



# ISO 15022: A model for Standards Convergence

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# Agenda

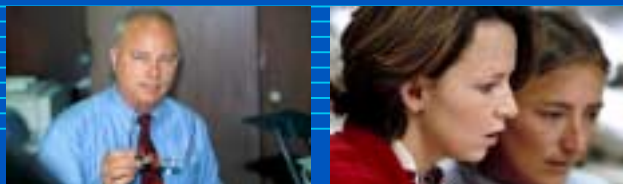
Standards for Securities

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
- '80s: ISO/TC68/SC4 defines ISO 7775
- '84 - '97: ISO 7775 deployed (on SWIFT)
- '90s: several industry initiatives
  - e.g. Financial Information eXchange (FIX)
- '94-'99: ISO/TC68/SC4 defines ISO 15022



# Standards for Securities

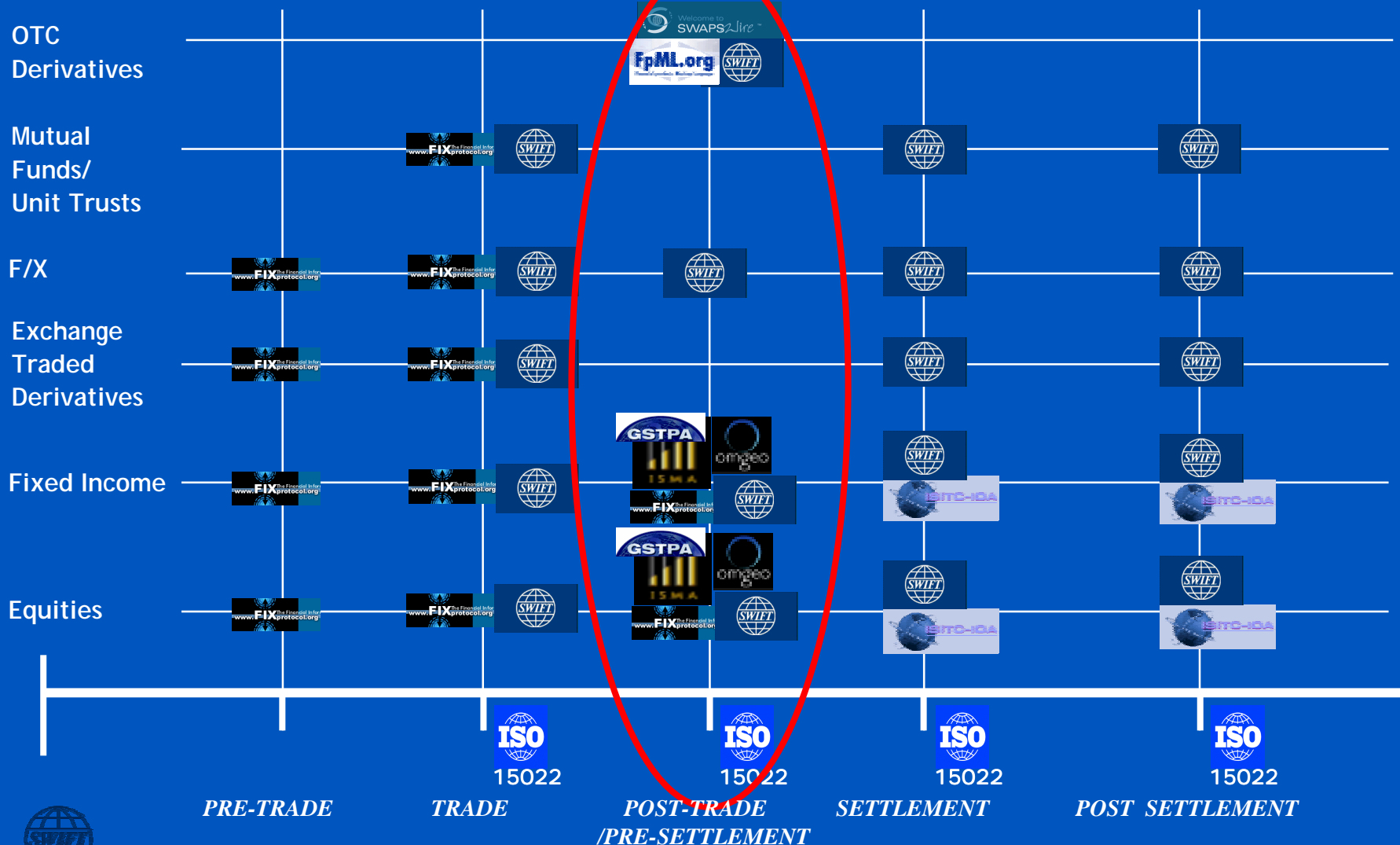
## The XML-era

- 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



# Standards for Securities

## The current standards landscape



# Standards for Securities

## 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\*

## The 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”*

*\*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)*



