ISO 15022 XML: A model for Standards Convergence

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Standards for Securities
ISO 15022 XML Working Group 10
ISO 15022, second edition (XML)
Convergence and Interoperability
Conclusion
Standards for Securities
The pre-XML era

- ‘70s: Financial Industry creates
  - SWIFT for global processing/ID for US Domestic processing

- ‘80s: ISO/TC68/SC4 defines ISO 7775

- ‘84-‘97: ISO 7775 deployed (on SWIFT)

- ‘90s: several industry initiatives
  - e.g. Financial Information eXchange (FIX)

The XML era

- Multiple XML-related initiatives emerge.

Some examples:

- **FIX** defines its XML-version: FixML
- **SWIFT** defines “SWIFTStandards XML”
- **FpML**: XML-standards for derivatives
- **MDDL**: XML-standards for market data
- **GSTPA, Omgeo**: “ISO 15022-based” XML
The current standards landscape
<table>
<thead>
<tr>
<th>Field</th>
<th>FIX</th>
<th>SWIFT</th>
<th>GSTPA</th>
<th>Omgeo</th>
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<tbody>
<tr>
<td>Side</td>
<td>BUYI=Buy</td>
<td>BUYI=Buy</td>
<td>Buy/ Sell Indicator</td>
<td>Buy/ Sell Indicator</td>
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<tr>
<td>Values</td>
<td>1=Buy</td>
<td>2=Sell</td>
<td>3=Buy Minus</td>
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<td>Syntax</td>
<td>54=1</td>
<td>:22a::/ BUSE// BUYI</td>
<td>&lt;BuySellInd&gt; BUYI &lt;/BuySellInd&gt;</td>
<td>&lt;BuySellIndicator&gt; BUYI &lt;/BuySellIndicator&gt;</td>
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<td>Proprietary plus ISO Codes</td>
<td>ISO Codes</td>
<td>ISO Codes</td>
<td>Proprietary plus ISO Codes</td>
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</table>
The role of XML

• Has XML solved all problems?
  • Single technology
  • Multiple XML-based standards initiatives
  • Not more interoperability than before

• So what has XML done?
  • XML has made the issue more apparent
  • XML has accelerated the drive towards convergence
ISO 15022 XML Working Group 10
“Evolve ISO 15022 to permit migration of the securities industry to a standardized use of XML, guaranteeing interoperability across the industry and with other industry sectors, particularly but not restricted to the financial industry”

*WG 10 is a working group created in 2000 by the ISO Technical Committee TC68 (Banking, securities and other related services) under their sub-committee SC4 (Securities and related financial instruments)
Drivers resulting from the mission statement

• Integrate all domains of securities industry (from pre-trade to post-settlement)

• Take into account existing industry standards in Securities (e.g. FIX, FpML, MDDL, …)

• Take into account international initiatives on message standards and XML (e.g. ebXML)

• Take into account technological evolution: XML is not the end
WG10’s objectives

- **Stability**
  - Business-driven approach

- **Interoperability and convergence**
  - End-to-end based on common semantics

- **Flexibility**
  - Market practices and asset classes

- **Predictability and speed**
  - Foster reuse and automation capabilities
Standards Development

- Leveraging New Technology
  - Business Modeling – Unified Modeling Language (UML)
  - XML
  - Evolving Existing Standards
  - Creating New Standards
- Standards Repository
- Expanding Asset Class Coverage
- Focusing on Market Practice
WG10’s approach

ISO 15022 Recommendations

ISO 15022 Standards Repository

ISO 15022 Data Field Dictionary

ISO 15022 Catalogue of Messages

Other Industry Messages

Standard Development Methodologies (e.g. SWIFT, ebXML, ...)

ISO 15022: 1999
ISO 15022 second edition (XML)
Create a framework to establish an agreement on how to develop, implement and maintain (securities) industry standards

**Building Blocks:**

- Applying Business Modeling to Standards Development
- Harmonizing the Use of syntaxes (XML)
- Implementing a centralized Standards Repository
- Leveraging Industry Coordination
The building blocks

- **Business Modeling for standards development**
  - Syntax-independent business standard
  - Neutral way to cover all functionality
  - Aligned with international approach

- **Harmonizing the use of syntax (e.g. XML)**
  - Predictable & “automate-able” design rules
  - Protect standard from technology evolution
The building blocks

- ISO 15022 Standards Repository
- Business Process Warehouse
- Data Dictionary (foster reuse)
- Maintained by Registration Authority

Industry Co-ordination:
- “Reverse Engineering”
- Standards Management Groups
The modeling methodology

“Understand the business”

“What is the problem”

“Define the solution”

“Refine the solution”

“Physical implementation” (automated)

Standards Repository

BUSINESS MODEL

BUSINESS SCENARIOS & MESSAGES

SYNTAX, CODES
SOLUTION TO IMPLEMENT
Proposed ISO 15022 Standards Environment
Evolving ISO 15022

ISO 15022 Standards Repository

- Business Process Warehouse
- Data Dictionary

SMG - Standards Management Group
The resulting ISO Committee Draft

• The official standard:

• ISO 15022 – Part 1
  • High level description of modeling approach
  • High level description of Repository
  • High level description of inputs and outputs

• ISO 15022 – Part 2
  • Definition of registration bodies
  • “Service Level Agreements”
Supporting Documents

- **ISO 15022 Modeling Guidelines**
  - How to build message standards

- **ISO 15022 XML Design Rules**
  - How to convert messages in XML

- **ISO 15022 Reverse Engineering**
  - How to capture existing industry standards
  - How to build “convergence documentation”

- **ISO 15022 Submission Templates**
Convergence and Interoperability
The current situation

ISO 15022

GSTPA

Proprietary

TBMA

FIX

Omgeo
Industry coordination is happening

The Bond Market Association (TBMA)

ISO 15022 XML Working Group WG 10

Post-Trade/Pre-Settlement Expertise

ISITC

ISO 15022 Registration Authority

Post-Trade/Pre-Settlement Expertise

Interoperability

VMUs

Omgeo

Sungard

GSTPA

FIX Protocol Limited

Pre-Trade/Trade

Fixed Income Expertise

Fixed Working Income Group

Support of WG 10 FIX on the SWIFT Network

SWIFT

SIA

Pre-Trade/Trade

Post-Trade/Pre-Settlement Expertise

Post-Trade/Pre-Settlement Expertise

Fixed Income Expertise

Post-Trade/Pre-Settlement Expertise
## Timeline

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<tr>
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<td>-</td>
<td>-</td>
<td>15022 (XML)</td>
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</table>
Conclusion
WG10 Next steps

• Approval of the standard (ISO process)

• Initial population of repository:
  • Reverse engineering pre-trade
  • Reverse engineering post-trade
  • Reverse engineering other domains

• Finalize documents, templates, web site

• Liaisons with relevant industry groups (e.g. MDDL, FpML, …)
WG10 Challenges

• General Issues
  • Agreement is difficult and takes time
  • Implementation and migration costs

• WG 10 Specific Issues
  • Education: new technology & concepts
    • Business modeling (UML)
  • Timing & Resources:
    • Standards Repository population
  • Marketing & Liaisons