Part 4 – UN/CEFACT's Modeling Methodology (UMM)

Capturing the collaborative space between enterprises

Research Studio Inter-Organisational Systems
Project Public Private Interoperability

Research Studios Austria
Forschungsgesellschaft mbH

Agenda

- Introduction
- Business Requirements View (BRV)
- Business Choreography View (BCV)
- Business Information View

UN/CEFACT‘s Modeling Methodology 2.0
UML Profile for Core Components 3.0

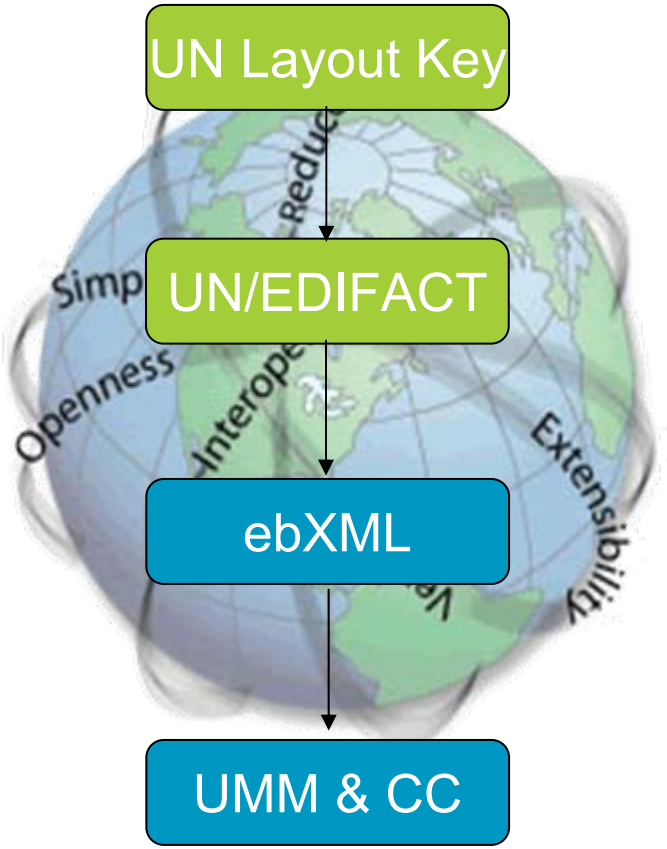
UN/CEFACT =

United Nations Center for Trade Facilitation and Electronic Business

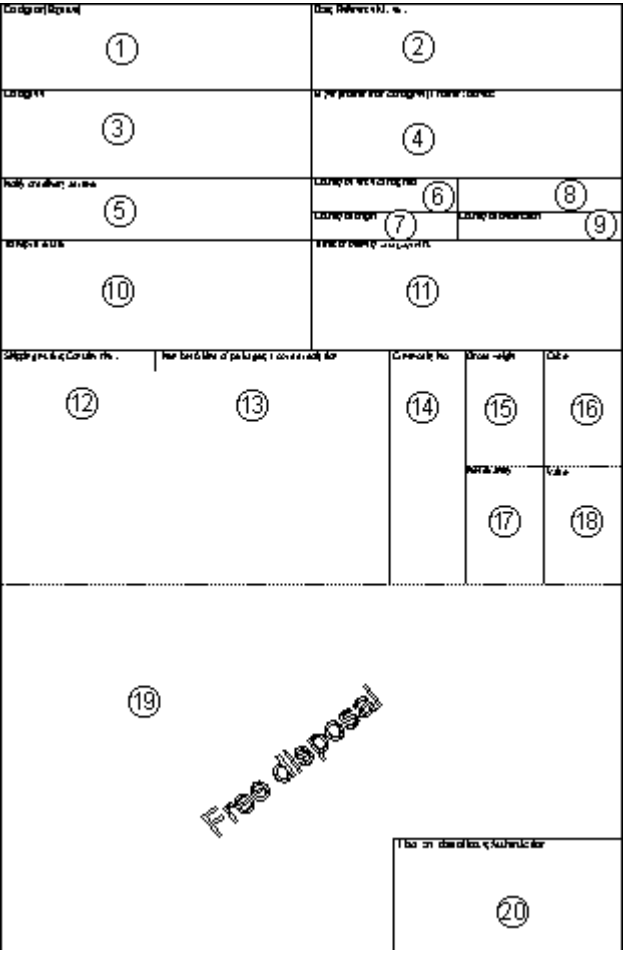
The United Nations and e-Business?

- To maintain international peace and security
- To develop friendly relations among nations
- To achieve international co-operation

Known standards from UN/CEFACT



The UN Layout Key



① - Consignor (Exporter)
② - Date; Reference No. etc.
③ - Consignee
④ - Buyer (if other than consignee) ...
⑤ - Notify/Delivery address
⑥ - Country whence consigned
⑦ - Country of origin
⑧ - Free text
⑨ - Country of destination
⑩ - Transport details
⑪ - Terms of delivery and payment
⑫ - Shipping marks; Container No.
⑬ - Number & kind of packages; ...
⑭ - Commodity No.
⑮ - Gross weight
⑯ - Cube
⑰ - Net quantity
⑱ - Value
⑲ - Free disposal
⑳ - Authentication

Consignor (Exporter)

This field is intended to show the name and address of the sender of goods or the originator of the documents, as the case may be.

Corresponding data elements:

- 3130/1 Exporter
- 3282/3 Despatch party
- 3336/7 Consignor

3030 Exporter

Desc: Name and address of party who makes - or on whose behalf a Customs clearing agent or other authorized person makes - an export declaration. This may include a manufacturer, seller or other person.

Repr: an..35x5;

UNLK: an..35x5: L 04-08, P 09-44

3031 Exporter, coded

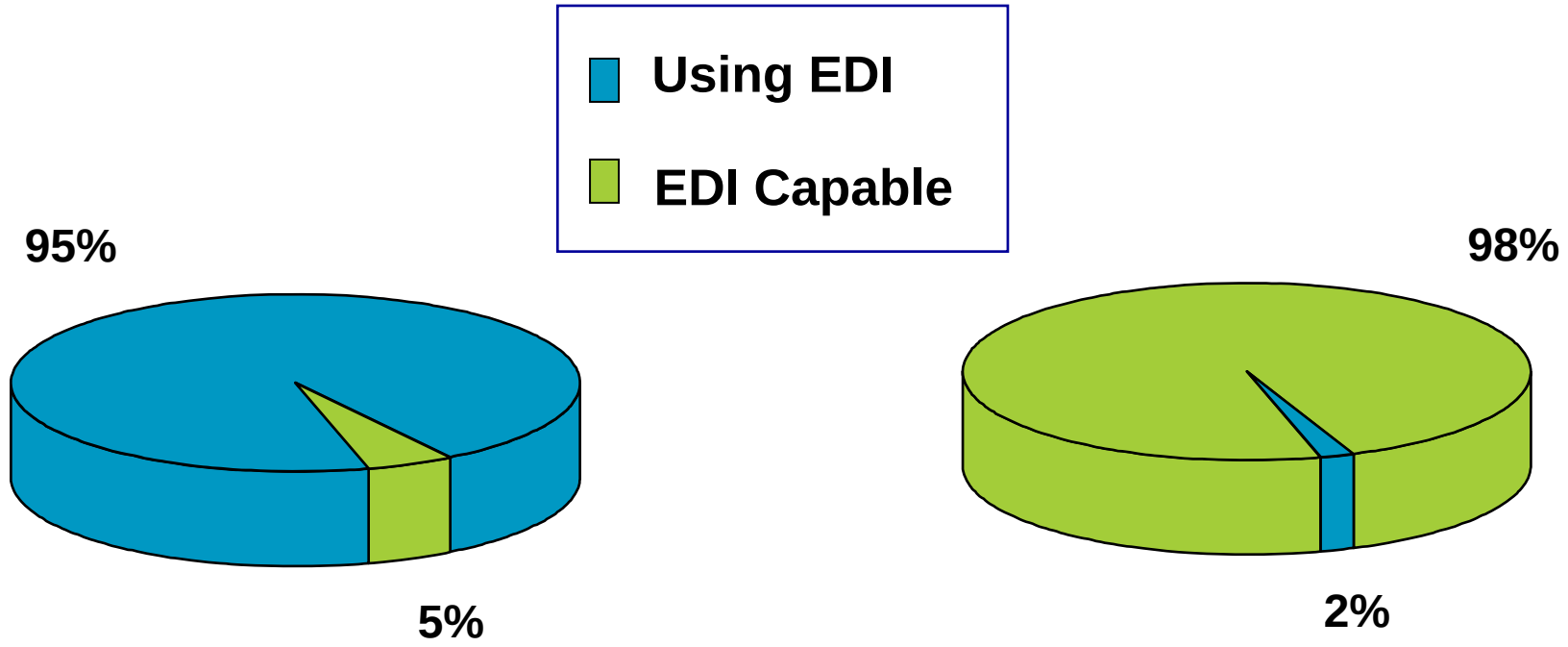
Repr: an..17
UNLK: L 03, p 27-44

Note: No international code available; national code not to exceed 17 characters

UN/EDIFACT example

UNH+ME0000001+ORDERS:D:93A:UN’
BGM+220+123321’
DTM+137:990412:101’
DTM+2:990503:101’
NAD+BY+++Institute of Computer Science:
University of Vienna+
Liebiggasse 4/3-4+Vienna++1010+AT’
CTA+PE:JS:Jan Stankovsky’
NAD+SE+++Hard & Software GmbH+Wiedner Hauptstrasse 12/8+Vienna++
1040+AT’
TAX+7+VAT+++20
CUX+2:ATS:9’
LIN+1++34567892189:EN::9’
QTY+21:3:EA’
PRI+AAA:200000:PE’
LIN+2++98754390211:EN::9’
QTY+21:10:EA’
PRI+AAA:40000:PE’
UNS+S’
MOA+86:1200000’
UNT+18+ME0000001

Was EDI successful overall?

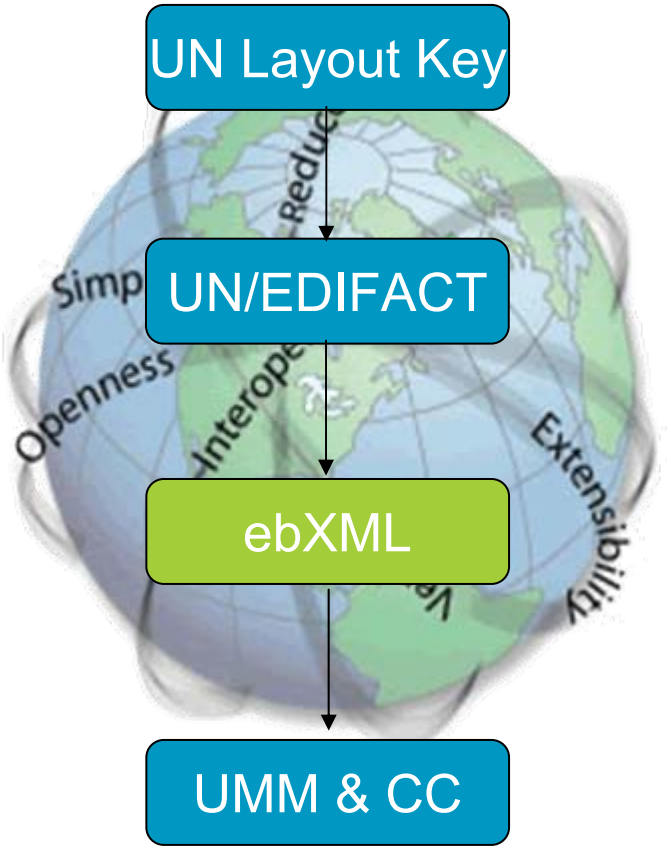


FORTUNE 10000

(1000 in the top 10 Economics)

The rest of all Business that should be exchanging information electronically

Known standards from UN/CEFACT

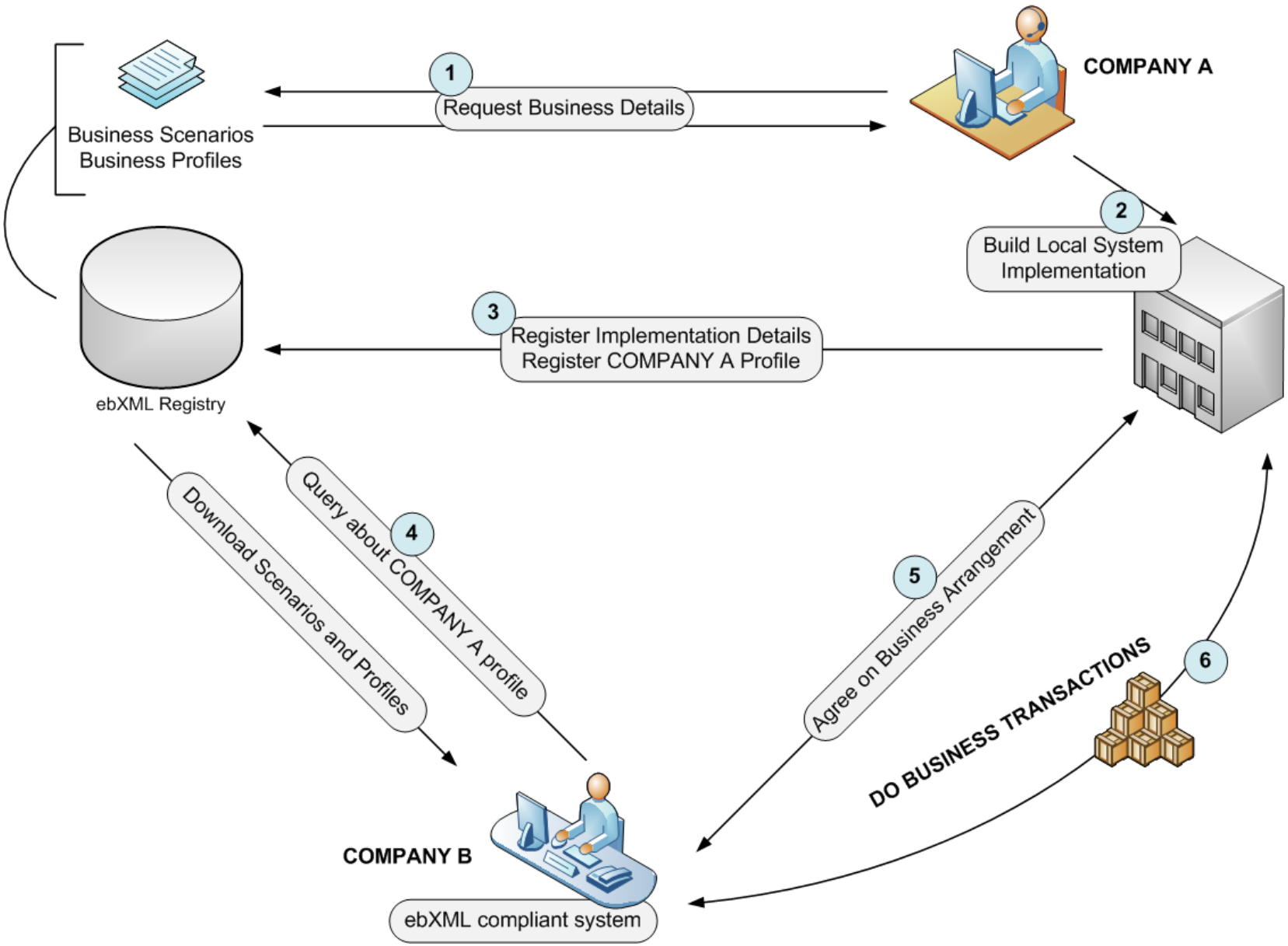


… where enterprises of any size, anywhere can:

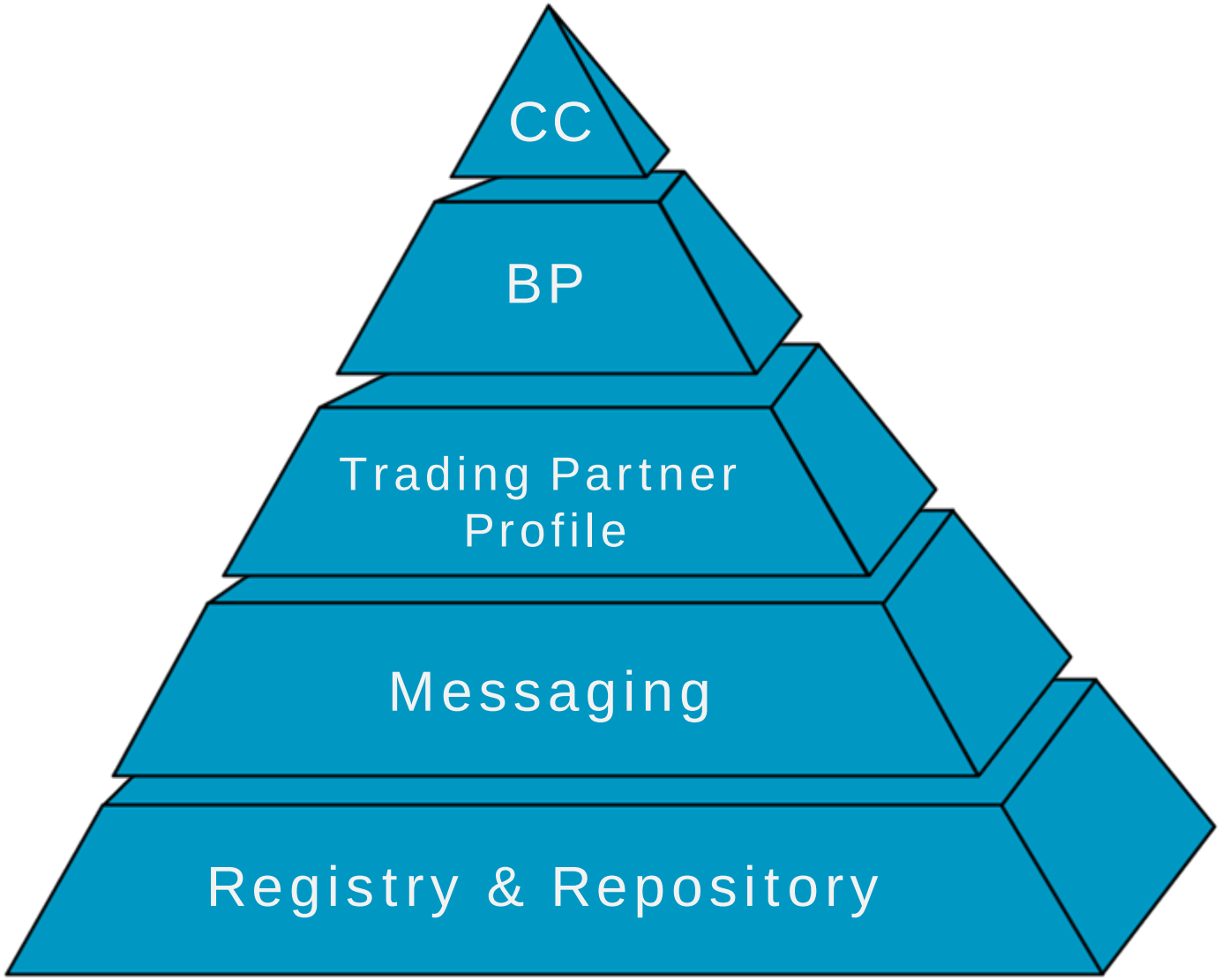
- Find each other electronically
- Conduct business through the exchange of XML based messages
  - using standard message structures
  - according to standard business process sequences
  - with clear business semantics
  - according to standard or mutually agreed trading partner agreements
- Using off the shelf purchased business applications

  Commercial off-the-shelf software

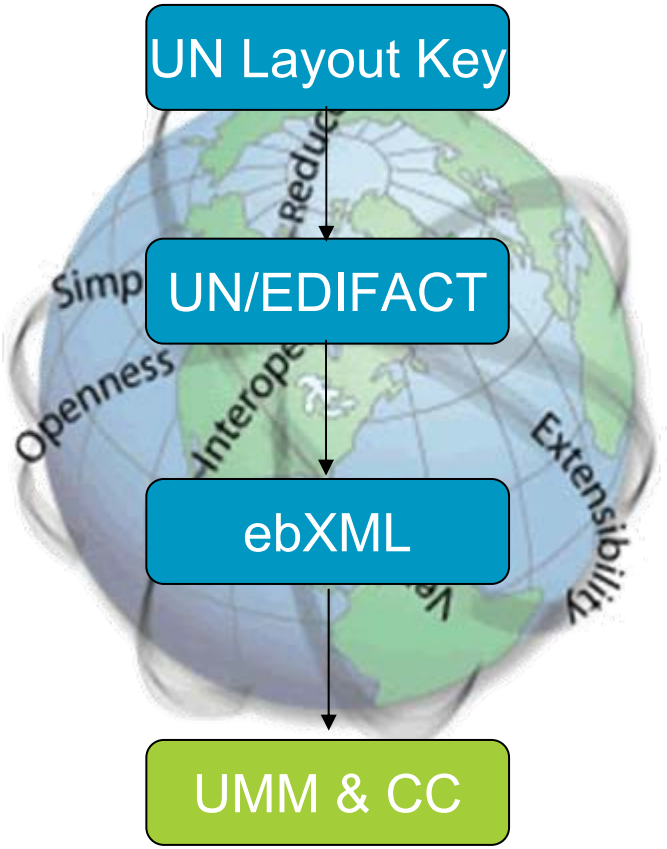
ebXML Scenario



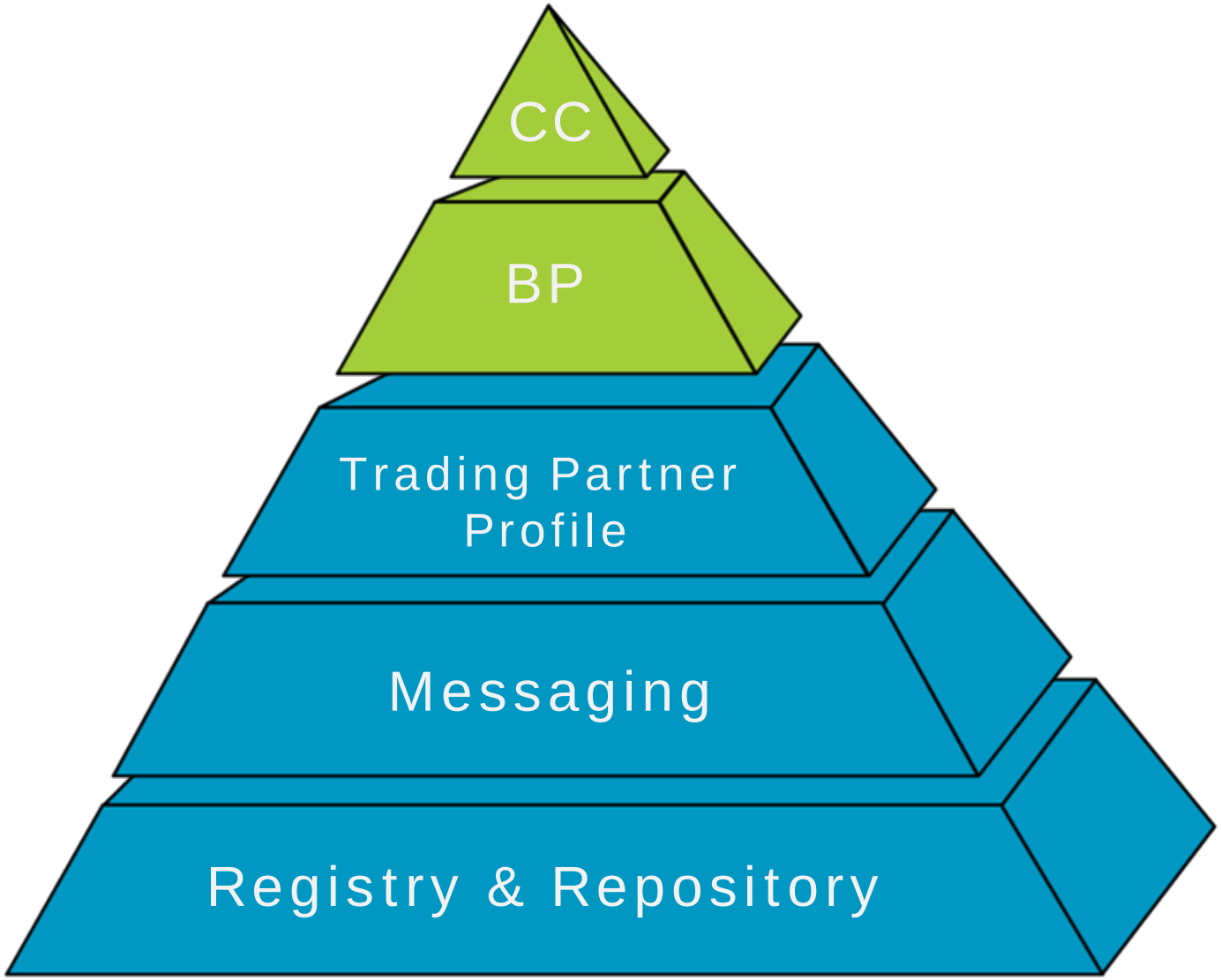
ebXML specifications



Known standards from UN/CEFACT



Business Semantics on top layers



Types of Businesses

- Usual classification
  - Large enterprises
  - Medium-sized enterprises
  - Small-sized enterprises
  - Micro enterprises

- EU classification

	Medium	Small	Micro
Employees	<250	<50	<10
Turnover	<40 Mio €	<7 Mio €	-
Balance sheet total	<27 Mio €	<5 Mio €	-

Types of Businesses – information scientist's perspective

- Large Enterprises
  - run business applications
  - develop software or customize software, i.e., control their interfaces
  - more or less able to participate in B2B
- Small and Medium Enterprises
  - run business applications
  - buy (or) rent off-the-shelf-software
  - Need off-the-shelf-software with B2B functionality
- Micro Enterprises
  - do NOT run business applications
  - act similar to consumers and are satisfied with "browser-based" eCommerce

Commercial Off-The-Shelf Software

- SMEs need Commercial Off-The-Shelf Software (COTS) that are a combination of ERP systems and B2B software for communication
- ERP vendors must implement common B2B scenarios in their products
  - e.g. SAP's strategy now specifically also focuses on SMEs

Order from Quote business scenario – simple, but realistic

Buyer

What kind of apples do you have?

We provide 5 alternatives: …

What is the price of the 2nd and 4th option?

The 2nd is x$ and the 4th is y$

I take 5 pieces of the second option

Fine.

