Tracker 2001

Version 2.0

TXXML Specification
Tracker 2001 TXML Specification
Version 2.0
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Welcome to the tXML Specification! This document describes how to use tXML (tXML eXtensible Markup Language) for communication of data related to electronic export control and international trade.

This chapter contains the revision history and general document information, such as audience and document organization.

Contents:

- Revision History
- What is tXML?
- Document Organization
## Revision History

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Reason for Changes</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Todd Harbour</td>
<td>7/2000</td>
<td>New document</td>
<td>v1.0</td>
</tr>
<tr>
<td>Kathleen Yoshida</td>
<td>4/2001</td>
<td>Formatted the document in the Tracker look and feel; this version also includes the latest TXML update</td>
<td>v2.0</td>
</tr>
</tbody>
</table>
What is tXML?

tXML (commerce eXtensible Markup Language) is a type of XML designed specifically for export control transactions and international trade.

Audience

This document is intended for programmers designing tXML-enabled applications. It is oriented toward suppliers that are developing or modifying their e-commerce web sites for tXML.

tXML is an open, versatile language for the transaction requirements of:

- Electronic product catalogs
- XML catalogs
- Procurement applications
- Internal Control Programs
- National export control systems

Readers should have a working knowledge of e-commerce concepts and the http Web communication standard. This document does not describe how to use specific applications or network e-commerce hubs. Instead, it provides details describing how developers can directly communicate with tXML and national export control systems.
Document Organization

This document consists of a preface and four chapters. The table below summarizes each chapter’s content.

<table>
<thead>
<tr>
<th>Read this chapter</th>
<th>If you’re interested in this type of information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1: Introduction to tXML</td>
<td>An XML introduction and a list of applications that use tXML. Also contains a section describing XML utilities.</td>
</tr>
<tr>
<td>Chapter 2: Implementing tXML</td>
<td>tXML requirements, XML conventions, and basic element and entity types.</td>
</tr>
<tr>
<td>Chapter 3: TXML Specification</td>
<td>The tXML specification.</td>
</tr>
<tr>
<td>Chapter 4: Terms and Definitions</td>
<td>Definitions of tXML elements used in Chapter 3.</td>
</tr>
</tbody>
</table>

The following bulleted list addresses specific document sections that certain types of tXML users should read:

- E-commerce Business Managers—For an overview of tXML capabilities, read Chapter 1, *Introduction to tXML*.
- Web Programmers—Web programmers who are implementing e-commerce solutions should read all chapters.
Chapter 1: Introduction to tXML

This chapter contains a tXML introduction, including capabilities, uses, and utilities.

Contents:

• tXML Capabilities
• Application Types
• XML Utilities
tXML Capabilities

tXML allows buyers, suppliers, aggregators, intermediaries, and governments to communicate using a single, standard, and open language. Successful business-to-business electronic commerce (B2B e-commerce) systems depend upon a flexible and widely adopted standard to exchange information in a timely and cost-efficient manner. tXML is key to providing the widest access to national export control systems and services, because it is a well-defined, robust language designed specifically for B2G e-commerce, and it is the choice of high volume buyers and suppliers. tXML transactions consist of documents, which are simple text files with a well-defined format and content. Most types of tXML documents are analogous to hardcopy documents traditionally used in business.

The following subsections describe the main types of tXML documents.
Types of Applications that Use tXML

TXML can be used by any e-commerce or export control application. TXML may be used by buying organizations, vertical and horizontal buying communities, suppliers, application vendors, and government authorities. The following subsections describe the main application types that currently use TXML.

Procurement Applications

These applications allow the creation of buying communities that are composed of many small- to medium-sized businesses. These applications allow communities of users to buy contract products and services from vendors approved by purchasing managers. Managers approve requested purchases and approve purchase orders are transmitted to suppliers and national authorities through several possible channels, including TXML over the Internet.

Export Licensing Applications

These applications allow the receipt and processing of export license applications from industry and other types of applicants.

Commerce Network Platforms

Commerce network platforms are Web-based services for connecting buyers and suppliers. These Web services provide features such as catalog validation and file management, catalog publishing and subscription, automated purchase order routing, and purchase order history. Communication between these Web services, buyer applications, and supplier applications can occur in coordination through TXML over the Internet.

Order Receiving Systems

Order-receiving systems are applications at supplier sites that accept and process purchase orders sent by buying organizations. Order-receiving systems can be any system, such as inventory management systems, order-fulfillment systems, or order-processing systems. Because it is simple to extract information from purchase orders, it is relatively easy to create the adapters that enable existing order-receiving systems to accept them.

Validation Against DTD

Because TXML is an XML language and a set of Document Type Definitions (DTDs) thoroughly define it. These DTDs are text files that describe the precise syntax and order of TXML elements. DTDs enable applications to validate the TXML they read or write. TXML applications are not required to validate TXML documents, although it is recommended.

Getting TXML DTDs
Performing Validations

Applications can use the tXML DTD to validate all incoming and outgoing tXML documents. XML validation applications are available on the Web. Microsoft Internet Explorer 5 has built-in XML validation capability. For reliable transaction handling, validate all tXML documents received.

