



# **Interoperability Profiles for Collaborative Business Processes**

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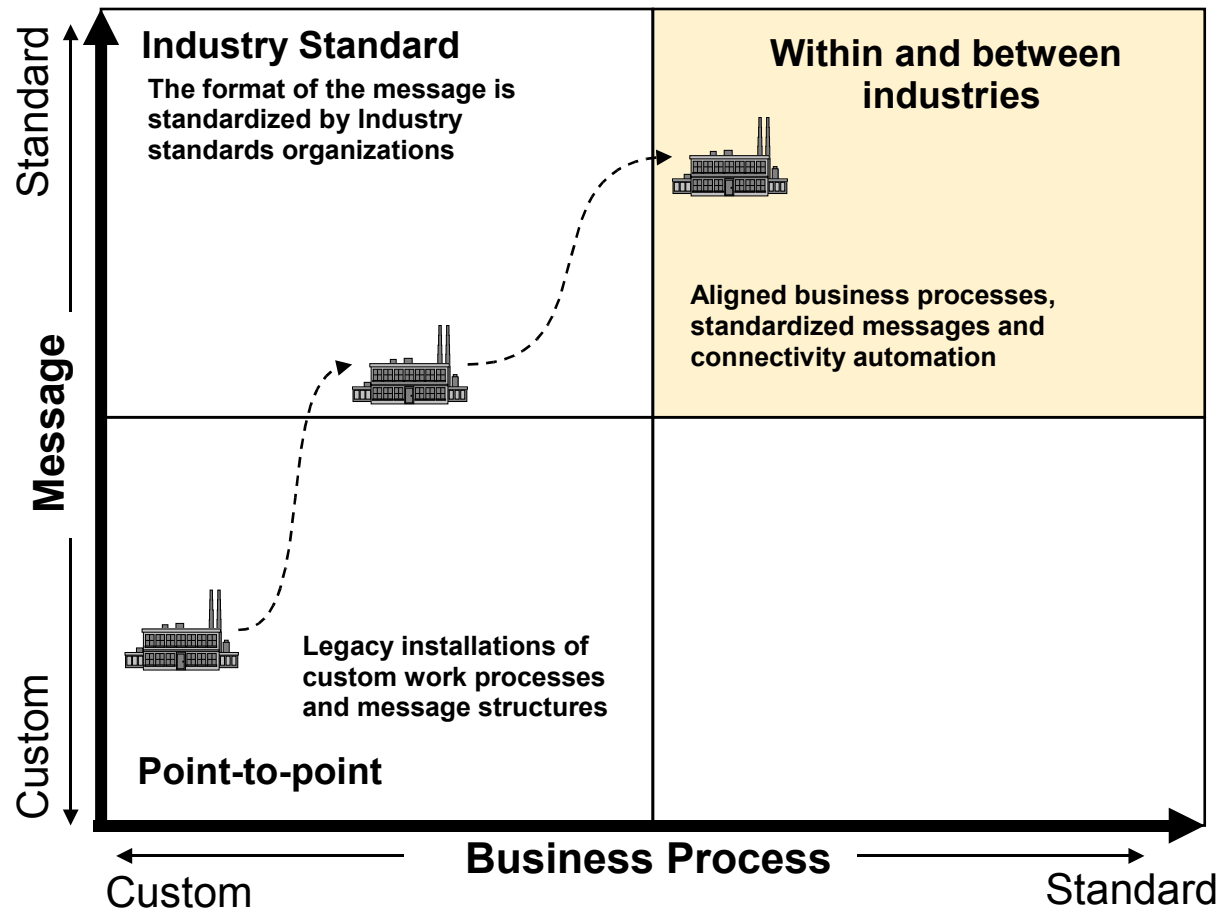
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→ **Background**

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# Framing the Problem



*This reference model aligns the critical factors of integration on two axes – messages and business processes*

# Enterprise Interoperability: Challenges and Pain Points

- ❑ **Competition of value chains**
  - And the value chain is across many industries (“value net”)
- ❑ **Business partners use different process and product models**
  - Increase in the number and complexity of electronic business relationships
- ❑ **Lack of commonly accepted inter-company processes**
  - Missing process standards – public processes are vague or missing altogether
  - Lack of processes for cross-industry
- ❑ **Low penetration of existing standards**
  - Lack of m:n connectivity
  - Time and effort for setting up collaboration with a large number of partners
  - Proliferation of standards and standards organisations
  - Inconsistent implementation of standards
- ❑ **Dominance of human-to-human (phone, fax, e-mail) or human-machine-interface (portals) in partner relationships**
  - Bilateral agreements on electronic collaboration prevail



