

## **EXPLANATORY REPORT**

### **OASIS Submission of Universal Business Language v2.1 to ISO/IEC JTC 1**

OASIS (the Organization for the Advancement of Structured Information Standards) respectfully submits the following OASIS Standard to ISO/IEC Joint Technical Committee 1, for transposition into an International Standard under its Publicly Available Specifications disposition process:

OASIS Universal Business Language ("UBL") v2.1

The relevant documentation is enclosed (in a ZIP file) with this communication. UBL v2.1 is an eligible Publicly Available Specification as defined by JTC 1. OASIS is a Recognized PAS Submitter, having been approved by JTC 1 national bodies originally in 2004, and most recently reaffirmed through May 2015.

### **INTRODUCTION**

*Draft SD 9, Annex B, Excerpt: JTC 1 PAS and Fast Track Explanatory Report Template*

The Submitter is further invited to comment on the following items in the Explanatory Report:

a) Clearly define the technical concepts used in the submission (see the definition of Explanatory Report in JTC 1 Supplement F.3.1 and SD9 clause 5) \* \* \*

The Universal Business Language specification is a coordinated set of XML grammatical components that allows trading partners to unambiguously identify the information in business documents to be exchanged in a particular business context. The original core use cases for UBL were commercial supply chain processes (such as invoicing, procurement and transportation), but additional feature sets and market demand have expanded its scope to include other domains, such as freight logistics, utility billing and vendor-managed inventory.

As an open and freely-available standard, UBL provides an alternative to proprietary technologies, based itself on extensible, common and readily implementable standards such as XML, and related well established methods and tools, so as to be widely re-usable across systems, languages and transaction types. The transaction documents represented by UBL are those conventionally used in commercial trade: orders, invoices, catalogues, bills of lading, forwarding instructions and the like.

The UBL project originally grew out of the 1999-2001 ebXML project for open e-commerce, and the need for a stable serialization which could fulfill ebXML's vision of a "Core Components" library of reusable data elements for trade, but implemented with then-immediately-available technology, based on established XML methods and tools.

Version 1.0 of UBL was approved as an OASIS Standard in November 2004, and the UBL Naming & Design Rules were approved in January 2005. Public administration adoption and adaptation of this openly available work commenced almost immediately: the Danish government began mandating the use of UBL e-invoices in 2005. Version 2.0 of UBL was released in December of 2006. It is intended that successive versions of UBL are to be backward compatible; the version submitted here, version 2.1, is an extended feature and function set that builds upon the already widely-used version 2.0.

The current version, UBL v2.1, was approved by the membership of OASIS as an OASIS Standard in November 2013. Copies of the relevant notices of approval and public review are enclosed with this communication, as is the normative copy of the approved OASIS standard specification. The UBL v2.1 prose specification, submitted here, also is available for inspection from OASIS in various formats at the following publicly accessible locations:

Editable Source (Authoritative): <http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.xml>  
 HTML: <http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.html>  
 PDF: <http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.pdf>

