



ISO 15022 XML Working Group



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Background



March 6th, 2001



Standards Development

- Leveraging New Technology
- Expanding Coverage
- Focusing on Market Practice

XML and Standards

Two Variations

- **Evolving Existing Standards**
 - FIX, SWIFT
- **Creating New Standards**
 - Industry Consortium - FpML
 - Vendor based - FinXML, NTM

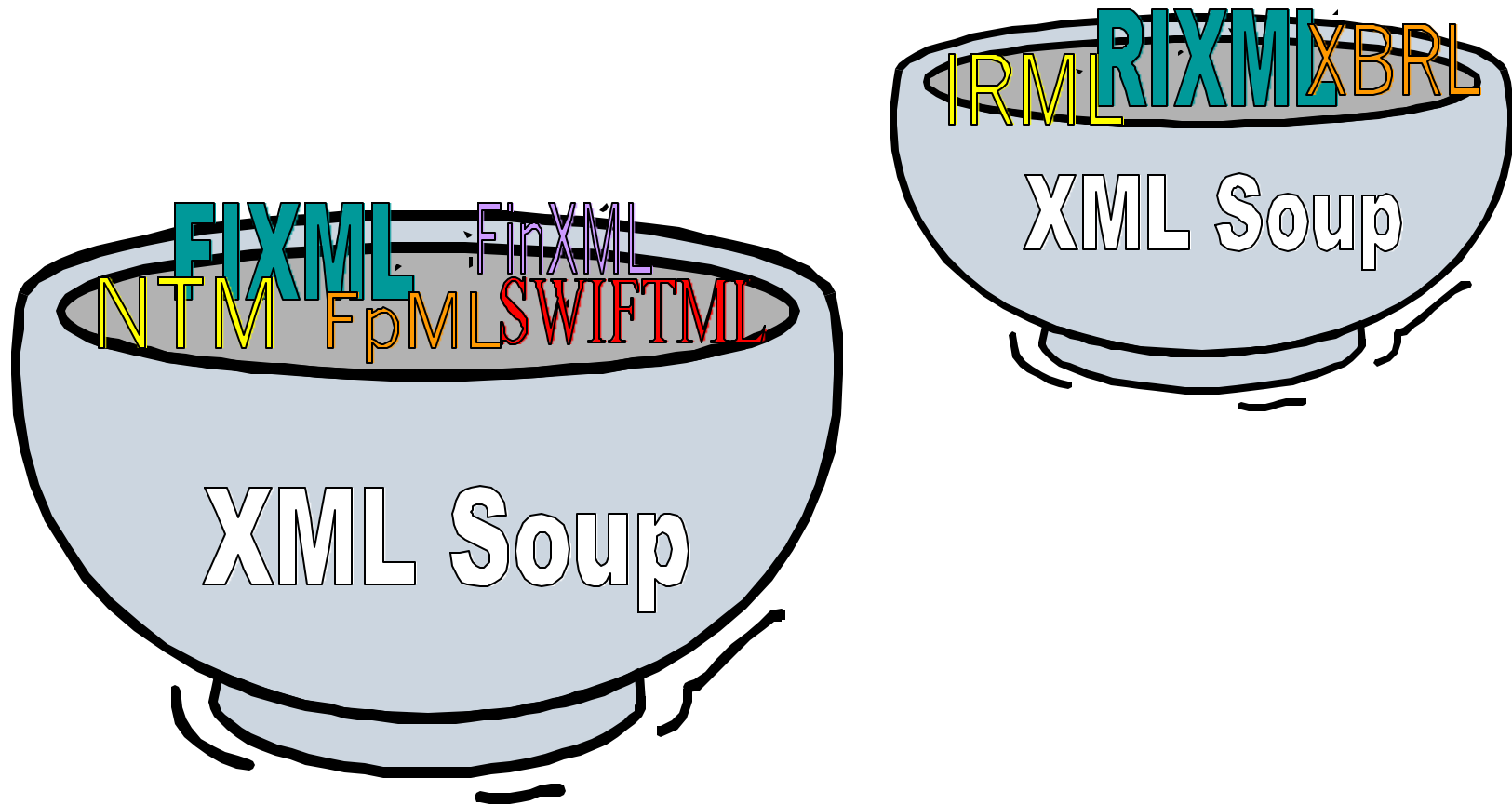
Current Environment

XML Standardization Is Increasing

Why?

- **Broad Vendor Support Means More Technology Choices**
- **Platform Independence**
- **Human Nature**
- **Vendors**
 - Creating standards implies technological leadership
 - Products can be tuned to standard
- **Participants lack of knowledge of existing initiatives**

Overlapping Initiatives



Transactional Based XML

- **Message Networks**
 - SWIFT - XML on Next Generation Network
- **Consortia**
 - FpML - OTC Derivatives
 - FIXML - FIX Application Messages
- **Vendors**
 - Sungard - NTM
 - FinXML
- **Utilities**
 - GSTPA - XML Message Format Based On ISO 15022

Document Based XML

- **Consortia**
 - RIXML - Parsing and classifying investment research
 - XBRL - Preparation and exchange of business reports and data
- **Vendor**
 - IRML (Multex/Consortia) - Exchange and use of financial research content
 - First Call

Interoperability/Convergence Issues

- **Interoperability Isn't a Technology Issue**
 - Middleware, XSLT
- **Interoperability is a Business Issue**
 - Requires Coordination
- **XML doesn't replace standards competition**
- **Convergence on a single standard syntax (XML or anything else) is not realistic in the short term**

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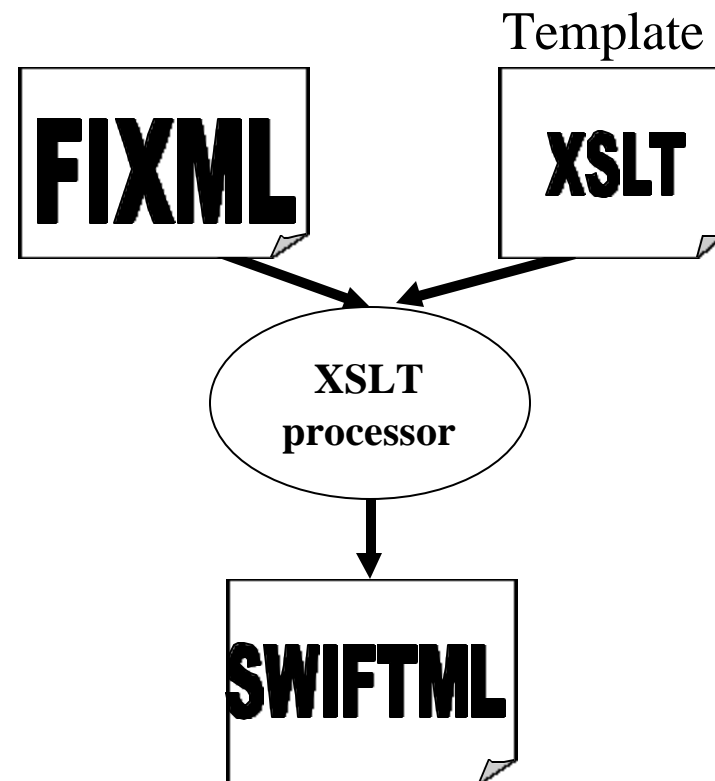
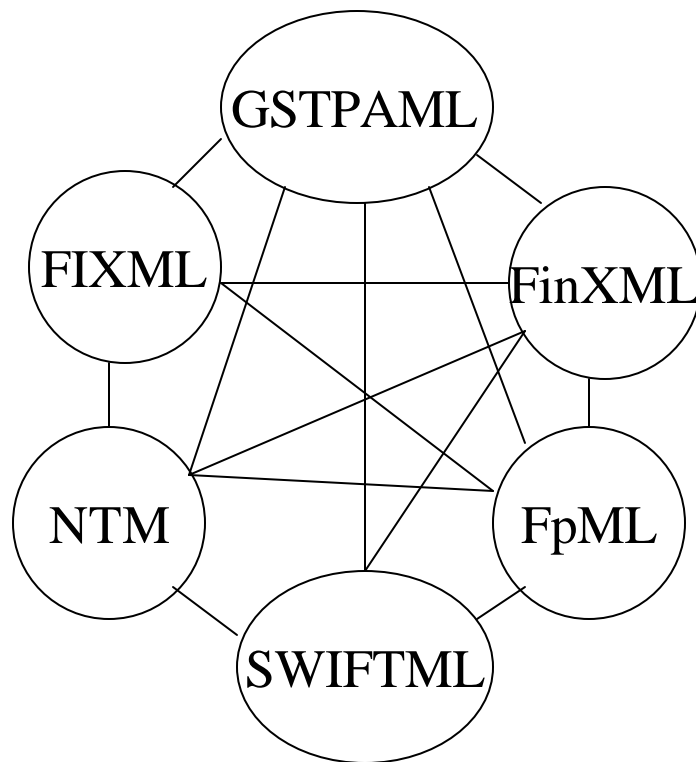
Interoperability Options