# ISO 15022 XML Working Group 10

## 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



# ISO 15022 XML Working Group 10

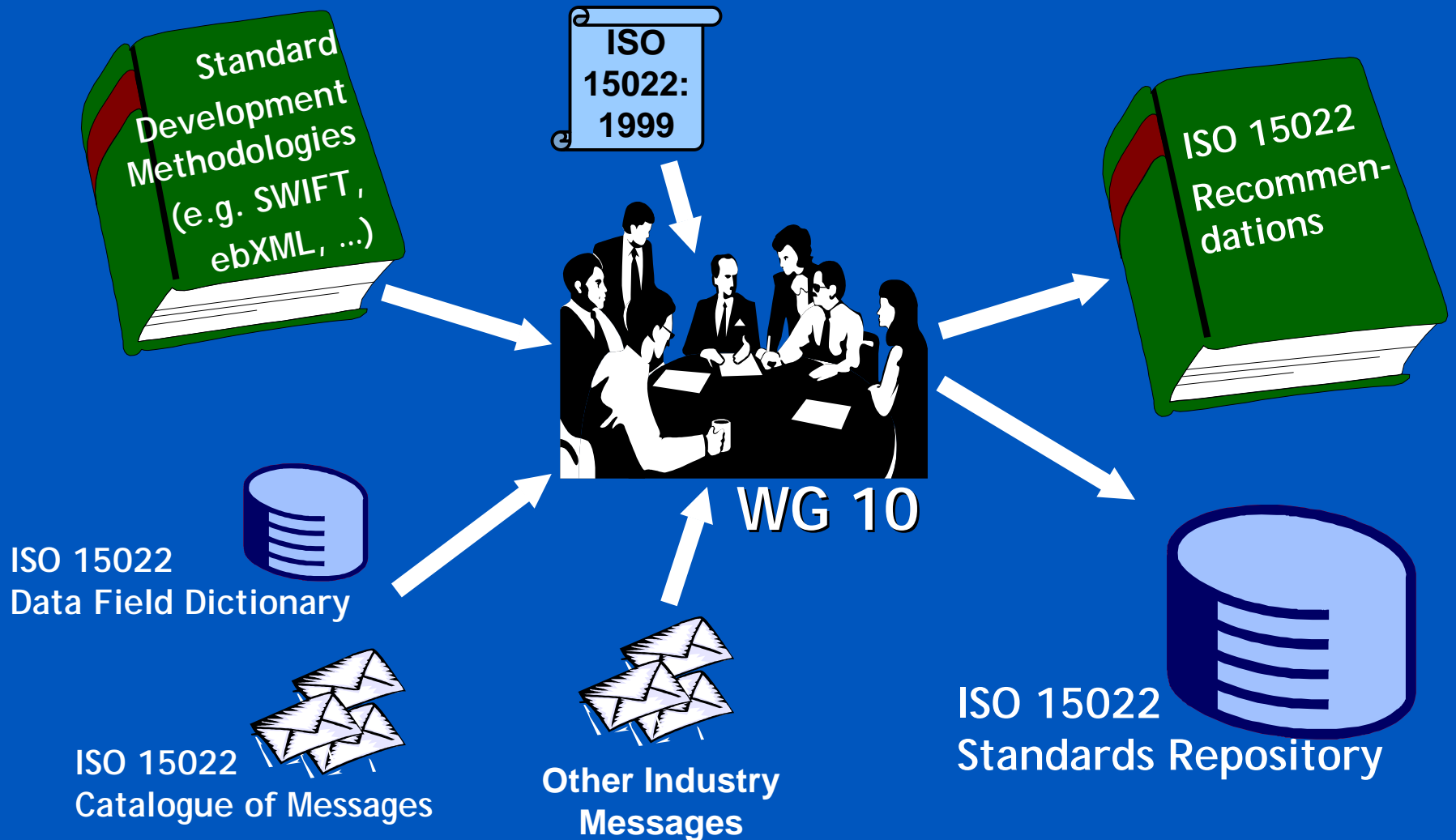
## WG10's objectives

- 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



# ISO 15022 XML Working Group 10

## WG10's approach



# ISO 15022 second edition (XML)

## Main focus

*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
- Harmonising the **Use of syntaxes (XML)**
- Implementing a centralised **Standards Repository**
- Leveraging **Industry Coordination**



# ISO 15022 second edition (XML)

## The building blocks

- Business Modelling for standards development
  - Syntax-independent business standard
  - Neutral way to cover all functionality
  - Aligned with international approach
- Harmonising the use of syntax (e.g. XML)
  - Predictable & “automate-able” design rules
  - Protect standard from technology evolution



