Implementation Guide - UBL Ready in five steps - Version 1.01 – 4 February 2017
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Do you want to send your e-invoices in UBL format, to allow your customers to profit from the benefits of UBL e-invoicing? Or do you want to receive e-invoices in UBL format and automatically transfer them as booking proposals into your administrative software?

Or perhaps you are a:
- Supplier of financial, administrative, bookkeeping and or ERP solutions/software.
- Company with a proprietary software solution for sending/processing e-invoices.
- Service provider in the field of e-invoicing, AP automation, e-procurement, order to cash or purchase to pay
- Consultant/Person with a common interest in UBL

In that case, this information is of interest to you. This implementation guide is aimed at providing you with the necessary information, tips and tricks to become UBL Ready: sending and/or processing of UBL e-invoices.

STEP 0: Good to know –user experiences to take into account
STEP 1: Read all the necessary documentation at a glance to prepare for a proper implementation
STEP 2: Implementation – take into account decimals, suffixes, notations and elements
STEP 3: Self-validation – put your own UBL invoice / implementation through its paces
STEP 4: Apply for UBL Ready
STEP 5: Logo placement and feedback loop

It is advised to carefully read all the information stated underneath before you proceed.

Step 0: Good to know – user experiences to take into account

- Successfully performing the UBL validation procedure is one of the steps that leads to the 'UBL Ready' qualification. Right now, over 90 Dutch organisations have successfully executed the UBL validation procedure.

- Do you want to apply for UBL Ready in the near future? Send us an e-mail with your contact details (company name, your name, phone number) to info@ublready.com . We will inform you on new developments.

- The steps of the UBL Validation Procedure are primarily meant to make sure that your UBL document is compatible with other UBL enabled software (accounting software, solutions by e-invoicing service providers, government).

- For validation purposes UBL Ready provides demo files, each comprised of 2 documents. First, the e-invoice in UBL format, which be processed in the recipient's administration. And, second a

PDF version of that invoice to clearly display the invoice content, allowing you to check for errors or warnings in the UBL implementation phase.

▪ To guarantee maximum compatibility and interoperability, the use of common UBL 2.0 and – preferably- UBL 2.1 is advised. Proprietary UBL implementation will most undoubtedly lead to interoperability issues.

▪ EU only: once the European UBL e-invoicing standard *(EN434)* gets published, a separate UBL Ready implementation guideline will be made available.

Step 1: Read the documentation

We have collected all the necessary information about UBL Ready for you. All you have to do is to download and read it to prepare for yourselves for a proper implementation.

▪ **Documentation on the UBL 2.0 and 2.1 standard**
The two international standards that form the basis of the UBL Test Bed and UBL Ready:
http://ubl.xml.org/wiki/ubl-specifications

▪ **International code lists**
Standard (international) code lists that can be referenced in an UBL invoice: document, country, currency, GLN, tax, etc.

1. **All invoice elements based on UBL2.1**
   A full specification of a UBL2.1 invoice wit hits hierarchal structure can code examples can be viewed here: http://www.datypic.com/sc/ubl21/

2. **UN/ECE 1001 of UNCL1001; t.b.v. document/message name**
   coded http://www.unece.org/trade/untdid/d00a/tred/tred1001.htm; used for InvoiceTypeCode of contract document.

3. **ISO 3166: used for Country Codes**
   http://www.iso.org/iso/home/standards/country_codes.htm

4. **ISO 4217 Alpha; used for Currency Codes**
   http://www.iso.org/iso/home/standards/currency_codes.htm

5. **UN/ECE 5153; used for Tax codes, such as"VAT":**
   http://www.unece.org/trade/untdid/d07b/tred/tred5153.htm

6. **UN/ECE 5305; used for Duty or tax or fee category codes:**
   http://www.unece.org/trade/untdid/d07b/tred/tred5305.htm

7. **UN/ECE 4461 Subset; used for PaymentMeans (betalingsmethode):**
   http://www.unece.org/trade/untdid/d03a/tred/tred4461.htm

8. **UNCL4465 Adjustment reason, coded (for discounts and raises):**
   http://www.unece.org/trade/untdid/d03a/tred/tred4465.htm

9. **GLN (Global Location Number):**
   GLN is part of the GS1 systems of standards: http://www.gs1.org/gln

10. **GTIN (Global Trade Item Number):**
    GTIN can be used by a company to uniquely identify all of its trade items. GS1 defines trade items as products or services that are priced, ordered or invoiced at any point in the supply chain, see: http://www.gs1.org/gtin.

- **Example files and reference invoices**
  The UBL Ready website contains validated UBL demo files from over 30 participants. From simple invoices with a single line item, to invoices with several VAT percentages, multiple invoice lines, discounts and additional fees. Use them for your UBL implementation.

