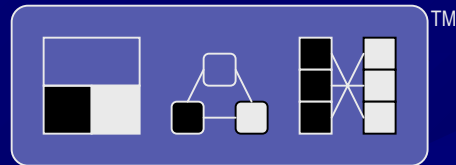


E-Commerce Integration Meta-Framework



Andrzej Bialecki

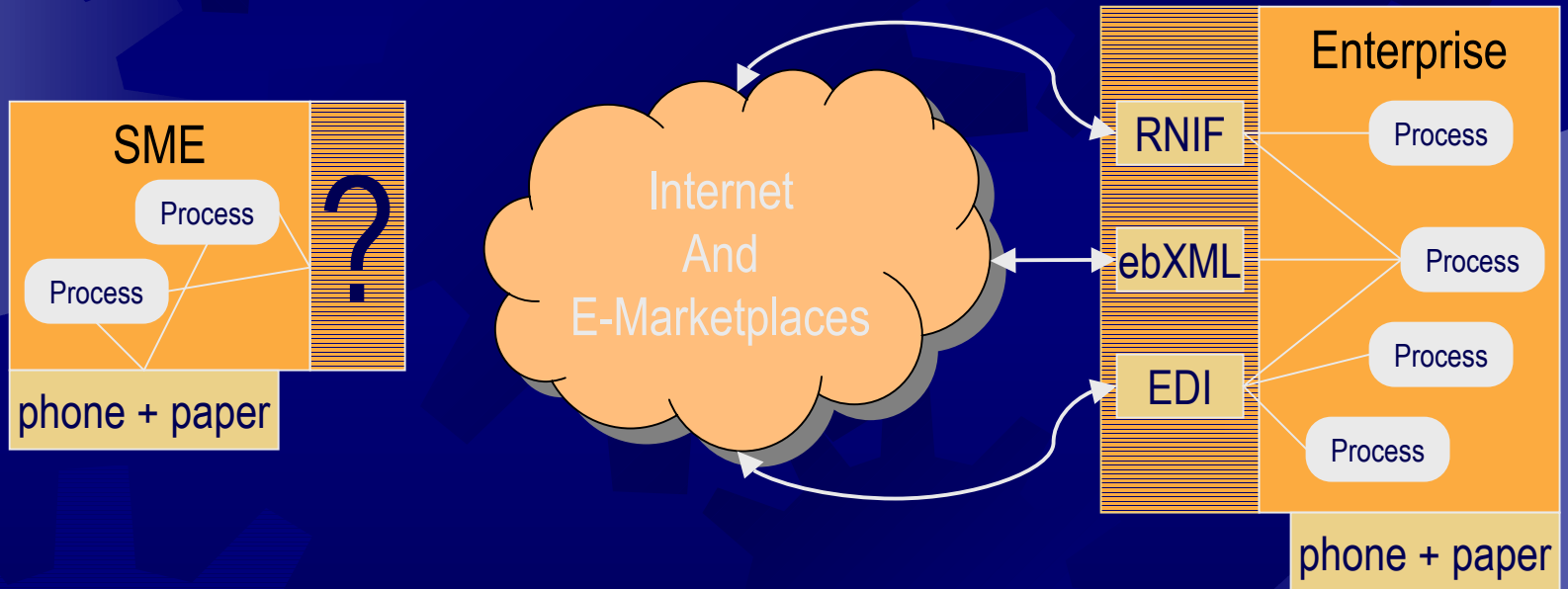
Chief System Architect

abial@webgiro.com

The Project Kick-Off meeting, Brussels, 3rd of May 2001

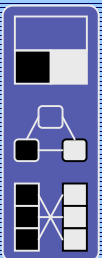
E-Commerce Integration Challenge

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



BUT:

The existence of many e-commerce frameworks results in increased integration issues...



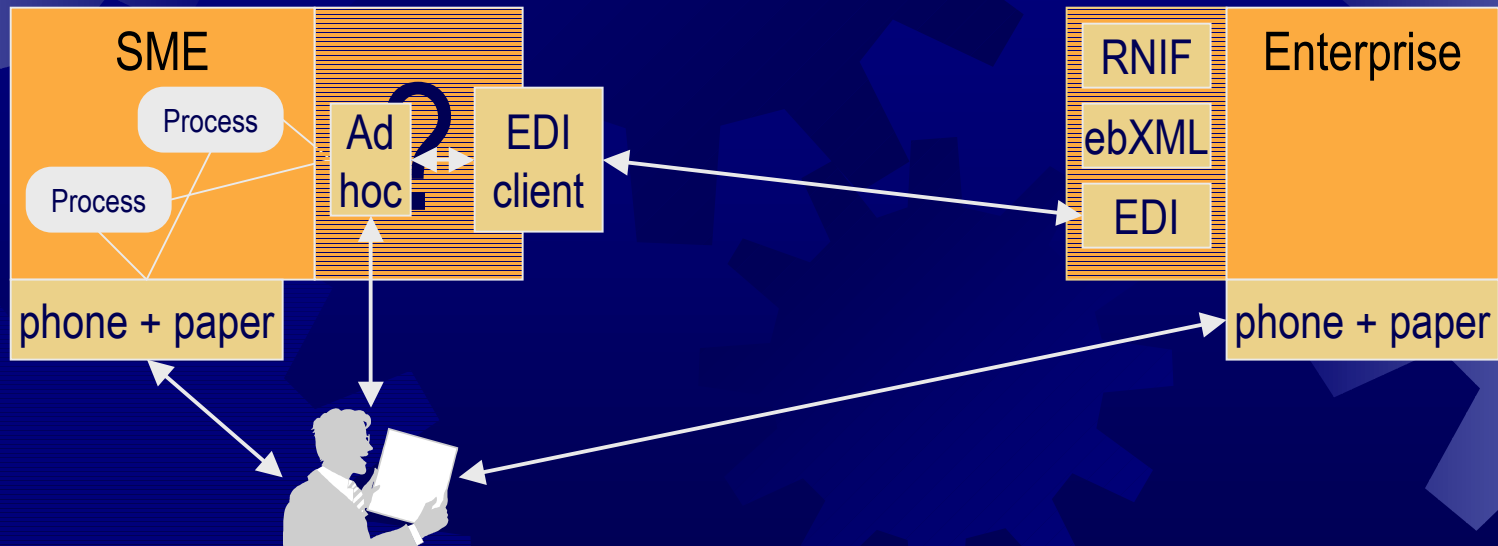
The rule of the Big Partners

★ Good:

- ★ For the big partners 😊

★ Bad:

- ★ Forces the big partner's view of the business on the SME-s
- ★ Brings to SME-s unnecessary complexity → costs