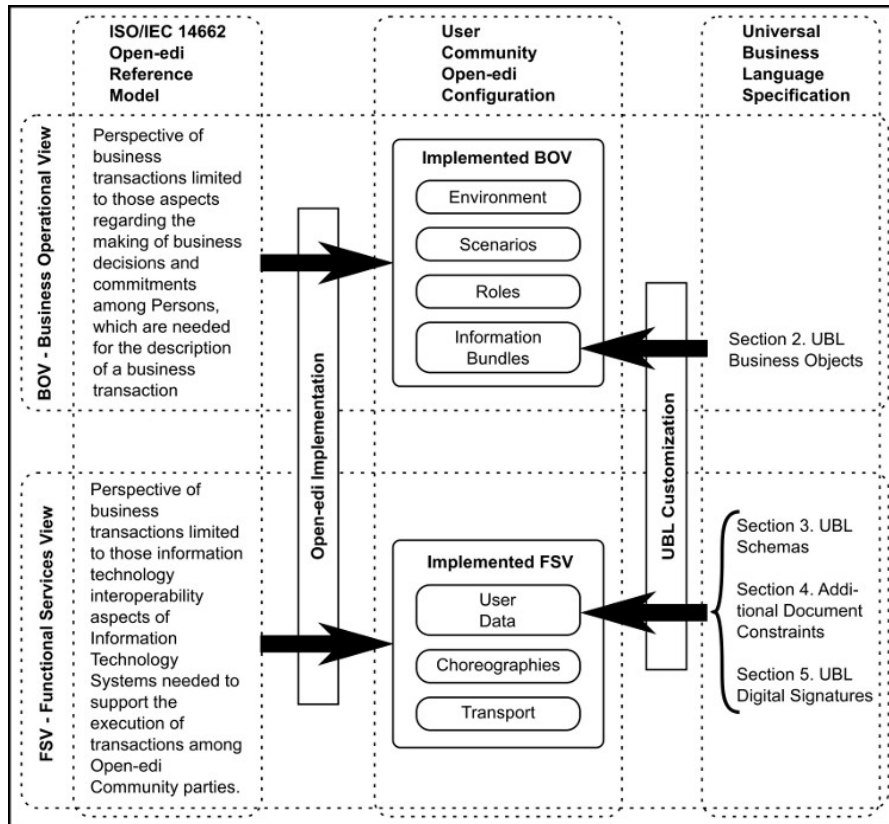
OASIS also provides a complete package of the prose specifications *plus* supporting documents and schema in a ZIP distribution file, which can be downloaded here:

<http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.zip>

PLEASE NOTE: The UBL prose base documents, above, should be sufficient for most review purposes. However, the entire UBL v2.1 specification package, including the supporting documents and schema, is submitted as the draft International Standard for JTC 1 transposition. The supporting files are an integral component of this PAS submission.

The composite files exceed 55 megabytes, and as a compressed (ZIP-ped) package will exceed the attachment size of some e-mail systems. As the unzipped package contains many files, and relies on a number of relative file directory positions, the editors suggest that a user un-zip the package into a newly-created empty subdirectory, for ease of use.

The normative technical concepts of UBL map directly to concepts standardized by JTC 1/SC32 in ISO/IEC 14662, the "Open-edi Reference Model," and detailed in ISO/IEC 15944-20: "Linking business operational view to functional service view," as shown in this DIAGRAM 1, which also appears in a non-normative appendix of the specification:



**Diagram 1: UBL Mapping to ISO/IEC 14662 & ISO/IEC 15944-20 model**

## ORGANIZATIONAL CRITERIA

### *SD 9 Excerpt: JTC 1 PAS and Fast Track Explanatory Report Template*

Once a PAS originator has been recognized, a PAS submission to the JTC 1 Secretariat may occur within the technical scope identified in the PAS submitter application. This PAS submission must be accompanied by an Explanatory Report produced by the Submitter, and a statement that the conditions for recognition of the PAS submitter have not changed, or an indication of the nature of changes that have occurred (see SD9 clause 6.2.2). \* \* \*

OASIS and its UBL TC are pleased to offer the following additional observations relevant to JTC 1 PAS criteria. The conditions for PAS submitter recognition of OASIS that were in place at the time of our last successful PAS recognition renewal have not changed. The material below is simply a summary.

-- Cooperative stance

OASIS, as a consortium, interoperates and liaises, broadly and productively, with international de jure standards organizations and many relevant industry consortia of various types, and has formal working relationships with:

-- ISO/IEC/ITU/UN Global MoU for E-Business Management Group

-- The European Commission Multi-Stakeholder Panel on ICT standardization

-- ISO TC 154. TC 184/SC04 and TC 211

-- ITU-T (A.4 and A.5 recognition)

-- IEC PC 118

-- ISO/IEC JTC 1 SC34, SC38

-- ANSI, CalConnect, CEN/ISSS, CESI, CSCC, EEMA, ETSI, FixML, HL7, Kantara Initiative, NAESB, NSTIC IDESG, OECD, OpenGeoSpatial Consortium, ODCA, SNIA, SWIFT, UPU, W3C and WCO, among other standards development and policy organizations.