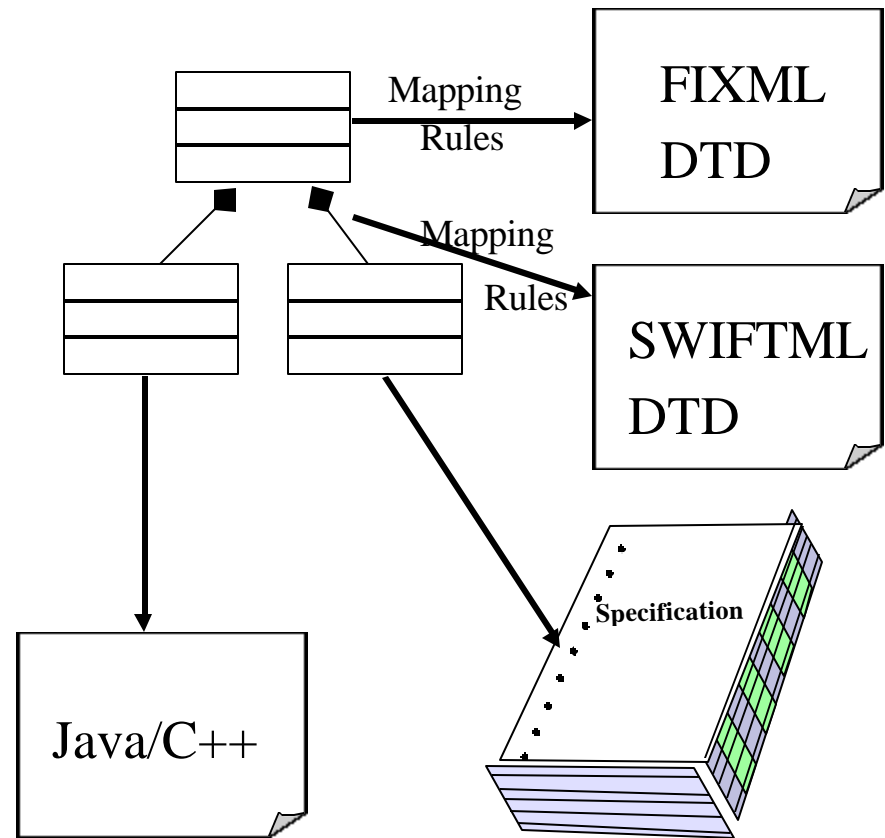
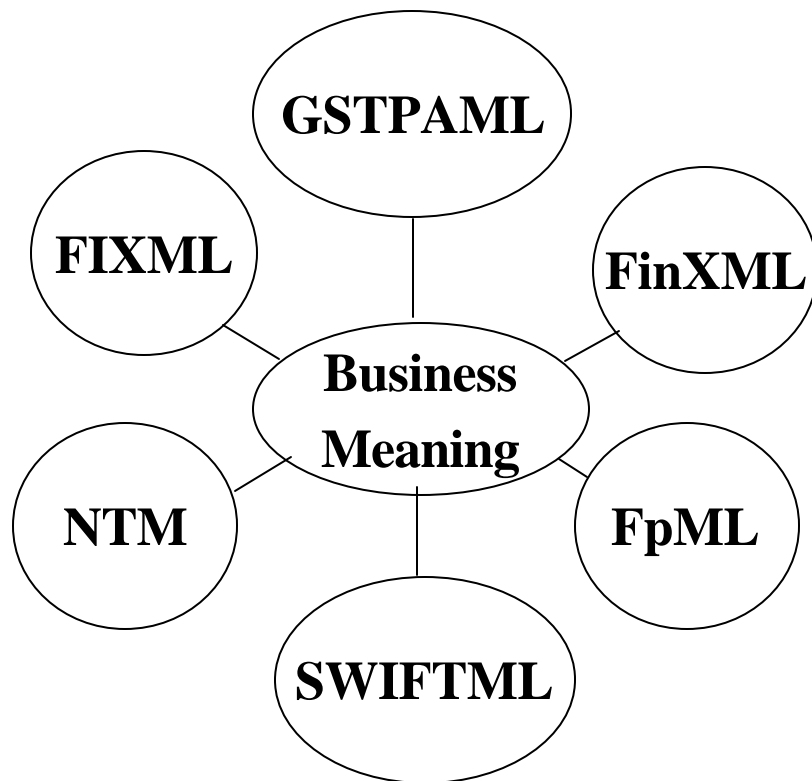
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W3C's Solution - XSLT

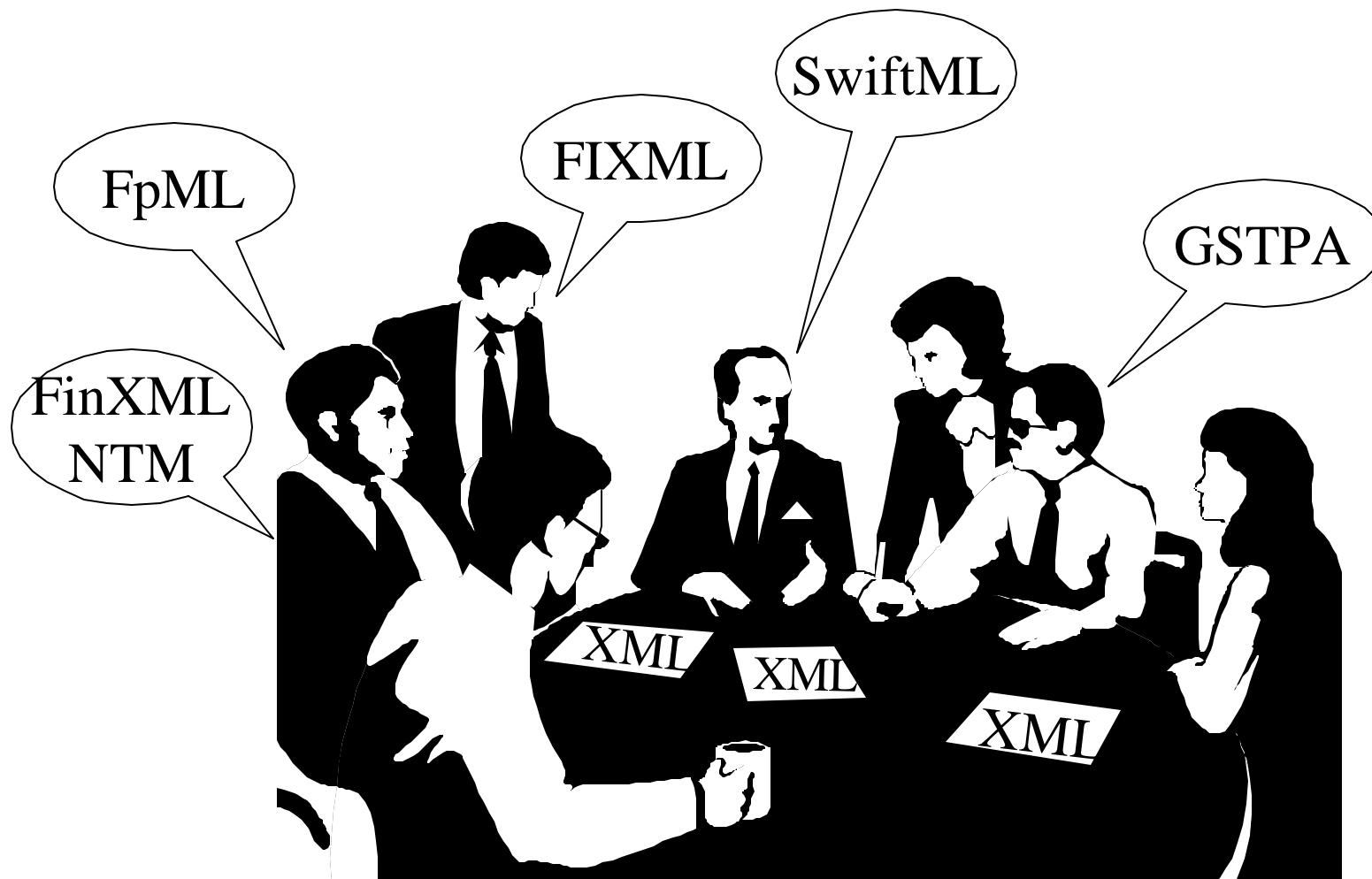


Modeling - UML*



*Unified Modeling Language

Interoperability Requires Coordination



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ISO 15022 XML Working Group -WG10



March 6th, 2001



ISO 15022 XML Working Group - Working Group 10

Mission Statement

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

Participants

- GSTPA, FIX, ISITC-IOA, SMPG, SWIFT, Thomson, FinXML, FpML, ECSDA, EMX, Telekurs, Instinet, etc.
- DTCC, Euroclear, CREST, Clearstream, etc.
- SSMB, Merrill, BoNY, ING, State Street, Chase, Morgan Stanley, Deutsche Bk, Goldman, Citigroup, Northern Trust, Barclays, etc.

