

Joint Workshop ENTSOG / EASEE- Gas

ENTSOG AS4 profile

Marin Zwetkow



2. Welcome and objectives

Hendrik Pollex, System Operations Business Area Manager
hendrik.pollex@entsog.eu

Structure of event



No	Description	Time
1	Morning Coffee and Registration	10:00 - 10:30
2	Opening (ENTSOLOG) (Hendrik Pollex) ➤ Welcome/Introduction/History/Structure of Event	10:30 - 10:40
3	Data Exchange from EU Regulation 2015/703 (Marin Zwetkow) ➤ Legal Background for Harmonised Data Exchange ➤ Summary of the INT NC Implementation Monitoring Report (chapter V)	10:40 - 10:55
4	Document Based Data (AS4) Exchange – (Marin Zwetkow / Pim vd Eijk) ➤ AS4 Success Story ➤ Update to the ENTSOLOG AS4 Usage Profile and current work	10:55 - 11:10
5	FUNC Issue on data exchange at VTPs and Underground Storages – (Antonio Gomez Bruque) ➤ Elaboration of the reported issues and possible solutions ➤ Evaluation of the public consultation ➤ Next Steps	11:10 – 11:25
6	Presentation – CEF eDelivery team (Maarten Daniels) ➤ Update on the eDelivery AS4-testing platform ➤ Update on the modularized testing approach incl. ENTSOLOG’s AS4 specific parameters ➤ Information about INEA	11:25 - 11:45
Coffee Break		11:45 - 12:00
7	AS4 implementation case studies ➤ IP System – User success story ➤ DESFA – implementation of AS4 ➤ Thyssengas – changeover to a new EDI software solution	12:00 - 12:15 12:15 - 12:30 12:30 - 12:45

- Objective: For ENTSOLOG to update our stakeholders on the latest AS4 Usage Profile and Integrated Data Exchange Profiles
- Elaboration on the reported FUNC issues
- Presentation of the eDelivery AS4 testing platform
- How will this be achieved:
 - Discuss the legal background for harmonised data exchange
 - By presenting the updated ENTSOLOG AS4 Usage Profile V3.6
 - Presentation by CEF
 - Presentations by stakeholders

Structure of event



8	Presentation of the new proposed version of Edig@s v. 6 <ul style="list-style-type: none">➤ Edig@s v6<ul style="list-style-type: none">○ Why including background of role model○ What are the main changes and different directions○ When will it be ready	13:30 - 15:30
	Coffee Break	15:30 - 15:45
9	Implementation Status of Configuration Repository (EASEE-Connect)	15:45 - 16:00
	Next Steps & Public Consultation <ul style="list-style-type: none">➤ Next Steps & Invitation to reply to public consultation➤ Questions and Answers (All)	16:00 - 16:15
10	Closing	16:15 - 16:30

- Objective: For EASEE-Gas to present the upcoming version of Edig@s v/6
- Including background of role model
- Main changes and different directions
- When will the new version be ready
- Status of the configuration Repository (EASEE-Connect)
- Questions and Answers session
- Invitation to a public consultation



3. Legal Background for Harmonised Data Exchange (Data Exchange from EU Regulation 2015/703)

Marin Zwetkow

Interoperability Advisor

marin.zwetkow@entsog.eu

Introduction - Regulation

REGULATION (EC) No 715/2009 - Conditions for access to the natural gas transmission networks

- ...ENTSOG shall adopt a common network operation tools to ensure coordination of network operation in normal and emergency conditions..
- Article 24

Development process for common network operation tools

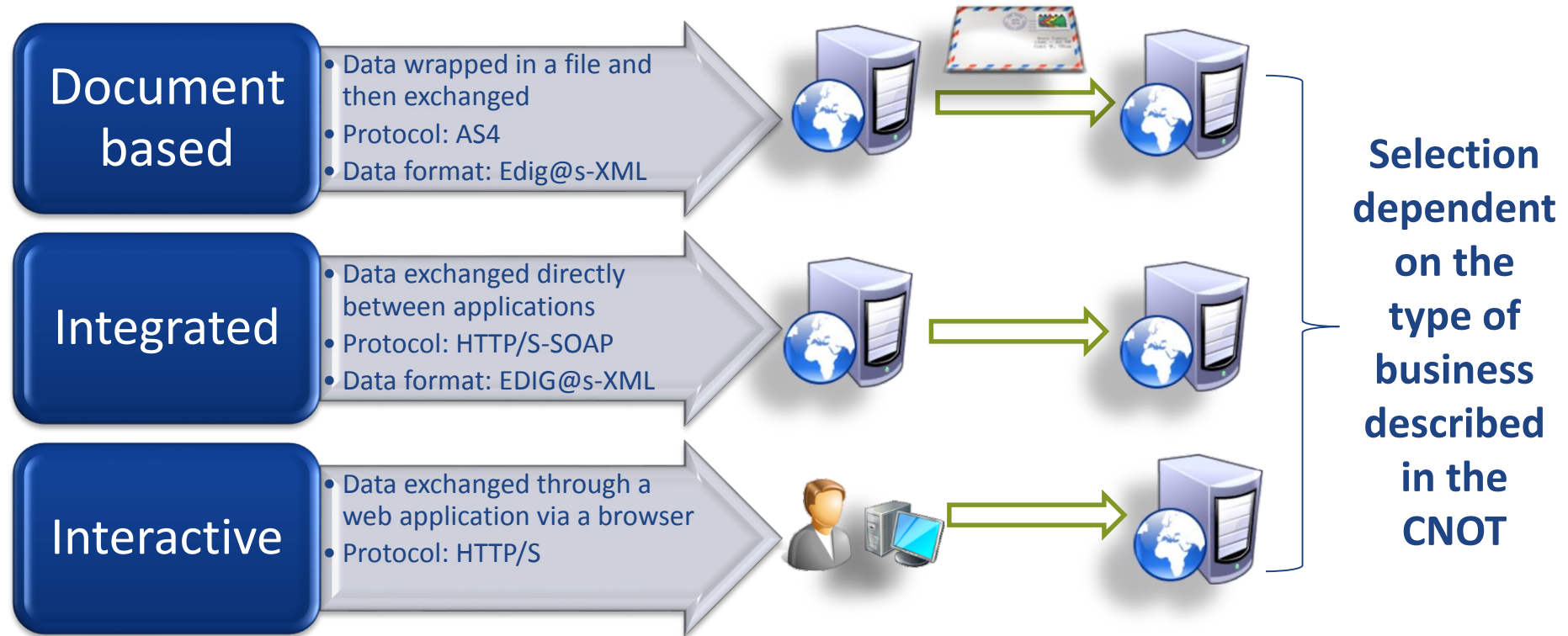
1. For each data exchange requirement under Article 20(2), EntsoG shall develop a common network operation tool in accordance with Article 8(3)(a) of Regulation (EC) No 715/2009 and shall publish it on its website. A common network operation tool shall specify the common data exchange solution relevant for the respective data exchange requirement. A common network operation tool may also include business requirement specifications, release management and implementation guidelines.
2. EntsoG shall establish a transparent process for the development of all common network operation tools. EntsoG shall conduct a consultation for each common network operation tool.

The regulation is available at <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32009R0715>

NC Interoperability and Data Exchange

- Commission Regulation (EU) 2015/703 establishing a network code on interoperability and data exchange rules **shall apply from 1 May 2016**
- TSOs have to be in a position to support the **standard** data exchange solution(s) as defined in the common network operation tools
- Chapter 5, Articles 20, 21, 22, 23 and 24 refer to the data exchange provisions of the network code
- TSOs “**shall make available and use**” the common data exchange solution as described in the common network operation tools

V. Data Exchange - Article 21: Common Data Exchange Solutions



V. Data Exchange - Article 22: Data exchange system security and availability

- Each transmission system operator and each counterparty shall be responsible for ensuring that the appropriate security measures are undertaken.
 - Secure communication chain
 - Appropriate security measures to prevent unauthorised access of the IT infrastructure
- Each transmission system operator shall be responsible for ensuring the availability of its own system and shall
 - To prevent a single point of failure causes an unavailability of data exchange systems
 - Keep downtime, as a consequence of planned IT maintenance low and inform its counterparties in a timely manner



V. Data Exchange

Article 23: Implementation of Common Data Exchange Solutions

TSOs shall implement the common DE solution within 12 months of when NC comes into force



Parties who cannot communicate with TSOs with their existing DE protocol shall also use the common DE solution



Existing solutions can stay in place as long as they are compliant with the data exchange requirements for the corresponding business processes subject to NRA approval



Common Data Exchange Solutions for Nomination & Matching procedures



Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution	Optional Data Exchange Solution – second most preferred by stakeholders**
Nomination authorisation *	Registered NU	TSO	Private	Recommendation-Document Based	Recommendation-Document Based
Nomination	Registered NU	(Initiating) TSO	Private	Document Based	Interactive
Nomination	Registered NU	(Matching) TSO	Private	Document Based	Interactive
Forward Single Sided Nomination	(Active) TSO	(Passive) TSO	Private	Document Based	Interactive
Processed Quantities	(Initiating) TSO	(Matching) TSO	Private	Document Based	Interactive
Matching Results	(Matching) TSO	(Initiating) TSO	Private	Document Based	Interactive
Confirmation Notice	(Initiating) TSO	Registered NU	Private	Document Based	Interactive
Confirmation Notice	(Matching) TSO	Registered NU	Private	Document Based	Interactive
Interruption Information	(Initiating) TSO	Registered NU	Private	Document Based	Interactive
Interruption Information	(Matching) TSO	Registered NU	Private	Document Based	Interactive

* Data exchange solution is not mandatory but recommended and has to be negotiated between the TSO and NU

** Neither the offering nor the format of an Optional Data Exchange Solution is mandatory

Common Data Exchange Solutions for CAM & CMP



Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution	Optional Data Exchange Solution – second most preferred by stakeholders**
Network User Registration*	Network User	Transmission System Operator	Private	Recommendation – Interactive	Recommendation - Interactive
Network User Registration to Auction Office*	Network User	Auction Office	Private	Recommendation – Interactive	Recommendation - Interactive
Approved Network Users*	Auction Office	Registered Network User	Private	Recommendation – Interactive	Recommendation - Interactive
Surrender Capacity Rights	Registered Network User	Auction Office	Private	Interactive	Document Based
Offered Capacity	Auction Office	Registered Network User	Private	Interactive	Document Based
Capacity Bid	Registered Network User	Auction Office	Private	Interactive	Document Based
Allocated Capacity	Auction Office	Registered Network User	Private	Interactive	Document Based
Aggregated Auction Results	Auction Office	All	Private	Interactive	Document Based
Surrendered Capacity Sold	Transmission System Operator	Registered Network User	Private	Document Based	Interactive
Reverse Auction Bid	Registered Network User	Auction Office	Private	Interactive	Document Based
Allocate Reverse Auction Results	Auction Office	Registered Network User	Private	Interactive	Document Based
Secondary Market Sales	Registered Network User	Transmission System Operator	Private	Interactive	Document Based
Secondary Market Sales	Transmission System Operator	Registered Network User	Private	Interactive	Document Based

* Data exchange solution is not mandatory but recommended and has to be negotiated between the TSO and NU

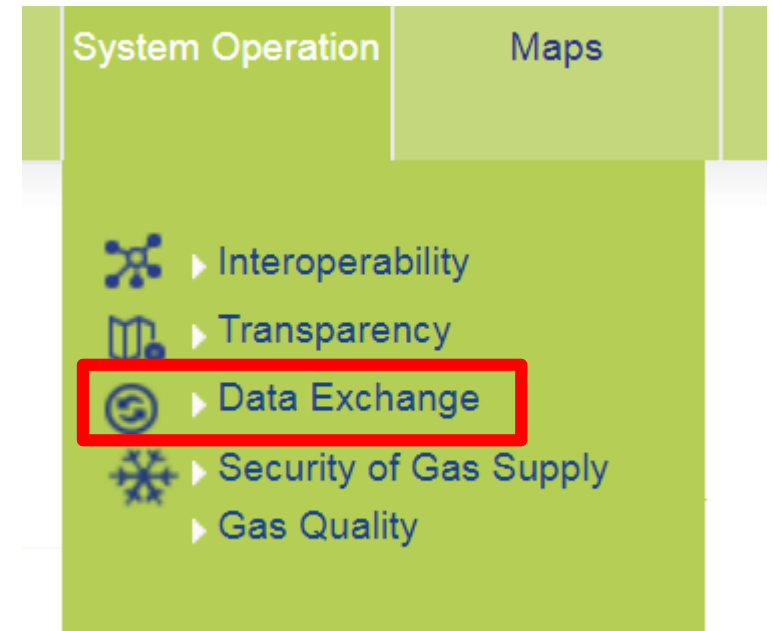
** Neither the offering nor the format of an Optional Data Exchange Solution is mandatory



ENTSOG Website – Section data exchange

- AS4 documents for implementation
 - AS4 Mapping Table – Overview of the Service Parameters, Actions and Roles
 - AS4 Usage Profile
 - Profile Comparison
- AS4 supporting documents
 - Setting up an AS4 System – description of the deployment and configuration of AS4 for ENTSOG
 - AS4 agreement approach & configuration management approach
- AS4 Questions and answers
 - Summary of the AS4 Q&A session
 - General Q&A regarding the AS4 profile

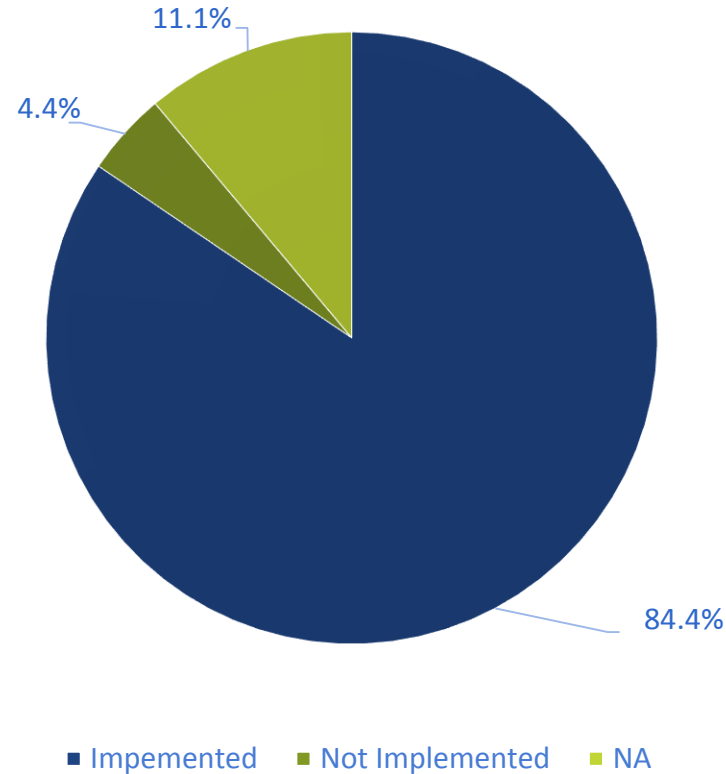
www.entsog.eu





INT NC Implementation Monitoring Report 2018

INT NC: Chapter 5, Article 22 – Data exchange system security and availability

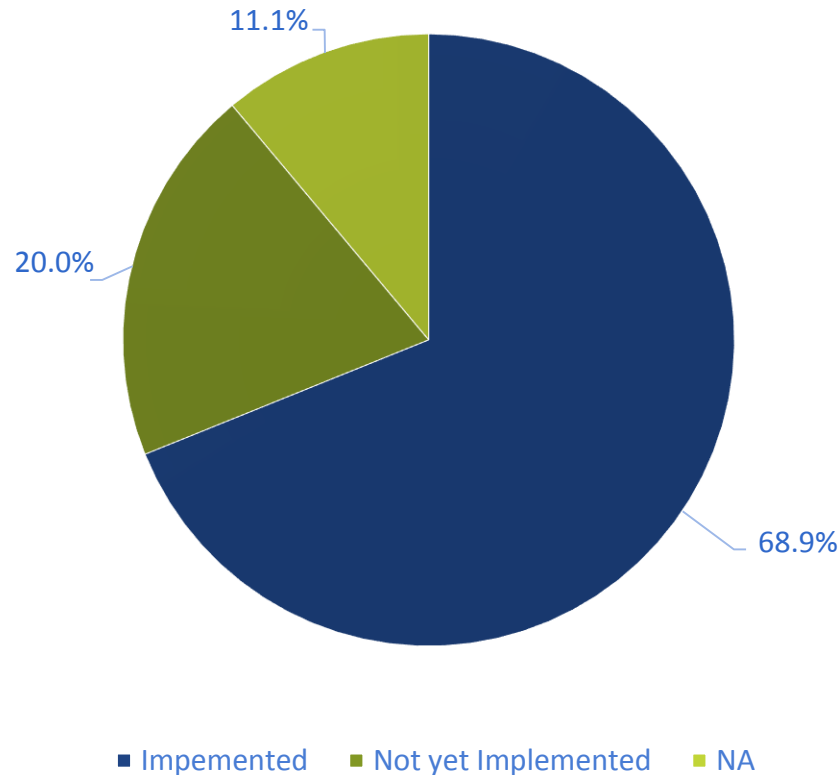


This report is based on the answers of 45 ENTSOG members. 84.4% are implemented by ENTSOG's Members, 4.4% not implemented, 11.1% not applicable (TSOs without Interconnection Points)