OASIS enters into working agreements (as contemplated by JTC 1 criteria) with each organization to which it submits OASIS Standards, pursuant to our Liaison Policy, posted at:

<https://www.oasis-open.org/policies-guidelines/liaison>

The submission terms applicable to this submission by OASIS of UBL are attached as Annex A to this report. These terms are consistent with the applicable rules of OASIS, comply with the criteria established by JTC 1's PAS disposition process.

OASIS technical committees continue to actively produce ICT specifications that may, over time, provide additional opportunities for convergence, or feature expansion of this work, towards related domains of activity.

-- Characteristics of the Organization

OASIS is a member-led, international standards consortium, incorporated as a Section 501(c)(6) not-for-profit corporation under the law of the State of Pennsylvania in the United States, concentrating on structured information and global e-business standards, and organized in

1993. As of 2014, approximately 50% of our over 550 members are technology providers, 35% are technology users and influencers, and 15% are government and academic entities. As verified during our PAS recognition applications and renewals, OASIS is one of the largest and most widely recognized open standards consortia developing data and methodology specifications for e-business and public administration. All organizational members of OASIS may vote on OASIS standards (and on governance issues such as election of the Board of Directors); and any member (including Associate and Individual members) may join any OASIS technical committee as a voting member.

-- Intellectual Property Rights

The OASIS IPR Policy imposes a clear set of disclosure and license-notification procedures that ensures predictable detection and resolution of claims from contributors to OASIS work. It is posted here:

*<https://www.oasis-open.org/policies-guidelines/ipr>*

In its submission, OASIS is willing to comply with the ISO/IEC Common Patent Policy, and the disclosures in this report comply with its disclosure requirements.

Under the OASIS IPR Policy, members actively participating in the development of the UBL TC's work are obligated to disclose any intellectual property rights they hold in the approved standard, and to provide license rights to implementers of the standard, in the manner described in the policy. All declared claims of rights in the UBL v.2.1 standard (and prior versions of UBL) are required to be posted here:

*<https://www.oasis-open.org/committees/ubl/ipr.php>*

The only claims made on that page, by contributor Sun Microsystems, Inc., are accompanied by a nonassertion covenant providing licensure consistent with the free and open use of the specification, consistent with the terms of the OASIS IPR Policy. Any later-claimed rights held by OASIS members actively participating in the UBL TC's work also would be licensed to implementers on the terms set forth in the OASIS IPR Policy.

Additionally, OASIS holds a copyright in the submitted specification. Under the terms of its liaison policy (above), OASIS will agree either (a) to have its copyright notice and associated disclaimers retained on JTC 1's issuance of the transposed work, or (b) to have only the ISO/IEC copyright notice appear, so long as OASIS' retention of its independent copyright is properly memorialized in the working agreement referenced above. OASIS has no objection to joint or dual distribution of the transposed standard.

OASIS holds a trademark in the name of the specification, but otherwise knows of no claimed trademark rights in the normative elements of the submitted specification. OASIS will grant such permissions to refer to that name, if any, as might be necessary for joint or dual distribution of the transposed standard.

Under the OASIS IPR Policy referenced above, all contributions provided by members into its technical committees are made with the assurance that they are freely available for incorporation, derivation and republication into the committee's output.

## DOCUMENT RELATED CRITERIA

*Draft SD 9, Annex B, Excerpt: JTC 1 PAS and Fast Track Explanatory Report Template*

Please be sure to address the following Document Related Criteria when making any PAS or Fast Track submission to JTC 1. The paragraphs follow the clause numbering in SD9 section 7.4.