# ISO 15022 second edition (XML)

## 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



# ISO 15022 second edition (XML) The modelling methodology

*“Understand the business”*

**Business Analysis**

*“What is the problem”*

**Requirements Analysis**

*“Define the solution”*

**Logical Analysis**

*“Refine the solution”*

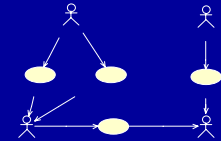
**Message Design**

*“Physical implementation”  
(automated)*

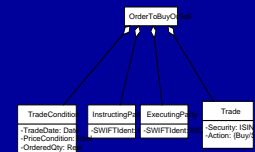
**Technical Design**

**Technical Implementation**

## Standards Repository



**BUSINESS MODEL**



**BUSINESS SCENARIOS  
& MESSAGES**



**SYNTAX, CODES  
SOLUTION TO IMPLEMENT**



# ISO 15022 second edition (XML)

## Proposed ISO 15022 Standards Environment

User Community



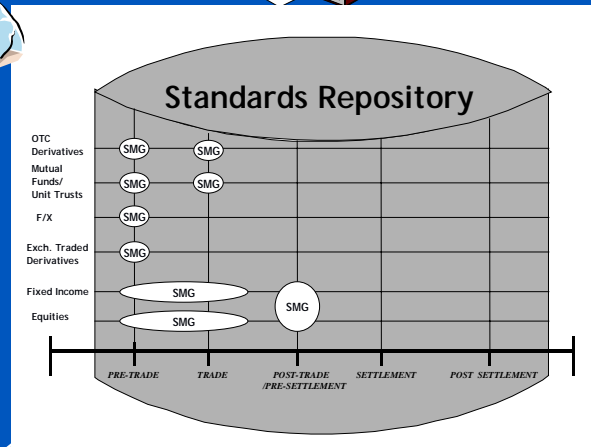
Registration Authority



Registration Management Group



Standards Management Group



Standards Management Group



Standards Management Group



Web - Site



User Community



User Community



# ISO 15022 second edition (XML)

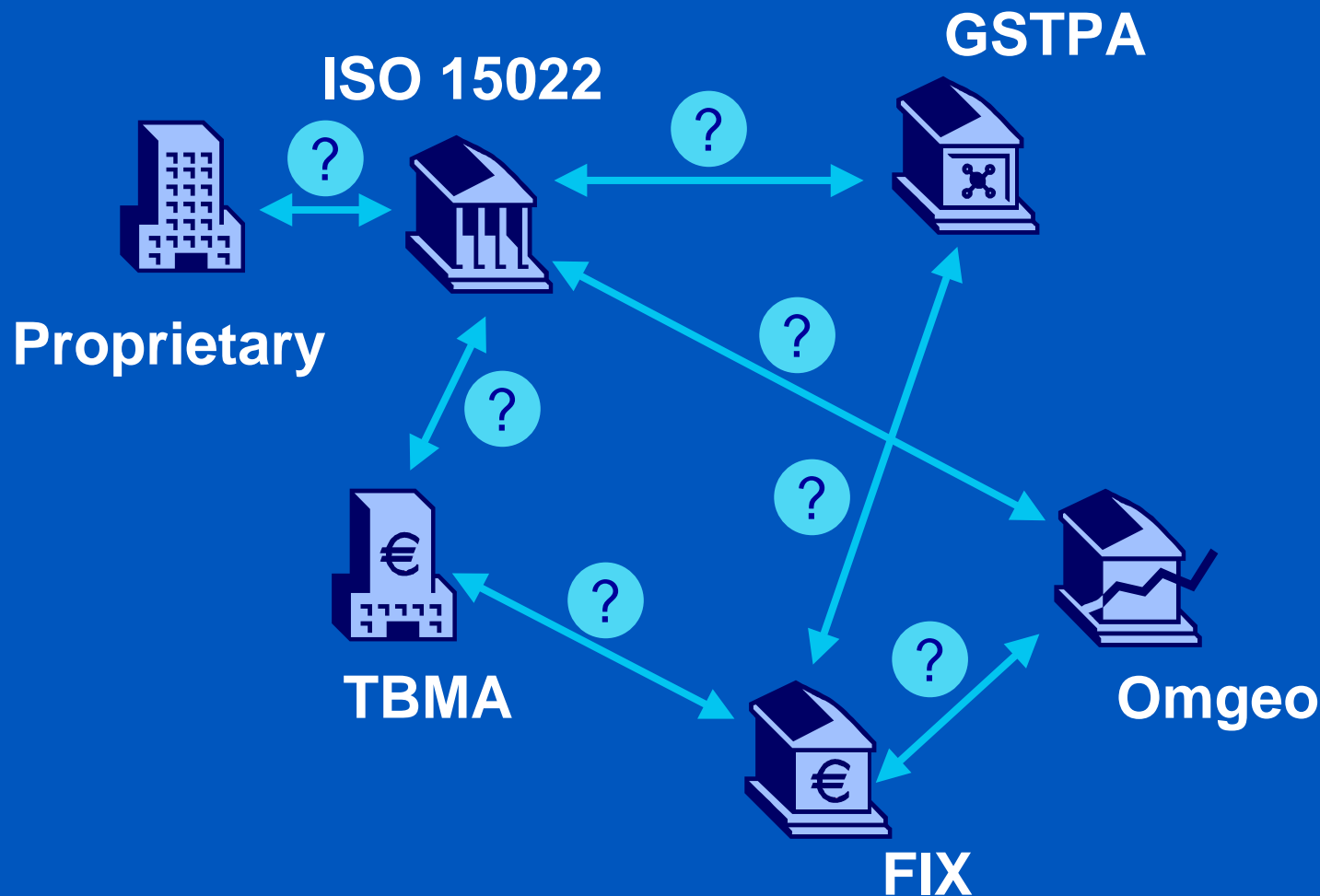
## The resulting ISO Committee Draft

- The official standard:
  - Part 1: high-level description of concepts
  - Part 2: role of “registration bodies”
- The supporting documents:
  - Modelling Guidelines
  - XML Design Rules
  - Reverse Engineering
  - Submission templates



