Creating a Single Global Electronic Market With ebXML™

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ebXML enables anyone, anywhere to do business with anyone else over the Internet
A global electronic market

where enterprises of any size, anywhere can:

- Find each other electronically
- Conduct business through the exchange of XML based messages
  - using standard message structures
  - according to standard business process sequences
  - with clear business semantics
  - according to standard or mutually agreed trading partner agreements
- Using off the shelf purchased business applications
ebXML Characteristics

- Participation is free and open to anyone, anywhere
- Complement, not compete
  - EDIFACT, X12,…
  - protect existing infrastructure investment
  - “extend-and-embrace” versus “rip-and-replace”
- Focus on needs of SME
  - easy, low cost, rapid development & deployment
  - plug and play shrink wrapped solutions
  - built on open, available, proven standards
- Modular and inclusive
  - implement what applies to you
Main ebXML concepts

- Business Processes – Defined as models, Expressed in XML
- Business Messages – Expressed in XML
- Trading Partner Agreement – Specifies parameters for businesses to interface with each other – Expressed in XML
- Business Service Interface – Implements Trading Partner Agreement – Expressed in XML
- Transport and Routing Layer – Moves the actual XML data between trading partners
- Registry/Repository - Provides a “container” for process models, vocabularies, and partner profiles.
Open-edi Reference Model
ISO/IEC 14662

Business Operational View

Business aspects of business transactions

Functional Service View

Information technology aspects of business transactions

Semantic Web
BOV RELATED STANDARDS
Comply with
Covered by

Web Services
FSV RELATED STANDARDS
Comply with
Covered by

Viewed as
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**Functional View**

**Business Process and Information Models**

**UML to XML conversion**

- **Registration**
- **Retrieval of new or updated ebXML Models**
- **Retrieval of ebXML Specifications & Models**

**Repository**

- **Internal Business App**
  - **Build**
  - **TPA**
  - **Business Message**
- **Implementers**
  - **Build**
  - **BSI Interface**
  - **ebXML Transport**
- **Shrink-wrap Application**
  - **Build**
  - **BSI Interface**
  - **Business Message**
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**ebXML High Level Architecture**

- **Design Time**
  - Registry Services
  - Repository Services

- **Runtime**
  - BSI
  - Message Service
  - Transport

**Business Process and Information Modeling**
- Business Process Model
- Information Model

**Interface Modeling**
- TPP
- TPA

**Register/Retrieve**

**Specification**

**Interface Implementation and interaction**
ebXML Architecture

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Business Process Models

message

Business Content
Technical Content

Sends & Receives

Services Interface

Network Economy

Process
Services
Schemata
Codes, Elements

Business Process

Defines

Core Component Library

Supports

Uses

Sends & Receives

Provides Access To

Uses

Metadata model to XML Transformation Rules

Populate

Defines

Registry

Distributed Repository

Security

Transport

Common Technical Architecture

ebXML Meta Model
ebXML Architecture

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BP
Business Process Models

CC
Core Component Library

Message
Enables
Defines
Sends & Receives

BP
Business Process

RR
Metadata model to XML Transformation Rules

BP
BP
RR

TRP
Provides Access To

BP
BP Meta Model

TP
Distributed Repository

TP
Security

TRP
Transport

Network Economy

Process
Services
Schemata
Codes, Elements

 MbXML ebXML Meta Model

Populate

Defines

Common Technical Architecture

Uses

Supports

Sends & Receives

BP
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BP
BP
Transport and Routing

- Message Service Specification
  - Packaging Specification
  - ebXML SOAP Extensions
  - Message Service Handler Services
  - Reliable Messaging
  - Error Handling
  - Security
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Communication Protocol (SMTP, HTTP, etc.)