For best performance, tXML clients should not fetch DTDs each time they parse tXML documents. Instead, they should look at the tXML version in the document headers and retrieve DTDs that have not already been stored locally.

DTDs for all versions of tXML are available at consistent locations on tXMLnet.org:

http://water.tXMLnet.org/UserResources/Library/
XML Utilities

Utilities for editing and validating XML files are available for free and for purchase on the Web. The following listing describes a few of these utilities:

- Internet Explorer 5 from Microsoft. An XML-aware Web browser that can validate XML files against DTDs.
  - www.microsoft.com/windows/ie/default.htm
  - msdn.microsoft.com/xml/notepad/intro.asp
- XML Authority from Extensibility. A Java-based XML DTD editor, with hierarchical and graphical views.
  - www.extensibility.com
- XML Spy from Icon Information Systems. A tool for maintaining DTDs and XML files, with a grid, source and browser view.
  - www.icon-is.com
- XMetaL from Softquad Software. A customizable XML authoring tool.
  - www.softquad.com
- CLIP from Techno2000 USA. An easy-to-use XML authoring tool, with guided editing.
  - www.t2000-usa.com
- XMLwriter from Wattle Software. A graphical XML authoring tool designed to manage XML projects.
  - www.xmlwriter.net

In addition, the following web sites list more XML tools:

- www.xmlsoftware.com
- www.xml.com/pub/pt/Editors
Chapter 2: Implementing tXML

This chapter contains information for how to use tXML, including requirements, conventions, and examples of classification schema. This chapter shows how to modify your systems to take advantage of tXML.

tXML enables users of export control, B2B, and other business applications to access export control information that resides within national governments. tXML allows industry to electronically communicate with national authorities to process export control applications and eliminates the need to coordinate via fax, mail, and other manual methods. Instead, tXML represents the fundamental definition of the information industry and governments need to be responsive and accurate.

Contents:

• tXML Requirements
• Work Estimate
• Understanding XML
• XML Conventions
• Basic Elements and Entity Types
• Classification of Managed Objects
• Examples of Classification Schema
tXML Requirements

Before making systems ready for tXML, be sure that you understand and evaluate the benefits and requirements of tXML.
Work Estimate

The following table lists estimates of work required for tXML integration based on estimates. However, the actual time and cost associated with your implementing tXML will vary depending upon the scope and complexity of each individual system:

<table>
<thead>
<tr>
<th>Level of Pre-existing Infrastructure</th>
<th>Level of Pre-existing Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactive system with XML infrastructure</td>
<td>3 weeks with in-house IT staff</td>
</tr>
<tr>
<td></td>
<td>3-4 weeks with contractors</td>
</tr>
<tr>
<td>Transactive system without XML infrastructure</td>
<td>4 weeks with in-house IT staff</td>
</tr>
<tr>
<td></td>
<td>4-5 weeks with contractors</td>
</tr>
</tbody>
</table>
Understanding XML

The first step to becoming tXML enabled is to understand XML. XML is a language for describing other languages. tXML documents are constructed based on XML Document Type Definitions (DTDs). Acting as templates, DTDs can be used to define content models within a tXML document (for example, the valid order and nesting of elements) and the datatypes of attributes.

To implement tXML in a particular system, you must have a fundamental understanding of how to create, parse, query, receive, and transmit XML data to and from a remote source.

The basic tools to process XML documents are XML parsers. Parsers are freely available from Microsoft and other companies (Need to emphasize open source products versus Microsoft here). For a list of XML tools, see XML Utilities on page X.
XML Conventions

tXML uses elements to describe discrete items and their properties in typical business documents. Information with obvious subdivisions and relations between those subdivisions such as an address are also described using elements. tXML makes extensive use of attributes. In tXML, all elements and attribute names use whole words with capitals (not hyphens) separating the words. Element names begin with an uppercase letter; attribute names begin with a lowercase letter, for example:

- **Elements:** Sender, Credential, Payment, ItemDetail
- **Attributes:** version, payloadID, lineNumber, domain

Basic Elements and Entity Types

The following entities and elements are used throughout the tXML specification. Most of the definitions here are basic vocabulary with which the higher-order business documents are described. The common type entities and the common elements representing low-level objects are defined here. Most of these definitions are from the XML-Data note submission to the World Wide Web Consortium (W3C). A few higher-level type entities that are also defined here are not from XML-Data. These types are also discussed in “tXML Envelope” on page xx.


Classification of Managed Objects

This section describes the how the information model supports classification of ManagedObjects. It is a simplified version of the OASIS classification model. A ManagedObject may be classified in many ways. For example the ManagedObject for the same Collaboration Protocol Profile (CPP) may be classified by its industry, by the products it sells and by its geographical location.

A general classification scheme can be viewed as a classification tree. In the example shown in Figure x, ManagedObjects representing Collaboration Protocol Profiles are shown as shaded boxes. Each Collaboration Protocol Profile represents an automobile manufacturer. Each Collaboration Protocol Profile is classified by the ClassificationNode named Automotive under the root ClassificationNode named Industry. Furthermore, the US Automobile manufacturers are classified by the US ClassificationNode under the Geography ClassificationNode. Similarly, a European automobile manufacturer is classified by the Europe ClassificationNode under the Geography ClassificationNode.

