E-Commerce Integration Meta-Framework - overview

CEN/ISSS Workshop for Electronic Commerce project

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E-Commerce Integration Challenge

Why join e-commerce?

- Automation, lower cost/transaction, less manual labor, reaching new markets and partners

**BUT:** The integration of internal processes with external interfaces to (multiple) standards is not easy nor cheap…

- The same goes for interoperability between different standards (or even implementations) - somewhat helped by eMarketplaces
The Challenge

The reality:
- There will always be different standards and legacy systems
- Integration solutions are often proprietary, inflexible and costly

The needs:
- For systematic, commonly accepted approach
  - “integration methodology”
- For standardized descriptions
  - “integration language”

The expectations:
- Increase the interoperability
- Reduce the costs
- Simplify the maintenance
E-Commerce Integration Meta-Framework (ECIMF)

- CEN/ISSS Workshop for E-Commerce project
  - Workshop members include representatives from industry, consumer, SME-s, research, standardization communities, etc.

- Supported by industry and research communities
  - RosettaNet, Hewlett-Packard, Microsoft
  - Royal Institute of Technology, Sweden

- WebGiro AB, Sweden - a major contributor and the project coordinator
ECIMF Deliverables

- The methodology - ECIMM
  - How to discover and model the integration areas

- The language - ECIML
  - How to describe the integration logic in a precise, machine understandable way

- The tools - ECIT
  - How to prepare the integration recipes, and how to implement them
Multi-layer approach

- Top-down analysis
- Structured, iterative process

Business context

Business process mediation

Semantic translation

Syntax mapping
Business context

Defined using REA ontology (see also UMM BRV)
- Economic Resources (and stock-flows)
- Economic Agents (and their participation in events)
- Economic Events (transfers, transformations, commitments)

Determines the event/data relationships
- Legal and transactional boundaries of business events
  - E.g. reservation, purchase, fulfillment, shipment, etc…
- State changes related to business events
Process mediation

- Describes how to align different conversational patterns
  - Follows both conversation specifications
  - Keeps track of both conversation contexts
  - Monitors and preserves the transaction boundaries
Provides precise rules for translation between concepts belonging to different ontologies
- Uses unique “context navigation” to discover and define differences in relationships and constraints
Syntax mapping

Framework A

- PurchaseOrder
  - POHeader
    - Party (Supplier)
    - Party (Buyer)
  - POBody
    - Item ID
    - Price
    - Units
    - Total

Framework B

- PurchaseOrder
  - Agent (Supplier)
  - Agent (Buyer)

- PODetails
  - Total
  - Net
  - Tax
  - Subtotal
  - Cat. No
  - Item
  - Price
  - Units

Directory

Economy data

Catalog
Captures both business and technical contexts
- Avoids naïve mapping, focused on data elements
- Avoids purely academic business modeling
ECIMF Applied

Framework A
- Business context
- Technical infrastructure

Framework B
- Business context
- Technical infrastructure

ECIMF Model
- REA, Dynamics, Semantics, Syntax

MANIFEST interpreter
Summary

- **Deliverables**: *CEN Workshop Agreements (CWA)*
  - General Methodology
  - Technical Specification
  - Proof of Concept + basic toolkit

- **Timeframe**: 18 months (Jun ’00 – Dec ’02)

- **Coordination and support**
  - ebXML, RosettaNet, OAG, EDI, TMWG …
  - Industry and research representatives
  - EC FP5 KAll and upcoming FP6

- **Others are welcome to join our efforts**
Further information

- **ECIMF Information Center**
  - [http://www.ecimf.org](http://www.ecimf.org)
- **CEN/ISSS, Workshop for E-Commerce**
- **WebGiro AB, Sweden**
  - [http://www.webgiro.com](http://www.webgiro.com)
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