WG10 Timeline

Initial Meeting

Reviewed existing XML initiatives

Discussed Interoperability Opportunities

*Established Organization Structure
Developed Mission Framework
Formed Project Teams*

*Full Working Group Meeting
Formalized TC68/SC4/WG10*

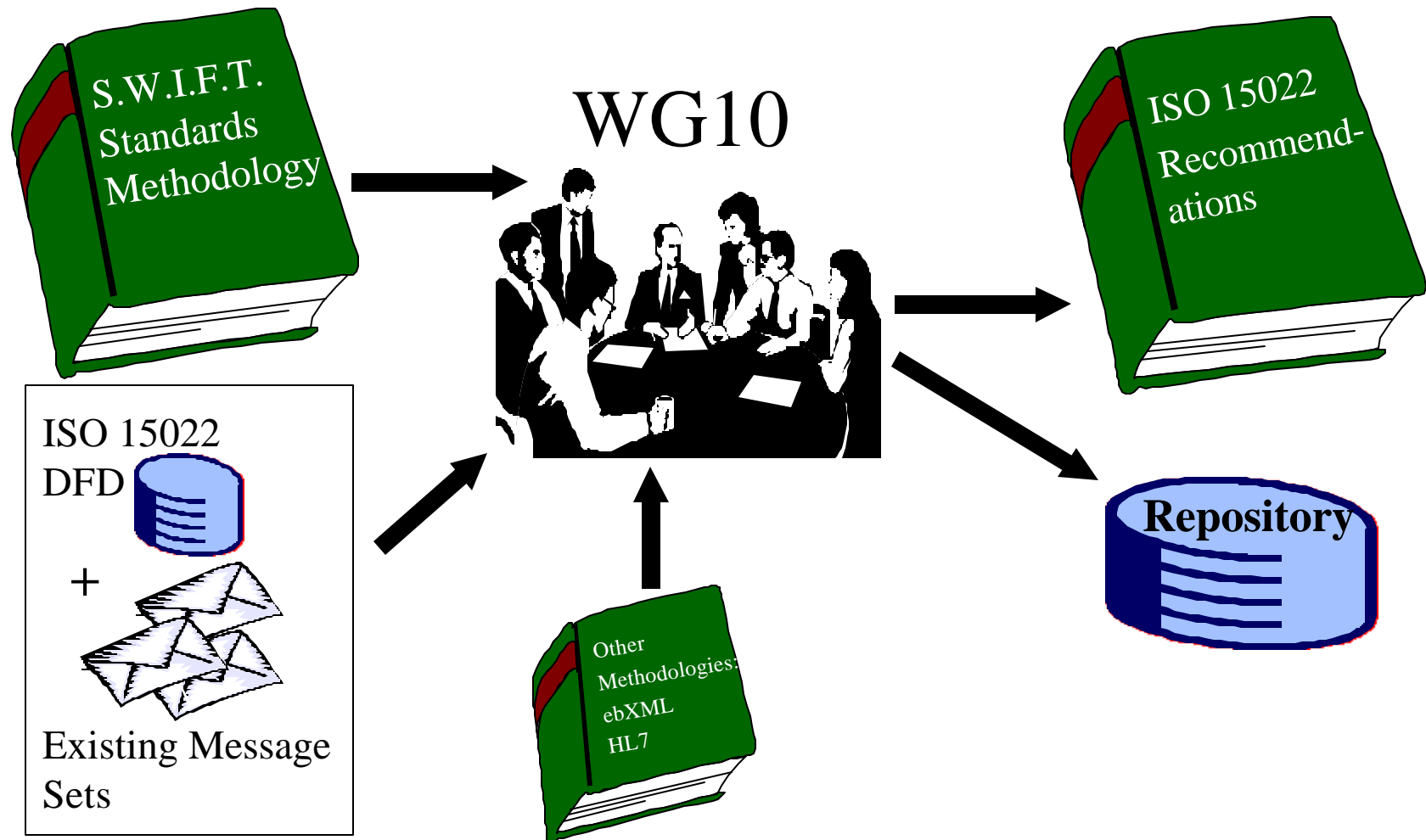
Project Team Meetings

Full WG10 Meeting



March 6th, 2001

WG10 Process Overview



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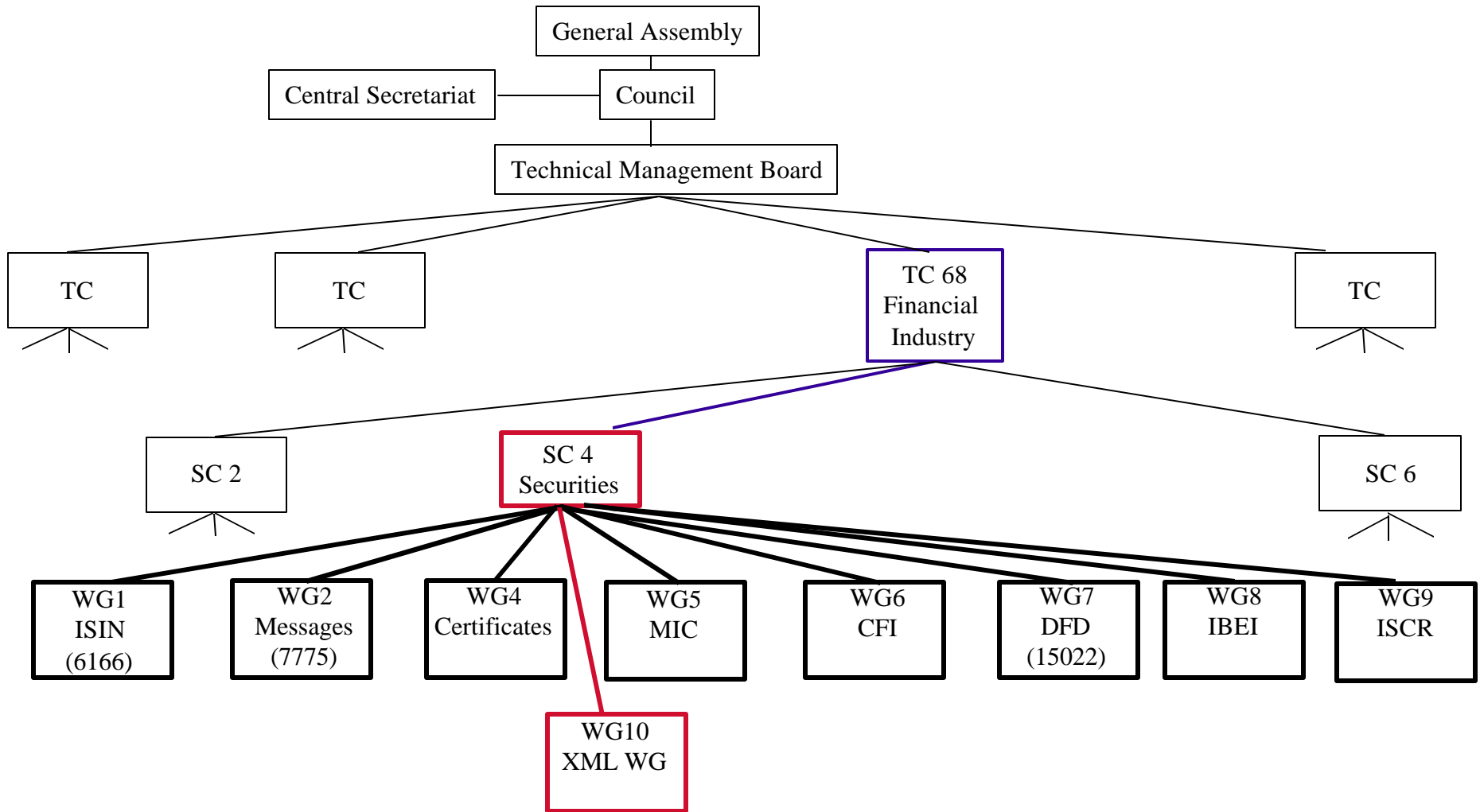
ISO Overview