Seller

Goals of the UMM and CCTS initiatives

- Integration requires unambiguous definitions
- Common business logic for the collaborative space
  - Exchange of unambiguous business information
  - Agreed-upon choreography in the collaborative space
  - Complementary choreographies in the private space
- Develop business solution independent from the implementation technology

Principles of the UMM solution

- Separation of business logic and implementation technology
  - Model-driven approach
  - Based on the Unified Modeling Language (UML)
- Process centric
  - UMM is business process centric
- Business state centric
  - Adjust UMM to a business state centric methodology
- Business context sensitive
  - Need concepts for applying models in multiple contexts with respect to the environment-specific requirements

UN/CEFACT's Modeling Methodology (UMM) at a glance

- Graphical process modeling technique for inter-organizational (B2B) business processes
- Concentrates on business semantics – it is implementation neutral
- Provides a procedure similar to a software development process
  - from requirements elicitation to process design
- UMM is defined as a UML profile on top of UML 2.1.1
- UMM is used in order to define global business choreographies

The HOW – process choreography

Orchestration vs. Choreography

Global business process choreography

- If each organization defines its own process choreography in isolation, interoperability is rather unlikely, since the choreographies won't match

Buyer's perspective

Seller's perspective

- UMM describes a process choreography from an observer's perspective

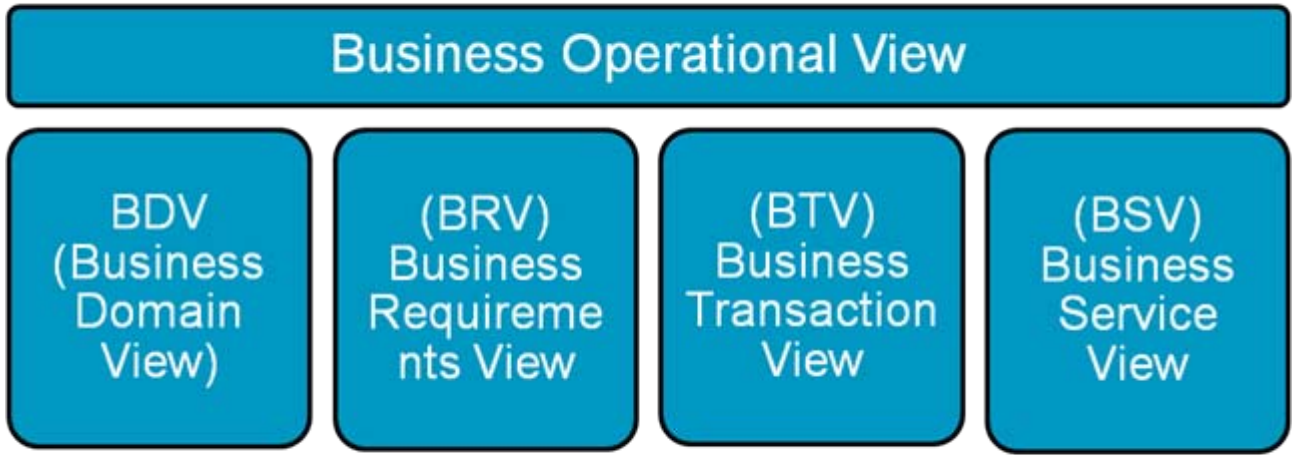
Collaboration

Buyer

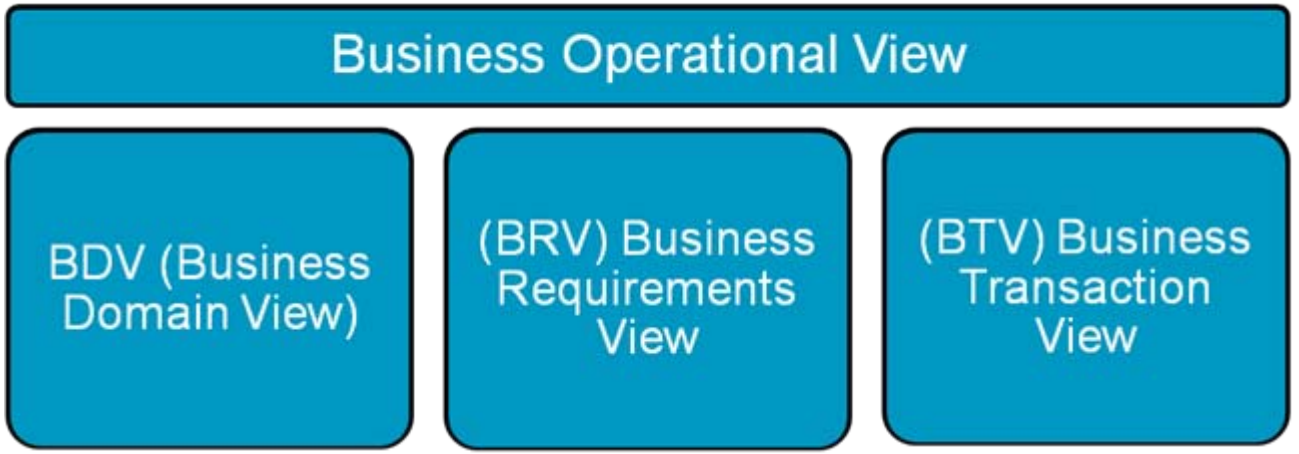
Seller

The history and package structure of UMM

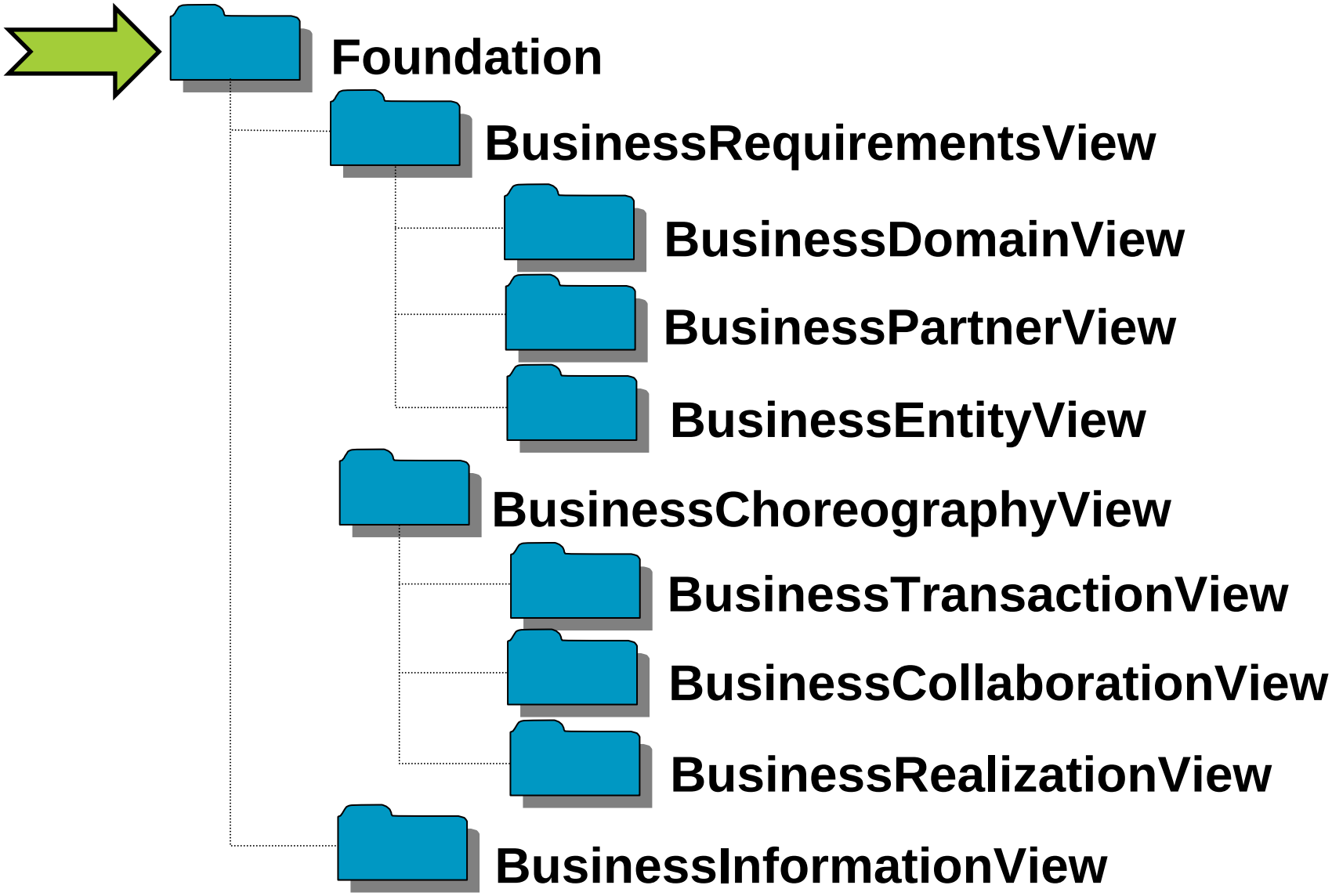
pre UMM 1.0 era



UMM 1.0



Package structure of the current UMM version – UMM 2.0



UMM terminology

Business Process

- Group of related activities that together create customer value
- Traditionally intra-organizational, but also inter-organizational

Business Collaboration

- Performed by two business partners **(=binary collaboration**) or more business partners **(=multi-party collaboration**)
- Complex, composed of many activities **(=business transactions**) between the partners

Business Transaction

- Always a binary collaboration
- Unit of work allowing roll back to a defined business state
- Realized by a request from one side and an optional response from the other side

UMM terminology cont'd

Orchestration

- Private processes internal to a company

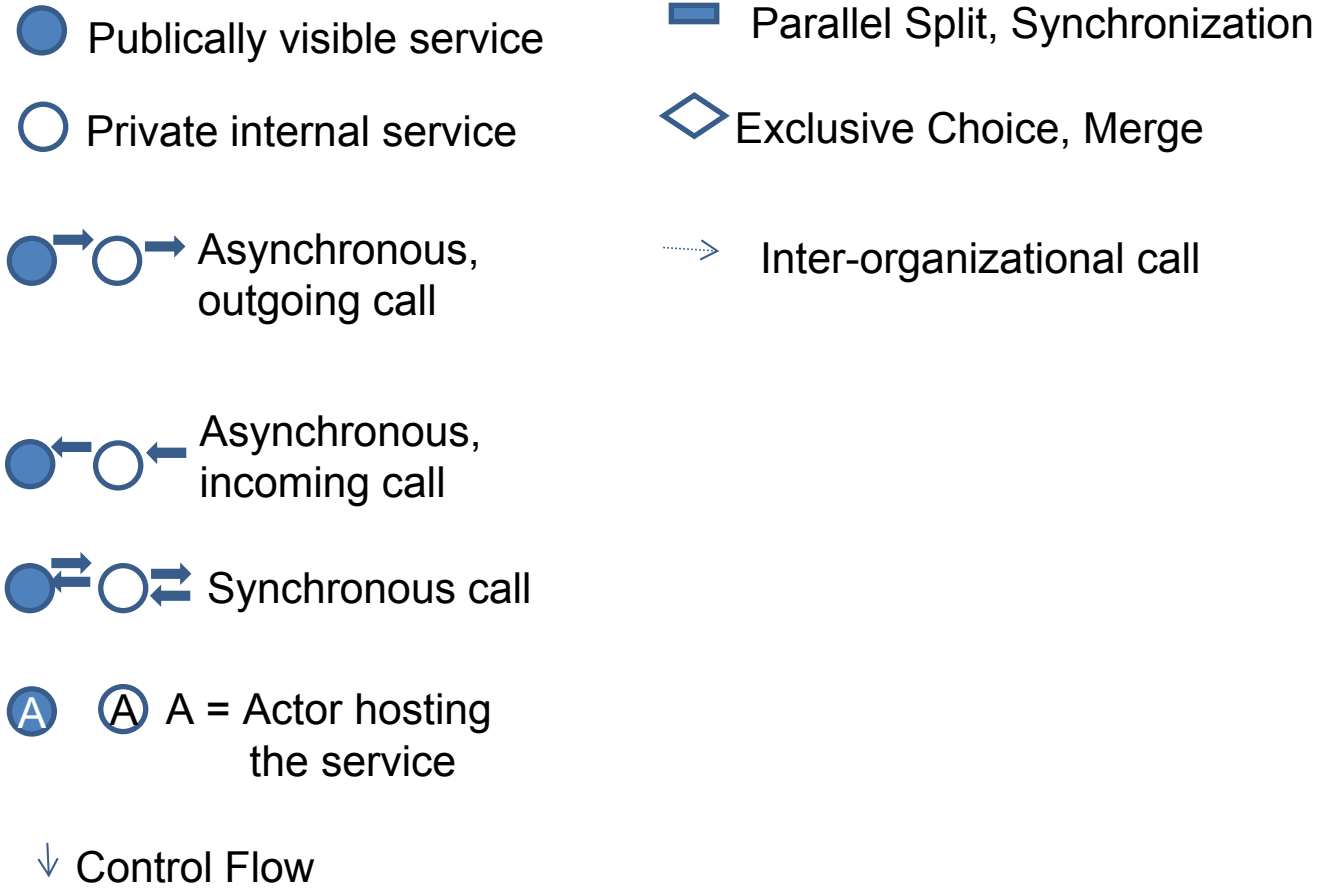
Local Choreography

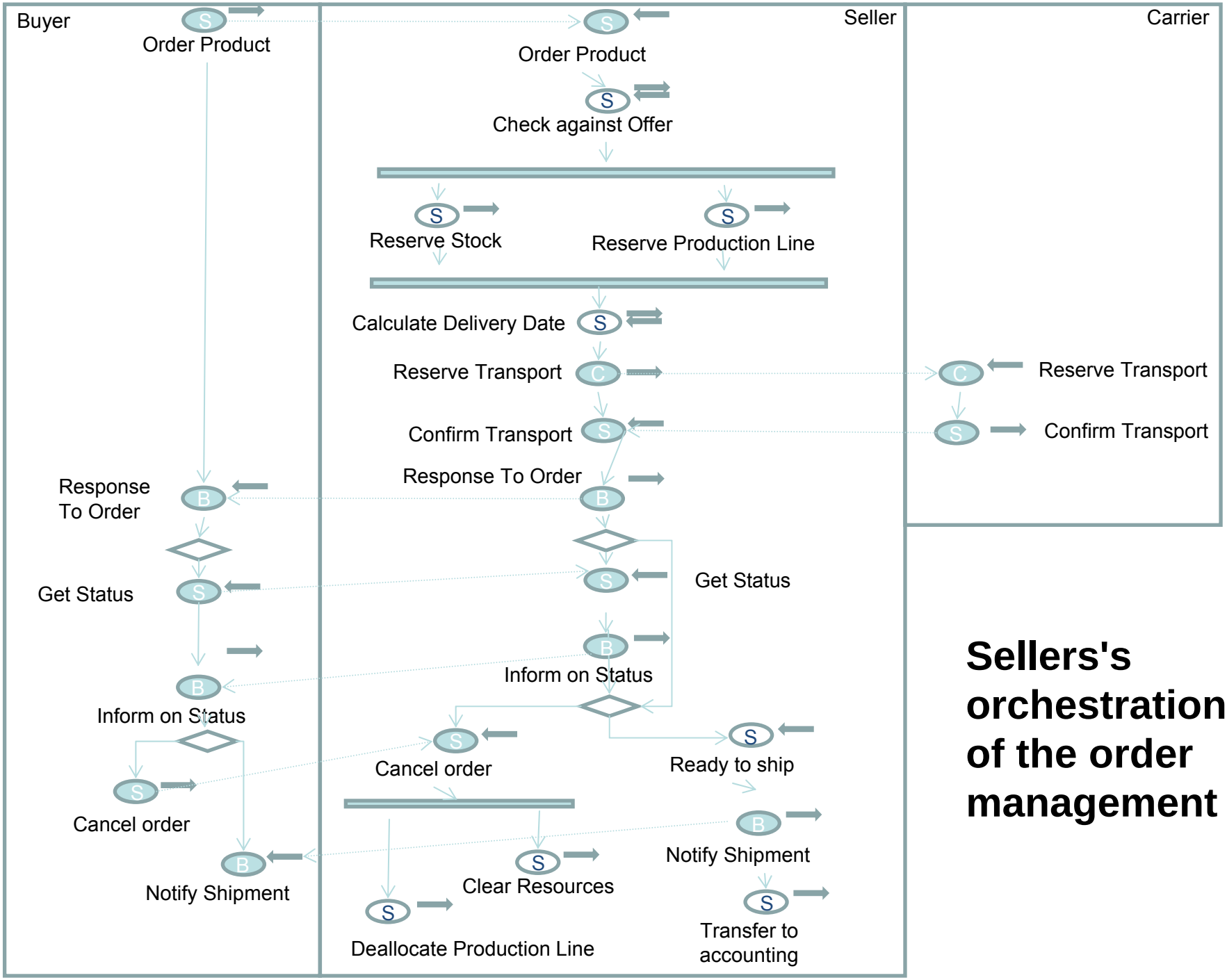
- Those activities of a private process that are observed from the outside world

Global Choreography

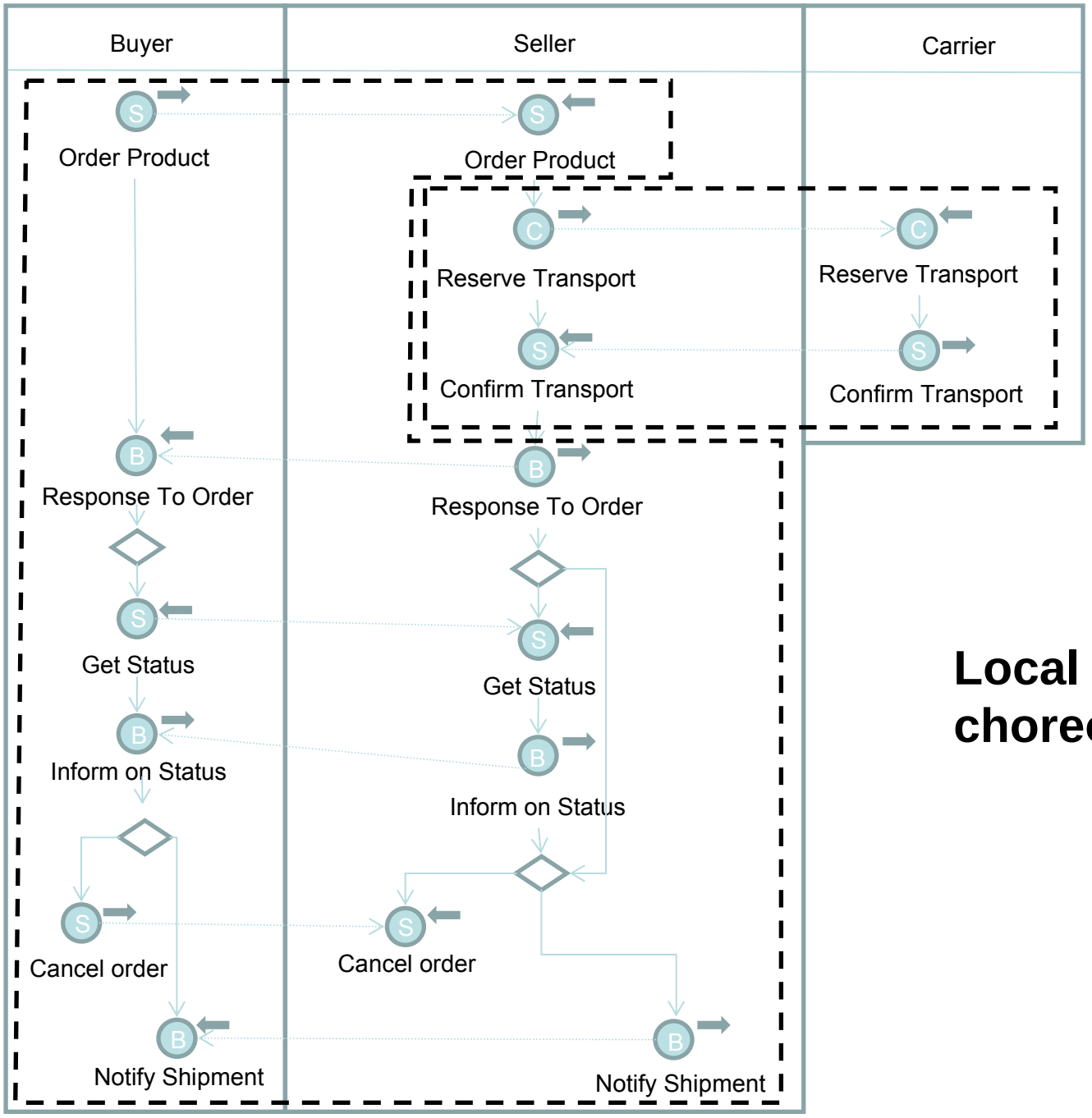
- An inter-organizational process described from a neutral and global perspective

Example for choreographies and orchestration - legend



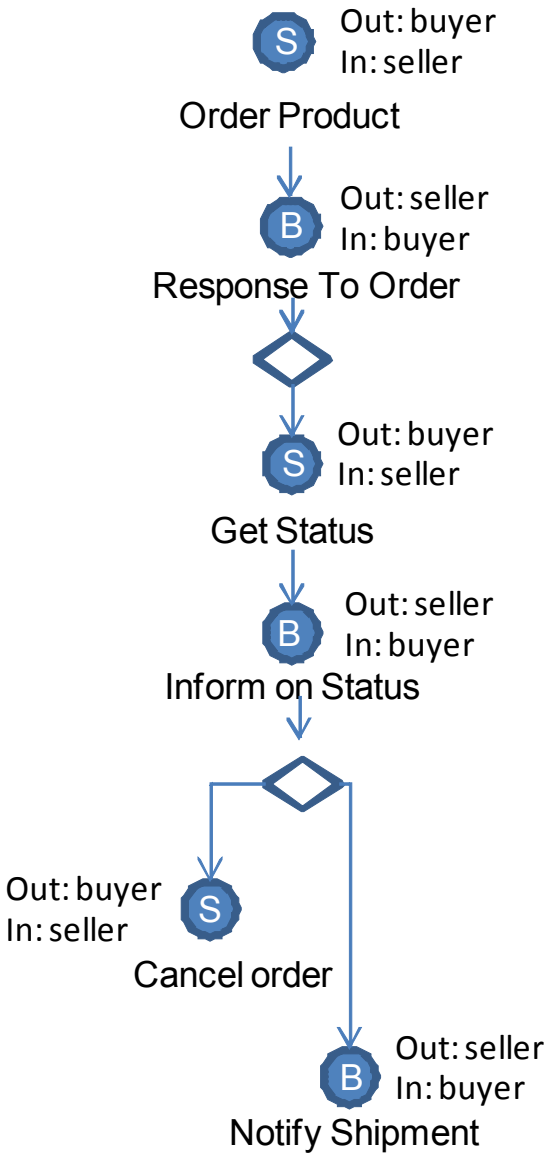


Sellers's orchestration of the order management

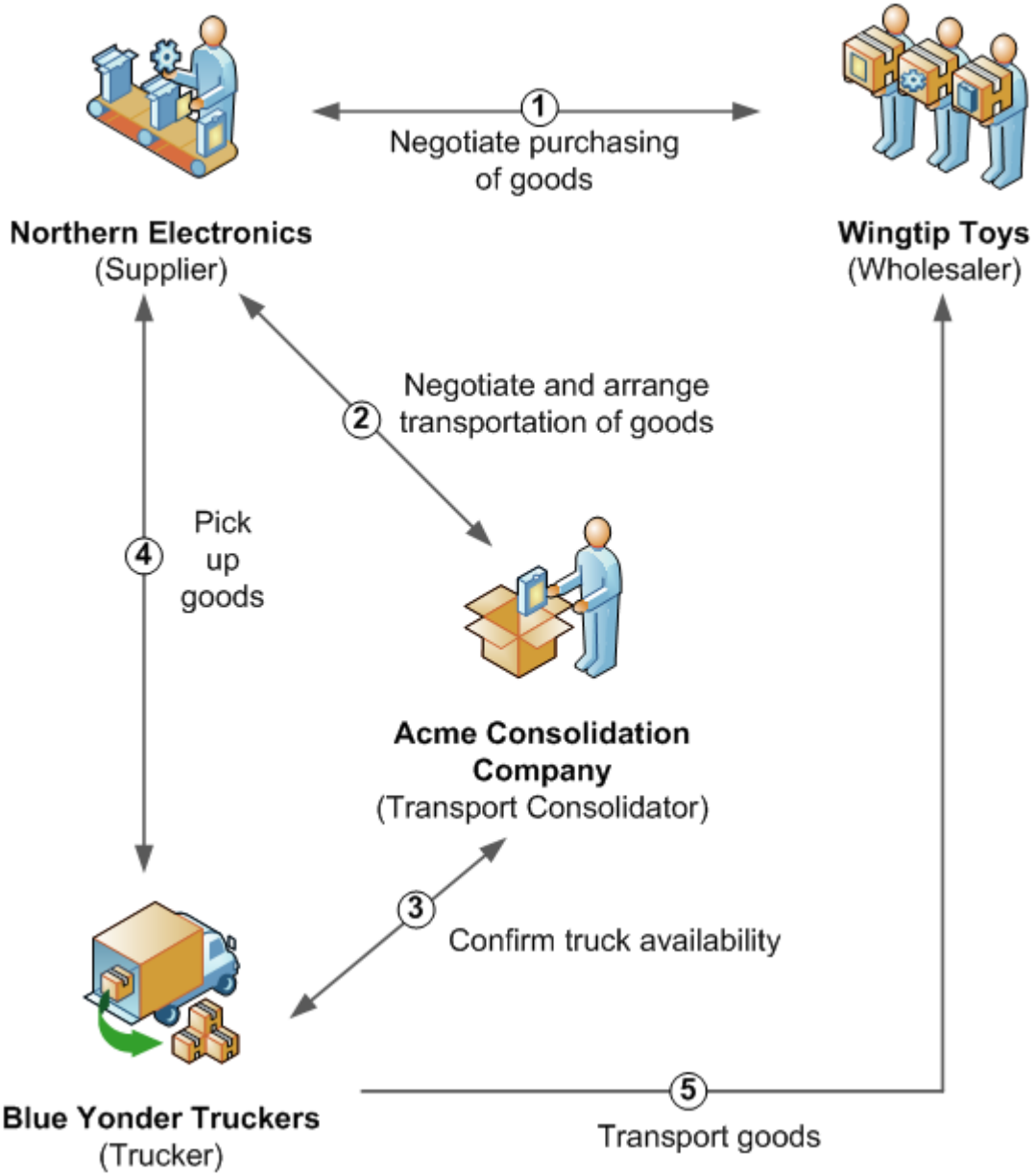


Local choreographies

Global choreography between buyer and seller



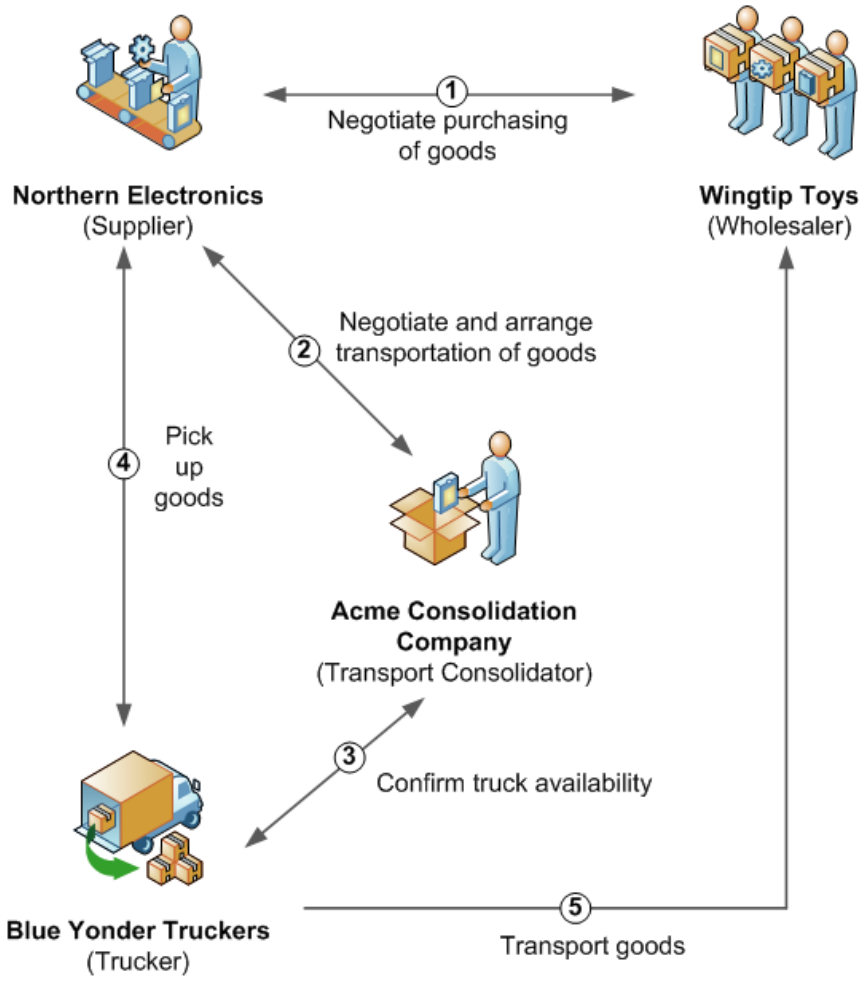
Global multi-party choreography: Good for understanding the big picture

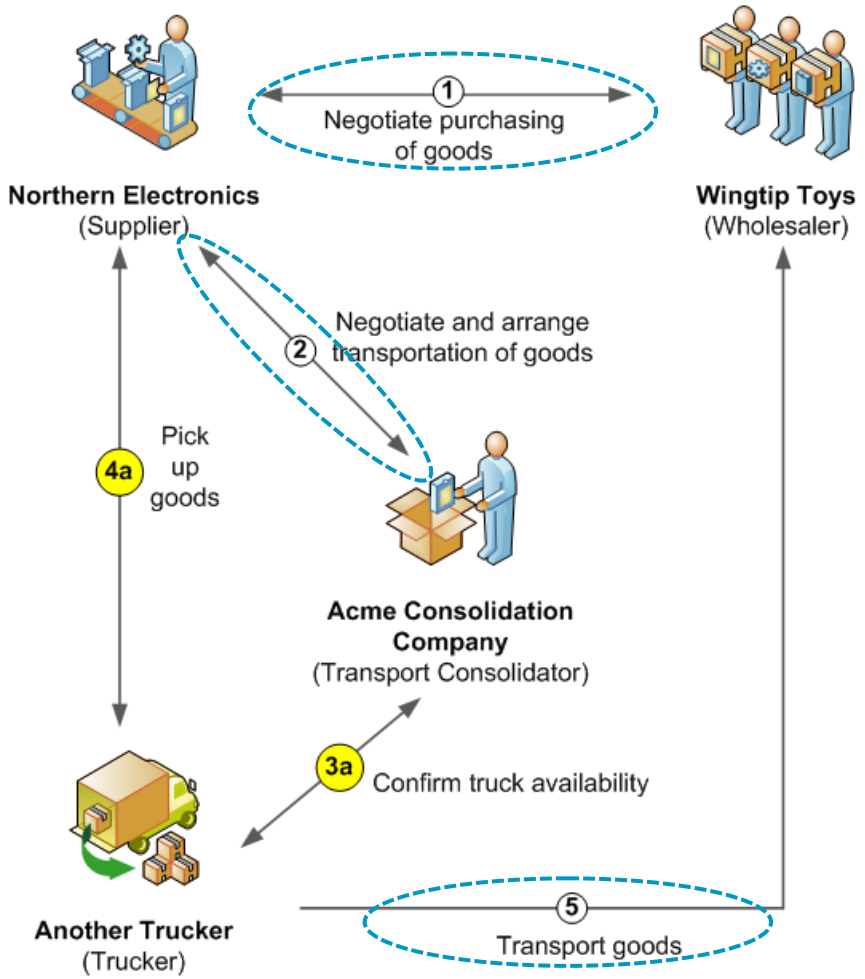


Global multi-party choreography

- Requires a new model if a partner changes

  even if commitment between other partners remain unchanged



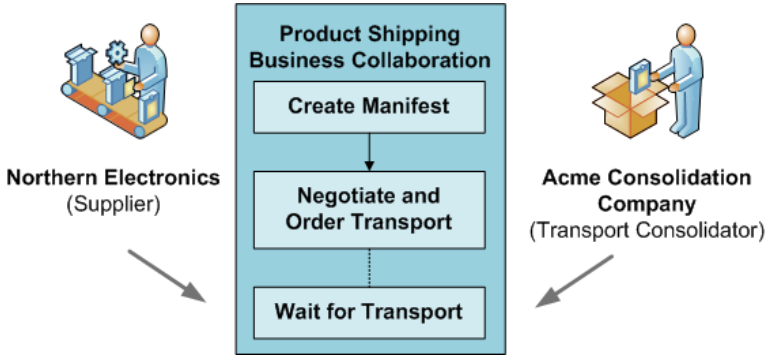


Global binary choreography

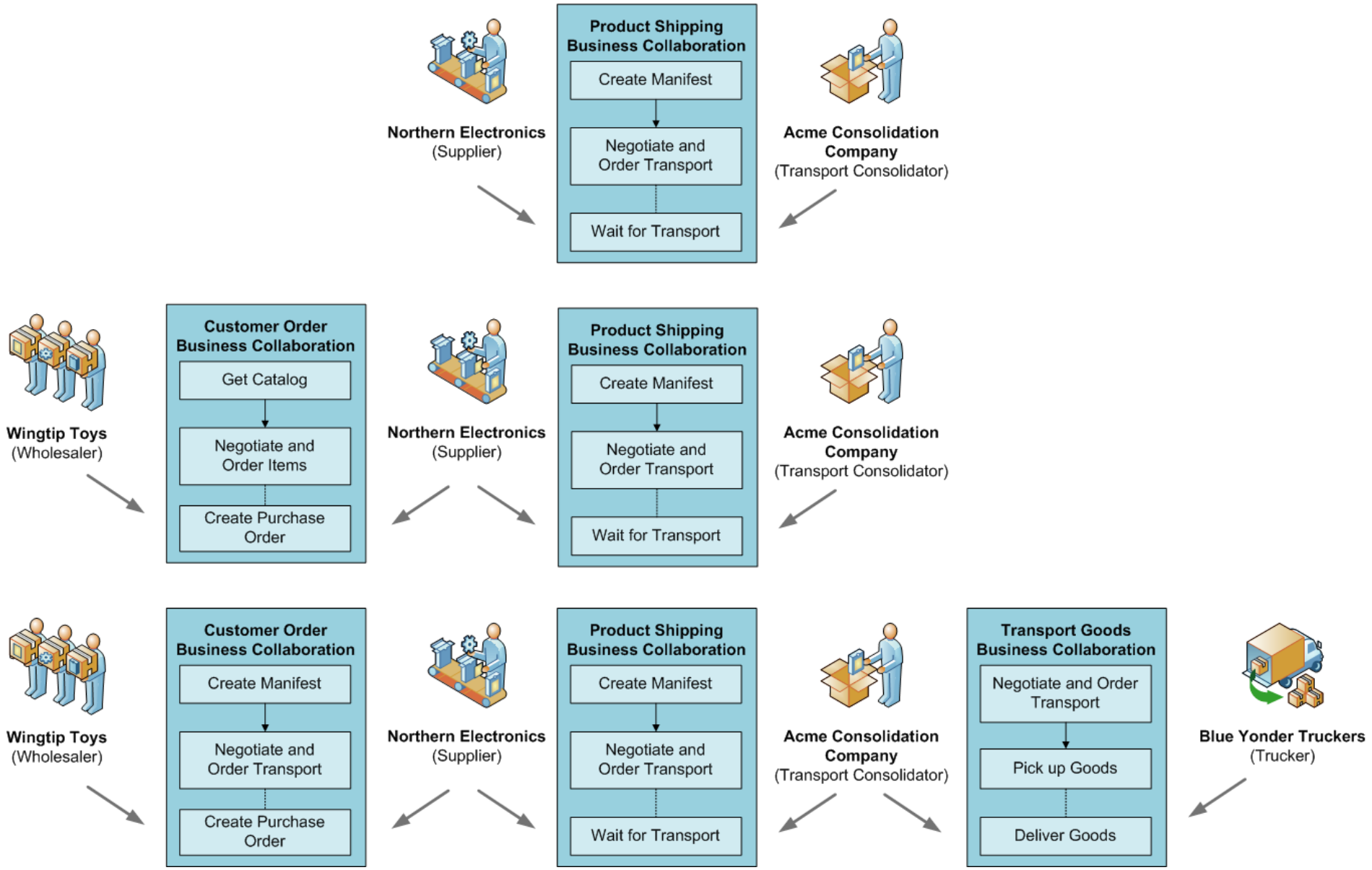
- collaboration depends on commitments established between the participating partners

