

CEFACT

**AD HOC WORKING GROUP ON SIMPL-EDI
AND FORMS AND WEB BASED EDI (SIMAC)**

XML Problem Statement

SOURCE: SIMAC
STATUS: Approved
ACTION: To UN secretariat for information

SIMAC XML EDI

Statement of issues

- EDI knows many applications and is presently used by a large number of organisations, enterprises and governmental bodies all over the world.
- The present world standard for EDI exchange is UN/EDIFACT (Electronic Data Interchange for Administration, Commerce and Transport)
- A lot of work is done by UN/CEFACT and its working groups to deal with user requirements to further enable electronic data interchange between a wide ranging number of participants.
- The work on simplification of processes through the use of simple UN/EDIFACT messages will further enable small and medium sized companies to reap the benefits that EDI usage can bring.
- In this context the fast technological developments around the World Wide Web might enable the participation of even more parties than ever before.
- Presently a lot of questions are asked and only a few answers can be given.
- It is believed that, whilst the concept of Simpl-EDI deals with the transfer of data in a fully automated environment, where supporting master data is available in a database and where the only data exchanged is simple transaction data, many more SME's have a need to exchange data in a similar simplified fashion.
- With the fast increasing use of Internet and the WWW for electronic business and other transactions a number of new ways of commerce have been introduced allowing interaction between groups that previously could not trade with each other.
- The work presently done on so-called E-Forms aligned to the UN Recommendation 1 (UN Layout Key or UNLK) which can provide simple solutions is one of the options that would facilitate the transfer of data.
- Another option that has been introduced is the concept of XML/EDI. It has been indicated that at this moment the American Standards body ANSI X12 is doing research into the applicability of XML for EDI purposes. Whilst national research is obviously a fast way forward, it is of the utmost importance whenever EDI is contemplated that international EDI standards, in other words UN/EDIFACT, should be taken into consideration from the very beginning to avoid any sorts of misunderstanding in the implementation of such a technology.

- What up to now has been understood is that the use of a DTD “ Document Type Definition” which dictates what can be included is essential and even mandatory in the possible use of XML/EDI
- In some areas XML carrying EDI structures has already been indicated as the replacement for EDI syntaxes and translators as we presently know them.
- One of the outstanding issues that need to be resolved urgently is the identification of the data to be used in the transactions. The UNTDED, the UN/EDIFACT messages and all work done on business data in the UN/EDIFACT Working Group (EWG) needs to be brought to the attention of the groups presently developing DTD’s for XML. It is also important that the UNTDED definitions of the data elements represented on E-forms aligned to the UNLK are taken into account to prevent any overlap of developments.
- Quite a number of times the idea of a UN repository has been suggested as a good solution for international use of XML DTD’s and data sets. Also the Basic Semantic Repository which is a work item of ISO TC 154 has been named as a good possibility.
- We kindly request the UN/CEFACT TMWG to indicate which solutions to cater for the above mentioned issues can help user communities to properly link the UN/EDIFACT developments with what some people have called “the hype of XML/EDI”. It is our opinion that this development merits close consideration and attention as do most of the current Internet and other technological developments.
- In the provision of this advice it is felt that care should be taken to recognise the possibilities of emerging technical solutions even if they are not yet thought to be fully matured but are being implemented. In addition the work done in the EWG and other working groups on the harmonisation and simplification of data should be taken fully into account.
- We would like to see directions towards solutions to the various above mentioned problems as soon as possible to enable the UN/CEFACT Steering Group to advise the UN/CEFACT plenary in which way the respective countries and organisations should take care of the developments around XML and XML/EDI.

UN/CEFACT SIMAC Ad hoc Group Recommendations on Electronic Commerce Repositories

The SIMAC group is of the opinion that having seen and studied a number of XML/EDI examples there is an urgent need for a single, unique global Electronic Commerce repository including neutral XML tags, managed through UN/CEFACT procedures (including the ISO MoU).

It is considered essential that this proposed repository takes advantage of the invaluable experience and best practice of years of UN/EDIFACT implementation. Therefore it is recommended that the core of this repository should contain UN/EDIFACT data elements and codes resulting from the work of the Simpl-EDI messages taking into account other simplified message implementations such as the SITPRO ElecTra project.

Principles

The repository should contain a number of initially unfilled fields or “columns” for each XML tag or business element for later use e.g. allowing translations of the descriptions into other languages.

Non-significant tags should be used within the repository as the tags are intended to be machine readable, and since experience has shown that over the course of time any system giving meaning to numbers or tags is likely to become redundant due to unforeseen business needs or changes.