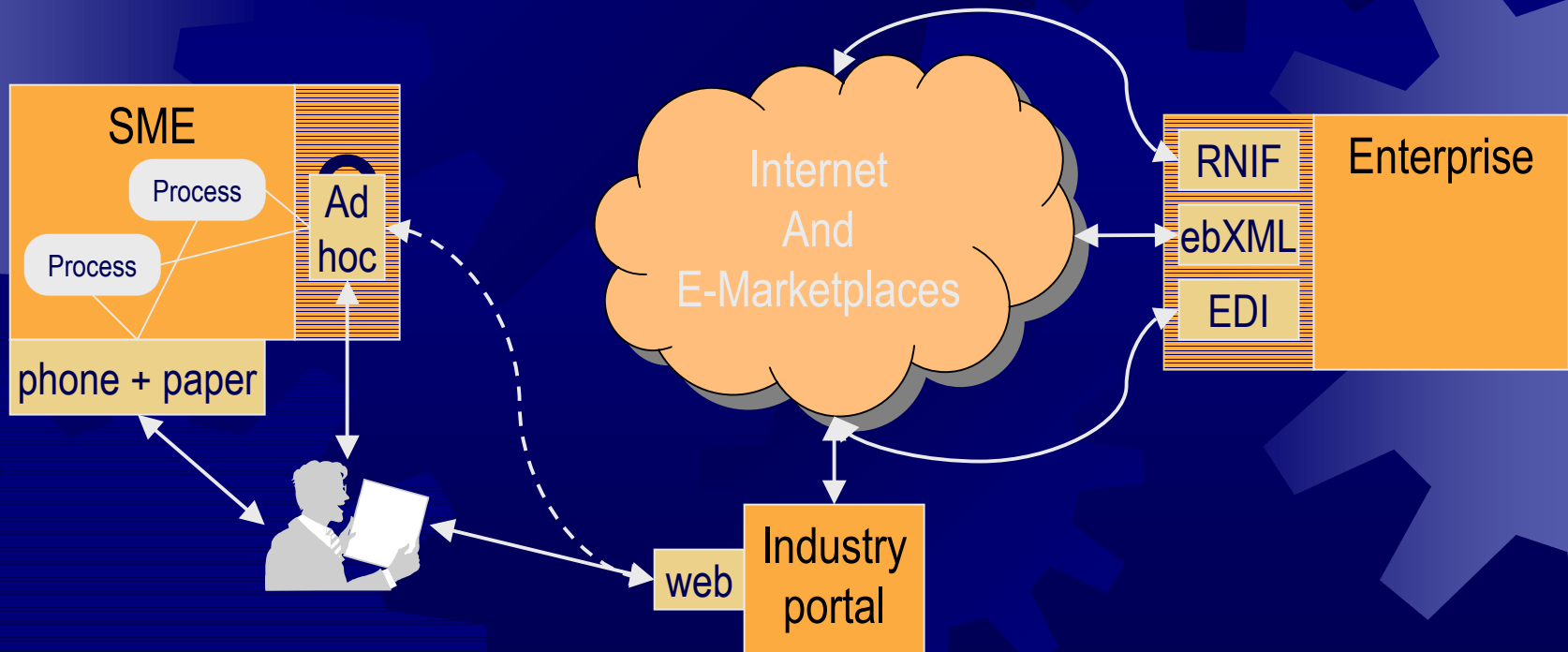
Industry Portals – web technology

- ★ Good:

- ★ Don't require extensive IT infrastructure – easy start

- ★ Bad:

- ★ Don't really address the process integration issues



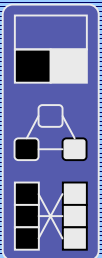
The Challenge

☀ The needs:

- ☀ For systematic approach
 - “integration methodology”
- ☀ For standardized descriptions
 - “integration language”

☀ The expectations:

- ☀ Simplify the interoperability
- ☀ Reduce the adoption costs
- ☀ Simplify the maintenance



E-Commerce Integration Meta-Framework (ECIMF)

★ 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

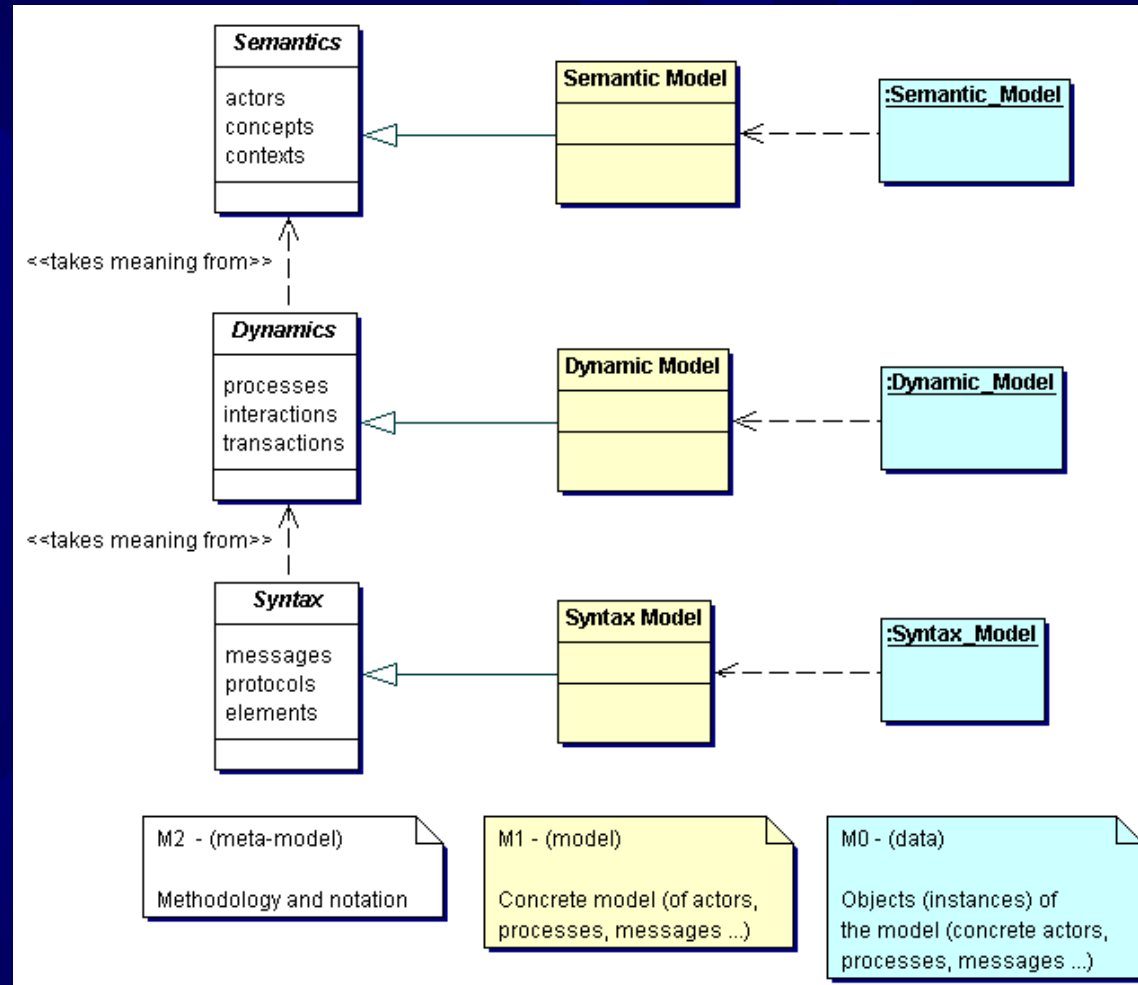
- ★ How to prepare the integration recipes, and how to implement them



ECIMM – the methodology

3-layer approach

- ★ **Semantics:**
 - Actors
 - Use cases
 - High-level business objects
- ★ **Dynamics:**
 - Business processes
 - Interaction patterns
 - Transaction boundaries
- ★ **Syntax:**
 - Message formats
 - Data elements
 - Transport protocols
- ★ **Alignment with UMM**
 - UMM can be used in modeling of all three layers



3-level abstraction

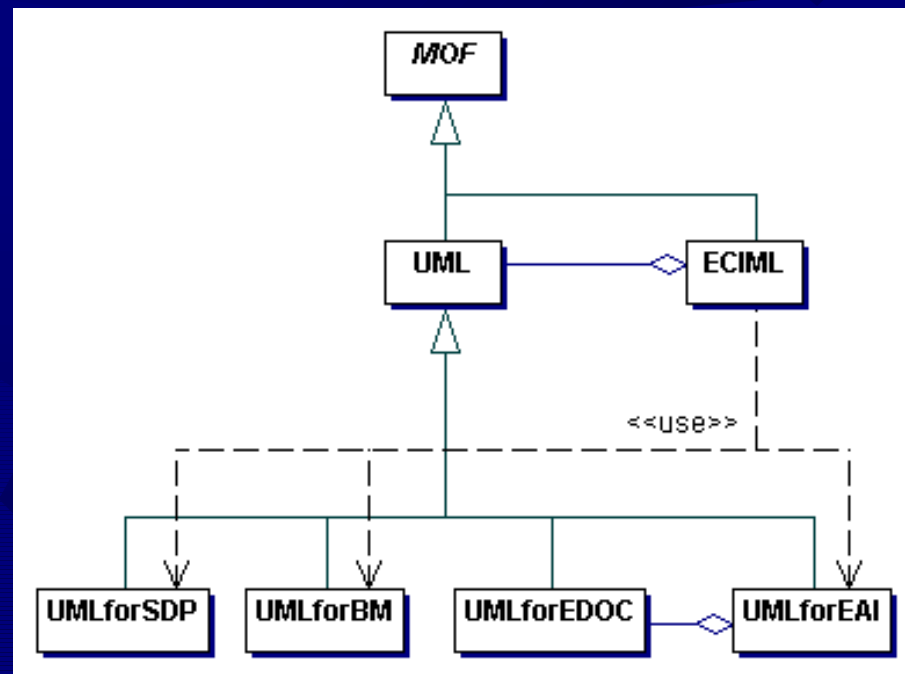
Building blocks
for the models
(notation)