The example shows how a ManagedObject may be classified by multiple classification schemes. A classification scheme is defined by a
ClassificationNode that is the root of a classification tree (e.g. Industry, Geography).
Examples of Classification Schema

The following table lists some examples of possible classification schemes enabled by the information model. These schemes are based on a subset of contextual concepts identified by the ebXML Business Process and Core Components Project Teams. This list is meant to be illustrative not prescriptive.

<table>
<thead>
<tr>
<th>Classification Scheme (Context)</th>
<th>Usage Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>Find all Parties in Automotive industry</td>
</tr>
<tr>
<td>Process</td>
<td>Find a ServiceInterface that implements a Process</td>
</tr>
<tr>
<td>Product</td>
<td>Find a business that sells a product</td>
</tr>
<tr>
<td>Temporal</td>
<td>Find Supplier that can ship with 24 hours</td>
</tr>
<tr>
<td>Role</td>
<td>Find All Suppliers that have a role of “Seller”</td>
</tr>
<tr>
<td>Locale</td>
<td>Find a Supplier located in Japan</td>
</tr>
</tbody>
</table>
Chapter 3: tXML Specification

This chapter contains the tXML specification.

Contents:

• tXML Specification
TXML Specification

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!ENTITY txml.version "1.0">

<!ELEMENT TXML ((Person | Organization | ProductType | Case | ControlList | Document)*)>
<!ATTLIST TXML version CDATA ";txml.version;">

<!-- Person, Organization, ProductType and Document have OIDs that can be referred to when it is used more than once in a single TXML file. The first time the object appears in the TXML file, provide all applicable info. The next time you need to use the object, you can provide just the OID. -->

Area

<!-- Area -->
<!-- For more information on these units of measure codes, which are ISO standard, refer to <http://www.unece.org/trade/facil/tfc_uom.htm> -->
<!ELEMENT Area (#PCDATA)>  
<!ATTLIST Area UNIT_OF_MEASURE (a | acre | cm2 | daa | dm2 | ft2 | ha | in2 | km2 | m2 | mile2 | mm2 | yd2) #REQUIRED>

Case

<!-- Case -->
<!ELEMENT Case (ID, Status, License?, ReceivedDate?, ApplicationDate?, ApplicationNumber?, Applicant?, Party*, Item*, TotalCost?, TotalWeight?, Position*, Decision?, Condition?, Owner?, EndUseSummary?, Document*, Comment*)>  
<!ATTLIST Case TYPE (UNDEFINED | DUAL_USE | MUNITIONS | NUCLEAR) #REQUIRED>  
<!ATTLIST Case ACTIVITYTYPE (IMPORT | EXPORT | DEEMED | PROJECT | REEXPORT | TRANSIT | GENERAL) #REQUIRED>
<!ELEMENT ReceivedDate (#PCDATA)>  <!-- YYYY-MM-DD -->
<!ELEMENT ApplicationDate (#PCDATA)>  <!-- YYYY-MM-DD -->
<!ELEMENT ApplicationNumber (#PCDATA)>
<!ELEMENT Applicant (Party)>
<!ELEMENT TotalCost (Money)>
<!ELEMENT TotalWeight (Mass)>
<!ELEMENT Owner (#PCDATA)>
<!ELEMENT EndUseSummary (#PCDATA)>

Classification

<!-- Classification -->
<!ELEMENT Classification (ECN, Rationale)>
<!ATTLIST Classification REGIME (UNDEFINED | AG | CWC | NSG | MTCR | WA | EU | ML) #REQUIRED>
<!ELEMENT ECN (#PCDATA)>
<!ELEMENT Rationale (#PCDATA)>

Comment

<!-- Comment -->
<!ELEMENT Comment (Author, Date, Text)>
<!ATTLIST Comment TYPE (TECHNICAL | EVALUATION | NOTE) #REQUIRED>

Condition

<!-- Condition -->
<!ELEMENT Condition (Setter, Agency, Date, Comments)>
<!ATTLIST Condition TYPE (UNDEFINED | ACTIVATE | DEACTIVATE | REMAND | REVOKE | WITHDRAW) #REQUIRED>
<!ELEMENT Setter (#PCDATA)>

Contact Location

<!-- Contact Location -->
<!ELEMENT ContactLocation ((StreetAddress, City, State, PostalCode, Country),>
PhoneNumber*, FaxNumber*, Email*, Url*)>
<!ATTLIST ContactLocation TYPE (UNDEFINED | BILLING_LOCATION | MAILING_LOCATION | RESIDENCE | SHIPPING_LOCATION | WORKPLACE) #IMPLIED>
<!ELEMENT StreetAddress (#PCDATA)>
<!ELEMENT State (#PCDATA)>
<!ELEMENT City (#PCDATA)>
<!ELEMENT Country (#PCDATA)>
<!ELEMENT PostalCode (#PCDATA)>
<!ELEMENT PhoneNumber (#PCDATA)>
<!ELEMENT FaxNumber (#PCDATA)>
<!ELEMENT Email (#PCDATA)>
<!ELEMENT Url (#PCDATA)>

