WCO Data Model

My Information Packages Specification

FINAL

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1 Amendment History

Change Number	Description	Page(s) affected	Version	Effective Date
1	Release of Beta of WCO Data Model Guidelines on My Information Packages	All	Beta Edition	09Sept2013
2	Final version of WCO Data Model Guidelines on My Information Packages after acceptation by DMPT	All	Final	10Oct2013

2 Part I: Management Summary

2.1 What is a 'My Information Package'?

A 'My Information Package, also called "MyIP", is a set of structured data files containing information on how the WCO Data Model is used in relation to a given information system. A MyIP can capture the exact requirements of electronic data exchange in a specific context and for a specific business process.

- A MyIP can be represented in standard file formats such as an XML schema allowing the sharing of information on data exchange requirements.
- Furthermore, a MyIP will ensure that the electronic interface requirements of the corresponding information system are provided in a standard way, saving time and costs involved in understanding the requirements.
  - Typically, 30 to 40 percent of development time is spent on understanding and validating requirements.
  - Costs of rework due to misunderstanding of requirements are prohibitive.
  - Ongoing management of requirements is an important and resource-intensive function in managing automated solutions.
  - In the course of development of systems, there are considerable synergies between business document analysis and requirements analysis.
  - A systematic development of MyIP can lead to considerable business benefits simply due to improved requirements management.

2.2 Who creates MyIPs? Who owns them? Where can I find them?

Any legitimate user of the WCO Data Model can produce and use MyIP based on the specifications in this document and the example produced by the Data Model Project team for illustration purposes. A MyIP belongs to its producer who is a legitimate user of the WCO Data Model. The producer of a MyIP may keep it private or to publish it in a repository following the WCO Intellectual Property Rights stipulations. The WCO encourages the publication of MyIP.

2.3 Why is the WCO promoting the production of MyIP?

The WCO Data Model Project supports the worldwide adoption of the WCO Data Model. It requires the WCO to work towards increasing the number of Members who adopt and use the instrument. The plan assumes that the information regarding adoption by Members would be tracked for assessing progress and there would be a simple way to ascertain conformance with the WCO Data Model.

Information about the adoption of the WCO Data Model is available in many formats. Several members who have taken steps to adopt and use the instrument have made formal announcement of their actions and intentions. Other members have developed and produced internal documentation explaining how they have adopted or used the WCO Data Model. The documentation regarding implementation may be published as spreadsheets, XML specifications, UN/EDIFACT message implementation guidelines, box completion guidelines and in other descriptive formats. While these types of documentation will continue to be used by the implementers, it is proposed to arrange the critical information about the adoption/use of the WCO Data Model into a common format, as reflected in a "MyIP".

