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Creating A Single Global Electronic Market

# ebXML Methodology for the Discovery and Analysis of Core Components

## ebXML Core Components

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## 1 Status of this Document

This document specifies an ebXML ( FOR APPROVAL STANDARD) for the eBusiness community.

Distribution of this document is unlimited.

The document formatting is based on the Internet Society's Standard RFC format.

**This version can be found on:**

[http://www.ebxml.org/working/project\\_teams/Core\\_Components/latest.htm](http://www.ebxml.org/working/project_teams/Core_Components/latest.htm)

## 2 ebXML participants

We would like to recognize the following for their significant participation to the development of this document.

Editing team: Mike Adcock, APACS  
Sue Probert, Commerce One  
James Whittle, e CentreUK  
Gait Boxman, TIE  
Thomas Becker, SAP

Team Leader: Sharon Kadlec, NorthWest Airlines, U.S.

Vice Team Leader: Lisa Shreve, SysCom Strategies, U.S.

### Contributors:

Dee Dee Ptaszek	Sterling Commerce, U.S.
Tera Allain	Exxon Global, U.S.
Darcy Watson	CP Rail, Canada
Melanie McCarthy	General Motors, U.S.
Andreas Schultz	GDV, Germany
June Arnold	BNSF Railway, U.S.
Hartmut Hermes	Siemens, Germany
Chris	Logistics Management Institute, U.S.
Tim Cochran	DISA, U.S.

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## 4 Introduction

### 4.1 Summary of Contents of Document

The information included in this document provides guidance for the discovery the discovery and analysis of common components and processes involved in the interchange of business information.

### 4.2 Audience

The target audiences for this document include business staff of both an information technical background and specific business focus area. This document describes how to identify common information components and processes for the use in ebXML.

### 4.3 Related Documents

Related documents provide detailed definitions of technical approaches such as Unified Modelling Language, (UML).

Document Identification	Document Name	Source (URL) on Internet
ebXML Glossary		
Methodology for describing Core Components (including Appendix.zip)	WG7rev04.doc	<a href="http://www.ebxml.org/working/project_teams/Core_Components/">http://www.ebxml.org/working/project_teams/Core_Components/</a>
ebXML CC Naming Conventions	ebXML CC Dictionary Entry Naming Conventions	<a href="http://www.ebxml.org/working/project_teams/Core_Components/latest.htm">http://www.ebxml.org/working/project_teams/Core_Components/latest.htm</a>
Analysis Overview: Business Process to Business Documents		

## 5 Design Objectives

This document describes how Business Processes should be reviewed to derive their Core Components, including the impact of context.

The objective is to provide guidance for the discovery and analysis of Core Components and common Business Processes used in the interchange of business information.

### 5.1 Caveats and Assumptions

This document is dependent upon tools and developments available at the time of its writing. It is expected that there will be rapid development of new applications and tools which will facilitate the discovery and analysis of components and processes used in the interchange of business information.

It is expected that the discovery method, as described in this document will soon be replaced by a more automated process. The instructions in this document may clarify for teaching and learning purposes how to determine those business information processes and components that will comprise an ebXML compliant interchange.

## 6 Overview

This is a general description of how to identify from the registry, discover and analyse Core Components and common Business Processes within any given business for the purpose of interchange opportunities using XML.

### 6.1 What is Discovery and Analysis?

Finding Core Components and Business Processes together with their context either through searching the ebXML registry(ies) or by means of self-discovery processes that result in the description of an information interchange in electronic business.

This guide includes the following:

- Finding business process libraries of components and examples of information interchange already existing in an ebXML-compliant Registry.
- Steps for identifying common and industry-unique processes and components that are not yet included in an ebXML-compliant Registry. The process for submission is not covered in this document.
- Cross-references to tools for performing discovery and analysis such as modelling techniques and methodologies.
- The analysis process which is to be conducted by a cross industry group.

## 7 Discovery Process Instructions

### Step 1

Identify and document the types of processes needed.

Examples:

“The procurement processes between the automotive industry and the oil suppliers.”

