E-Commerce Integration Meta-Framework
- overview

CEN/ISSS Workshop for Electronic Commerce project
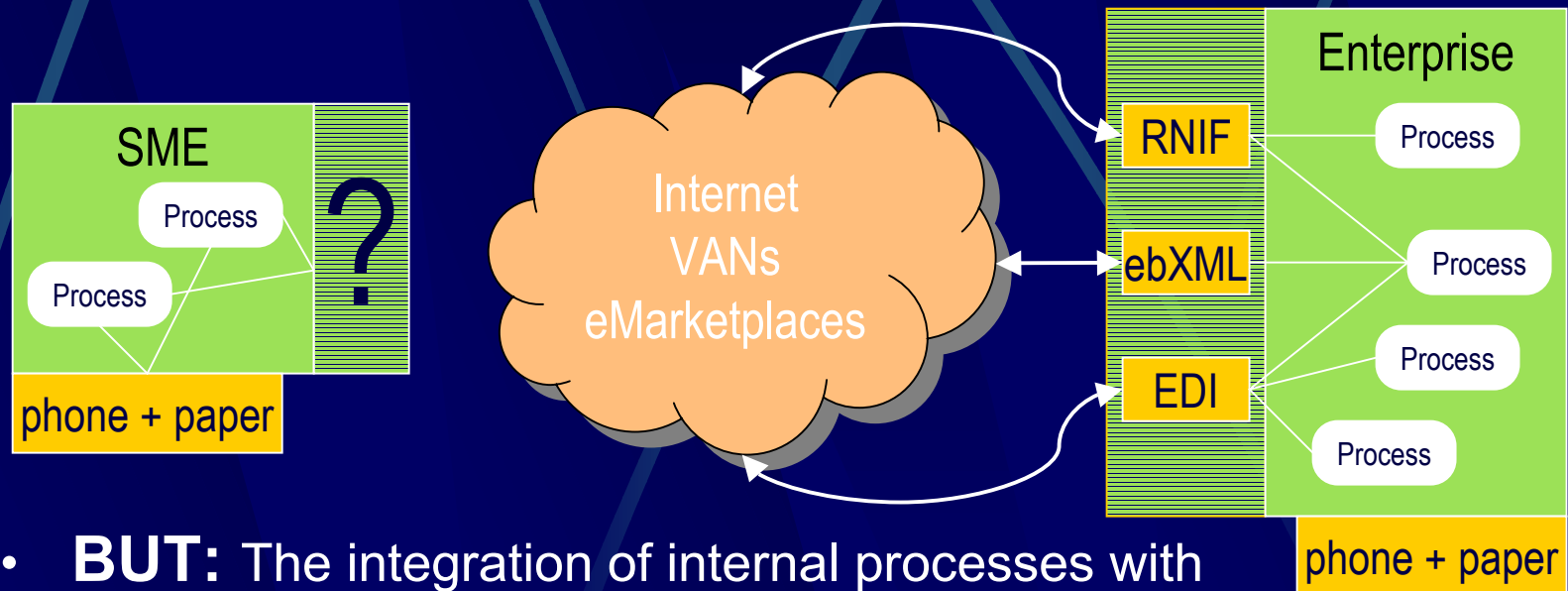
WebGiro

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Europe CompTIA ECSB meeting, Reading UK, 13.09.2001

E-Commerce Integration Challenge

- Why join e-commerce?
  - Automation, lower cost/transaction, less manual labor, reaching new markets and partners

SME

Process

Process

?

