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AGREEMENT

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Business Interoperability Interfaces for Public procurement in Europe - Part 3: Toolbox Requirements

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Foreword

This CWA is part 3 of a multi-parts CWA. It has been prepared by the CEN/ISSS Workshop on Business Interoperability Interfaces for Public procurement in Europe (WS/BII).

The multi-parts CWA has been officially approved at the final WS/BII Plenary Meeting on 4 November 2009.

The current document is: Part 3 - Toolbox Requirements

The different parts of the multi-parts CWA are:

- Part 0: Introduction
- Part 1: Profile overview
- Part 2: Convergence and gap analyses
- Part 3: Toolbox Requirements
- Part 4: Evaluation guidelines for testing and piloting

Here is the list of the companies which have officially endorsed the multi-parts CWA:

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Introduction

To ease the adoption of the BII technical specifications in business software and to ensure technical interoperability, collections of core requirements have been identified and addressed. The focus has been to identify and prioritise the most important requirements for tools, architectures or standards for the different capabilities required when developing electronic procurement systems. Depending on the functionality to be provided or the issue to be solved in each case, and the available deliverables already on the market, this document provides:

- Sets of requirements or specifications for the tools to be developed, and for conformance verification of newly developed or already existing tools
- Sample utilities, templates, stylesheets and other artefacts aimed at easing the work of tools providers and end users
- Guidelines or profiles for articulating tools and operations along a process to ensure interoperability and conformance.

Several European initiatives are already undertaken particularly in the fields of pan-European cross-border electronic identity management and in electronic signatures. Therefore, in order to avoid duplication of work and ensure alignment with overall European strategies when addressing this kind of issues, the workshop is leveraging the outcomes and deliverables from these initiatives, focusing new work on specific electronic procurement needs not covered by them.

An important initiative is the large-scale pilot for electronic procurement won by the international consortium, PEPPOL¹, which is part of European's Commission's "Competitiveness and Innovation Framework Programme" (CIP) and, within this, especially the "Information Communication Technologies Policy Support Programme" (ICT PSP). The workshop has collaborated with members from different Work Package groups in PEPPOL ensuring that CWA recommendations are directly usable in pilots developed under the umbrella of PEPPOL.

¹ Pan-European Public Procurement OnLine, see www.peppol.eu

1 Scope

1.1 General

The present document establishes guidance on architectures and requirements for tools to be considered when deploying cross-border electronic procurement systems using technical specifications defined in this CWA in the form of Business Profiles.

When implementing electronic procurement systems in a pan-European cross-border environment, there are different aspects to be covered to solve interoperability issues that arise due to the lack of a European-wide common legislation or to the different standards or tools that may address a specific issue.

The present document is applicable to security, contents and transport issues that arise when deploying the technical specifications in Part 1 of this CWA.

The main purpose of the present document is to provide information on alternatives and recommendations on the main aspects applicable when implementing profiles to build electronic procurement systems. Although the main focus is on public procurement procedures where legal aspects apply, the same tools and architectures can be used when developing and deploying electronic procurement systems in the private sector.

1.2 Structure

This part of the CWA is intended to serve as a reference. The annexes do not necessarily have dependencies between each other but are meant to familiarise the reader with the different areas that need to be taken into account to fulfil legal and functional requirements when implementing electronic procurement systems. There are normative and informative annexes.

The Normative Annexes of this Part of the CWA are:

- Annex A on Document Management with guidance on how to create, manage and visualize electronic document instances. See: http://www.cen.eu/cwa/bii/specs/Tools/documents/BII3-A-DocumentManagement_d09.doc
- Annex B on Conformance Testing that defines the mechanism to validate instances against the structure and business rules defined in the CEN BII Profiles. See: http://www.cen.eu/cwa/bii/specs/Tools/documents/BII3-B-ConformanceTesting_d09.doc
- Annex C on Transport Infrastructure, to define mechanisms for national transport infrastructures connection. See: http://www.cen.eu/cwa/bii/specs/Tools/documents/BII3-C-TransportInfrastructure_d06.doc
- Annex D on Governance to provide guidance on the requirement for setting a governance model for CEN BII technical specifications. See: http://www.cen.eu/cwa/bii/specs/Tools/documents/BII3-D-Governance_d07.doc

The Informative Annexes of this Part of the CWA are:

- Annex E on Submission of Evidences, a specific set of requirements to let the public sector identify and authenticate participants in public contests. See: http://www.cen.eu/cwa/bii/specs/Tools/documents/BII3-E-VirtualCompanyDossier_d03.doc
- Annex F on Electronic Catalogues and Classifications to provide guidance on how to align buyer oriented catalogues with vendor oriented catalogues and classifications. See: http://www.cen.eu/cwa/bii/specs/Tools/documents/BII3-F-eCatalogues_d06.doc
- Annex G on Tender Submission where some alternatives are suggested to exchange this special type of document fulfilling European legal requirements. See: http://www.cen.eu/cwa/bii/specs/Tools/documents/BII3-G-TenderSubmission_d10.doc

1.3 Target audience

This document is aimed primarily at those people responsible for the analysis, development and deployment of electronic procurement systems using CEN BII technical specifications both in cross-border or in national environments.