“The claim notification processes between a transport company and an insurance company.”

### Step 2

Go to an ebXML-compliant Registry to do a “search” to find the business process libraries of components and examples of information interchanges already existing.

Note: The URL and specific processes for doing this will be determined at a later time. It is not available at the time of this writing.

### Step 3

Document name

152 If unable to find information in an ebXML-compliant Registry, continue with the  
 153 following steps.

154

155 **Note:**

156

157 The basic “pieces” needed for either a hard copy document or electronic interchange  
 158 include:

159

- 160 • Business Process descriptions
- 161 • Core Component’s descriptions
- 162 • Those items that add contextual meaningb to both or either of the Business Process  
 163 and any Core Components

164

165 The table documents contain process-relevant information at different levels:

166

- 167 • Catalogue of Common Business Processes with cross references
- 168 • Core Component Analysis

169

170

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**Step 1** State the types of processes needed.

Examples:

“The business process interchange procurement documents between the automotive industry and the oil supplier.

“The business interchange of a claim notification between a transport company and an insurance company.”

This column is assuming that there is no matching process on the Business Process table, both lists are available BUT there is no associating mechanism	This column is assuming that there is a matching process on the Business Process table, both lists are available and there IS an associating mechanism	Create Component(s) because lists are not available or because no matching items have been found	Create the Business Process because neith lists are available
A	B	C	D

<p><b>Step 2</b> Check the sources of documents listed on the Business Process Catalog to identify a document that may have all of the information that is needed (these may be EDIFACT, X12, xCBL - Extensible Common Business Language, Rosetta Net PIP - Partner Interface Process, CII, OAG-Open Applications Group, BOD). There may be an existing form or document which is familiar and/or similar and could be reviewed.</p> <p><b>Result:</b> Similar items that may meet requirements are found.</p>	<p><b>Step 2</b> Locate the components associated with the process that fits the requirements.</p> <p><b>Results:</b> If they do match go to Step 3 otherwise go to the set of instructions in this table "Create the Business Process" in Column D</p>	<p><b>Step 2</b> List the Component(s) following the headings on the table. Read the descriptions of the headings and examples for guidance</p>	<p><b>Step 2</b> List the steps in the business process that you are trying to accomplish choose one that is close to what you need to interchange in any of the "contexts" that may exist.</p>
<p><b>Step 3</b> Look for matches from the sample document(s) of information types on the ebXML component list.</p> <p><b>Result:</b> Matches are found</p>	<p><b>Step 3</b> Each information component needs to be reviewed to see if it fits the requirements for the process. (Meaning does the component definition match the requirements?)</p> <p><b>Result:</b> Either matches are found or if not go to the set of instructions in this table "Create the Components" in Column C</p>	<p><b>Step 3</b> These instructions will be in a separate section to be determined at a later time.</p>	<p><b>Step 3</b> Find a similar business process</p>
<p><b>Step 4</b> Each information component needs to be reviewed to see if it fits the requirements for the process. (Meaning does the component definition match the requirements?)</p> <p><b>Result:</b> If they do not fit go to the set of instructions "Create Components" in Column C.</p>			<p><b>Step 4</b> Compare the "kind of information" that exist in the business process that has been found such as - buyer, seller, shipping, equipment, date of delivery, date of shipping, time, location with the known requirements</p>

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## 8 Analysis Process

### 8.1 Philosophy

Electronic Commerce message designers have long struggled with the difficulty of striking a balance between semantically explicit messages for use between trading partner pairs, and the flexibility needed when trading partners are from different industries

Solving this problem requires achieving a balance between structure and semantics, which results in *concise* business document specifications based on *use* between trading partner pairs. This is a critical enabler to delivering on the ebXML mandate for shrink-wrapped solutions for SME's.

Historically, the definition and analysis process for eBusiness standards has been much more of an "art" rather than "science", leading to inconsistent philosophies and results. ebXML makes extensive use of new technologies, techniques and best practices to ensure a scientific approach produces predictable results.