INT NC Implementation Monitoring Report 2018

INT NC: Chapter 5, Article 23(1) and 24 – Implementation of the common data exchange solutions

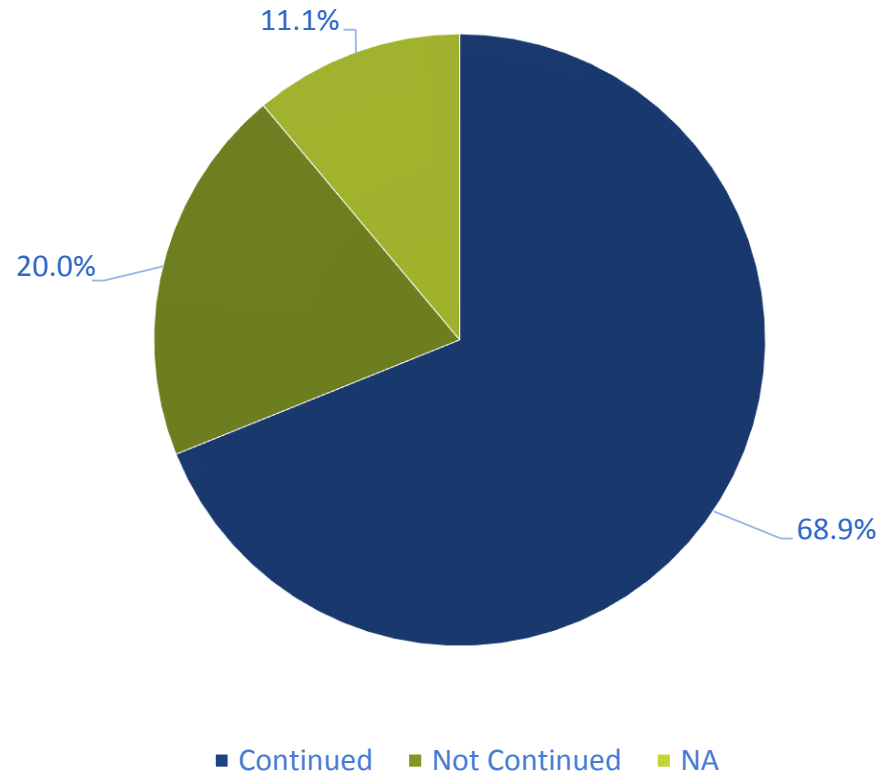


- 68.9% are implemented by ENTSSOG’s members, 20% not yet implemented, 11.1% not applicable (TSOs without Interconnection Points)



INT NC Implementation Monitoring Report 2018

INT NC: Chapter 5, Article 23(2) and 24 – Continued application of existing solution



General	Market
▶ New publications	
▶ Statutes	
▶ Press Releases	
▶ Annual Work Programme (AWP) & Annual Reports	
▶ Implementation Monitoring	
▶ Positions and Consultation Responses	
▶ Glossary of definitions	

- 68.9% continued using existing solutions, 20% stopped using existing solutions, 11.1% not applicable (TSOs without Interconnection Points)



4. Document Based Data Exchange via AS4

Marin Zwetkow

Interoperability Advisor

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AS4 success story



- 38 TSOs have fully implemented AS4 as of Q1 2018
- TSOs have wide choice of AS4 solutions, including open source
 - Multi-vendor interoperability for AS4 is proven in practice
- Several Member States deploy AS4 more widely than just for the Network Code
 - Mandated for national use, also for other types of exchanges, or not just for gas
- The core of ENTSOG AS4 is reused for CEF eDelivery AS4 Common Profile
- CEF conformance testing platform supports Common Profile
 - Will soon also support ENTSOG-specific extensions
- ENTSOG investigates on regular basis potential new developments of the profile considering the market needs
- AS4 Q&A session hosted by ENTSOG 25/01/18 including 11 participants – provided input for the changes within the ENTSOG AS4 profile



4. Update to the ENTSOG AS4 Usage Profile and current work

Pim van der Eijk
Consultant



ENTSOG AS4 User Profile



Why is a usage profile needed?

- Select the functionality needed for the domain
 - Not all features are relevant
- Narrow down options to
 - Simplify design, build, test & deployment of implementations
 - Reduce cost and time of implementation for all stakeholders
 - Select options that are secure and future-proof





ENTSOG AS4 Versions



Current Version is 3.5

- Published in February 2017
- Changes from earlier published version 2.0 (of June 2015) are mainly clarifications but also some minor (including some incompatible) changes requested by users
- Specification has a full change log back to earliest draft / tracked changed version is also available
- New feature is required support for ebCore Certificate Update

New Draft Version 3.6

- Approved by ITC KG in March 2018
- Fine-tuning and “tightening” of the profile
- Fully aligned with eDelivery AS4 Common Profile
- Draft specification, not approved by ENTSOG INT WG for publication yet
- Minor changes only, no need for changes in software products



ENTSOG AS4 version 3.6



Limitations of profiling in earlier versions of ENTSOG AS4

- The goal of the profile has always been to narrow down options as much as possible
- However, in some cases it is still provided options or left details unspecified
- Some features were recommended instead of mandated:
 - Limitations of AS4 products (e.g. many vendors initially struggled with some of the security algorithms)
 - Anticipation of potential future use, but not used today

Downsides

- Every flexibility in profile becomes a potential source for configuration mismatches between communication partners
- Vendors that strictly implemented the profile had to make costly exceptions (product changes) to accommodate all the others

Tightening the ENTSOG AS4 in version 3.6

Tightened in Version 3.6

- Format for AS4 message identifier
- Signing certificate in XML Signature to be referenced using Binary Security Token reference
- Key transport algorithms in XML Encryption mandatory to use
- Checks mandated on delegation in service provider model
- Firewall guidance removed

Fully aligned with eDelivery AS4 Common Profile

- Stricter than ENTSOG 3.5 and earlier, because vendors were found to have upgraded their products to add support for newer algorithms"

Next steps to be decided by INT WG

- Based on feedback from the market



Ongoing Work



Supporting Certificate Updates

- ebCore Agreement Update specification enables parties to update existing certificate configurations for data exchange using secure AS4 messages
- Support has been required in ENTSOG AS4 since v2.6 (October 2016)
- Goal is to obviate the need for expensive “Migration of Certificate” projects
- Not yet used in practice; ITC KG working on a proof-of-concept

Supporting Partner Configuration

- Data model and XML interchange formats for data exchange configuration parameters to streamline setting up new AS4 partners
- Aligned with new OASIS CPPA3 specification
- Related to ongoing work in EASEE-gas to host a configuration management portal for its members



5. FUNC Issue on data exchange

Antonio Gomez Bruque

Interoperability Subject Manager

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Introduction and status update

Functionality Process goals

The purpose of the Functionality process

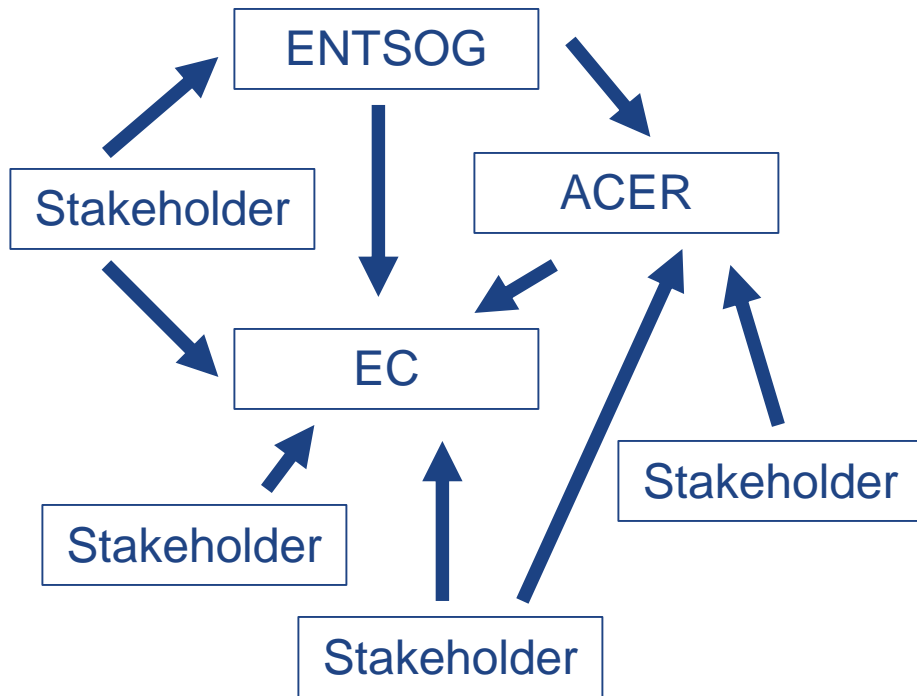
- Option for stakeholders to provide input on their concerns with the existing gas-related legislation*
- Any issues associated with the NCs and GLs can be raised
- Ensure ENTSOG and ACER are working side by side with equal mandate in such discussions about gas-related legislation
- Issue solution(s)
- Run jointly by ACER and ENTSOG, supported by EC



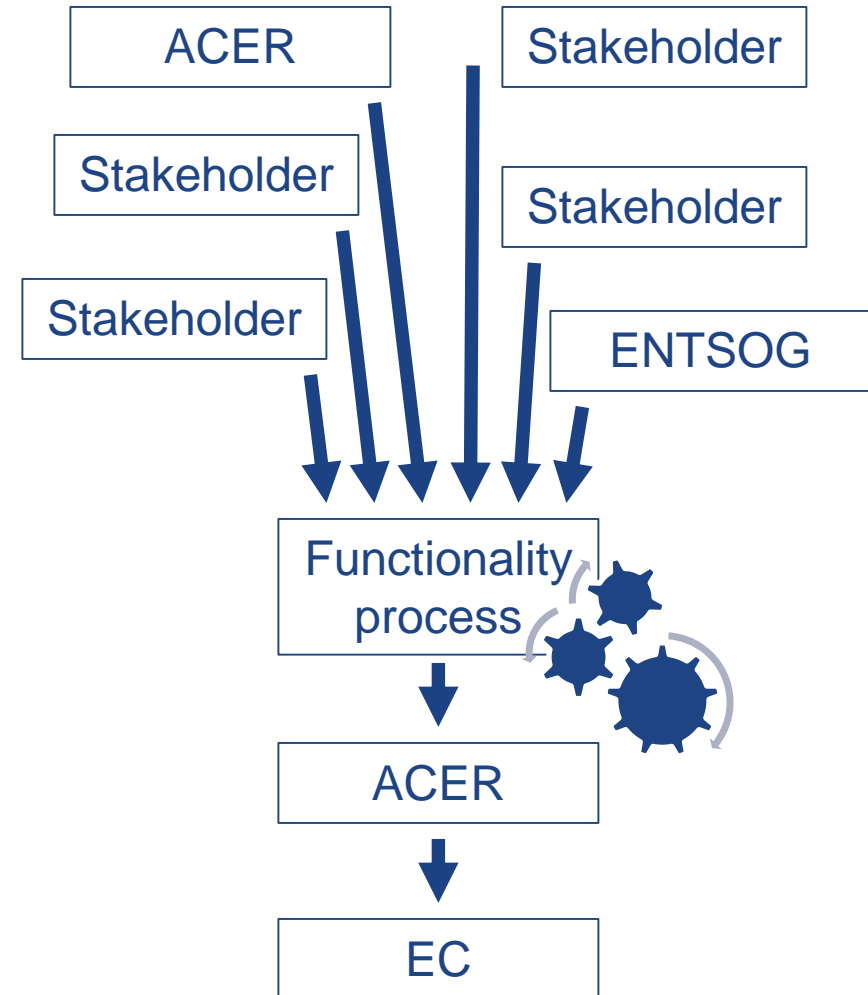
**The application of Reg. 713/2009 and Reg. 715/2009 is not affected.*

This process is without prejudice to the existing obligations and powers of TSOs and NRAs.

Robust Transparent Conceptual Process



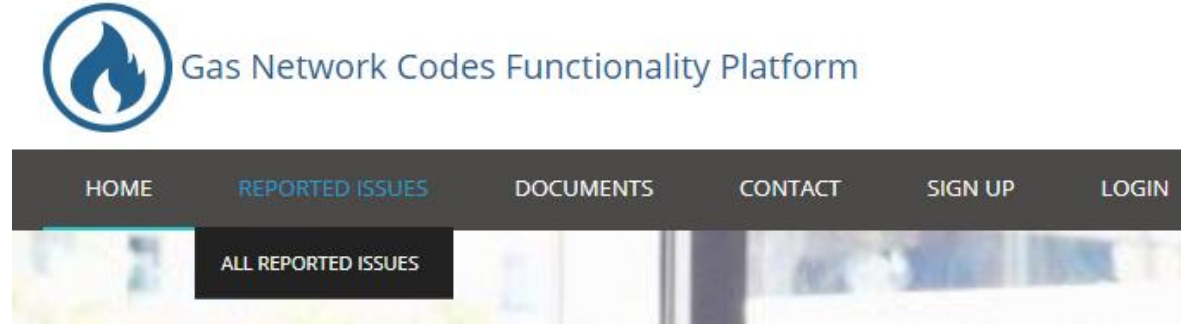
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Functionality Process scope

The Functionality process scope:

- Related to and/or derived from NCs or GLs (CAM NC, CMP GL, BAL NC, INT NC, TAR NC, TRA GL)
- Issues previously being addressed will not be reconsidered unless change in materiality can be shown.
- Also other validation criteria can be used, if agreed between ACER and ENTSOG.