Integration
model

Data to
transform

ECIML - the modeling language

- ★ Another profile of the standard UML?
- ★ Re-use of already existing profiles
- ★ The same meta-meta model
- ★ Precise rules for serialization of models into XML



ECIT – the Toolkit

★ ECIMF Navigator

- Based on Open Source Conzilla tool (CID/KTH)

★ Support for ECIMF

● 3-layer modeling (ECIMM)

- Presenting the corresponding concepts with different levels of details, and in different contexts

● graphical notation

- Presenting the integration models with extended notation

● scripting of the integration rules

● code generation

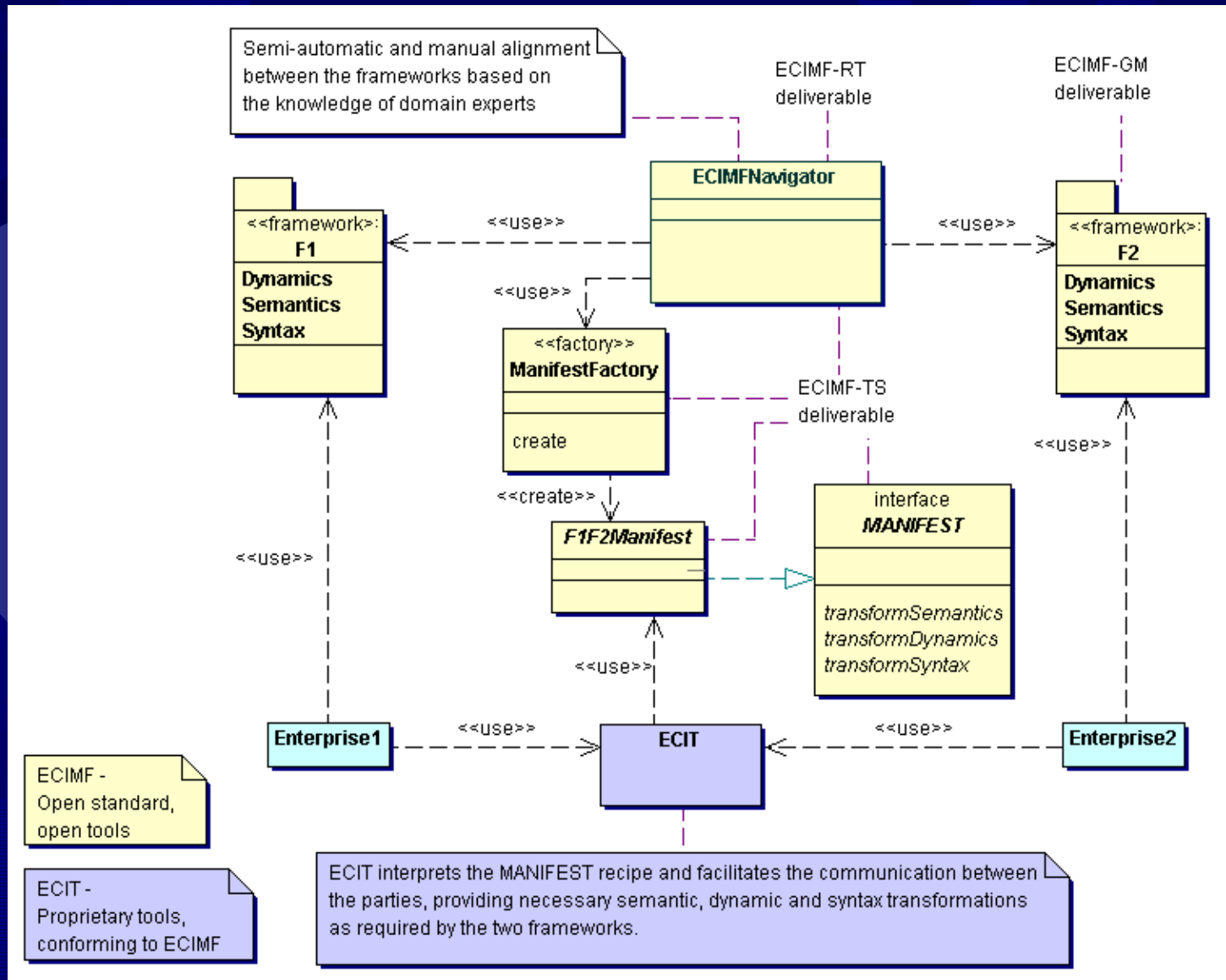
- Model transformation into the ECIML recipes (“MANIFEST”)

★ Other commercial tools

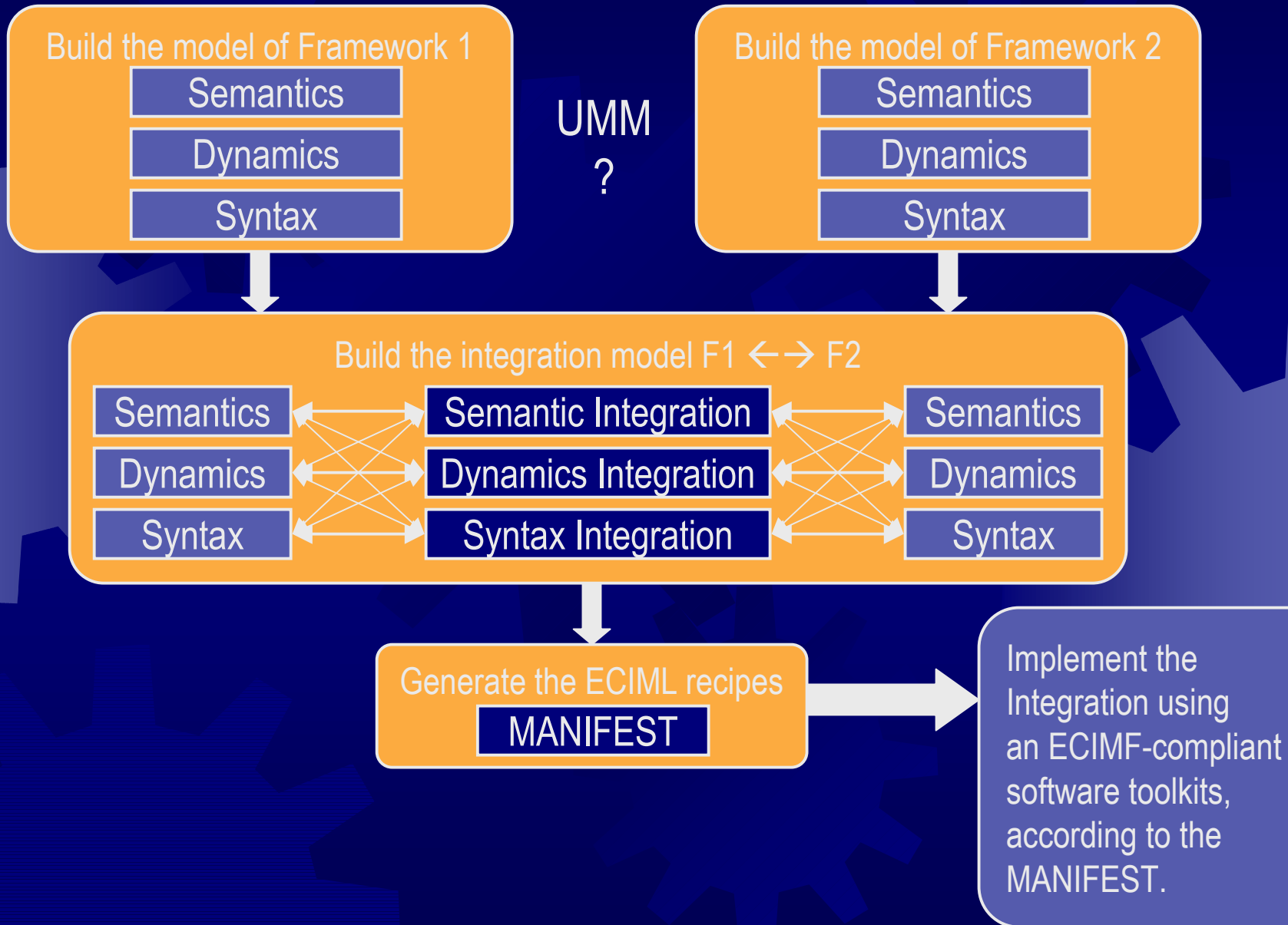
- Industry involvement should ensure support for ECIMF in the commercial integration products
 - MS BizTalk Server, HP Process Manager, others...