### 8.2 Relationship between the ebXML Discovery and Analysis Processes

The ebXML Discovery and Analysis processes are as follows:

- The discovery process as detailed in the earlier sections, is to assist domain experts [finance, transport, travel, materials management, etc.] in expressing requirements. This process involves the collection of business process requirements, information requirements and the context within which these requirements apply. For example, the typical order might include a buyer, seller, product/quantity details, payment and shipping. However, if the product involves hazardous materials determines the need to provide additional information. Additionally, different geographic regions have different reporting requirements for hazardous materials.
- The role of the analysis group is to ensure that the information requirements discovered by the domain teams are met with a semantically concise solution, which is structured in a harmonised manner to support the ebXML cross industry interoperability goals.

### 207 **8.3 Core Versus Extension**

208  
209 This body of work represents a substantial innovation in the structuring and managing of  
210 eBusiness semantic information. The ebXML Core Library contains fundamental and  
211 reusable building blocks for use in multiple contexts. The Core Library components  
212 include Business Processes, Collaborations, Roles, and information entities. The Core  
213 Library establishes a framework for reuse both by its organisation structure and by its  
214 contents. An extension methodology is used to expand the ebXML Core Library by  
215 means of adding context specific processes or components”.

### 217 **8.4 ebXML Analysis Scope**

#### 218 219 1. Contexts

220 The designated set of categories, as specified in ‘ebXML The role of context in the re-  
221 usability of Core Components and Business Processes’

222 1.1. Collaborations Process Models [refer to ‘Analysis Overview: Business  
223 Process to Business Documents’]

224 1.2.

225 1.3. Roles

226 1.4. Business Documents

#### 227 2. Information models

228 2.1. Functional Sets

229 2.2. Aggregate Information Entity

230 2.3. Basic Information Entity

### 232 **8.5 Functional Set**

233  
234 Functional sets are used to group functionally equivalent aggregates. Functional Sets  
235 differ from Aggregate Information Entities in one fundamental way. The parent child  
236 relationship between the Functional Set and the children, Basic Information Entities or  
237 Aggregate Information Entities, represents a decision point where the children are  
238 functionally equal and therefore mutually exclusive. This capability and use is described  
239 in detail in the attached appendix.

### 241 **8.6 Aggregate Information**

242  
243  
244 Aggregates should be developed to meet the functional definition by including the most  
245 efficient reuse of basic Core Components independent from context.

Aggregates are basic building blocks. An aggregate is a set of related data elements whose characteristics define a single distinct concept (e.g. a party, a place, a product, a service, etc.).

One of the purposes of the aggregate definition is to describe the concept that is represented at a certain level of abstraction(s). The level of abstraction is derived to achieve maximum reuse and interoperability.

An aggregate may also be used to define a logical grouping of several aggregates.

The basic information entity identifies a single unit of data whose characteristics are entirely defined by its specification within the CC-Data Dictionary.

**Rule 02:** The basic information entity within an *aggregate* shall relate directly to the purpose of the *aggregate*.

**Rule 03:** A *data element* within an *aggregate* shall be specified with a *status*.

## 9 Disclaimer

The views and specification expressed in this document are those of the authors and are not necessarily those of their employers. The authors and their employers specifically disclaim responsibility for any problems arising from correct or incorrect implementation or use of this design.

**10 Contact Information**

## Team Lead

Name Sharon Kadlec  
Company Northwest Airlines Inc.  
Street 5101 Northwest drive  
city, state, zip/other St Paul, Minnesota 55111-3034  
Nation U.S.

Phone: + 1 612 726 2277  
EMail: Sharon.Kadlec@nwa.com

## Vice Team Lead

Name Lisa M. Shreve  
Company SysCom Strategies Inc.  
Street 6856 Cathedral  
city, state, zip/other Bloomfield, MI 48301  
Nation USA

Phone: + 1 248 737 3362  
EMail: lshreve@mediaone.net

## Editor

Name Sue Probert  
Company Commerce One UK  
Street 103 Belper Road  
city, state, zip/other Derby DE1 3ER  
Nation UK

Phone: + 44 1332 342080  
EMail: sue.probert@commerceone.com

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