



Introduction to the WCO Data Model

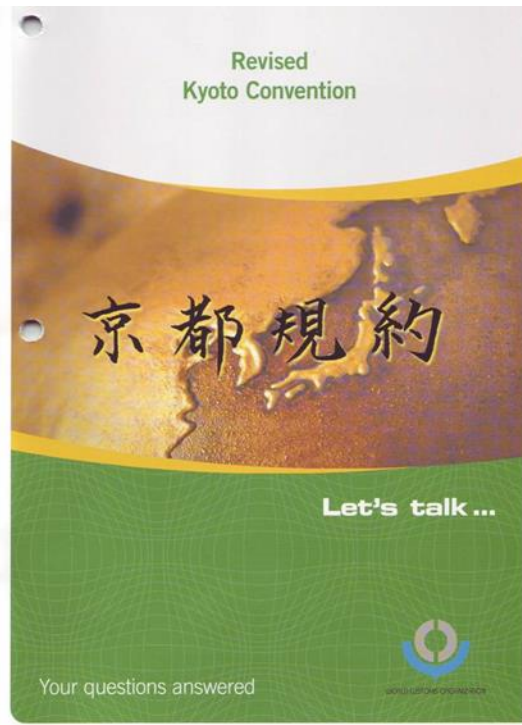


Kiev, Ukraine, 20 - 21 Oct 2016
Workshop on Single Window and Data Harmonization

***CROSS-BORDER TRANSACTIONS
ON THE FAST TRACK***



WCO Revised Kyoto Convention



- » DM Business Process is based on RKC
- » RKC: Blueprint for Modern Customs Administration)
- » International Convention on the Simplification & Harmonization of Customs Procedures 1999
- » 3.11, 7.2: Use of UN Layout Key and use of international standards for electronic information exchange;
- » 3.18: Lodging of supporting documents by electronic means;
- » 3.21: Lodging of goods declaration by electronic means



WCO Data Model

- History

- » Initiated by the G7 in 1996
- » **To expedite export and Import process between themselves by:**
 - Simplifying data requirement
 - Eliminate redundancy of information requirement
 - Improve data quality
- » Transferred to the WCO to gain international exposure

- Since version 3 covered Single Window Requirement in additions to Customs.

- » Further developed and maintained by the Data Model Project Team
- » Meets regularly 3-4 times a year, Next meeting will be in September 2016
- » DMPT is an Open meeting for WCO Member Administrations, IOs, IGOs, as well as private sector
- » DMPT underway the development activities in the Session (offline) and in the intersession through online facility.

WCO Governing
Bodies

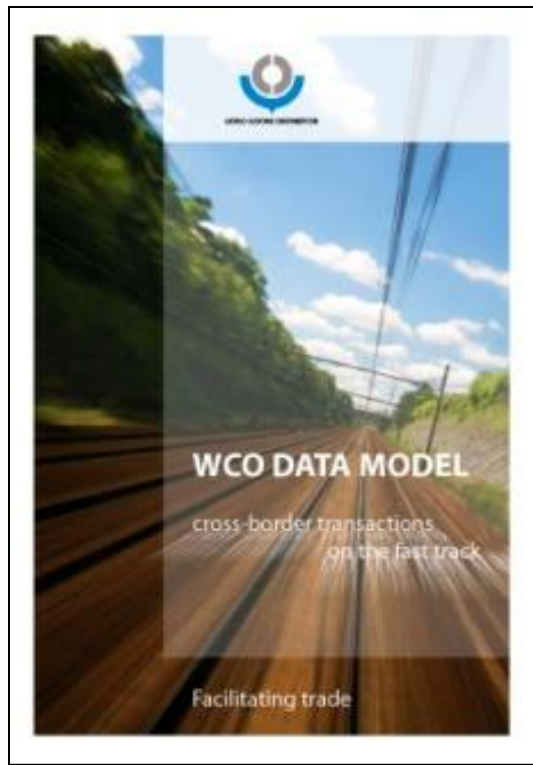
Permanent Technical
Committee (PTC)

Information
Management Sub
Committee (IMSC)

Data Model Project
Team (DMPT)



WCO Data Model



- » Library of regulatory data requirement that consists of standardized and reusable components, to meet the procedural and legal needs of Customs and its partner cross-border regulatory agencies controlling export, import and transit transactions



WCO Recommendations

On the use of WCO Data Model:

- » **Adopt the WCO Data Model** for the identification and definition of all cross-border regulatory data requirements related to pre-arrival/pre-departure formalities and procedures for import, export and transit.
- » **Use the WCO data elements**, their names and reference numbers (WCO ID's), the data element descriptions, the character representations (including the suggested code lists) in describing and composing electronic messages.
- » **Use the standard electronic messages** described in the WCO Data Model in Government to Government and Business to Government /Government to Business electronic messages.