Control List

<!-- Control List -->
<!ELEMENT ControlList (#PCDATA)>

Decision

<!-- Decision -->
<!ELEMENT Decision (Maker, Agency, Date, Comments)>
<!ATTLIST Decision TYPE (UNDEFINED | APPROVE | DISAPPROVE | APPROVE_WITH_CONDITIONS) #REQUIRED>

Distance

<!-- Distance -->
<!-- For more information on these units of measure codes, which are ISO standard, -->
<!-- refer to <http://www.unece.org/trade/facil/tfc_uom.htm> -->
<!ELEMENT Distance (#PCDATA)>
<!ATTLIST Distance UNIT_OF_MEASURE (A | AU | ch | cm | dam | dm | fathom | fm | ft | hm | in | km | m | mile | mm | n_mile | nm | pc | pm | um | yd) #REQUIRED>
Document

<!ELEMENT Document ((Name, Description?, Author?, CreationDate?, LastModified?)?)>
<!ATTLIST Document OID CDATA #REQUIRED>
<!ATTLIST Document SRC CDATA #IMPLIED> <!-- The URL where data is contained -->
<!ATTLIST Document MIME_TYPE CDATA #IMPLIED>
<!ELEMENT CreationDate (#PCDATA)>
<!ELEMENT LastModified (#PCDATA)>

Item

<!ELEMENT Item (ProductType, SerialNumber, Quantity?, UnitCost?, EndUse*, Document*, Comment*)>
<!ATTLIST Item SerialNumber (#PCDATA)>
<!ELEMENT Quantity (Area | Distance | Mass | SalesUnit | Time | Volume)>
<!ELEMENT UnitCost (Money)>
<!ELEMENT EndUse (Money)>

License

<!ELEMENT License (LicenseNumber, IssueDate?, ExpirationDate?)>
<!ATTLIST License Number (#PCDATA)>
<!ELEMENT LicenseNumber (#PCDATA)>
<!ELEMENT IssueDate (#PCDATA)>  <!-- YYYY-MM-DD -->
<!ELEMENT ExpirationDate (#PCDATA)>  <!-- YYYY-MM-DD -->

Mass

<!ELEMENT Mass (#PCDATA)>
<!ATTLIST Mass UNIT_OF_MEASURE (cg | dag | dg | dt | g | hg | kg | kt | lb |
Mg | ug | mg | oz | t) #REQUIRED

Money

<!-- Money -->
<!-- For more information on these currency codes, which are ISO standard, -->
<!-- refer to <http://www.unece.org/cefact/rec/cocucod.htm> -->
<!ELEMENT Money (#PCDATA)>
<!ATTLIST Money CURRENCY (AED | AFA | ALL | AMD | ANG | AON |
| ARP | ATS | AUD |
| AWF | AZM | BAK | BBD | BDT | BEF | BGL | BHD | BIF |
| BMD | BND | BOB | BRL | BSD | BTT | BWP | BYR | BZD |
| CAD | CDF | CHF | CLP | CNY | COP | CRC | CZK | CUP |
| CVE | CYP | DEM | DJF | DKK | DOP | DZD | ECU | EEL |
| EGP | ERN | ESP | ETB | EUR | FIM | FJD | FKP | FRF |
| GBP | GEL | GHS | GIP | GMD | GNF | GNF | GTQ | GYD |
| HKD | HNL | HRK | HTG | HUF | IDR | IEP | ILS | INR |
| IQD | IRR | ISK | ITL | JMD | JOD | JPY | KES | KGS |
| KHR | KMF | KPW | KRW | KWD | KYP | KZT | LAK | LBP |
| LKR | LRD | LSL | LTL | LUF | LVL | LYD | MAD | MDL |
| MGF | MKD | MKL | MNT | MOP | MRO | MTL | MUR | MVR |
| MWK | MXM | MYR | MYT | MZN | NAD | NGN | NIO | NLG |
| NPR | NZD | OMR | PAB | PEN | PGK | PHP | PKR | PLZ |
| PTE | PYG | QAR | ROL | RUR | RWF | SAR | SBD | SGD |
| SCR | SDD | SEK | SGD | SHP | SIT | SKK | SLL | SOS |
| SRG | STD | SVC | SYP | SZL | THB | TRY | TMM | TND |
| TOP | TRL | TTD | TWD | TZS | UAH | UGX | USD | UYU |
| UZS | VEB | VND | VUV | WST | XAF | XAG | XAU | XCD |
| XDR | XOF | XPD | XPF | XPT | YER | YUN | ZAR | ZMK |
| ZWD) #REQUIRED

Organization

<!-- Organization -->
<!ELEMENT Organization ((ID, Name, RegistrationID?, ContactLocation*, |
| WatchReport*, |
| Document*, Comment*, AffiliatedWith?, BoardMembers?, |
| BusinessPartners?, Clients?, Customers?, DoesBusinessWith?, |
| Employees?, Members?, SeniorExecutives?, Shareholders?, |
| SiblingOrganizations?, SubOrganizations?, Suppliers?, |
| Workers?, WorksWith?)>
<!ATTLIST Organization OID CDATA #REQUIRED>
<!ATTLIST Organization TYPE (COMMERCIAL | EDUCATIONAL | INTERNATIONAL | LAWENFORCEMENT | LEGALGOVERNMENT | MILITARY | NATIONAL | NONPROFIT | POLITICAL | PROFESSIONAL | RELIGIOUS) #IMPLIED>
<!ELEMENT BoardMembers (Person+)>
<!ELEMENT Members ((Person | Organization)+)>
<!ELEMENT SeniorExecutives (Person+)>
<!ELEMENT Shareholders ((Person | Organization)+)>
<!ELEMENT SiblingOrganizations (Organization+)>
<!ELEMENT SubOrganizations (Organization+)>
<!ELEMENT Suppliers ((Person | Organization)+)>