- UMM model becomes a kind of “contract” that guides the business partnership

- Since commitments are usually made between two partners only, a UMM model - such as most contracts - is agreed upon between **two parties only**



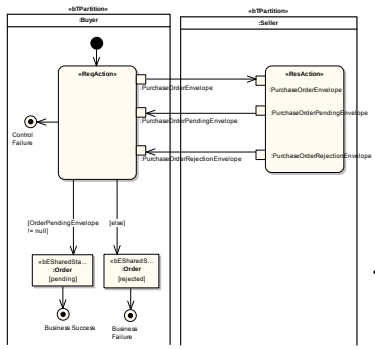
Local multi-party choreographies



Local multi-party choreographies

- It is the „business“ that keeps the overall choreography together
- It are the local choreographies of the partners that keep the overall choreography together
- Local choreographies must be compliant to global ones
- Hence – local choreographies are derived from a global choreography (UMM)

From a global choreography to partner specific local choreographies



UMM Modell

orchestration

orchestration

internal

public

public

internal

local

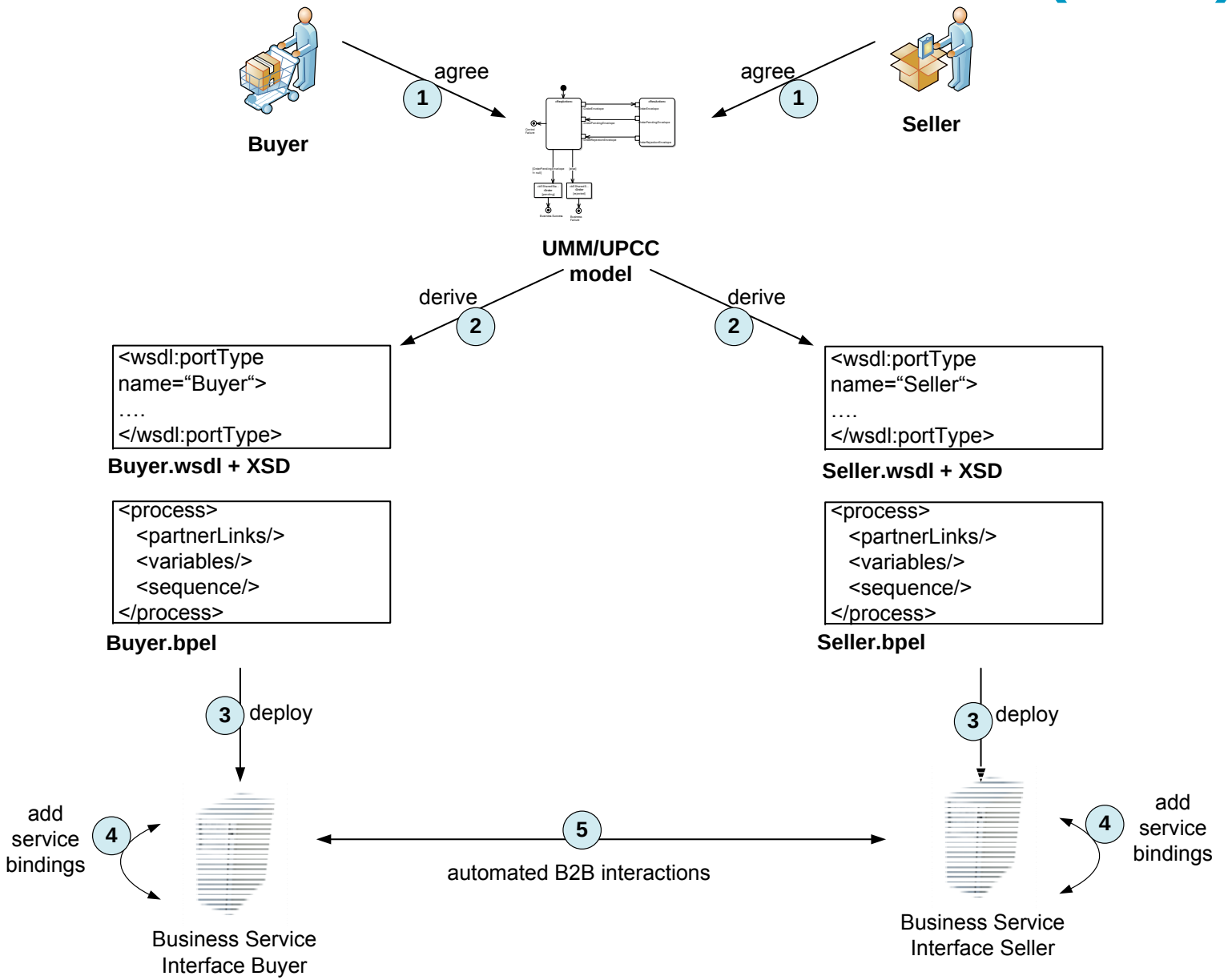
global choreography

local

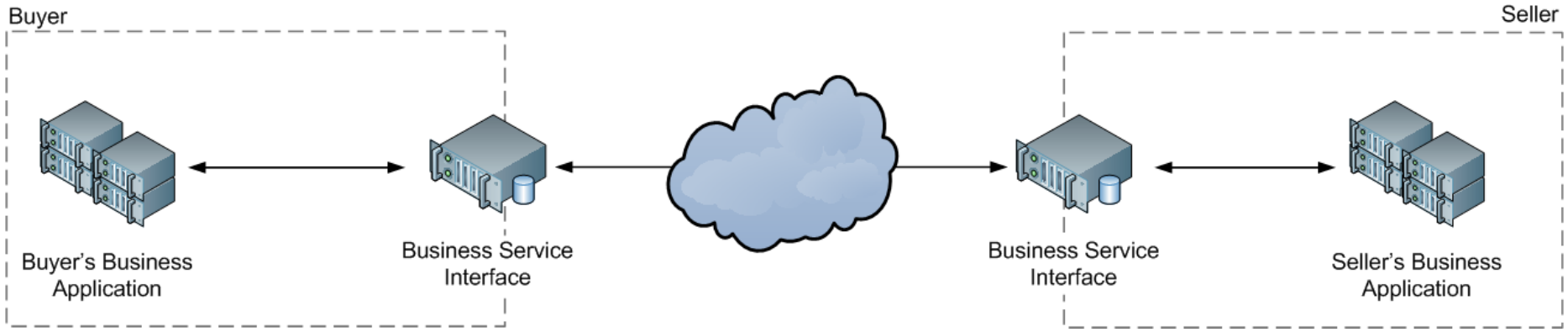
Company A

Company B

Model-Driven approach for Service Oriented Architectures (SOA)

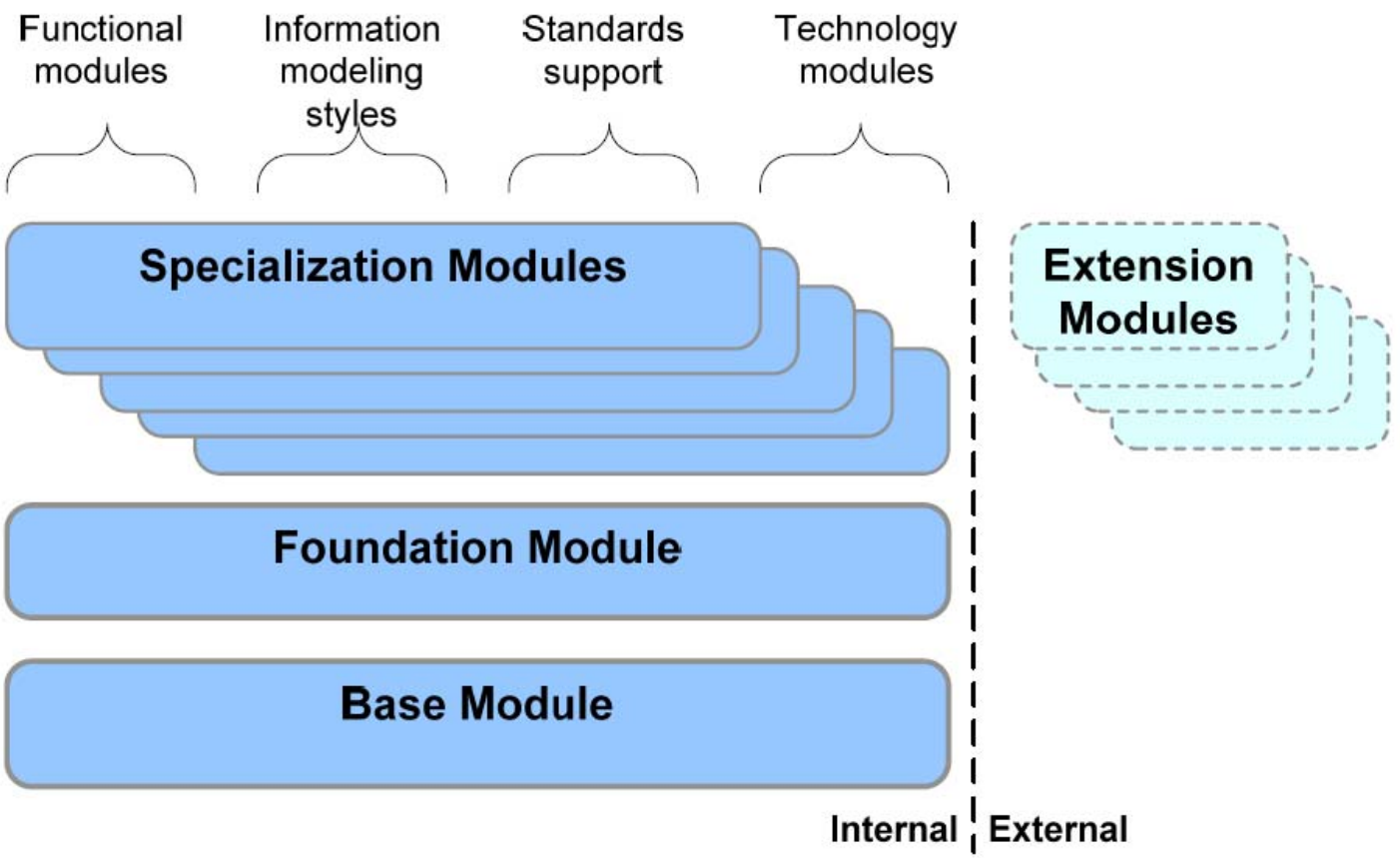


The concept of business service interfaces



- UMM models (global choreography) can be used to derive BPEL/WSDL artifacts which serve as a template for the configuration of business service interfaces (local choreography)
- UMM cannot be used to derive artifacts for configuring business applications (party specific orchestrations)

UMM 2.0 meta model – module structure



UMM 2.0 project team participants

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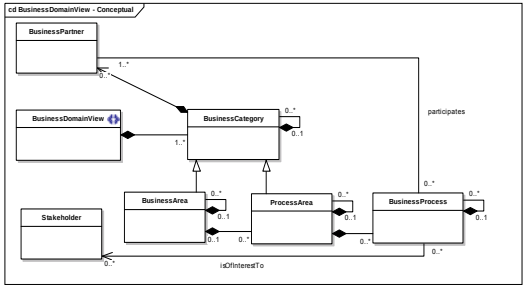
Definition of each section in the UMM 2.0 specification

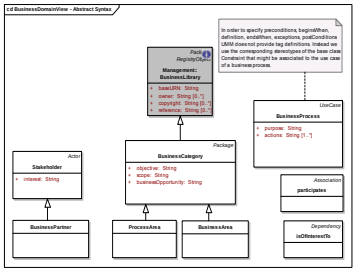
1. Abbreviations of stereotypes

Stereotype Abbreviation	Full Stereotype Name
bDomainV	BusinessDomainView
bCategory	BusinessCategory
bArea	BusinessArea
ProcessArea	ProcessArea
bProcessUC	BusinessProcessUseCase
bProcess	BusinessProcess
bProcessAction	BusinessProcessAction
bESharedState	SharedBusinessEntityState
bEInternalState	InternalBusinessEntityState

2. Conceptual Description (informative)



3. Stereotypes and Tag Definitions (normative)



Stereotype	BusinessPartner
Base Class	Actor
Parent	Stakeholder
Description	A business partner is an organization type, an organizational unit type or a person type that participates in a business process. Business partners typically provide input to and/or receive output from a business process. Due to the fact that a business partner participates in a business process she or he has by default a vested interest in the business process. It follows that a business partner is a special kind of stakeholder.
Tag Definition	**Inherited tagged values:** - interest

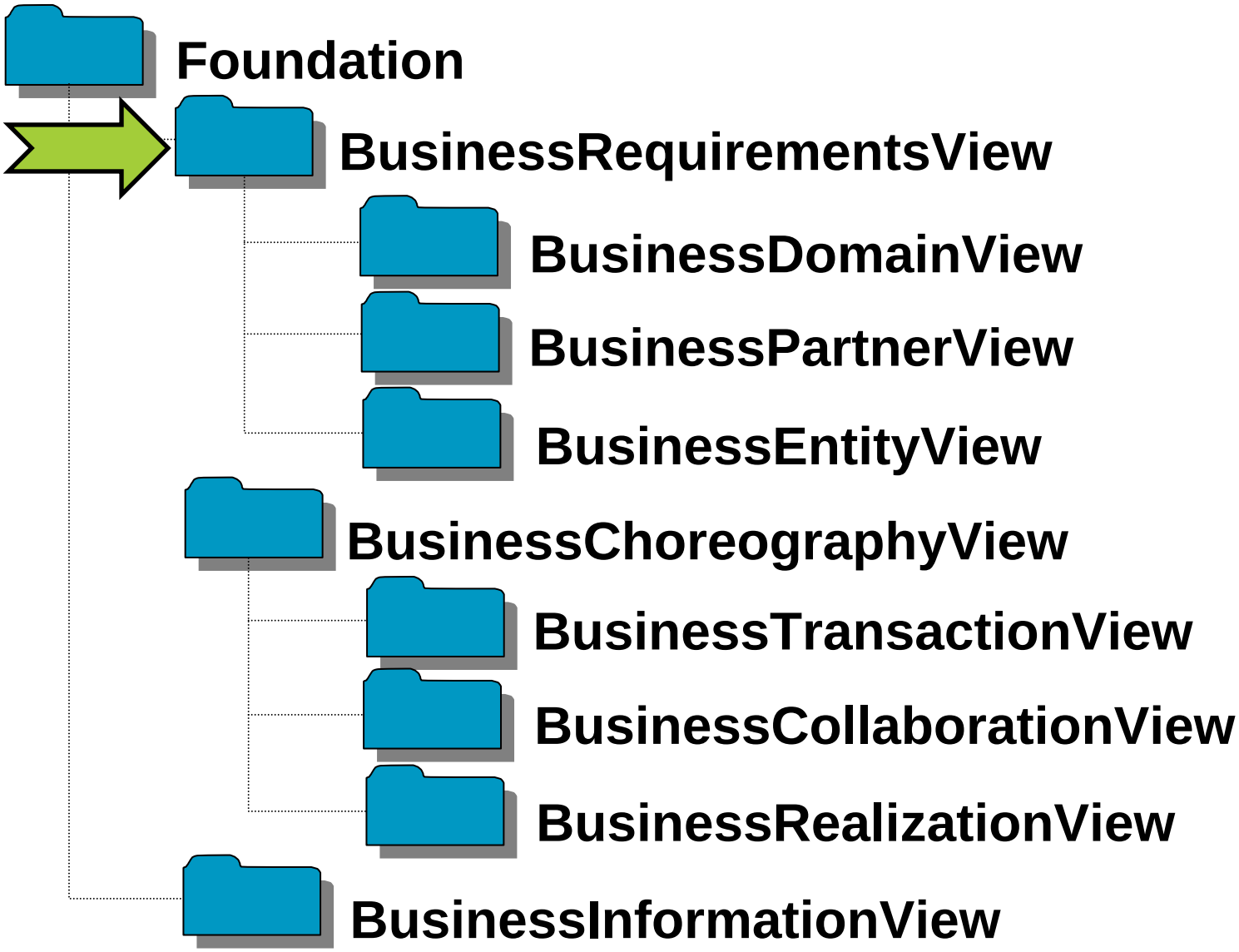
4. Constraints (normative)

Either a ProcessArea contains one or more *ProcessAreas* and no other elements or it MUST contain at least one *BusinessProcess* and MAY include *BusinessPartners*, *Stakeholders* as well as stereotyped associations *participates* and stereotyped dependencies *isOfInterestTo*.

```
package Model_Management
context Package

inv contentsOfProcessArea:
  self.isProcessArea() implies
  self.contents->notEmpty and
  (self.contents->forAll(isProcessArea()) or
  (self.contents->forAll(isBusinessProcess() or isBusinessPartner() or
  isStakeholder() or isParticipates() or isIsOfInterestTo()) and
  self.contents->select(isBusinessProcess())->size()>= 1))
```

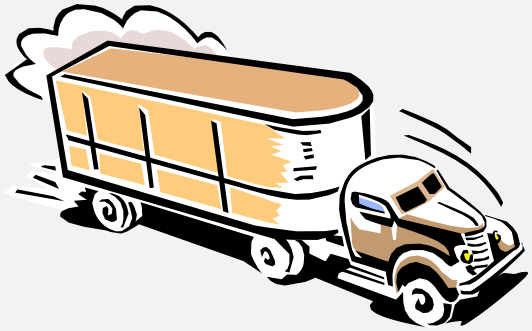
Package structure of the current UMM version – UMM 2.0

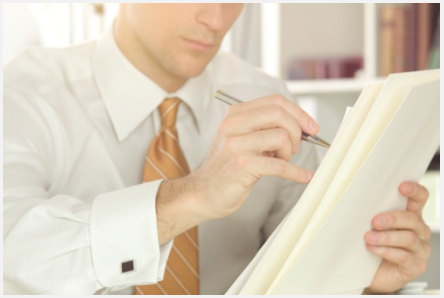


Waste Movement in Europe – an introduction to the accompanying example

European Cross-Border Waste Movement

Export Authority





Notifier

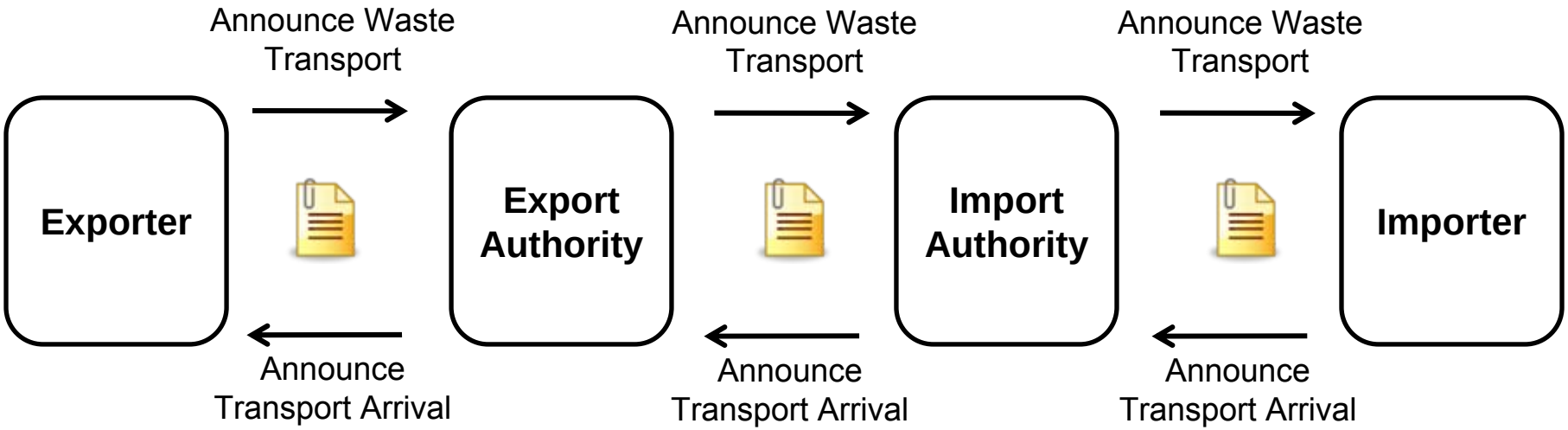
Import Authority

Notifiee

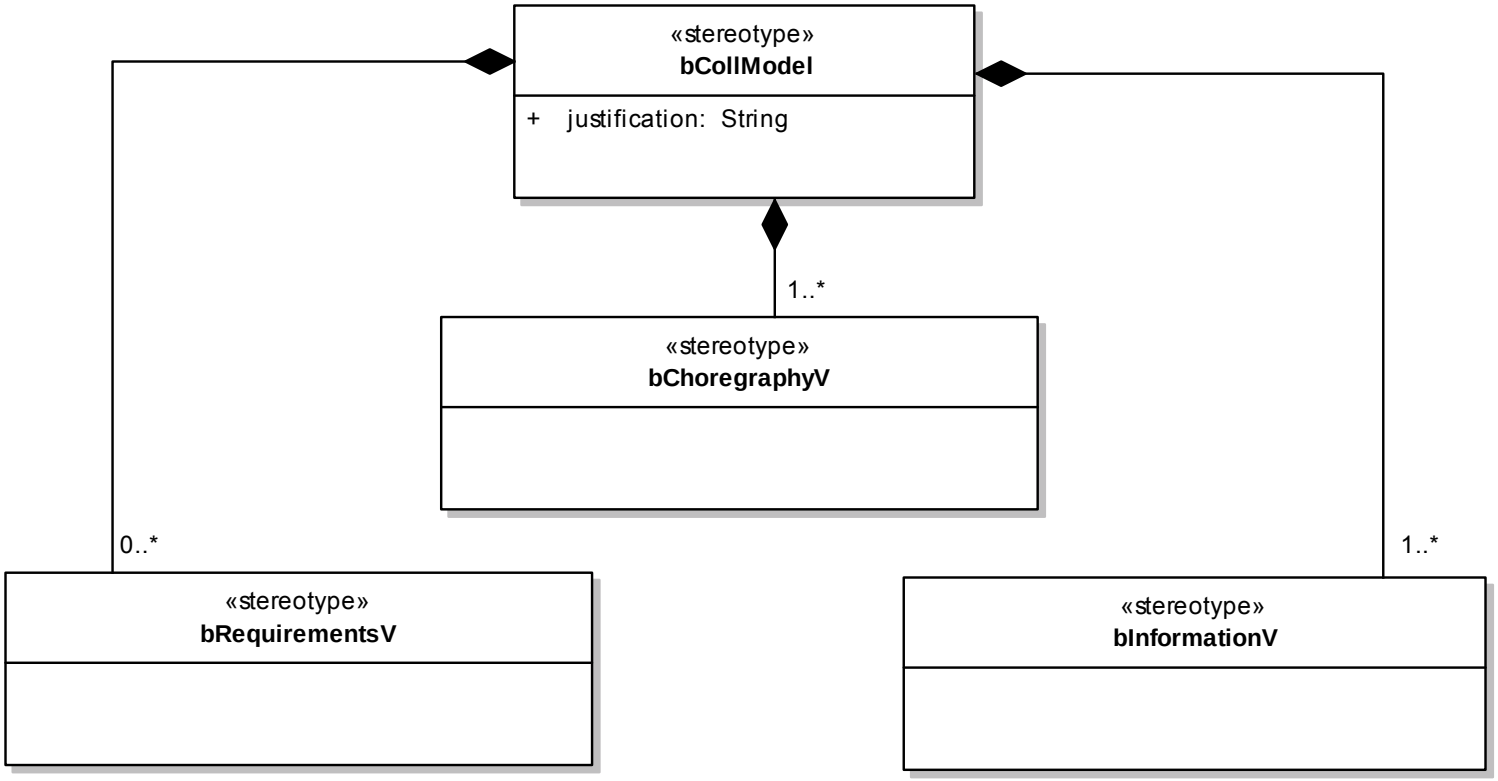
Announce Transport Arrival

Announce Waste Transport

Involved parties

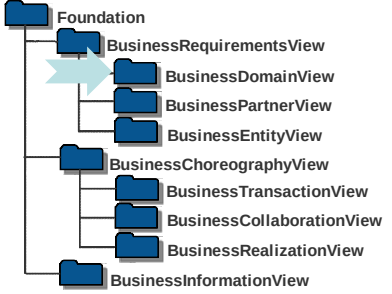


Cutout from the meta model



The Business Requirements View is an optional view.

Business Domain View (BDV)



Purpose

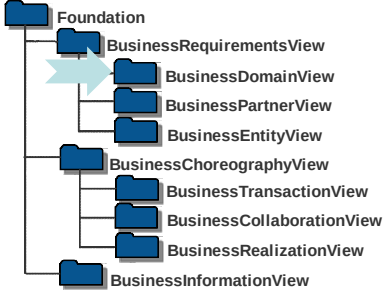
- Getting to know the domain under consideration
- Discovery of existing business processes
- Rough identification of desired collaborations
- **Important:** No new business processes are created in the BDV!

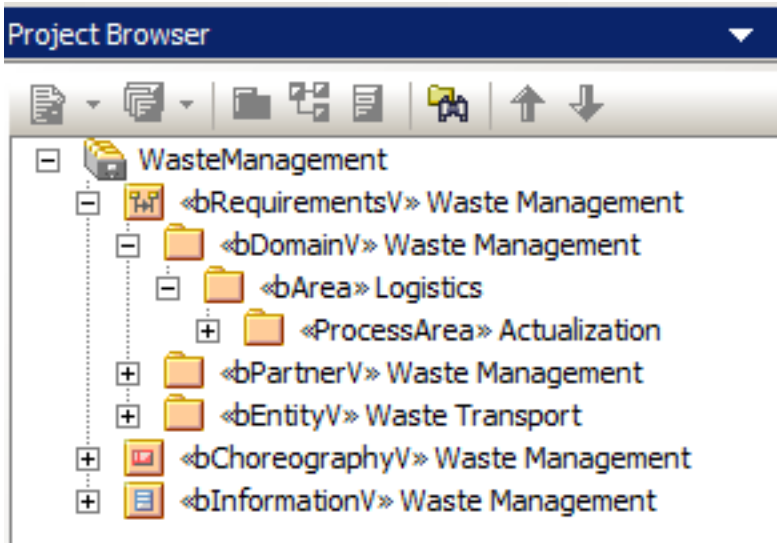
Artifacts

- Use case diagrams
- Activity diagrams

- The business analyst goes iteratively through **the business domain view**, the **business partner view** and the **business entity view**.

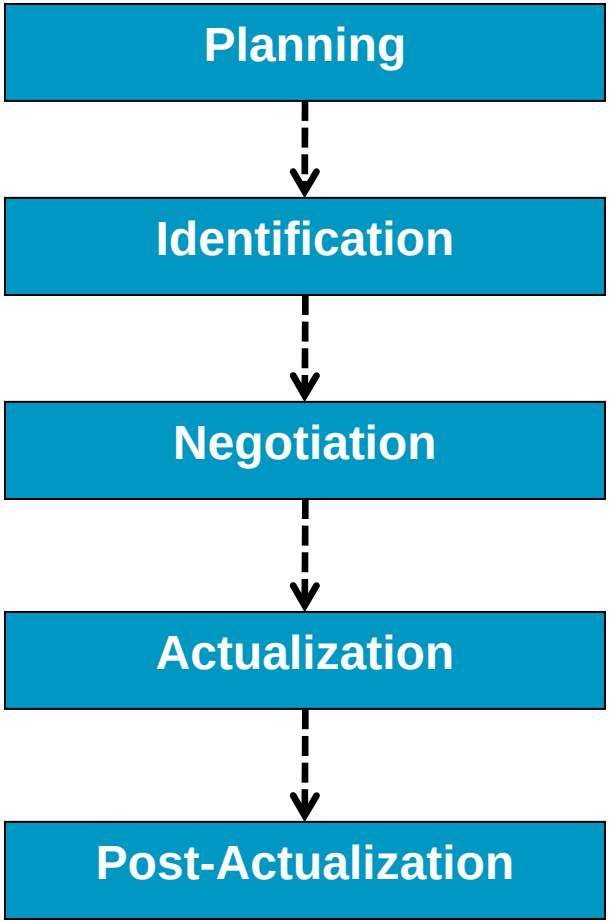
Classifying business processes in the Business Domain View





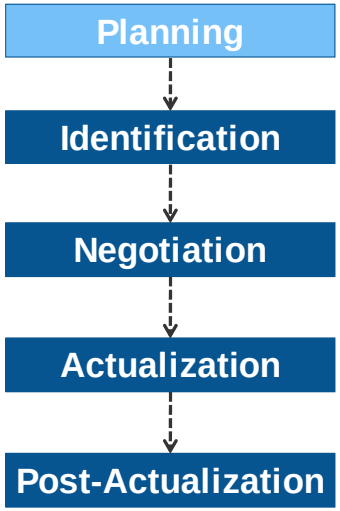
- Using the concept of Business Areas (bArea) und Process Areas the business modeler can classify the different processes
- UMM does not mandate a particular structure but suggests
  - Open□edi phases for Process Areas
  - Concepts from the Common Business Process Catalogue (CBPC) for Business Areas

The Open-edi phases for Process Areas



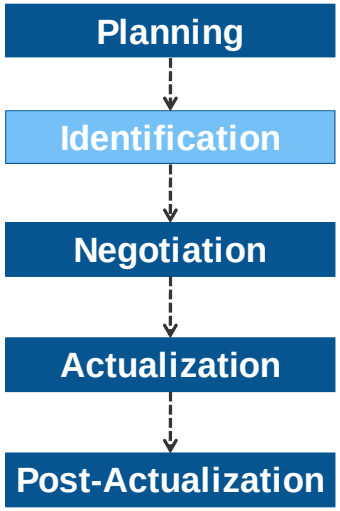
Planning phase

In the Planning Phase, both the buyer and seller are engaged in activities to decide **what action to take for acquiring or selling** a good, service, and/or right.