ECIMF Overview

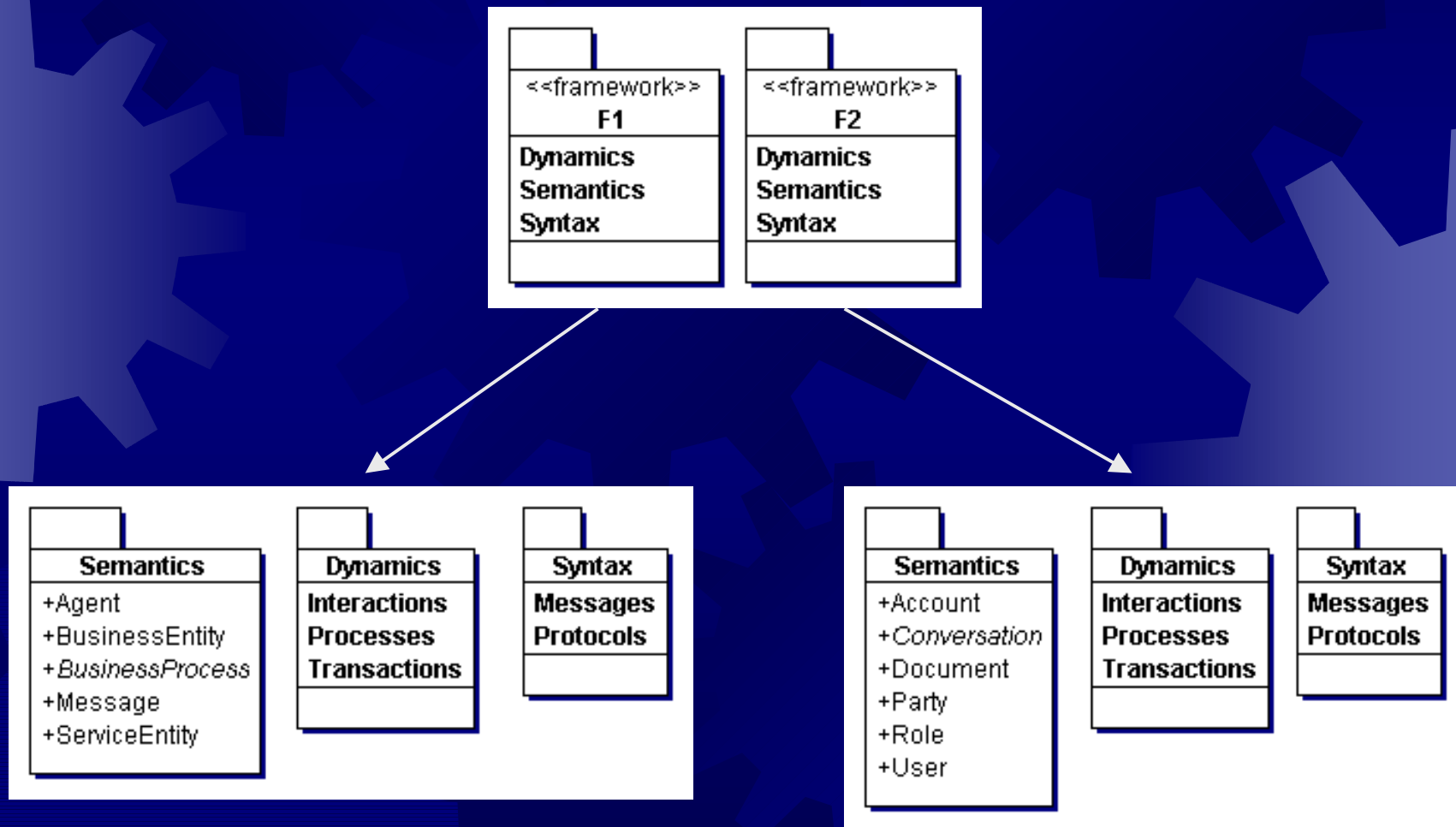


Working with ECIMF

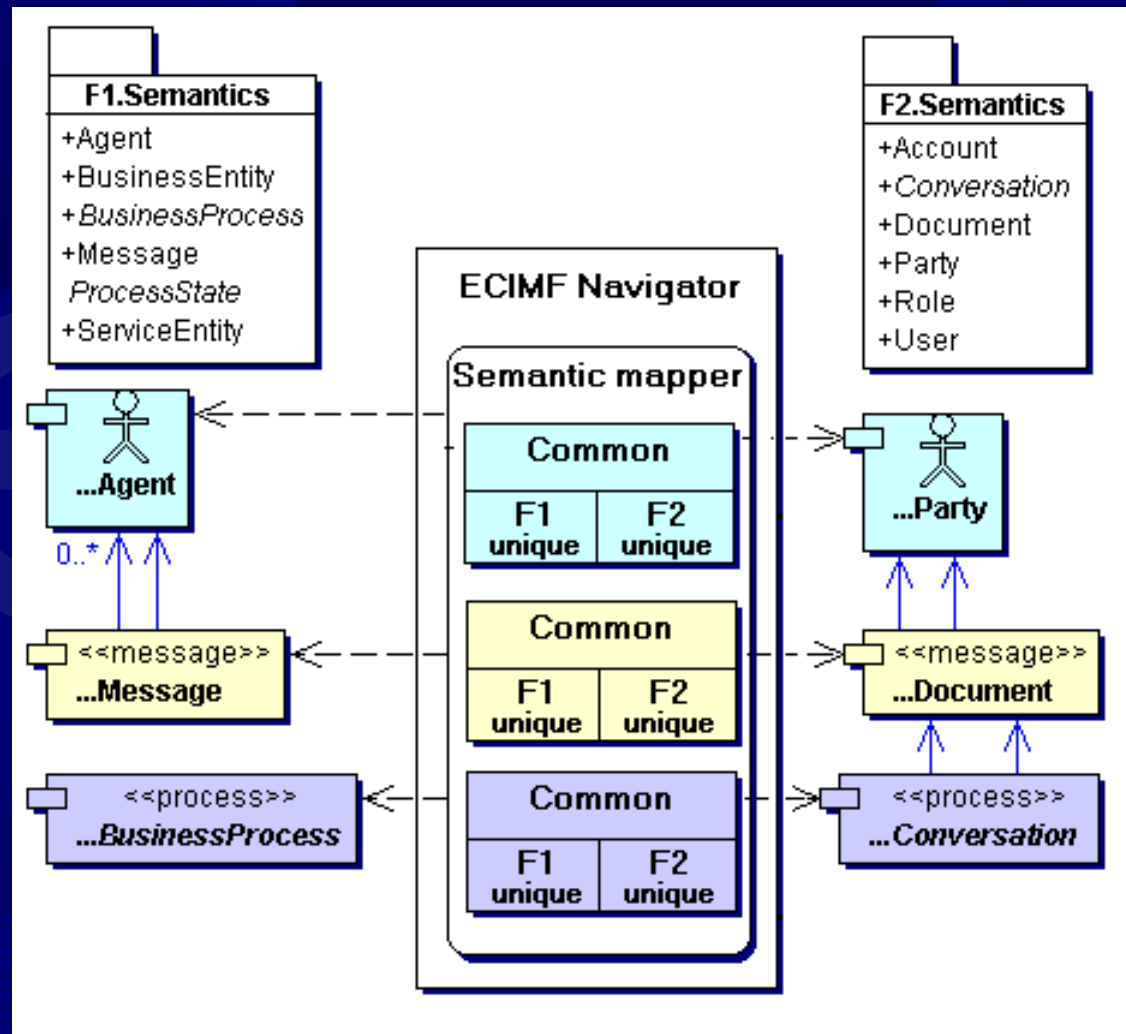


Example: Procurement Integration

- ★ Semantics: identify actors, use cases, high-level business objects