Party

<!-- Party -->
<!ELEMENT Party (((Person | Organization), CaseLocation?, Contact?, Document*, Comment*)?)>
<!ATTLIST Party OID CDATA #REQUIRED>
<!ATTLIST Party ROLE (IMPORTER | EXPORTER | END_USER | CONSIGNEE | THIRD_PARTY | SHIPPER) #IMPLIED>
<!ELEMENT CaseLocation (ContactLocation)>  
<!ELEMENT Contact (Person)>  

Person

<!-- Person -->
<!ATTLIST Person OID CDATA #REQUIRED>
<!ELEMENT FirstName (#PCDATA)>  
<!ELEMENT MiddleName (#PCDATA)>  
<!ELEMENT LastName (#PCDATA)>  

Position

<!-- Position -->
<!ELEMENT Position (Maker, Agency, Date, Comments)>
<!ATTLIST Position TYPE (UNDEFINED | APPROVED | DENIED | APPROVED_WITH_CONDITIONS) #REQUIRED>

Product Type

<!-- ProductType -->
<!ELEMENT ProductType ((ID, Name?, Category?, Description?, Make?, Model?, ManufacturerProductNumber?, Manufacturers?, Classification*, Document*, Comment*)?)>
<!ATTLIST ProductType OID CDATA #REQUIRED>
<!ELEMENT Category (#PCDATA)>
<!ELEMENT Make (#PCDATA)>
<!ELEMENT Model (#PCDATA)>
<!ELEMENT ManufacturerProductNumber (#PCDATA)>
<!ELEMENT Manufacturers (Organization+)>

Sales Unit

<!-- SalesUnit -->
<!-- For more information on these units of measure codes, which are ISO standard, -->
<!-- refer to <http://www.unece.org/trade/facil/tfc_uom.htm> -->
<!ELEMENT SalesUnit (#PCDATA)>
<!ATTLIST SalesUnit UNIT_OF_MEASURE (BOXES | EACH | KITS | PACKS | PIECES | ROLLS | SETS | UNITS) #REQUIRED>

Status

<!-- Status -->
<!ELEMENT Status (StatusHistory*)>
<!ATTLIST Status TYPE (CREATED | ACTIVATED | ESCALATED | DECIDED) #REQUIRED>

Status History

<!-- StatusHistory -->
<!ELEMENT StatusHistory (Date, Status)>
Time

<!-- Time -->
<!-- For more information on these units of measure codes, which are ISO
standard, -->
<!-- refer to <http://www.unece.org/trade/facil/tfc_uom.htm> -->
<!ELEMENT Time (#PCDATA)>
<!ATTLIST Time UNIT_OF_MEASURE (d | h | ks | min | ms | ms | s | us)
#REQUIRED>

Volume

<!-- Volume -->
<!-- For more information on these units of measure codes, which are ISO
standard, -->
<!-- refer to <http://www.unece.org/trade/facil/tfc_uom.htm> -->
<!ELEMENT Volume (#PCDATA)>
<!ATTLIST Volume UNIT_OF_MEASURE (cl | cm3 | dal | dl | dm3 | ft3 |
hl | in3 |
kl | l | MI | ml | m3 | mm3 | ul | yd3) #REQUIRED>

Watch Report

<!-- WatchReport -->
<!ELEMENT WatchReport (Reason+, Description)>
<!ATTLIST WatchReport DISPOSITION (UNDEFINED | ON_WATCH |
OFF_WATCH)
#REQUIRED>
<!ATTLIST WatchReport SOURCE (UNDEFINED | INTERNET |
NEWS_MEDIA |
OTHER_AGENCIES |
PRIVATE_SECTOR) #REQUIRED>
<!ATTLIST WatchReport RISK (UNDEFINED | EXTREME | HIGH |
MEDIUM | LOW | NONE)
#REQUIRED>

