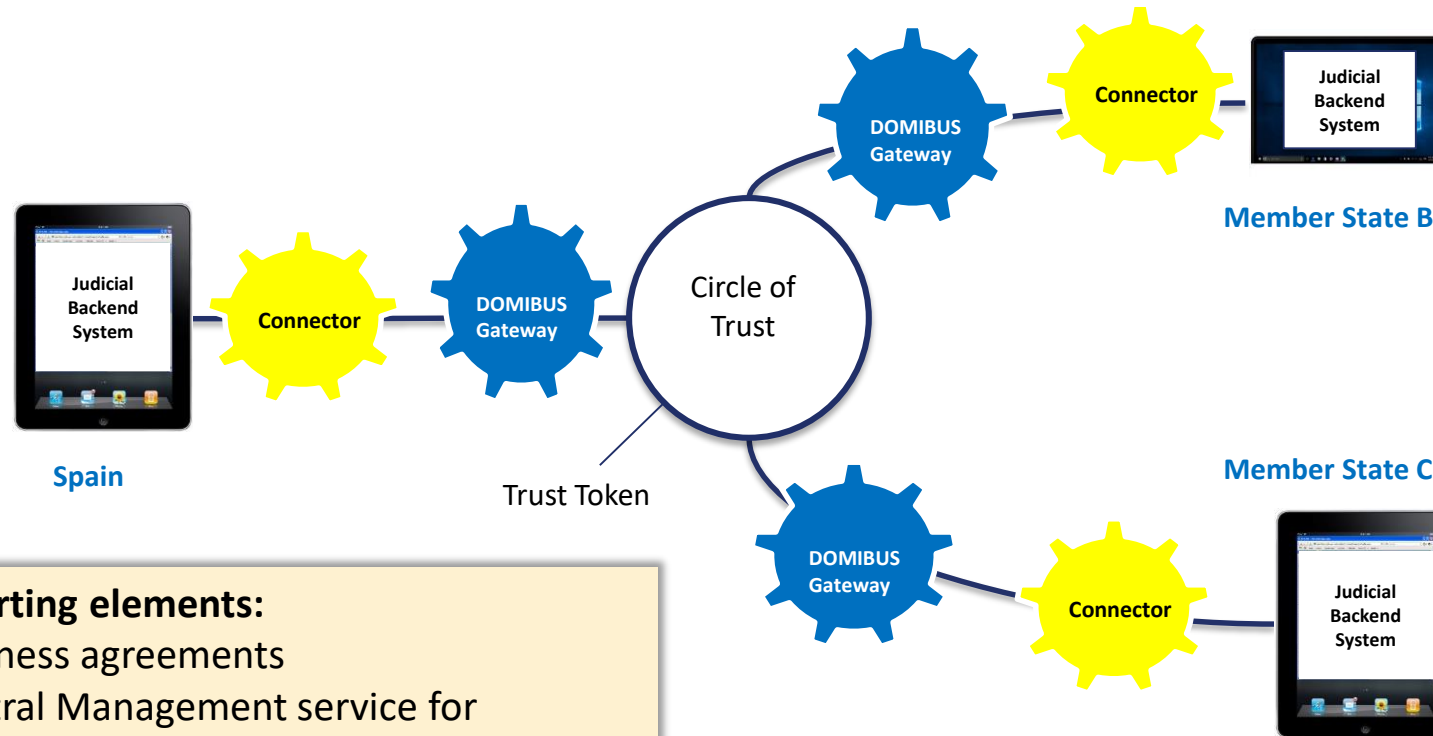
**Supporting elements:**
- ❖ Business agreements
- ❖ Central Management service for
  - ▪ P-modes, DOMIBUS configuration
  - ▪ Exchange of PKI certificates

# Brief history of the Spanish e-CODEX

e-CODEX project

Collaboration in the definition and development of e-CODEX e-Delivery components

Joint definition of the Mutual Legal Assistance (MLA) and the European Investigation Order (EIO)

May 2016 e-CODEX project is completed

Adaptation of the Spanish e-CODEX infrastructure for the EIO

Public Prosecutor Office´s Backend system incorporates European Investigation Order enabling to Exchange EIO

Extend to other Judicial Bodies, Backend Systems, and support other use cases

2011          2016    MAR 2018          Today     Forthcoming

# Lessons Learned

- Establish precise **official agreements** between bodies, i.e. ECHA with each Appointed Body. This contributes to build a sound cooperative environment.

- **Central Management** of p-modes and PKI certificates to prevent difficulties for some participants on acquiring the appropriate IT knowledge. (Best by ECHA)

- **Business PoC and Technical PoC** in each Appointed Body, mirroring what ECHA have already established as decribed in the 'PCN eDelivery Solution Description'.

- Use of **evidence of delivery** to the Backend Systems in each, considering the business legal concerns for ECHA and for the Appointed Bodies

- Provide a **Project Workspace**: participants list, starting kit, calendar of events, roadmap, documentation, test plan and results, etc.

# Thank you

Any question?

# Domibus demo

**(File system Plugin)**

Amar Deep, DIGIT

# Find out more on eDelivery

ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery



## #BIG
## REUSE

**Contact us**

✉ CEF-EDELIVERY-SUPPORT@ec.europa.eu