



WCO Data Model

Brief history

In January 2002 the result of the G7 initiative to standardise and simplify Customs Data requirements of the G7 countries was handed over to the WCO for maintenance, further development and to address a wider Customs community. The latest G7 version became version 1 of the WCO Customs Data Model

In 2003 the WCO published version 1.1 of the WCO Customs Data Model in order to cover the Supply Chain Security requirements. From the list of 27 data elements required to identify high risk consignments only 1 data element was added to version 1 of the WCO Customs Data Model. To support Members in implementing the WCO Data Model a CD-Rom and Handbook Version 1.1 were produced.

In June 2005 Version 2 of the WCO Customs Data Model was approved by the WCO Council. In addition to the former versions, Version 3 covers two more Customs procedures/messages Conveyance reporting and Transit. Wherever possible the data elements have been aligned with the 2005 edition of the United Nations Trade Data Element Directory (UNTDDED) and the UN/CEFACT Core Component Technical Specifications (CCTS).

To further simplify the data sets a WCO Reference –being a unique identifier- was introduced and taken on board in the data sets.

As part of the development of Version 2 Customs Business Process Models were established due to the fact that Business Process Models form a stable basis for designing and developing information systems and electronic messages..

The international standards UMM (UN/CEFACT Modelling Methodology) and UML (Unified Modelling Language) were used during the modelling exercise.

At the 50th Information Management Sub-Committee, which took place in January 2006 a further definition of the scope of Version 3 of the WCO Customs Data Model as well as the new name WCO Data Model was accepted (not exclusively Customs anymore). The agreed further definition of the scope was:

- Deferred Data Maintenance Requests that remained from Version 2.0
- To review and resolve inconsistencies
- To also include Customs' Transit and e-TIR
- To cater for Cross-Border Regulatory Agencies' Response messages
- The ongoing alignment with CEFACT CCTS, UNTDED and to work towards the engagement of Trade/Transport
- To take onboard the regulatory required information necessary for our partner Cross-Border Regulatory Agencies
- To only cater for processes directly related to the release of goods, means of transport and crew, at least health and agriculture (national and international)
- No licence/permit/certificate application/request/approval processes will be included.



The development of Version 3 started in June 2005 and is due to be approved by the WCO Council at its June 2008 Session.

WCO Data Model Version 3 will make it feasible to (further) implement and operate a Single Window environment.

Current status (November 2008)

The WCO Council at its June 2008 Sessions, approved the three basic components of the WCO Data Model Version 3. These basic components; the Business Process Models, the Data Sets and the Overall Information model, were tabled for approval as the foundation for the further development of Version 3 (phase 2) and to result in a fully fledged Version 3 of the WCO Data Model. According to the WCO Data Model project planning the release of this fully fledged Version 3 is scheduled for December 2009.

After Council approval, the WCO Data Model project team refined the business processes, derived sub-diagrams for eleven processes from the Overall Information diagram and made the multi-layer Data Set more user-friendly. This work was completed by the beginning of November.

Over the past months the project team managed to draft 450 Data Maintenance Requests (DMRs) of which 432 related to EDIFACT and 18 related to the United Nations Trade Data Element Directory (UNTDDED). The EDIFACT related DMRs have been assessed in the first formal round at the European EDIFACT Entry point, the Comité Européen de Normalisation in Brussels in September and October. The second and formal final Assessment round will take place at the UN/CEFACT Forum meeting that takes place in Senegal from 10 to 14 November.

The 18 DMRs related to the UNTDED will be assessed at the UNTDED Maintenance Agency meeting that will take place at WCO headquarters on 24 and 25 November.

The required changes are needed to update both Standards to have the WCO Data Model, being an International Standard, aligned with them.

The WCO Data Model Version 3 Phase 2 project formally started in June 2008 with the end of the project scheduled for October 2009. Phase 2 comprises a number of activities. Important activities are the drafting or review of 25 documents / Guidelines supporting the implementation and use of the WCO Data Model. Developing Web Pages and an interactive CD-Rom for distribution and promotion purposes, an external Communication plan for promotion and feedback purposes, training materials and seminar course content and further examining the possibility of having the WCO Data Model core components and the UN/CEFACT Core Component Library aligned with each other.