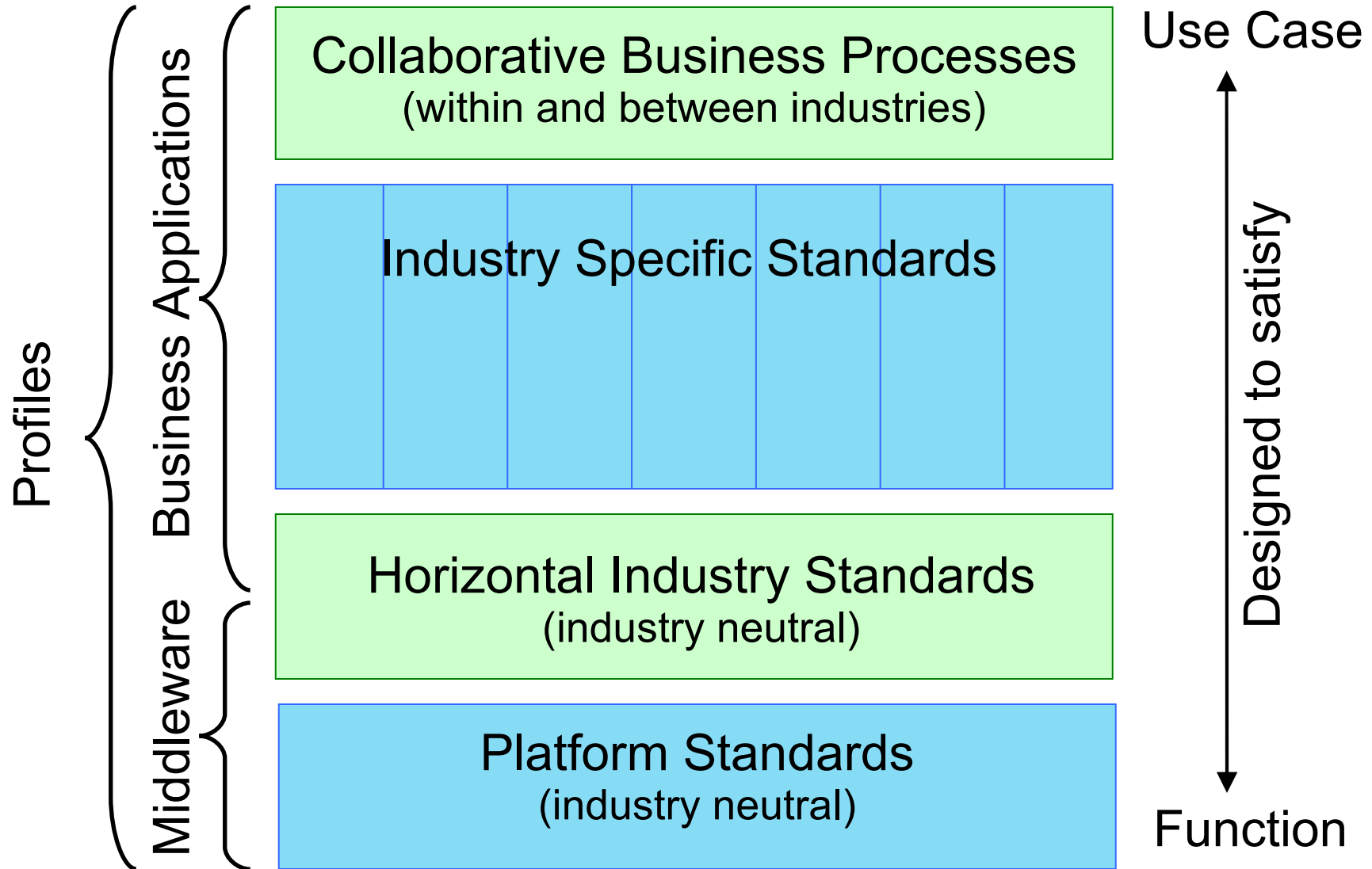
**→ Proposition**

**2**

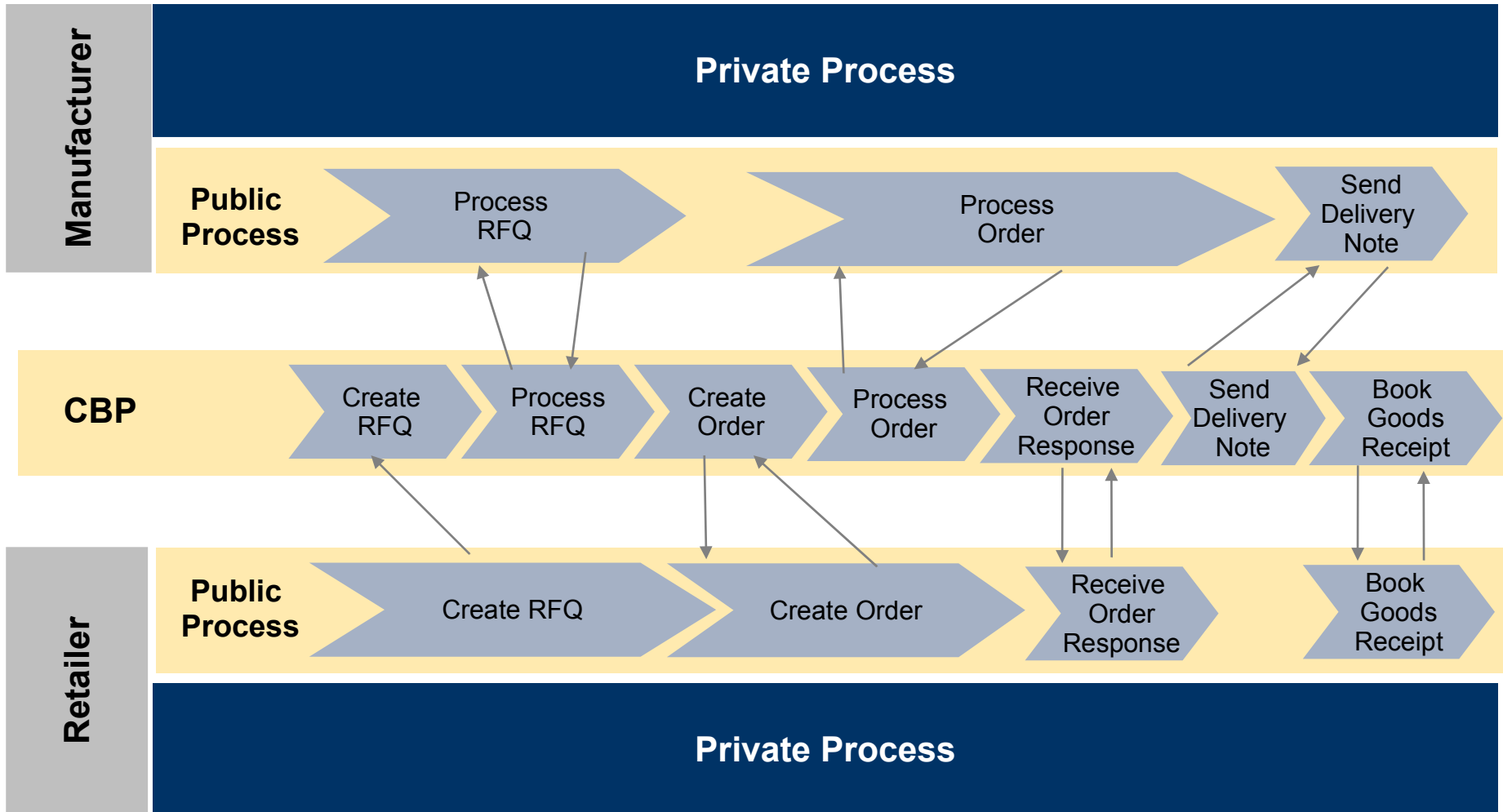
**"Perfection is attained, not when there is nothing left to add, but when there is nothing left to take away."**