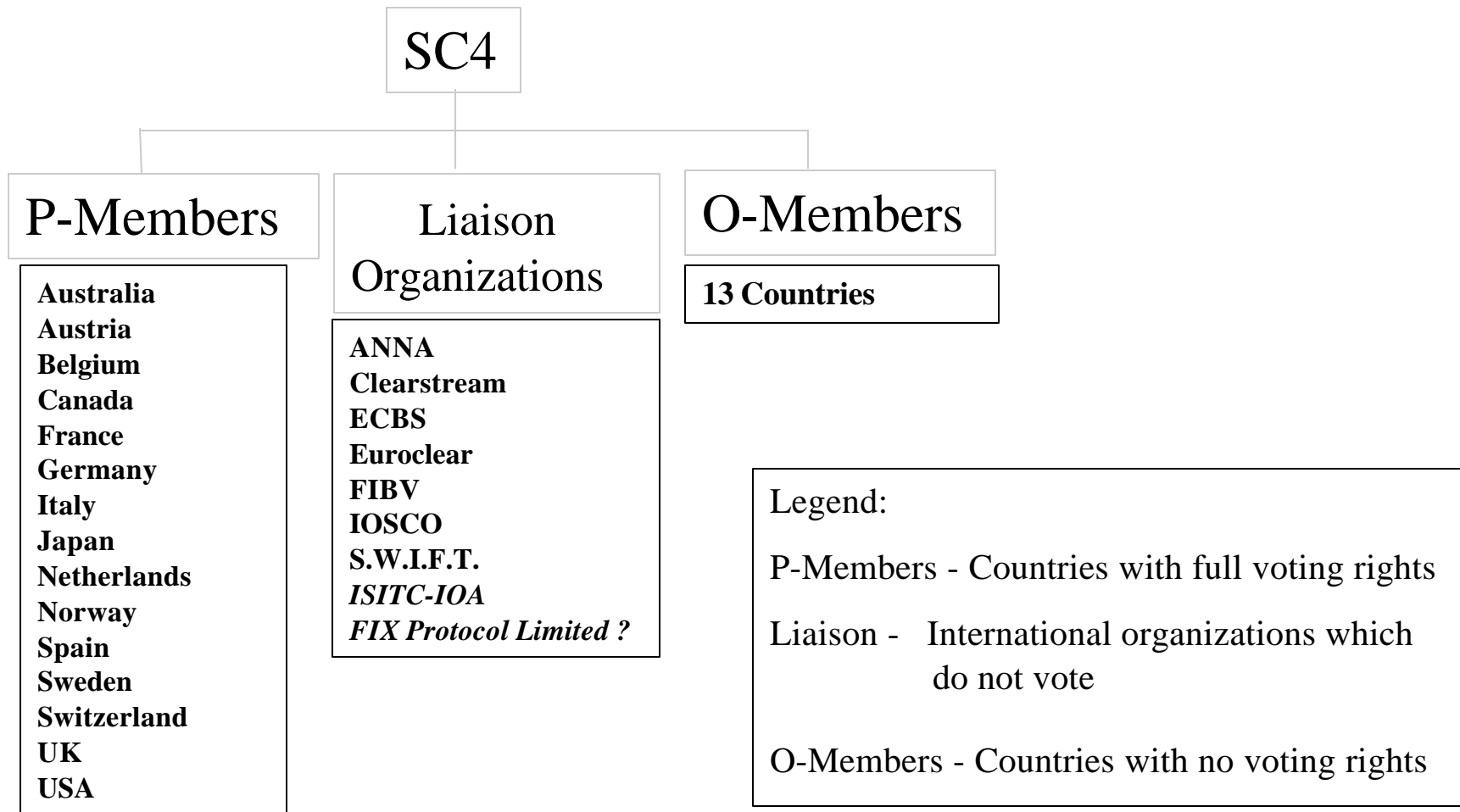
International Organization For Standardization (ISO)

- Federation of 130 member-countries
- Prepare International Standards
- 200 Technical Committees (TC)
- 600 SubCommittees (SC)
- 2,000 Working Groups (WG)
- 15,000 International Standards prepared on a voluntary basis

ISO 15022 XML Working Group - WG10



SC4 Breakdown

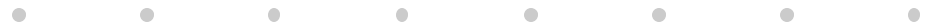




ISO 15022 Revealed



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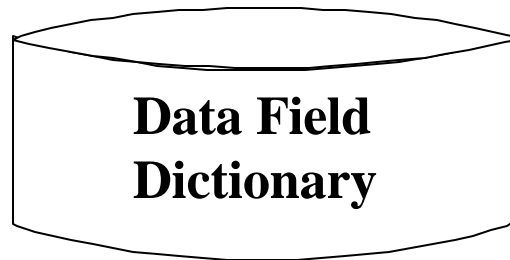


ISO 15022

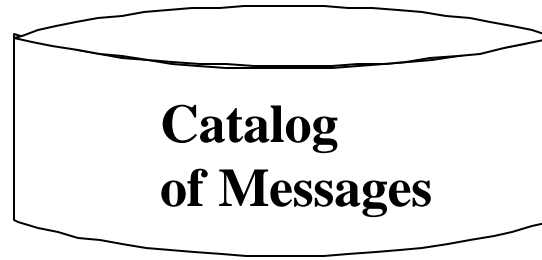
- **What exactly is the standard?**
 - Part 1: Data field and message design rules and guidelines
 - Part 2: Maintenance of the Data Field Dictionary and Catalogue of Messages
- **Registration Authority - SWIFT**
 - Maintains Data Field Dictionary/Catalogue of Messages
- **Registration Management Group**
 - Monitors Registration Authority

ISO 15022

- Reference Table of Multiple Syntaxes
- Registry of Messages



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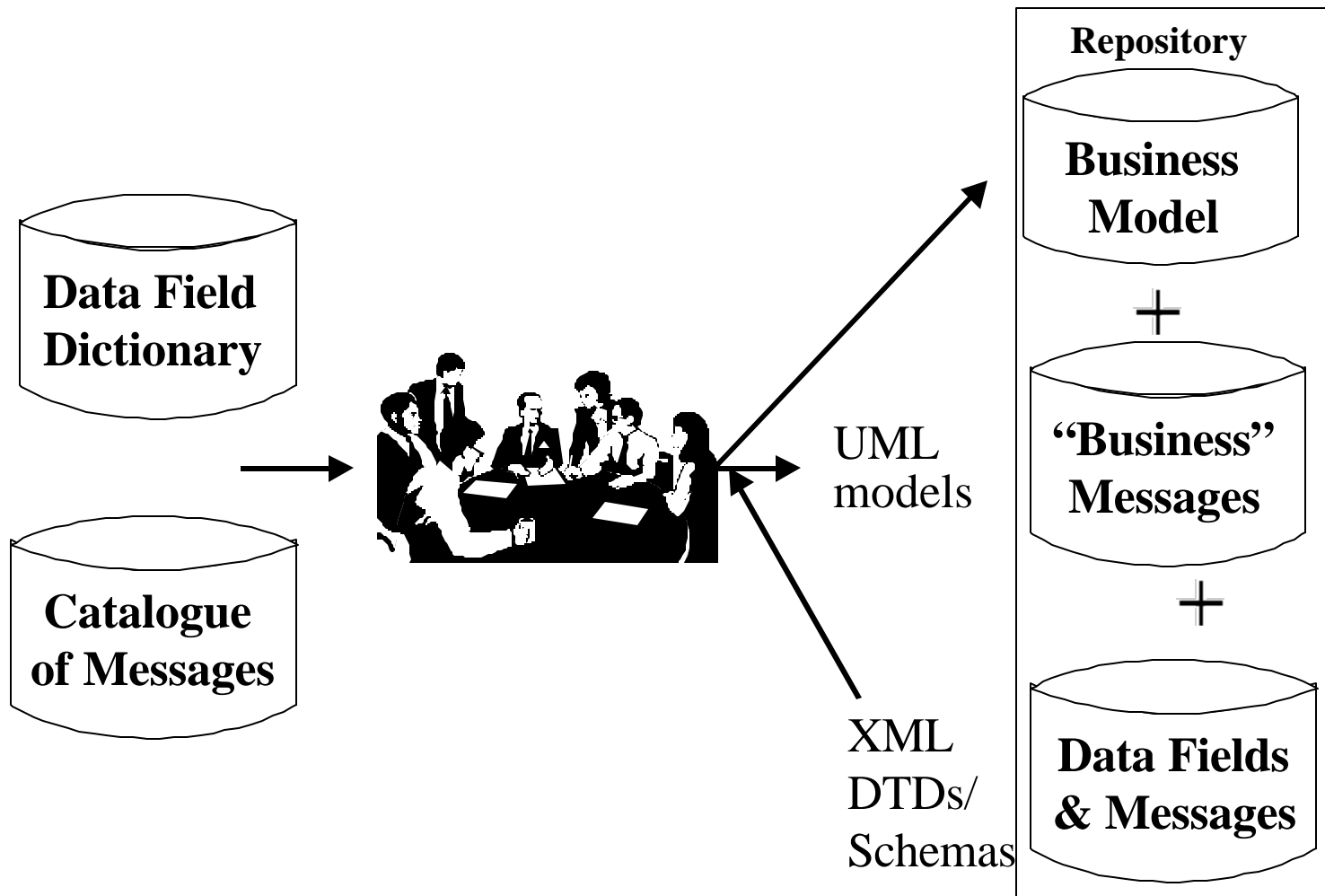


Trading
Settlement Instructions
Settlement Status
Settlement Confirmations
Corporate Events
Position/Movements
Depository Receipts

SSAB	ISITC	7775	E7775	EDIFACT
s1		:10:	:21::	
s2	a1	:11:	:22::	
	a2		:23::	
s3			:24::	