On the dematerialization of Supporting Document:

- » identify supporting documents that are normally required to accompany the cargo and goods declarations and examine the need for those documents for Customs clearance with a view to eliminating them;
- » discontinue the requirement of presenting supporting documents in hard copy, if they have already been presented in electronic form;
- » process the release and clearance of cargo based only on electronic declaration and automated verification;
- » enable automated Customs clearance systems to automatically verify information contained in dematerialized supporting documents where such information is accessible electronically in:
 - Other government agencies' databases
 - Single Window environments (and Cargo Community Systems)
 - Private repositories.



WCO Data Model:

○ Top Benefits

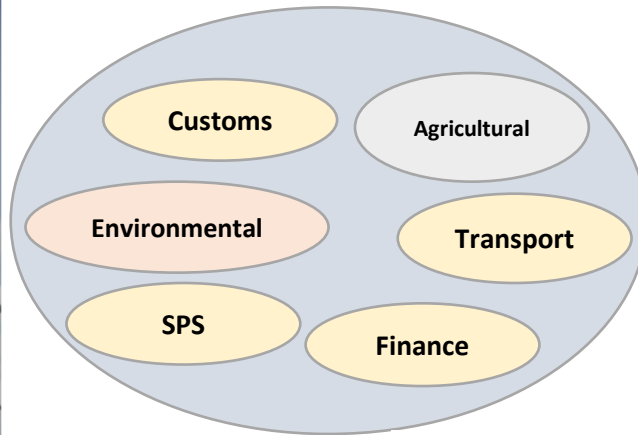
- » Reduces costs to trade by simplifying data requirements
- » Improves reporting and compliance by improving the quality of data.
 - Meets requirements of several international conventions.
 - Is aligned with widely used international standards
- » Enables Single Window implementation
 - Can be used as the basis for Data Harmonization
 - Includes data requirements from Customs, food, agriculture, environment & marine safety, as well as SPS
 - Provides an electronic messaging solution for Single Window



Single Window Architecture Model

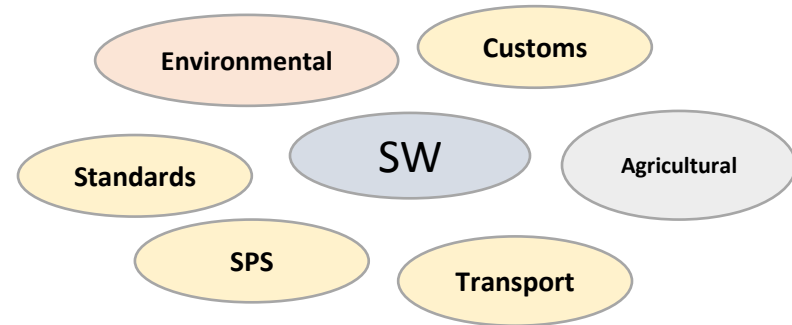
Functional distribution

Integrated Service



Single Window Operator
Responsibility includes running IT systems

Interfaced Service



Single Window Orchestrator
Responsibility for standards and interface specifications

