ASSESSMENT SUMMARY v1.0.0

Universal Business Language[1]

Organization for the Advancement of Structured Information Standards (OASIS)[2]

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[1]UBL specification: Universal Business Language Version 2.3 (oasis-open.org)

[2] OASIS webpage: OASIS Open - OASIS Open (oasis-open.org)

Change Control

Modification	Details
Version 1.0.0	
Initial version	

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1. INTRODUCTION

The present document is a summary of the assessment of the **UBL 2.3** carried out by CAMSS using the CAMSS Assessment EIF scenario[3]. The purpose of this scenario is assessing the compliance of a standard or specification with the European Interoperability Framework (EIF)[4].

2. ASSESSMENT SUMMARY

The **Universal Business Language (UBL)** defines a royalty-free library of standard XML business documents supporting digitization of the commercial and logistical processes for domestic and international supply chains such as procurement, purchasing, transport, logistics, intermodal freight management, and other supply chain management functions.

UBL is designed to plug directly into existing business, legal, auditing, and records management practices. It is designed to eliminate the re-keying of data in existing fax- and paper-based business correspondence and provide an entry point into electronic commerce for small and medium-sized businesses.

The specification has been developed by the Organization for the Advancement of Structured Information Standards (OASIS) which is a non-profit consortium that works on the development, convergence, and adoption of open ICT standards. It is worth to note, that it has been developed in close collaboration with from a variety of industry data standards organizations.

2.1. EIF Interoperability Principles

Interoperability principles are fundamental behavioural aspects that drive interoperability actions. They are relevant to the process of establishing interoperable European public services. They describe the context in which European public services are designed and implemented.

The specification fully supports the principles setting context for EU actions on interoperability:

- **Subsidiarity and proportionality**
  UBL is included in 3 national catalogues of recommended specifications. They belong to Greece Malta and The Netherlands. The National Interoperability Framework of the Netherlands is fully aligned with 3 out of the 3 sections according to the European Interoperability Framework Observatory (NIFO) factsheets, while Greece is placed on the European average (2 out of 3) and Malta scores below average (1 out of 3).

The specification fully supports the principles setting context for EU actions on interoperability:

- **Openness**
  Being an XML based specification, UBL is said to support the publication of open data as it is described in the Tim Berners-Lee 5-star schema for Open Data[5]. Even though contributions to the development of UBL are reserved to its Technical Committee (TC), there are still open public

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[3] CAMSS Assessment EIF scenario: CAMSS Assessment EIF Scenario | Joinup (europa.eu)

[4] European Interoperability Framework (EIF) webpage: https://ec.europa.eu/isa2/eif_en

[5] Tim Berners-Lee 5-star schema for Open Data: 5-star Open Data (5stardata.info)

reviews processes. All OASIS standards, such as UBL, are distributed under a Royalty-Free basis, and as well licensed under a (F)RAND basis.

It is worth noting that UBL is among the most mature and widely implemented OASIS Standards. Supported by many interest groups, UBL has been endorsed by many public administrations, being approved as an ISO/IEC 19845:2015, and is being integrated into the European Single Procurement Document (ESPD)[6] project, a self-declaration form that aims to ease tendering processes in procurement. In terms of availability, UBL is publicly distributed for free on the OASIS webpage.

- **Transparency**
UBL is designed to plug directly into existing an business, accounting, legal, auditing, and records management practices, eliminating the re-keying of data required by traditional fax, scanned-image and paper-based supply chains and in doing so provides an entry point into electronic business for small and medium-sized businesses. This means that UBL is an enhancer of internal and external visibility of administrative procedures and data as well as it eases the delivery of European public services, as is the case of the above mentioned ESPD project.

- **Reusability**
Although designed for use in business supply chains it can be (and has been) adapted for other contexts of use. This is because all the business document constructs in a UBL are drawn from a single library of reusable components, this is why UBL is considered domain-agnostic, and can be implemented across business domains.

- **Technological neutrality and data portability**
UBL is independent of any specification and can be implemented without relying on other technologies and without the dependency on any platforms. In addition, UBL is found to be highly adaptable depending on the business-specific needs, thus, allowing for partial implementations, extensions and giving support for customisation to meet the needs of individual organizations without hampering interoperability. To sum up, The flexible approach of UBL makes it an adaptable specification, that can change based on future business and administrative needs, therefore supporting the evolution of European Public Services.

The specification supports the principles related to generic user needs and expectations:

- **User-centricity**
Being XML-based, UBL can uniformly reuse data, however, there are no specific provisions addressing this topic.

- **Inclusion and accessibility**

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[6] UBL adoption in ESPD: The European Single Procurement Document :: TED Developer Documentation (europa.eu)

The purpose of UBL is not related to e-accessibility. Therefore, this criterion is considered not applicable to this specification.