Data exchange at VTPs and UGS



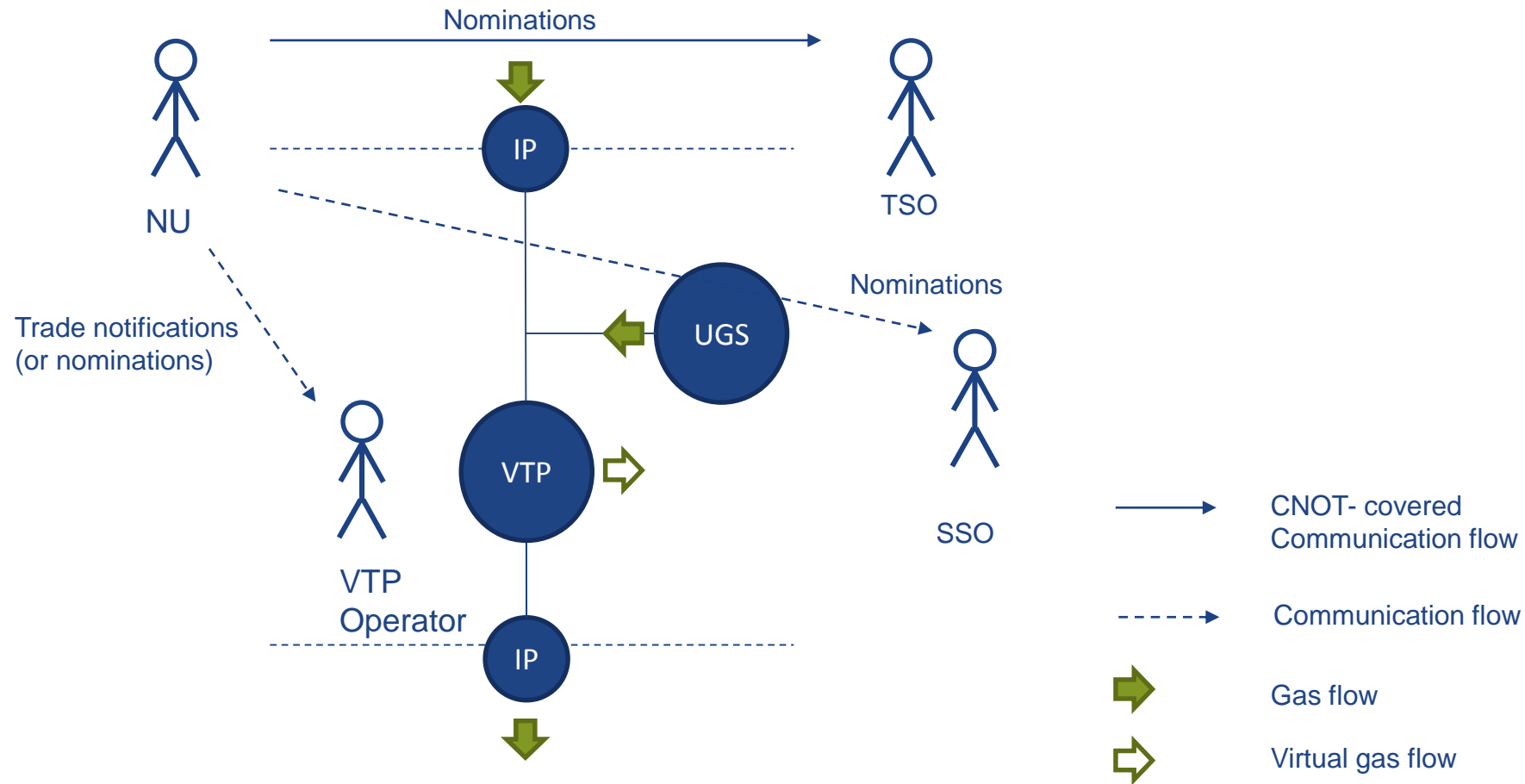
Issue description (Equinor)

- **Issue subject:** Communication protocol and encryption (original title)
- **Reported issue:**
 - Storage operators and market area operators (Gaspool and Netconnect Germany) tell they do not need to follow article 23 (Implementation of Common Data Exchange Solutions. In this case, AS4).
 - This leads to an extra cost where network users need to keep AS2 and also ask their vendors to support new encryption algorithm to AS2.
 - In addition they also claim they are not obliged to support edig@s xml (file format) for nominations on the VTPs.
 - If the network code isn't covering these companies the Network Code on Interoperability and Data Exchange Rules, Commission Regulation (EU) 2015/703 has a reduced effect on harmonization.
- The issue has received the support of ENGIE, GasTerra and EASEE-Gas



Data exchange at VTPs and UGS

Issue context: Nominations and Matching process



Current ENTSOG CNOT only covers nominations at IPs



Data exchange at VTPs and UGS



Overview of steps taken so far

- Issue categorized as valid and of European scope
- Potential solutions jointly developed by ENTSOG and ACER
 - VTP issue: European solution (NC amendment)
 - Storage issue: National solution vs European fully fledged binding solution
- Stakeholder meeting on 16 May
- Public consultation open from 17 May to 13 June
- Consultation report published in August on the FUNC platform
 - 30 answers received
 - General support for NC amendment and CNOT extension
- In view of PC results, ENTSOG and ACER updated draft solutions by 25 September
- Stakeholder meeting on 2 October (discussion)
- **Next steps**
 - ACER and ENTSOG to reach a final agreement on the solutions
 - Publication of the solution and closure of the issue expected in early 2019



Data exchange at VTPs and UGS



Public consultation overview

- 30 participants: 15 NUs, 7 TSOs, 5 SSOs, 2 MAMs, 1 NRA, 2 associations, 1 clearing responsible party, 1 LSO.
- VTP issue:
 - 24 vs 1 participants support an amendment of the NC to make VTP operators use common data exchange solution
 - One NU argued that there is a stronger case for harmonizing trade “nominations” than for trade notifications.
 - One NU considers allocation and processes connected to balancing should also be harmonized.
- Storage issue:
 - 18 vs 7 respondents believe lack of harmonization is a barrier
 - 19 participants would benefit from harmonization at other points requiring nominations (BAL NC Article 18)
 - 5 supported “National voluntary solution” vs 19 for “Fully fledged European solution”



Updated draft solutions

Data exchange at VTPs and UGS

Solution summary

- *Amendment of the INT NC (European solution for VTP + national regulatory for other points):*
 - *Insert in Article 1 (2): “Chapter V shall apply to **IPs, virtual trading points and, subject to NRA decision, other points**”*
 - *Change Article 20 (1) “counterparties means network users active at **IPS or Virtual trading points or other points within the meaning of Article 1 (2)**”*
 - *Add **Article 24a**: Article 20 (2) – 23 shall apply to the transmission system operator, **entities who carry out tasks of the transmission system operator and other system operators to the extent they are affected by Article 1 (2)**”*
 - *New **Art 26a**: The implementation date of the amendments in Article 1(2), 20 (1) and 24a shall be **XX.YY.2020 (if the amendment process starts this year) for VTPs and, subject to NRA decision, for other points.***
- *ENTSOG will update the CNOT for Nominations and Matching to include:*
 - *An explanation of the different types of trade notifications.*
 - *Nominations to storage facilities, LNG terminals and other points subject to nomination (as per BAL NC article 18)*
 - *Extension of the CDES table for these data exchange requirements*
- **NRA or competent authority, to be further discussed.*



Data exchange at VTPs and UGS

Considerations on the updated draft solution

- The updated draft solution would:
 - Clarify that harmonization is applicable also to VTPs from a common future date
 - Clarify that parties carrying out data exchange on behalf of TSOs (such as Market Area Managers) are also bound by the INT NC.
 - Leave discretion to NRAs in:
 - Applying the ENTSOG CNOTs beyond the scope of the INT NC (IPs + VTPs) to other points (storage points, LNG terminals) and deciding on the implementation date
 - Setting obligations for SSOs, LSOs and other operators not acting on behalf of a TSO.
- Any future harmonization work on other topics (e.g. allocations) would be reasonably framed by the amended INT NC by distinguishing between the minimal interoperability scope (IPs + VTPs) and possible extensions as decided by NRAs
- *We expect that NC amendment process will not be fast considering that a new parliament will be elected in 2019 and the on-going higher level regulatory discussion (negotiations on Electricity regulation and the gas package)*



6. CEF eDelivery team

Maarten Daniels

CEF



CEF eDelivery

Conformance Testing for the ENTSOG community

04 October 2018

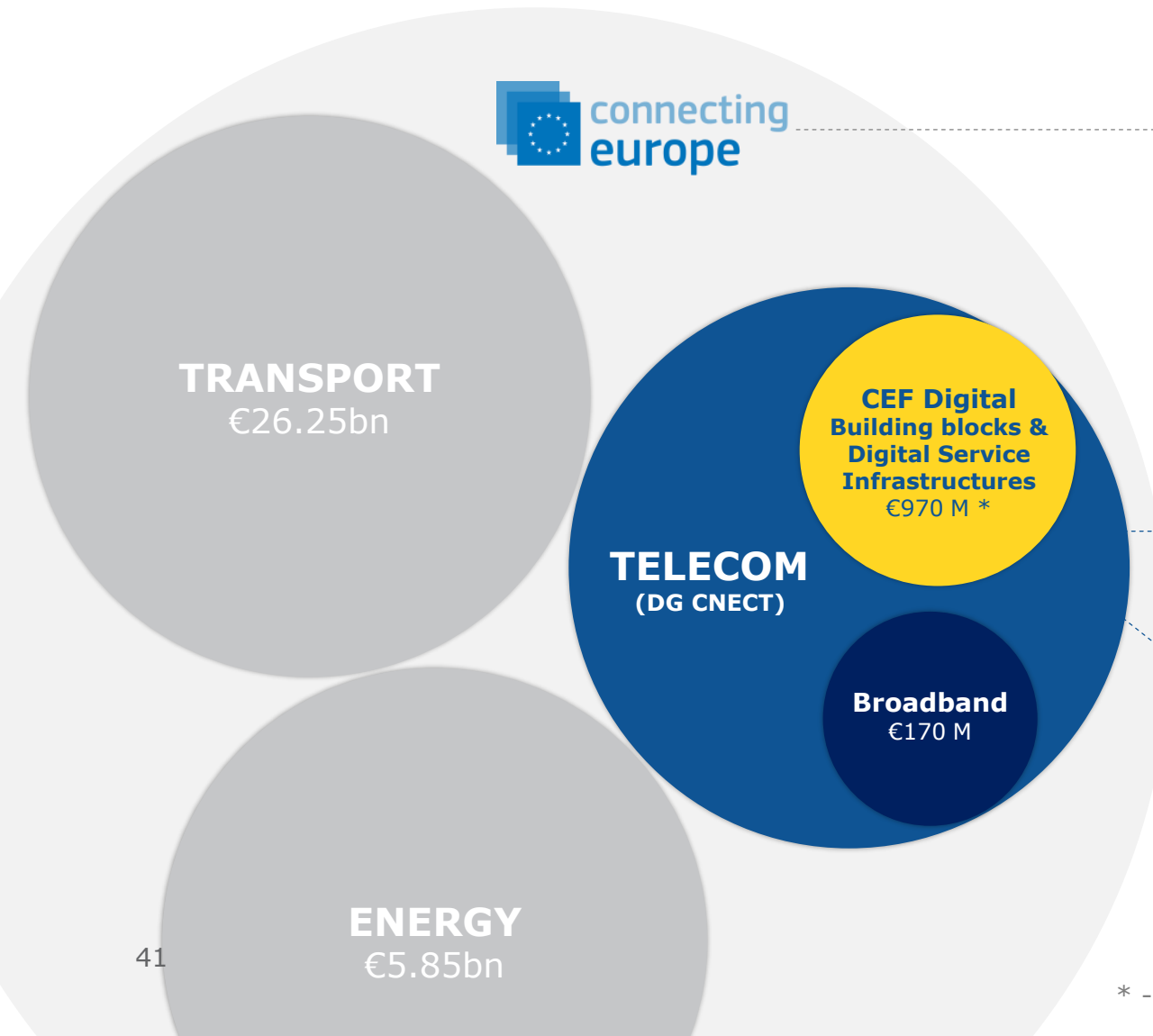
Agenda

- 1.** Introduction to CEF eDelivery
- 2.** eDelivery AS4 profile and its relation to the ENTSOG AS4 profile
- 3.** CEF eDelivery Conformance testing service
- 4.** Grants available from INEA
- 5.** Q&A

1

Introduction to CEF eDelivery

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

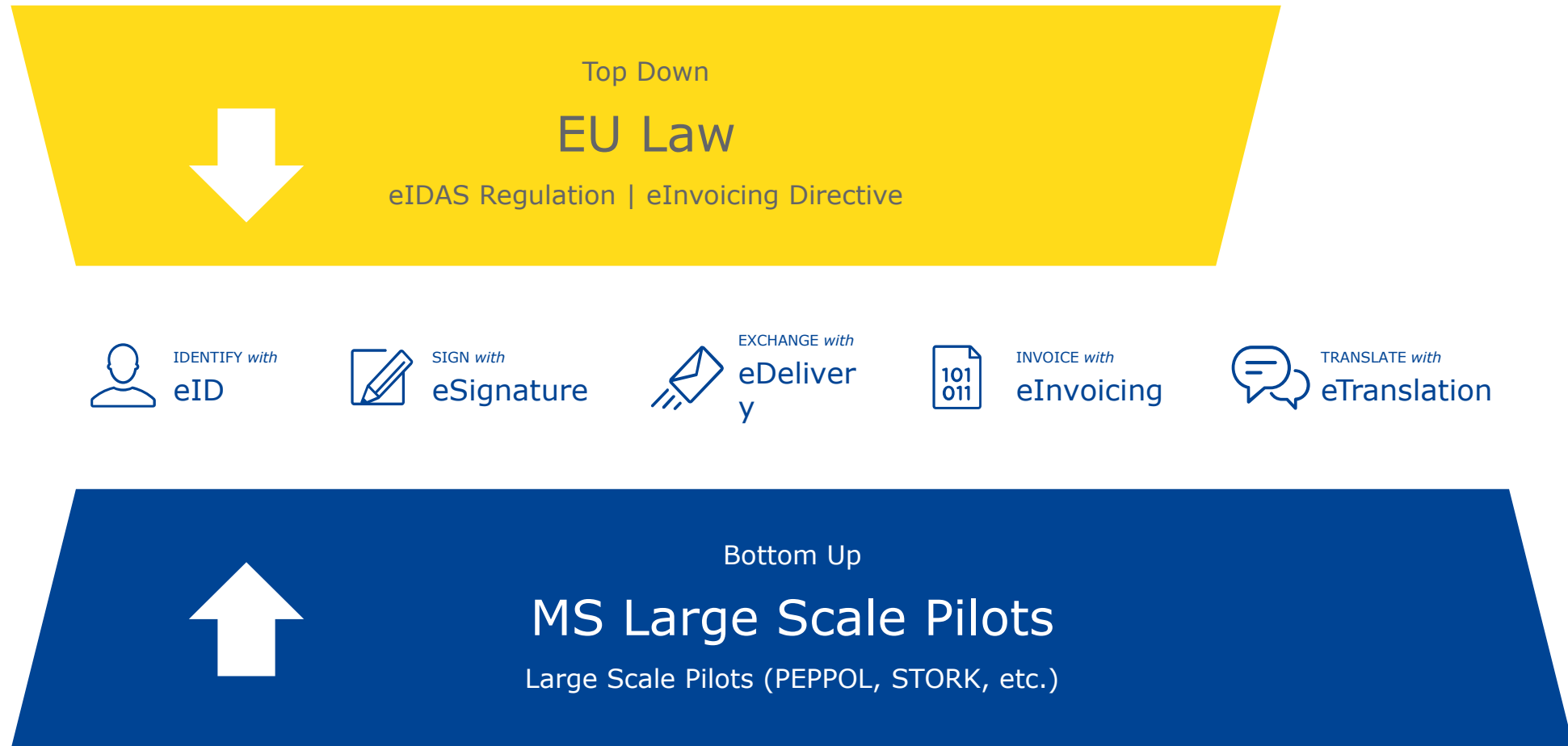


Typically 'deployment' projects at national level (up to 75% of eligible cost)