High

Extent to which Lead Agency will operate IT systems

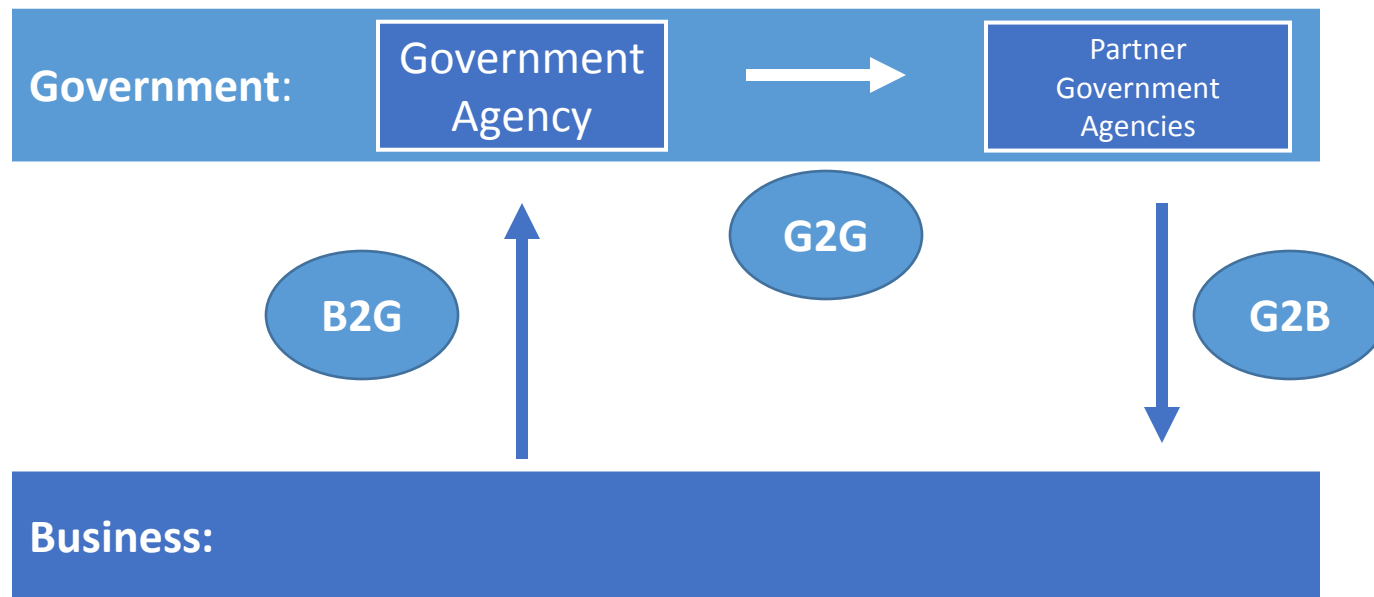
Low

Common or centralized IT systems for CBRAs

Separate or distributed IT systems for CBRAs



WCO Data Model Coverage: Regulatory Space



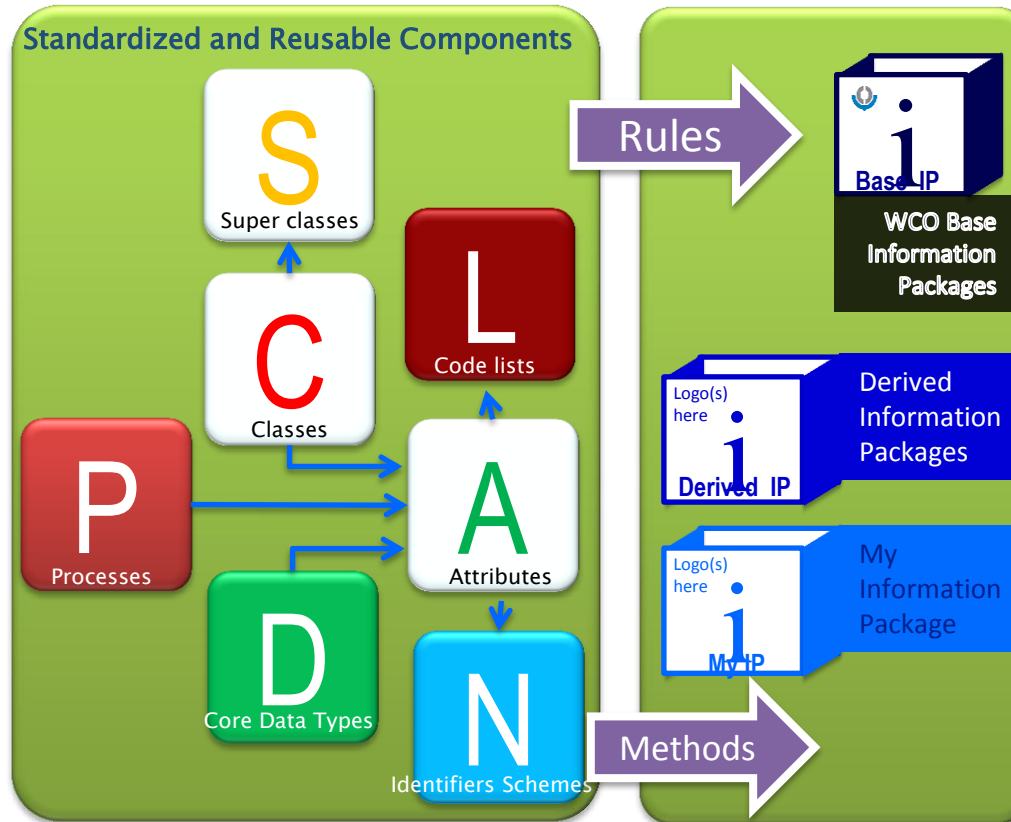


WCO Data Model Building Block

Syntax:	GOVCBR	XML
Structure:	Classes	Information Package
Content:	Maximum Dataset	International Code lists
Context:	Business Process Model	



Information Package Concept



- » WCO Data Model: regulatory data requirement library that consist of standardized and reusable components: as it is doesn't serve any specific function
- » Information Package: Logical organization of standardized and reusable component of DM library to serve more specific purpose
- » Derived Information Package: Derived from legislation / convention