<!ELEMENT Reason EMPTY>
<!ATTLIST Reason TYPE (APARTHEID_SUPPORTING_PARTY |
BANKRUPT_INSOLVENT_OUT_OF_BUSINESS |
CHEMICAL_BIOLOGICAL_WARFARE_CONCERN |
CONTROLLED_IN_FACT_FIRM |
CUSTOMS | 
DENIED_PARTY | 
DESIGNATED_NATIONAL | 
DTC_DEBARRED_PARTY | 
ECONOMIC_DEFENSE_LIST | 
ENFORCEMENT_CONCERN_INTEREST | 
ENTITIES_LIST | 
INTERNATIONAL_DRUG_TRAFFICKING_CONCERN | 
INTERNATIONAL_TERRORIST_SUPPORTING_ORGANIZATION | 
MISSILE_TECH_CONTROL_REGIME | 
NUCLEAR_PROLIFERATION | 
PAST_EXPORT_CONTROL_SANCTION | 
PRC OWNEDControlLED | 
PRE_LICENSE_CHECK | 
ROUTINE_INVESTIGATION_OBSERVATION | 
SDI TECHNOLOGY | 
SOUTH_AFRICAN_FOREIGN_INVESTMENT | 
SOVIET_BLOC_TRADE_BUSINESS_REPRESENTATIVE | 
SUBJECT_OF_EPCI_INFORMED_LETTER | 
SUBJECT_OF_MULTILATERAL_CONTROL_GROUP_DENIAL | 
SUBJECT_OF_AN_NDAA_OBJECTION | 
TARGETED_FIRM | 
UNFAVORABLE_POST_SHIPMENT_CHECK | 
UNFAVORABLE_PRE_LICENSE_CHECK) #REQUIRED>

**Common Elements**

```xml
<!ELEMENT AffiliatedWith ((Person | Organization)+)> 
<!ELEMENT Agency (#PCDATA)> 
<!ELEMENT Author (#PCDATA)> 
<!ELEMENT BusinessPartners ((Person | Organization)+)> 
<!ELEMENT Clients ((Person | Organization)+)> 
<!ELEMENT Comments (#PCDATA)> 
<!ELEMENT Customers ((Person | Organization)+)> 
<!ELEMENT Date (#PCDATA)> 
<!ELEMENT Description (#PCDATA)> 
<!ELEMENT DoesBusinessWith ((Person | Organization)+)> 
<!ELEMENT Employees ((Person | Organization)+)> 
<!ELEMENT ID (#PCDATA)> 
<!ELEMENT Name (#PCDATA)> 
<!ELEMENT Maker (#PCDATA)> 
<!ELEMENT RegistrationID (#PCDATA)> 
<!ELEMENT Text (#PCDATA)> 
<!ELEMENT Workers ((Person | Organization)+)> 
```
<!ELEMENT WorksWith ((Person | Organization)+)>

Chapter 4: Terms and Definitions

This chapter describes the protocol and data formats of tXML (Tracker eXtensible Markup Language), the XML definition for global export control information. It contains all the information developers need to implement tXML as part of other systems. Both the definition and business documents that the definition creates are discussed in depth.

Additionally, examples of actual implementations illustrate and clarify the use of tXML.

Contents:

• tXML Elements
**tXML Elements**

**Case**
Refers to the basic accumulation of information in an export control activity. Cases are primarily built from other first class objects including Parties, Items, Locations, and Documents.

**Case TYPE**
tXML presently supports the following types of Cases: (1) UNDEFINED, (2) DUAL_USE, (3) MUNITIONS, and (4) NUCLEAR.

**Case ACTIVITY_TYPE**
tXML presently supports the following types of CaseACTIVITY_TYPE: (1) IMPORT, (2) EXPORT, (3) DEEMED, (4) PROJECT, (5) REEXPORT, (6) TRANSIT, and GENERAL.

**ReceivedDate**
Refers to the calendar date that a national export licensing authority receives an export license application.

**ApplicationDate**
Refers to the calendar date that a national export licensing authority creates an export license application.

**ApplicationNumber**
Refers to the unique designation that a national export licensing authority assigns to a particular export license application.

**Owner**
Refers to the system User who has Case management responsibilities over a particular Case.

**EndUseSummary**
Refers to a Case-level description of the nature of the Case. EndUseSummary provides a high-level description of how the EndUser intends to apply the goods, technologies, services, and know-how to a desired outcome state.

**ControlList**
Refers to a list of items under the export control jurisdiction of a national or international authority (e.g., Bureau of Export Administration, Ministry of Economy, or Wassenaar Regime). All commodities, technology or software subject to the licensing authority and are found on the list format.

**Document**
Comments can attach external files to augment first class objects. The Attachment element appears within Comments, and it contains only a reference to the external MIME part of the attachment.
**Document SRC**
Refers to the URL where data is contained

**Document MIME_TYPE**
tXML presently supports the following MIME_TYPE: (1) ...

**CreationDate**
Refers to the calendar date on which the User created or imported the document into the system.

**LastModifiedDate**
Refers to the calendar date when an authorized User make content changes to the Document.

**Applicant**
That entity who, as the principal party in interest in the export transaction, has the power and responsibility for determining and controlling the sending of the items out of a name place.

**TotalCost**
Refers to the total value of the transaction in question. This is not a sum of all declared items on an export license application. Instead, it represents the value of all controlled and uncontrolled goods, technologies, services, and know-how that compose the total transaction.

**TotalWeight**
Refers to the combined weight of all items reference in the Case.

**Classification**
Refers to a mode of rule or management based on commodity jurisdictions and subscribed to by international treaty ratification.

**Classification REGIME**
tXML presently supports the following regimes: (1) UNDEFINED, (2) AG, (3) CWC, (4) NSG, (5) MTCR, (6) WA, and (7) EU.

**ECN**
Refers to a code used to designate the classification of a particular item. Codes are derived from ControlLists and may take alpha, numeric, and alpha-numeric forms.