A UN/EDIFACT “string” should be defined for each XML tag, which would provide the meaning for the tag and demonstrate where the business element is used within an EDIFACT implementation. This string should ideally be machine readable to allow automatic processing.

The repository should have a two-tier structure, showing which tags are within the Simpl-EDI core data set, and which are not. This will guide users towards best practice. It should also therefore allow the creation of new XML tags that are not within the core Simpl-EDI data structure. These tags could be reviewed for inclusion within the core set of Simpl-EDI data as part of a separate but related process.

Processes and a structure will need to be created in order to maintain the repository. However, as much of the maintenance as is practicable should be automatic and computerised.

The need for a single global repository together with the CEFACT approach should be communicated to other bodies examining the same issue (e.g. CEN/ISSS etc), in order to achieve uniqueness.

Background

During the work of SIMAC a number of issues were raised around the applicability of internet solutions. The document of October was sent to the TMWG for their consideration.

Ongoing work of SIMAC, in the meantime, led to a set of recommendations as detailed above.

In order to investigate possible solutions the SIMAC group used DTDs derived from the Simpl-EDI Purchase Order message implementation guideline and the SITPRO ElecTra Purchase Order message implementation guideline to compare XML approaches. The group then redeveloped these DTDs so that they both used a common set of XML tags. The resulting set of tags were used to populate a test repository which also contained UNTDED, BSR definitions and UN/EDIFACT paths.

In the case of the SITPRO ElecTra message the XML data was mapped on to an aligned electronic form following the UN Layout Key in order to investigate the feasibility of utilising the UN Layout Key in the standardisation of electronic forms interfaces.