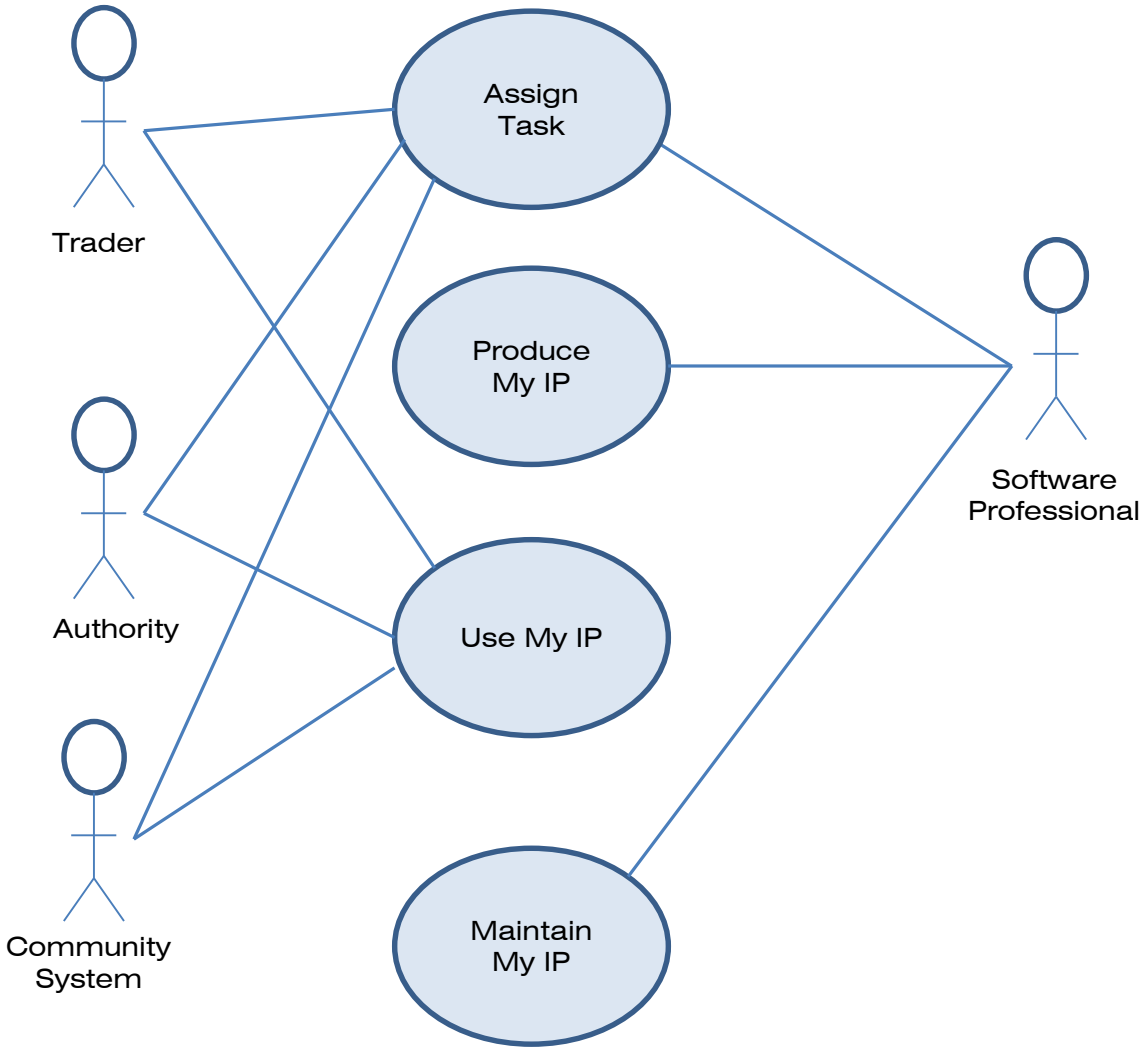
2.4 How does MyIP ensure WCO Data Model Conformance?

A 'MyIP' would contain information that would allow a user to easily verify conformance with the WCO Data Model. This is because the structure and content of a 'MyIP' is produced based on templates contained in the WCO Data Model.

3 Part II: Use case describing the production and usage of a MyIP

3.1 Use Case Diagram

Use case Diagram: Produce Use & Maintain My IP



3.3 Use Case Description

Name	**Produce & Use My IP**	
Traceability Ind.		
Actors	Traders	Includes trade actors, transport and logistics service providers, their agents and intermediaries
	Authority:	Cross-Border Regulatory Agencies (C.B.R.As) E.g. Customs, Health, Immigration, Veterinary, Agricultural authorities; International organization managing and operating information systems E.g. CITES Secretariat
	Community Systems	Managers or Operators of Information Systems that provide business-to-business and/or Business to Government Electronic Data Interchange among supply chain members and regulatory authorities.
	Software Professionals	Experts in the area of software development belonging to any organization. E.g. Data mapping experts, Interface developers, Data governance specialists
Description	Necessary arrangements are made to produce, and use MyIPs.	
Pre-condition	1. An Information System involving electronic data exchange 2. Documentation describing requirements of data to be exchanged 3. One or more suitable WCO Data Model Derived Information Packages	
Post-condition	A MyIP is produced and used.	
Scenario 1	**Starts when** 1. One of the Actors wants to describe the interface specifications of an information system using the WCO Data Model. 2. The Actor assign the task to a Software Professional. 3. The Software Professional identifies the *context* for which the MyIP is required to be produced. 4. The Software Professional analyzes documentation pertaining to the data exchange involving the information system in the specific context. These may include spreadsheets, XML specifications, UN/EDIFACT message implementation guidelines, box completion guidelines and documentation in other descriptive formats. 5. The Software Professional identifies the data elements, codelists and object classes linked to the context and maps them with the corresponding WCO data elements and classes. 6. The Software Professional identifies one or more suitable Derived Information Packages. 7. The Software Professional produces a My IP using the WCO MyIP specifications. 8. The Actor publishes the MyIP in a *repository*, 9. The Actor uses the MyIP and for maintaining the MyIP goes back to step 2 **Ends when** A MyIP is produced, and used.	
Alternative scenarios		

4 Part III: A MyIP and its contents

4.1 Note about the wording of the Rules

4.1.1 MUST

This word, or the terms "REQUIRED" or "SHALL", mean that the definition is an absolute requirement of the specification.