**Rationale**
Refers to an explanation of controlling principles of opinion, belief, practice, or phenomena that support a tXML User recording a particular piece of information. Normally Rationale is used to support decision making.
**Condition**

Refers to the present state of an export control license application.

**Condition TYPE**

tXML presently supports the following Conditions: (1) UNDEFINED, (2) ACTIVATE, (3) DEACTIVATE, (4) REMAND, (5) REVOKE, and (6) WITHDRAW.

**Comment**

Information provided by tXML Users that allow amplifying or clarifying remarks to particular pieces of information like Cases, Parties, Items, Locations or other first class objects within the system.

**Comment TYPE**

tXML presently supports the following kinds of Comments: (1) TECHNICAL, (2) EVALUATION, and (3) NOTE.

**ContactLocation**

Refers to the physical and logical location of a Party within tXML.

**ContactLocation TYPE**

tXML presently supports the following kinds of ContactLocations: (1) StreetAddress, (2) State, (3) City, (4) Country, (5) PostalCode, (6) PhoneNumber, (7) FaxNumber, (8) Email, and (9) URL.

**StreetAddress**

State

Refers to a politically organized body of people usually occupying a definite territory.

**City**

Refers to an inhabited place of greater size, population, or importance than a town or village b: an incorporated British town usually of major size or importance having the status of an episcopal see c capitalized (1): the financial district of London (2): the influential financial interests of the British economy d: a usually large or important municipality in the U.S. governed under a charter granted by the state e: an incorporated municipal unit of the highest class in Canada.

**Country**

Refers to an indefinite usually extended expanse of land : 2 a : the land of a person's birth, residence, or citizenship b: a political state or nation or

**PostalCode**

Refers to a group of letters and figures in a postal address to assist sorting.

**PhoneNumber**

Refers to a number used to call a particular telephone.
FaxNumber
   Refers to a number used to call a particular facsimile machine.

Email
   Refers to a number used to electronically send mail a particular person.

URL
   Refers to an abbreviation for Uniform Resource Locator, the addressing system used for the World Wide Web.

Decision
   Refers to the final Disposition that an authority makes against a particular export license Application.

Decision TYPE
   tXML presently supports the following types of Decisions: (1) UNDEFINED, (2) APPROVE, and (3) DISAPPROVE

Item
   Goods, technologies, services, and know-how.

Quantity
   Refers to the total number of goods declared as constituent parts of a single Item. tXML presently supports the following Units to describe Quantity: (1) Area, (2) Distance, (3) Mass, (4) SalesUnit, (4) Time, and Volume.

SerialNumber
   Refers to a code that a provider or manufacturer assigns to an Item. SerialNumber may take alpha, numeric, and alpha-numeric forms

ProductType
   Refers to the type of Item an Applicant wants to export.

UnitCost
   Refers to the cost for a single Item in an export license Application.

EndUse
   Application of goods, technologies, services, or know-how to a particular desired outcome state.

License
   Permission issued by a granting governmental authority to an applicant for export, reexport, or other regulated activity.

LicenseNumber
   Refers to a code used to designate particular Case once it has been approved. Codes are derived from either internally generated serialization
or lists external to the export control system. LicenseNumber may take alpha, numeric, and alpha-numeric forms.

**IssueDate**
Refers to the calendar date on which a national licensing authority issues an approved Case (i.e., License) to an Applicant.

**ExpirationDate**
Refers to the calendar date beyond which the License is no longer valid.

**RegistrationID**
Refers to a code that a licensing authority assigns to an Party as part of a authorization process to allow the Party to transact munitions goods as part of a sanctioned export license activity. RegistrationID may take alpha, numeric, and alpha-numeric forms.

**WatchReport**
Is negative information related to individuals and organizations that that is used as input to the decision making within the export control community. WatchReports may also serve as rationale for denying exports and may serve as input to more serious consequence like legal actions.

**WatchReport SOURCE**
tXML presently supports the following SOURCES: (1) UNDEFINED, (2) INTERNET, and NEWS_MEDIA.

**WatchReport DISPOSITION**
tXML presently supports the following DISPOSITION: (1) UNDEFINED, (2) ON_WATCH, and (3) OFF_WATCH.

**WatchReport RISK**
tXML presently supports the following RISK: (1) UNDEFINED, (2) EXTREME, (3) HIGH, (4) MEDIUM, (5) LOW, and (6) NONE.

**Reason**
Refers to the rationale a User provides for changing a Party’s WatchReport DISPOSITION.

**BoardMembers**
Refers to a board of directors who in setting broad corporate goals and determining if managers are, in fact, pursuing and achieving those goals.

**Members**
One of the elements of a set or class.

**SeniorExecutives**
Refers to an individual in an organization as having administrative or managerial responsibility.
Shareholders
Refers to individuals or organizations as holding or owning a interest in property.

Sibling Organizations
Refers to organizations that are controlled by the same parent organization or individual.

SubOrganizations
Refers to an organization controlled or owned by another organization or individual. If a SubOrganization is wholly owned, all its stock is typically held by the parent company.

Suppliers
Refers to individuals or organizations as adding as a supplement other entities.

Case Location

Contact

Category

Description
Refers to a free-form description of a particular Item considered for export.