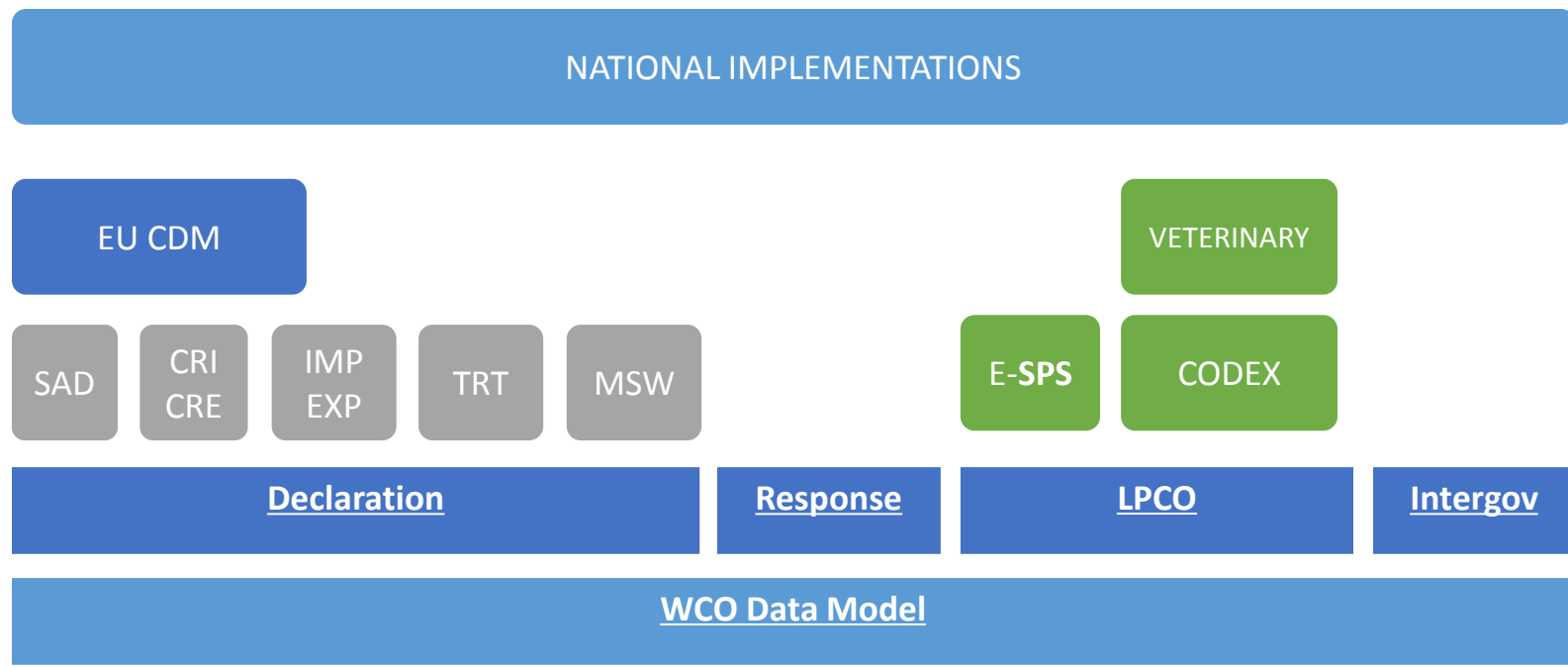
Information Packages

MIP

DIP

BIP

[max.
dataset]