7775	E7775	EDIFACT
520	540	
521	541	
522	542	
523	543	
534	548	

Evolving ISO 15022

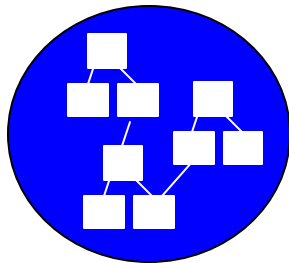


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SWIFT Standards Methodology: A Starting Point



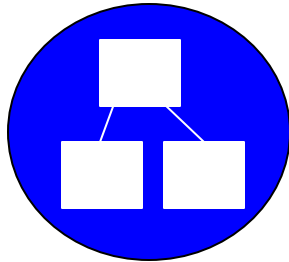
Standards Modeling Process



Business Layer
(Domain Information Model)

Contains:

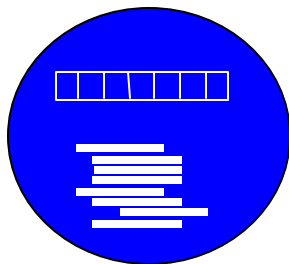
- Business Process
- Business Domain
- Actors



Logical Layer
(Message Information Model)

Contains:

- Message Structure
- System Interaction

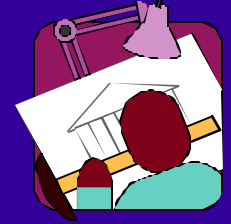


Physical Layer
(Message Formats)

Contains:

- Format Transformation Rules
(e.g. DTDs, Schemas)

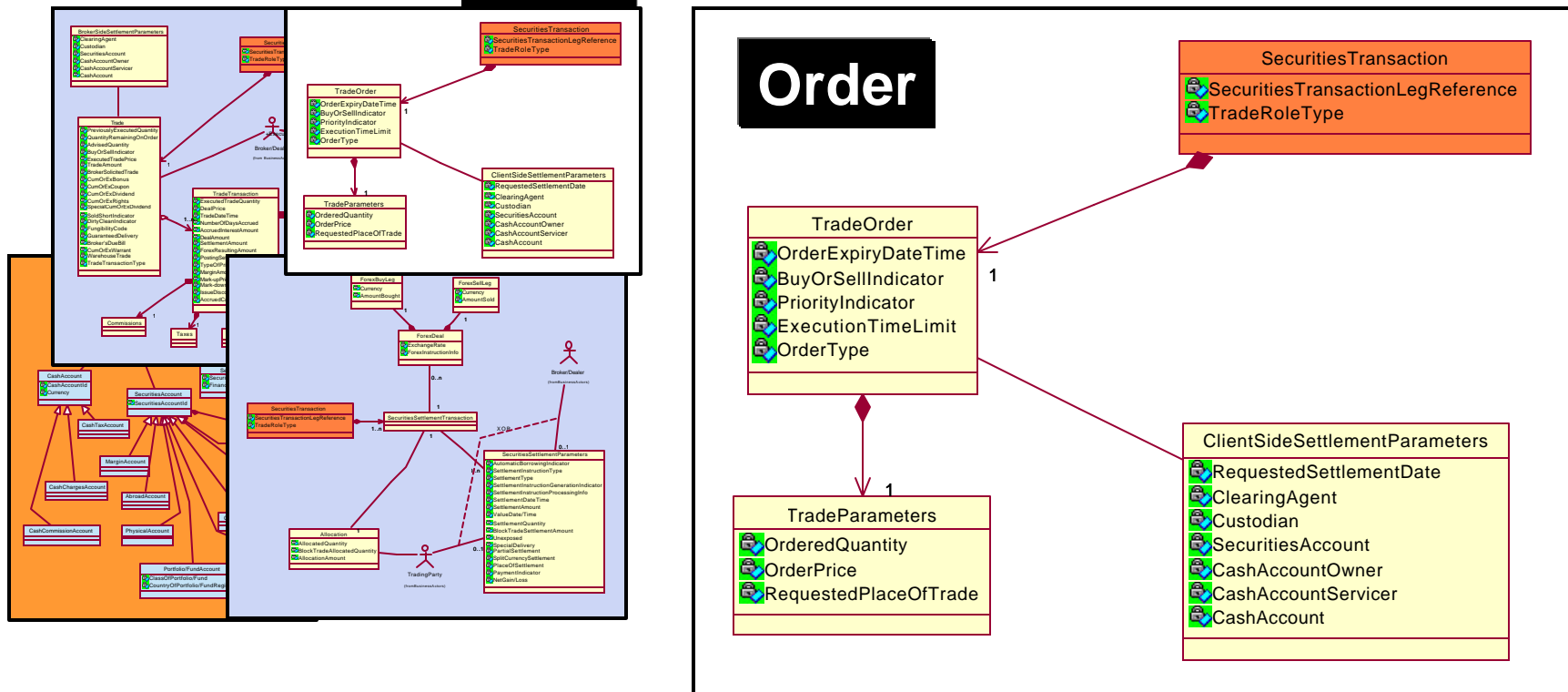
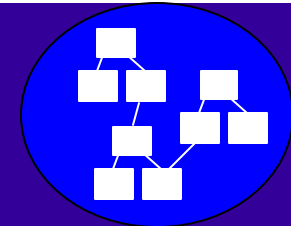
Business Layer



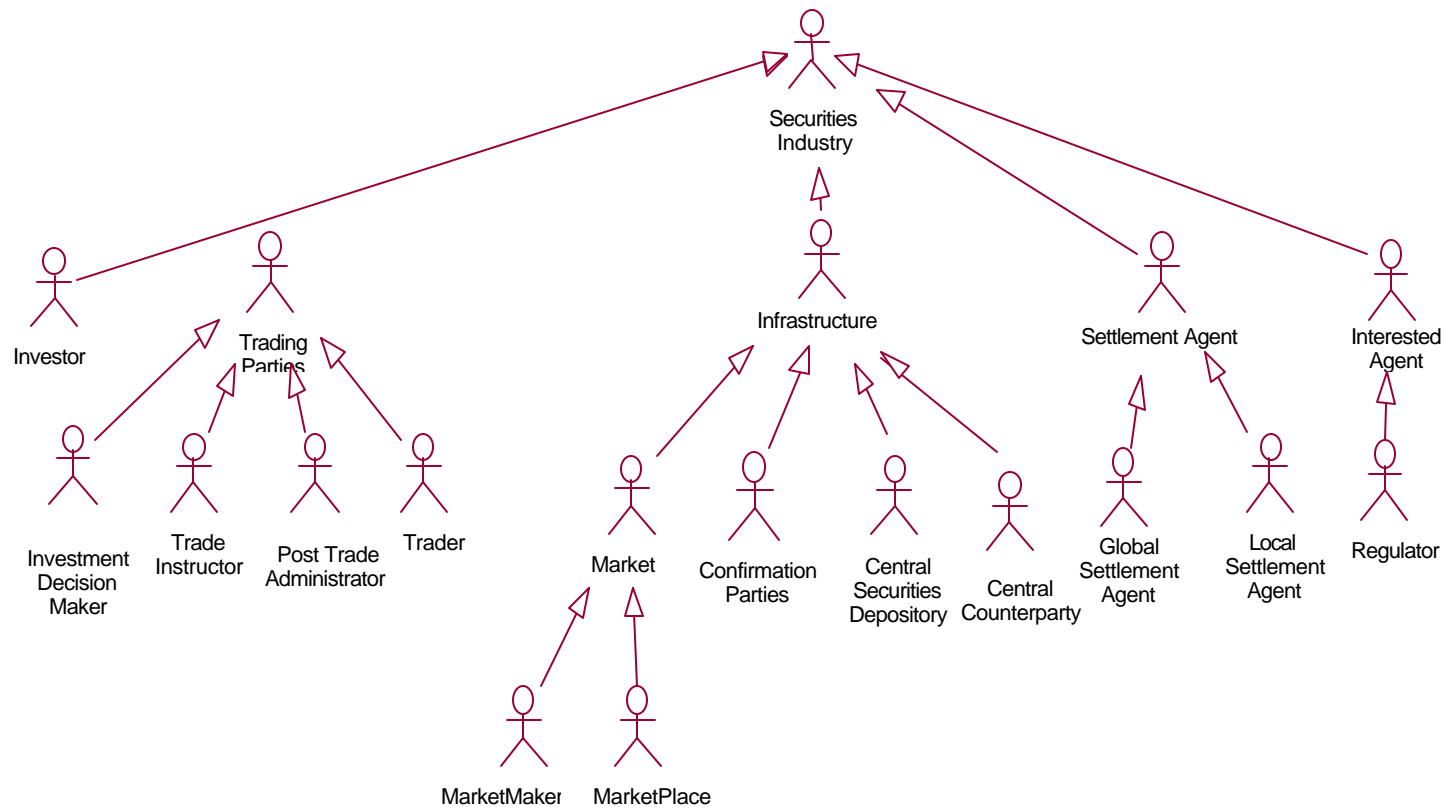
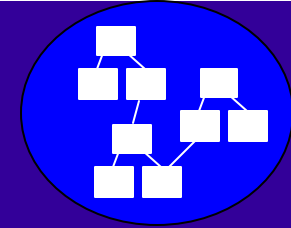
- Definition
 - Focus on Business Not Implementation
 - Describe Business Context Of Solution
- Activities
 - Identify Business Domain
 - Define Structure/Dynamics of Business Context
 - Capture Business Information within Business Context