4.1.2 MUST NOT

This phrase, or the phrase "SHALL NOT", mean that the definition is an absolute prohibition of the specification.

4.1.3 SHOULD

This word, or the adjective "RECOMMENDED", mean that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.

4.1.4 SHOULD NOT

This phrase, or the phrase "NOT RECOMMENDED" mean that there may exist valid reasons in particular circumstances when the particular behaviour is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behaviour described with this label.

4.2 A MyIP is produced by applying the following Rules

4.2.1 Rule # 1 – Basis of a MyIP

- A MyIP **SHALL** be developed based on the structure and content of the WCO Data Model.
- A MyIP **SHALL** be based on a Derived Information Package. If there is no Derived Information Package suitable to produce a MyIP, it **MUST** be produced.
  Note:
  1. A “My Information Package” is a restriction on one of the Derived Information Packages. It is customized to include specific information related to the context.
  2. Normally, Derived Information Packages are part of the WCO Data Model publication and are produced by the DMPT.

4.2.2 Rule # 2 - UML

The data covered by a ‘MyIP’ **SHOULD** be kept in a UML class diagram produced by reusing the WCO Data Model classes and **SHOULD** be expressed using the *WCO Data Model UML profile*.

4.2.3 Rule # 3 – XML Schema

- MyIP XML Schemas **MAY** be produced.
- They **SHOULD** be autogeneratable from the WCO Data Model using the WCO XML Guidelines.
- A ‘MyIP’ **MAY** be documented in any other syntax that can carry its semantic content.

4.2.4 Rule # 4 – Naming of MyIPs

- A MyIP **SHALL** be named beginning with the 2 alpha ISO Country Code or a code denoting regional/sectorial entity followed by abbreviations of the business document.
- It **MAY** be optionally followed by the short name of the entity producing the MyIP.
- For version control, the file name **MAY** include a version and a variant number.
- The following structure **SHALL** be followed:
  [2Alpha Country Code][ABBREVIATION OF ORG][ABBREVIATON BUSINESS DOCUMENTS][Version #][Variant#]

  Abbreviations are locally managed.
  For abbreviation of business documents please refer to WCO XML Guidelines.
  The choice of Version and Variant numbers is left to the individual developers.

  <Illustrations>

Different types of MyIPs:

I. Those produced by governments and are/are not held in a WCO Repository
<Examples T>
GH.CUSTOMS.SW
NZ.JBMS.CRI
NL.MSW.ETA.12JUN13.01

II. Those produced by International organizations in partnership with the WCO and are/ are not held in a WCO repository
XX.CITES.PERMIT.20131224
XX.ASEAN.COO
EU.SANCO.COC

III. Those produced by private sector entities and held privately.
PS.SAPAG.IM1
PS.XYZ.COO

- A combination of UN/EDIFACT Codes 1331 and 3055 **MAY** be used for Agency Identifier in case of Private Sector and International Organization.

4.2.5 Rule # 5 – Document Metadata

- A MyIP **MUST** include Document Metadata containing the following information included as annotation.
- A MyIP **MUST** include a FunctionalDefinition and WCODataModelVersion and **MAY** include other attributes. {Refer to WCO XML Guidelines}

4.2.6 Rule # 6 – Communication Metadata

A MyIP **MAY** include Communication Metadata, included as annotations.