### -- Quality : Completeness and Stability

The submitted specification, version 2.1, is a complete and final approved version, based on a core of earlier contributed work, (which is incorporated into and included in v 2.1), but has been in production use since 2005. As UBL adoption has grown, supported by many software toolmakers and ICT service providers, it has become used routinely by government agencies in Denmark, Sweden, Norway, Turkey, Peru, Iceland, China, Panama, the US and the Netherlands, and is the core data content standard underlying e-PRIOR (the European Commission's eProcurement platform), and the Pan-European Public Procurement Online (PEPPOL) funded jointly by the European Commission and the PEPPOL Consortium members. Early deployments of PEPPOL have included production use in Austria, Denmark, France, Ireland, Italy, Norway, Poland and Sweden.

The specification will remain perpetually available as provided under OASIS rules. The OASIS Standard approval process also requires that multiple OASIS members publicly acknowledge successful implementation of the specification. In this case that acknowledgment is provided by:

- Single Face To Industry (SFTI):  
<https://lists.oasis-open.org/archives/ubl/201307/msg00002.html>
- RFS Holland Holding B.V.:  
<https://lists.oasis-open.org/archives/ubl/201307/msg00003.html>
- Tradeshift:  
<https://lists.oasis-open.org/archives/ubl/201307/msg00004.html>
- European Commission e-Freight project:  
<https://lists.oasis-open.org/archives/ubl-comment/201306/msg00002.html>
- JAVEST:  
<https://lists.oasis-open.org/archives/ubl-comment/201306/msg00004.html>
- The Institute of Shipping Economics and Logistics (ISL):  
<https://lists.oasis-open.org/archives/ubl-comment/201307/msg00000.html>
- Invinet Sistemas B2BRouter:  
<https://lists.oasis-open.org/archives/ubl-comment/201307/msg00004.html>

as evidenced by the enclosed notices. These notices applied to the version 2.1 that was approved as an OASIS Standard and is submitted here.

The UBL standard has been in widespread production use since 2005, and presently enjoys broad implementation in leading open-source and commercial office software, as noted above.

-- Quality : Clarity and Testability

The UBL specification provides detailed textual description, explanation and examples of each of its specified functions and messages, as well as clear rules for extension, and a rich number of subsets and tool resources, including a "small business subset," and localization tables dictionaries for Chinese, Danish, German, Italian, Japanese, Korean, Spanish and Turkish. Interfaces for the specification are clearly defined using established data standards: W3C's XML Schema and the RelaxNG (ISO/IEC 19757-2) schema definition language; with alternative non-normative representations also available in UML and ASN.1. Because the normative schemas are defined by XML Schema and RelaxNG, there already exist a variety of validator software programs that readily can be used to verify conformance with that portion of the standard.

-- Quality : Availability

There are no required costs associated with OASIS specification availability. The UBL specification is widely available and widely implemented. Under the OASIS IPR Policy referenced above, users unqualifiedly are permitted to implement the submitted OASIS Standard without any requirement of a license, permission or royalty from OASIS; other parties with claims are permitted to assert those claims and make any license terms known. All participants in the OASIS UBL TC have agreed, under the terms set forth in the OASIS IPR Policy, to make any licensed rights available as needed to permit royalty-free licenses to any implementer of the UBL OASIS Standard, under the terms provided in the "RF on Limited Terms" IPR mode as defined in that policy. The progressive versions of the specification have been publicly available from OASIS' Internet portals since the TC's inception. The current form of the specification has been posted and available since it was finalized for OASIS TC approval in July of 2012. Prior versions have been posted and available since 2005. Distribution of the specification from OASIS is unlimited and free of charge, and OASIS requests that the transposed ISO/IEC International Standard also be offered at no charge.