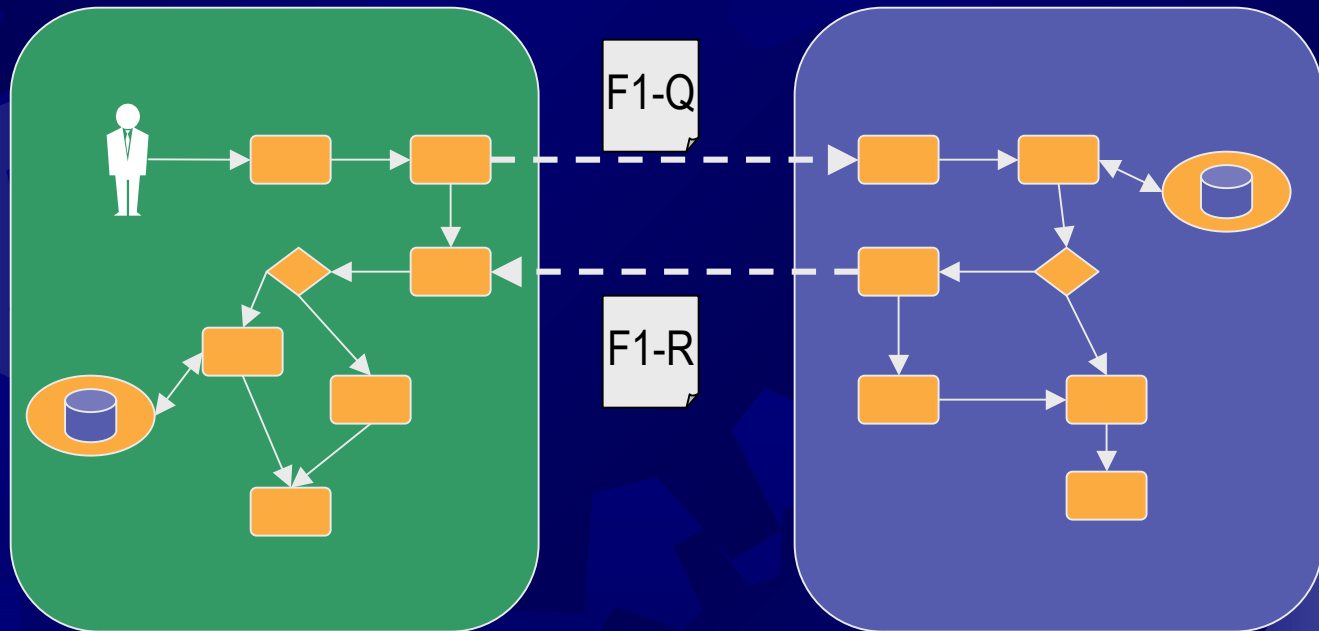


Semantics: ECIMF Navigator tool

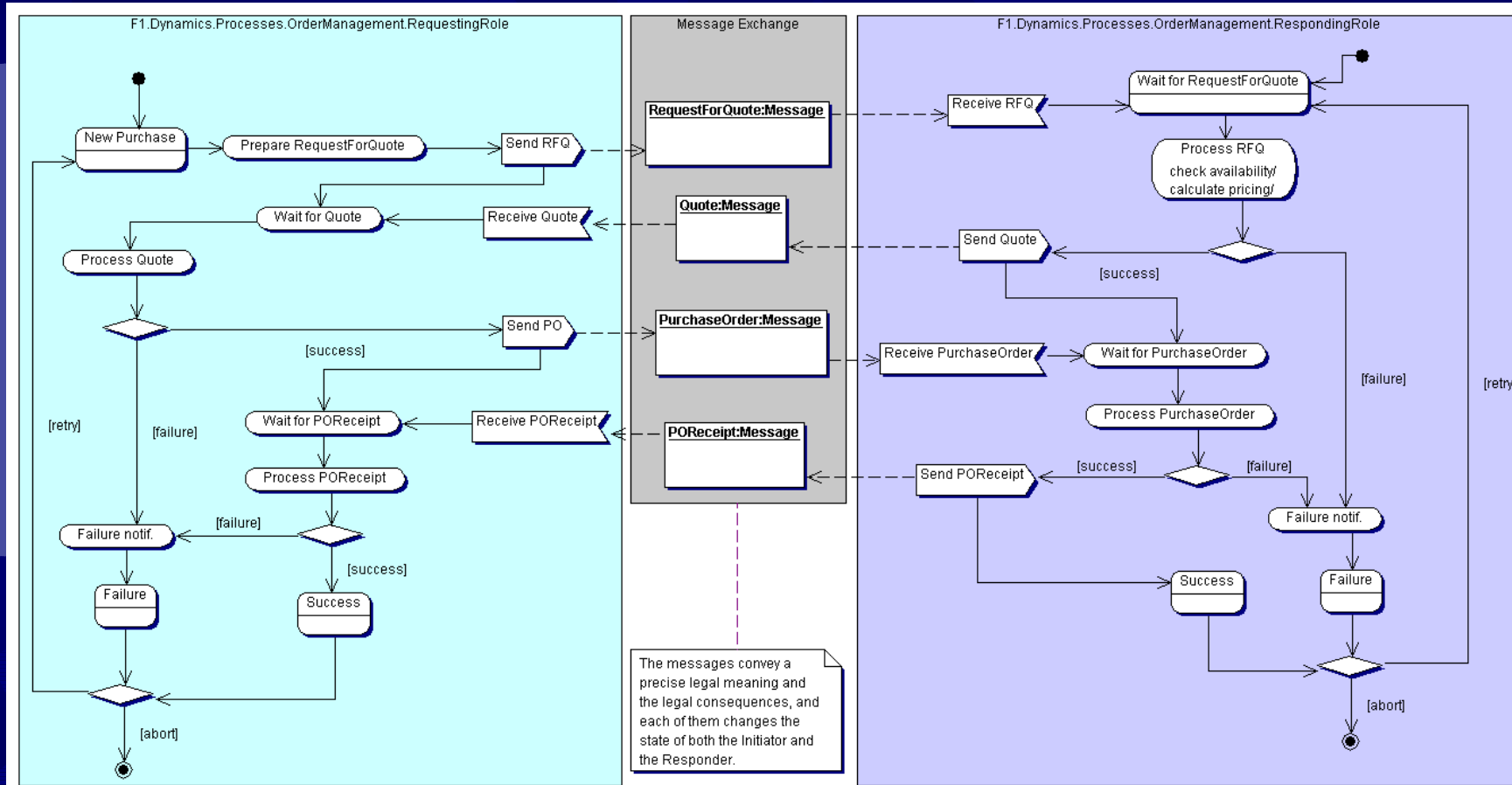


Dynamics: processes

- Identify business processes, transactions, interaction patterns

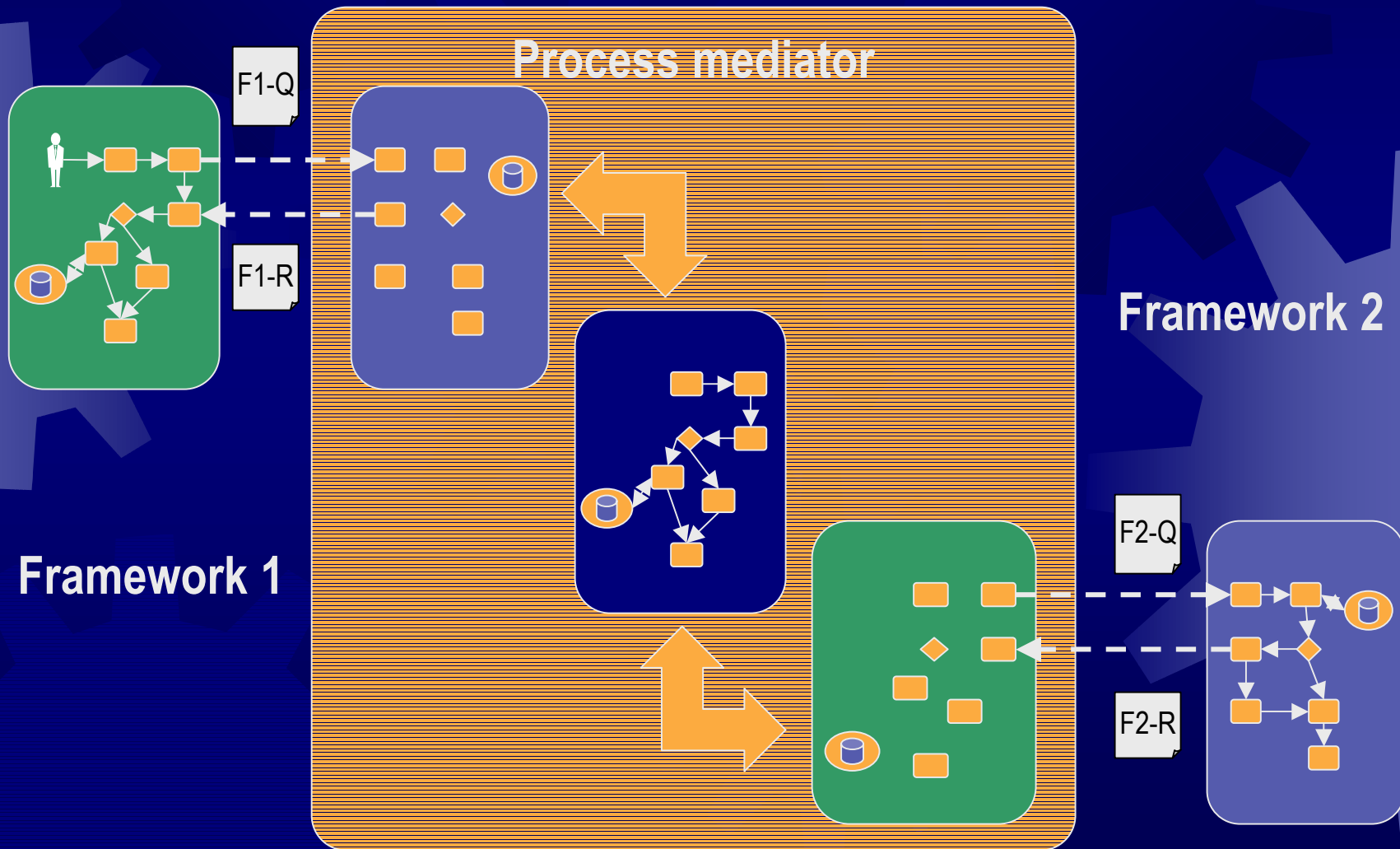