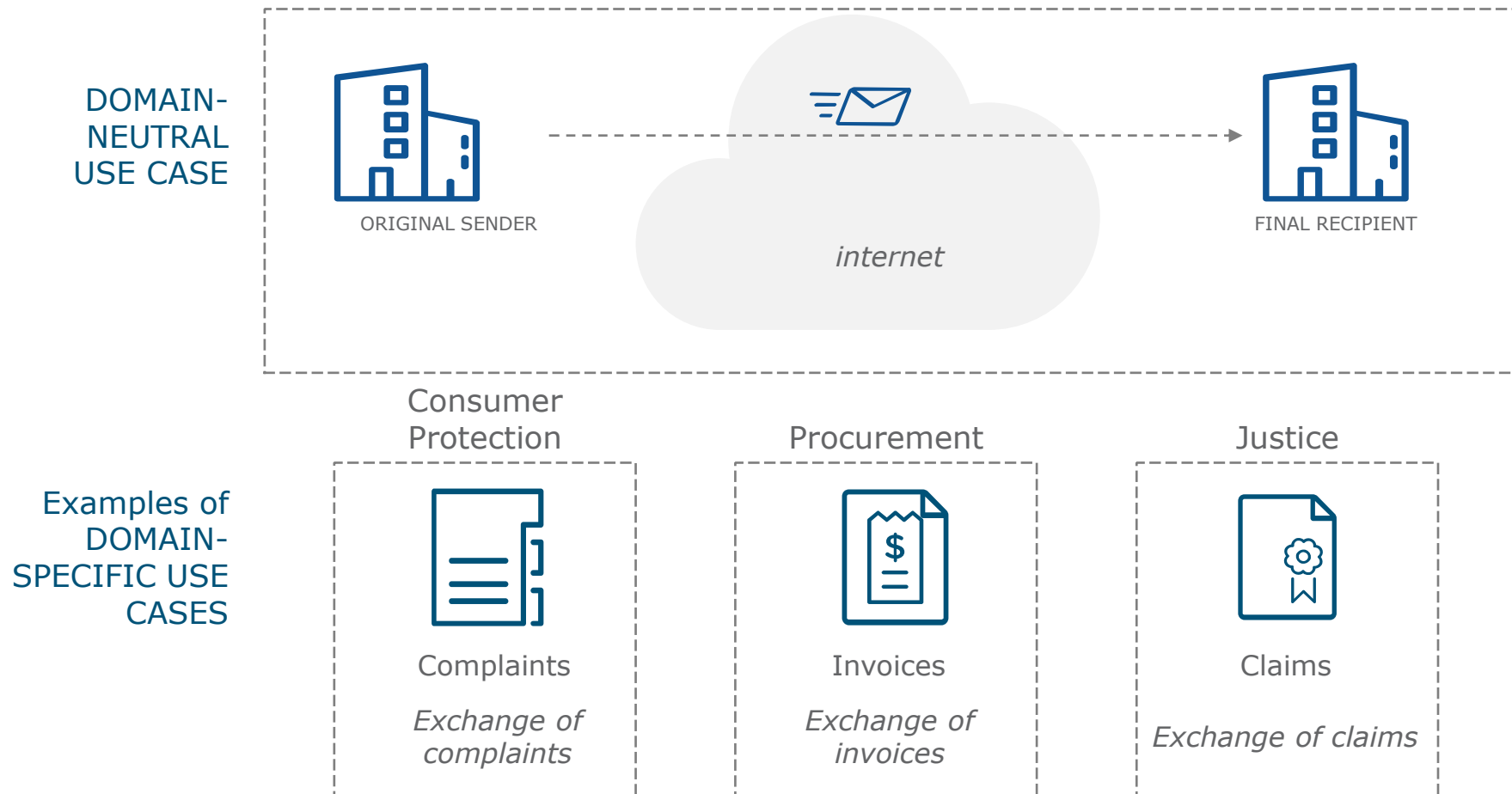
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Funds the use of building blocks in these sectors by the Commission and in the Member States

The CEF building blocks were developed by the Member States through pilots and most are supported by legislation such as eIDAS



The eDelivery Use-Case



eDelivery onboarding-race



PHASE

COMMITMENT GATE

SET UP

	PROSPECTING	ELICIT requirements	DESIGN eDelivery infrastructure	SELECT eDelivery solutions	DEPLOY eDelivery solutions	OPERATE eDelivery solutions	
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CEFS DSIs	CyberSec DG CNECT	eTranslation / ELRC DGT	eHealth (AS4) DG SANTE		eHealth (SMP) DG SANTE	ODR DG JUST	EU-CEG DG SANTE
	ePayments ECB				EESSI DG EMPL	eProcurement (*) GROW DIGIT	PNR (regulated) DG HOME
							e-Justice eCodex DG JUST
							BRIS DG JUST

Other Policy Projects	Customs Single Window DG TAXUD	CISE DG MARE	TACHOnet DG MOVE	DECIDE (upgrade) SG			
	ECRIS DG JUST	eTransport Docs DG MOVE	eEvidence DG JUST	EPREL DG ENER			
	IRI DG JUST		EUDAMED 3 DG GROW	ICS2 DG TAXUD			
	Maritime Single Window DG MOVE						
	Central Clearance Import DG TAXUD						
	IRMA DG HOME						
	e-enforcement academy DG JUST						
	IMI DG GROW						
Inland Waterway Transport DG MOVE							

Member State led projects (including CEF grants)			Utdataprojektet ESV	TOOP (once-only)	Slovenia Supreme Court's communications Laurentius	NOBLE project (Postal Services)	PEPPOL (upgrade to AS4)
				Development of NL eDelivery gateway Logius.nl	e-Impact (CEF Transport)		

Other institutions	European Data Protection Supervisor	Parliamentary Q + Trialogue + OP Parliament European Aviation Safety Agency	European Citizens' Initiative		CIxP The European Council		ENTSO (Gas operators)
	European Chemical Agency		European Union Agency for Railways		eDocX2017 DG HOME (EMCDDA)		
	European Anti-Fraud Office						

(*) Also part of PEPPOL



Read all the Connecting Europe success stories on CEF Digital

View >

2

eDelivery AS4 profile and its relation to the ENTSOG AS4 profile

Technical specifications of eDelivery



Available
for **free**



Supported by
**multiple
programming
languages**



Independent from
any specific
vendor products



**Supported by (Open Source
and Commercial) solutions**
that can be purchased in a
competitive environment

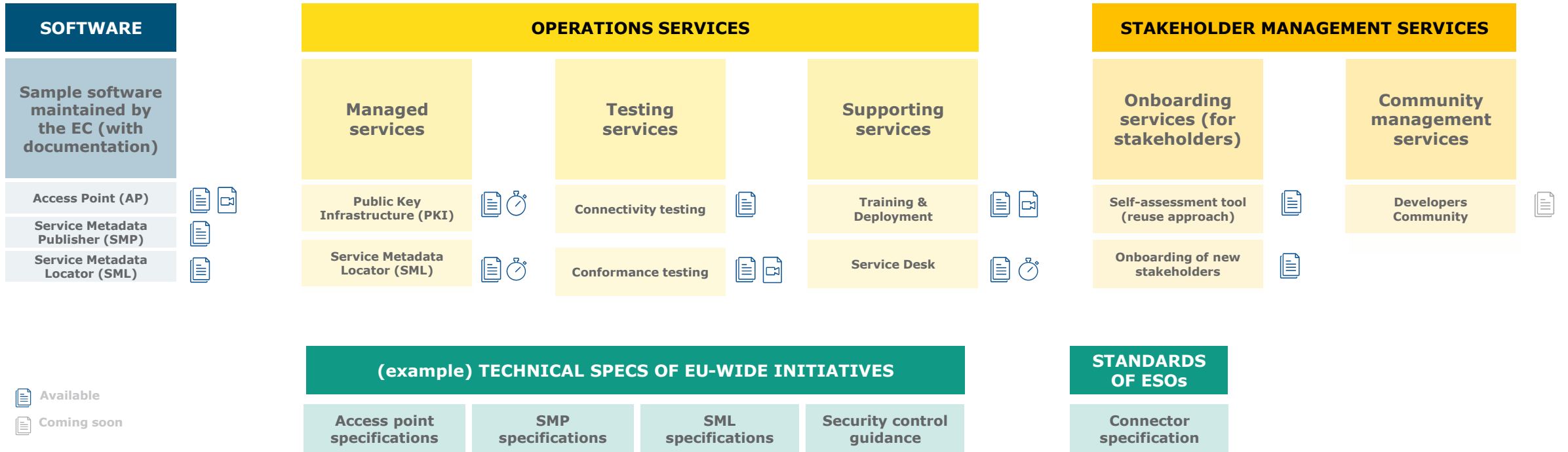
eDelivery AS4 profile
vs
ENTSOG AS4 profile


- Both profiles are closely related
- Main differences relate to the Usage Profiling
- Modularisation of the eDelivery AS4 profile has been released in May 2018
- The result is a common core (shared with the ENTSOG AS4 profile) and optional additional modules, called profile enhancements
- This provides opportunities for ENTSOG solution providers to perform conformance testing and mitigate potential interoperability issues


3

CEF eDelivery Conformance testing service

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 >](#)

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



[Back to Service offering >](#)

USERS

Software Providers
Service Providers

STATUS

- ● Service
- ● Documentation

More info

[CEF Digital >](#)

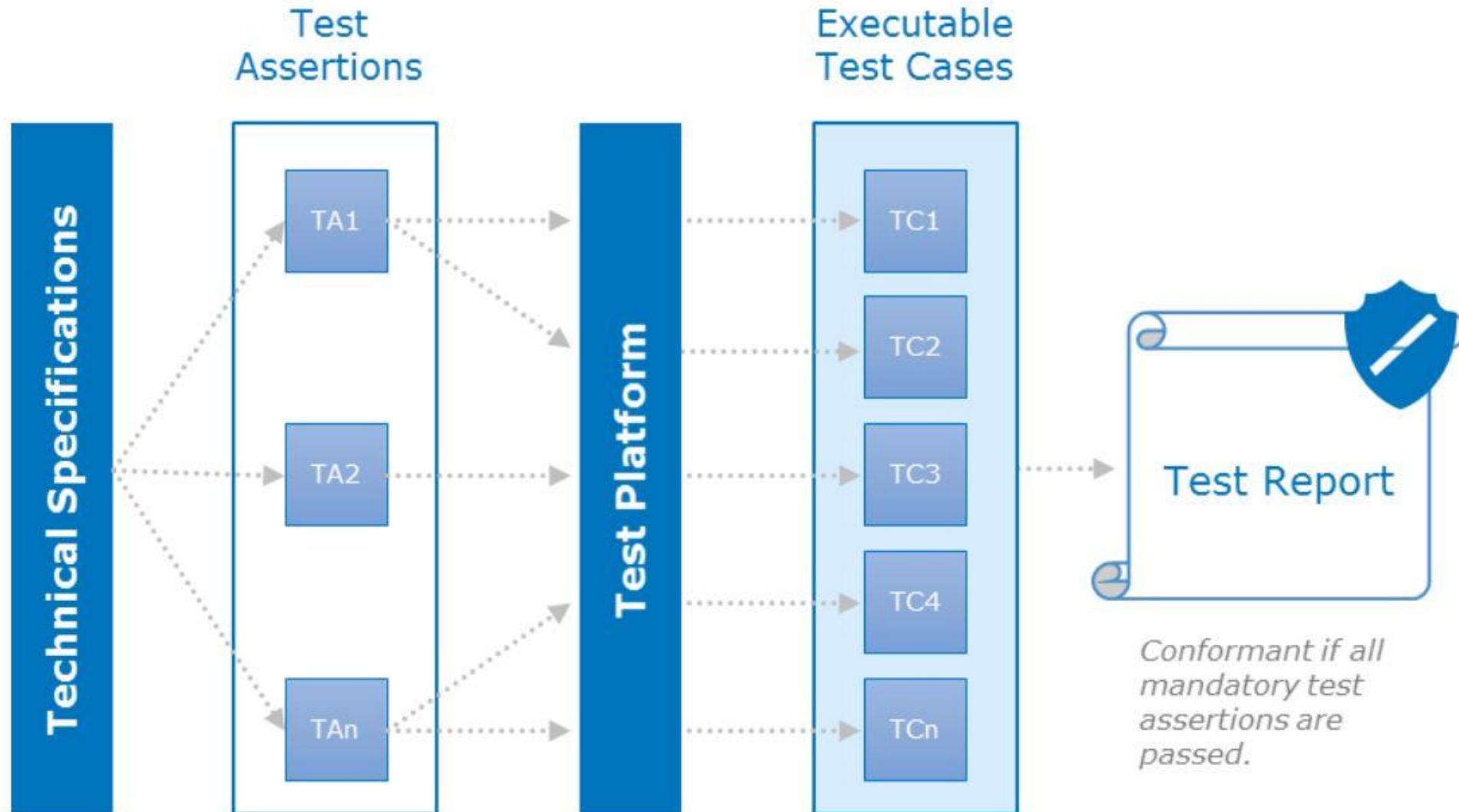
Get started

[Contact us >](#)

Benefits of CEF eDelivery Conformance Testing

- Get assurance that a software package is conform the CEF eDelivery specifications (CEF eDelivery AS4 and ENTSOG AS4 share the same common core)
- Supporting tools developed and proofed in the context of the e-SENS project
- Testing supported by eDelivery team
- 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