Identification phase

The Identification Phase pertains to all those actions or events whereby data is interchanged among potential buyers and sellers in order to **establish a one-to-one linkage**.



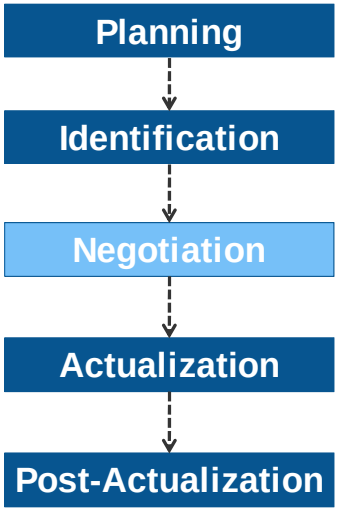
Negotiation phase

The Negotiation Phase pertains to all those actions and events involving the exchange of information following the Identification Phase where a potential buyer and seller have

(1) identified the nature of good(s) and/or service(s) to be provided; and,

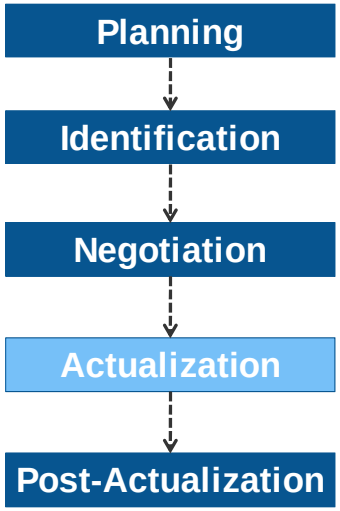
(2) identified each other at a level of certainty.

The **process of negotiation is directed at achieving an explicit, mutually understood, and agreed upon goal of a business collaboration and associated terms and conditions.** This may include such things as the detailed specification of the good, service, and/or right, quantity, pricing, after sales servicing, delivery requirements, financing, use of agents and/or third parties, etc.



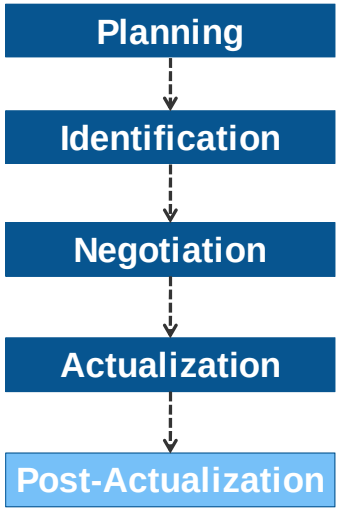
Actualization phase

The Actualization Phase pertains to all activities or events necessary for the **execution of the results of the negotiation for an actual business transaction**. Normally the seller produces or assembles the goods, starts providing the services, prepares and completes the delivery of good, service, and/or right, etc., to the buyer as agreed according to the terms and conditions agreed upon at the termination of the Negotiation Phase. Likewise, the buyer begins the transfer of acceptable equivalent value, usually in money, to the seller providing the good, service, and/or right.



Post-Actualization

The Post-Actualization Phase includes all of the activities or events and **associated exchanges of information that occur between the buyer and the seller after the agreed upon good, service, and/or right is deemed to have been delivered**. These can be activities pertaining to warranty coverage, service after sales, post-sales financing such as monthly payments or other financial arrangements, consumer complaint handling and redress or some general post-actualization relationships between buyer and seller.

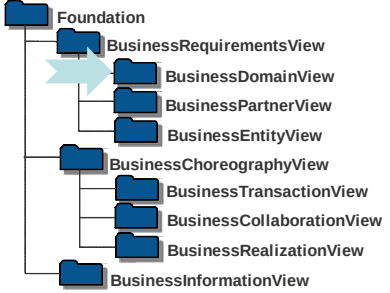


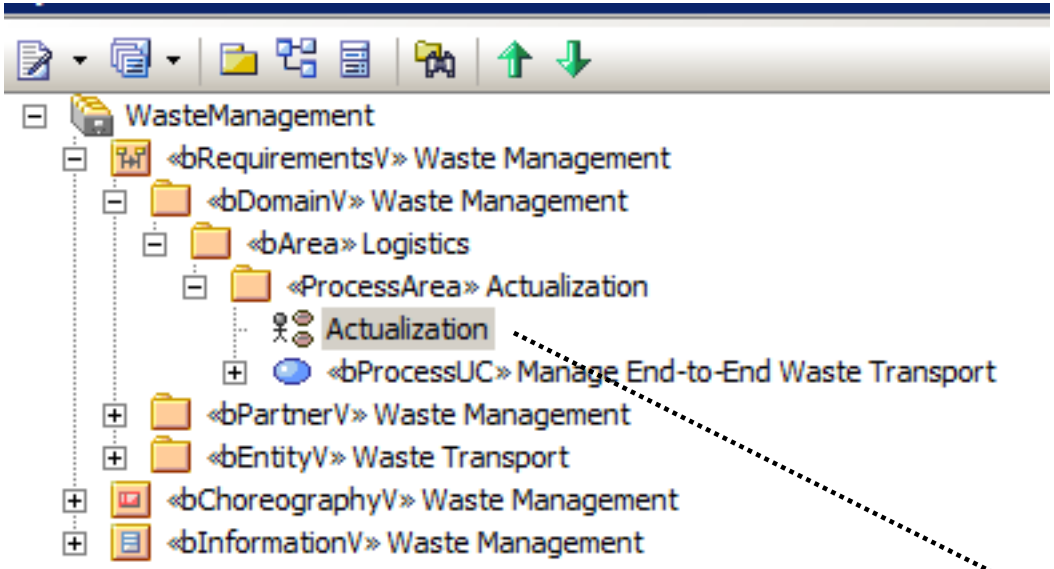
A classification matrix example

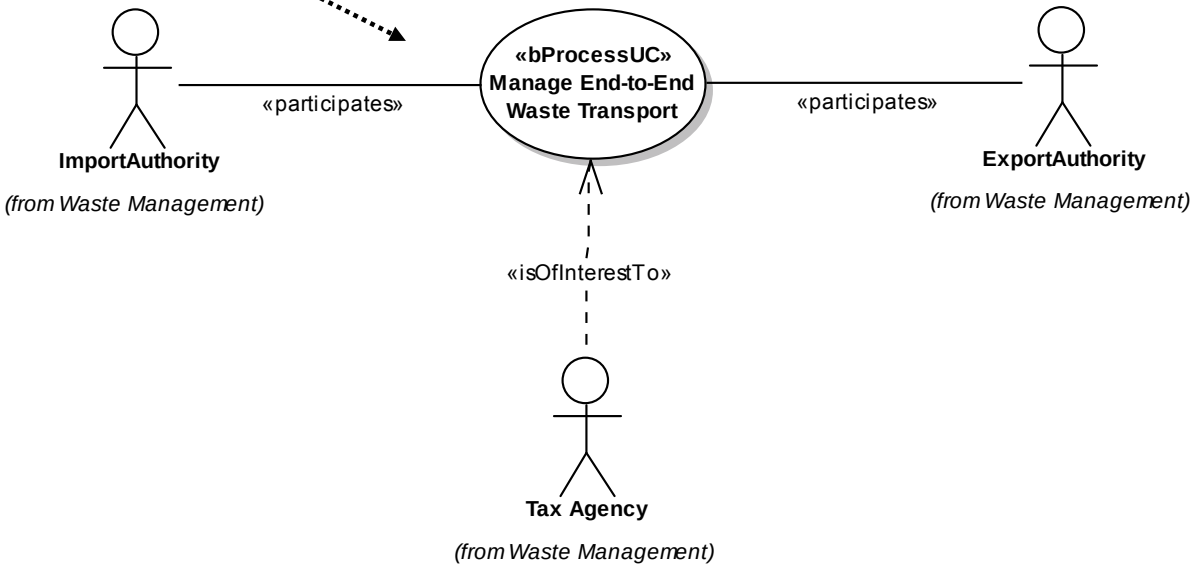
CBPC classification ↓ Open-edi phases →

	Planning	Identification	Negotiation	Actualization	Post-Actualization
Procurement/ Sales					
Design					
Manufacturing					
Logistics					
Recruitment/ Training					
Financial Services					
Regulation					
Health Care					

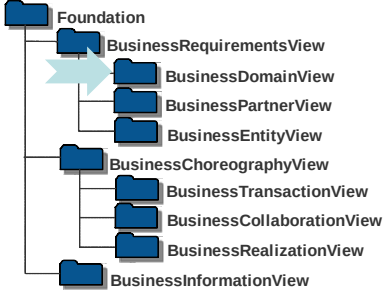
Business Domain View - example

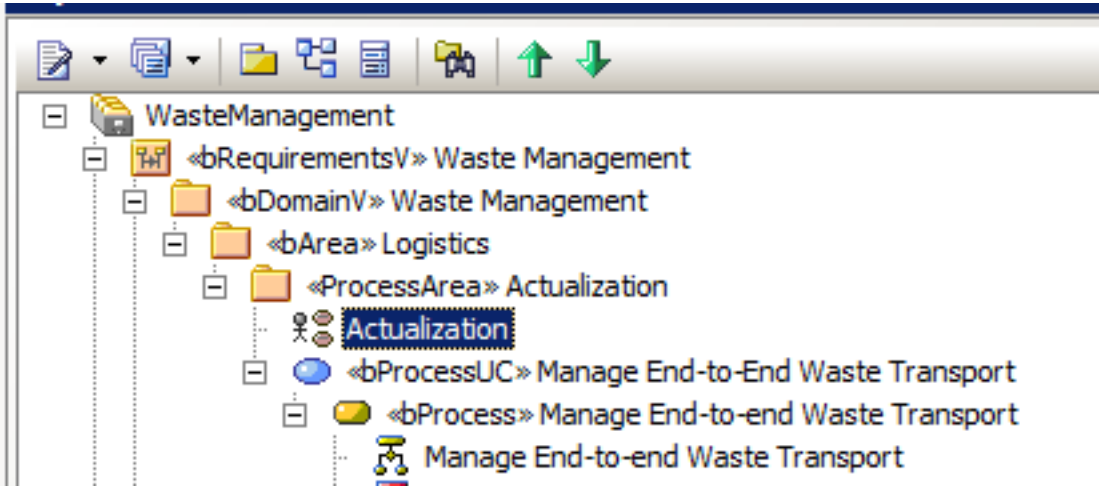


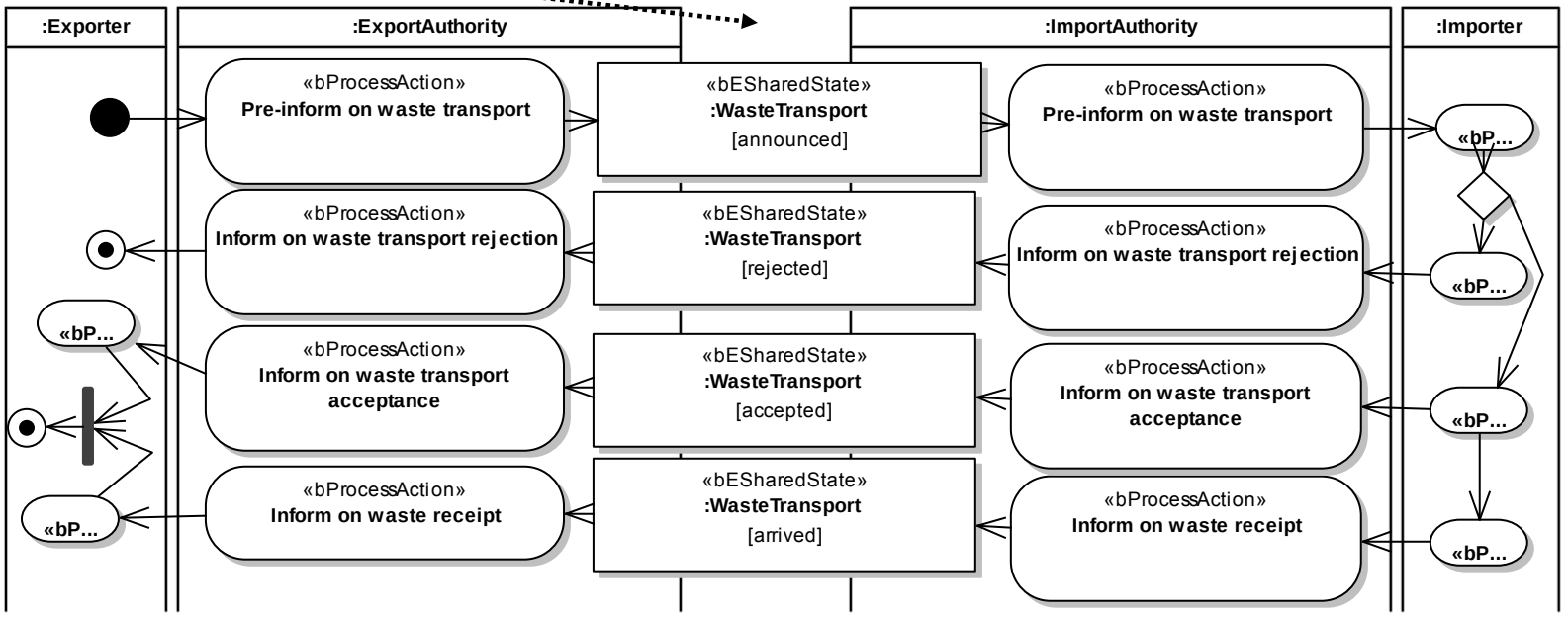




Business Domain View cont'd

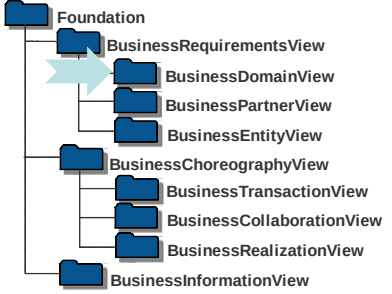


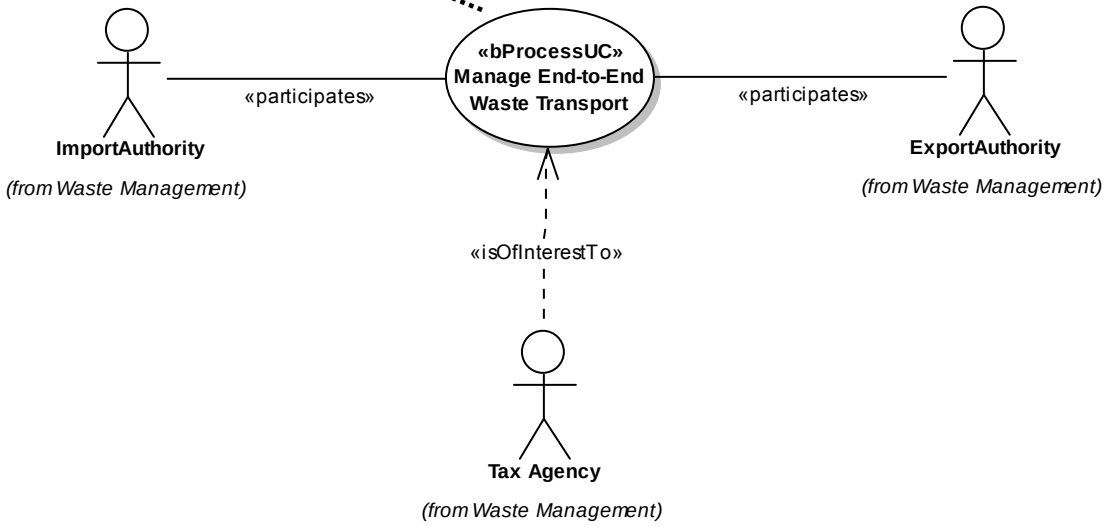




Using worksheets to capture requirements

Form: Business Collaboration	
Business Collaboration Name	Order Management
Worksheet Id	http://www.ifs.univie.ac.at/bh/BookOrderManagement
Version	0.1
Identifier	null
Description	A retailer orders books from a wholesaler: The retailer requests a quote for books. Books are identified according to certain criteria. The retailer gets back a list of corresponding books including price quotes. It is possible to put books on a reservation list at the wholesaler (books from this list can be canceled without charges). The retailer can order books either from the search result list or from the reservation-list or at present. The retailer must be registered for both placing purchase orders and reserving books. The retailer can request the status of its reservation list at any time.
Preconditions	none
Begins When	Either the retailer requests a quote for books OR wants to view his current status of the reservation list
Ends When	When the wholesaler accepts the order and a contract is established
Exceptions	Retailer finally does not want to place an order; Wholesaler does not accept an order; Books are not available; Wholesaler does not register the customer;
Postconditions	Order completed
Initiating Partner Type	Retailer
Responding/Receiving Partner Type	Wholesaler
Initiating Events	Retailer's need for books
Terminating Events	Order response is received by the retailer and order contract is established;
Scope	Request a quote for books in a catalog; manage books on a reservation list; customer registration process; establishing contracts for book orders;
Boundary	Managing purchase orders of books between retailer and wholesaler; it is limited to their communication and does not involve any communications with banks concerning payment or transporters concerning shipment;
Constraints	Business Collaboration is defined in the context of books; Business Collaboration = Order Management; Product Classification = Book; Industry Classification = Print Media; Geographical = ALL; Official Constraints = NONE; System Capabilities = NONE;
Supporting Business Transactions and Business Collaborations	Register Retailer; Request For Quote For Books; Reserve Books; Order Books; Present Reserved Books;



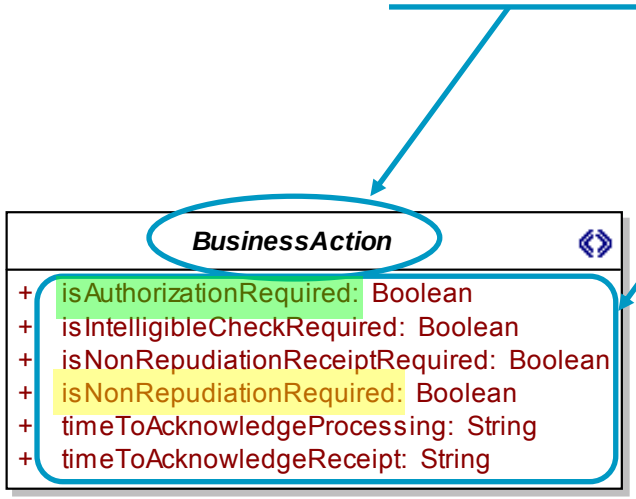


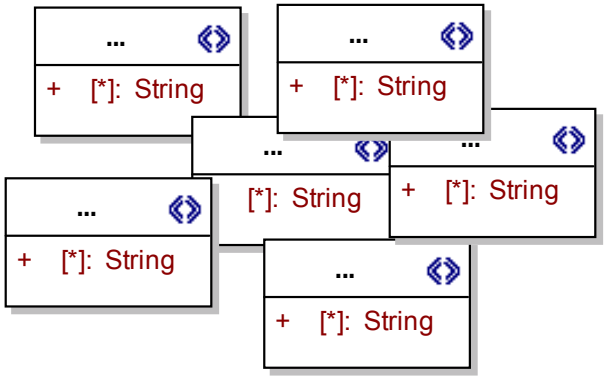
A detailed definition of the different worksheets is provided in the UMM 2.0 specification.

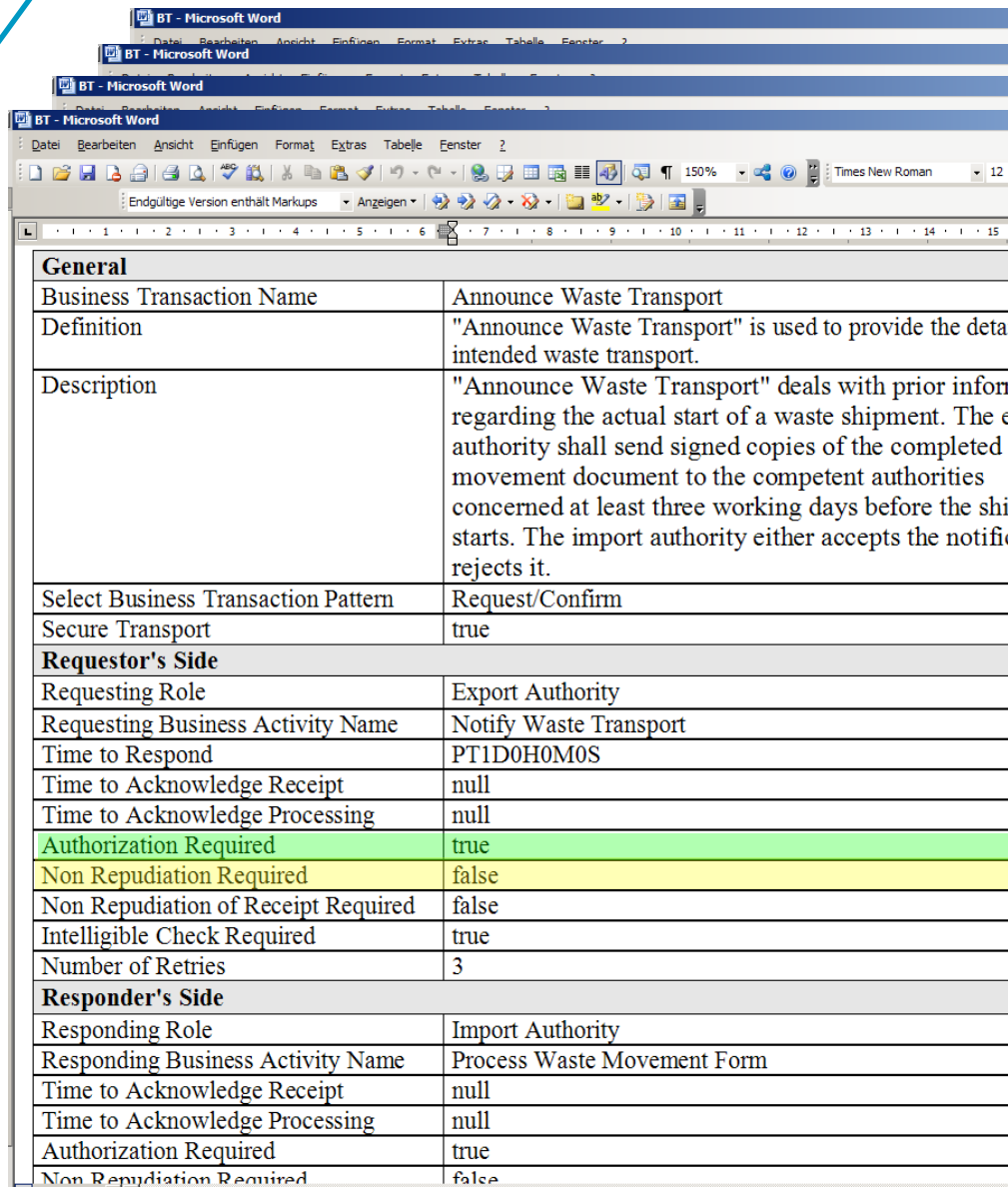
Shortcomings of traditional UMM worksheets

- Static representation of business domain knowledge
  - Only Strings allowed
  - No relations to other UMM Worksheets
- Use of paper or word processors
- Business domain knowledge and UMM model are kept in different tools
  - Business domain knowledge is separated from the model
- Potential inconsistencies
  - Between different worksheets
  - Between tagged values and worksheets
- Additional requirement:
  - No semi-automatic generation of modeling artifacts

UML profile = stereotypes, tagged values, and constraints

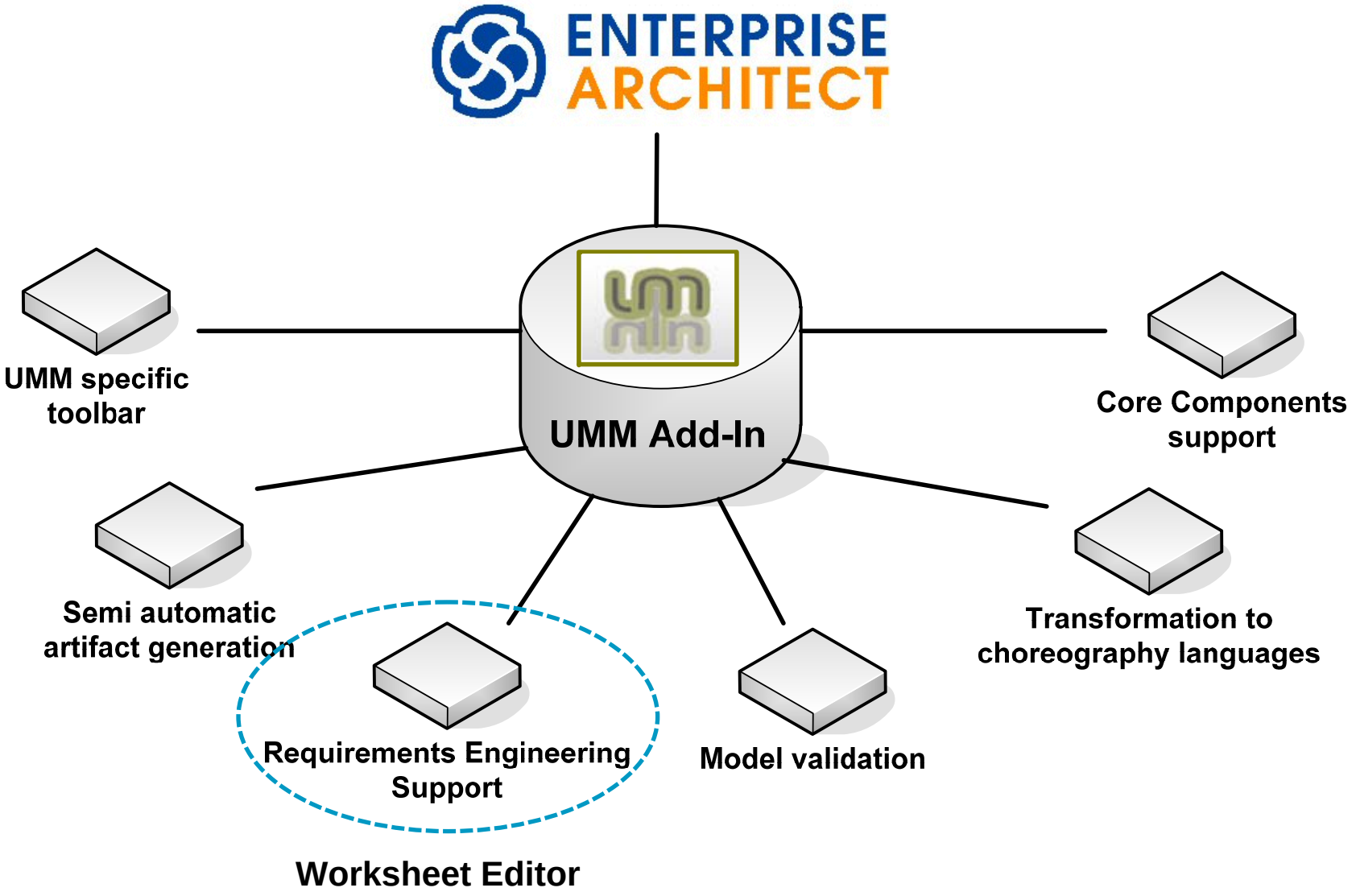






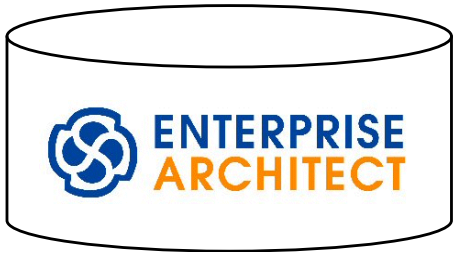
Worksheets

Tool support – the worksheet editor

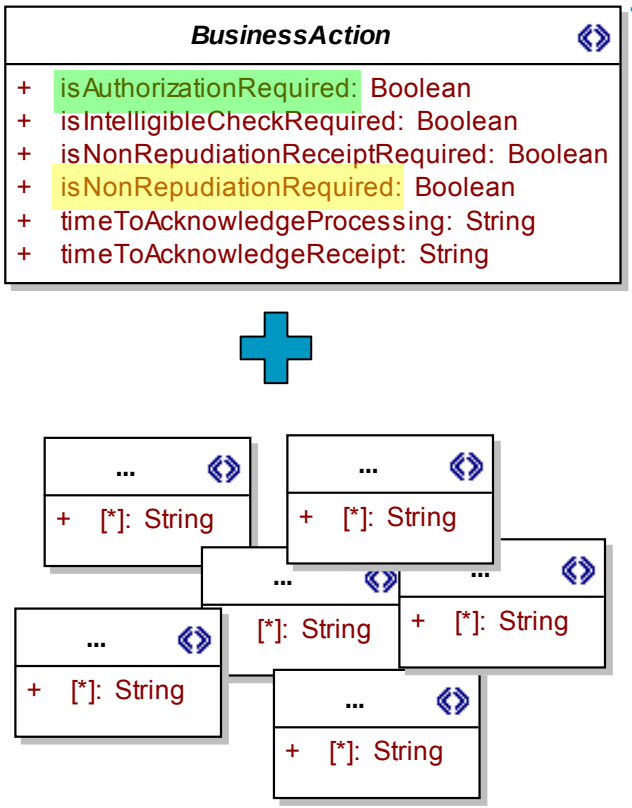


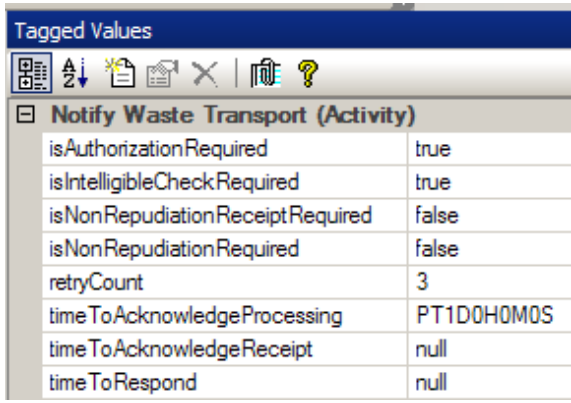
Worksheet editor manages the single repository