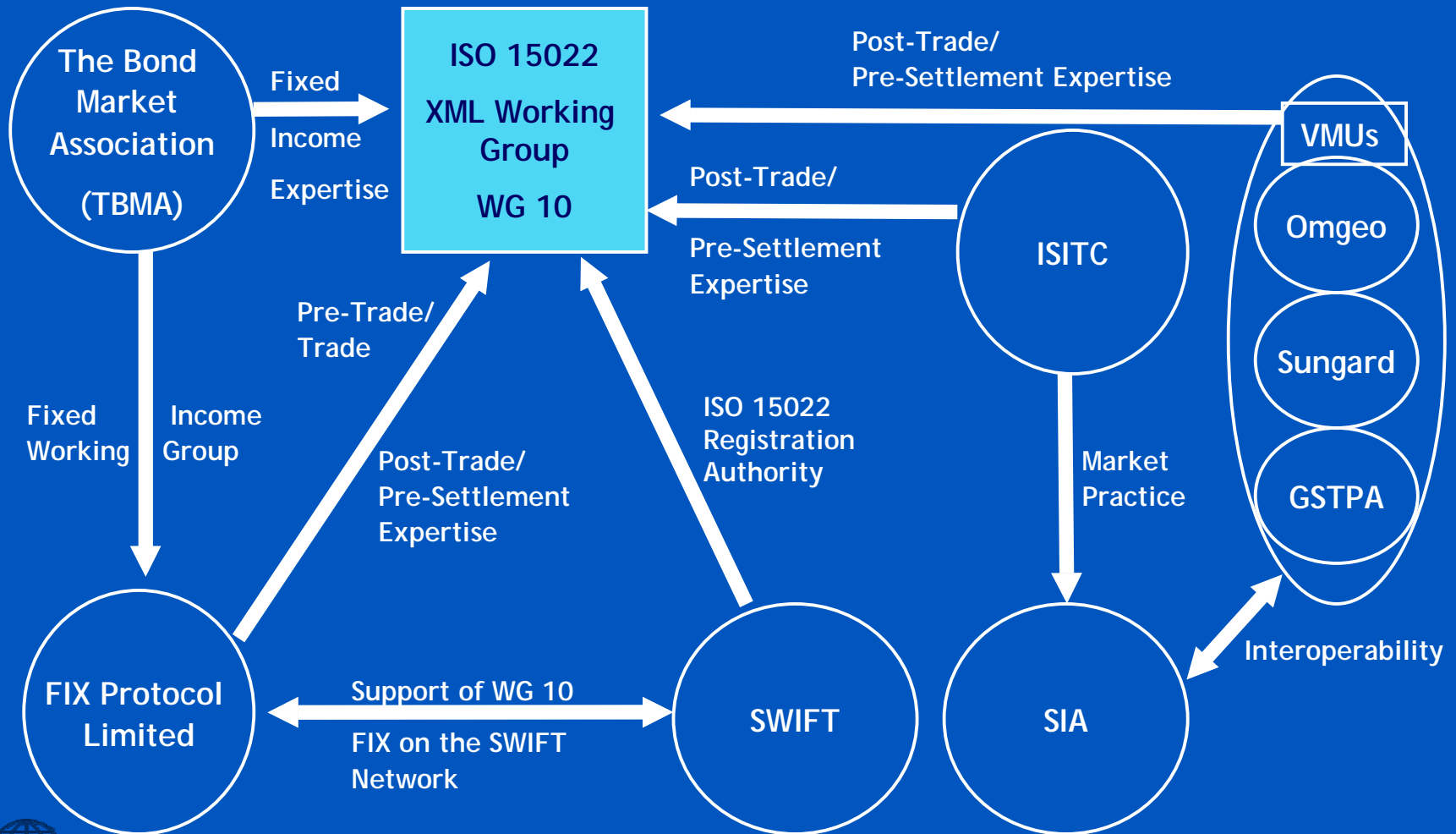
# Convergence and Interoperability

## The current situation

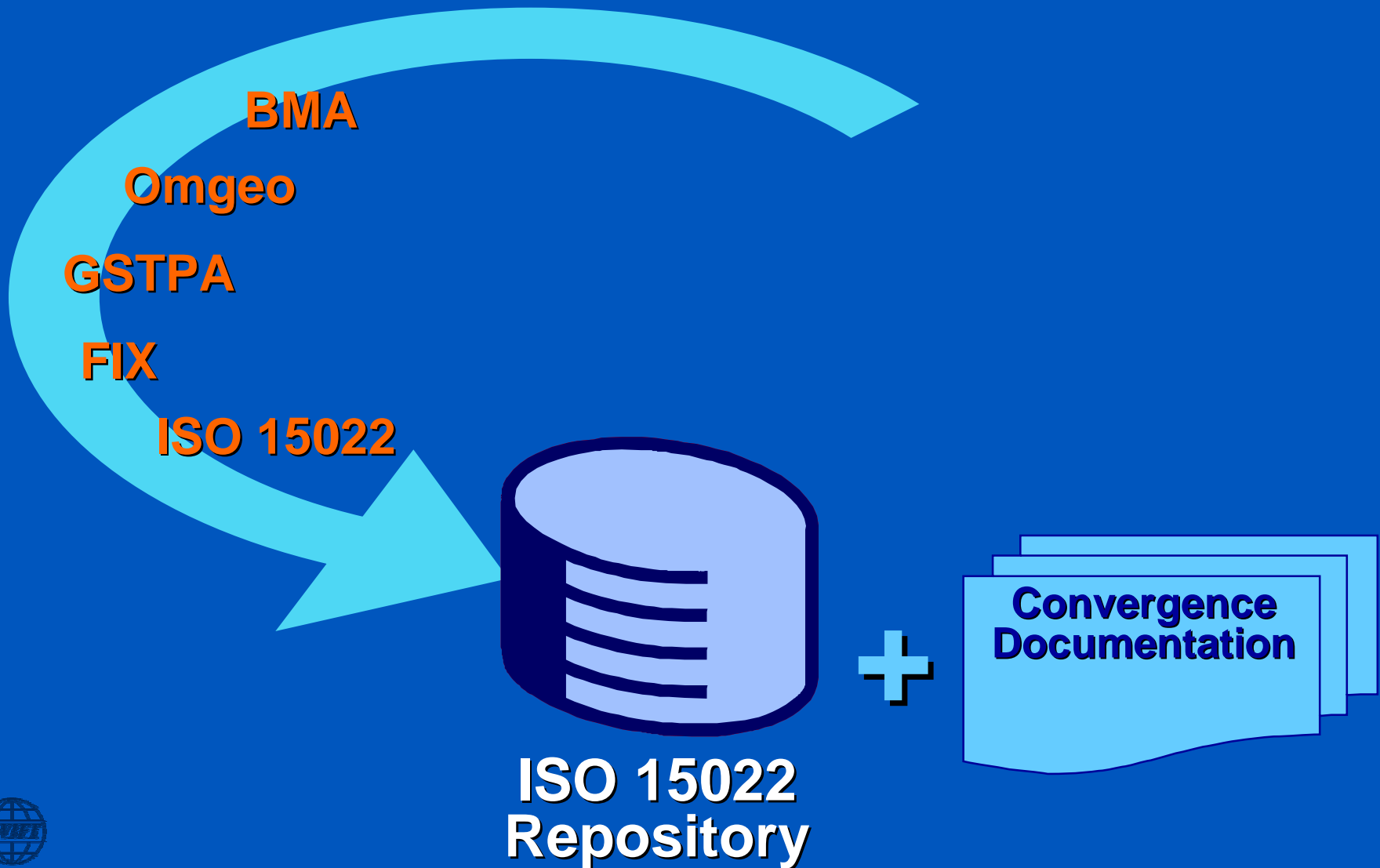


# Convergence and Interoperability

## Industry coordination is happening



# Convergence and Interoperability Reverse Engineering



# Convergence and Interoperability

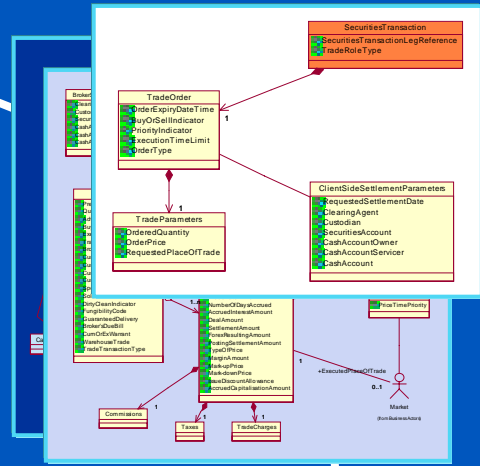
## “Standard approach” for Reverse Engineering

### Existing Standard

Execution Report			
Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 8
37	OrderID	Y	OrderID is required to be unique for each chain of orders.
198	SecondaryOrderID	N	Can be used to provide order id used by exchange or executing system.
11	ClOrdID	N	Required for executions against electronically submitted orders which were assigned an ID by the institution. Not required for orders manually entered by the broker.
41	OrigClOrdID	N	Conditionally required for response to an electronic Cancel or Cancel Replace request (ExecType=PendingCancel, Replaced, or Canceled). ClOrdID of the previous order (NOT the initial order of the day) when canceling or replacing an order.