Dynamics: process modeling (1)

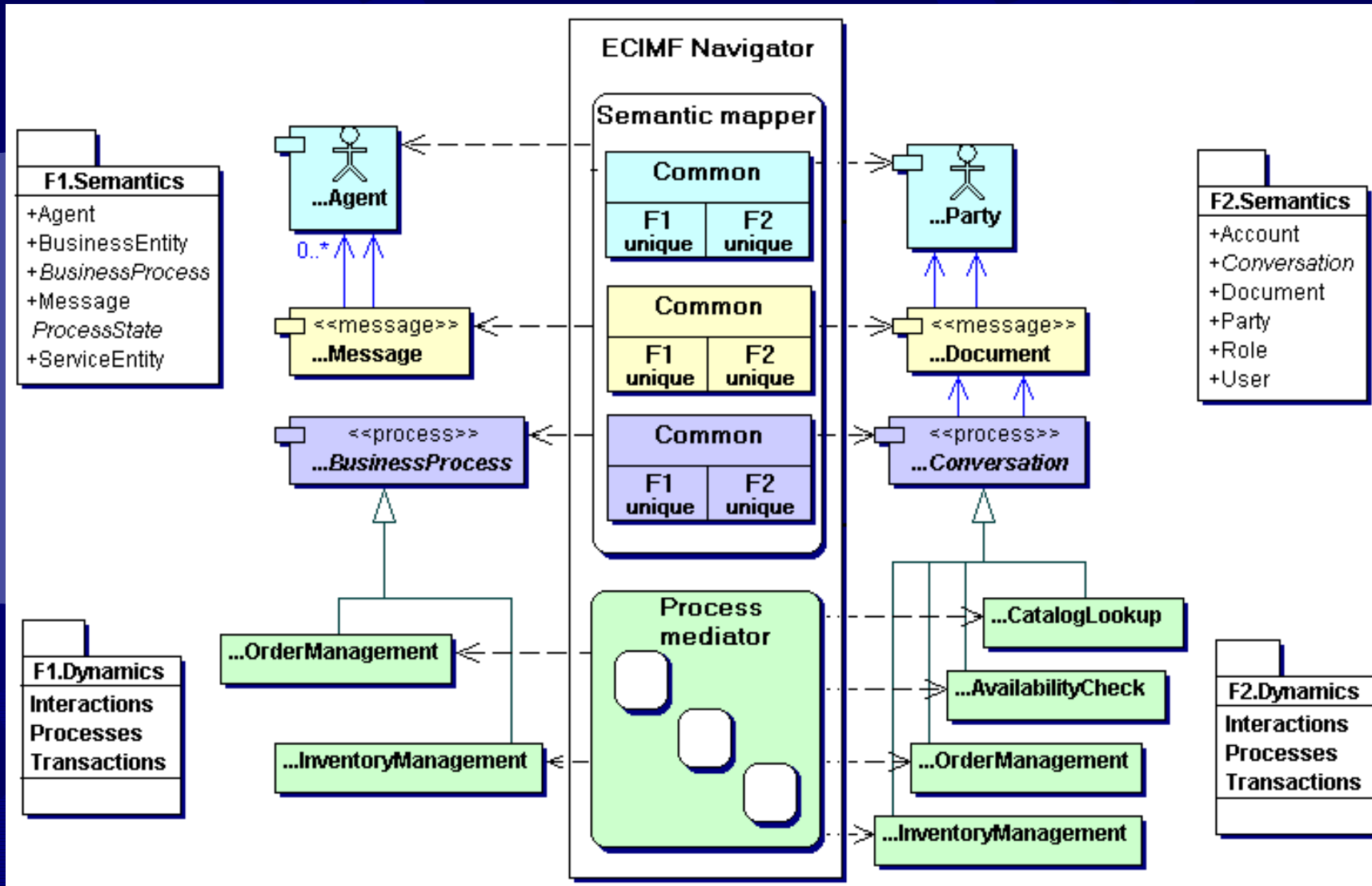


Process integration: mediation

- Process mediator controls the flow of activities in both interfaces, providing necessary processing