phone + paper

Internet
VANs
eMarketplaces

Enterprise

RNIF

ebXML

EDI

Process

Process

Process

Process

phone + paper

- **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

Business context

Business process mediation

Semantic translation

Syntax mapping
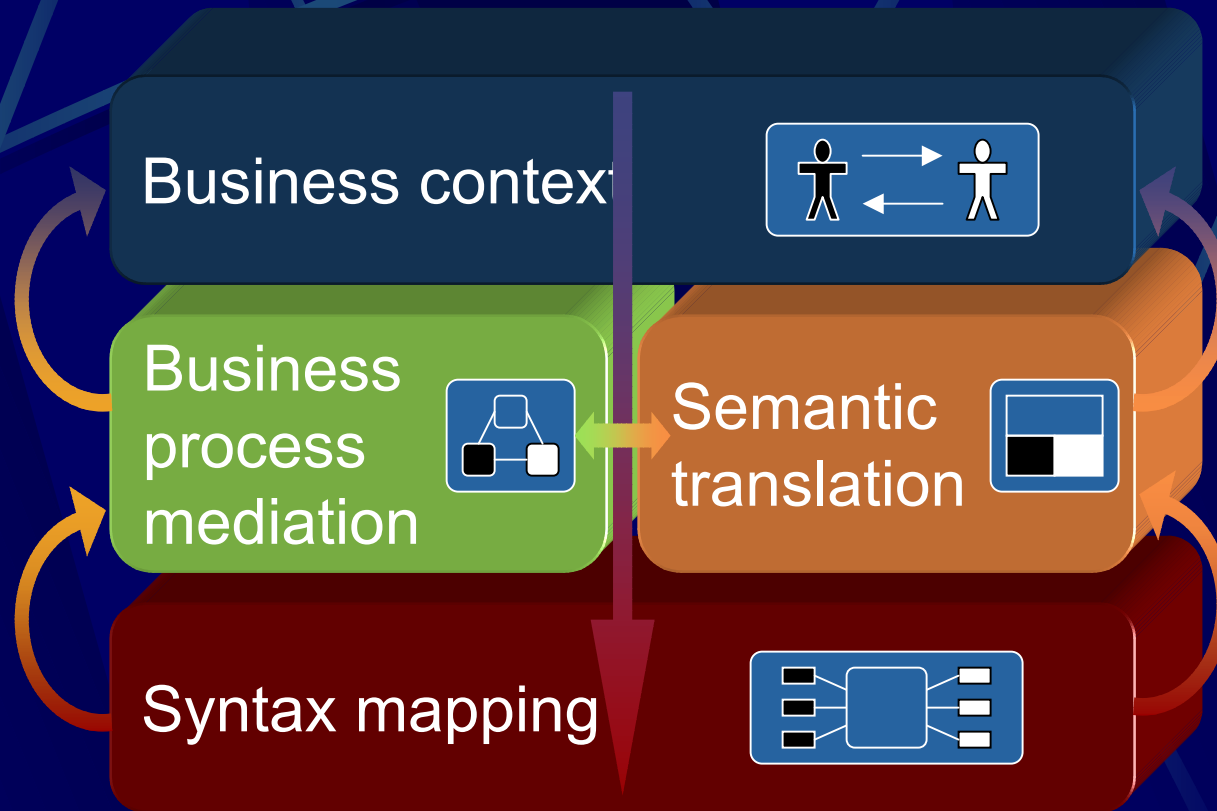
- Top-down analysis
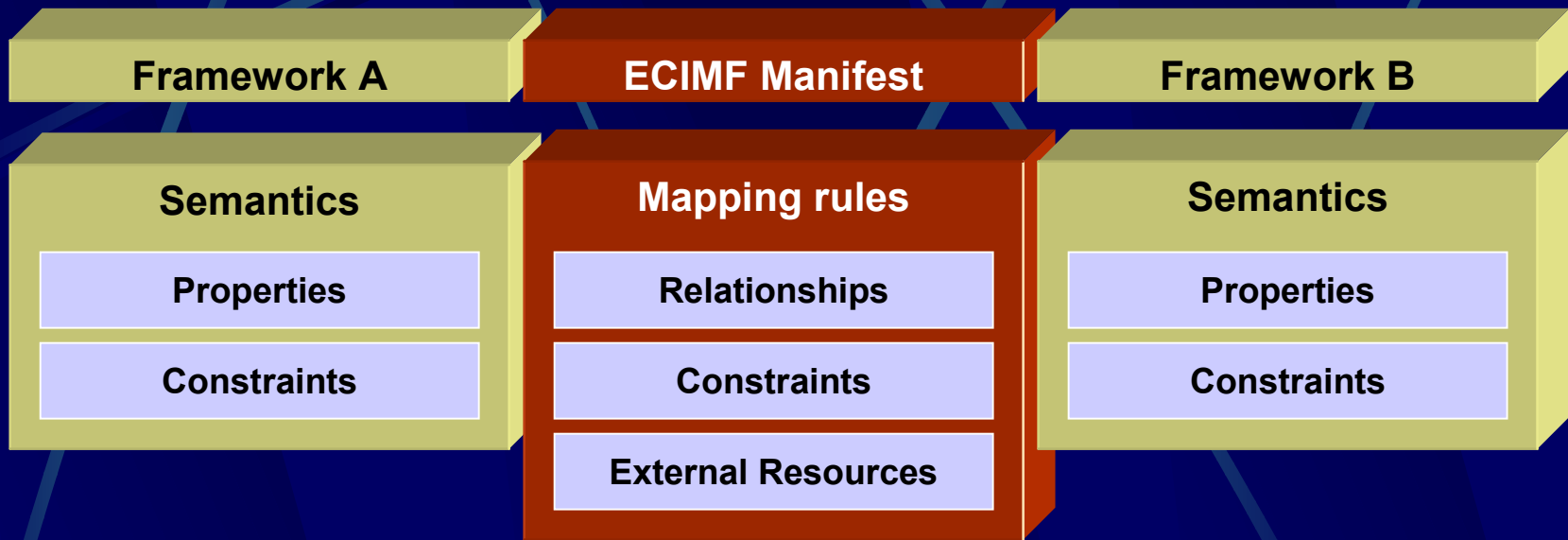- Structured, iterative process