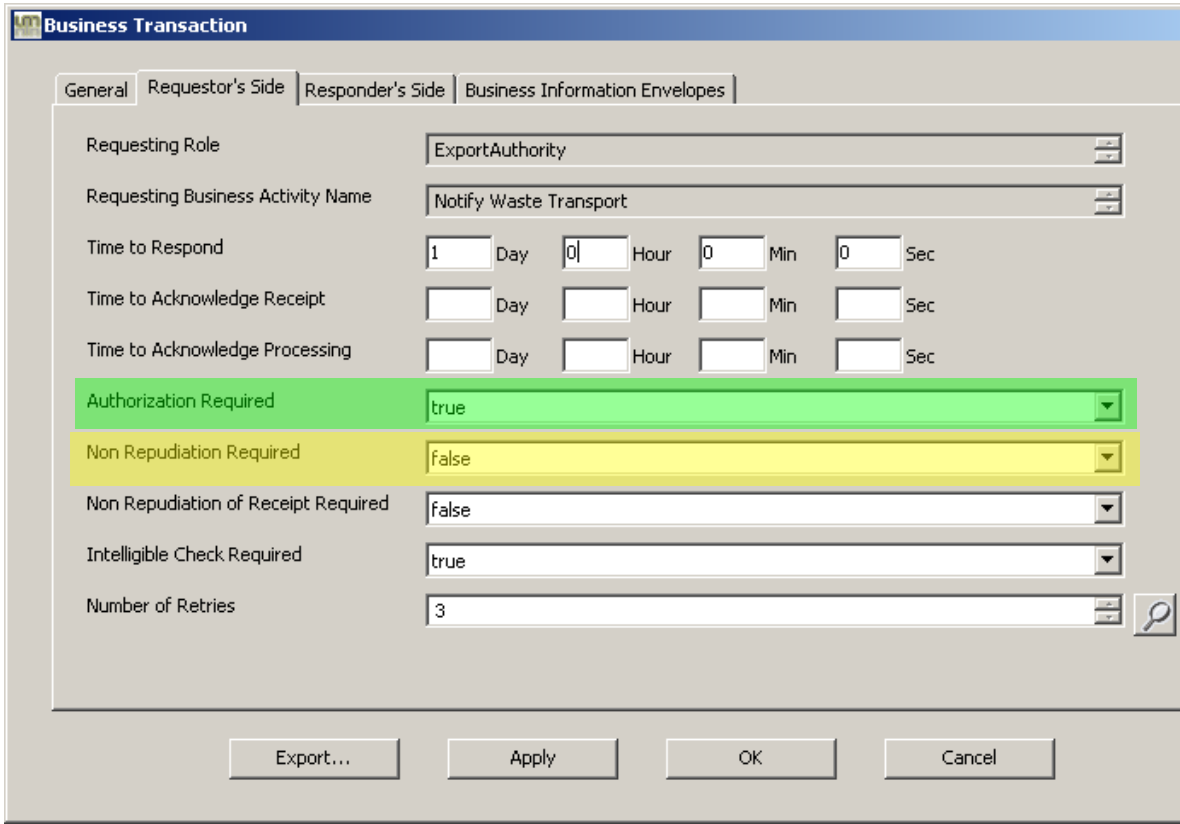
UMM Model + UMM Worksheets



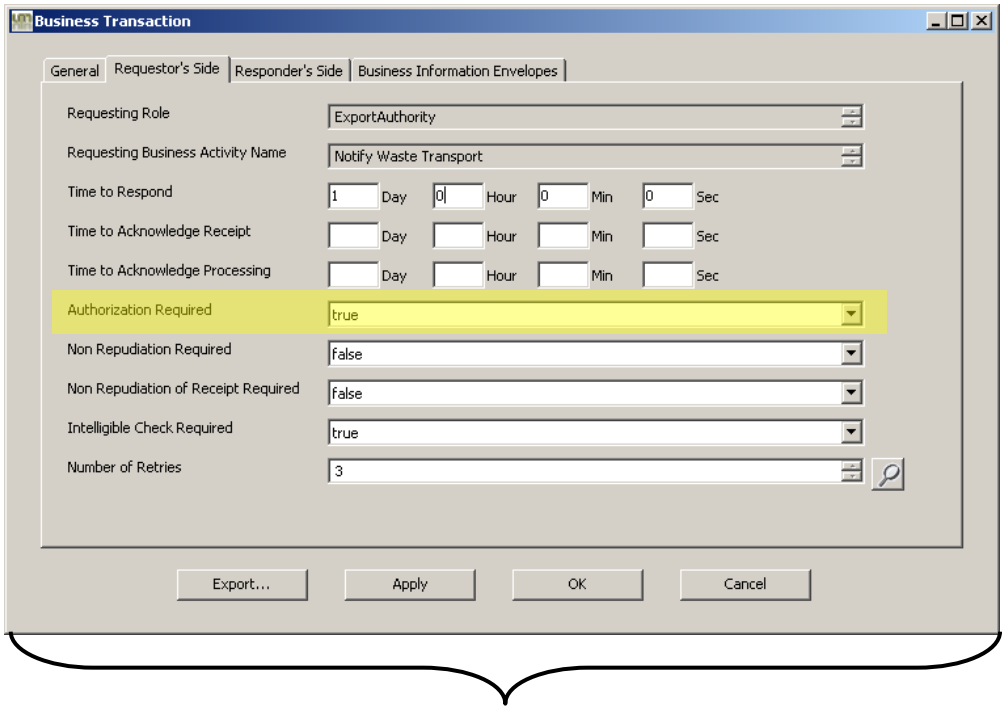
Single Repository







Customizing content and layout of the worksheets




```
<ENTRY type="choice" protected="false"
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        taggedValueType="RequestingBusinessActivity">
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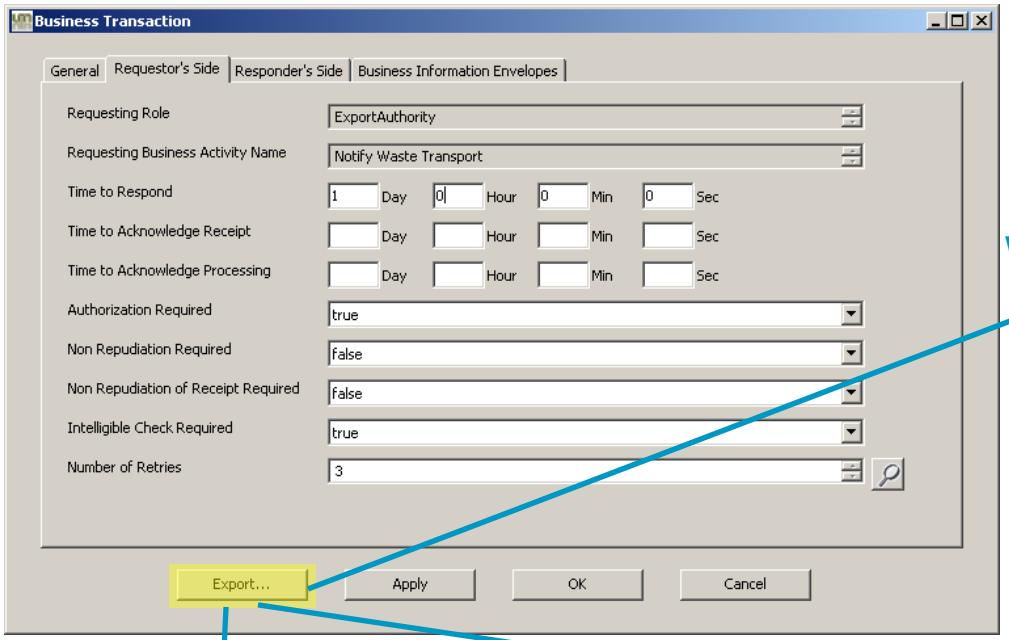
    <CHOICEBOX>
        <ITEM>true</ITEM>
        <ITEM>false</ITEM>
    </CHOICEBOX>
</ENTRY>
```

1. Worksheet Definition Language (WDL)
   - XML-based
2. WDL specifies
   - the layout of the worksheet editor
   - where to store the business information
   - the relations between other worksheets
3. UMM Add-In provides WDL according to UN/CEFACT‘s Worksheet recommendation
   - WDL can be customized for any domain
   - Each Worksheet is specified by one WDL instance