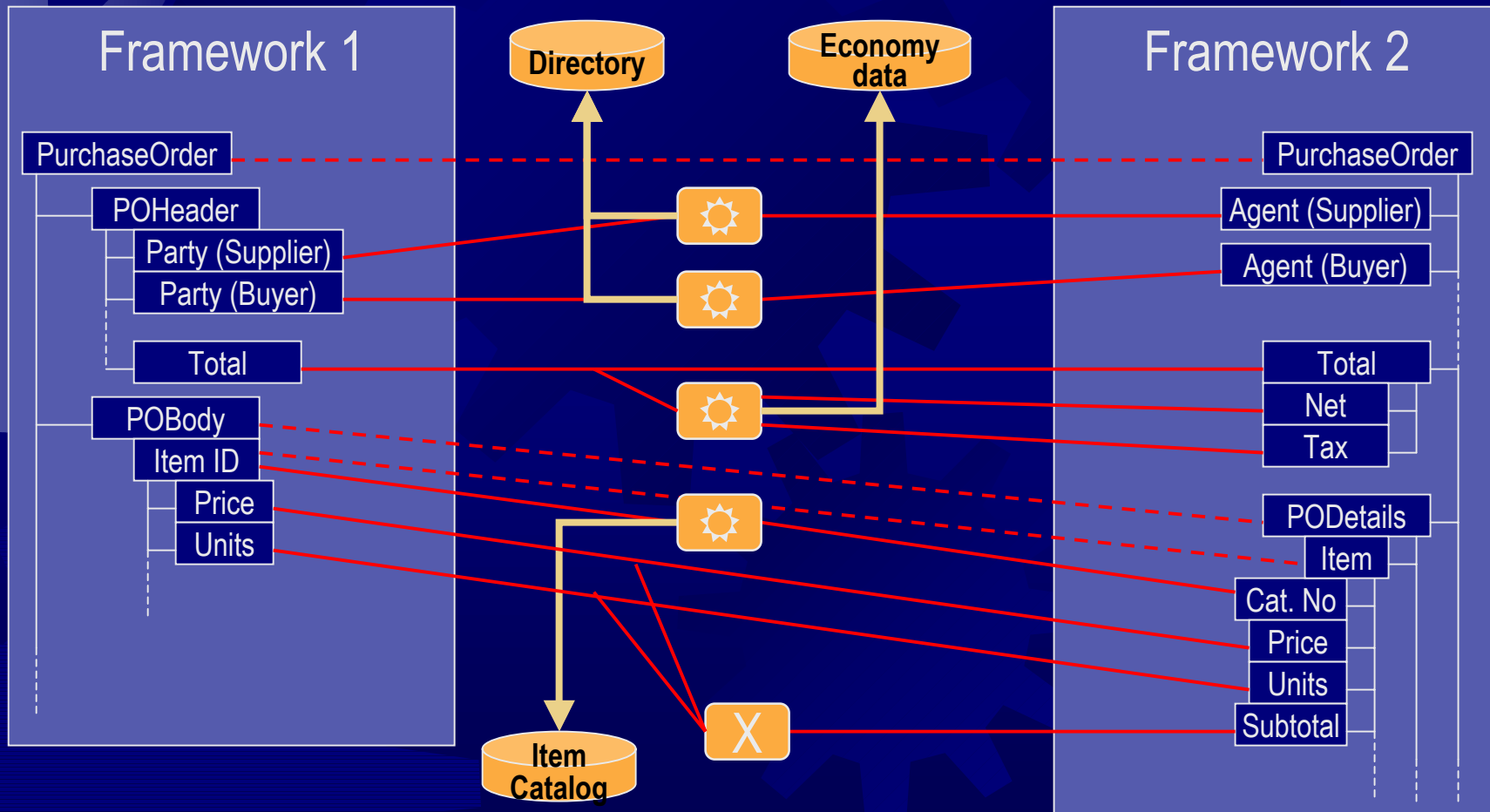


Dynamics: ECIMF Navigator



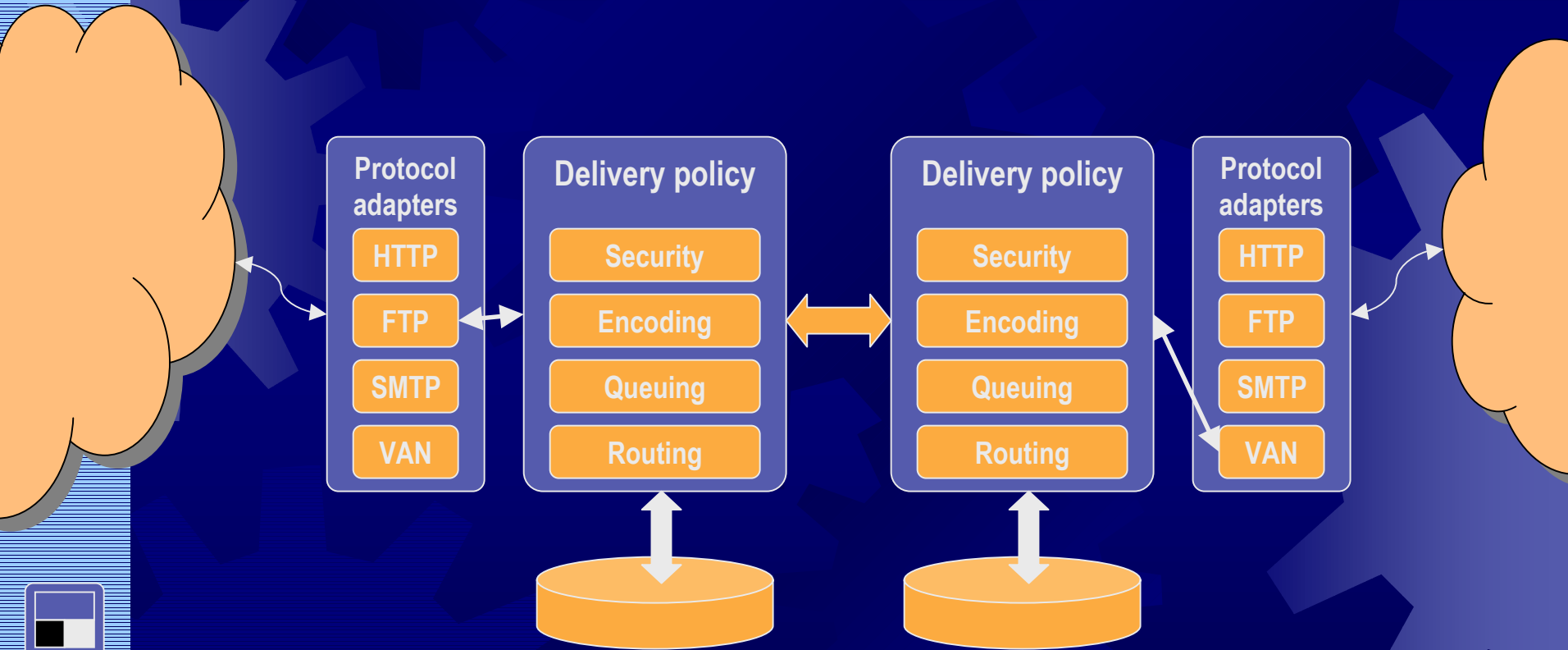
Syntax: data mapping

- ☀ Identify the data transformations
 - ☀ mapping between data elements in messages exchanged
 - ☀ use of external data sources
 - ☀ Security elements (encryption, signatures)