From specifications to test cases



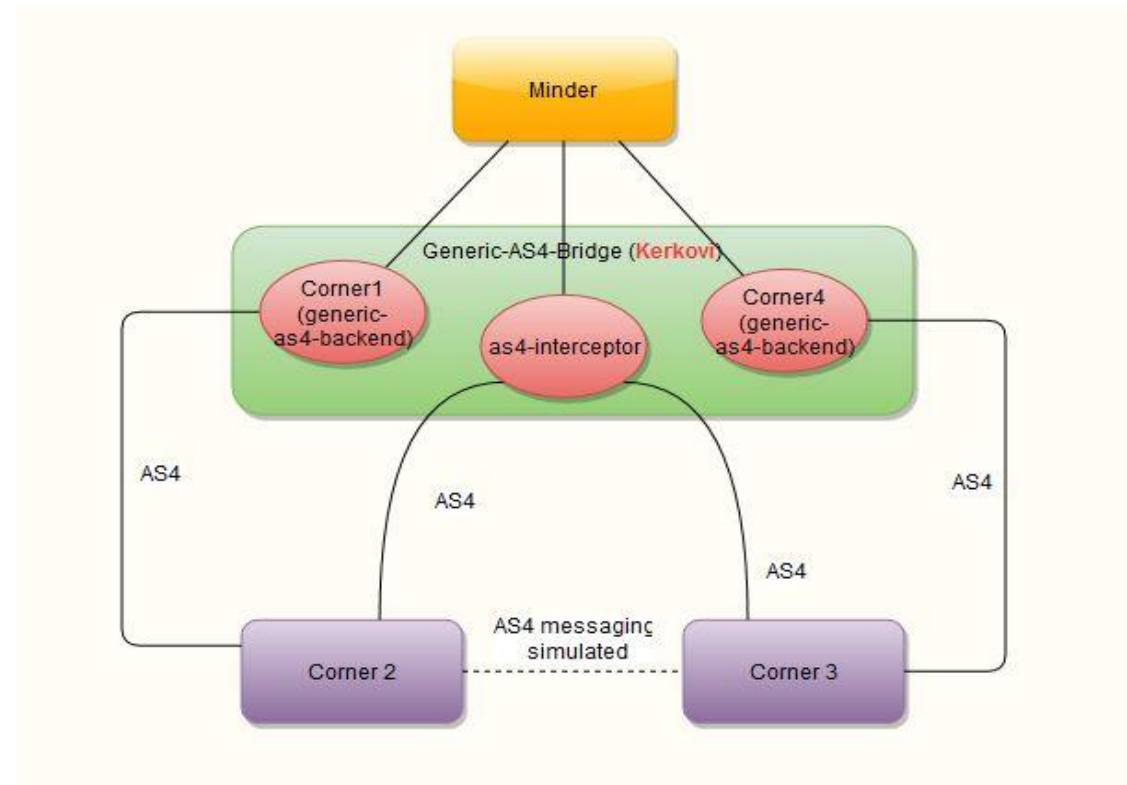
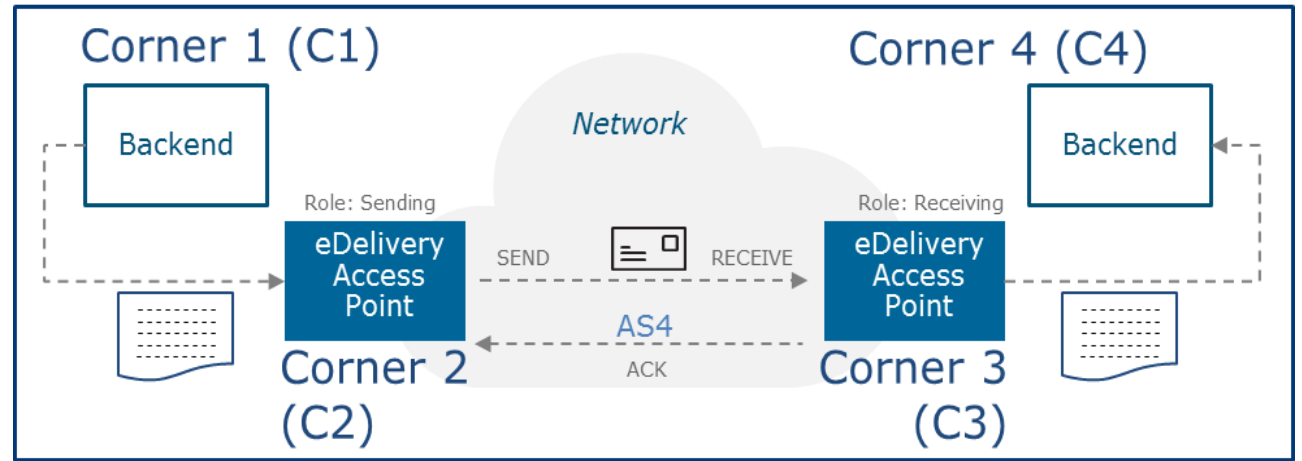
Sample AS4 test case

The requirements are used as input to create Test Assertions

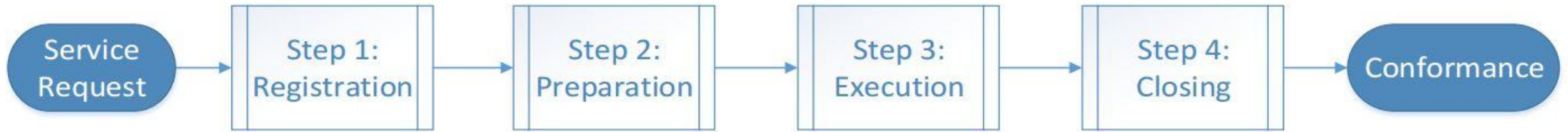
AS4_CP_TA05	
TA id	AS4_CP_TA05
Normative source	[eDelivery-AS4] "Due to the mandatory use of the AS4 compression feature in this profile (see section 2.2.3.3), XML payloads MAY be converted to binary data, which is carried in separate MIME parts and not in the SOAP Body. Conformant eDelivery AS4 messages therefore always have an empty SOAP Body."
Target	Payload location
Prerequisite	<ul style="list-style-type: none">• SSMH and RSMH are configured to exchange AS4 messages according to the eDelivery AS4 profile. (One-Way/Push MEP)• Producer submits a message with metadata information and an XML payload to the SSMH.• SSMH generates an AS4 message to send to the RSMH.
Predicate	In the AS4 message created by the SSMH, the compressed payload is carried in a separate MIME part and the soap body is empty.
Prescription Level	Mandatory
Tag	Payload packaging
Variable	

Sample AS4 test case

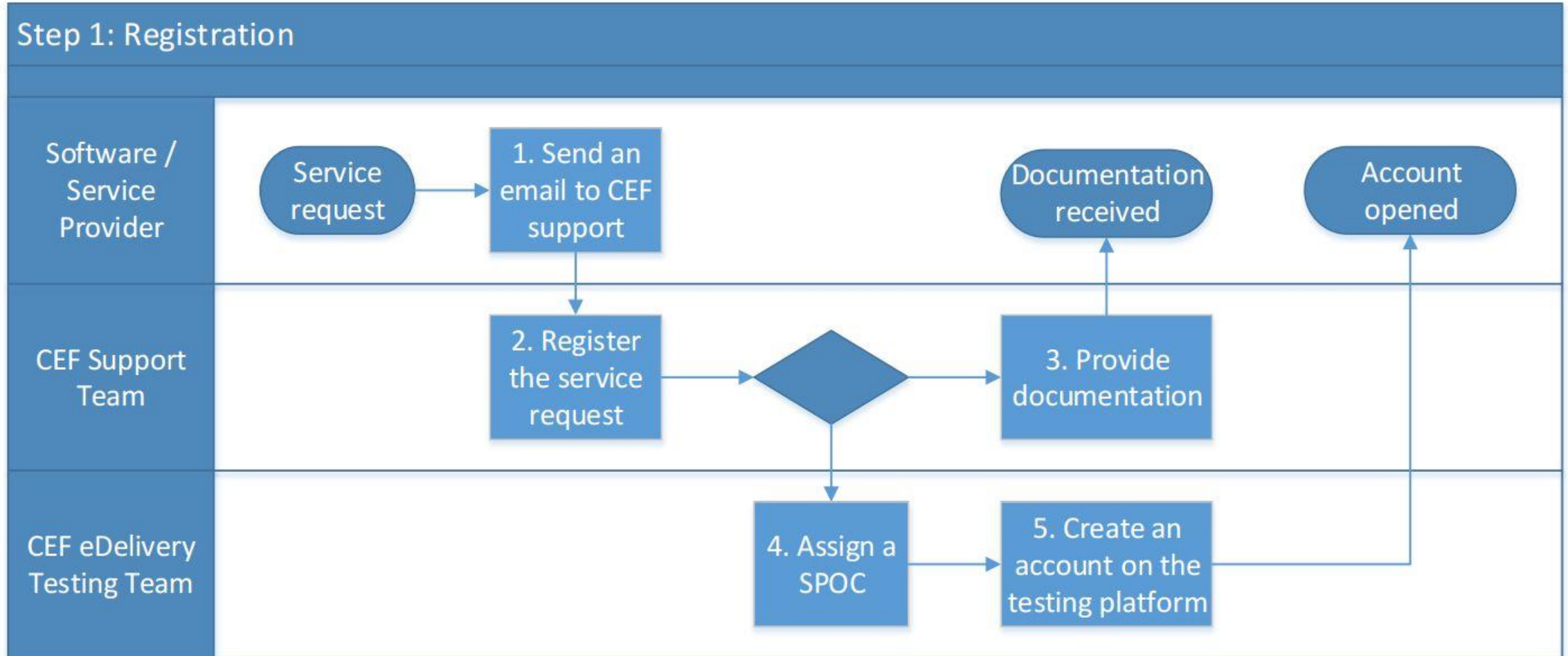
The Test Assertions are implemented as Test Cases on the Test Platform



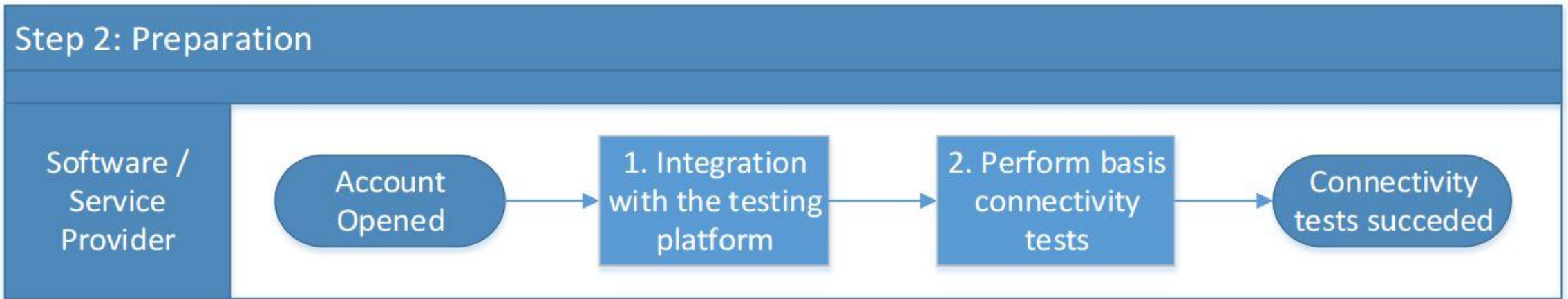
Conformance Testing process



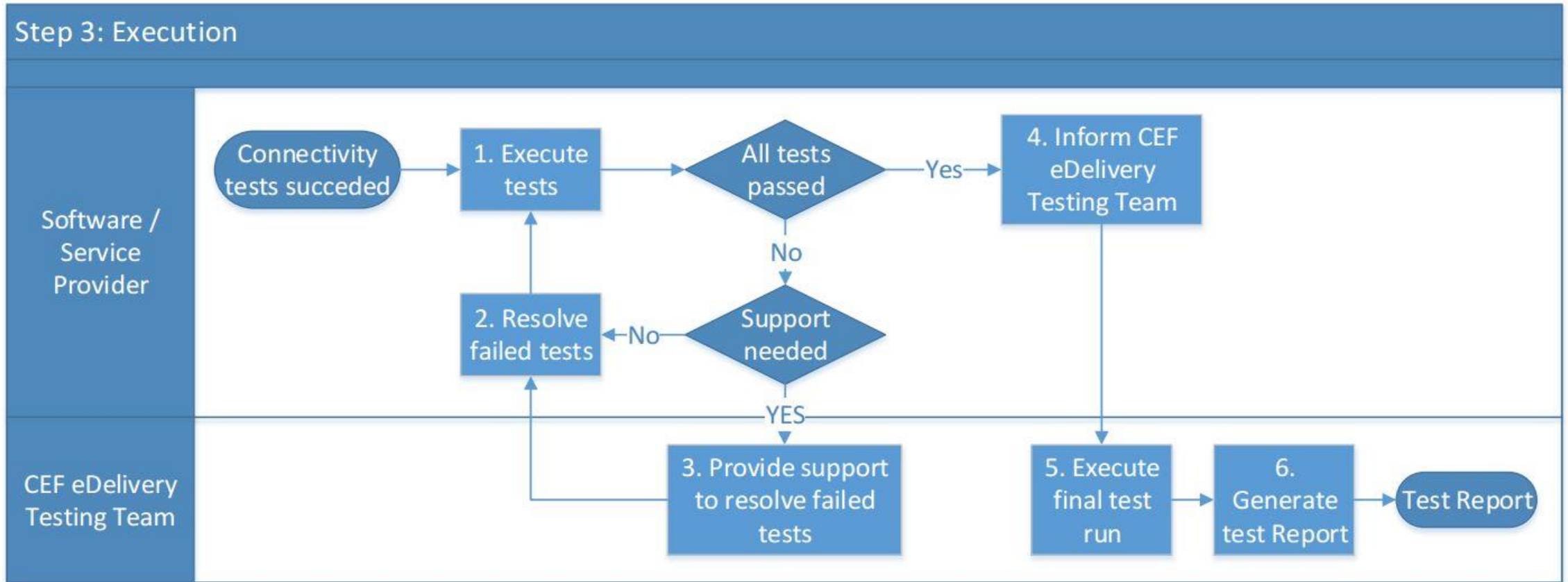
Conformance Testing process



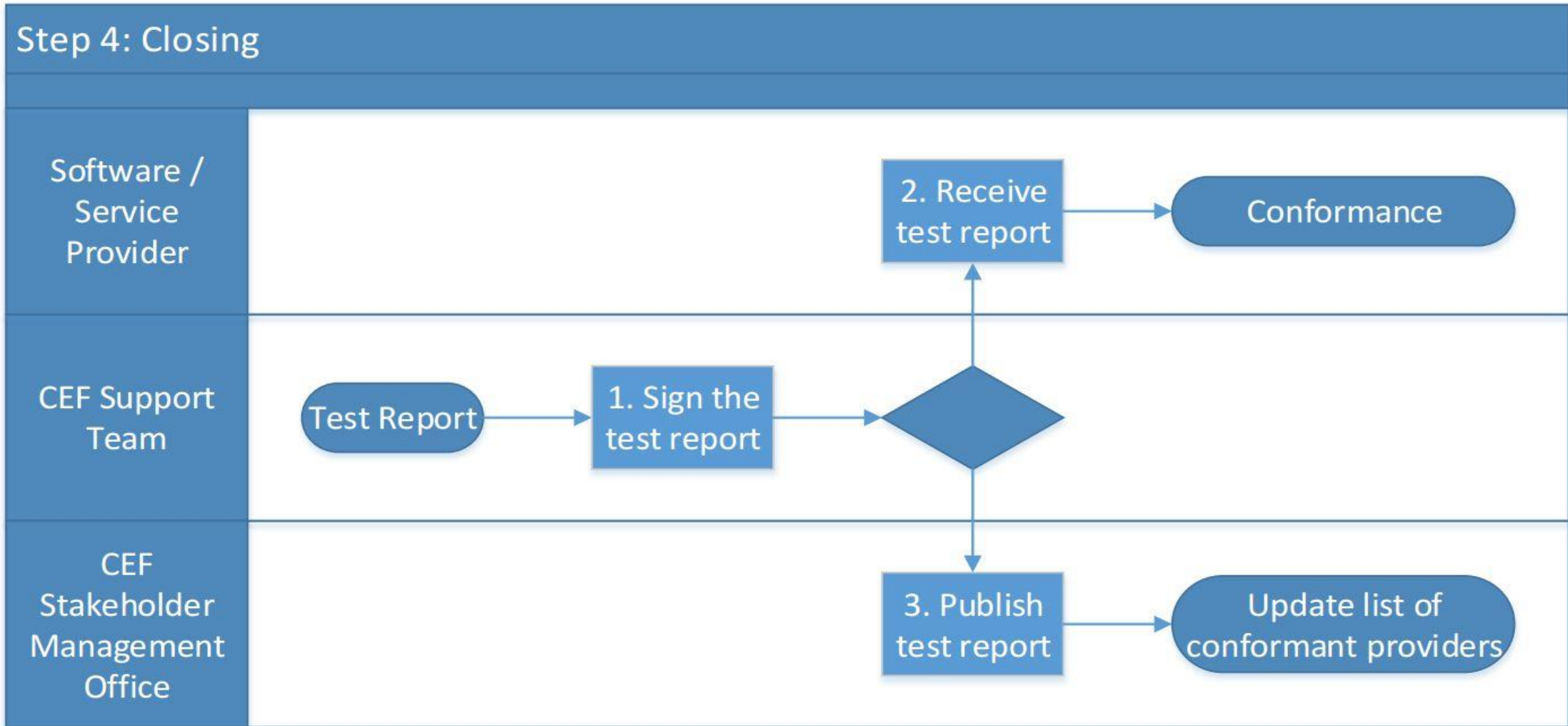
Conformance Testing process



Conformance Testing process



Conformance Testing process



What does Conformance Testing not cover?

