

Letter of Understanding (LoU)

eDelivery alignment between the European Commission and OpenPEPPOL

This Letter of Understanding (LoU) is the result of a series of meetings between the European Commission and OpenPEPPOL in Q1 2016. In its final and signed version, it constitutes an addendum to the Memorandum of Understanding (MoU) signed by the European Commission and OpenPEPPOL on 5 May 2015.

The core of the CEF building blocks are interoperability agreements that have demonstrated to facilitate cross-border/ cross-sector technical interoperability in the delivery of digital services, in particular eGovernment digital services. A building block is a package composed of interoperability agreements, services and sometimes sample software that accelerate and facilitate their adoption in the different policy domains of the EU (i.e. Procurement, Health, Justice ...). These interoperability agreements are typically based on existing formalised technical specifications and standards. When a building block contains competing technical specifications and standards, such as AS2 and AS4, the CEF promotes their convergence to a single one according to a well-defined transition plan.

OpenPEPPOL and the European Commission agree that a structured transition process is vital for migrating from an existing technology to a newer one. The parties also agree not to make any choices that prevent evolution and innovation, and that migration to a new technology must not disrupt existing production systems.

OpenPEPPOL and the European Commission agree on a multiprotocol architecture to ensure evolution and innovation and to avoid lock-in in an architecture setup that limits best choice in the future. Outside transition periods, CEF eDelivery will normally only support one message exchange protocol. The CEF eDelivery Dynamic Service Location approach, based on SML/BDXL and SMP, enables sending access points to dynamically discover which message exchange protocols are supported by the receiving access points. This enables transition processes such as the one described in this LoU.

OpenPEPPOL and the European Commission agree that there is a need for further interoperability testing, as well as end-to-end testing in a four-corner model network. This is in order to ensure the existence of a solid CEF eDelivery AS4 message exchange protocol profile tested thoroughly in the scope of e-SENS and EU/CEF. Furthermore, it is agreed that AS4 market readiness needs to be monitored. Consequently, it is agreed that a well-defined, step-by-step, transition process is needed to minimise the risks associated to the adoption of a new technology and allow its rollback to the older technology in the case that problems occur during the transition process (opt-out approach). This has already been done by OpenPEPPOL when START was replaced by AS2. At that time, the transition process was composed of four sequential steps:

- **Start of Phase In (T1):** preparatory steps to introduce a new protocol

- **Phase In (T2):** at this step the new protocol is introduced as optional (during 6 months AS2 was optional whereas START was mandatory)
- **Transition (T3):** at this step the new protocol is made mandatory whereas the 'old' one is kept as optional (during 4 months START was still supported after AS2 was made mandatory)
- **Phase out (T4):** at this step the 'old' protocol is discontinued.

The transition process to AS4 will be similar to the one to AS2, as described above. As a first step, AS4 will be introduced as an optional protocol (**Phase In**). Based on this LoU, OpenPEPPOL has already **Started the Phase In** step¹.

If and when the following conditions stated by OpenPEPPOL are met, then AS4 will be made mandatory and AS2 be made optional (**Transition**), these conditions are listed below:

1. Proven interoperability between the two major platforms Java and .NET for at least three months
 - a) Production use with transactions in minimum two Java implementations from different software vendors and/ or open source projects.
 - b) Availability of at least one production grade .NET developed implementation of an AS4 access point.
 - c) Proven interoperability between Java and .NET implementations in 1 a) and 1 b).
2. Handling of message payload and attachments size in CEF AS4 profile implementations similar to PEPPOL AS2 profile implementations:
 - a) Successful and comparable testing of handling of payload and attachment sizes up to 2 GB over PEPPOL AS2 profile and CEF AS4 profile conducted.
 - b) A minimum of two CEF AS4 profile implementations and two PEPPOL AS2 profile implementations are to be benchmarked. In comparable testing environments, the CEF AS4 profile implementations tested shall perform as good as or better than the PEPPOL AS2 profile implementations tested.
 - c) Production use of CEF AS4 profile with transactions in the PEPPOL 4-Corner network for 3 on-going months in eInvoicing and 3 on-going months for Tender Submission use cases.
3. Reasonable effort of adding a node to the network
 - a) There exists a stable, well documented CEF AS4 profile specification, including SMP and PKI implementation.
 - b) Similar efforts for adding a CEF AS4 profile based Access Point implementation as required for adding a PEPPOL AS2 profile based

¹ OpenPEPPOL has opened, in cooperation with e-SENS, AS4-testing in the PEPPOL eDelivery network. This includes issuing of test certificates, integration with SML/SMP and PKI, use of pilot document identifiers and support for these processes. In addition, a number of OpenPEPPOL members have contributed to the testing of AS4 within the e-SENS consortium.