**-Antoine de St. Exupery**

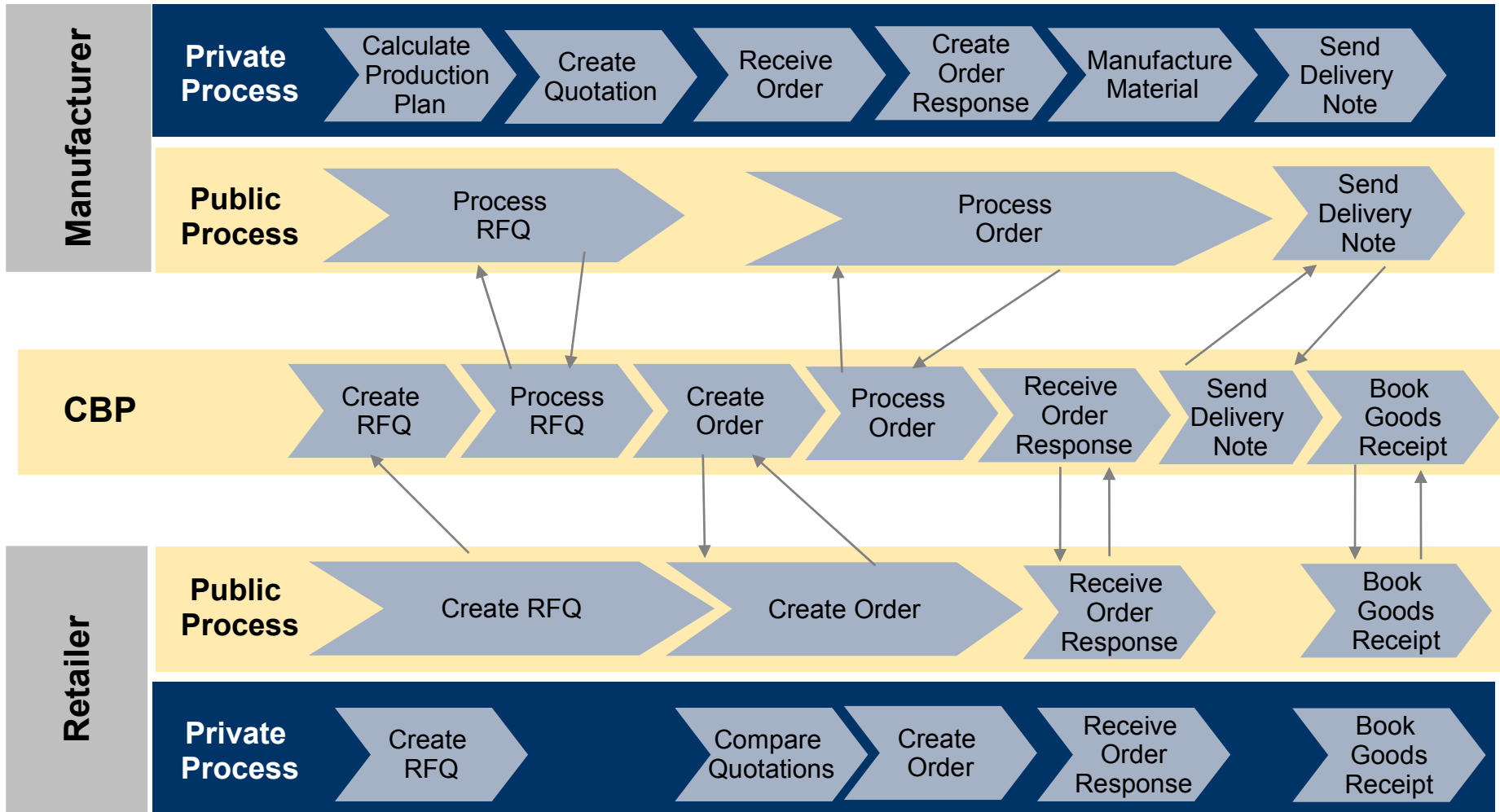
# Standards Stack



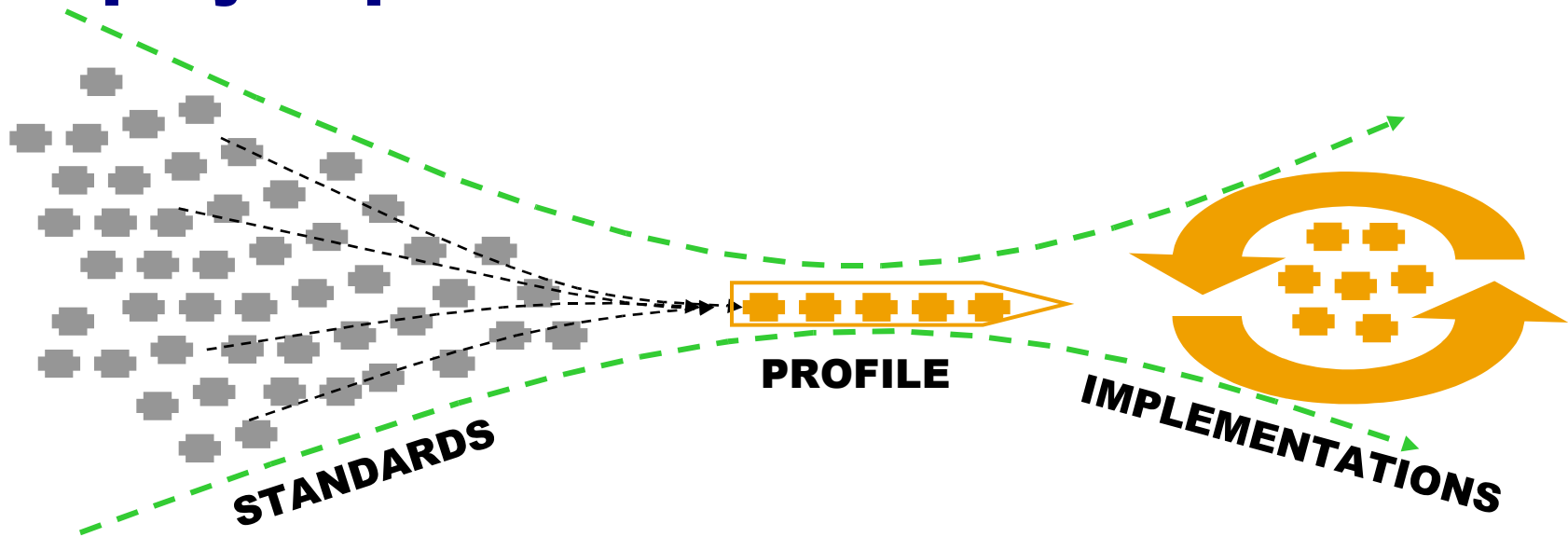
# Collaborative Business Processes



# Collaborative Business Processes



# Simplify Implementations



## Problem statement:

- Existence of many industries and many industry standards makes deployment adoption of B2B standards complex
- Yet the ability to exchange information with customers and suppliers will be one of the biggest components for success in near future

→ We do not suffer from a lack of standards, but from a lack of implementations

## Needs:

- Identification and selection of open business standards for specific end-to-end process scenario
- Identification of standardisation gaps

## Process:

- Selection of standards
- Composition approaches
- Feature alternatives

## Goals:

- Facilitate implementation of standards by promoting profiling as optimal process
- Promote implementation of profiles

## Requirements:

- Clarity in profile design and composition
- Consistency across different profiles

# Standards Stack

Collaborative Business Processes  
(within and between industries)

Industry Specific Standards

Horizontal Industry Standards  
(industry neutral)

Platform Standards  
(industry neutral)



→ **Interoperability Profile  
Structure**

"There are two ways of constructing a software design: one way is to make it so simple that there are *obviously* no deficiencies and the other way is to make it so complicated that there are no *obvious* deficiencies."

C.A.R. Hoare

# Interoperability Profile - TOC

- ❑ 1. Introduction
- ❑ 2. Use Case
- ❑ 3. Business Process
- ❑ 4. Service Definition
- ❑ 5. Platform
- ❑ 6. Conformance

An Interoperability Profile is a composition of Standards and other Profiles. It does not incorporate or repeat information it merely shows how the features referred to should be used in the context of the particular Interoperability Profile.

An Interoperability Profile does specify additional constraints to those specified in the standards referred to but the result will be a proper subset of those standards.