Business context
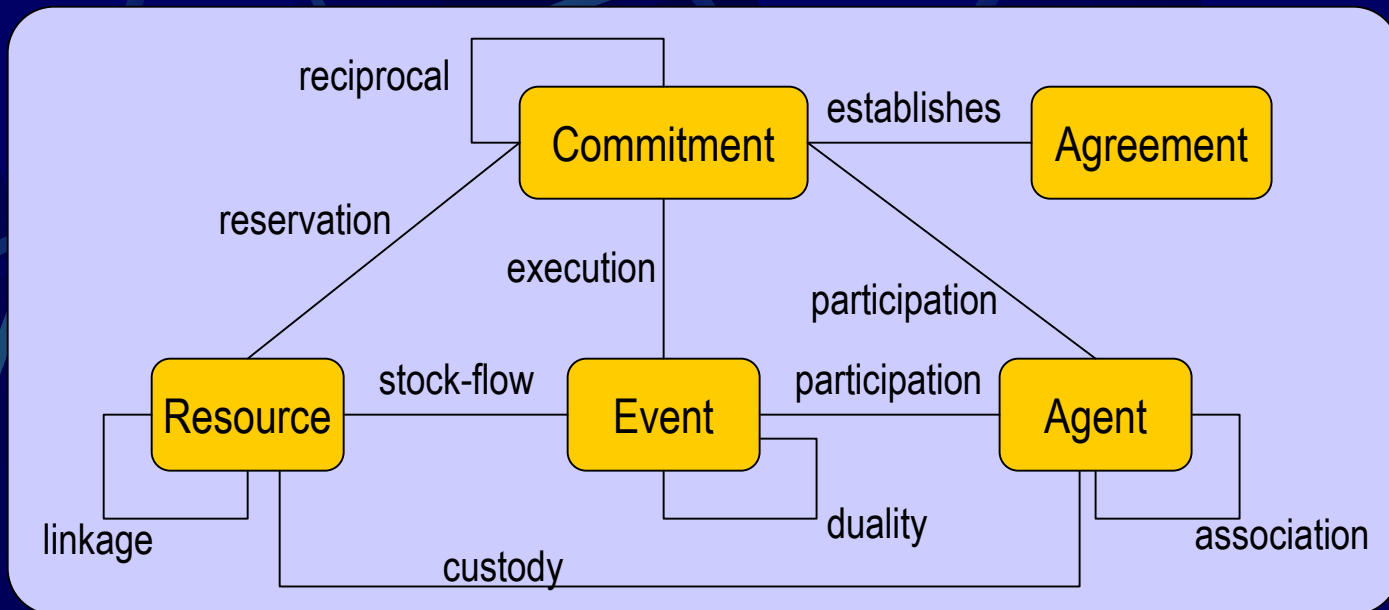
- Defined using REA ontology (see also UMM BRV)
  - Economic Resources (and stock-flows)
  - Economic Agents (and their participation in events)
  - Economic Events (transfers, transformations, commitments)
- Determines the event/data relationships
  - Legal and transactional boundaries of business events
    - E.g. reservation, purchase, fulfillment, shipment, etc…
  - State changes related to business events