Analogy: “Architectural Designs for Building a House Based on Client Requirements”

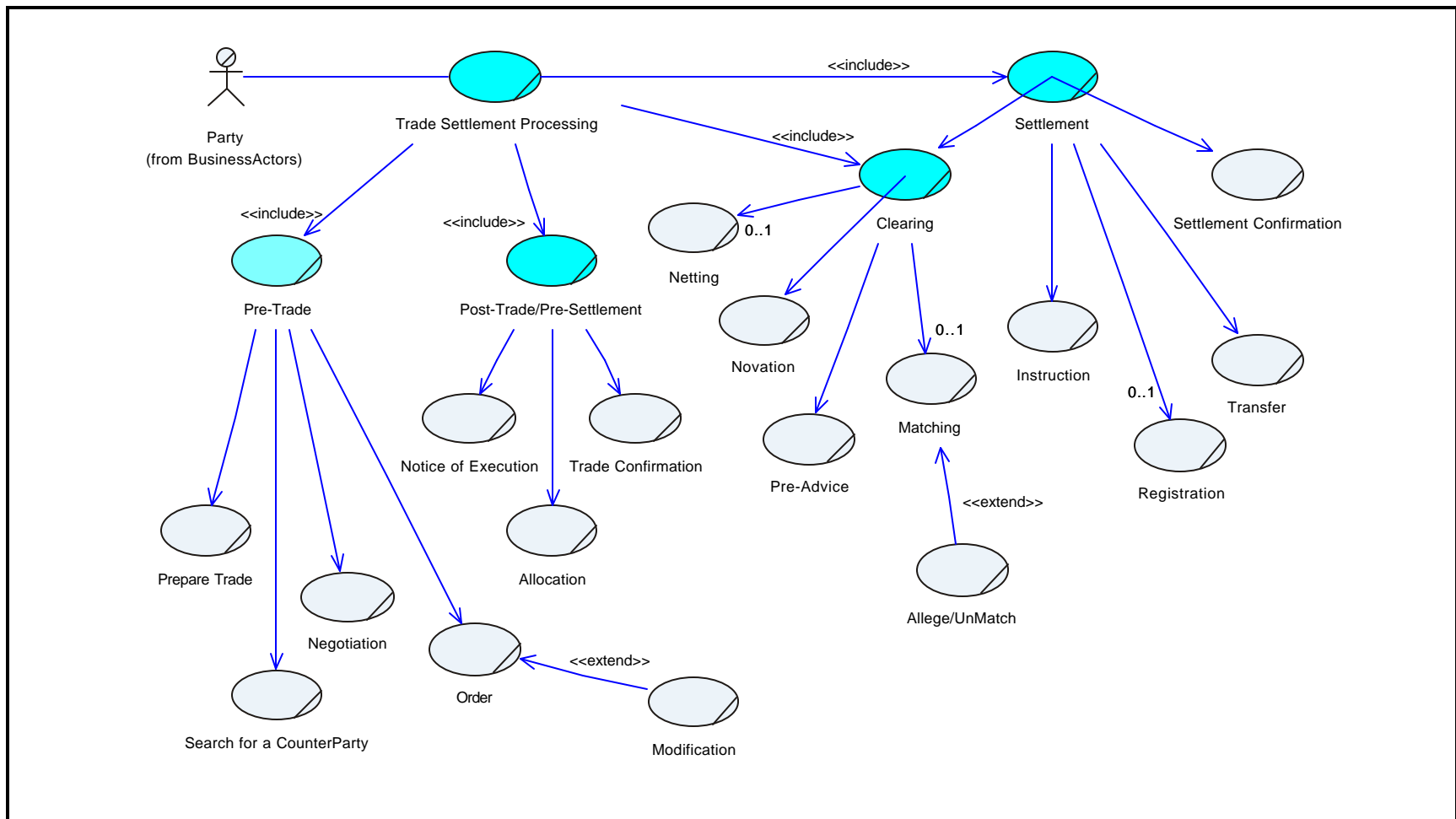
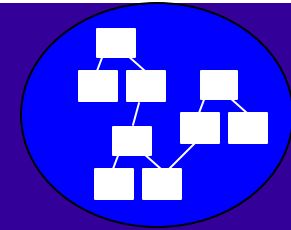
Business Layer - Securities Business Model



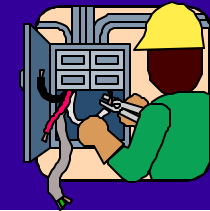
Business Layer - Actors



Business Layer - Securities Business Processes



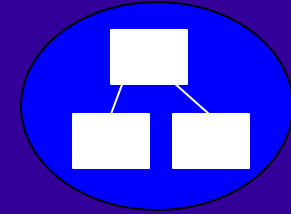
Logical Layer



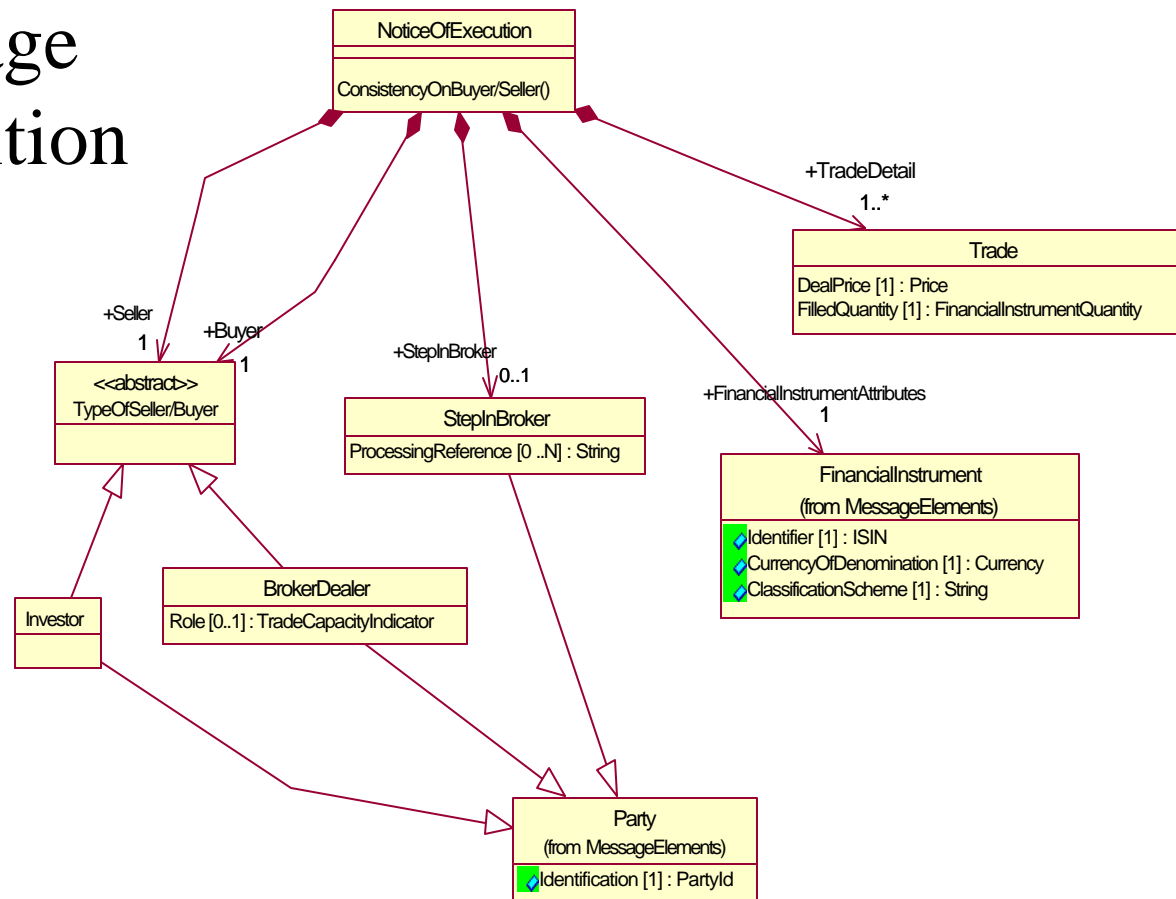
- Definition
 - Specify the Exchange of Structured Business Data (Messages)
 - Describe Abstract, Technology Neutral Solution
- Activities
 - Message Interaction - Collaboration Diagrams
 - Dynamics of Solution - Activity Diagrams
 - Business Scenarios - Sequence Diagrams
 - Message Structure/Content - Class Diagrams

Analogy: “Detailed Plans for Wiring a Building”