Documenting the collaborative space of B2B models



WDL

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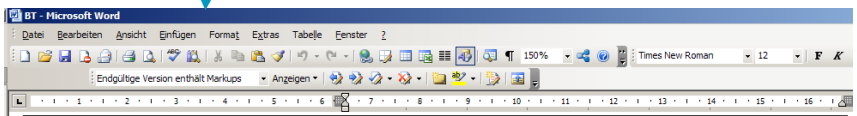
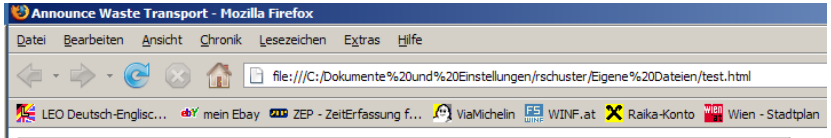
            <DEFAULT>Name_Of_EA_Element</DEFAULT>
        </ENTRY>
        <ENTRY type="text" lines="5" protected="true">
            <NAME>Definition</NAME>
            <TOOLTIP></TOOLTIP>
        </ENTRY>
        <ENTRY type="text" lines="7" protected="true"
            taggedValueName="DetailedDescription“
            taggedValueType="BusinessTransactionUseCase">
            <NAME>Description</NAME>
            <TOOLTIP></TOOLTIP>
        </ENTRY>
    [..]
</WORKSHEET>
```

MS Word



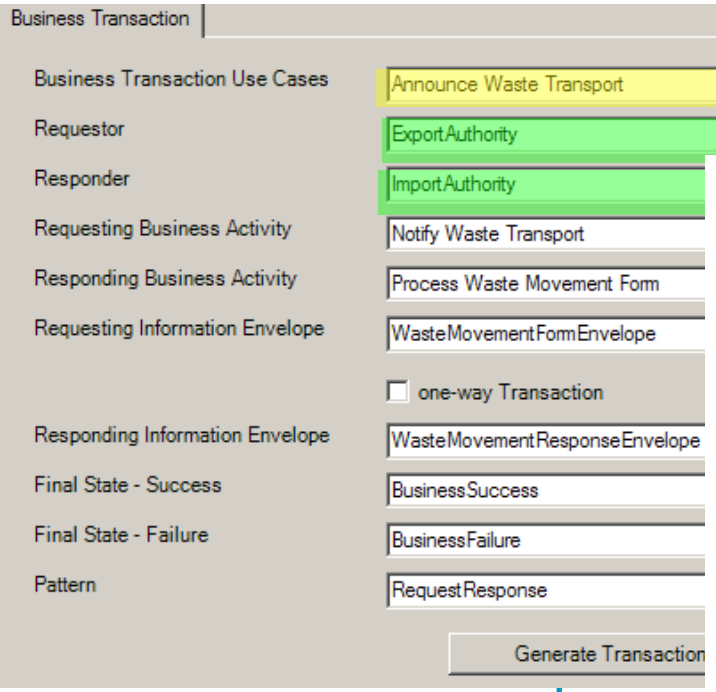
General	
Business Transaction Name	Announce Waste Transport
Definition	"Announce Waste Transport" is used to provide the details of an intended waste transport.
Description	"Announce Waste Transport" deals with prior information regarding the actual start of a waste shipment. The export authority shall send signed copies of the completed movement document to the competent authorities concerned at least three working days before the shipment starts. The import authority either accepts the notification or rejects it.
Select Business Transaction Pattern	Request/Confirm
Secure Transport	true
Requestor's Side	

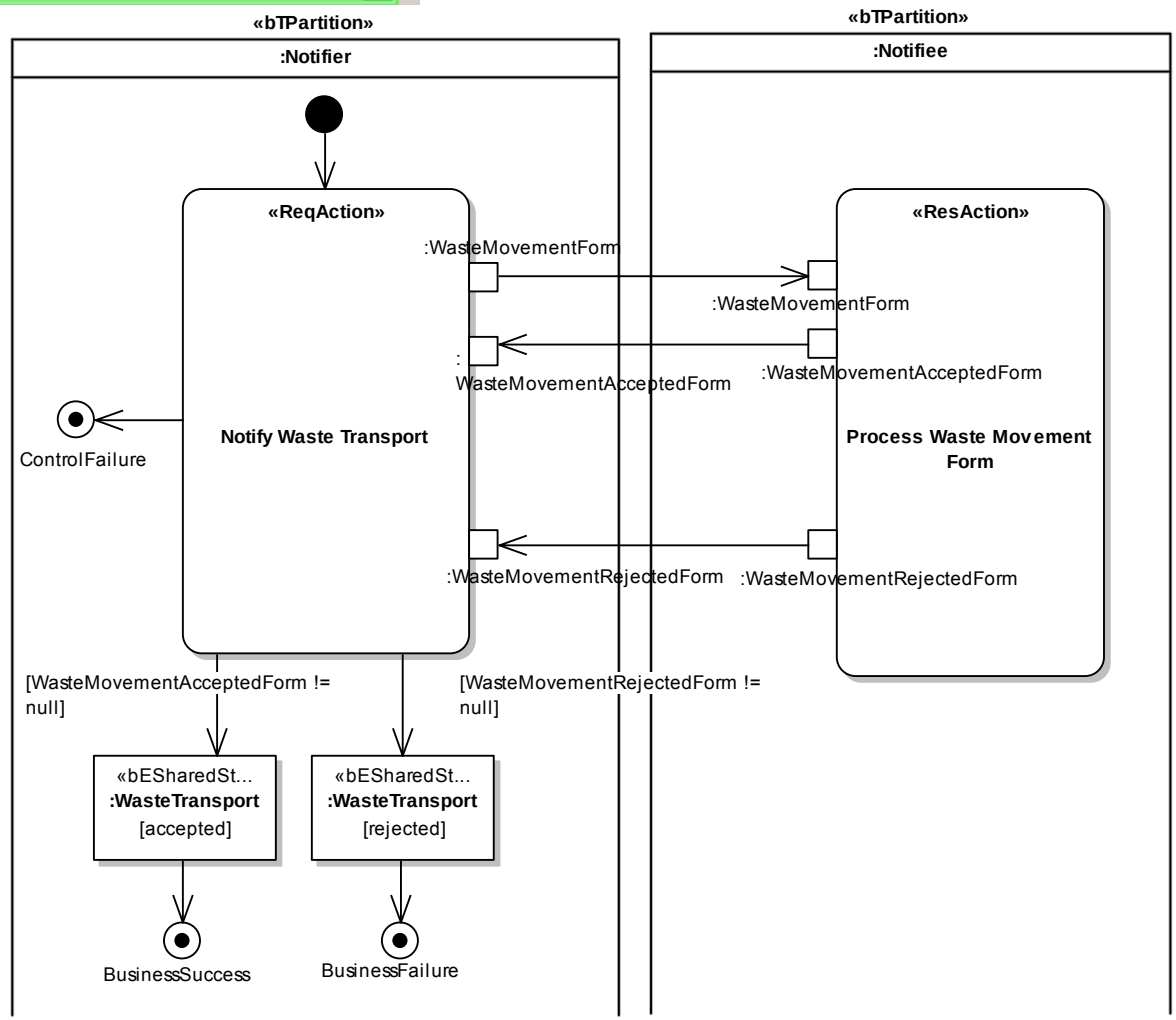
HTML



Form: BusinessTransaction	
General	
Business Transaction Name	Announce Waste Transport
Definition	"Announce Waste Transport" is used to provide the details of an intended waste transport.
Description	"Announce Waste Transport" deals with prior information regarding the actual start of a waste shipment. The export authority shall send signed copies of the completed movement document to the competent authorities concerned at least three working days before the shipment starts. The import authority either accepts the notification or rejects it.
Select Business Transaction Pattern	Request/Confirm

Semi-automatic generation of deployment artifacts



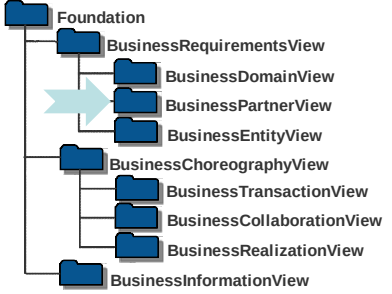


Worksheet editor status

- **UMM1 Add-In**
  - Fully implemented for UMM 1.0

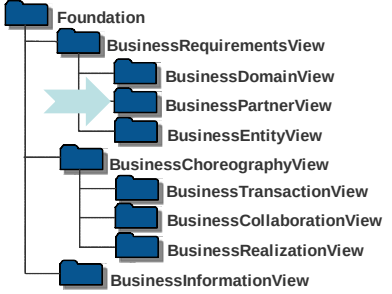
- **VIENNA Add-In**
  - currently under development

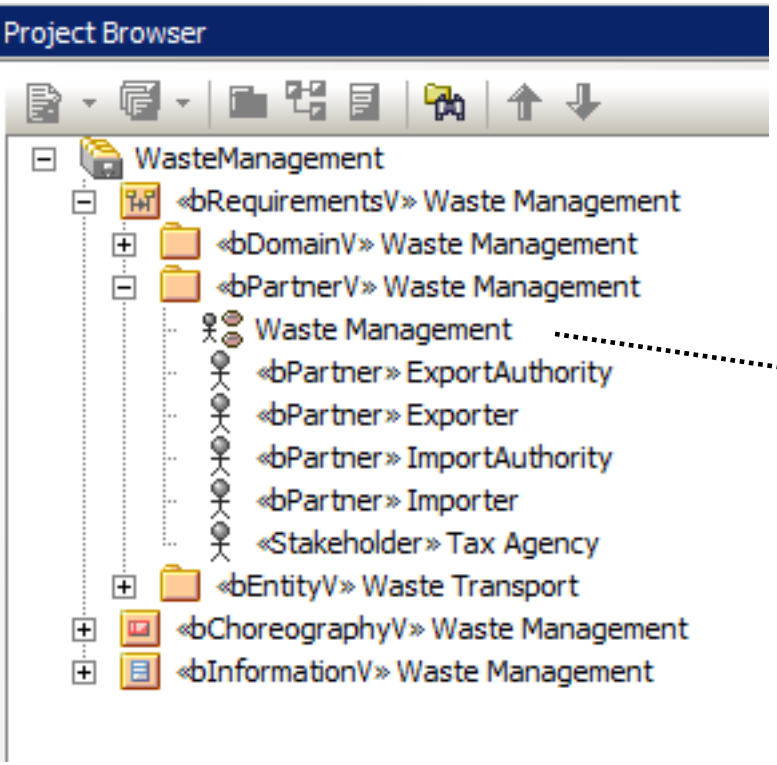
Business Partner View

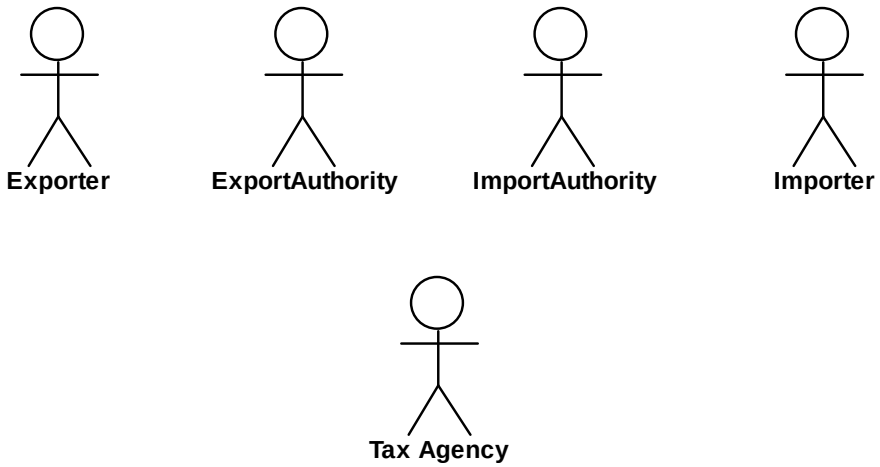


- Purpose
  - Container for business partners and stakeholders that are identified in the business domain view
  - Modeling organization relationships between those actors (optional)
- Artifacts
  - Business partners and stakeholders

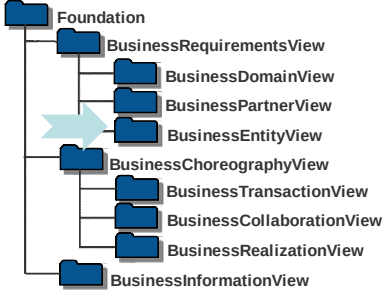
Business Partner View - Example





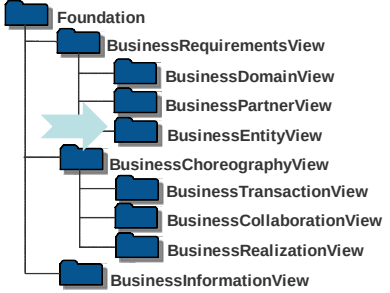


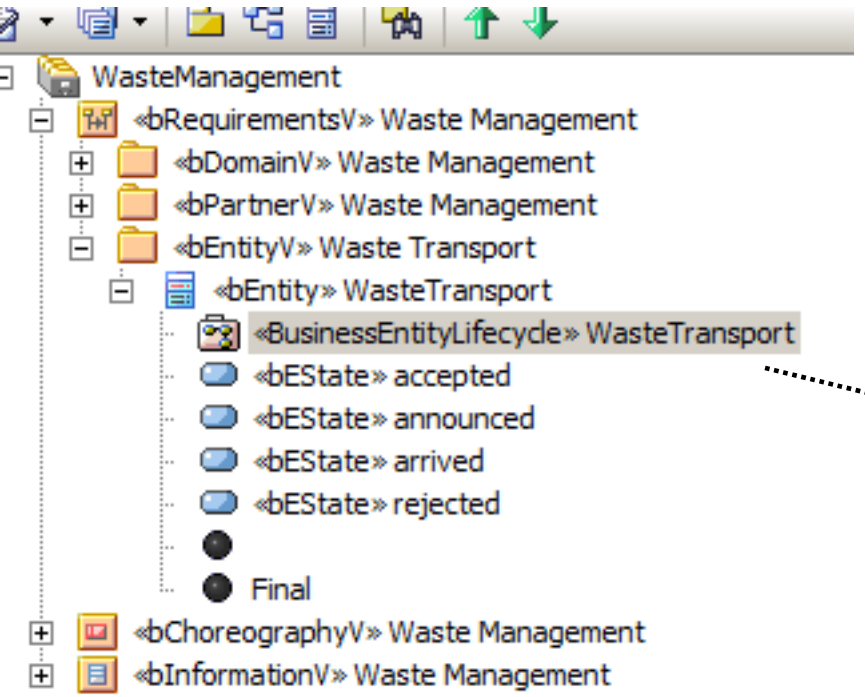
Business Entity View

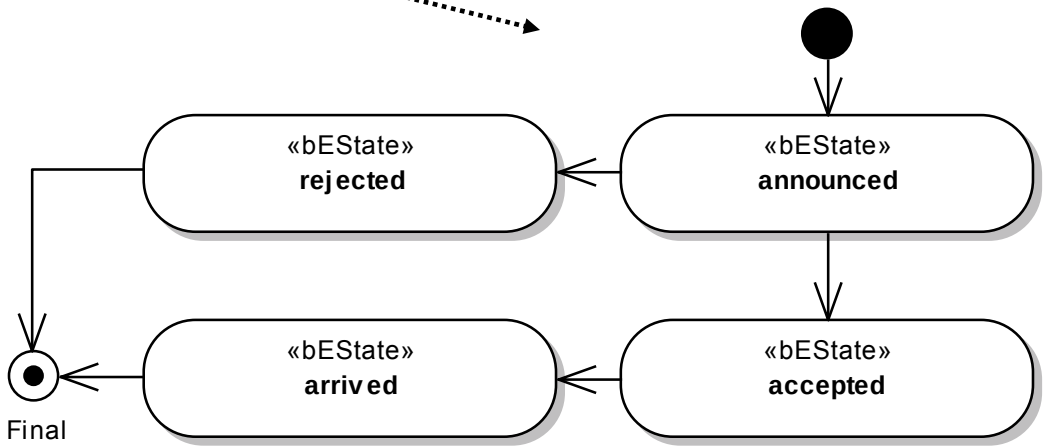


- Purpose
  - Identification of relevant business entities
    - a business entity is something that has business significance (e.g., order, newspaper,...)
  - Describing the lifecycle of business entities
  - A business entity state that is shared between two business partners is a strong indicator for a required exchange of business information
- Artifacts
  - State machine diagram describing the lifecycle of a business entity
  - Changes of business entity states may be visualized in the business domain view

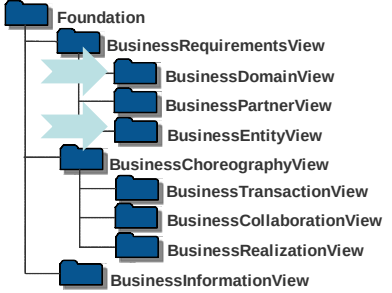
Business Entity View - Example

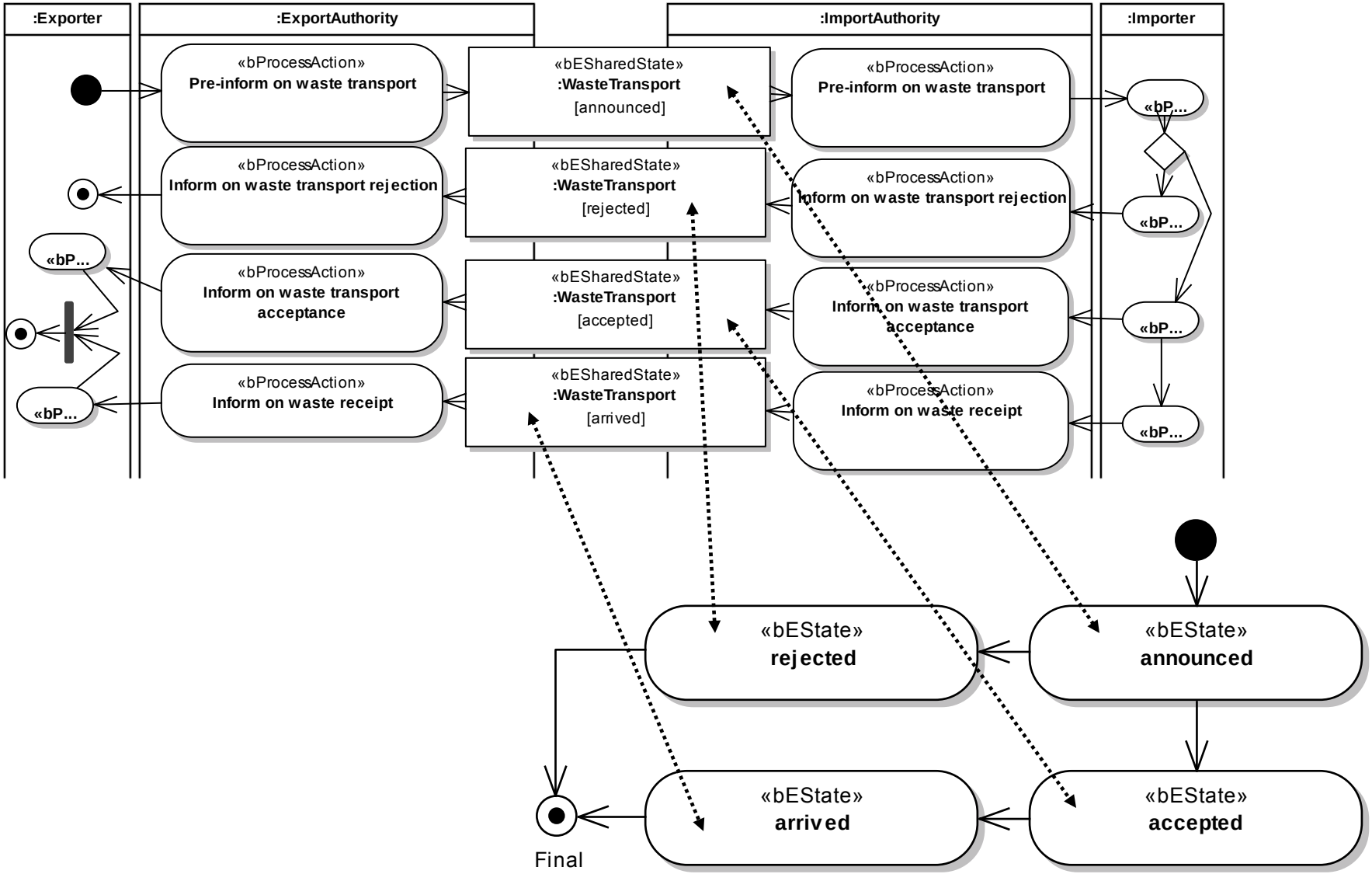




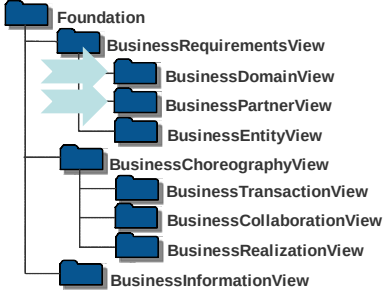


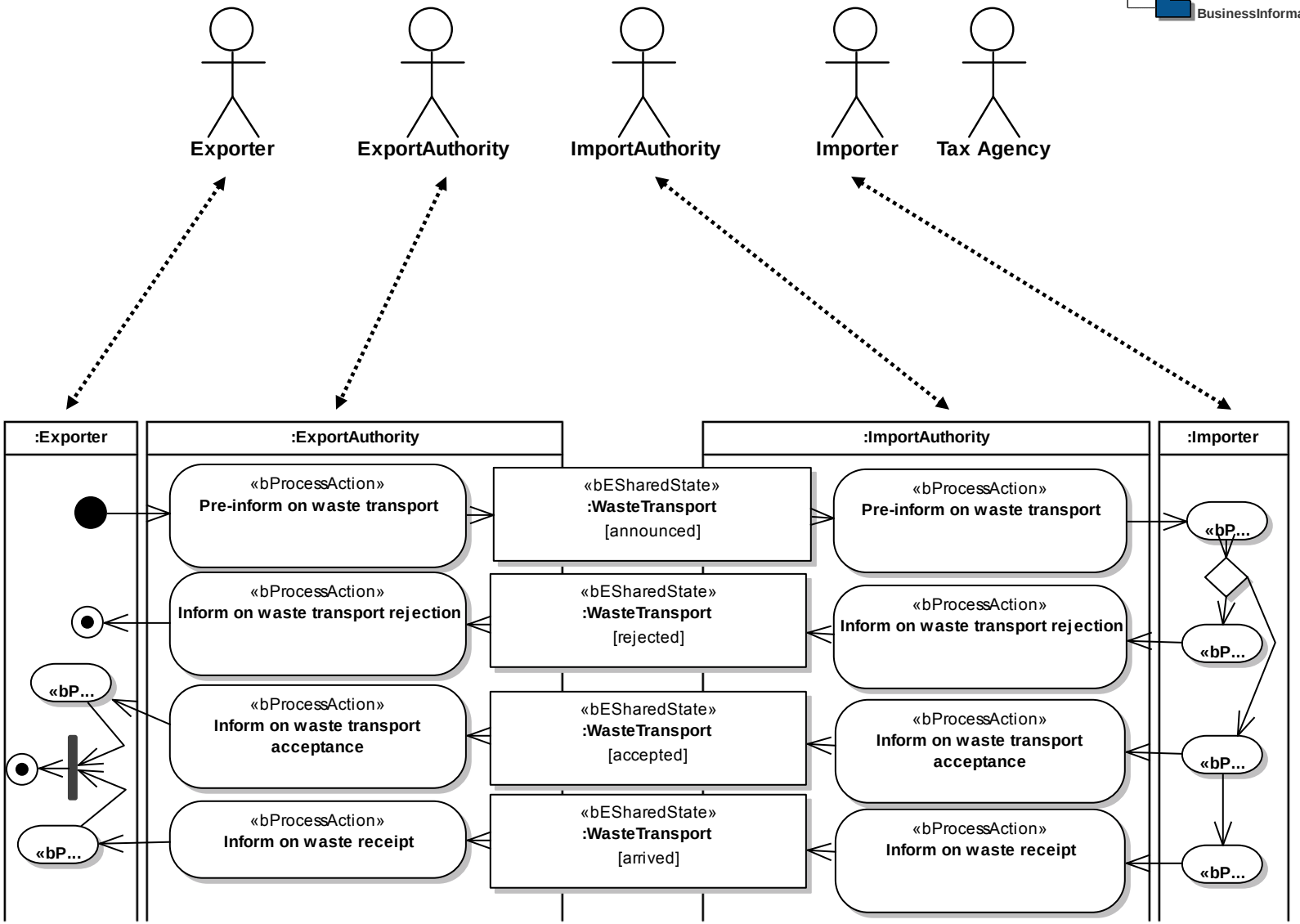
Relationship between Business Domain View and Business Entity View



