



3 How to study the WCO Data Model

The WCO DM consists of six building blocks. Documents have been drafted for each of the building blocks, and collectively they form the WCO DM Guide. In order to obtain a clear understanding of the WCO DM, it is recommended that all of the available documents are read.

The three major elements of the WCO DM are the *Interactive Data Set*, the *Unified Modeling Language (UML) modelling information* and the *Message Implementation Guidelines*.

Broadly speaking, any study of the data model must begin with an overview of the Interactive Data Set. After developing familiarity with the components of the Interactive Data Set, the reader can turn his attention to data structures described in the data set and the message specifications given in the Message Implementation guidelines. This chapter gives a quick introduction to these three major elements.

3.1 Interactive Data Set

The Interactive Data Set is a spreadsheet containing 11 different data sets¹ – one for each border crossing procedure, as well as all of the data sets from the Data Model. The Interactive Data Set can serve as a repository of information from the perspective of CBRAs. There is additional information provided in regard to data elements used in the SAFE Framework of Standards.

There is information in regard to data model classes that leads us into information modelling, EDIFACT and XML development.

The spreadsheet is a useful tool for those studying the WCO DM, as it provides information about each data element, and also offers links to other Data Model documents.

The Explanatory Notes (see example below) provide a detailed explanation of the information included in the Data Model and instructions for navigating the data sets. **The detailed explanation is provided in Chapter 7.**

LEVEL 1

Unique identifier for a data element used in the WCO Data Model

NOTE: Not all unique identifiers appear on LEVEL 1

Click an orange hyperlink to go to a Level 1 SuperClass which has its own unique identifiers

Name and definition for a data element used in the WCO Data Model

General Procedures

Click the blue hyperlinks for Import or Export to move to Level 2 and see which data elements are used for the components of Imports and Exports. Click the blue hyperlinks for Conveyance, Transit, or Response for the entire list of data elements

Click a purple hyperlink to move to Level 2 to see which data elements are used for the components in the Framework of Standards to Secure and Facilitate Global Trade (SAFE) or to see more information on Data Element Names (DENs)

Click here for Level 2 Explanatory Notes

United Nations Trade Data Element Directory 2005 (UNTDDED) tag and name which corresponds to the WCO data

Click here for Level 2 Explanatory Notes

WCO details				WCO details						UNTDDED Details				
WCO ID	Name	Definition	Data model classes	Import	Export	Conveyance	Transit	Response	Format	Code remarks	UID	Name	DENs	SAFE
004	Shipment number of consignment	Reference number assigned by a carrier or its agent to identify a specific consignment.	Consignment		X				an..35		1016	Consignment, Carrier Assigned Identifier		
009	Trader reference	Reference assigned by a trader to a declaration.	UCR	X	X	X	X	X	an..35		1097	Customs Declaration Document, Trader Assigned Identifier		
010	Ships stay reference	Identifier of the stay of a means of transport in a port or airport.	Consignment	X	X	X	X	X	an..35		1099	Transport Means, Stay Identifier		
016	UCR	Unique number assigned to goods being subject to cross border transactions.	UCR	X	X	X	X	X	an..35	WCO (ISO15459) or equivalent	new			X
397	Source type, coded	Type of the source, coded	Source	X					an..3	Authorized codes	3227	Location, Function, Code		
	Location	A place or geographic location.	SuperClass: Location	X	X	X	X		an..3		3227	Location, Function, Code		X
	Party	An organization or person performing specific function.	SuperClass: Party	X	X	X	X	X	an..3 an..35 an..35		3035 3036 3039	Party, Function, Code Party, Name, Text Party, Identifier		X
	Transport Means	Methods or modes of transport usually used to move cargo.	SuperClass: TransportMeans	X	X	X	X		Various		Various			X

Click here for Level 1 SuperClass Explanatory

Examples of field lengths and formats:

n3 3 numerical characters, fixed length

a3 3 alphabetic characters, fixed length

an3 3 alpha-numerical characters, fixed length

a..3 up to 3 alphabetic characters

n..3 up to 3 numeric characters

an..3 up to 3 alpha-numerical characters

n..16,2 up to 16 numeric characters including maximum 2 decimals - delimiter is allowed to float

CCYYMMDDHHMMSSS .. description of a date format
(2 digits for the century, 2 for the year, 2 for the month, 2 for the day, 2 for the hour, 2 for the minute, and 3 to show thousandths of a second.)

Indication of the agreed code list.

If 'Authorized codes' appears, then click on the hyperlink to see the codes on a separate worksheet.

¹ (Data sets for IM1, IM12, IM22, EX1, EX12, EX22, CRI, CRE, CONV, TRT, RES)



3.3 The UN/EDIFACT Message Implementation Guidelines

These Message Implementation Guidelines help the reader in linking-up the data set for a given procedure with the Hierarchical UML model, and then with UN/EDIFACT mapping for each data element. Thereafter, UN/EDIFACT mapping is fully specified.

The **Table of Contents** describes what Message Implementation Guidelines contain.

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- 1 TRANSIT DATA SET
- 2 CROSS REFERENCE FROM THE DATA MODEL TO THE EDIFACT GOVCBR MESSAGE
- 3 CLASSES AND ATTRIBUTES
 - 3.1 HIERARCHICAL OVERVIEW OF CLASSES
 - 3.2 DETAILED OVERVIEW OF CLASSES AND ATTRIBUTES
- 4 UML MODEL DIAGRAM (HIERARCHICAL)
- 5 EDIFACT BRANCHING DIAGRAM
- 6 MAPPING TO EDIFACT

3.4 XML Guidelines

These WCO XML Guidelines and the WCO XML Schema Customization Guidelines help the reader in creating XML Schemas and example XML specifications. Starting with the data set that contains the Dictionary Entry Names (DENs), the guidelines describe the exact method for deriving XML schemas and XML specifications from the hierarchical UML model.

Detailed explanation on how to the UN/EDIFACT Message Implementation Guidelines and XML Guidelines can be used is provided in Chapter 10.