Process mediation
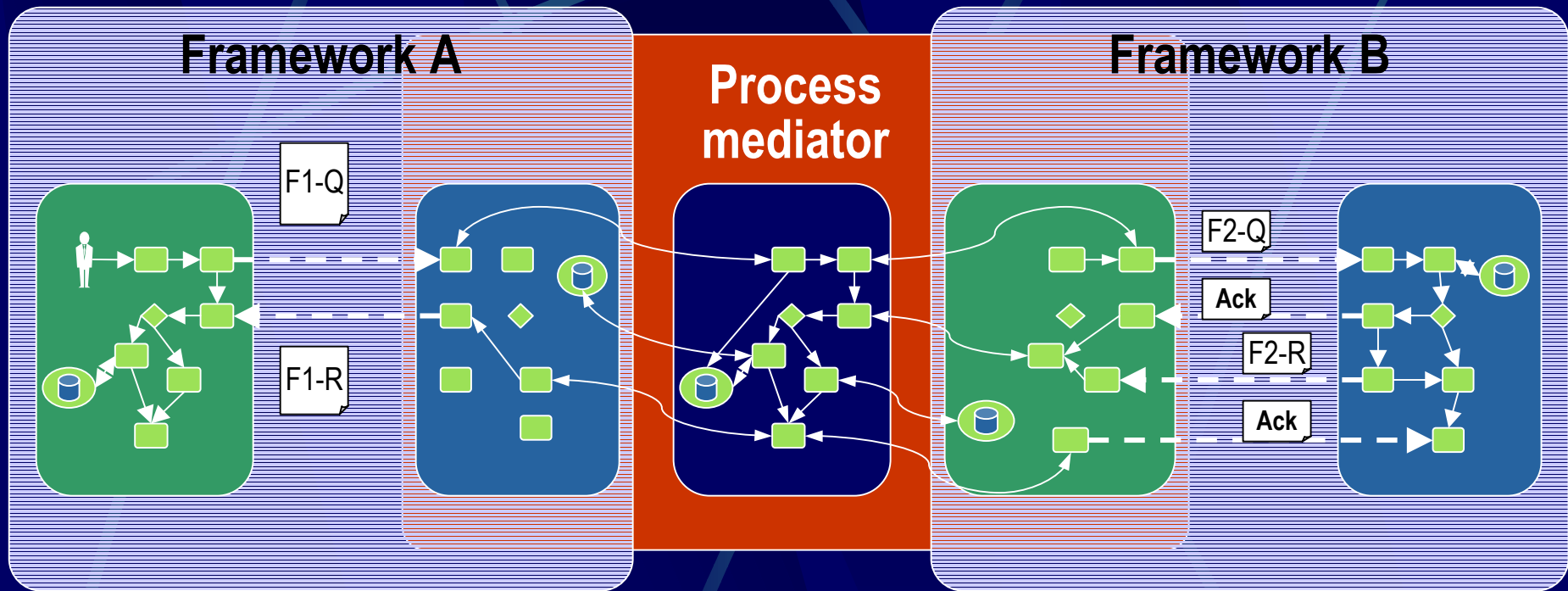
- Describes how to align different conversational patterns
  - Follows both conversation specifications
  - Keeps track of both conversation contexts
  - Monitors and preserves the transaction boundaries