Make

Model

Manufacturer Product Number
Refers to a code used to designate the classification of a particular Item that the Manufacturer or Maker assigns. Codes are derived from Manufacturer Product Number and may take alpha, numeric, and alpha-numeric forms.

Manufacturers
Refers to the produces or provider of goods, technologies, services, and know-how.

Sales Unit
Refer to UnitsofMeasure for more information concerning SalesUnit.

Status

Status History
Refers to information the system records as part of an internal tracking mechanism against high-level objects like Case, Party, Item, Location, and Document.
Volume
Refer to http://www.unece.org/trade/facil/tfc_uom.htm for more information related to Volume.

Reason
Refers to the particular Reason an export licensing authority assigns a Party to a WatchList.

Reason TYPE

Author
Refers to the person or organization that writes the text of a work.

Clients
Refers to an individual or organization using the services of another individual or organization.

Customers
Refers to an individual or organization using the services of another individual or organization.

AffiliatedWith
Refers to an organization that is related to another organization through some type of control or ownership. For example, a U.S.-based company may have a foreign affiliate that handles overseas sales.
BusinessPartners
Refers to a business owned by two or more individuals or organizations who agree on the method of distribution of profits and/or losses and on the extent to which each will be liable for the debts of one another. A partnership permits pass through of income and losses directly to the owners. In this way, they are taxed at each partner's personal tax rate.

DoesBusinessWith
Refers to an organization or individual that interacts with another Party in order to derive benefit, normally in the form of money.

WorksWith
Refers to an organization or individual that interacts with another Party in an undeclared capacity.

Position
Refers to a binding opinion regarding a particular export control license that represents a particular organization.

Position TYPE
TXML presently supports the following Position TYPE: (1) UNDEFINED, (2) APPROVED, (3) DENIED, and (4) APPROVED_WITH_CONDITIONS.

Maker
Refers to the individual authorized that renders a binding opinion regarding a particular export control license for a particular organization.

Agency
Refers to an organization that provides either a Position or Decision regarding the final disposition of an export license application.

Area

Mass

Area UNIT_OF_MEASURE
Refer to ISO currency codes for additional information.

Mass UNIT_OF_MEASURE
Refer to ISO currency codes for additional information.

Money
Refer to ISO currency codes for additional information.

isoLangCode

isoCountryCode
xmlLangCode
A language code as defined by the XML 1.0 Specification (at www.w3.org/TR/1998/REC-xml-19980210.html). In the most common case, this includes an ISO 639 Language Code and (optionally) an ISO 3166 Country Code separated by a hyphen. Unlike the full XML recommendation, IANA or private language codes should not be used in tXML. IANA and private subcodes are allowed, though, they should come after a valid ISO 3166 Country Code.

The recommended tXML language code format is xx[-YY[-zzz]*]? where xx is an ISO 639 Language code, YY is an ISO 3166 Country Code and zzz is an IANA or private subcode for the language in question. Again, use of the Country Code is always recommended. By convention, the language code is lowercase and the country code is uppercase. This is not required for correct matching of the codes.

unitOfMeasure
UnitOfMeasure describes how the product is packaged or shipped. It must conform to UN/CEFACT Unit of Measure Common Codes. For a list of UN/CEFACT codes, see www.unece.org/cefact.

For details about the transfer of attached files, see “Attachment Transmission” on page xx.

Attachment contains a single URL with scheme “cid:”. An attached file in a tXML document might appear as:

Telephone Number
A simple reusable entity class that defines attributes of a telephone number.

PersonName
A simple entity class for a person’s name.

Contact
Contact is a simple reusable entity class that defines attributes of a contact person.

Organization
Organization instances are ManagedObjects that provide information on organizations such as a Submitting Organization. Each Organization instance may have a reference to a parent Organization.

Organization TYPE
tXML presently supports the following Organization TYPE: (1) COMMERCIAL, (2) EDUCATIONAL, (3) INTER-NATIONAL, (5) LAWENFORCEMENT, (6) LEGALGOVERNMENT, (7) MILITARY, (8)
NATIONAL, (9) NONPROFIT, (1) POLITICAL, (11) PROFESSIONAL, and (12) RELIGIOUS.

Comments
Arbitrary human-readable information buyers can send within purchase orders. This string data is not intended for the automated systems at supplier sites. The Comments element can contain an Attachment element for including external files.

Time and other Data Types
The timestamp attribute (and all other dates and times in cXML) must be formatted in the restricted subset of ISO 8601 described in the Word Wide Web Consortium (W3C) Note entitled “Date and Time Formats” available at www.w3.org/TR/NOTE-datetime-970915.html.

Timestamps require a minimum of a complete date plus hours, minutes and seconds. Fractions of a second are optional. This protocol requires times expressed in local time with a time-zone offset from UTC (Coordinated Universal Time, also known as Greenwich Mean Time). The “Z” time zone designator is not allowed.

For example, 2000-04-14T013:36:00-08:00 corresponds to April 14, 2000, 1:36 p.m., U.S. Pacific Standard Time. Further references for the date, time, and other data type formats used by cXML are:
Microsoft’s XML Data Types Reference site, msdn.microsoft.com/xml/reference/schema/datatypes.asp