-- Consensus : Development Consensus

UBL v2.1 was developed by the multi-national and cross-industry membership of the OASIS UBL Technical Committee, whose roster can be seen here:

<http://www.oasis-open.org/committees/ubl>

It was approved by that committee, and then approved by the OASIS membership at OASIS' highest level of approval, under the OASIS IPR Policy (see above) and the OASIS TC Process rules:

<http://www.oasis-open.org/committees/process.php>

The above OASIS rules, as previously confirmed during JTC 1's examination of OASIS' PAS eligibility, assure transparent public feedback; broad quality review under a consensual process; and a declared and clear regime for the resolution of any intellectual property rights claims (although none have been asserted against this work).

-- Consensus : Response to User Requirements

OASIS policies require that each technical committee maintains a public, transparent record of all comments received to a proposed standard, as well as acknowledgment of their resolution. As a result, the course of development in OASIS technical committees always is open to input from the needs of user communities. The development and approval of the UBL specification

complied with our open process methods and requirements, as evidenced by the enclosed notices. The UBL TC has direct participation from the consumers of the standard, including government agencies with responsibility for international trade, e-trade service providers and software suppliers.

The CEN European BII Workshop has also reviewed UBL v2.1 to help ensure its compliance with European legal requirements.

The successful use statements referenced above, from OASIS member implementers of UBL, evidence user satisfaction with the work.

-- Consensus : Market Acceptance and Credibility

Multiple software toolmakers, open source platforms and institutional end-users have announced their implementations of UBL, in a variety of applications and vertical domains. See the Statements of Use above, and the announcements at:

<http://ubl.xml.org/products>

-- Alignment : Relationship to Existing Standards

UBL defines open, standards-based schema for a wide variety of common trade processes, the breadth of which is illustrated by its wide use in global procurement.

UBL can also be regarded as a generic Open-edi Configuration in the perspective of the Open-edi Reference Model (ISO/IEC 14662:2010).

UBL is related to other specifications elsewhere, including the ebXML stack (ISO 15000 series) of open, freely-available transactional standards, specifically the ebXML Core Components Technical Specification of UN/CEFACT which is separately approved as ISO TS 15000-5.

We are unaware of any conflicts of alignment with other JTC 1 standards.

The normative references made in UBL (see Section 1.2 of the prose specification text) each rely on existing standards issued by *de jure* standards organizations (such as ISO and ITU), or are "Referenced Specifications" from "Approved RS Originators (ARO)" (such as OASIS, and W3C), as defined in the requirements of ISO/IEC JTC 1 Standing Document No. 5 on Normative Referencing, with one exception: the European Telecommunications Standards Institute (ETSI) standard "[XAdES]", XML Advanced Electronic Signatures. ETSI TS 101 903 V1.4.1. A Reference Explanatory Report for XAdES is enclosed with this submission.

Note: the UBL specification also lists as a reference "[CPFR]," the 2002 Collaborative Planning, Forecasting, and Replenishment model from the Global Commerce Initiative (GCI). CPFR no longer operates as a normative reference in UBL, as all of UBL's relevant documents for CPFR functions have directly incorporated GCI CPFR data models, and the GCI document later was retired; however, the legacy reference is retained in the specification as a pointer to the original contributions of VICS.org (later subsumed into GS1 Global, also an ARO). See:

<http://xml.coverpages.org/gci.html>

The specification's conformance clauses and testability are noted above.

#### -- 7.4.3.2. Alignment : Adaptability and Migration

Although a wide variety of systems profitably can use UBL, there appears to be no need for a migration path or defined additional relationships with other existing International Standards. The UBL specification is stable and in production use in business and trade applications globally. Since UBL v2.0 was released in 2006, work on the specification generally has been additive; the UBL TC has sought not to substantially change the base specification's structures, in view of its broad implementation in existing applications and tools.

Valid XML instances of UBL v2.0 schemas are, by design, valid XML instances of UBL v2.1 schemas.