Semantic translation

| Framework A	ECIMF Manifest	Framework B
Semantics	**Mapping rules**	**Semantics**
Properties	Relationships	Properties
Constraints	Constraints	Constraints
	External Resources	

- 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

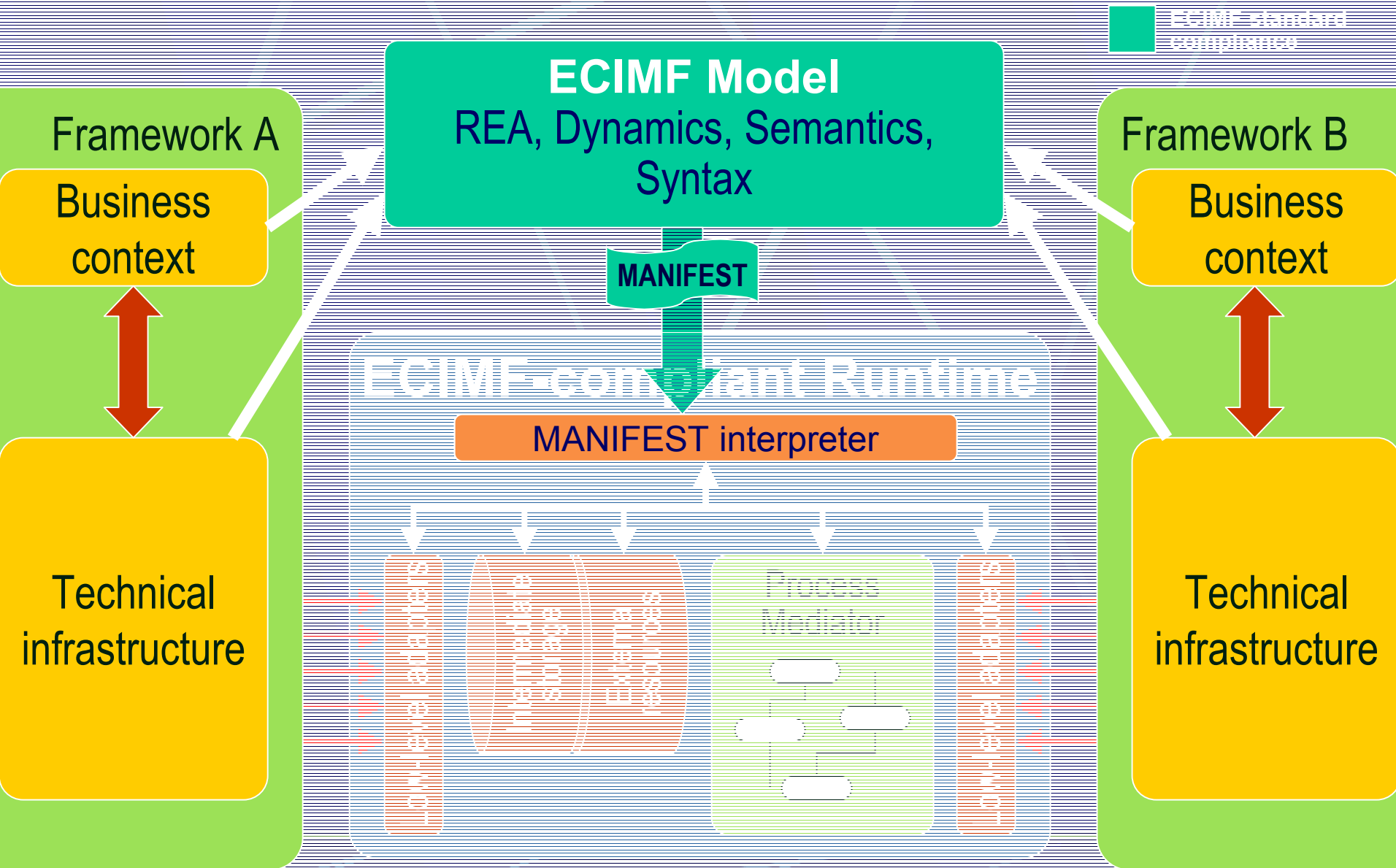# ECIMF: Integrated view

Business context

Business process mediation

Semantic translation