- **Security and privacy**

  UBL fosters data processing as it is a specification used to exchange information between systems and parties with a specific format. Therefore, by applying structure to documents and providing the data types expected, the usage of UBL can be useful for trustworthy data processing. However, the UBL specification gives no specific provisions addressing the secure exchange and processing of data.

- **Multilingualism**

  UBL foresees support for multilingual context as it provides clear rules for extension and several subsets and tool resources such as localization dictionaries in Chinese, Danish, German, Italian, Japanese, Korean, Spanish and Turkish. This enables communities to create explicit extensions that are locally profiled for their context of the use.

The specification partially supports the foundation principles for cooperation among public administrations:

- **Administrative Simplification**

  Taking as a reference the ESPD project, UBL can be an important asset for the simplification of European Public Services given that it provides a universally understood and recognized syntax for legally binding business documents, therefore, reducing the administrative burden.

- **Preservation of information**

  The specification's purpose is not directly the long-term preservation, nonetheless, UBL addresses some issues related to digital signatures, enabling the archiving and long-term preservation of information.

- **Assessment of effectiveness and efficiency**

  Some European projects using UBL have been found to conduct assessments on effectiveness. Such is the case of PEPPOL BIS Billing or ESPD. In addition, there has been found an article assessing the impact of UBL implementation among SME's in developing countries, or others assessing the efficiency of UBL conformity to specific data models.

2.2. EIF Interoperability Layers

The interoperability model which is applicable to all digital public services includes:
- Four layers of interoperability: legal, organisational, semantic and technical;
- A cross-cutting component of the four layers, 'integrated public service governance';
- A background layer, 'interoperability governance'.

The Specification supports the implementation of digital public services complying with the EIF interoperability model:

- **Interoperability governance**
  After looking at the European Library of Interoperability Specifications, we can conclude that UBL has not been mapped into the EIRA, although it is planned to be added in the Data Model ABB (semantic view). Moreover, the specification is recommended and included in the ICT catalogues of Greece, Malta and The Netherlands. At a European level, it appears as one of the ICT specifications for e-procurement. In terms of implementation conformity, there have been found some validation tools stemming from different European cross-border projects such as ESPD Test bed[7] or CEF e-invoicing[8].

- **Legal Interoperability**
  As a result of the Commission Implementing Decision of 31 October 2014 on the identification of Universal Business Language version 2.1 for referencing in public procurement[9], the OASIS Universal Business Language (UBL) Standard, has been designated by the European Commission as one of the first consortium standards officially eligible for referencing in tenders from public administrations.

- **Organisational interoperability**
  The use of UBL has many benefits for the modelling of business processes, among which we can highlight that it provides detailed textual descriptions, explanations, and examples of each of its specified functions and messages, as well as clear rules for extension and several subsets and tool resources. UBL can therefore promote interoperability agreements considering its processes for setting standards-based infrastructure for electronic Extensible Markup Language (XML) business documents exchange.

- **Semantic Interoperability**
  UBL is available for its use and implementation on Joinup, the collaborative platform created by the European Commission. The Github repository also hosts many discussions around UBL implementation, sharing their data and results, and being open to external contributions.

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[7] ESPD Test bed: Validation · OP-TED/ESPD-EDM Wiki · GitHub

[8] CEF e-invoicing conformance testing: Release EN16931 Validation artefacts v.1.3.8 · ConnectingEurope/eInvoicing-EN16931 · GitHub

[9] COMMISSION IMPLEMENTING DECISION of 31 October 2014 on the identification of Universal Business

Language version 2.1 for referencing in public procurement: EUR-Lex - 32014D0771 - EN - EUR-Lex (europa.eu)

3. ASSESSMENT RESULTS

This section presents an overview of the results of the CAMSS assessments for **UBL**. The CAMSS "Strength" indicator measures the reliability of the assessment by calculating the number of answered (applicable) criteria. On the other hand, the number of favourable answers and the number of unfavourable ones are used to calculate the "Automated Score" per category and an "Overall Score".

Category	Automated Score	Assessment Strength	Compliance Level
Principle setting the context for EU actions on interoperability	100/100 (100%)	100%	Seamless
Core interoperability principles	2080/2200 (95%)	95%	Seamless
Principles related to generic user needs and expectations	420/500 (84%)	60%	Seamless
Foundation principles for cooperation among public administrations	440/500 (88%)	100%	Seamless
Interoperability layers*	1020/1100 (93%)	100%	Seamless
Overall Score	3760/4100 (92%)[10]	93%	

The technical interoperability layer is covered by the criteria corresponding to the core interoperability principle ''Openness''.

With a 93% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 3760/4100 (92%) demonstrates that the specification supports the European Interoperability Framework in the domains where it applies.

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[10] See the "results interpretation" section of the CAMSS Assessment EIF Scenario Quick User Guide:

https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/camss-assessment-eif-scenario/results-visualisation-and-interpretation