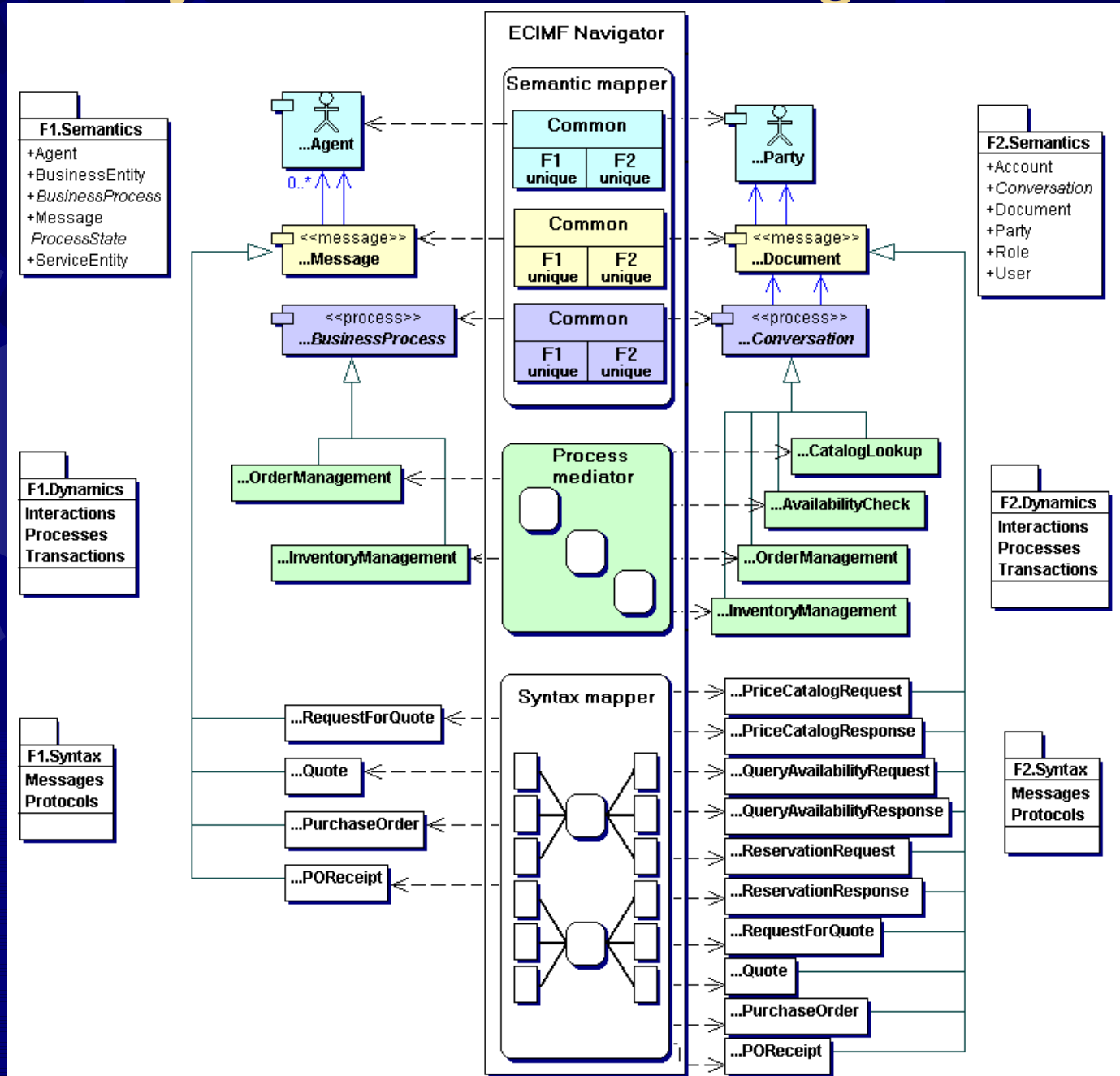


Syntax: transport protocols

- Identify the transformations and configuration parameters needed on the transport protocol level



Syntax: ECIMF Navigator



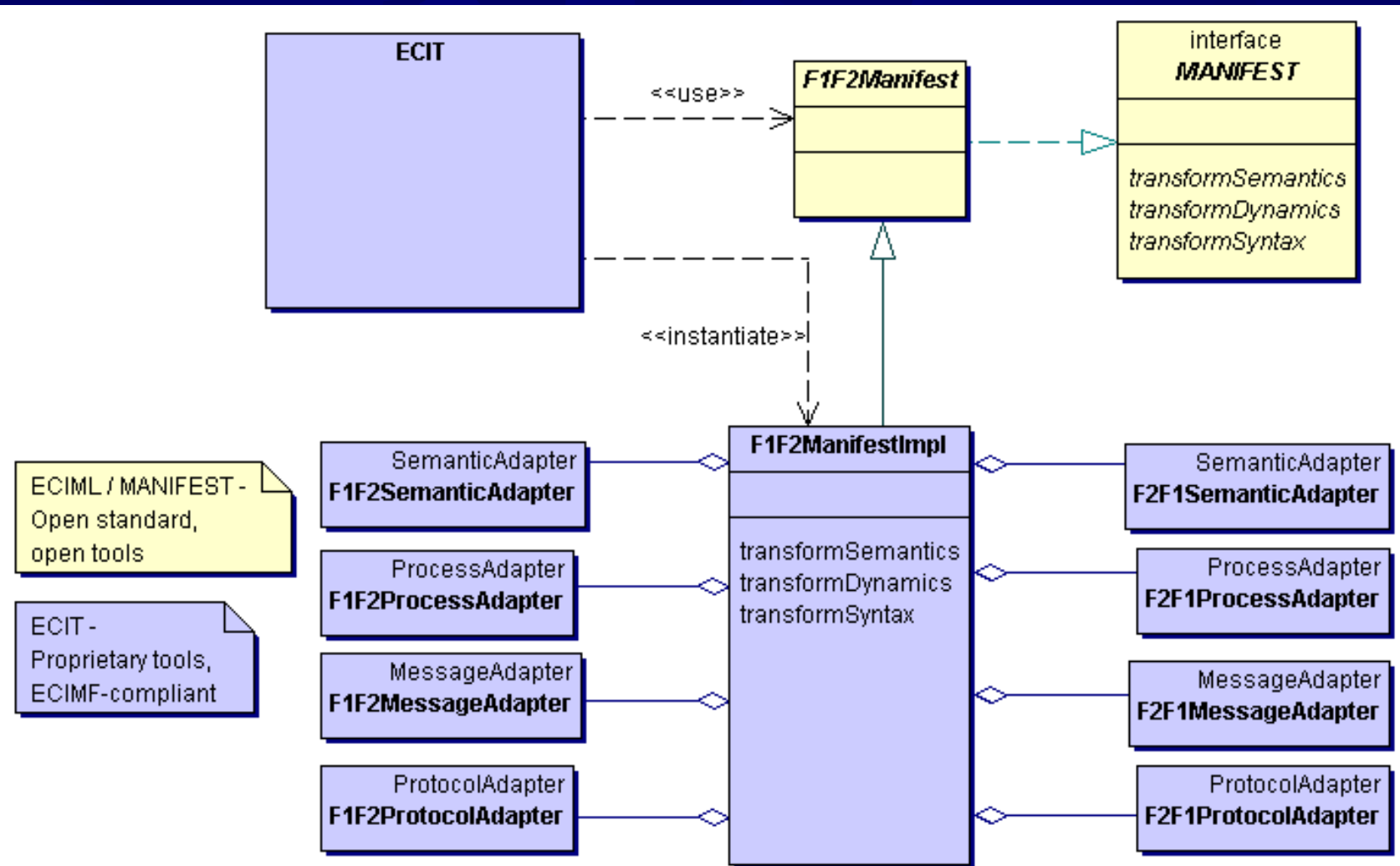
MANIFEST: the ECIML recipes

```
<?xml version='1.0'?>
<Manifest>
  <Process name='Procurement'>
    <Framework from='WidgetsLtd'>
      <BusinessProcessDefinition>
        ...
      </BusinessProcessDefinition>
    </Framework>
    <Framework to='ebXML'>
      <BusinessProcessDefinition location='uddi:...'/>
    </Framework>
    <MappingRules>
      <SemanticMapping> ... </SemanticMapping>
      <ProcessMediating> ... </ProcessMediating>
      <SyntaxMapping> ... </SyntaxMapping>
    </MappingRules>
  </Process>
</Manifest>
```



ECIMF-compliant toolkit

- Provides configurable software adapters and the runtime environment for execution of the integration logic



Summary

- ☀ Deliverables according to the Proposal
 - ✿ General Methodology
 - ✿ Technical Specification
 - ✿ Reference Toolkit
- ☀ Timeframe: 18 months
- ☀ Coordination and support
 - ✿ ebXML, RosettaNet, OAG, EDI, TMWG ...
 - ✿ Industry representatives
 - ✿ EC FP5 KAI and upcoming FP6