Data Modeling and electronic message

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<xs:schema xmlns="urn:wco:datamodel:WCO:LP00:1" xmlns:ds="urn:wco:datamodel:WCO:LP00_DS:1"
  xmlns:se="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified"
  targetNamespace="urn:wco:datamodel:WCO:LP00:1">
  <xs:import namespace="urn:wco:datamodel:WCO:LP00_DS:1" schemaLocation="LP00_lp0_urn_wco_datamodel_WCO_LP00_DS_1.xsd"/>
  <xs:element name="LP00">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" name="AcceptanceDateTime" type="ds:LP00AcceptanceDateTimeType"/>
        <xs:element minOccurs="0" name="EffectiveDateTime" type="ds:LP00EffectiveDateTimeType"/>
        <xs:element minOccurs="0" name="ExpirationDateTime" type="ds:LP00ExpirationDateTimeType"/>
        <xs:element minOccurs="0" name="FunctionCode" type="ds:LP00FunctionCodeType"/>
        <xs:element minOccurs="0" name="FunctionName" type="ds:LP00FunctionNameTextType"/>
        <xs:element minOccurs="0" name="ID" type="ds:LP00IdentificationIDType"/>
        <xs:element minOccurs="0" name="IssueDateTime" type="ds:LP00IssueDateTimeType"/>
        <xs:element minOccurs="0" name="IssueLocationID" type="ds:LP00IssueLocationIdentificationIDType"/>
        <xs:element minOccurs="0" name="IssueLocationName" type="ds:LP00IssueLocationNameTextType"/>
        <xs:element minOccurs="0" name="LanguageCode" type="ds:LP00LanguageCodeType"/>
        <xs:element minOccurs="0" name="Name" type="ds:LP00NameTextType"/>
        <xs:element minOccurs="0" name="OriginalIndicator" type="ds:LP00OriginalIndicatorType"/>
        <xs:element minOccurs="0" name="RejectionDateTime" type="ds:LP00RejectionDateTimeType"/>
        <xs:element minOccurs="0" name="TypeCode" type="ds:LP00TypeCodeType"/>
        <xs:element minOccurs="0" name="ReplyTypeCode" type="ds:LP00ReplyTypeCodeType"/>
        <xs:element minOccurs="0" name="GoodsListQuantity" type="ds:LP00GoodsListQuantityType"/>
        <xs:element minOccurs="0" name="LoadingListQuantity" type="ds:LP00LoadingListQuantityType"/>
        <xs:element minOccurs="0" name="DeclarationOfficeID" type="ds:LP00DeclarationOfficeIDType"/>
        <xs:element minOccurs="0" name="TagCode" type="ds:LP00TagCodeType"/>
        <xs:element maxOccurs="unbounded" minOccurs="0" name="Authentication">
          <xs:complexType>
            <xs:sequence>
              <xs:element minOccurs="0" name="TypeCode" type="ds:AuthenticationTypeCodeType"/>
              <xs:element minOccurs="0" name="ID" type="ds:AuthenticationIdentificationIDType"/>
              <xs:element minOccurs="0" name="ActualDateTime" type="ds:AuthenticationActualDateTimeType"/>
              <xs:element minOccurs="0" name="ActualLocationID" type="ds:AuthenticationActualLocationIDType"/>
              <xs:element minOccurs="0" name="Authentication" type="ds:AuthenticationAuthenticationTextType"/>
              <xs:element minOccurs="0" name="LocationName" type="ds:AuthenticationLocationNameTextType"/>
            </xs:sequence>
            <xs:element maxOccurs="unbounded" minOccurs="0" name="Authenticator">
              <xs:complexType>
                <xs:sequence>
                  <xs:element minOccurs="0" name="Name" type="ds:AuthenticatorNameTextType"/>
                  <xs:element minOccurs="0" name="ID" type="ds:AuthenticatorIdentificationIDType"/>
                  <xs:element minOccurs="0" name="RoleCode" type="ds:AuthenticatorRoleCodeType"/>
                </xs:sequence>
                <xs:element maxOccurs="unbounded" minOccurs="0" name="Address">
                  <xs:complexType>
                    <xs:sequence>
                      <xs:element minOccurs="0" name="TypeCode" type="ds:AddressTypeCodeType"/>
                      <xs:element minOccurs="0" name="CityName" type="ds:AddressCityNameTextType"/>
                      <xs:element minOccurs="0" name="CountryCode" type="ds:AddressCountryCodeType"/>
                      <xs:element minOccurs="0" name="CountryName" type="ds:AddressCountryNameTextType"/>
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                    </xs:sequence>
                  </xs:complexType>
                </xs:element>
              </xs:complexType>
            </xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

HEADER

Declaration

Goods Shipment

Consignment

Regulated Goods

Commodity

LINE ITEM

12780	SEQ Sequence details	M	1	
12790	PCI Package identification	C	99	
12800	PTA Free test	C	99	
12810	GEI Processing information	C	99	
12820	DIM Dimensions	C	99	
12830	MEA Measurements	C	99	

12840	---- Segment group 287-----	C	99	
12850	ARD Monetary amount function	M	1	
12860	MCA Monetary amount	C	99	
12870	GEI Processing information	C	99	
12880	PCD Percentage details	C	99	

12890	---- Segment group 288-----	C	9999	
12900	AST Array structure identification	M	1	
12910	CNI Consignment information	C	99	
12920	RFF Reference	C	99	
12930	MCA Monetary amount	C	99	
12940	CNT Control total	C	9	
12950	TOD Terms of delivery or transport	C	99	

12960	---- Segment group 289-----	C	99	
12970	WAD Name and address	M	1	

12980	---- Segment group 290-----	C	99	
12990	CTA Contact information	M	1	
13000	COM Communication contact	C	99	

13010	---- Segment group 291-----	C	99	
13020	LOC Place/location identification	M	1	
13030	SEQ Sequence details	M	1	
13040	ADR Address	C	99	

13050	---- Segment group 292-----	C	99	
13060	DOC Document/message details	M	1	
13070	RFF Reference	C	99	
13080	DTM Date/time/period	C	99	