- Conformance testing is complementary to:
 - Functional testing
 - Connectivity testing
 - Interoperability testing
 - Load testing
 - Vulnerability testing

ENTSOG specific optional module?

- Domain Profiling (ENTSOG specific)
 - Values for PartyId and @type, Service, Action, Role
 - Values for AgreementRef, ConversationId
 - MPC
 - Payload part property
 - EDIG@S payloads
- ENTSOG specific Test Assertions and Test Cases are now available to be verified in the ENTSOG community
 - We are looking for a candidate provider to be the first ENTSOG module conformant solution.
 - Based on the feedback, the tests can be refined (if needed) and rolled out to all ENTOG interested solution providers.

Vendors - Take action and become conformant

Benefits of being conformant to the CEF
eDelivery specifications

Vendor perspective

- Get additional Quality Assurance for your product
 - Increase your chances for successfully communicating with other implementations
 - Get brand and product visibility by being present on the list of conformant implementations
 - Be ready for call for grants that require an implementation to be conformant
-
- The service is provided for free
 - Assistance is available during the entire process

Clients - Take action and require vendors to become conformant

Benefits of being conformant to the CEF eDelivery specifications

Client perspective

- Get a clear view on the capabilities of the solution you are buying
 - Reduce the risk of buying a solution that is not interoperable with other implementations
 - Prevent spending time and money on debugging AS4 related issues in production
-
- With the availability of the modularisation of the eDelivery AS4 profile and the ENTSOG specific module, the conformance test service is adapted accordingly and the ENTSOG clients will have a clearer view on their "fit" for each listed AS4 solution

eDelivery AS4 conformant solutions

More information on CEF Digital

[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
- Bizbrains
- Domibus (EC sample implementation)
- eefacta Server
- EESSI AS4.NET
- Edicom ASx Server
- Flame
- Holodeck
- IBM
- iFenix
- Laurentius
- Mendelson
- Navitasoft – IP Systems AS4-IP
- RSSBus
- 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.

LEGEND

- | | | | |
|--|--|--|----------------------|
|  CP | Common Profile |  4C | Four Corner Topology |
|  DS | Dynamic Sender |  DR | Dynamic Receiver |
|  SB | Standard Business Document Header (SBDH) | | |

DOMIBUS

FLAME

HOLODECK

IBM

LAURENTIUS

MENDELSON

RSSBus

iFenix

Axway

EESSI AS4.NET

eefacta Server

Bizbrains Link

Navitasoft

Edicom ASx Server

ADES

Integration cloud

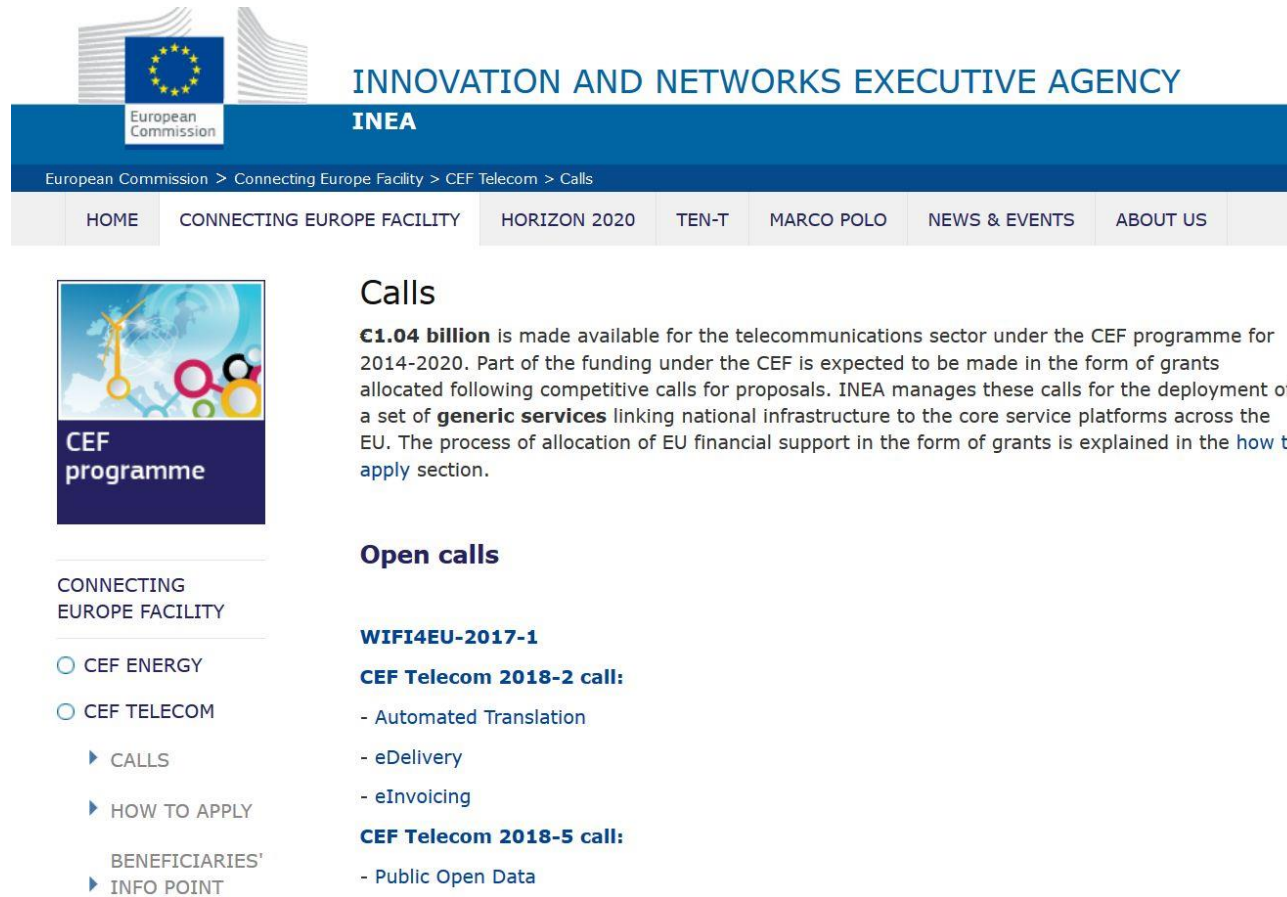
 Conformant

 Ongoing

4

Grants available from INEA

INEA Grants



The screenshot shows the INEA website header with the European Commission logo and the text 'INNOVATION AND NETWORKS EXECUTIVE AGENCY INEA'. Below the header is a navigation menu with links for HOME, CONNECTING EUROPE FACILITY, HORIZON 2020, TEN-T, MARCO POLO, NEWS & EVENTS, and ABOUT US. The main content area features a 'Calls' section with a sub-header 'CEf programme' and a description of the funding. A sidebar on the left lists navigation options under 'CONNECTING EUROPE FACILITY', including 'CEf ENERGY', 'CEf TELECOM', and 'BENEFICIARIES' INFO POINT'.

CEf programme

Calls

C1.04 billion is made available for the telecommunications sector under the CEF programme for 2014-2020. Part of the funding under the CEF is expected to be made in the form of grants allocated following competitive calls for proposals. INEA manages these calls for the deployment of a set of **generic services** linking national infrastructure to the core service platforms across the EU. The process of allocation of EU financial support in the form of grants is explained in the [how to apply](#) section.

Open calls

WIFI4EU-2017-1

CEf Telecom 2018-2 call:

- Automated Translation
- eDelivery
- eInvoicing

CEf Telecom 2018-5 call:

- Public Open Data

CONNECTING EUROPE FACILITY

- CEF ENERGY
- CEF TELECOM
 - ▶ CALLS
 - ▶ HOW TO APPLY
 - ▶ BENEFICIARIES' INFO POINT

What is covered?

- Deploying access points and/or operating access points for one year.
- Deploying SMPs and/or operating SMPs for one year.
- Upgrade of data exchange solutions (Commercial Off-the-Shelf, Open-Source Software and other) to support (and therefore fully comply with), the CEF eDelivery standards (*which can also cover interoperability testing with new or existing conformant solutions*).

Call for action

- Check out the eDelivery AS4 profile

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Access+Point+specifications>

- Check out the Conformance Testing service

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

- Get listed as a conformant solution

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+AS4+conformant+solutions>

- Apply for Grants to upgrade your solution

<https://ec.europa.eu/inea/en/connecting-europe-facility/cef-telecom/apply-funding>

5

Q&A

Find out more on CEF Digital

ec.europa.eu/cefdigital

The screenshot shows the CEF Digital website interface. At the top left is the logo for CEF Digital Connecting Europe, featuring the European Union flag. To the right of the logo is a search bar and two buttons labeled 'MENU' and 'COMMUNITY'. Below the logo area is a dark blue header with the text 'CEF Digital' and a sub-header 'Part of the Connecting Europe Facility (CEF) programme - enabler of the Digital Single Market'. The main content area features a 'Latest' section with a link to 'BRIS Now Live on the European e-Justice Portal'. Below this is a section titled 'CEF Building Blocks' with the sub-header 'Build your digital service faster and cheaper and create a European digital single market.' This section contains six cards: 'eDelivery' (Supporting electronic registered delivery of data and documents), 'eID' (Extending the use of online services to citizens of other EU Member States), 'eInvoicing' (Helping public entities adopt the European standard on electronic invoicing), '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 'Sector Specific Digital Service Infrastructures' section and an 'About CEF' section which states: 'The Connecting Europe Facility (CEF) supports trans-European networks and infrastructures in the sectors of transport, telecommunications and energy. Learn more about CEF.' The text 'uilding blocks' is partially visible at the bottom left of the screenshot.

#BIG

REUSE

Contact us



CEF-BUILDING-BLOCKS@ec.europa.eu

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Coffee Break



7. AS4 implementation case studies

Gergo Hajdu

IP System

AS4 - THE ROAD TO SUCCESS

ENTSOG AND EASEE-GAS JOINT WORKSHOP
ON DATA COMMUNICATION HARMONISATION FOR GAS TRANSMISSION

*10/04/2018 –
Hotel "Thon EU" –
Rue de la Loi/Wetstraat 75, B-1040 Brussels*

Gergo Hajdu – IP Systems Zrt.

TOPICS

- 1 About IP Systems Zrt.
- 2 Implementation mismatches
- 3 Challenges during Configurations, Setups
- 4 Further experiences
- 5 Conclusion

INTRODUCTION

Who are we?

- On energy markets specialized IT service provider and consultant since 2008
- Develop, implement and support IT platforms:
 - Commercial Dispatching (TSOs, SSOs)
 - Balancing, Trading and Exchange Platform solutions
 - Communication (AS4, REMIT) tools
 - Trading (ETRM) solutions
- 150 IT projects in 10 countries in 10 years
- References from Switzerland, Czech Republic, Croatia, Romania, and Hungary
- More than 2570 satisfied users
- www.ipsystems.hu



ALPIQ



e-on



AS4 MATCHING TEST WITH TSOs



TOPICS

- 1 About IP Systems Zrt.
- 2 Implementation mismatches**
- 3 Challenges during Configurations, Setups
- 4 Further experiences
- 5 Conclusion

IMPLEMENTATION MISMATCHES

Data Format

- EDIG@S XML
 - Version and ID handling
 - Question of not mandatory fields
 - DELRES structure differences
 - Missing document unique ID

Communication Protocol

- ENTSOG AS4 Profile
 - Solutions are not Up-to-date
 - ServiceType
 - PartyIDType
 - Changes of existing mandatory/should parts
- **Algorithms**
- **Transfer Encoding**
- **ENTSOG Profile <-> OASIS ebMS 3.0**
- MessageProperties
 - *EdigasDocumentType*

TOPICS

- 1 About IP Systems Zrt.
- 2 Implementation mismatches
- 3 Challenges during Configurations, Setups**
- 4 Further experiences
- 5 Conclusion

CHALLENGES DURING CONFIGURATIONS, SETUPS

- Infrastructure
 - IP address and port
 - Firewall – whitelist
- Implementation differences
 - **Algorithms**
 - **Transfer Encoding**
 - **ENTSOG Profile <-> OASIS ebMS 3.0**
- Pmode mismatches
 - Content ID
 - AgreementID

The screenshot displays a configuration interface for PMode.Security.X509 settings. It consists of six rows, each with a label and a dropdown menu. The labels and their corresponding dropdown values are:

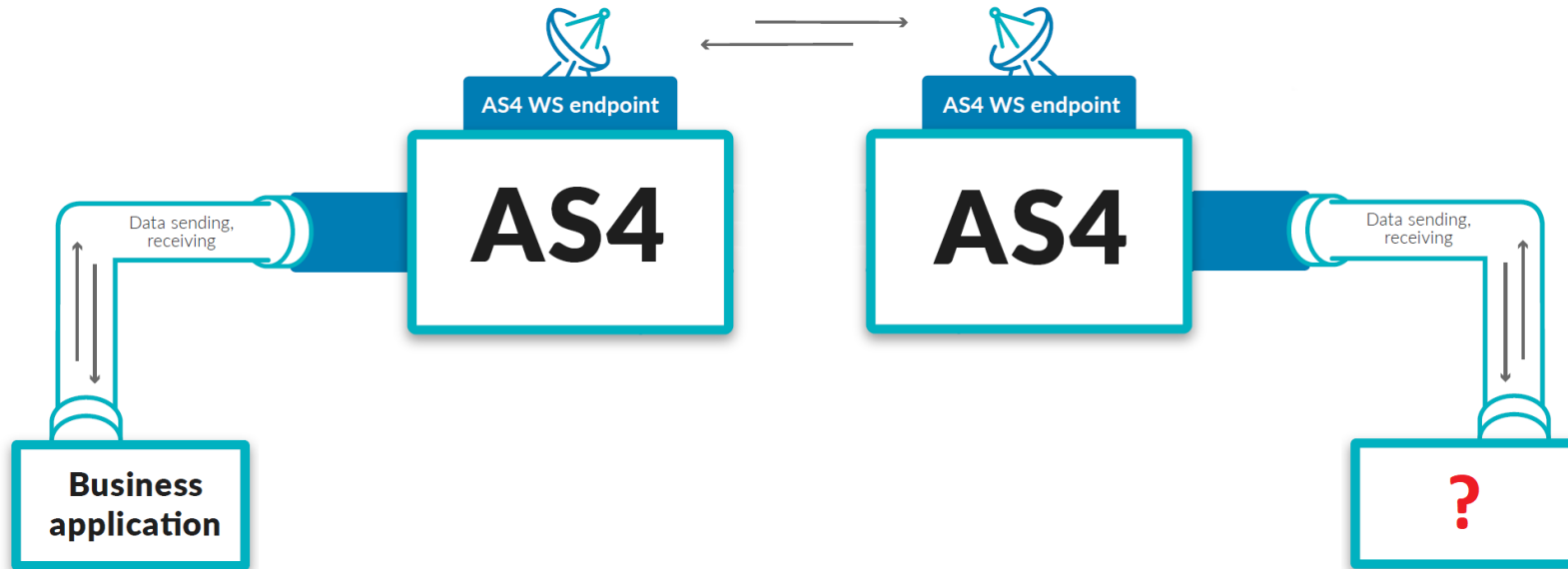
Label	Value
PMode.Security.X509.Signature.HashFunction	http://www.w3.org/2001/04/xmldsig#sha256
PMode.Security.X509.Signature.Algorithm	http://www.w3.org/2001/04/xmldsig-more#rsa-sha256
PMode.Security.X509.Encryption.Algorithm	http://www.w3.org/2009/xmenc11#aes128-gcm
PMode.Security.X509.KeyTransport.Algorithm	http://www.w3.org/2009/xmenc11#rsa-oaep
PMode.Security.X509.KeyTransport.DigestMethod	http://www.w3.org/2001/04/xmldsig#sha256
PMode.Security.X509.KeyTransport.MaskGenFunction	http://www.w3.org/2009/xmenc11#mgf1sha256

TOPICS

- 1 About IP Systems Zrt.
- 2 Implementation mismatches
- 3 Challenges during Configurations, Setups
- 4 Further experiences**
- 5 Conclusion

FURTHER EXPERIENCES

- Business process testing:
No test business application available
- no way for safe preparation for live operation



- Fix budget, long implementation phase in case of mismatch

TOPICS

- 1 About IP Systems Zrt.
- 2 Implementation mismatches
- 3 Challenges during Configurations, Setups
- 4 Further experiences
- 5 Conclusion**

CONCLUSION

Issues to be solved:

- Implementation mismatches
 - Recommendation: Test ENTSOG AS4 System
- Difficulties of the Configurations, setups
 - Recommendation: ENTSOG Configuration Management Approach
- Business process testing
 - Still Open Issue

THANK YOU FOR YOUR ATTENTION!