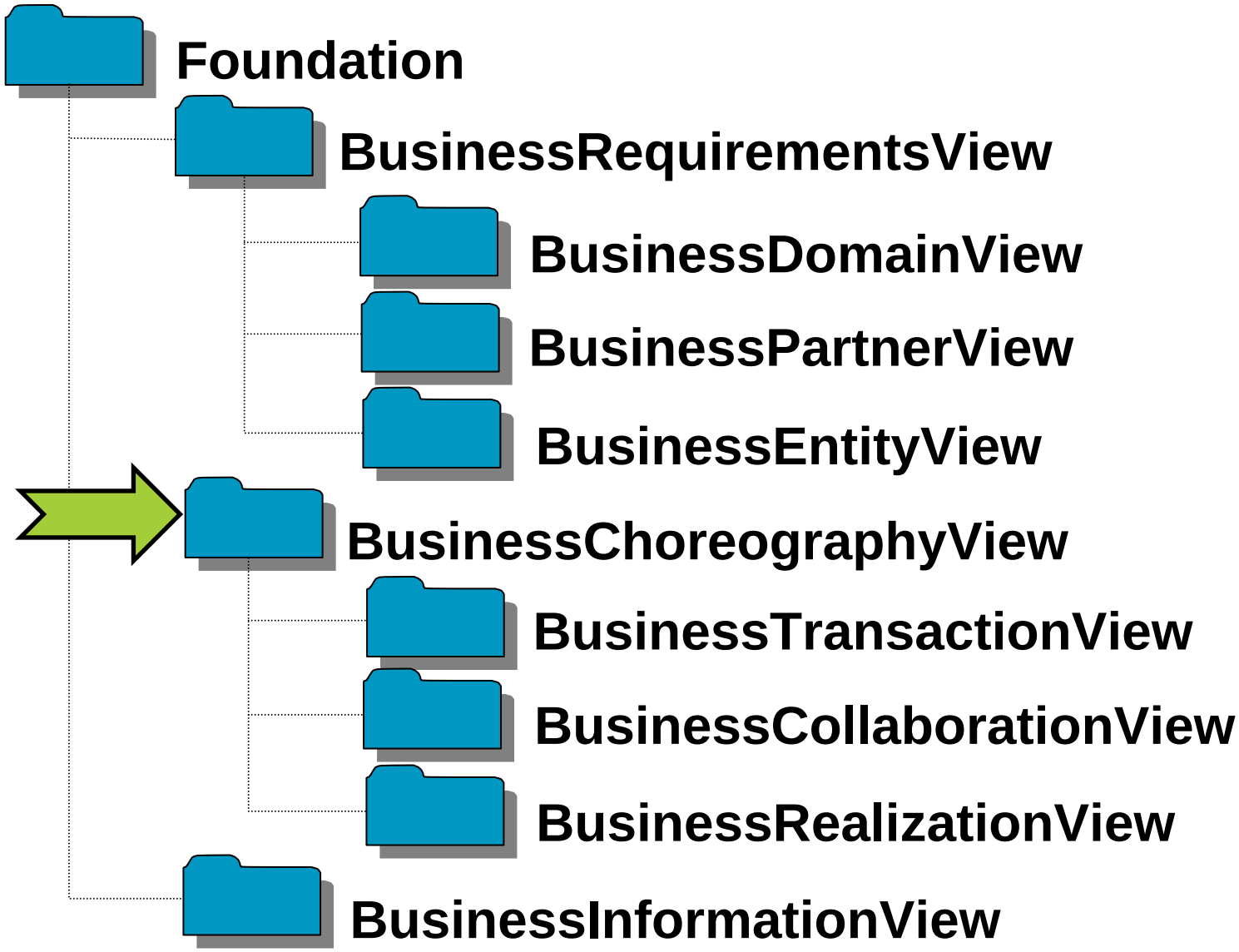


Relationship between Business Domain View and Business Partner View

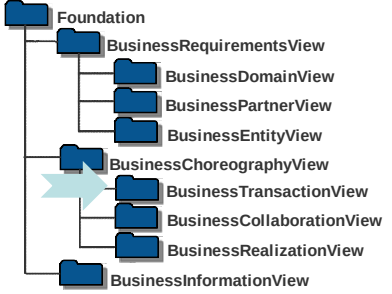




Package structure of the current UMM version – UMM 2.0



Business Transaction View



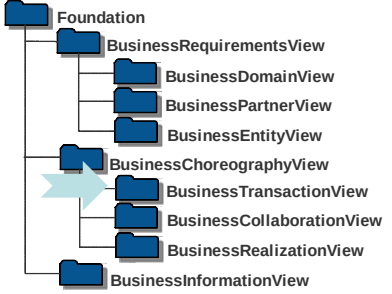
Purpose

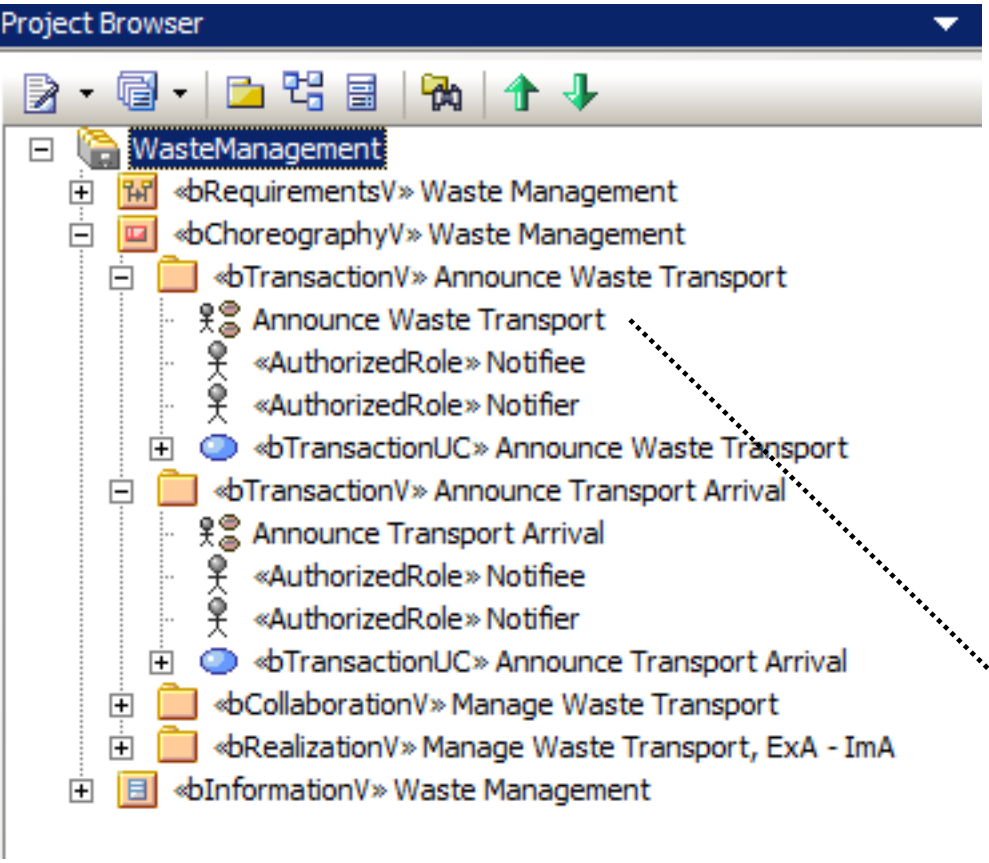
- A business transaction describes the message exchange between exactly two business partners
- The message exchange synchronizes the shared state of the two partners
- Message exchange might be one-way or two-way

Artifacts

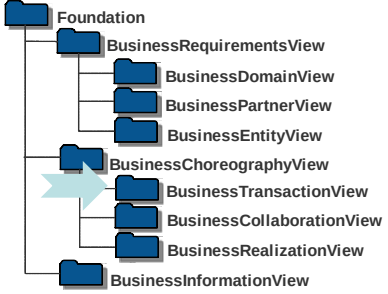
- Activity diagrams of the business transactions
- Use cases capturing the requirements

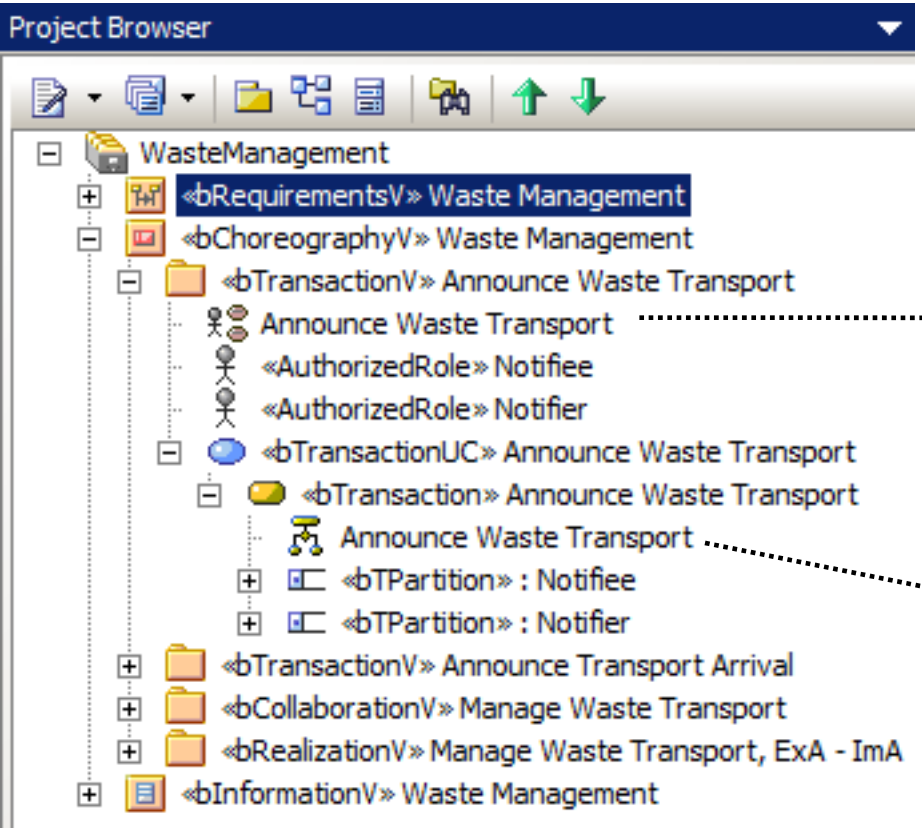
Business Transaction View

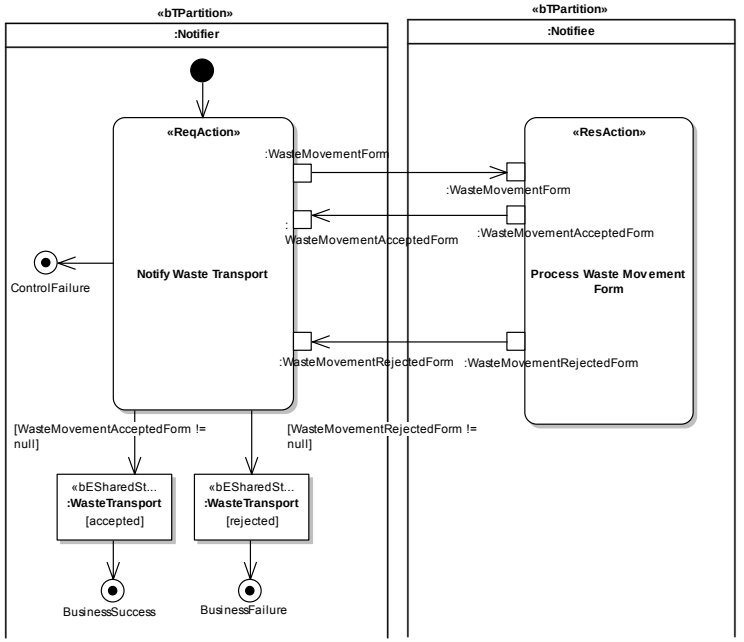


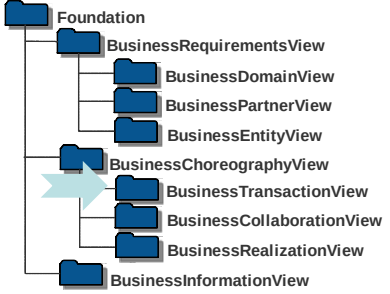


Business Transaction View cont'd

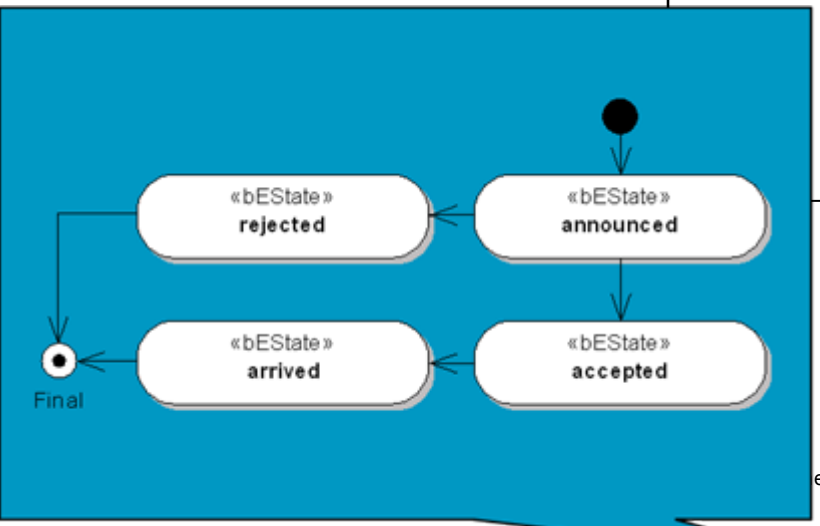




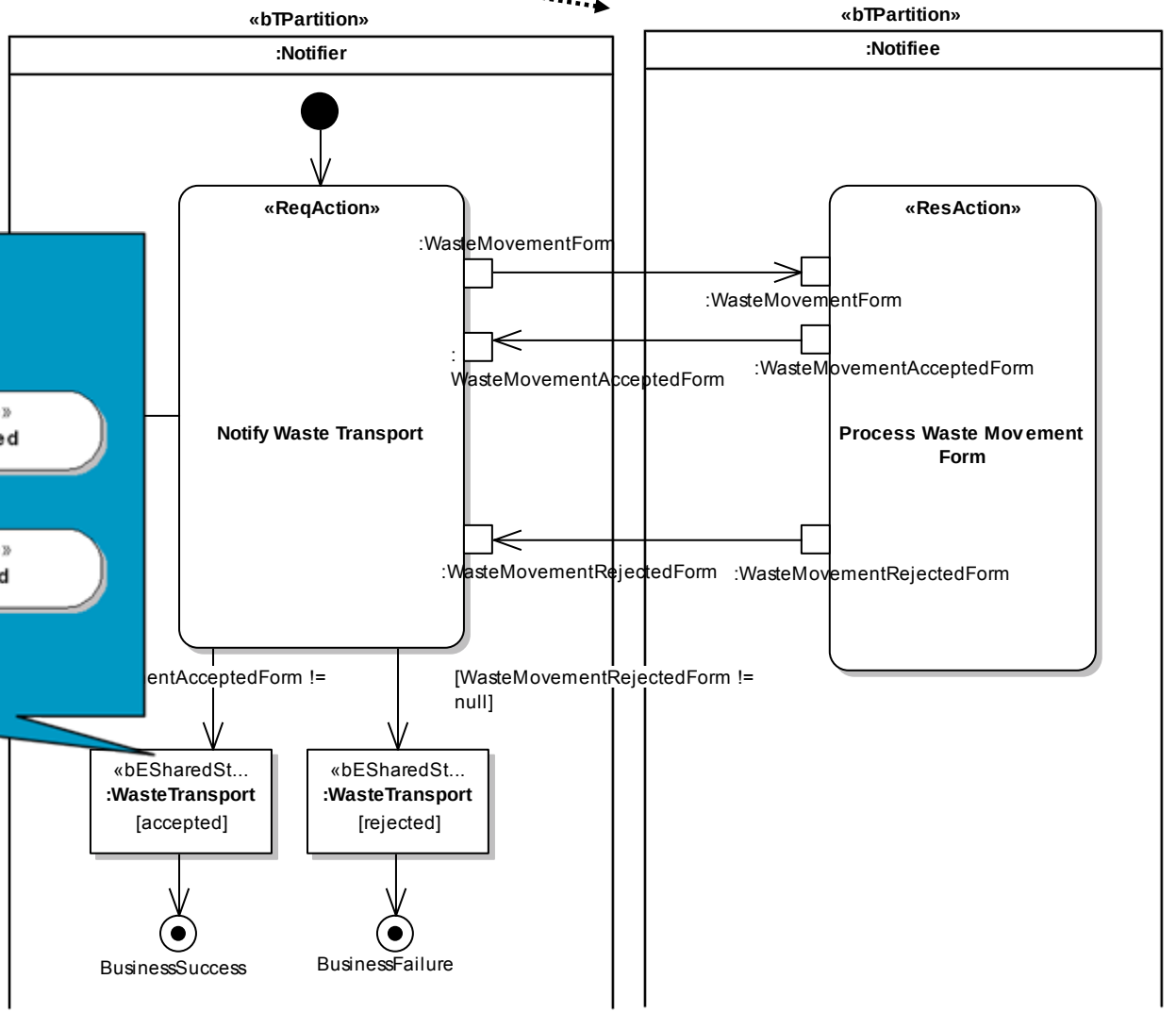




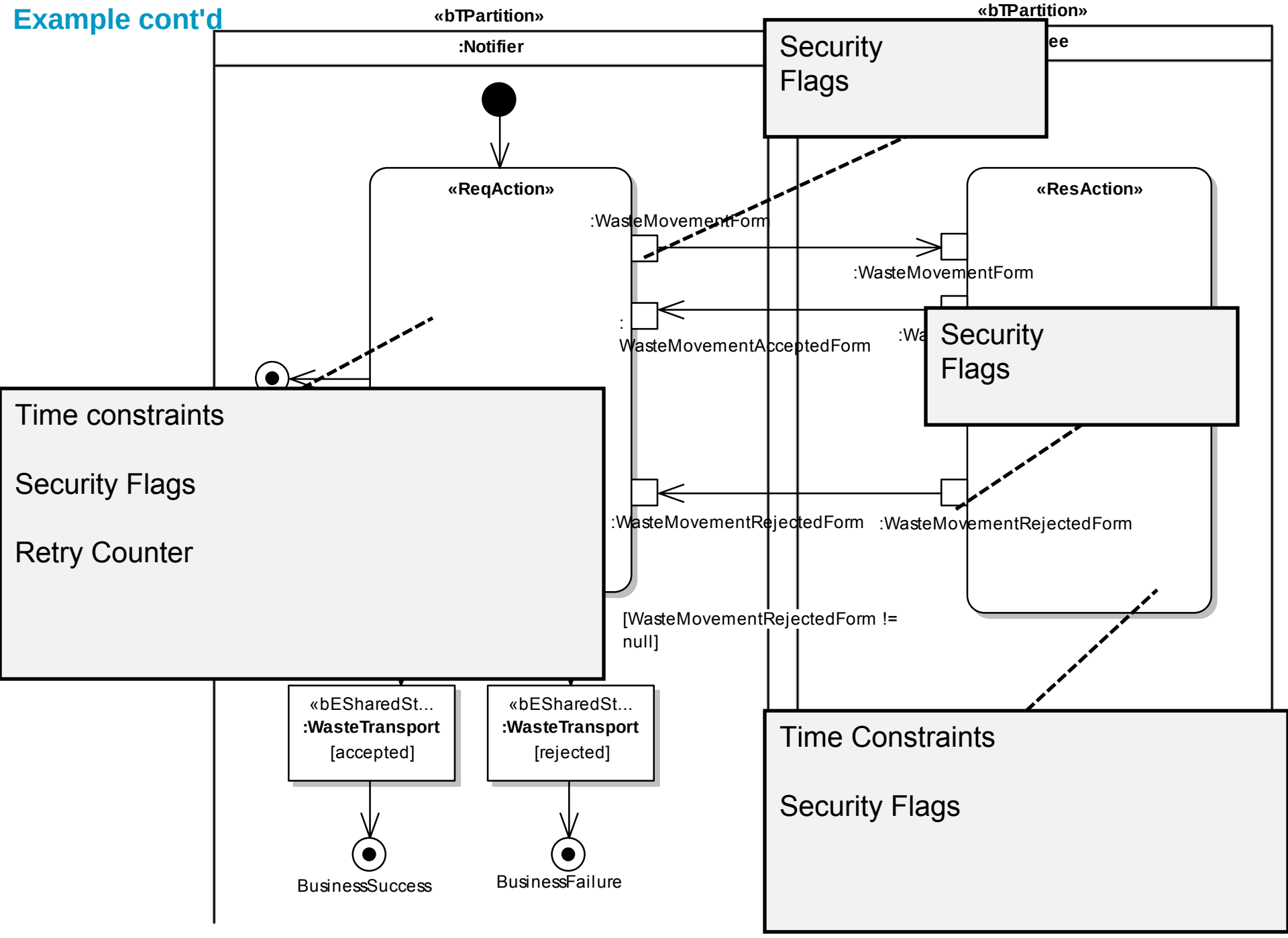
Requirements are expressed using use cases



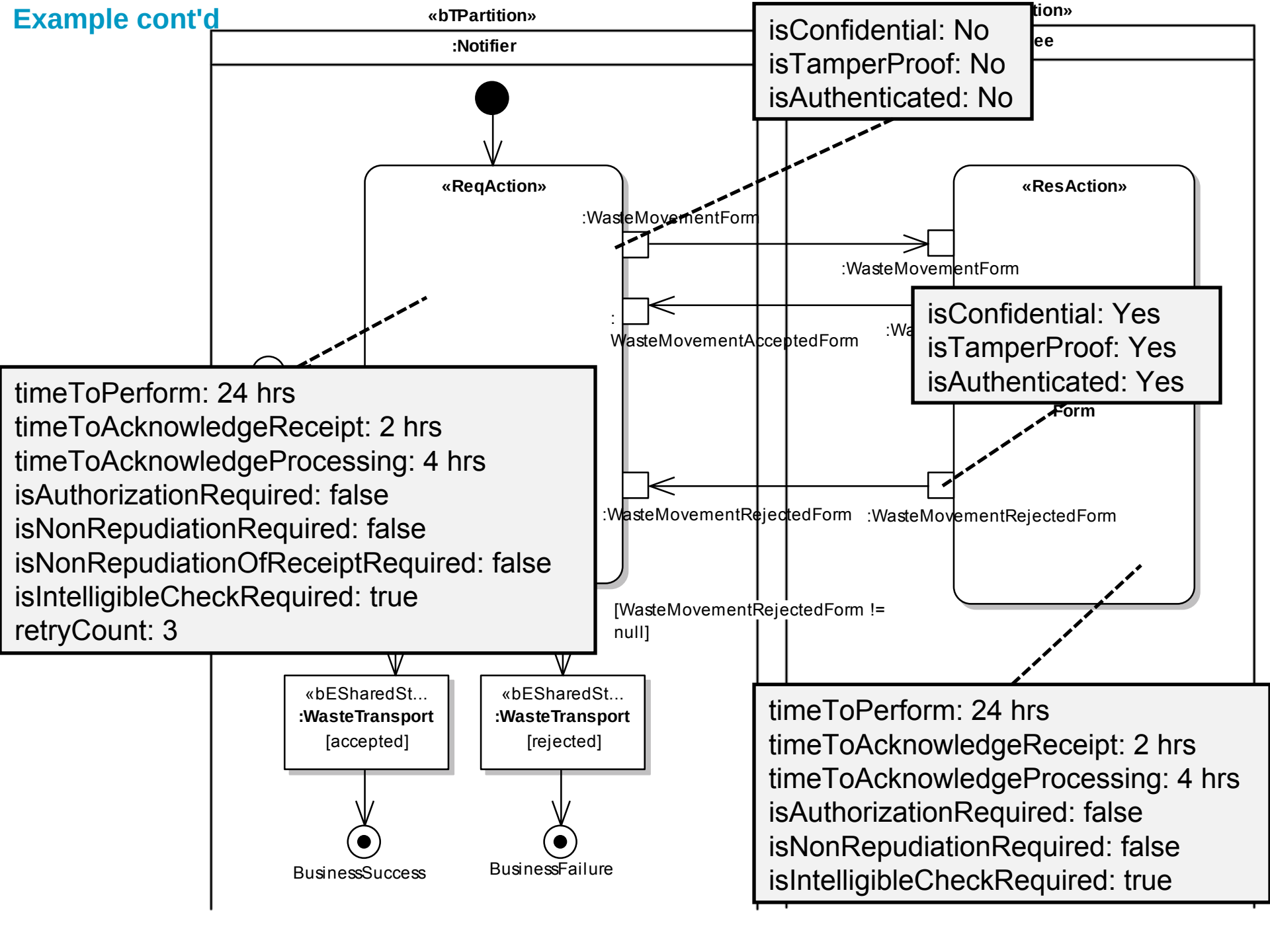
A business transaction itself is expressed using activity diagrams



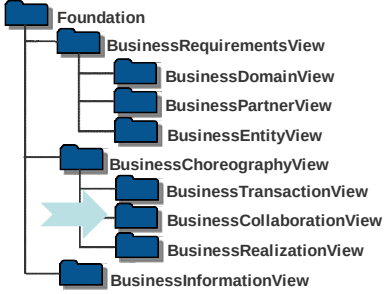
Example cont'd



Example cont'd



Business Collaboration View



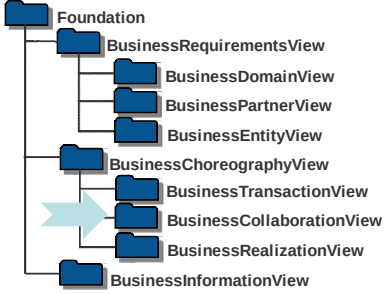
Purpose

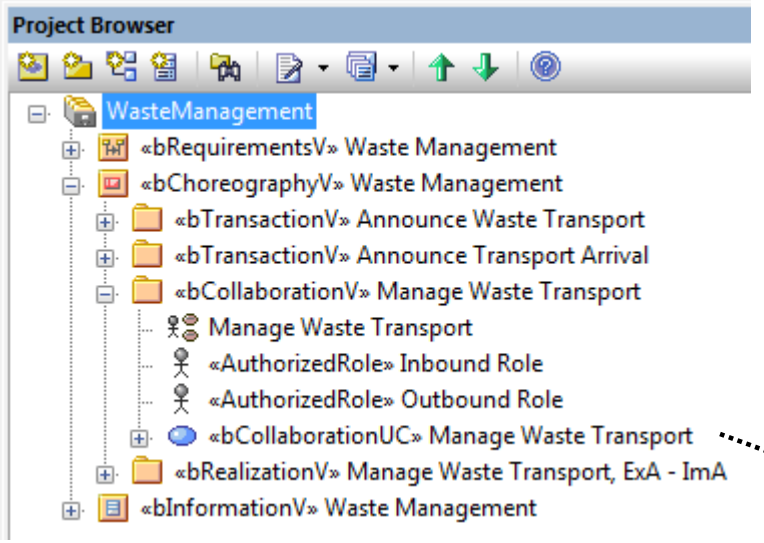
- A business collaboration describes the order in which business transactions are executed
- A business collaboration describes the global choreography of an inter-organizational business processes.

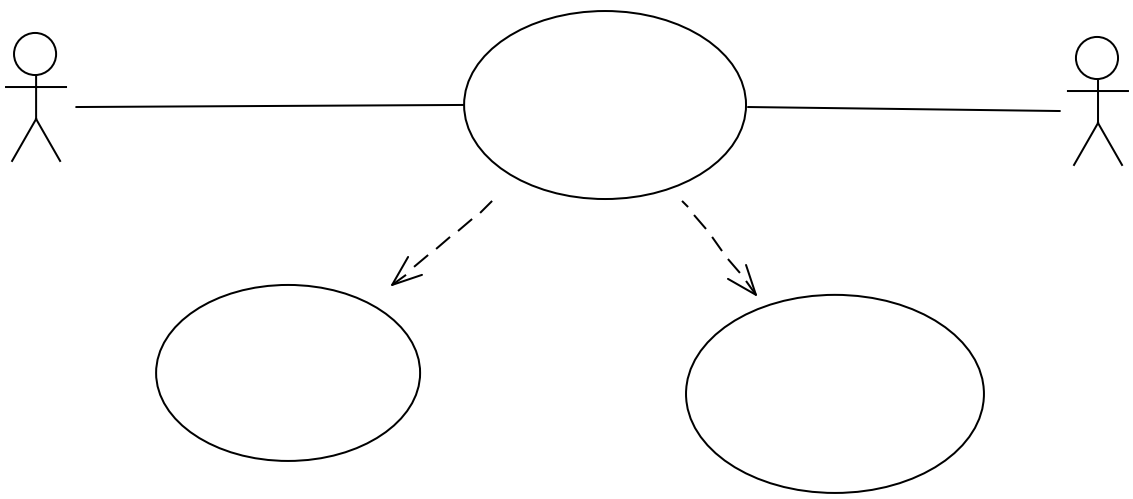
Artifacts

- Activity diagrams of the business collaborations
- Use cases capturing the requirements

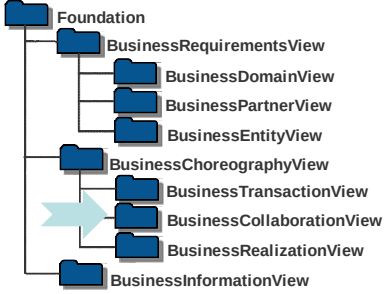
Business Collaboration View

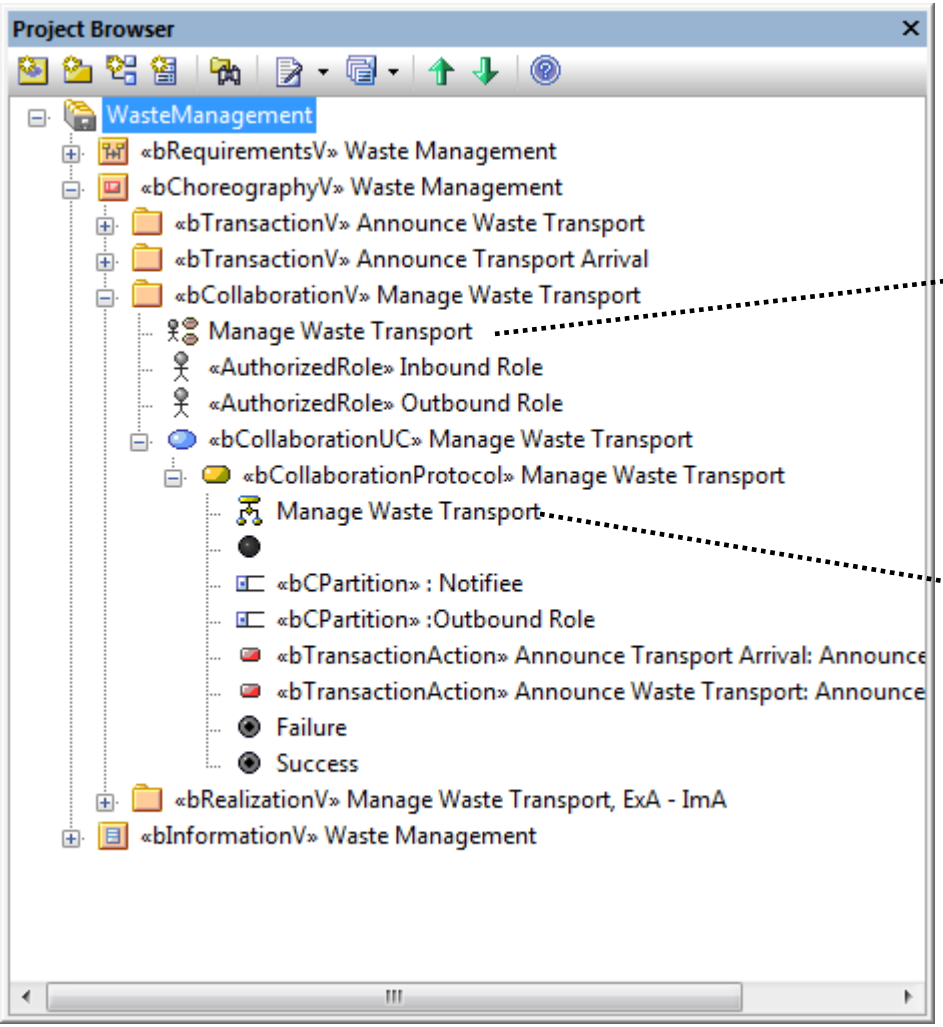


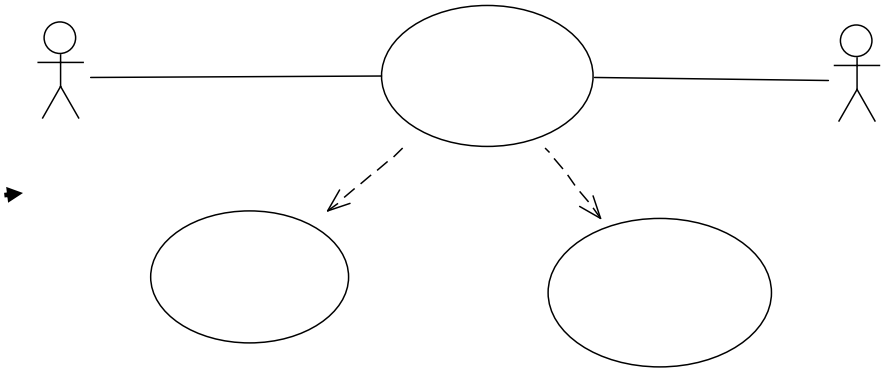


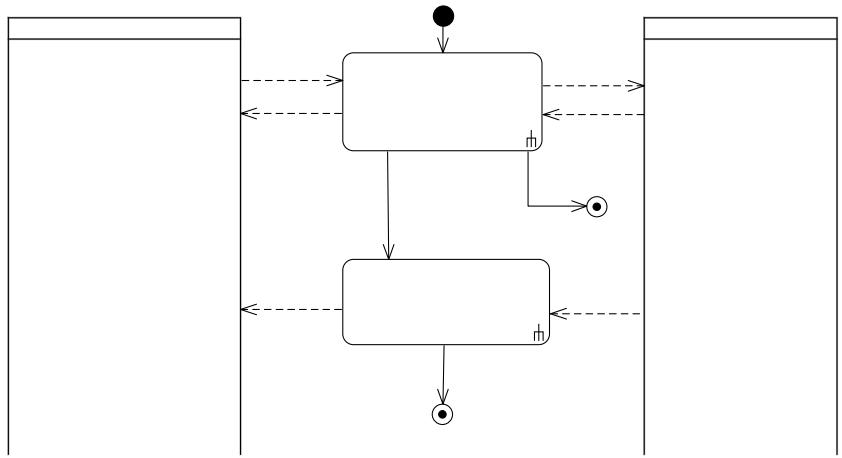


Business Collaboration View cont'd

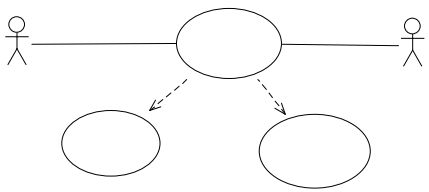


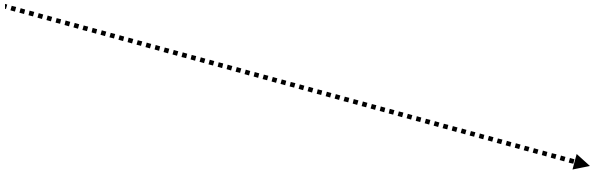


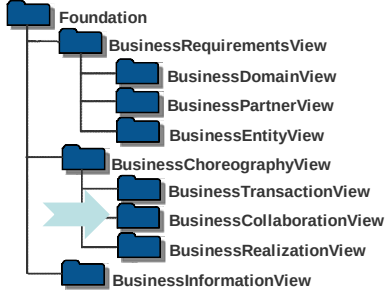


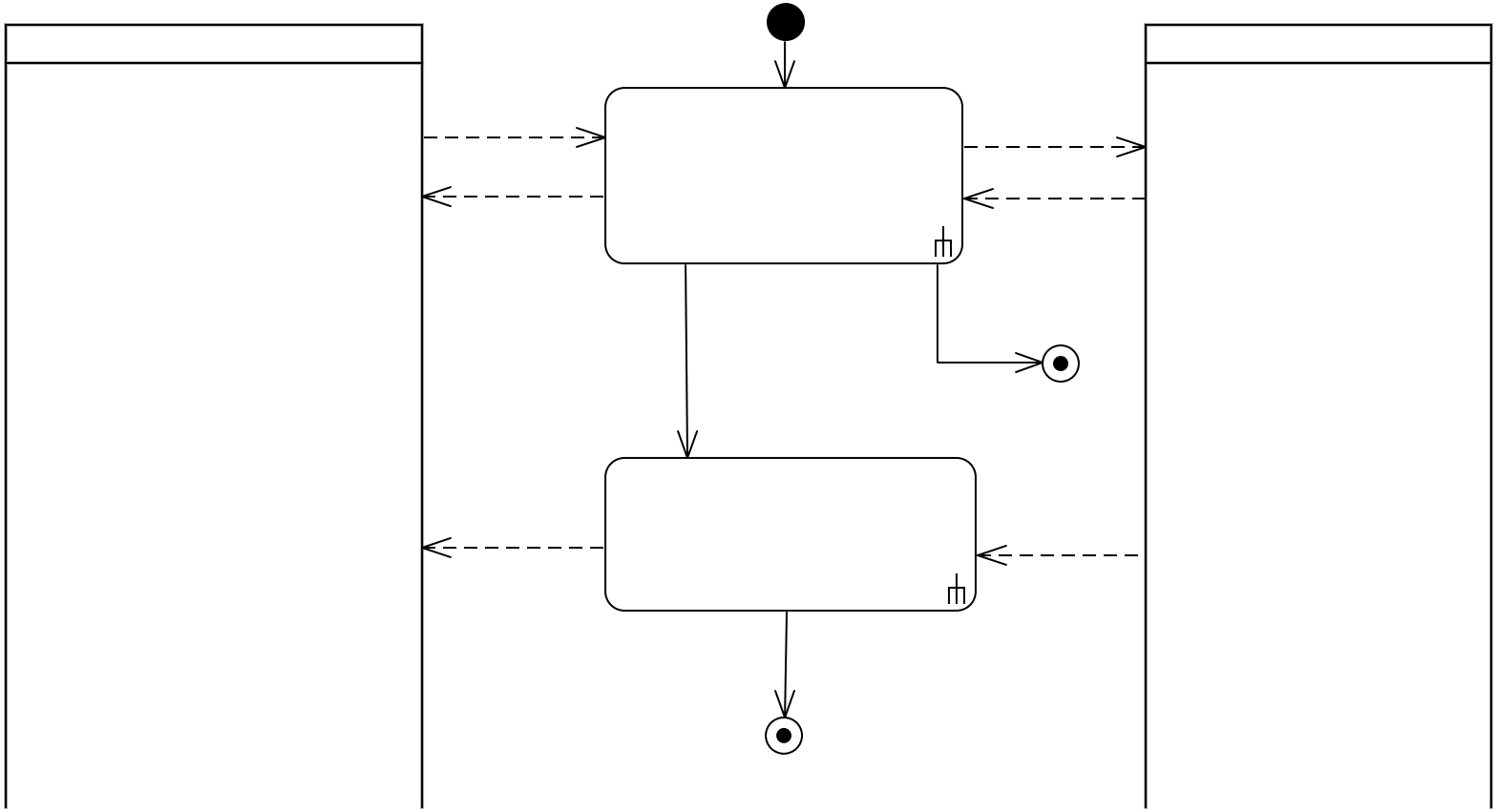


Business Collaboration View cont'd

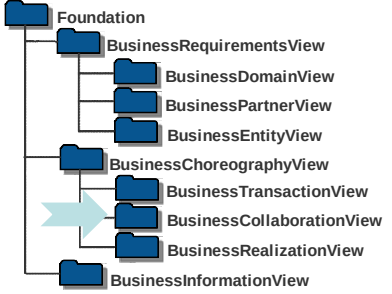


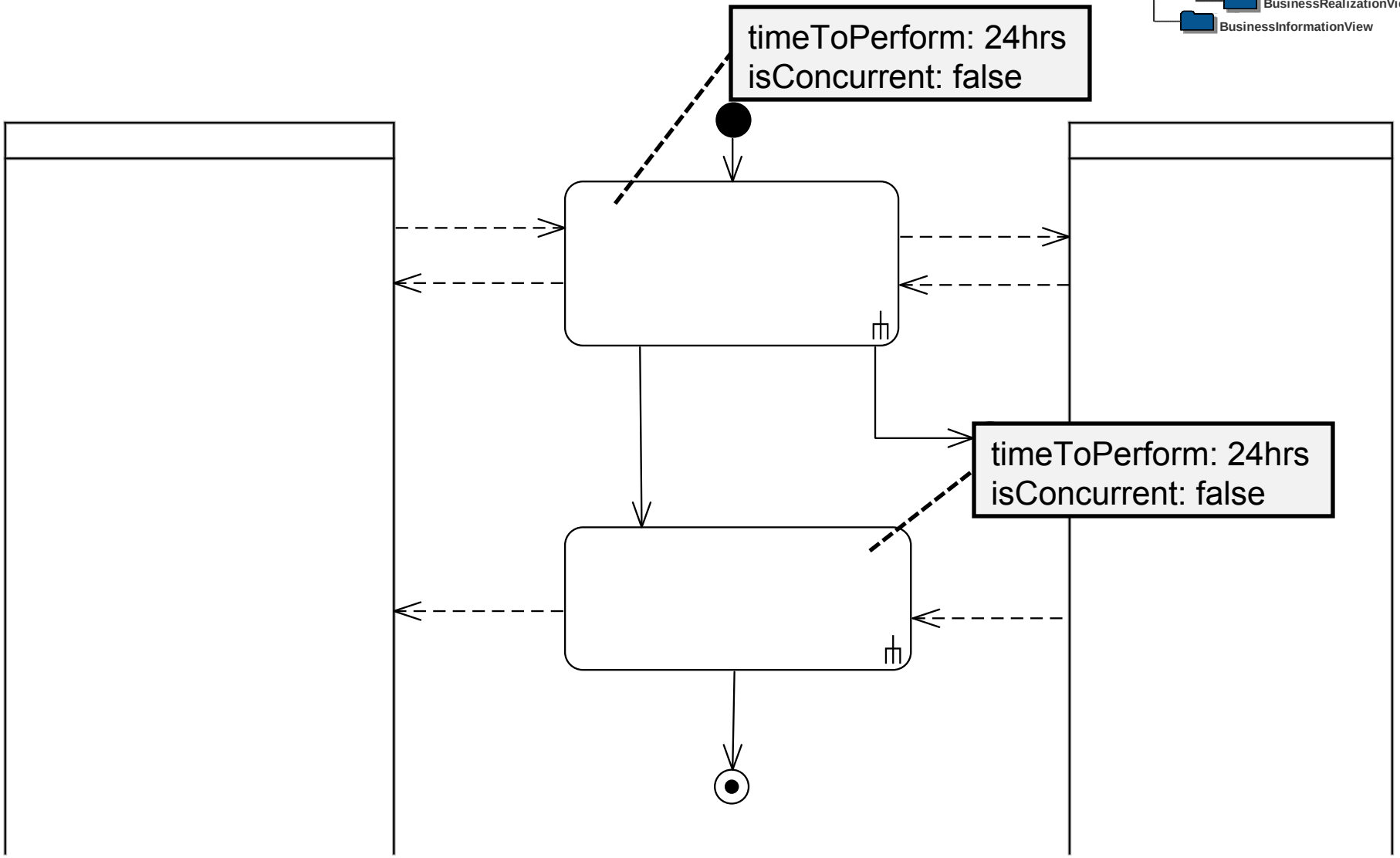




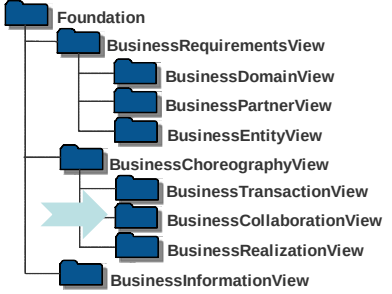


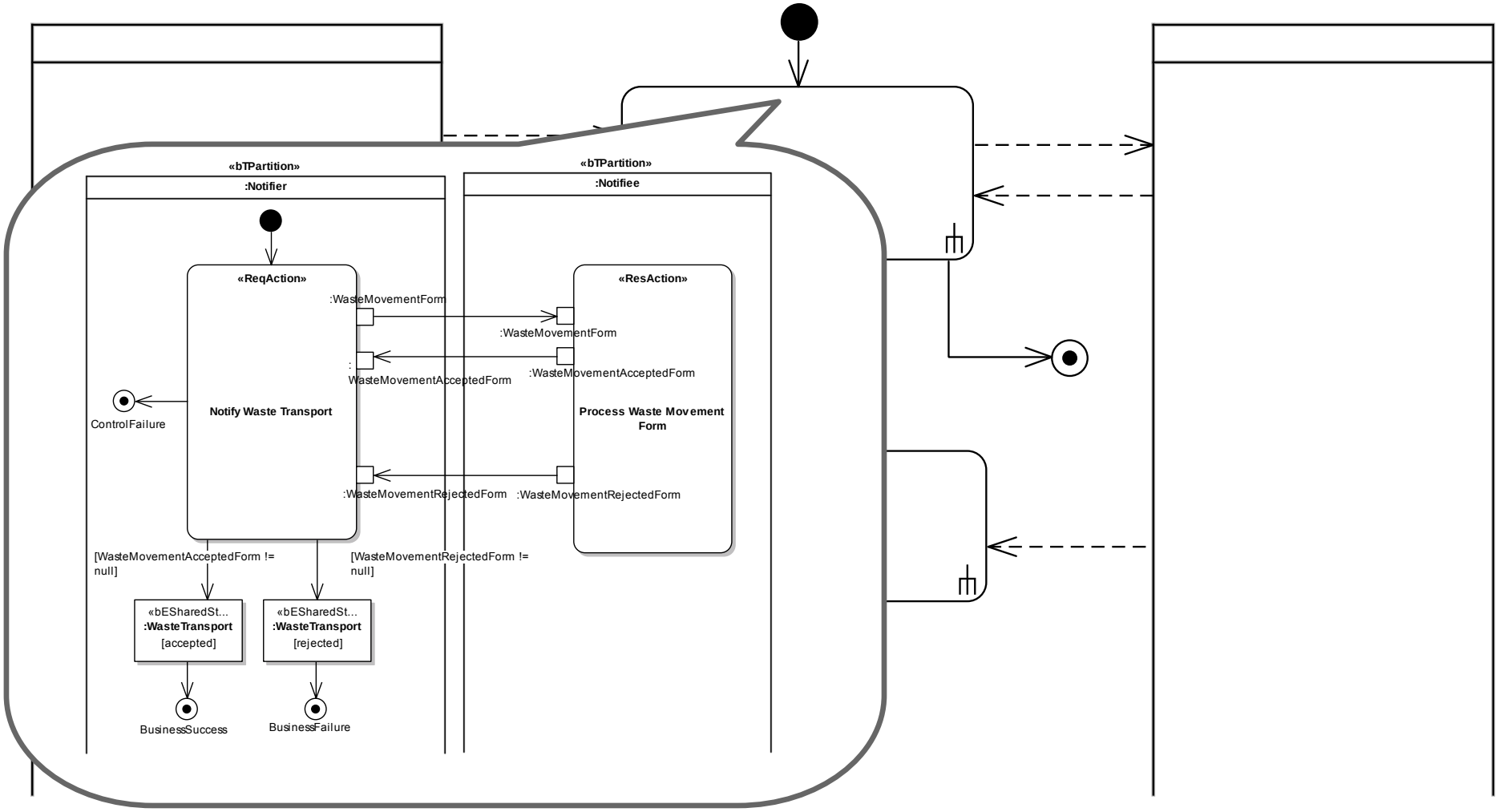
Business Collaboration View cont'd



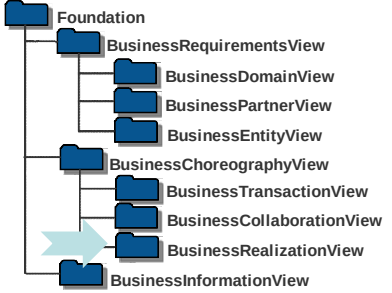


Business Collaboration Protocol





Business Realization View



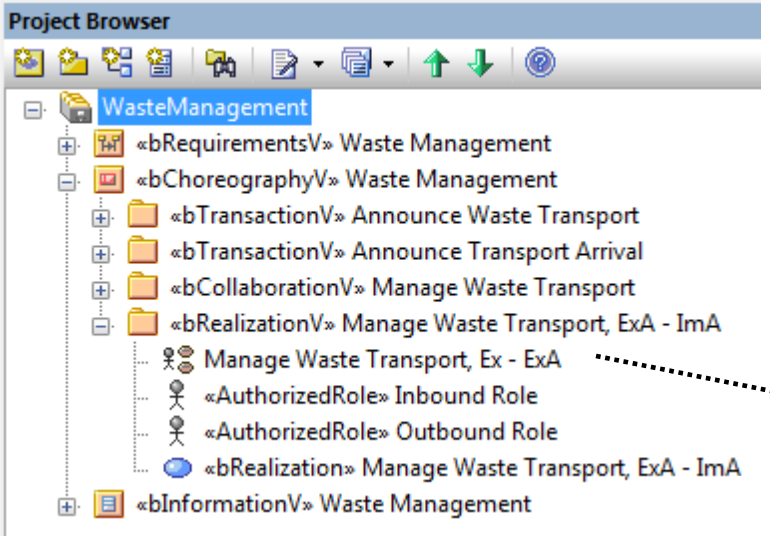
Purpose

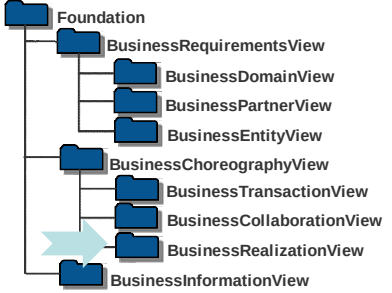
- Assigning business partners to authorized roles participating in a collaboration.

- Collaboration Realizations allow that different sets of business partners perform the same collaboration

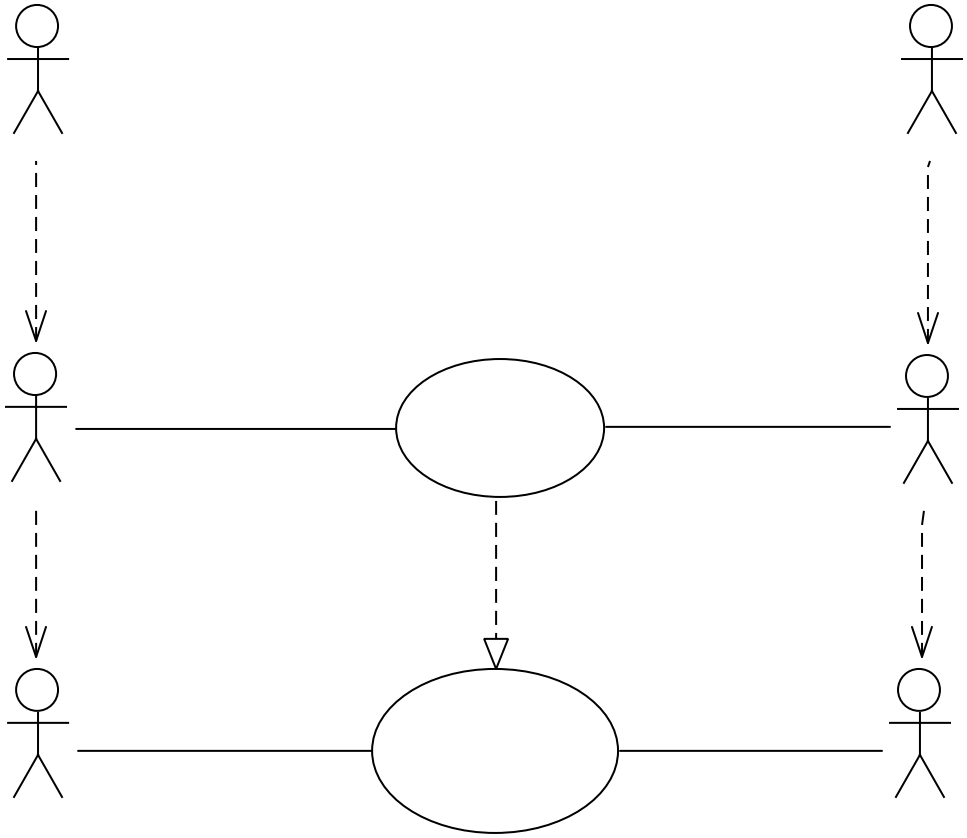
Artifacts

- Use cases, Business partners, Authorized Roles

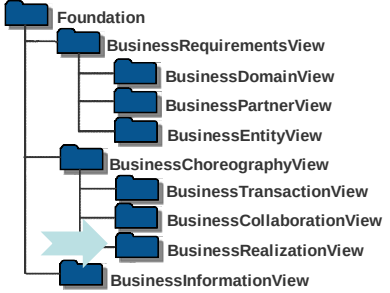


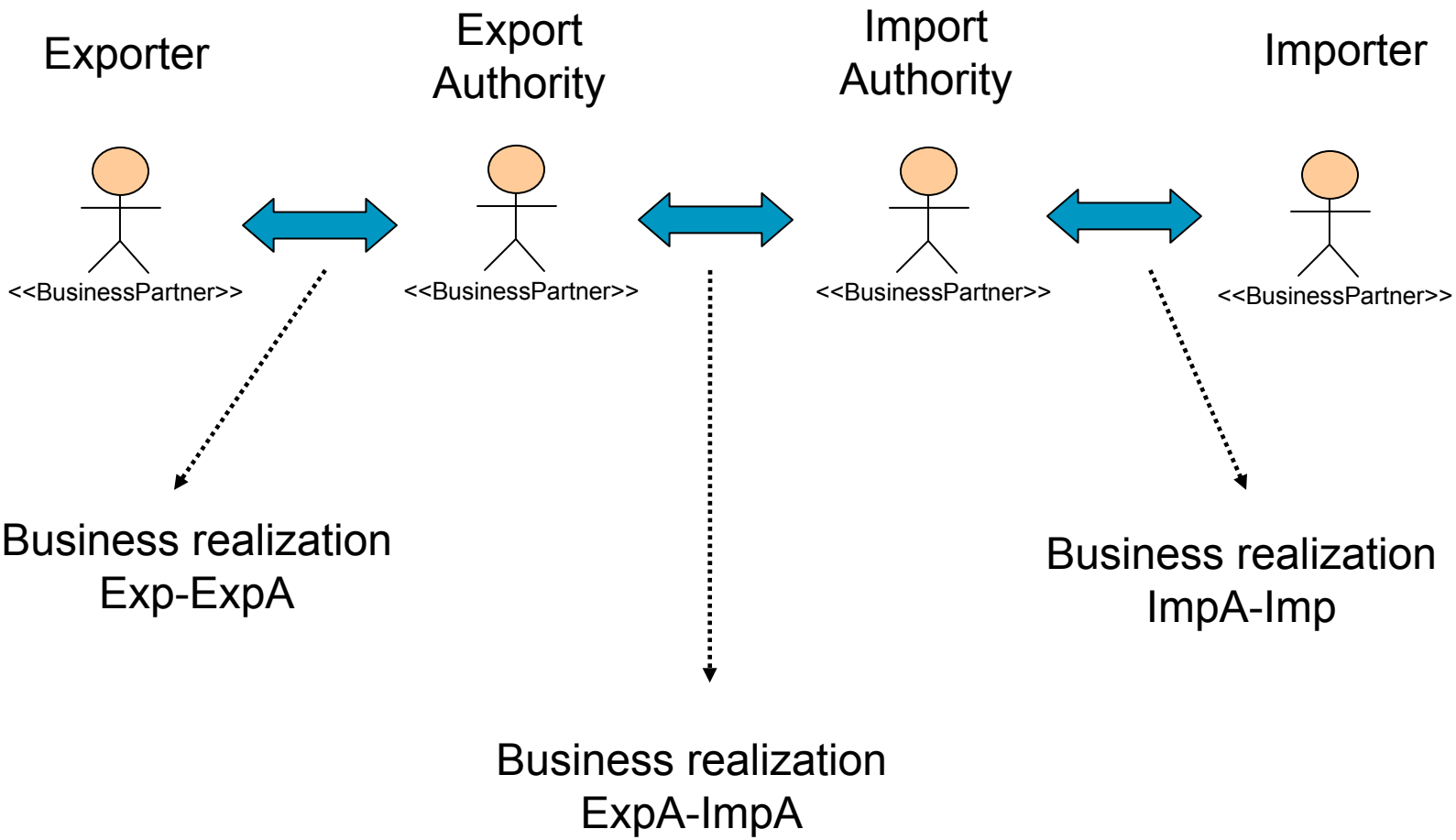


Business Realization View example



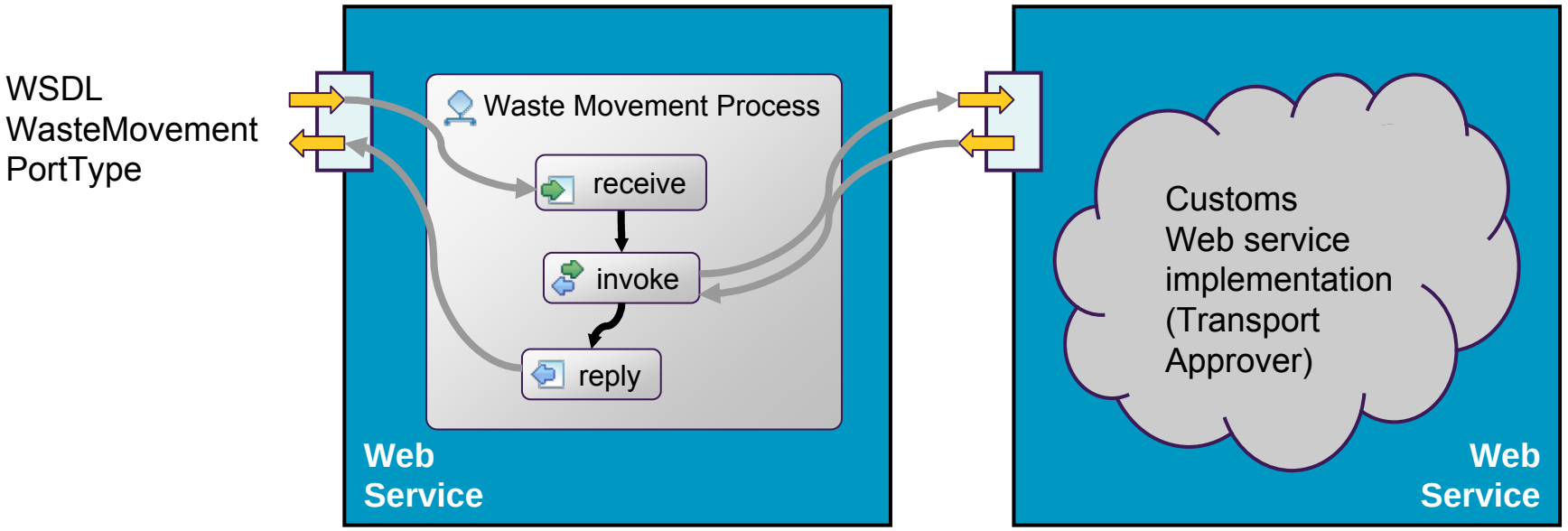
Business realization view cont'd





Business Process Execution Language (BPEL) at a glance

- WS-BPEL is a Recursive Aggregation Model for Web Services
  - Aggregation: a set of Web Services is tied into one or more Web Services by means of a business process model
  - Recursive: the newly created Web Services can be tied into other new Web Services



WS-BPEL Process Definition

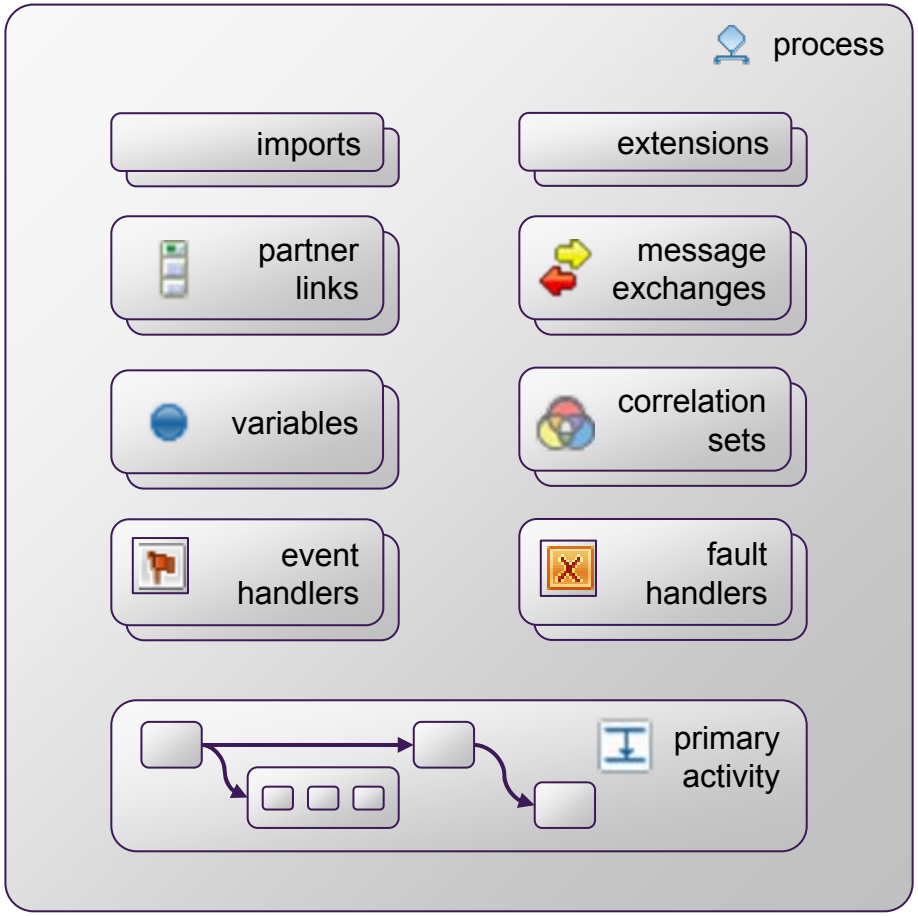
Declare dependencies on external XML Schema or WSDL definitions

Relationships that a WS-BPEL process will employ in its behavior

Data holding state of a business process or exchanged with partners