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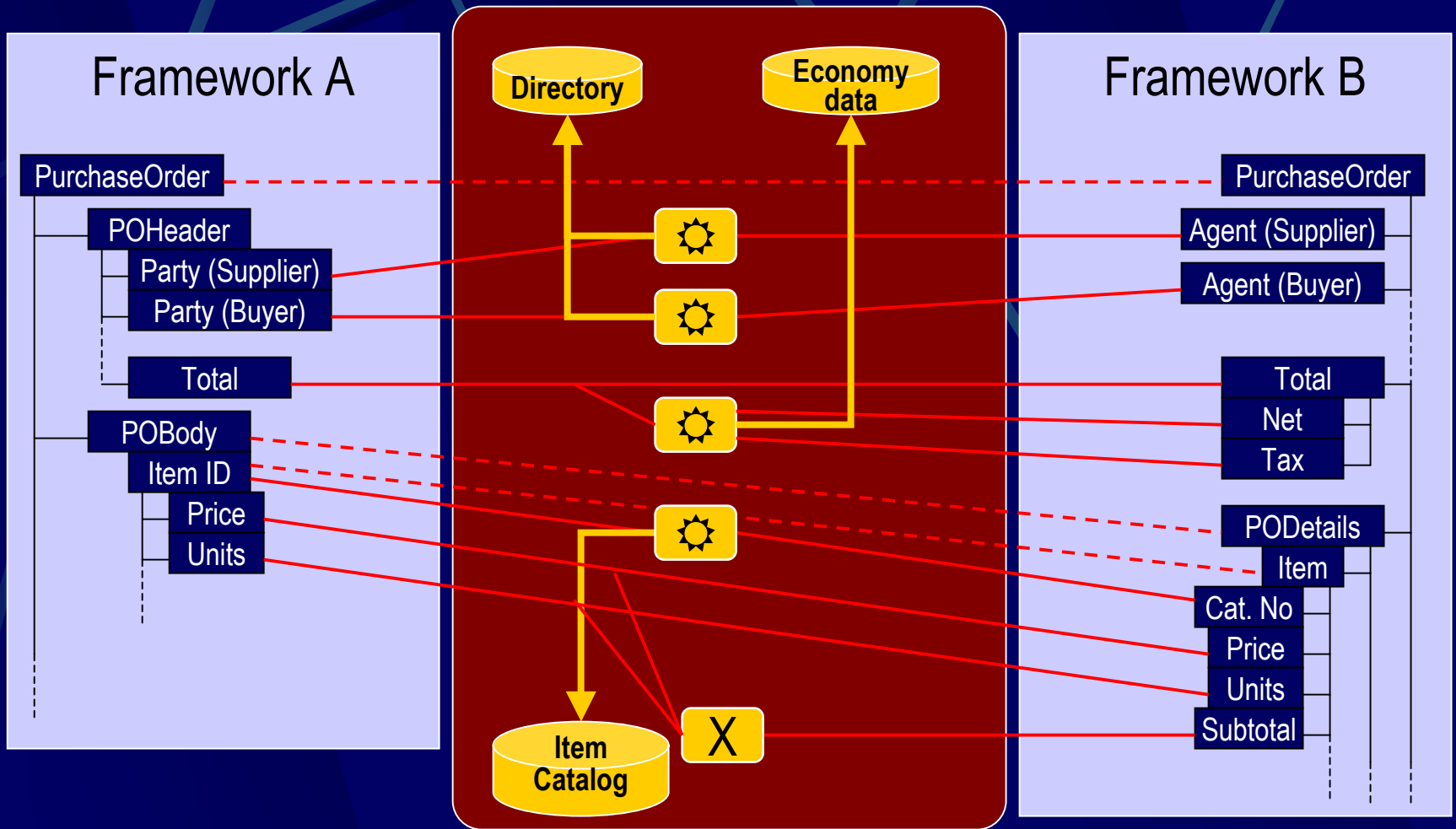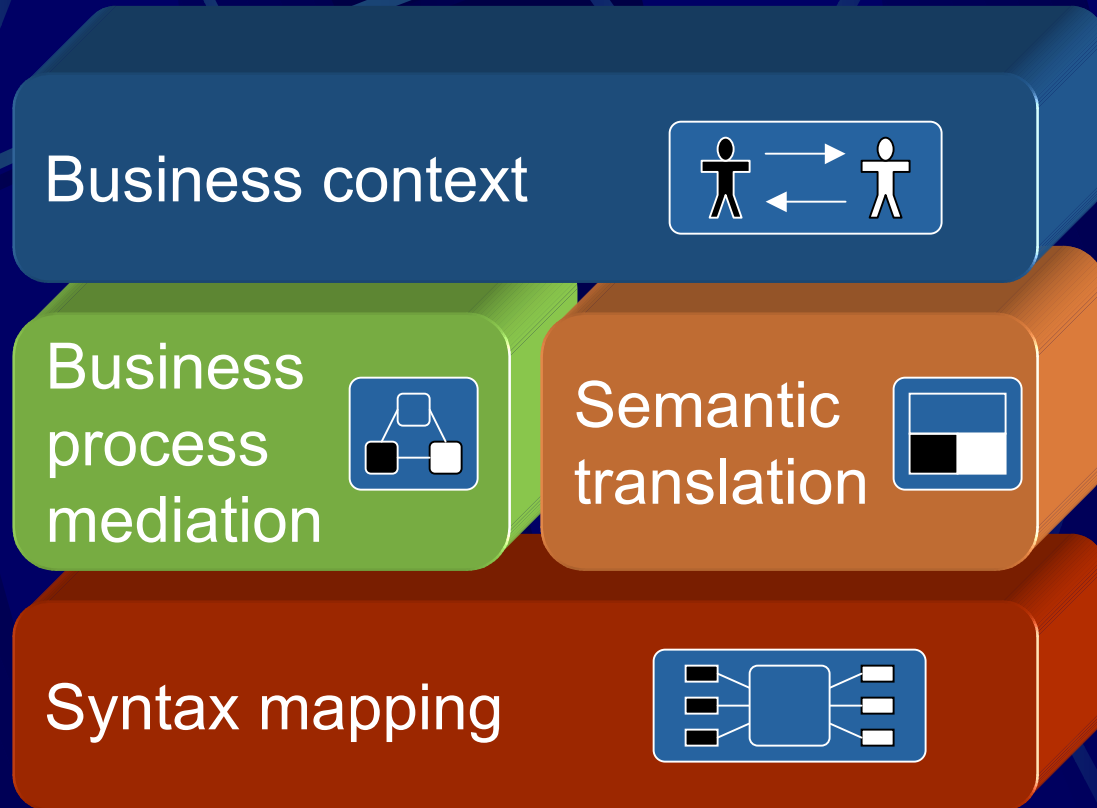
- Captures both business and technical contexts
  - Avoids naïve mapping, focused on data elements
  - Avoids purely academic business modeling

ECIMF Applied

ECIMF Model
REA, Dynamics, Semantics, Syntax

ECIMF standard compliance

Framework A

Business context

Technical infrastructure

MANIFEST

ECIMF-compliant Runtime

MANIFEST interpreter

Process Mediator

Framework B

Business context

Technical infrastructure

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 KAII and upcoming FP6
  - **Others are welcome to join our efforts**

Further information

- ECIMF Information Center
  - http://www.ecimf.org
- CEN/ISSS, Workshop for E-Commerce
  - http://www.cenorm.be/isss
  - http://www.cenorm.be/isss/Workshop/ec
- WebGiro AB, Sweden
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