13090	---- Segment group 293-----	C	9999	
13100	REG Equipment details	M	1	
13110	SEQ Sequence details	M	1	

13120	---- Segment group 294-----	C	99	
13130	TDT Transport information	M	1	

13140	---- Segment group 295-----	C	99	
13150	LOC Place/location identification	M	1	
13160	SEQ Sequence details	M	1	

13170	---- Segment group 296-----	C	9999	
13180	SEQ Sequence details	M	1	
13190	RFF Reference	M	99	
13200	TDT Transport information	C	99	
13210	MCA Monetary amount	C	99	
13220	MEA Measurements	C	99	
13230	TOD Terms of delivery or transport	C	99	
13240	LOC Place/location identification	C	99	

13250	---- Segment group 297-----	C	99	
13260	WAD Name and address	M	1	
13270	IPF Information detail	C	1	

13280	---- Segment group 298-----	C	99	
13290	CTA Contact information	M	1	
13300	COM Communication contact	C	99	

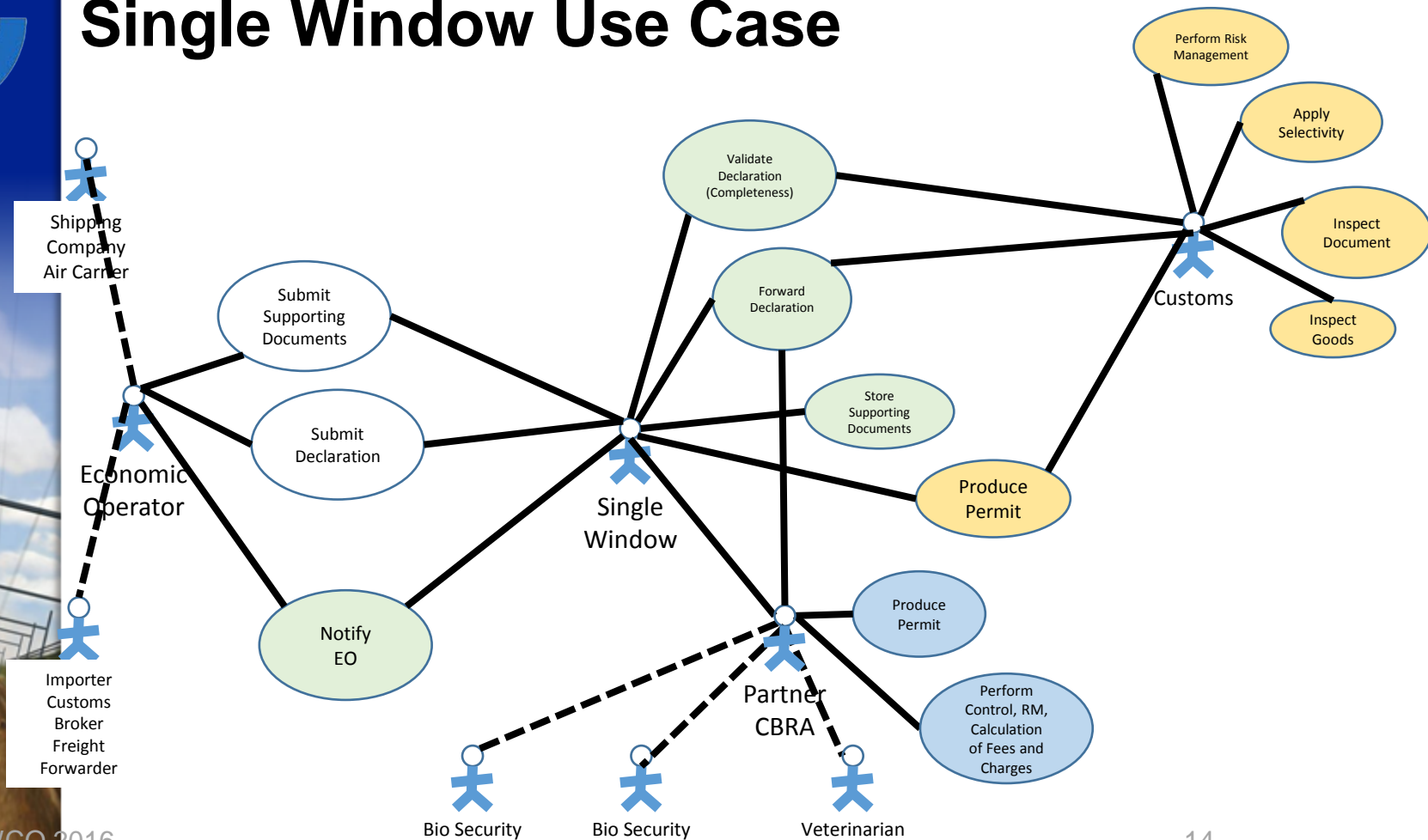


Class Diagram



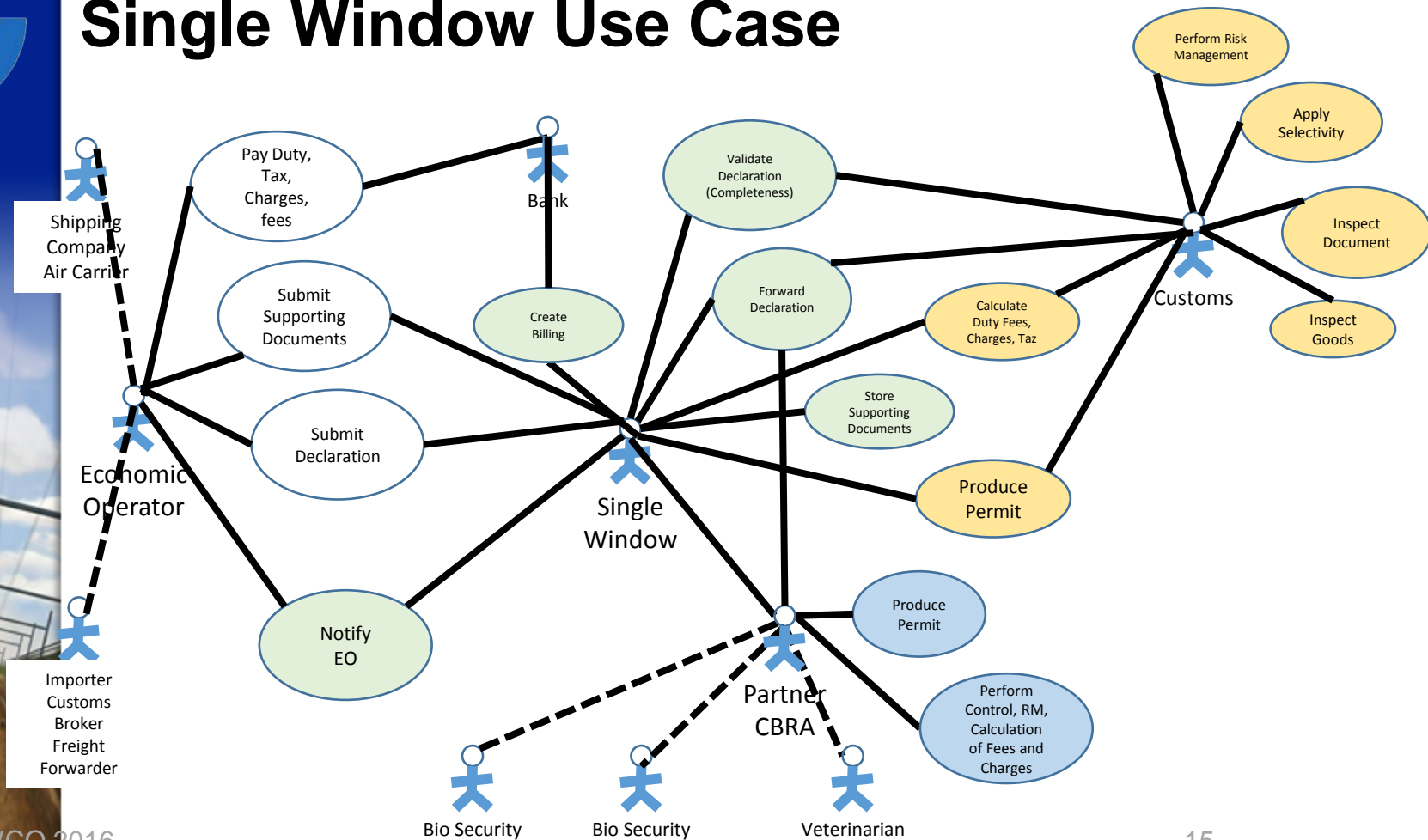


Single Window Use Case