4.2.7 Rule # 7 – Context Metadata

- A MyIP **MUST** include Context Metadata.
- It **MUST** contain the following information, included as annotations:

Context Category	Source for Value
BusinessProcess	These values will be summarized and will be hierarchical where applicable. This list can be extended. Default value "ALL" if no restrictions apply.
ProductClassification	Use relevant HS codes; or text. Default value "ALL" if no restrictions apply.
IndustryClassification	UN International Standard Industrial Classification (ISIC). Default value "ALL" if no restrictions apply. .
Geopolitical	ISO 3166 including ISO 3166_1 and ISO 3166_2. Default value "ALL" if no restrictions apply.
OfficialConstraints	Proposed guideline: Use relevant laws, treaties or regulations : User codes and abbreviations are allowed. Default value "NONE" if no restrictions apply.
SystemCapabilities	To be supplied by the producer of My IP. Default value "ALL" if no restrictions apply. **<Examples>**
BusinessProcessRole	To be supplied by the producer of My IP. Default value "ALL" if no restrictions apply. **<Examples: Broker, Importer, Forwarder etc.**
SupportingRole	To be supplied by the producer of My IP. Default value "ALL" if no restrictions apply. **<Examples>**

4.2.9 Rule # 8 – WCO Data Model Conformance - References

[Except in cases where extensions are proposed], all classes and attributes used in the MyIP **MUST** have WCO References expressed as annotations.

4.2.10 Rule # 9 - WCO Data Model Conformance - Annotations

- Annotations that are not supported by this document **MUST NOT** appear in the My IP.
- Annotations **MUST** be in the following order and where used, **MUST** have a Value:
  - WCOID
  - WCOName
  - WCOFormat
  - WCOCodeRemarks
  - WCOUniquePositionID : A unique ID representing the unique location of an element in the WCO Data Model.

  [Note: The above annotations are available in the WCO Data Model itself and can be inherited from it.]

  - MyUsageNotes: <Conditional, used when information is available>
    - MyID (The unique reference assigned by the implementer to a data element)
    - MyName (name used nationally)
    - MyDefinition (‘) This is the national definition
    - MyFormat (used national format). Must be provided even if same as the WCO Data Model
  - MyFormReference: <Conditional, used when information is available>
    - MyFormID
    - MyBoxID
    - MySerialNo.
    - MyBoxLabel
  - MyCondition(See Rule# 11)
    - MyConditionID
    - MyConditionText
  - MyRule(See Rule# 12)
    - MyRuleID
    - MyRuleText
  - MyCodeList(See Rule# 13)
    - MyCodeListID
    - MyCodeListText
  - MyIdentifierScheme (See Rule# 14)
  - MySerialization (See Rule# 15)
  - MyDatabaseReference(See Rule# 16)

4.2.11 Rule # 10 - Cardinality

Cardinality restrictions **MUST** be specified.

4.2.12 Rule # 11 - Conditions

- Conditions **MAY** be expressed at the level of classes, association or attributes.
- A condition **MUST** have a unique identifier in the format CNNN, along with the textual description.
- A condition **SHOULD** be reported as part of annotation in a schema
  <Example: C001: Supply name in text when ID is not available>

4.2.13 Rule # 12 – Business Rules

- Business Rules **MAY** be expressed at the level of classes, associations or attributes.
- A rule **MUST** have a unique identifier in the format RNNN, along with the textual description.
- A rule **SHOULD** be reported as part of annotation in a schema.
  <Example: R001: Declaration Date must be within 30 days of the date of arrival>

4.2.14 Rule# 13 – Codelists

- When a My IP is expressed as an XML Schema, Code lists **SHOULD NOT** be included in the Schema as enumerations.
- Code lists **MUST** have an identifier. This identifier **MUST** be expressed as a value of the attribute “Codelist. Identifier”.

- Code lists **SHALL** be accessible in a URI as a separate XML schema which can be imported or included.

4.2.15 Rule# 14 – Identifier schemes

- Identifiers **MUST** be unique within the context of usage.
- Identifiers **MAY** belong to an Identification Scheme, in which case the Identifier Scheme **MUST** be expressed as a value of the attribute “Identification Scheme. Identifier”.

4.2.16 Rule # 15 - Serialization

Serialization information **SHOULD** be expressed as strings in annotation containing one of the three types of information:

(i) Path in delimited flat-file structure
(ii) (ii) EDI path
(iii) (iii) XPath.

4.2.17 Rule # 16 – Database References

- Database references **MAY** be expressed as a string in annotation indicating the source or destination of the mapped element
- and **MAY** be combination of database table space names, table name and column name.