- **Wiki (Work in progress)**
  Just like this document, the wiki serves a convenient online reference.

Stap 2: Implementation phase

After the preparatory steps, it is now time to start implementing the UBL invoice in to your solution, service or platform. Please take note of the following observations:

- Decimal in amounts and percentages (i.e. VAT) are shown with a dot (i.e. 10.50), and not a punctuation mark (comma or period) between the decimals. See also:
  http://www.datypic.com/sc/xsd/t-xsd_decimal.html

- Remove UBL any elements that are not included in your UBL invoice implementation. So, leave no empty UBL elements. Mandatory elements cannot be removed, of course.

- Invoice lines with only text (without amounts) are not allowed. The price element is of course mandatory in any invoice. Amounts have to be entered as 0.00. Any text on the invoice that does not relate to the invoice lines can be entered in the "Note" element.

- At the UBL Test Bed, the name of both documents have to be the same, except of course the suffix (i.e. invoice50301.xml and invoice50301.pdf).
- The individual unit price in an invoice line may contain several decimals. Advice: up to 4 decimals. The numbers in an invoice line may also contain several decimals. Advice: up to 4 decimal places. **ALL other billing and line amounts should be limited to two decimals.**

Step 3: Self-validation

Once your implementation is ready, it is now time to put your UBL invoice / implementation through its paces.

UBL Ready uses third party validation tools, the same tools that you can use to check the validity of your UBL e-invoice. UBL Ready is currently aware of the following UBL validators:

- The Dutch SimplerInvoicing project offers a validation tool through validatethis@simplerinvoicing.org. The tool also accepts UBL 2.0 and 2.1 invoices, but only validates the elements that are present in the recent UBL-SI standard. For more information, see www.simplerinvoicing.org.

- Another validation tool is provided by Philip Helger on this website. Select the 'OpenPEPPOL' rule set. Upload your XML file and go through the feedback.

- Cap Gemini provides a validator here. Select the schema to validate against. Paste your XML document in the text box below. Click "Validate syntax against XML schema" to validate against selected XML schema (XSD). Click "Validate content against business rules" to validate against the available business rules (XSLT). Check the validation result.
  Note: This validator proved to be the least reliable

- Truugo probably the best validation service we know to date. UBL Validation report are clear and detailed. Take a look at an example validation report here. They also provide a free UBL validator with a limit of three demo tests.

Underneath are example of UBL validations. Warnings are not crucial for ensuring interoperability. Errors are crucial; they must be rectified in order to be UBL Ready.

Example 1: no errors and no warnings

XML File: UBLChainTest_referenceinvoice_20150101_UBL21.xml
    XML Schema (XSD) OK
    0 Schematron errors
    0 Schematron warnings

Example 2: Validation with a few warnings

XML File: 2015001_RGS.xml

XML Schema (XSD) OK
0 Schematron errors
3 Schematron warnings

Schematron report:

Warning: [EUGEN-T10-R040]-A customer SHOULD provide information about its legal entity information

Warning: [SI-V11-INV-R300]-An invoice SHOULD not contain empty elements.

Warning: A invoice SHOULD not contain the element cac:InvoiceLine/cbc:AccountingCostCode

Example 3: validation with lots of errors and warnings (Based on UBL-SI validation)

XML File: Factuur 104381.xml

3 XML Schema errors

0 Schematron errors

16 Schematron warnings

XML Schema errors:

<string>:31:0:ERROR:SCHEMASV:SCHEMAV_ELEMENT_CONTENT: Element '{urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2}PartyName': This element is not expected. Expected is one of ({urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2}AdditionalAccountID, {urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2}Party, {urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2}DeliveryContact, {urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2}AccountingContact, {urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2}BuyerContact).

<string>:72:0:ERROR:SCHEMASV:SCHEMAV_ELEMENT_CONTENT: Element '{urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2}TaxSubTotal': This element is not expected. Expected is one of ({urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2}RoundingAmount, {urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2}TaxEvidenceIndicator, {urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2}TaxIncludedIndicator, {urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2}TaxSubtotal).

<string>:2:0:ERROR:SCHEMASV:SCHEMAV_ELEMENT_CONTENT: Element '{urn:oasis:names:specification:ubl:schema:xsd:Invoice-2}Invoice': Missing child element(s). Expected is ({urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2}InvoiceLine).

Schematron report:

Warning: [SI-UBL-INV-R000]-This XML instance is NOT a core SI-UBL Invoice

Warning: [SI-UBL-INV-R001]-An invoice SHOULD not contain empty elements.