There are some major innovations in Version 3 of the WCO Data Model. The scope has been broadened to encompass not only legally required Customs' requirements but also legally required information for partner Cross-Border Regulatory Agencies such as Agriculture, Human Health, Environment Management (Basel Convention) and Marine Safety. Version 3 may be implemented with or without a Single Window environment as it is a standardised data



requirement library for the Business to Government (B2G) and the Government to Government (G2G) exchange of information. However, if implemented in a single window environment, all related parties to that Single Window environment will “speak” the same language and in the same way.

Two revolutionary new concepts have been taken onboard to make it possible, within the set rules, to use the WCO Data Model more flexibly. In order to facilitate cross-border transactions and decrease costs, this flexibility needs to be offered to the Trade and Transport community.

The first new concept is to develop a United Nations Standard Message (UNSM) i.e. an EDIFACT GOVDEC (or GOVEDI) message that would serve the information and messaging needs of all Cross-Border Regulatory Agencies, including Customs. This message would cater for the combined export/import declaration referred to as a Compound message. It also caters for a very small collection of data requirements for, say, a simplified import declaration plus AEO authorisation and the use of the UCR. This smaller collection of data requirements is referred to as Mini Message.

The second new concept is the use of the “Toolbox” method when developing the GOVDEC message. This method is based on defining a “Toolbox” with the EDIFACT rules and defining building blocks (segments / segment groups). The total GOVDEC message will be constructed from the “Toolbox”, taking into account the (binding) EDIFACT rules. This approach will also facilitate the construction of specific messages for individual needs of partner Cross-Border Regulatory Agencies.

These two new concepts require a flexible approach to establish the required deliverable. They also require thinking along more modern and flexible lines similar to that of other international standardisation organisations such as UN/EDIFACT and perhaps ISO. Software developers, particularly those that operate in the area of EDIFACT-message-development-software would have to adopt this approach.

With regard to the use of electronic messages, composed according to XML rules, a set of example messages as well as XML Schemas will be developed.

A third new development is the setting up of Single Window web pages on the WCO public web site. This development has two goals. The first is to answer the demand of a number of Members to have a free accessible library of information on all that is relevant to a Single Window and to provide information to those who are interested about the Single Window environment developments. These developments can range from planned, in progress, in operation and/or evaluation after implementation. Information may be submitted by Cross-Border regulatory Agencies such as Customs, National Governments, Business Industry Groups, etc. The information may also encompass aspects such as information on current development projects and legal considerations that may affect development and implementation.

The responsibility of the content of the submitted information remains with the owner of the documentation. To avoid unnecessary questions sent to the WCO Secretariat, an e-mail address and/or URL to which questions can be submitted will be required. After two years the information will be removed from the web pages.



In this respect the WCO Secretariat is seeking information for inclusion on these web pages, including lessons learnt and best practice and invites all Members, Industry groups, Single Window Pilot Projects etc. to submit documentation as soon as practical.

The second goal is to make the fully fledged Version 3 of the WCO Data Model available via these Web Pages. The Data Model Version 3 will be made available only in digital format whereas the Data Sets and the Information models will be made available in the original file format and the supporting documentation in *pdf format. Those wanting to have the WCO Data Model in hard copy can print the files.

The staff of the WCO Data Model Version 3 Phase 2 Project Team currently consists of Mr. Ger Diepens, project leader, Mr. Satya Prasad Sahu and Mrs. Beverly Buick. For the six months prior to this report US/CBP have kindly seconded one of its staff members to the WCO Data Model Project Team. The UK also kindly seconded 25% of the time of one of its staff members. For a period of 4 weeks prior to sign off of the data model by the Council the project team was supported by a consultant from STTAS, Inc and the Project Team contracted the services of a UML2 expert from Capgemini to review the first cut of the Information Models.

Last but certainly not least recognition must be made of the unsung heroes i.e. the volunteers from our Member Administrations and partner Cross Border Regulatory Agencies who have participated and contributed to the Data Model project since its inception, they all have done a tremendous job helping the development of the WCO Data Model Version 3.

The Secretariat continues to require the support of Member Administrations and partner Cross Border Regulatory Agencies and seeks a commitment to assist in the completion of this milestone project by the WCO.