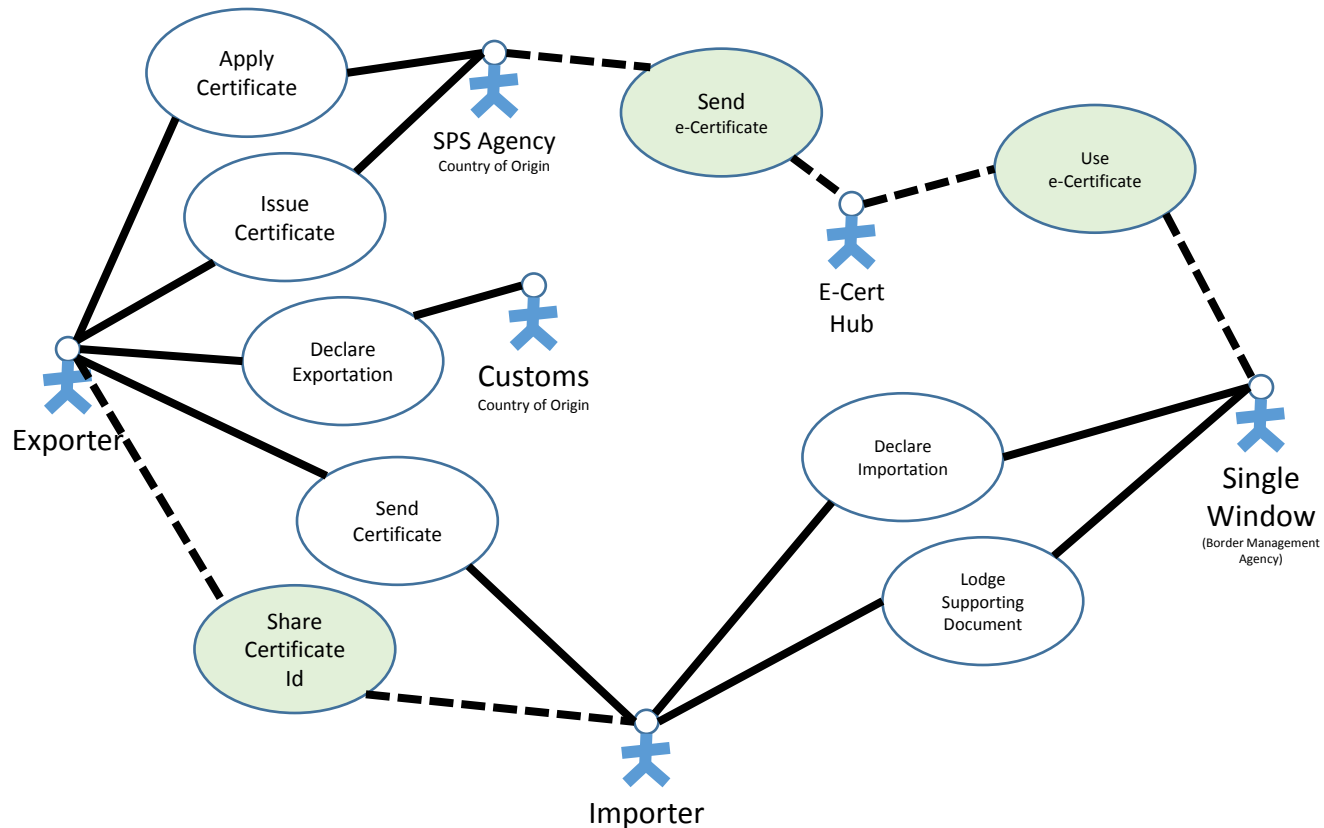


Single Window Use Case





e-Certificate Use Case





In the package

- **Maximum Dataset**
 - » List of unique data elements
- **Model Structures**
 - » Tree represent the overall structure of data elements of the WCO Data Model
 - » WCO Id, name and format representation
 - » Mapping to xml tag name
 - » Mapping to GOVCBR data elements
- **UML Class Diagram**
- **XML Schemas**
 - » Without notes
 - » Enriched with notes
- **GOVCBR MIG**



Latest Development and Global Adoption Status

- **Version 3.6:**
 - » Released in May 2016
 - » Includes EU Customs Data Model Derived Information Package
 - » Report of conformance study of the Import and Export data of ASYCUDA
 - » Member Driven Quality Control Process
 - » Mapping of FAL Form 1 on General Declaration
- **Version 3.7**
 - » Study on Master Data requirements
 - » Further on study on ASYCUDA based systems conformance to the WCO Data Model, specifically on Transit data requirements.
 - » Technical Maintenance of the IMO FAL Compendium, Model Harmonization
 - » Study on XML Interoperability.
 - » Further development of Business Process Model of Information Packages.

- Navigate to:
http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/pr_tools_datamodel.aspx
- Click Global Adoption of the WCO Data Model

Status	S	P	M	IP	NA	Total
Number of Countries	72	49(51)	12(15)	0(2)	47	180
% of total Number	40.0	27.2	6.7	0.0	26.1	100.0



To Summarize ...

- Toward Standardized and harmonized regulatory interface
 - » As opposed to complex redundant and time consuming process
 - » Seamless regulatory coordination through the use of ICT
 - » Transparent complexities in the background / back office
 - » Integrated regulatory decision making process



Thank you

tejo.kusuma@wcoomd.org

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