Logical Layer



Message Definition



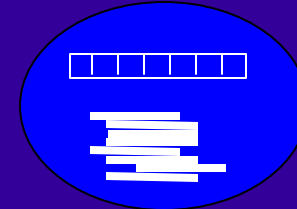
Physical Layer



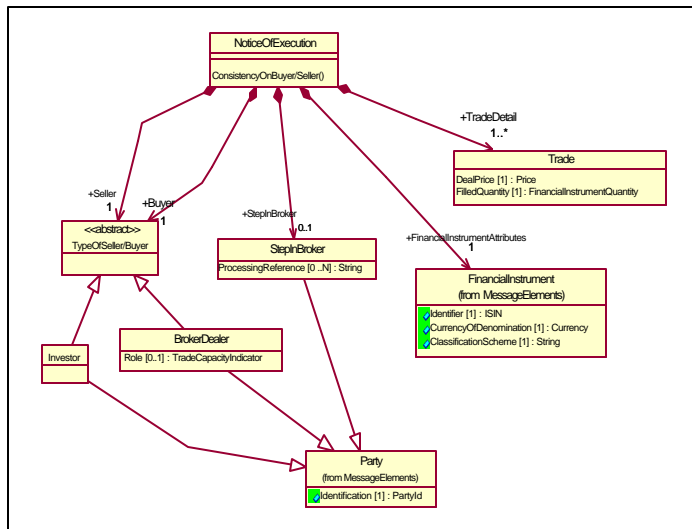
- Definition
 - Set of Mapping Specifications from the Logical Layer to Target Implementation (XML, Java, etc)
- Activities
 - Create Design Rules for Each Syntax

Analogy: “Work Plan For Actual Building Construction”

Physical Layer



Syntax Specific Design Rules



```

<!ELEMENT NoticeOfExecution
  (Seller,Buyer,InvolvedStepInBroker?,FinancialInstrumentAttributes,TradeDetail_)>

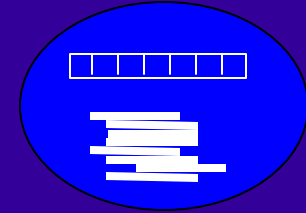
<!ELEMENT Seller (%_Investor_ ; |%_BrokerDealer_ ; )>
<!ELEMENT Buyer (%_Investor_ ; |%_BrokerDealer_ ; )>

<!ENTITY %_Investor_ " Identification " >
<!ENTITY %_BrokerDealer_ " Identification,Role?" >

<!ELEMENT InvolvedStepInBroker (Identification,ProcessingReference_ ) >

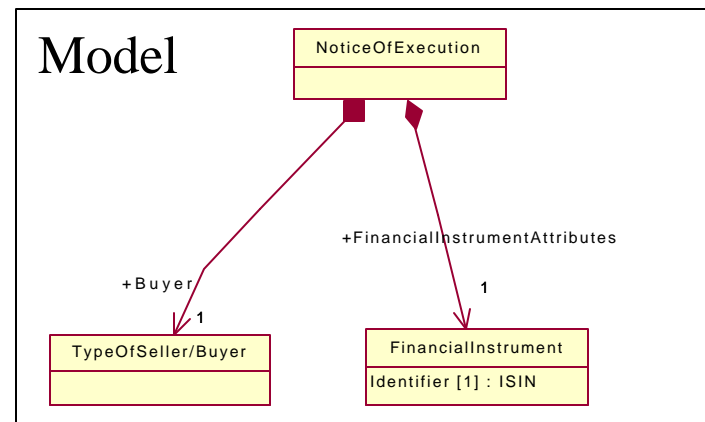
....
  
```

Physical Layer



Syntax Specific Design Rules

UML	XML instance
Class containing attributes	Attributes become nested XML elements.
Class having roles	Roles become nested XML elements



DTD

```
<!ELEMENT NoticeOfExecution (Buyer, FinancialInstrumentAttributes)>
<!ELEMENT FinancialInstrumentAttributes (Identifier)>
```

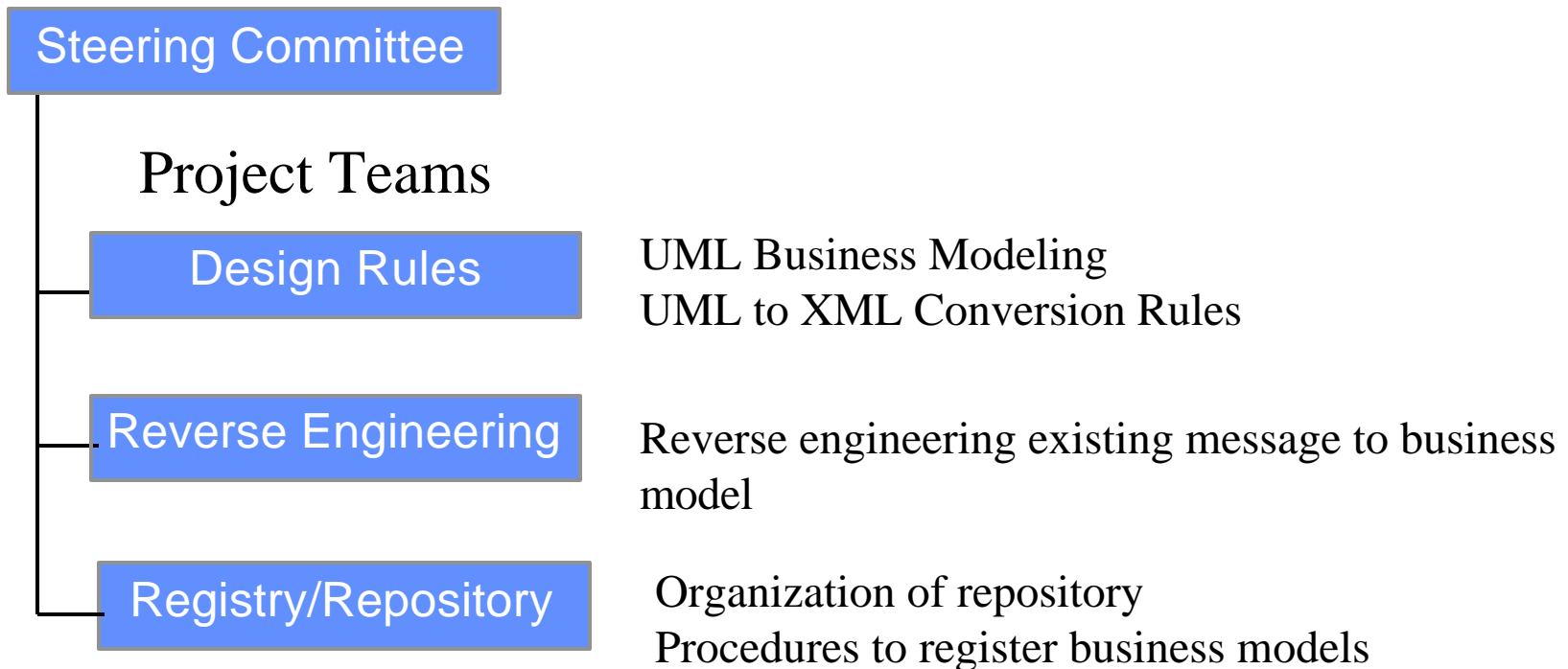


WG10 Organization



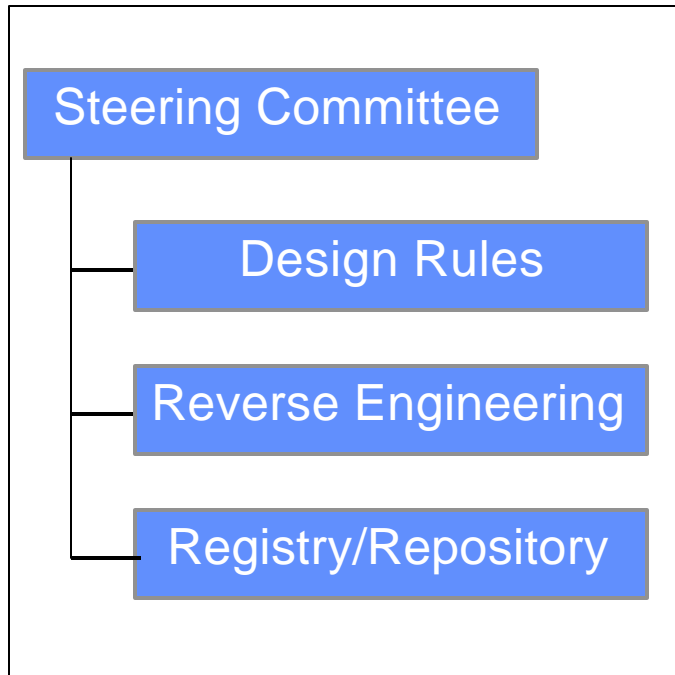
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Structure