# BPIP – Use Case

## □ Business Use Case

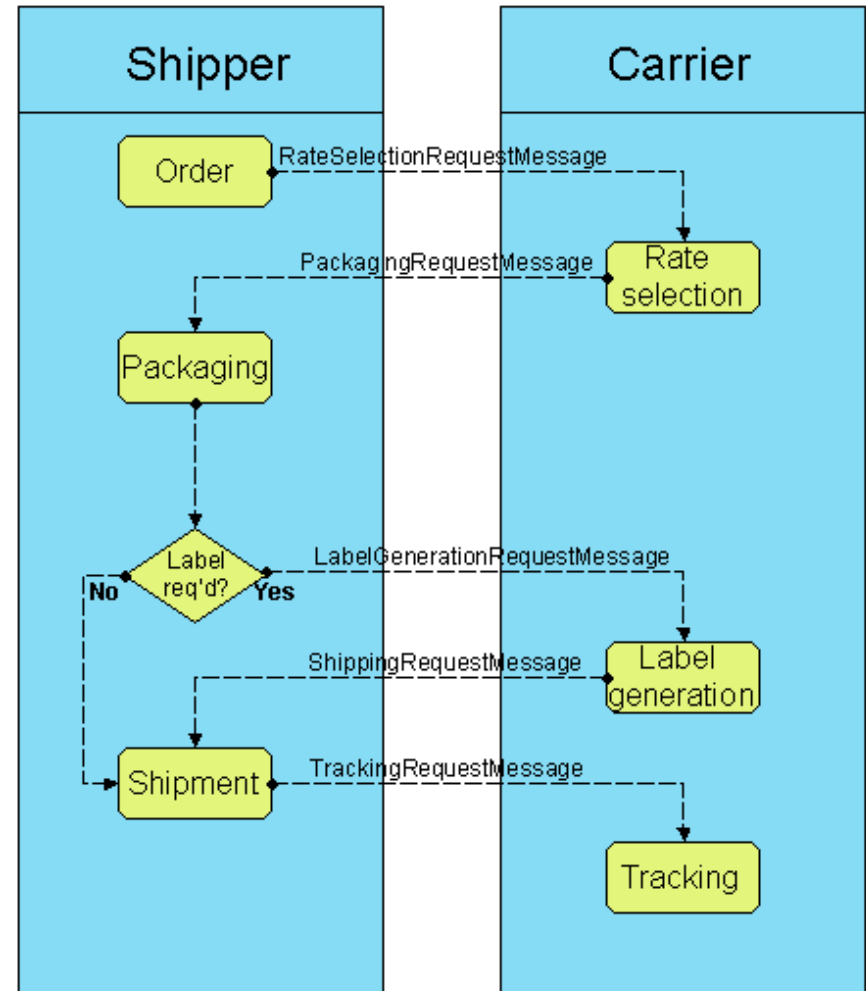
- Articulate the problem to be solved in business terms.
- Create a business use-case model to describe the business process(es). These processes are a sequence of business actions that deliver observable value to a business *actor*.

# BPIP – Business Process

## □ Business Process

■ Formalise the Business Use Case with a use-case model that describes the business process(es). These processes are a sequence of business actions that deliver observable value to a business *actor*.

- ◆ Define the partners that participate in the process
  - Identify the roles (*actors*)
- ◆ Document the model using Business Process Modeling Notation (BPMN)
  - Use one *Pool* one for each partner in the collaboration
- ◆ Process specification
  - A specification of the Business Process SHOULD be provided. If using Business Process Execution Language [BPEL] there should be one *abstract process* definition for each *partner*.



# BPIP – Service Definition

## □ Service Definition

- The Business Process model specifies what messages flow between the various activities to satisfy the process.
- This section defines the messages and operations of a web service that support that process. It also includes *testable* assertions.
  - ◆ Messages
    - message structure (normally using a standard data model)
    - typically profiled from an existing standard
    - Message constraints
  - ◆ Operations
    - Each of the activities is defined as an operation in WSDL as well as the message(s) associated with each operation.
    - Input message
    - Output message
    - Executing partner
    - Processing

# BPIP – Platform

## □ Platform

■ This section of Profile deals with the platform standards that enable the exchange of messages. It also includes additional constraints that are applied to the standards. Finally, it includes *testable* assertions.

- ◆ The template illustrates how WS-I profiles would be used to provide an enabling set of platform standards.
  - specifies the standards/profiles
  - additional constraints



→ **Summary**

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**"To attain knowledge, add things every day.  
To attain wisdom, remove things every day."  
-Lao Tse (老子)**

# Benefits of a uniform Profile

- Reduce cost of developing an Interoperability Profile**
  - Common methodology
  - Reuse of platform profiles – e.g WS-I Profiles
  - Common tools for development
- Better quality Interoperability Profile**
  - Rigorous specification
  - Validation of machine processable constraints
- Simpler deployment**
  - Use of pre-existing standards
  - Ability to validate implementations
- EIC Sample Template**
  - [http://www.eic-community.org/index.php?option=com\\_wrapper&Itemid=441](http://www.eic-community.org/index.php?option=com_wrapper&Itemid=441)