109	ClientID	N	Used for firm identification in third-party transactions.
76	ExecBroker	N	Used for firm identification in third-party transactions.
382	NoContractBrokers	N	Number of ContractBrokers repeating group instances.
375	ContractBroker	N	First field in repeating group. Required if NoContractBrokers > 0.
337	ContractTrader	N	

### Gap Analysis

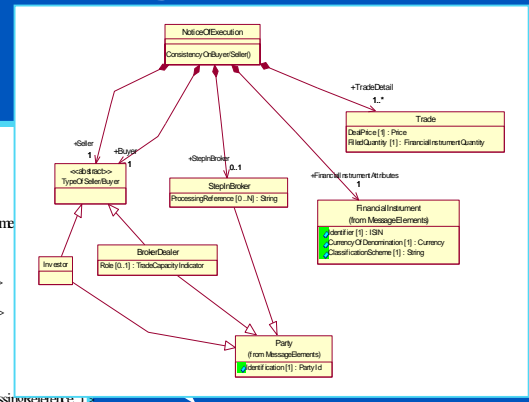
### Business Model



### Convergence Documentation

FIX	ISO XML
ExecBroke	BrokerDealer
Price	DealPrice
..	..

### Message Model



### XML Schema

```

<ELEMENT NoticeOfExecution
(Seller,Buyer,InvolvedStepInBroker?,FinancialInstrument
TradeDetail_)>
<ELEMENT Seller (%_Investor_ ; %_BrokerDealer_)>
<ELEMENT Buyer (%_Investor_ ; %_BrokerDealer_)>
<ENTITY %_Investor_ "Identification">
<ENTITY %_BrokerDealer_ "Identification,Role?">
<ELEMENT InvolvedStepInBroker (Identification,ProcessingReference_)>
    
```

### Migration

### Development & Registration



# Convergence and Interoperability Timeline

	2001	2002	2003	> 2003
Pre-trade & Funds	FIX	FIX 15022 (XML)		
Post-trade & Pre-settlement	15022 (MT)	FIX GSTPA TBMA Omgeo	15022 (XML)	
Settlement & Reconciliation	7775 (MT)	15022 (MT)	15022 (XML)	
Corporate Actions	7775 (MT)	15022 (MT)	15022 (XML)	
Lending & Borrowing	-	-	15022 (XML)	



# 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
- Finalise documents, templates, web site
- Liaisons with relevant industry groups (e.g. MDDL, FpML, ...)



# Conclusion

## WG10 Challenges

### ■ General Issues

- Agreement is difficult and takes time
- Implementation and migration costs

### ■ WG 10 Specific Issues

- Education: new technology & concepts
  - Business modelling (UML)
- Timing & Resources:
  - Standards Repository population
  - Marketing & Liaisons





# Questions & Answers

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