Warning: [SI-UBL-INV-R002]-A conformant SI-UBL invoice core data model SHOULD not have data elements not in the core.

Warning: [SI-UBL-INV-R009]-A conformant SI-UBL invoice core data model SHOULD not have data elements not in the core.

Warning: [SI-UBL-INV-R011]-A conformant SI-UBL invoice core data model SHOULD not have data elements not in the core.

Warning: [SI-UBL-INV-R056]-A conformant SI-UBL invoice core data model SHOULD not have data elements not in the core.

Warning: [SI-UBL-INV-R127]-A conformant SI-UBL invoice core data model SHOULD not have data elements not in the core.

Warning: [SI-UBL-INV-R128]-A conformant SI-UBL invoice core data model SHOULD not have data elements not in the core.

Warning: [SI-UBL-INV-R257]-A conformant SI-UBL invoice core data model SHOULD not have data elements not in the core.
Warning: [SI-UBL-INV-R258]-A conformant SI-UBL invoice core data model SHOULD not have data elements not in the core.
Warning: [SI-UBL-INV-R410]-Element 'PostalAddress' must occur exactly 1 times.
Warning: [SI-UBL-INV-R423]-A supplier postal address in an invoice SHOULD contain at least, Street name and number, city name, zip code and country code.
Warning: [SI-UBL-INV-R418]-Element 'TaxExclusiveAmount' must occur exactly 1 times.
Warning: [SI-UBL-INV-R419]-Element 'TaxInclusiveAmount' must occur exactly 1 times.
Warning: [SI-UBL-INV-R453]-Element 'LineExtensionAmount' must occur exactly 1 times.

Step 4: Apply for UBL Ready

Do you intend to send UBL e-invoices and are you satisfied with the self-validation results? Or are you able to proof you can process the UBL e-invoicing files in your software solution? It is then time for your UBL Ready application.

Underneath are some examples of organisations eligible as a UBL Ready participant:

- Suppliers of financial, administrative, bookkeeping and or ERP solutions/software.
- Companies with proprietary software solutions for sending/processing e-invoices.
- Service providers in the field of e-invoicing, AP automation, e-procurement, order to cash and purchase to pay
- Public organisation that has implemented UBL
- Other parties interested in using UBL.

In other words: UBL Ready puts no restrictions on the nature of applicants and participation is free.

We only ask from you:

1. To prepare yourselves on future UBL developments
2. to put the UBL Ready logo on your website with a link to the UBL Ready website.
3. To validate UBL files from new applicants.

Apply for UBL Ready as a <u>sender</u> of UBL e-invoices:

1. Fill out the form and attach your UBL and PDF e-invoice. Or send an e-mail with your contact information and UBL plus the corresponding PDF e-invoice to info@ublready.com
2. After receiving your information, your UBL invoices will be re-validated by UBL Ready.
3. If your invoice validation has been successful, your UBL+PDF invoice will be made available to the UBL Ready community for testing purposes.

4. When your files are approved, you will receive the UBL Ready label that you have to put on your website.

Apply for UBL Ready as a recipient / processor of UBL e-invoices.

1. Download the example files provided by current UBL Ready participants (each set consists of a UBL file and a corresponding PDF file).
2. Process the UBL e-invoices in your application.
3. Make screenshots/screencasts of the process making clear how your application processes the UBL e-invoices.
4. Fill out the form and attach your screenshots/screencasts. Or send an e-mail to info@ublready.com.
5. When your files are approved, you will receive the UBL Ready label that you have to put on your website.

Step 5: Logo placement and feedback

Place the 'UBL Ready' logo on your website with a link to the UBL Ready website. Let us know where you placed the logo. We add your company on the UBL Ready website; you are now UBL Ready.

Contact us about UBL Ready

UBL Ready is an initiative from the E-invoicing Platform.

Do you have any questions or suggestions regarding UBL Ready? Use the contact form below, or contact us directly. Our contact information is:

E-invoicing Platform
Friso de Jong
Phone: 00316-19622947
E-mail: jong@eeiplatform.com / info@ublready.com

About UBL Ready

UBL Ready is the successor of a Dutch project in 2015, funded by the Ministry of Economic Affairs, to enable as much providers of financial software (and other providers) to incorporate UBL.

The project was a success, with over 50 implementations comprising over 75% of the generic Dutch SME market. After the project had finished, the need for UBL implementation support remained, and UBL Ready was erected.

UBL Ready builds on the momentum, knowledge achieved and results of the former project, to enable UBL Ready in even more organisations. Just four months after its launch it welcomed its 90th participant.

Recent questions from participants and recent developments in UBL sparked the launch of the international UBL Ready initiative.