Gergo Hajdu



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7. AS4 implementation case studies

George Tzigkouras

DESFA

General Implementation of AS4

Brussels
October 2018



Why

- Network Code on Interoperability and Data Exchange Rules
- Interconnection Agreement

Scope

Information Flows of Common Data Exchange Solution Table implemented

Nomination and Matching Processes	BAL0453_160622_BRS on nominations_V17.docx	3.3.3.3	282	Nomination Authorisation	Registered Network User	Transmission System Operator	Private	
		3.4.1	338	Nomination	Registered Network User	(Initiating) Transmission System Operator	Private	Document Based
		3.4.1	338	Nomination	Registered Network User	(Matching)Transmission System Operator	Private	Document Based
		3.4.1	347	Forward single sided nomination	(Active) Transmission System Operator	(Passive) Transmission System Operator	Private	Document Based
		3.4.1	354	Processed Quantities	(Initiating) Transmission System Operator	(Matching)Transmission System Operator	Private	Document Based
		3.4.1	362	Matching Results	(Matching)Transmission System Operator	(Initiating) Transmission System Operator	Private	Document Based
		3.4.1	367	Confirmation Notice	(Initiating) Transmission System Operator	Registered Network User	Private	Document Based
		3.4.1	367	Confirmation Notice	(Matching)Transmission System Operator	Registered Network User	Private	Document Based
		3.4.1	375	Interruption Notice	(Initiating) Transmission System Operator	Registered Network User	Private	Document Based
		3.4.1	375	Interruption Notice	(Matching)Transmission System Operator	Registered Network User	Private	Document Based

Resources willing to spend

Minimum manhours possible

Restrains: development of the new Information System for Regulated Services at the same time required all effort.

Scale

- 1 Interconnection Point within EU
- 1 Partner (TSO)

That is the minimum setup in any way,
so we wanted the most cost effective
solution in any perspective

Future

Another Interconnection Point at Nea Mesimvria between DESFA and TAP

Kulata / Sidirokastron
Cross-Border
Transmission IP within EU

Nea Mesimvria

DESFA
Hellenic Gas Transmission System Operator S.A.

BULGARTRANGAZ

When - Timeline

- Summer 2015: DESFA's IT Technical staff was informed to initiate research on AS4 Communication Protocol, in order to fulfill the upcoming requirements of the Interconnection Agreement
- 20 October 2015: 2nd AS4 Communication Protocol Workshop in Brussels
 - ✓ Informal meeting and discussion with Technical staff of Bulgartransgaz EAD (TSO - AS4 Partner)
 - ✓ At that time they already had conducted some research and tests on AS4
- November 2015: DESFA's IT established a test AS4 Connection between 2 servers on corporate LAN with Holodeck B2B 2.0 without SSL Client Authentication.
- January 2016: Holodeck Support Team gives hint on how to add SSL client authentication support to Holodeck B2B 2.0.
- June 2016: Interconnection Agreement Signed, effective date defined
- June 2016: Preparations to Go Live

Facts

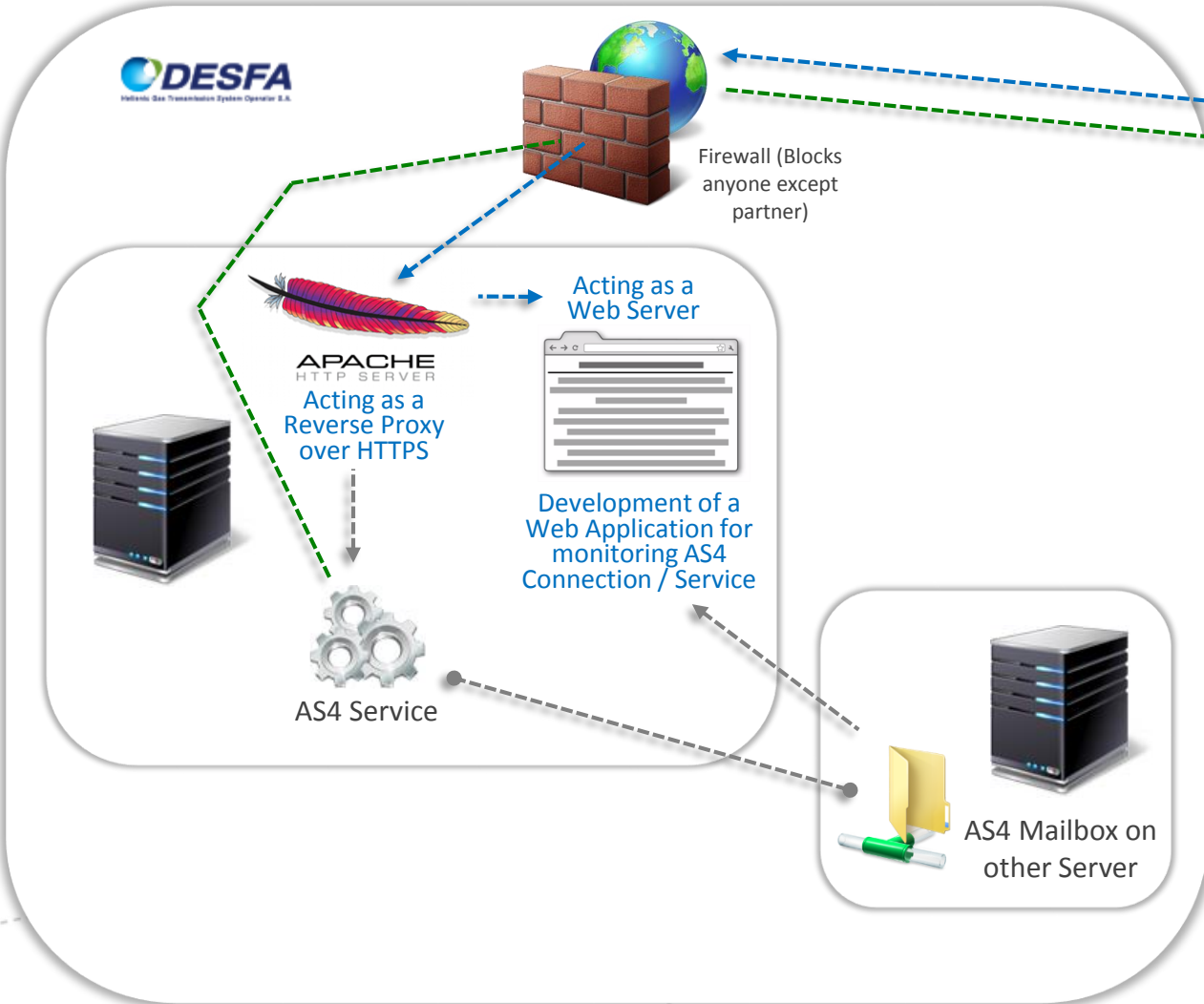
- DESFA's IT staff had experience with AS2 Protocol by using RSSBus Connect™ to establish an AS2 Connection with GIE. Unfortunately, at that time RSSBus Connect™ did not support AS4 Connections
- Minimal AS4 setup to establish
- Looking for a cost effective solution
- At that time we were not willing to take any risks and spend any time for possible interoperability issues between incompatible solutions



Decision

**“Play safe” for the time being -
Use the same software as
partner does**





Development of a Web Application for monitoring AS4 Connection / Service and handle Receipts



Κάθε Κυριακή στις 23:00 θα γίνεται αυτόματο backup και εκκαθάριση των Μηνυμάτων

Why

- By searching on Holodeck B2B 2.0 Mailbox there is no way to correlate a Message Receipt with the Message Sent. Proved that the necessary info is stored in Holodeck's DB
- Start investigating Holodeck's deployment
 - Holodeck is using Apache Derby (an open source relational database implemented entirely in Java) in embedded mode → only one process is allowed to access the Derby database files in that mode.
 - Develop a java console app to examine DB structure and data stored. Find a way to use it by one process in parallel with Holodeck. The process copies DB while DB running by Holodeck and then makes the connection. Finalize development by creating 3 functions: ExportDB, GetInbox, GetOutbox that collects data from DB and stores it in custom XMLs files.
 - Develop a PHP web app for visualizing those data, embedded it in existing Information System for Regulated Services.
 - Develop script to quickly search Holodeck's logs for warnings and errors, visualize results on web app.

Menu

Διαχείριση AS4 μηνυμάτων

Τελευταία ανανέωση: 2018-08-23 12:37:22

Επόμενη σε: 55"

Timestamp	Αποστολέας	Όνομα αρχείου	Προβολή
2018-08-23 09:07:03.064	localhost	DELORD_2018-08-23_090741.xml	✉
2018-08-23 09:00:32.924	localhost	PDELORD_2018-08-23_090105.xml	✉
2018-08-22 19:35:47.046	localhost	DELORD_2018-08-22_193622.xml	✉
2018-08-22 19:32:56.998	localhost	PDELORD_2018-08-22_193327.xml	✉
2018-08-22 19:15:55:52.816	localhost	DELORD_2018-08-22_155627.xml	✉
2018-08-22 19:06:51.965	localhost	DELORD_2018-08-22_150724.xml	⚠
2018-08-22 19:04:51.924	localhost	PDELORD_2018-08-22_150524.xml	✉
2018-08-22 19:06:50.899	localhost	DELORD_2018-08-21_190723.xml	✉
2018-08-22 19:05:10.862	localhost	PDELORD_2018-08-21_190540.xml	✉
2018-08-22 19:04:11:21:06	localhost	DELORD_2018-08-21_151206.xml	✉

Εισερχόμενα: 17

Timestamp	Αποστολέας	Receipt	Όνομα αρχείου	Προβολή
2018-08-23 19:02:34.237	infosystemnew	✉	PDELORD_2018-08-23_1120216.xml	✉
2018-08-23 19:52:42.956	infosystemnew	✉	DELRES_2018-08-23_115216.xml	✉
2018-08-23 19:02:46.831	infosystemnew	✉	PDELORD_2018-08-23_110215.xml	✉
2018-08-23 19:02:46.8	infosystemnew	✉	ALLOCAT_2018-08-23_110216.xml	✉
2018-08-23 19:02:46.753	infosystemnew	✉	ACCSIT_2018-08-23_110217.xml	✉
2018-08-23 19:52:49.112	infosystemnew	✉	DELRES_2018-08-23_105215.xml	✉
2018-08-23 19:02:47.581	infosystemnew	✉	PDELORD_2018-08-23_100214.xml	✉
2018-08-23 19:12:54.298	infosystemnew	✉	DELRES_2018-08-23_091213.xml	✉
2018-08-23 19:02:37.407	infosystemnew	✉	PDELORD_2018-08-23_090213.xml	✉
2018-08-23 19:02:50.345	infosystemnew	✉	DELRES_2018-08-23_085213.xml	✉

Εξερχόμενα: 262

Βοήθεια | Επικοινωνία | Credits | Στοιχεία Χρήστη | Privacy Policy

Users: -

Copyright © 2011-2018 DESFA

Ώρα Εξυπηρητητή
23/08/2018, 12:37:21

AS4 Service Log (Axis Log)
2018-08-23 12:37:22 - 6,9 MB
1 Errors / Warnings
από 2018-08-21 11:03:06

2018-08-22 15:07:39,664 [WARN] org.holodeckb2b.msgproc.RESPONDER_IN_FLOW.DeliverUserMessage - Usermessage [5d0a3a68-0310-4a1e-b5bf-10a4b9af46ae@localhost] is already being delivered!



Collaboration with Partner: Feb 2016 – April 2016

- Although using the same product for the AS4 Connection eliminated interoperability issues, many problems arose during configuration and tests.
- Partner ran into the same difficulties on setting up Client Authentication on Holodeck.
- AS4 Messages delivered only from DESFA to BTG caused by misconfigurations on Partner's side.
- Confusion with the proper use of certificates of each party and configuration issues.



Quick & Easy solution

- Share everything that might help Partner (configurations, files, installations).
- If problems still persist, use your installation, prepare a duplicate, make the proper configurations and adjustments, simulate Partner's Installation and give them all necessary configurations.

Production Phase

- June 2016: Effective date – Go Live
- Starting to close monitoring the AS4 service
 - Fatal Error on AS4 Service. Service crashed unexpectedly after a long period of smooth running.
 - Need for a quick fix.
 - Quick steps:
 - ✓ Backup Holodeck's DB and Logs
 - ✓ Reset DB and logs
 - ✓ Restart Service
 - Check: all up and running.
 - Continue to monitor.
 - Fatal Error happened again after similar period running smoothly.
 - Need for a permanent fix - workaround.
 - Develop a Windows Service to automatically apply quick steps once a week.
 - Gather scripts that feed Web App with holodeck's data and are triggered to run by the Web App and integrated them under the new Windows Service, which runs independently of the Web App, so as to support unlimited concurrent internal users monitoring service on the Web App,
 - Create logging for monitoring automation,

Credential Manager	Provides se...		Manual	Local System
Cryptographic Services	Provides th...	Running	Automatic	Network Service
DCOM Server Process Launc...	The DCOM...	Running	Automatic	Local System
DESFA - ENTSOG	DESFA's Ser...	Running	Automatic	Local System
DESFA AS4 Service	DESFA AS4 ...	Running	Automatic (Delayed Start)	.\tzigkouras
DESFA BackWorker Service			Manual	Local System
DESFA-AS4DataMgrSrv	AS4 Data M...	Running	Automatic	Local System
Device Association Service	Enables pai...		Manual (Trigger Start)	Local System
Device Install Service	Enables a c...		Manual (Trigger Start)	Local System
Device Setup Manager	Enables the...		Manual (Trigger Start)	Local System

Briefly

- A Windows Service written in C#
- Which is calling PHP Scripts
- One of the PHP Scripts is calling the Java Console App, which access Holodeck's DB and feeds with data the Web App

After applying fix update, fatal errors on AS4 Service never happened again.