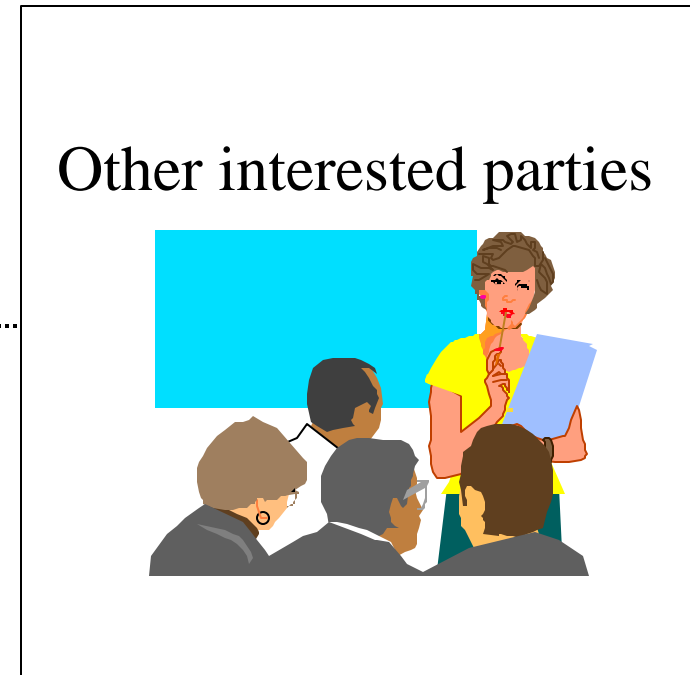


ISO 15022 XML Working Group - WG10

WG10



“Observers”



Nominated by ISO

Design Rules Project Team

- Define a Standards Development Approach
 - Common, Syntax Independent Business Model (UML) ending in a specific physical representation (XML)
- Create Standards Development Rules
 - UML for business modeling
 - XML for its physical representation
- Ensure Technical and Business Interoperability
 - ebXML
 - HL7

Reverse Engineering Project Team

- Provide Reverse Engineering User Guidelines
- Validate Rules Defined by Design Rules Group
 - Build Portion of Securities Business Model,
 - Generate Logical Model
 - Derive XML Outputs
- Build Initial Repository

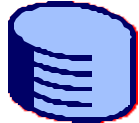
Reverse Engineering Project Team



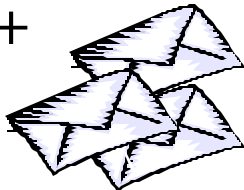
Business Analysis

ISO 15022

DFD

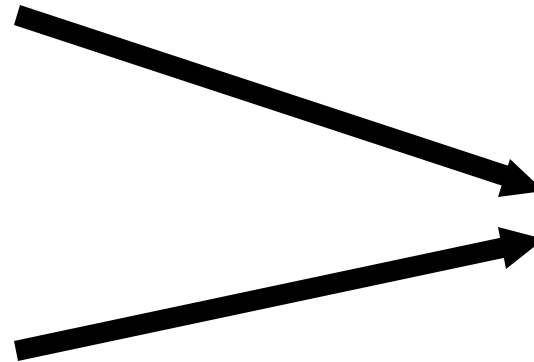


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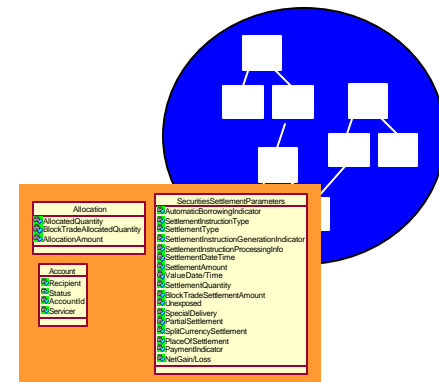
Existing Message Sets

Top-Down



Reverse-Engineering
(Bottom-Up)

Business Model

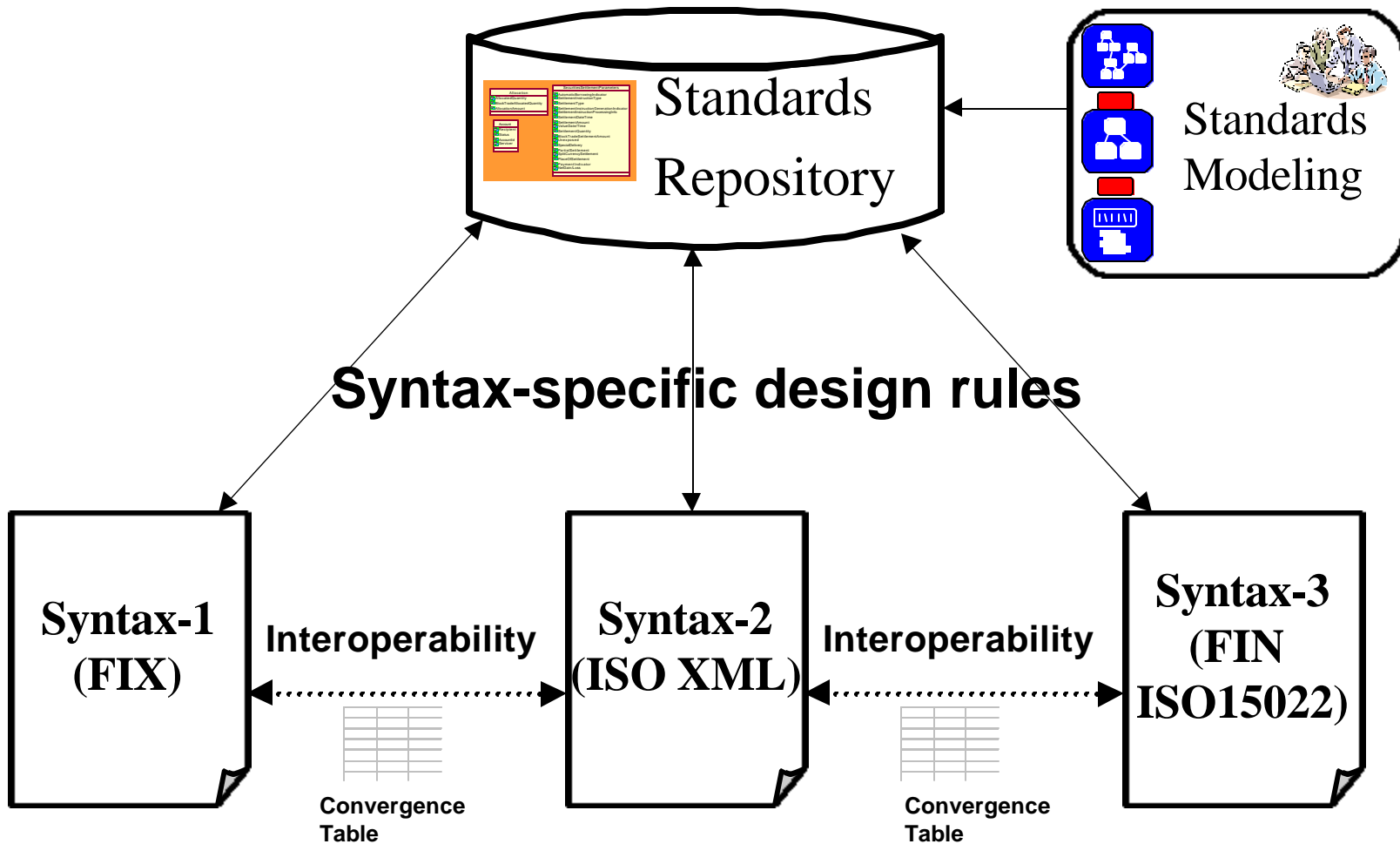


Identification of Business Processes
Detailed Description of Business Entities
Relationships Between Business Entities

Registry/Repository Project Team

- Review responsibility/SLA of the ISO 15022 Registration Authority (RA) and Registration Management Group (RMG)
- Determine input/output of future ISO 15022 Repository
 - Business Models
 - DTD/Schemas
 - Data Elements

Repository Interoperability



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WG10 Deliverables - *Recommend Changes to ISO 15022*

- Development Methodology
 - Business Models
 - Logical/Message Models
 - Rules to Derive XML Syntax
- Registry/Repository
 - Maintenance Procedures
 - RA Service Level Agreement

ISO Submission

Steps

- Circulate Draft To **16** ISO P-Member Countries
- Allow Five Months for P-Member Comments/Revisions
- Create Draft International Standard
- Circulate To ISO Member Countries
- Allow Two Months for Member Comments/Revisions
- Create Final Draft International Standard
- Circulate To ISO Member Countries
- Allow Two Months for Member Comments/Revisions
- Publish International Standard

WG10 - How to Participate

- Two Types
 - Observer - Register on eGroups
 - Project Team Member
- Project Team Member
 - Requires ISO Sponsorship
 - Local Standards Body (U.S. - ANSI-X9)
 - Liaison Organizations (ISITC-IOA, FIX Protocol?)

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ISO 15022 XML Working Group - WG10

More Information

Main Site:

http://groups.yahoo.com/group/XML_Init_Main

Project Teams:

www.tc68.org