- MIME multipart/related
- SOAP Envelope
  - SOAP Header
    - eb:MessageHeader
    - eb:TraceRoute
    - ds:Signature
    - /SOAP Header
  - SOAP Body
    - eb:Manifest
    - eb:StatusData
    - eb:ErrorList
    - SOAP-Env:SoapFault
    - /SOAP-Env:SoapFault
    - eb:Acknowledgements
    - /SOAP Body
- Payload
- Payload
Registry and Repository

- Registry Information Model
  - Based heavily on ANSI ASC X3.285
    - Submission to ISO 11179
  - Key concepts
  - Classification Scheme support
    - Managed Objects
      - Storage of anything
    - Flexible associations
    - Subscription to managed objects (in progress)

- Registry Services
  - Life cycle management
  - Query
  - Library Control System
  - Transformation
  - Workflow
  - Logging
  - Subscription
  - Publish
  - Interface Discovery Service
  - Quality Assurance Service
Architecture Interactions

Enterprise Systems
Integration System
Messaging System
Repository
Core Component Library
Business Rules
Document Choreography
Policy

Message Formats
Transport, Routing & Packaging
Service Interface
Business Documents
Core Components
Business Process Modeling
Registry & Repository
Policy
Internet

Business Documents

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Trading Partner Profile

- Collaboration-Protocol Profile and Agreement Specification
  - Collaboration Protocol Profile (CPP)
    - Describes party's IT capabilities
    - Communication protocols
    - Security requirements
    - Business processes it supports
  - Collaboration Protocol Agreement (CPA)
    - Agreed IT capabilities
    - Business process to be performed
    - Definition of business transactions, transition rules, etc.
  - CPA is intersection of two parties' CPPs plus results of negotiating variable parameters
Main sections of CPP & CPA

- Party identification
- Transport
- Protocol, encoding, timeout, security, etc.
- Document exchange
- Messaging protocol, security, etc.
- Collaboration protocol
- Business transaction definitions
- Derived from business process metamodel
CPP/CPA Summary

What Parties WILL do

Intersection, negotiation

What Parties CAN do

Party 1
CPP

CPA

Party 2
CPP
Business Process

- Business Process Specification Schema
- Business Process and Business Information Analysis Overview
- Business Process Analysis Worksheets & Guidelines
- E-Commerce and Simple Negotiation Patterns
- Catalog of Common Business Processes
Business Process: Conceptual Model

- Create Long Term Contract
- Forecast Component Requirements
- Send Planning Document
- Place Order
- Ship Materials
- Arrange Payment
Overview: ebXML Specification Schema

- Business Process
  - Process Composition
    - Partner Types
    - Business Collaboration
      - Choreography
        - Transition
        - Guard
          - Request Document
          - Response Document

Business Transaction Execution Patterns

- Roles
  - Business Transaction
Core Components

- The role of context in the reusability of CC & BP
- Methodology for discovery & analysis of CC
- Naming conventions for CC & BP
- Specification for the application of XML based assembly and context rules
- The Initial Catalog of Core Components
- Core Component and Business Process Document Overview
Overview of CC Scope
Other ebXML Deliverables

- ebXML Requirements Specification v1-0 (approved at the Brussels meeting 12 May 2000)
- ebXML Technical Architecture specification v1.04 (approved by the Vancouver plenary, 16 February 2001)
- ebXML Technical Architecture Risk Assessment
- Formal ebXML Presentation
- ebXML White Paper
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CC = Core Components
BP = Business Process

Define

Implement

Trading Partner Profile

Registry & Repository

Transport and Routing
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Andrew’s World aligned with ebXML

ebXML Message Services
- Reliability
- Security
- Routing
- Attachments
- Envelope and Extensibility (SOAP)
- Syntax (XML)

Wire

ebXML BP/CC/TP (+UMM)
- Process
- Flow
- Patterns
- Service Descriptions
- Structure

Description

ebXML R&R/TP (+UDDI)
- Directory
- Inspection

Discovery
For more information
http://www.ebxml.org

Specifications are available at:

http://www.ebxml.org/specdrafts/approved_specs.htm
http://www.ebxml.org/specdrafts/Specs_for_review.htm