To support adaption to specific requirements, the UBL extension mechanism allows the addition of other extensions in the same instance. That method allows additional information items to be included in UBL v2.1 messages without impacting their conformance to the UBL v2.1 standard.

#### -- Alignment : Substitution and Replacement

UBL v2.1 updates the OASIS Standards UBL v1.0 and UBL v2.0, but does not replace any existing International Standard. The entire submission package is integrated and should be transposed as a whole.

#### -- Alignment: Document Format and Style

As in past OASIS PAS submissions, it is the expectation of OASIS and the UBL TC to present this first JTC 1 submission in the document style and format finally adopted by OASIS; and after its first transposition, to conform any future versions submitted to JTC 1 to ISO/IEC Style according to the ISO/IEC Directives Part 2, Rules for the structure and drafting of International Standards.

#### -- 7.4.4. Maintenance

OASIS and its UBL Technical Committee will conduct the ongoing maintenance and revisions of the submitted specification. The UBL TC will continue to collect errata, implementation experience, and possible feedback towards future improvements, and conduct specification maintenance and revisions, all consistent with the OASIS Liaison Policy:

*<https://www.oasis-open.org/policies-guidelines/liaison#submitwork>*

OASIS welcomes input from any defect reports which may be submitted via JTC 1 National Bodies. OASIS will work with the JTC 1 Secretariat to respond to Systematic Reviews, and evaluate needs for future revisions.

The UBL TC and OASIS plan to bring future major versions of the specification, including each OASIS Standard version and all OASIS Approved Errata, and interim maintenance revisions when feasible, back to JTC 1 for re-transposition or shared publication of errata. It is OASIS' expectation that the OASIS and JTC 1 publications of any given version of the specification will be identical in all substantive and technical respects, so as not to disrupt or confuse users of the work, nor render their implementations non-interoperable.

If in the future the OASIS TC is closed, or votes to cease its work on the submitted specification, OASIS will then inform JTC 1, and will grant to it the copyright and permission to continue to maintain the work as a JTC 1 product; provided, however, that the OASIS IPR



Policy and its terms thereafter will no longer impose disclosure, licensing or permissions obligations on contributors to new versions of any such work, and OASIS may require that a notice to that effect be included.

## **STRATEGIC CHARACTERISTICS**

*SD 9 Excerpt: JTC 1 PAS and Fast Track Explanatory Report Template*

The Submitter is further invited to comment on the following items in the Explanatory Report:

\* \* \* b) Explicitly reference the JTC 1 common strategic characteristics (interoperability, portability, cultural and linguistic adaptability, and accessibility) (see SD9 clause 4).

The proposed transposition also meets the higher-level strategic goals of JTC 1 represented by common strategic characteristics defined for JTC 1's Technical Directions: interoperability, portability, cultural and linguistic adaptability and accessibility.

### -- Interoperability

Open-standards-based electronic trade documents (supporting trade in both electronic and physical goods transactions) have been the preferred mode for international commerce since the flowering of Electronic Data Interchange (EDI) more than 30 years ago. Current network and computational capabilities enable radical increases in efficiency, scope and volume. The UBL specification is a widely-adopted, free to use, vendor-neutral, stable and testable set of data structures expressed in XML that facilitate that increased global transactional volume.

### -- Portability

UBL v2.1 is explicitly vendor-neutral, device-neutral and language-neutral, and built on widely-tooled and tested structured data methods (including XML and RelaxNG Schema) which can be implemented by practically any modern e-commerce business, web service or Internet-based transactional system.

### -- Cultural and linguistic adaptability

UBL has been explicitly designed, from its first version (v1.0), to accommodate multiple languages and linguistic structures, and provides localization tables in multiple languages as noted above, and is explicitly extensible so as to be locally profiled for other cultural, transactional and language environments.

### -- Accessibility

UBL is consistent provided with the widely-used sets of alternative readability and user accessibility functions available for use with conformant XML-based specifications.

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