- Access Point implementation, to be documented by DG DIGIT eDelivery support team.
- c) Availability of at least one production grade Open Source CEF AS4 profile based Access Point implementation in both Java and .NET that have passed on-boarding and interoperability tests for CEF AS4 profile including PKI and SMP integration.
4. Market readiness – previous experience shows that signalling the adoption of a technology will significantly contribute to its adoption by the market. Therefore, it is vital to announce in advance the intentions of moving to AS4.
 - a) Support by commonly used platforms: In **T2** OpenPEPPOL will survey its Users to identify the integration platforms in use. In **T3**, the same survey will be run by OpenPEPPOL. The results of the **T3** survey should show that the majority of platforms in use support both AS2 and AS4.
 - b) Availability of free/affordable AS4 training services, setup and implementation competences at European level and in at least 50% of all Member States and Associated Countries.
 - c) Production use of AS4 for at least 30% of all transactions in CEF eDelivery integrated with PKI and SMP in the eProcurement domain including pre and post award.
 - d) Support ratio of registered Critical and Urgent incidents measured for PEPPOL support related to Interoperability max 50/50 (AS4/AS2) – number of registered AS4 support incidents should not exceed the number of registered AS2 supports incidents (measured on a 3 months basis).
 - e) AS2 used for less than 20% of all transactions in the PEPPOL eDelivery network.
 5. Adherence to all relevant technical requirements and business requirements for users of PEPPOL eDelivery.
 - a) Use of SML/SMP.
 - b) Use of PEPPOL PKI trust services.
 - c) Ensure the capability of handling non-repudiation receipts, i.e. REM evidences.
 - d) Ensure the capability of handling enveloping standards, e.g. SBDH.

Condition 4. is directly linked to the number of products supporting AS4 in production. The list compiled by e-SENS is published here: <http://wiki.ds.unipi.gr/display/ESENS/PR++AS4>. “Production use” in the list above means a steady flow of thousands of transactions in real life business processes in a production operations environment. Proof of concept, test use and other types of specifically monitored transaction flows in test or staging environments are not regarded as “Production use”.

OpenPEPPOL agreed to define a timeline for the introduction of AS4 following the above-mentioned transition process. This timeline should show at least the dates by when:

- the **Start of the Phase In** (T1) of AS4 can start.

- the *End of the Phase In* (T2) would be complete (i.e. all Access Points support AS2 and AS4) even though the **Transition** (T3) step may not be triggered (because of the above conditions).

The above means that the AS2/AS4 ebHandler Conformance Clause² would apply, for OpenPEPPOL, during the **Phase In** and **Transition** steps.

Below is a schema showing the steps, the content and target for the steps and target timelines.

Phase	Step	CEF	Timeline	Protocol LCM Step	Associated Criteria
<i>Start of Phase In</i>	T1	Work Programme 2016	Q4 2016	AS4 adopted as optional protocol	3 a
Phase in	T2		Q4 2017	Announcement of T3	1 a-c, 2 a-b, 3 b-c, 5 a-d
Transition	T3	<ul style="list-style-type: none"> • Work Programme 2017 • Work Programme 2018 	T2 + 18 (*) months if conditions are met	AS4 Mandatory in the PEPPOL eDelivery network – Transition Target Date	2 c, 4 a-d
Phase Out	T4		TBD	AS2 Phase-out	4e

(*) In order to make the transition process operational, the condition for the Target Transition Date must be met at least 6 months before T3 in order to schedule possible postponement.

CEF funding for eDelivery Generic services may be limited to implementations supporting AS4 or AS4 with AS2 by 2017.

In the event that, in the opinion of OpenPEPPOL, the above conditions, in their entirety, are not met in accordance with the agreed timelines, then the following will apply:

Either:

- a) the timeline for achievement of any individual unmet condition will be extended to a new date; or:
- b) the continuing requirement for any individual unmet condition will be disregarded; or:
- c) the entire LoU will be revoked.

Any of the above listed outcomes shall be agreed in writing between OpenPEPPOL and the Commission.

Following the agreement on the roadmap, the Commission will:

- Set up a Conformance Testing environment for AS2/AS4 Access Points³ integrated with SML/SMP and PKI and

² http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/profiles/AS4-profile/v1.0/os/AS4-profile-v1.0-os.html#_RefHeading_18667_1962818135

³ Testing of payload specifications are not in scope of the eDelivery Conformance Testing.

- Foresee financial means for the upgrade of the current AS2 Access Points and solutions to AS4 (and discontinue the funding of AS2 only Access Points),

provided that future CEF Telecom Work Programmes are adopted and Member States do not oppose these provisions.

The on-boarding of Access Points and Service Metadata Publishers in the PEPPOL eDelivery network remains the responsibility of OpenPEPPOL, and OpenPEPPOL continues to be the Certification Authority (CA) of its PKI.

The introduction of AS4 shall not prevent other protocols from being introduced as optional protocols.

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Done in Brussels on .../.../2016

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