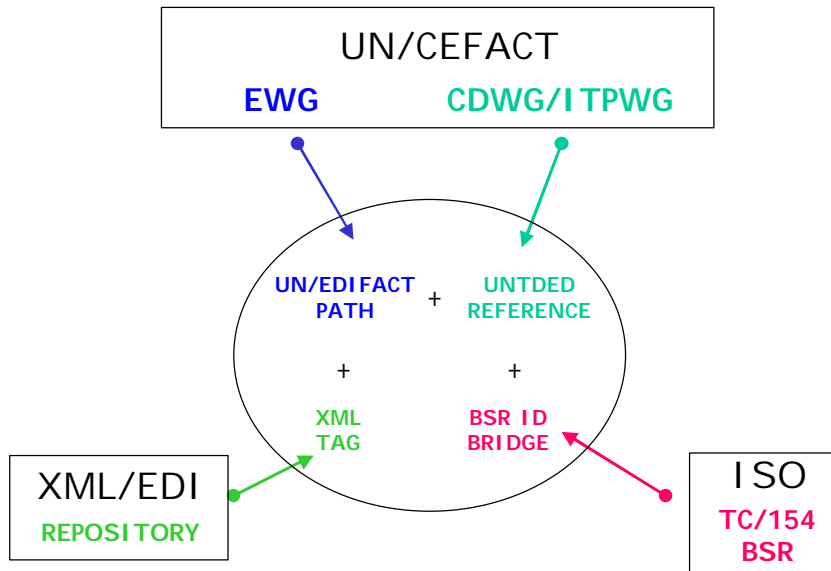
Updated 16th February 1999

Alexander de Lijster

Chair of the UN SIMAC ad hoc working group

Appendix A

GLOBAL EC REPOSITORY PROJECT



Appendix B - Sample of Repository Format and Content

COMBINED - SIMPL-EDI ORDERS + ElecTra ORDERS & ElecTra IFTMIN				
XMLTag (non-significant)	TDED	UN/EDIFACT Path	BSR ID	Description
WWWB*	1001	BGM~C002-1001	BSU 2	Document.Code
WWWWC	1000	BGM~C002-1000	BSU 1	Document.Name
WWWWD	1004	BGM+~C106-1004	GIC 5	Message reference number
WWWWF*	1225	BGM++~1225	GIC 8	Message Function Coded
WWWBB*	2005	DTM~C507-2005		Date Qualifier Code
WWWWG	2006	DTM~C507:2005/137-2380:2379/102	GSU 15	ElectronicDocument.Issue.Date
SSSSP	2138	DTM~C507:2005/2-2380:2379/102	BSU 27	Requested.GoodsDelivery.Date
WWCCC	2170	DTM~C507:2005/255-2380:2379/102	BSU 29	PickUp.Date
WWWWH*	7077	IMD~7077		Item Description Qualifier Code
WWWWJ*	7282	IMD++~C273-7009:1131/122:3055/1		Item CCC Commodity Code
WWWBC*	4451	FTX~4451		Free Text Qualifier Code
WWWWK	4020	FTX+4451/DCL~C108-4440		Declaration Free Text
WWWWL	4276	FTX+4451/AAB~C108-4440		Payment Terms Free Text
WWWWN	7002	FTX+4451/AAA~C108-4440		Goods Description Free Text
WWWBJ*	3227	LOC+3227		Place/Location Qualifier Code
WWDDB*	3239	LOC+3227/27~C517-3225::3055/5	BSU 474	ISO Country of Origin identification
TWFFD*	3157	LOC+3227/18~C517-3225::3055/6		UN LOCODE Warehouse identification
WDDDN	3238	LOC+3227/9~C517:::-3224		Country of Origin Text
WDDDP	3216	LOC+3227/11~C517:::-3224		Country of Destination Text
WWWBD*	1153	RFF~C506-1153	GIC 57	Reference Qualifier Code
WWWWS	1022	RFF~C506:1153/ON-1154	BSU 6	PurchaseOrder.Identifier
WWCCC	1018	RFF~C506:1153/AAA-1154		Acknowledgment of Order
SSSSA	1296	RFF~C506:1153/CT-1154		Contract number
TWFFN	1016	RFF~C506:1153/BN-1154		Booking Number
WWWBF*	3035	NAD~3035	GSU 84	PartyFunction.Code
WWWV	3002	NAD+3035/BY+~C058-3124		Buyer's Name and Address Free Form
WWWV	3132	NAD+3035/CN+~C058-3124		Consignee's Name and Address Free Form
WWWX	3346	NAD+3035/SE+~C058-3124		Seller's Name and Address Free Form
TWFFV	3170	NAD+3035/FW+~C058-3124		Forwarders Name and Address Free Form
SSSAA	3003	NAD+3035/BY+~C082-3039		Buyer's Name and Address Coded
SSSAC	3127	NAD+3035/CA+~C082-3039		Carrier's Name and Address Coded
WWWXC		NAD+3035/BY&CTA+3139/IC~C056:-3412	BSU 140	Buyer's Contact Name
WWWXF		NAD+3035/SE&CTA+3139/IC~C056:-3412		Seller's Contact Name

Appendix C - Example of UN aligned Purchase Order E-Form populated by an XML/EDI message through a DTD derived from the XML tags in the proposed UN/CEFACT Repository

UNITED NATIONS		PURCHASE ORDER	
UN BUILDINGS NEW YORK NEW YORK ZIP CODE VAT No: UN558798387		Package order number PO980001	
		Date 19980201	Seller's Reference ST-1182/1
		Buyer's Reference AZ495	Order Reference
Consignee CASILLA BOX COMPANY CASILLA DE CORREO 6091 BUENOS AIRES ARGENTINA	VAT No. AR321456789	Buyer (if not consignee) BATHUNT UK PLC PO BOX 830 CROYDON SURREY CR9 9NZ	VAT No. GB123456789
		Country of origin of goods	Country of Destination
		Terms of delivery and payment CRF BUENOS AIRES	
Vessel/Flight No.	Port of origin of goods		
Port of destination BUENOS AIRES	Place of delivery BUENOS AIRES		

Appendix D - Part of the XML/EDI message that was used in Appendix C

```
<?xml version="1.0"?>
<!DOCTYPE ORDER SYSTEM "EDIFACT_ORDER_Repository.dtd">
<?XML:STYLESHEET TYPE="TEXT/XSL" HREF="EDIFACT_ORDER.XSL"?>
<!-- Orders Message-->
<ORDER>
  <WWWWB>105</WWWWB>
  <WWWWD>PO980001</WWWWD>
  <WWWWF>9</WWWWF>
  <WWWWG>19980201</WWWWG>
  <WWWWH>S</WWWWH>
  <WWWWJ>12345678</WWWWJ>
  <WWWWK>PLEASE INFORM OF FIRST AVAILABLE DATE</WWWWK>
  <WWWWQ>ST-1182/1</WWWWQ>
  <WWWWR>AZ495</WWWWR>
  <WWWV>BATHUNT UK PLC</WWWV>
  <WWWV>PO BOX 830</WWWV>
  <WWWV>CROYDON</WWWV>
  <WWWV>SURREY</WWWV>
  <WWWV>CR9 9NZ</WWWV>
  <WWWY>GB123456789</WWWY>
  <WWW>CASILLA BOX COMPANY</WWW>
  etc.
```