Windows Service Log

```
20/10/2017 3:28:15 uu: AS4 Data Management Service Started
20/10/2017 3:29:20 uu: No error on execution
20/10/2017 3:30:18 uu: No error on execution
20/10/2017 3:31:18 uu: No error on execution
20/10/2017 3:32:18 uu: No error on execution
20/10/2017 3:33:18 uu: No error on execution
```

Web App Data feed Log

```
2017/10/20/ 15:30:16
Copying DB...Done!
Reading & Exporting Inbox Data...
Inbox: 42 Messages
Reading & Exporting Outbox Data...
Outbox: 506 Messages
```

Execution time: 2,2 sec

Holodeck DB Backup & Maintenance Log

```
12/11/2017 23:00:29
The DESFA AS4 Service service is stopping.
The DESFA AS4 Service service was stopped successfully.
Deleting derby.log: OK
Renaming db->db_old_2017-11-12_230029: OK
Deleting all log files: 5/5
The DESFA AS4 Service service is starting.
The DESFA AS4 Service service was started successfully.
```

Keep good Logs of automated procedures, in order to be able to debug well if an error occurs

- ✓ AS4 Messages In/Out: 80/day or 2400/month
- ✓ Errors on delivery per week: 0
- ✓ Errors on receive per week: 0 – 4

- If you are going to proceed in major setup / configuration changes like:
 - New Server, external IPs, Certificates

Inform other Partner early enough and in any way not after applying them!

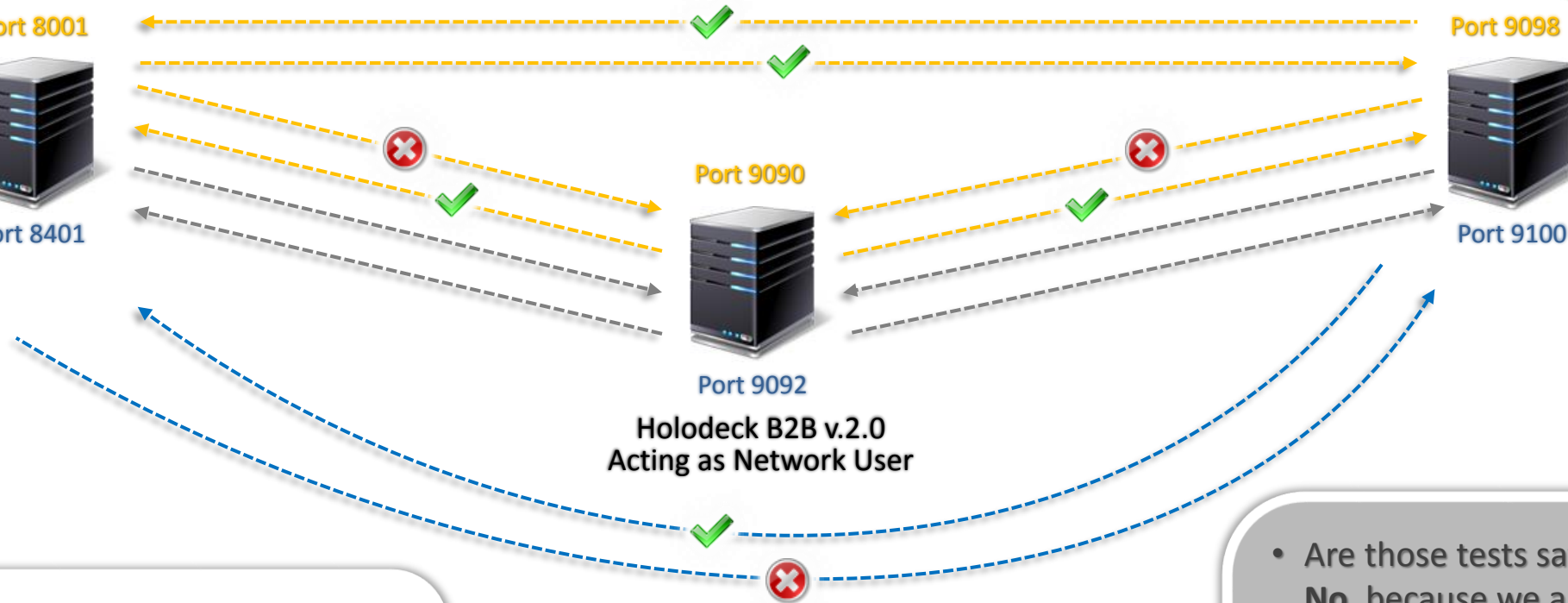
RSSBus
Connect 2017
Acting as TSO 1



Holodeck B2B v.3.0
Acting as TSO 2



Holodeck B2B v.2.0
Acting as Network User



SSL/TLS Encryption enabled, AS4 Message exchange with compression, signing and encryption
SSL/TLS Encryption disabled
Not Tested

- Are those tests safe for conclusions? **No**, because we applied configurations, performed the tests, reconfigured once again in case of errors and marked the result
- So these errors do not suggest that communication cannot be established, but of course nothing is a "plug & play" solution.

Thank you for your attention!





7. AS4 implementation case studies

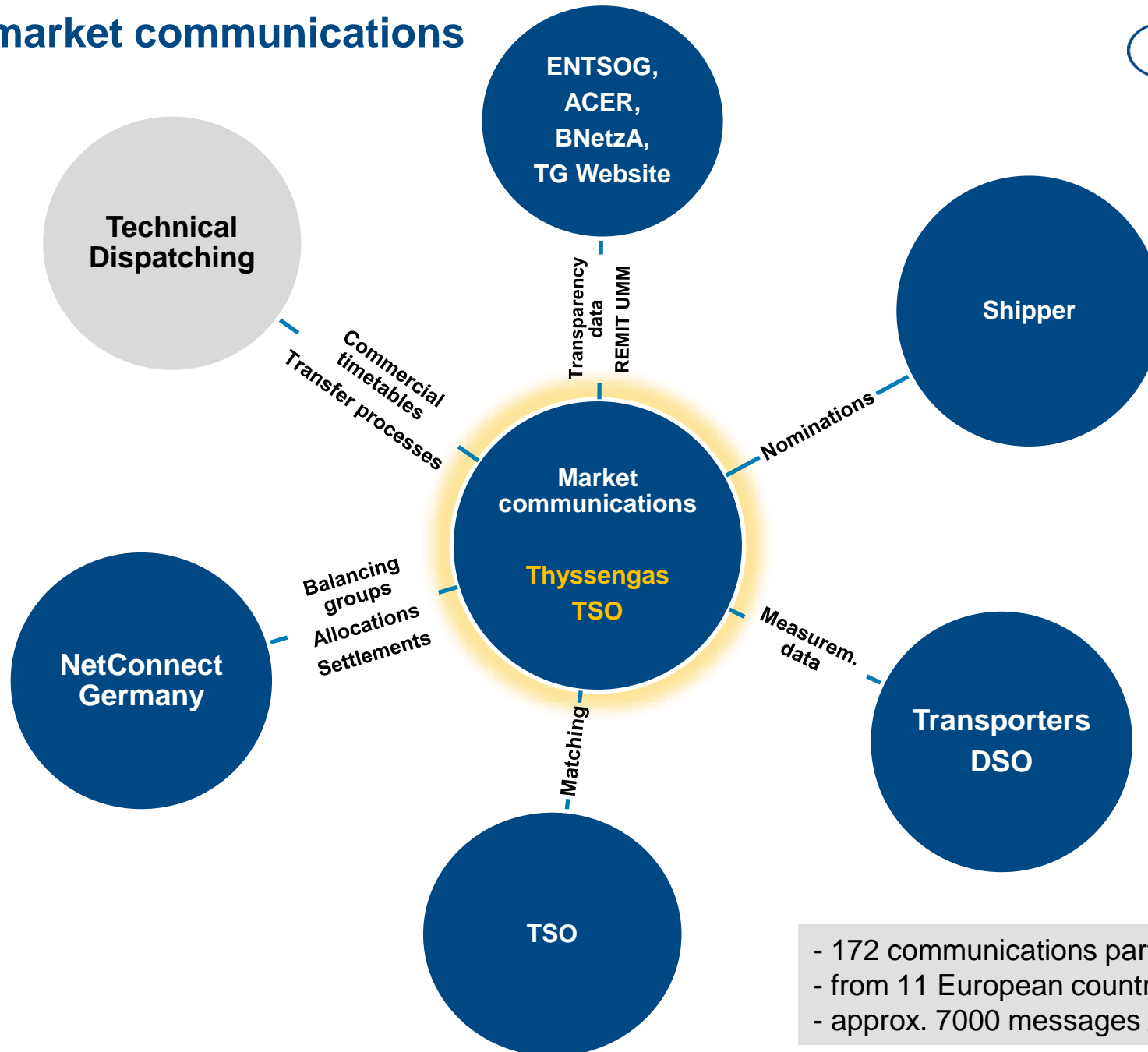
David Magryta

Thyssengas

AS4 implementation Thyssengas

**Changeover to a new EDI software solution
for market communications**

EDI market communications



- 172 communications parties
- from 11 European countries
- approx. 7000 messages / day

Starting point 2017

- EDI System solution from a service provider company of Innogy
 - Shared- and full-service solution since 2007
 - Deficits
 - little intervention possibilities / high dependency on the service provider
 - many implementations not visible
 - convenience of operation was outdated / a renewal was inefficient
- ➔ Legally prescribed conversion of communication with AS4 on 1st Feb 2018 offered favorable time for system change




























New communication solution with AS4

- Service Provider: Virtimo AG
- Software: BOSCH SI Inubit
- ENTSOG profile used
- Inubit used by different clients in Germany: Thyssengas, OGE, Gascade, Gasunie, GRT, NCG, Nowega
- Project Kickoff April 2017; End of migration December 2017
- At the same time market-wide introduction of AS4 communication as well as new signing and encryption requirements for national AS2 and SMTP connections
- Migration in three months
- 177 parties connected
 - AS4: 51
 - AS2: 17
 - SMTP (e&s): 109



Experiences AS4 implementation





Communication Profile kept simple

▼ Inbound AS4-Parameter		
Testmodus:		<input type="checkbox"/>
IP-Adresse(n) des Senders:		
Sender-Code:		21X-DE-C-A0A0A-T
Sender-Rolle:		ZSO
Empfänger-Code:		21X-DE-G-A0A0A-U
Empfänger-Rolle:		ZSO
Service:		A06
Action:		http://docs.oasis-open.org/ebxml-msg/as4/200902/action
Quittung signieren:		<input checked="" type="checkbox"/>
Binary Security Token verwenden:		<input type="checkbox"/>
▼ Outbound AS4-Parameter		
AS4-Zieladresse:		http://195.203.130.196/ibis/as4/sync
IP-Adresse(n) des Zielsystems:		195.203.130.196
zu verwendendes Agreement:		Agreement 1
Sender-Code:		21X-DE-G-A0A0A-U
Sender-Code-Typ:		http://www.entsoe.eu/eic-codes/eic-party-codes-x
Sender-Rolle:		ZSO
Empfänger-Code:		21X-DE-C-A0A0A-T
Empfänger-Code-Typ:		http://www.entsoe.eu/eic-codes/eic-party-codes-x
Empfänger-Rolle:		ZSO
Service:		A06
Service-Typ:		http://edigas.org/service
Action:		http://docs.oasis-open.org/ebxml-msg/as4/200902/action
Nachricht komprimieren:		<input checked="" type="checkbox"/>
Nachrichten signieren:		<input checked="" type="checkbox"/>
Nachricht verschlüsseln:		<input checked="" type="checkbox"/>
Verschlüsselungsalgorithmus:		AES128-GCM
Maskierungsfunktion:		MGF1-SHA256
Binary Security Token verwenden:		<input type="checkbox"/>

... Live-Demo

Experiences AS4 implementation

- Support multiple private certificates and multiple partner certificate configurations by validity period

▼ Agreement 1			
AgreementRef:	i	http://entsog.eu/communication/agreements/21X-DE-C-A0A0A-T/21X-DE-G-A0A0A-U/2	✕
eigenes Zertifikat:	i	aus primärem Schlüssel	
Partnerzertifikat:	i	-----BEGIN CERTIFICATE----- MIIF0TCCA7mgAwIBAgIURUEGTeZvdvoeVJJLoQEgTCZL1pYwDQYJKoZIhvcNAQELBQAwSTELMAkGA1UEBhMCQk0xGTA...	✕ 
Zertifizierungsstelle:	i	C=BM, O=QuoVadis Limited, CN=QuoVadis Issuing CA G4	
Eigentümer:	i	C=DE, O=Open Grid Europe GmbH, OU=System Operator, OU= EASEE-Gas , CN=21X-DE-C-A0A0A-T	
gültig von:	i	2015-11-03T09:54:03	
gültig bis:	i	2018-11-03T09:54:01	
Seriennummer:	i	45:41:06:4D:E6:6F:76:FA:1E:54:92:4B:A1:01:20:4C:26:4B:D6:96	
URLs der Zertifikatssperlliste:	i	http://crl.quovadisglobal.com/qvicag4.crl	
▼ Agreement 2			
AgreementRef:	i	xxx	✕
eigenes Zertifikat:	i	aus primärem Schlüssel	
Partnerzertifikat:	i		
Zertifizierungsstelle:	i		
Eigentümer:	i		
gültig von:	i		
gültig bis:	i		
Seriennummer:	i		
URLs der Zertifikatssperlliste:	i		

Experiences AS4 implementation

- Helpful AS4 test club by Virtimo / pool of TSO customers
- UAT connections are available / most prefer testing on production level
- Agreement reference
 - not everyone is using the alphabetical order of EIC-parties
 - not everyone handles the id <http://entsog.eu/communication/agreements/Party-A-EIC/Party-B-EIC/1>
- Sender/receiver role (ZSH/ZSO)
 - We can set it, but most do not check it

Current experiences on AS4

- Easy to configure
 - Connection is working after 1 or 2 tests with a helpful organized partner
 - Configuration changes are logged / roll-back options
 - Implementation of the test service (Entsog Profile)
 - No unexpected issues after going live with AS4
 - Self-service in market communications operations
-
- The organization in the market is the issue – not the implementation!
→ Very important for a smooth migration of certificates and other changes on AS4!

Thank you



Lunch Break



8. Presentation of the proposed version of Edig@s v. 6 *EASEE-Gas*



10. Open Questions / Next Steps



Next Steps



- Distribution of the presentation via email after the meeting
- Invitation for a public consultation
 - Feedback on the ENTSOG AS4 profile 3.6
 - Questions regarding the way forward regarding the Edig@s v6 development
 - Possible implementation period for Edig@s v6

Your Questions / Comments

- Please feel free to raise your questions
- Do you need any support or additional Information?
- Please contact us:
 - www.entsog.eu
 - marin.zwetkow@entsog.eu | info@entsog.eu

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Anzeige

Certified AS2, AS4, OFTP, X12, EDIFACT, etc. Starts at free!



Thank You for Your Attention

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