Having read this document you should be able to:

1. Understand how to create, validate and transform electronic document instances defined in CEN BII Profiles.
2. Know how to verify that an instance is conformant to a CEN BII Profile.
3. Understand the requirements and available alternatives for security related issues concerning document contents and transport.
4. Understand requirements for establishing and using pan-European transport infrastructures
5. Have an understanding of the main requirements for exchanging electronic evidences and setting up classification systems in a cross border scenario.
6. Know main requirements that affect tender submission and the alternative architectures available.

In this Part of the CWA and its Annexes and references, there are some technical sections that may require the reader to have technical skills and knowledge on XML technologies.

1.4 Purpose

1.4.1 Security

Several security-related requirements arise in different steps and tasks along the electronic procurement processes: authentication of parties, authorization and access control, exchange of authentication and identity related information between parties, integrity and authentication of documents and messages, confidentiality of exchanges messages and stored documents, non-repudiation, etc. These requirements play a critical role in electronic procurement for regulatory compliance and business trust, and their practical implementation and deployment in an interoperable way is a challenge for cross-border electronic procurement.

Most of these requirements are shared by several business contexts other than electronic procurement, and the technologies, mechanisms and tools used for their fulfilment (identity tokens, electronic IDs, message authentication codes, electronic signatures, encryption algorithms and protocols, etc.) can be equally shared across business contexts.

The security related topics covered in this CWA are:

- Submission of Evidences, covered in Annex E.
- Tender Submission, covered in Annex G.

The main focus in the security area annexes is to analyze possible architectures and provide non normative recommendations on how to resolve these security-related issues.

1.4.2 Content management

Content management functions deal with tools related to document content or payloads of the electronic procurement messages required along the whole electronic procurement process.

Requirements, standards and sample tools helping to manage the meaningful content or payload of public procurement information exchanges are considered.

Content management topics are covered in the following annexes:

- Document management, covered in Annex A.
- Electronic catalogues and classifications, covered in Annex F.

Annex A summarizes available technologies and techniques to create support tools for electronic document integration and some sample artefacts for a specific electronic document will be provided as guidance to enable users:

- Creating new electronic documents
- Integrating received electronic documents into back-end systems.
- Visualizing electronic documents in a human-readable way

1.4.3 Transport and messaging protocols and standards

Transport of business documents between parties in electronic procurement is critical. The challenge is that existing infrastructure supporting message transport is already established in many countries.

Variations in the infrastructures, the addressing mechanisms and national legislation make it very difficult to exchange business documents across borders.

In a cross-border scenario it must be possible to exchange electronic business documents in a reliable and secure manner between all parties connected to any national branch of the overall message infrastructure, whilst investments in existing national message infrastructures must be leveraged and only a minimal set of requirements and restrictions must be imposed on national infrastructures.

Annex C on Transport Infrastructure deals with these transport issues and its main goal is to provide specifications allowing bridging the national infrastructures in a way where only minimal restrictions are imposed. The main purpose of the transport related annexes of this Part of the CWA is to connect heterogeneous infrastructure with well-defined open standards for message exchange. The transport mechanisms could support capabilities such as security, addressability, transport, synchronization, monitoring and third party time-stamping.

1.4.4 Conformance and interoperability verification

In order to satisfy the workshop objective of easing the adoption of the technical specifications, it is important to make available for all interested parties content related validation tools that can provide an objective and unbiased verification of the conformance of the electronic documents being exchanged.

Annex B on Conformance Testing defines a validation mechanism that will ensure the different actors in a business exchange the conformance to the CEN BII Profile of such exchanges.

Requirements on a framework for verification of conformance and interoperability will provide an important service to both sides of the market. Such requirements are important for software providers that need objective and independent verification of the conformance and interoperability of their products.

The sample tools and sample Conformance Testing Framework provided for electronic document validation might be used as guidance for developers implementing the CEN BII Profiles.

1.4.5 Governance

Requirements associated with the governance of the standard and its elements, preserving interoperability: support, version control and long-term evolution of message and process definitions, components and information entities are also covered in a specific annex of this Part of the CWA.

Governance requirements are defined in Annex D.

1.5 Caveats and assumptions

In this Part of the CWA and its annexes the key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this specification are to be interpreted as described in IETF RFC 2119 [RFC 2119]².

These keywords are capitalized when used to unambiguously specify requirements. When these words are not capitalized, they are meant in their natural language sense.

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² <http://www.ietf.org/rfc/rfc2119.txt>

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