Concurrently process inbound messages or timer alarms

Perform the process logic – any number of activities may be recursively nested

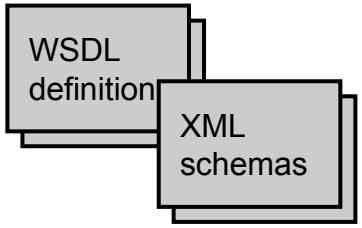


Declare namespaces of WS-BPEL extension attributes and elements

Relationship between inbound and outbound message activities

Application data fields that together identify a conversation

Deal with exceptional situations in a process



WS-BPEL – Basic Activities

Do a blocking wait for a matching message to arrive / send a message in reply

Invoke a one-way or request-response operation

Update the values of variables or partner links with new data

Validate XML data stored in variables

Generate a fault from inside the business process

Forward a fault from inside a fault handler

Immediately terminate execution of a business process instance

Invoke compensation on all completed child scopes in default order

Invoke compensation on one completed child scope

Wait for a given time period or until a certain time has passed

No-op instruction for a business process

Wrapper for language extensions

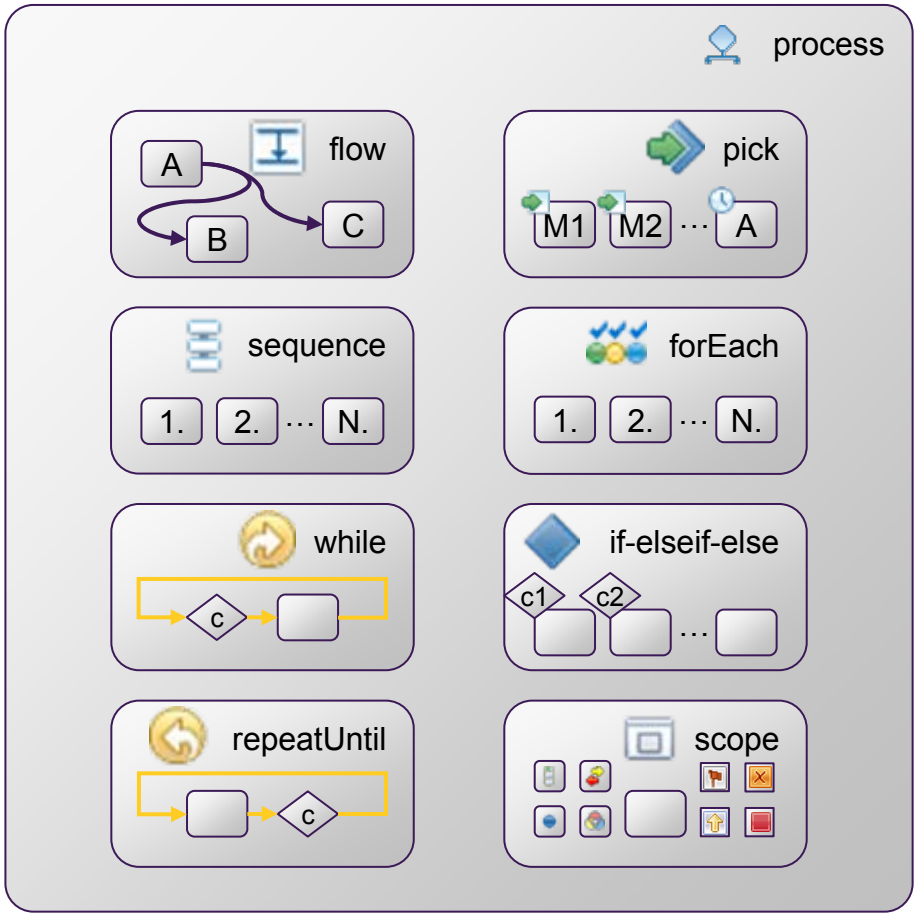
WS-BPEL Structured Activities

Contained activities are executed in parallel, partially ordered through control links

Contained activities are performed sequentially in lexical order

Contained activity is repeated while a predicate holds

Contained activity is repeated until a predicate holds



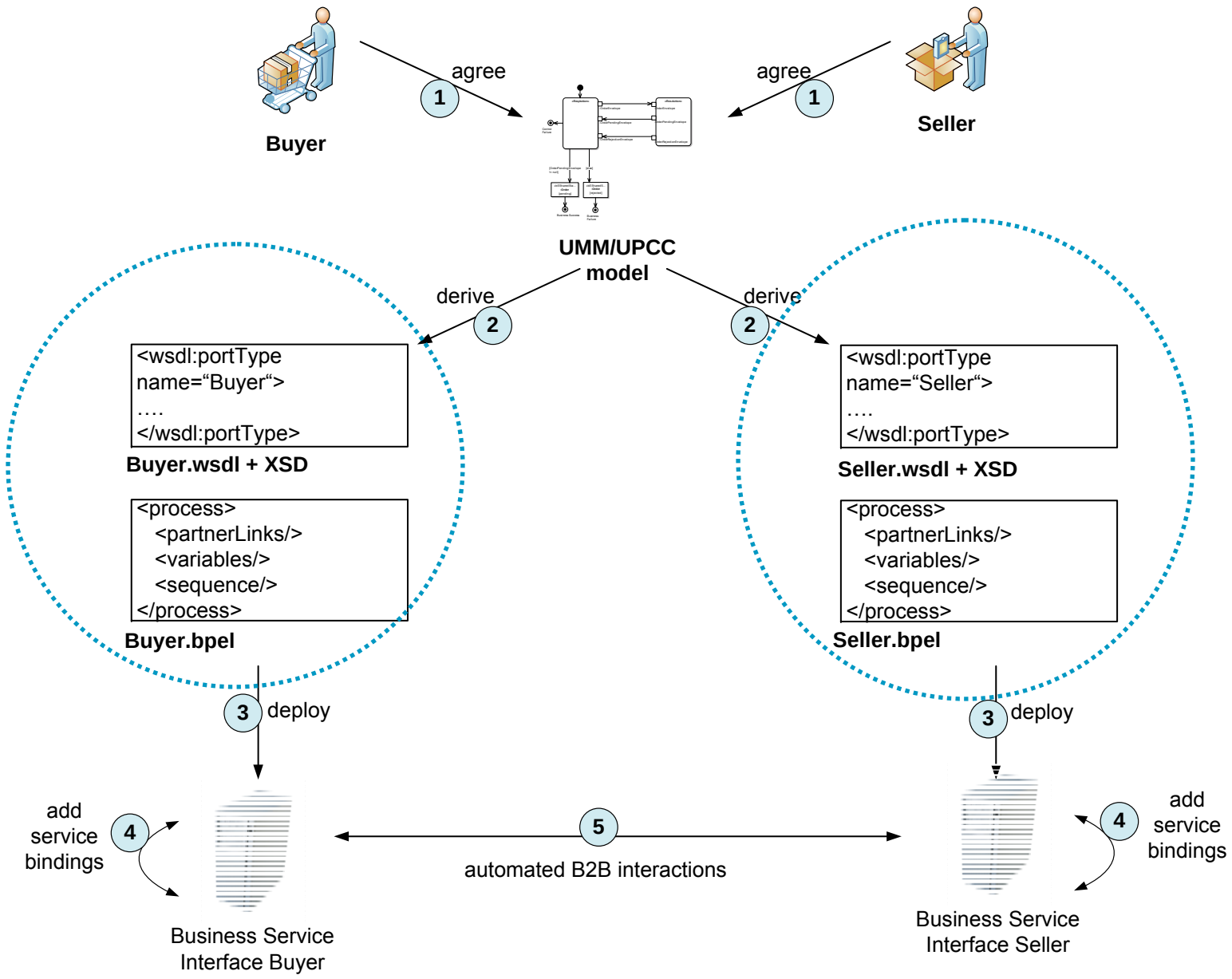
Block and wait for a suitable message to arrive (or time out)

Contained activity is performed sequentially or in parallel, controlled by a specified counter variable

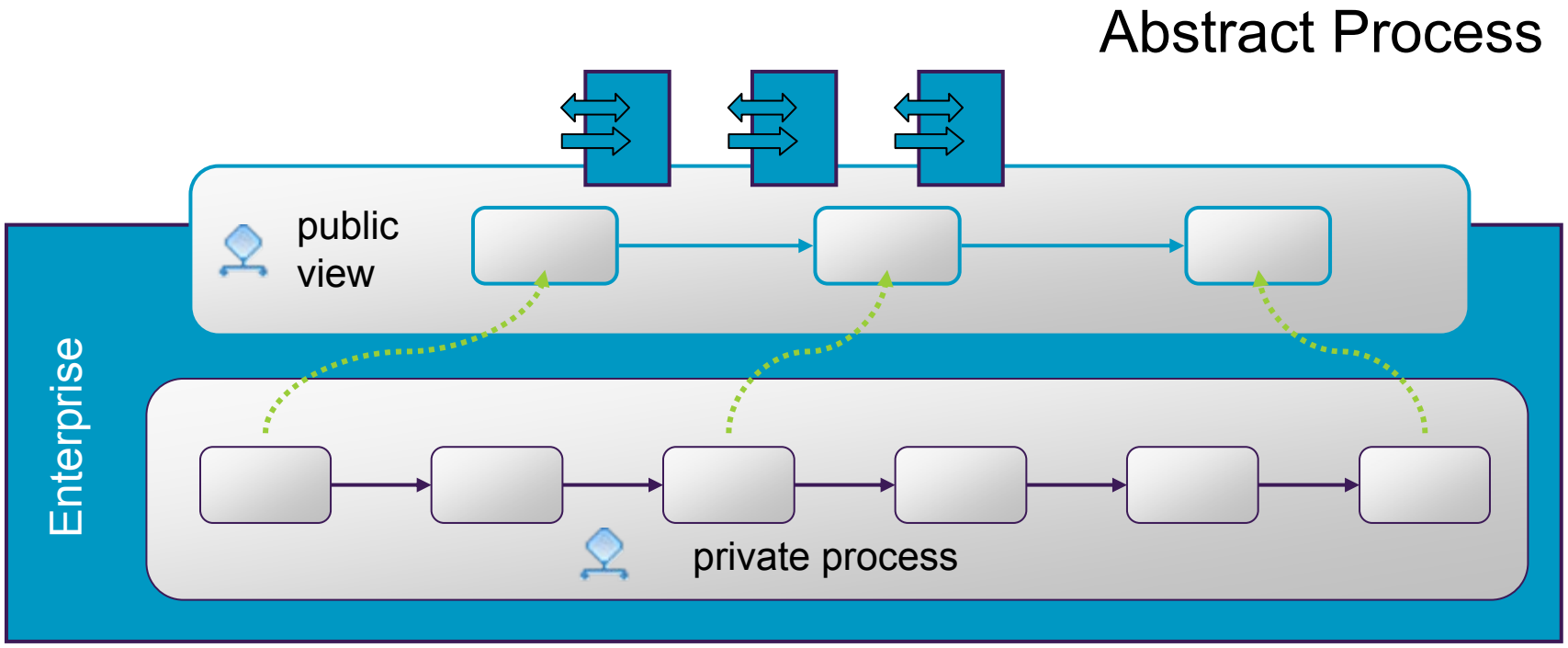
Select exactly one branch of activity from a set of choices

Associate contained activity with its own local variables, partner links, etc., and handlers

Derivation of deployment artifacts

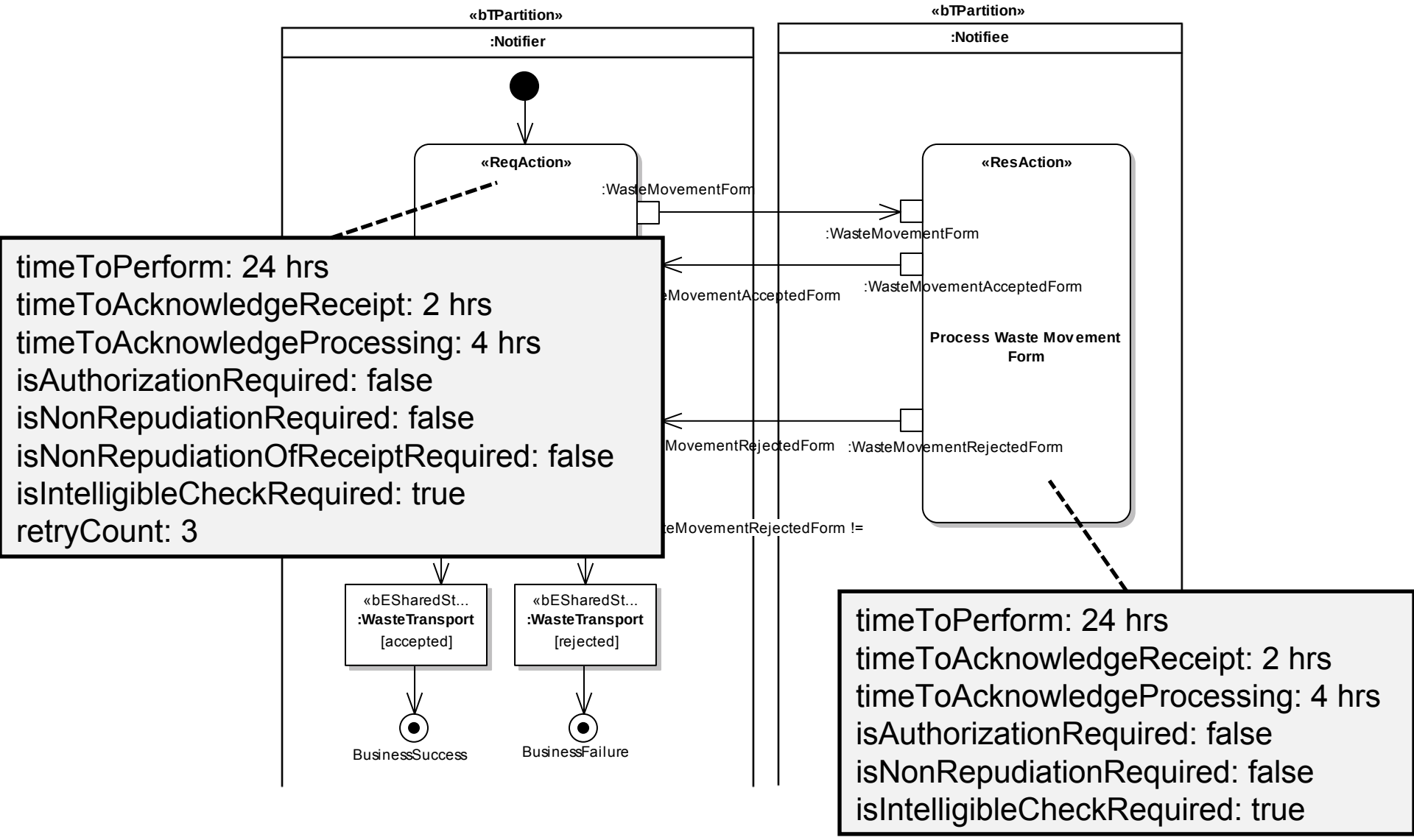


UMM can be used to generate abstract BPEL processes (local choreographies)

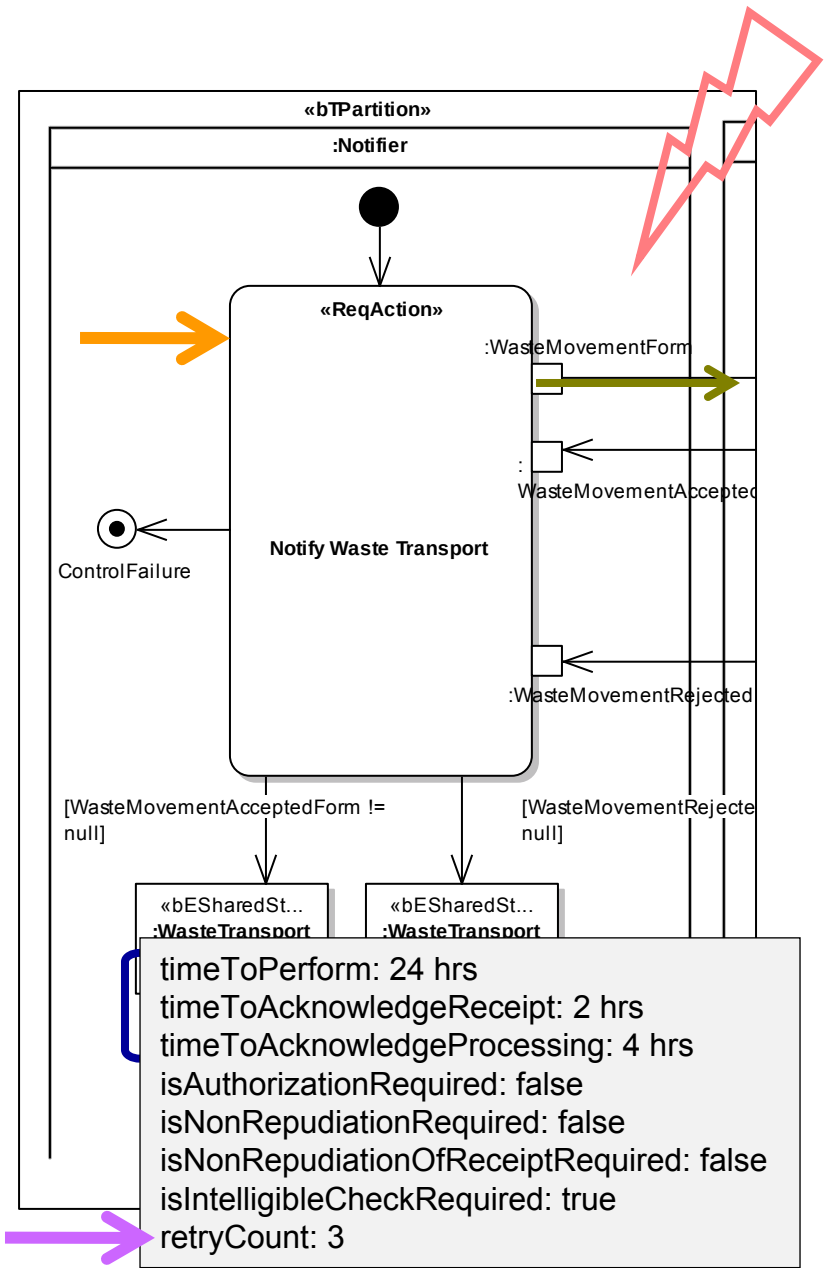


Executable Process

Time constraints are steering the different business signals, exchanged between Notifier and Notifiee



UMM2 to BPEL at a glance – Notifier's side



<BPEL>

<receive> (1)

<while> (2)

<scope> (3)

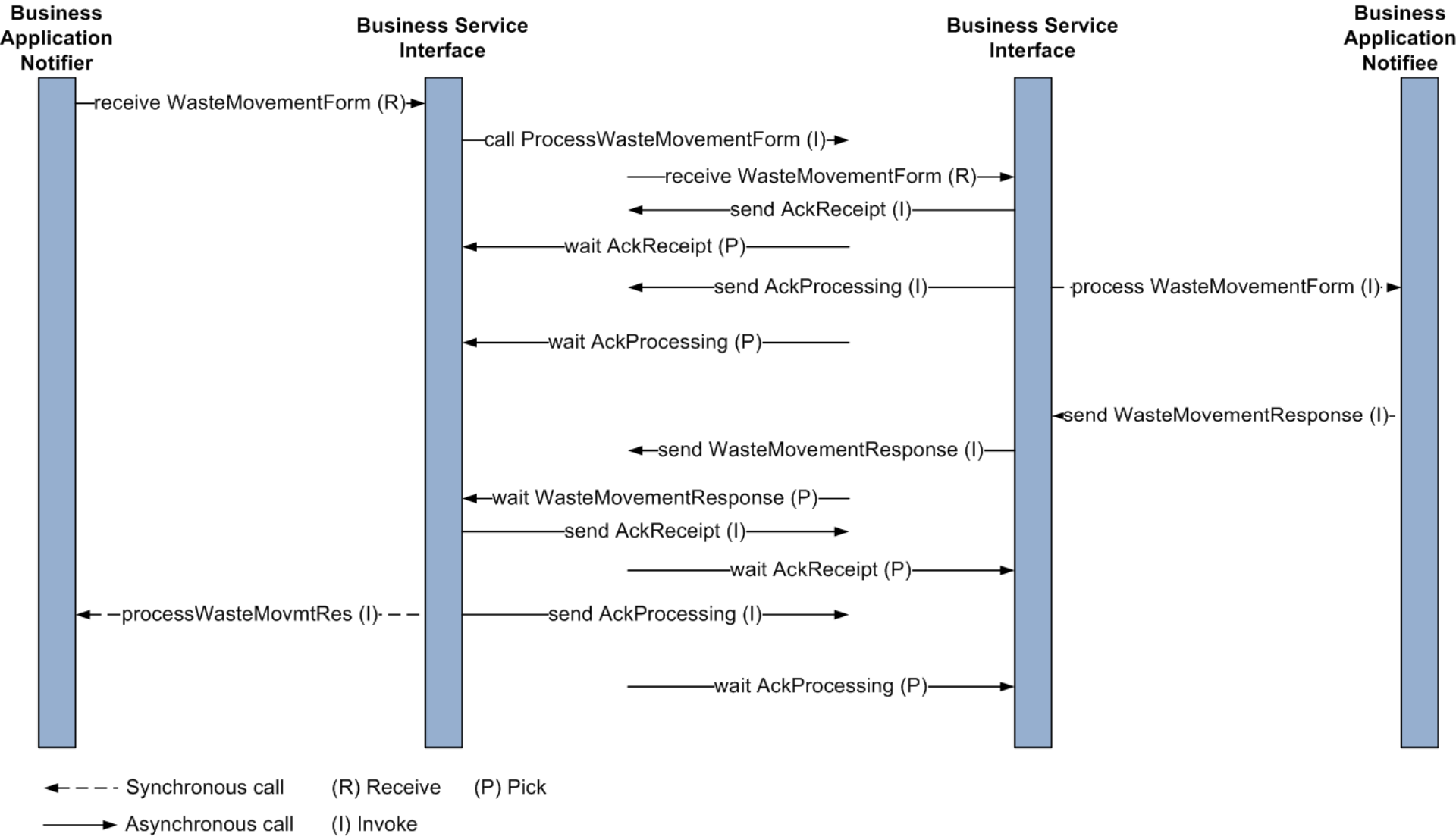
<sequence> (4)

sunshine case

<faultHandler> (5)

<eventHandler> (6)

The Business Service Interface Interactions on both sides



Conclusion: UMM – What it can do

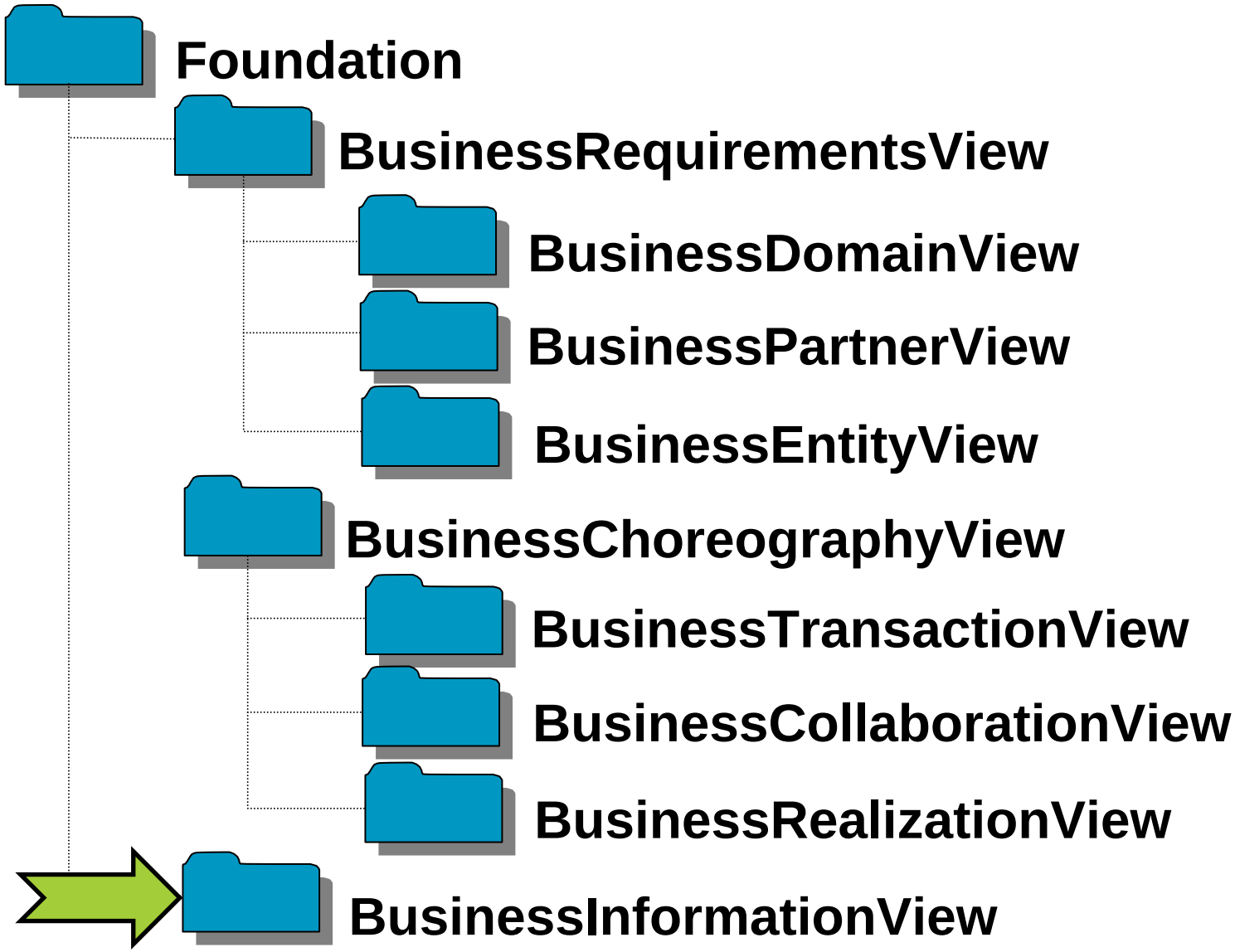
- capture IT system requirements of distributed (service oriented) systems independent of the implementation technology
- define an agreement upon an inter-organizational business process between two business partners (global choreography)
- create the basis for the derivation of deployment artifacts for IT systems (generate abstract BPEL)

Conclusion: UMM – What it cannot do

- provide models for the derivation of orchestrations (UMM does not provide an internal view of a business partner)

- generate ready-to-use deployment artifacts (e.g. executable BPEL)
  - UMM is on the BOV layer
  - UMM does not provide service definitions and service bindings

Package structure of the current UMM version – UMM 2.0



Business Information View

Purpose

- modeling of business information artifacts
- UN/CEFACT does not mandate a specific business document modeling methodology
- modelers are encouraged to use the UML Profile for Core Components (UPCC)

Artifacts

- Class diagrams and associations

Thank you for your attention

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