Real and Effective Use of Business Vocabularies

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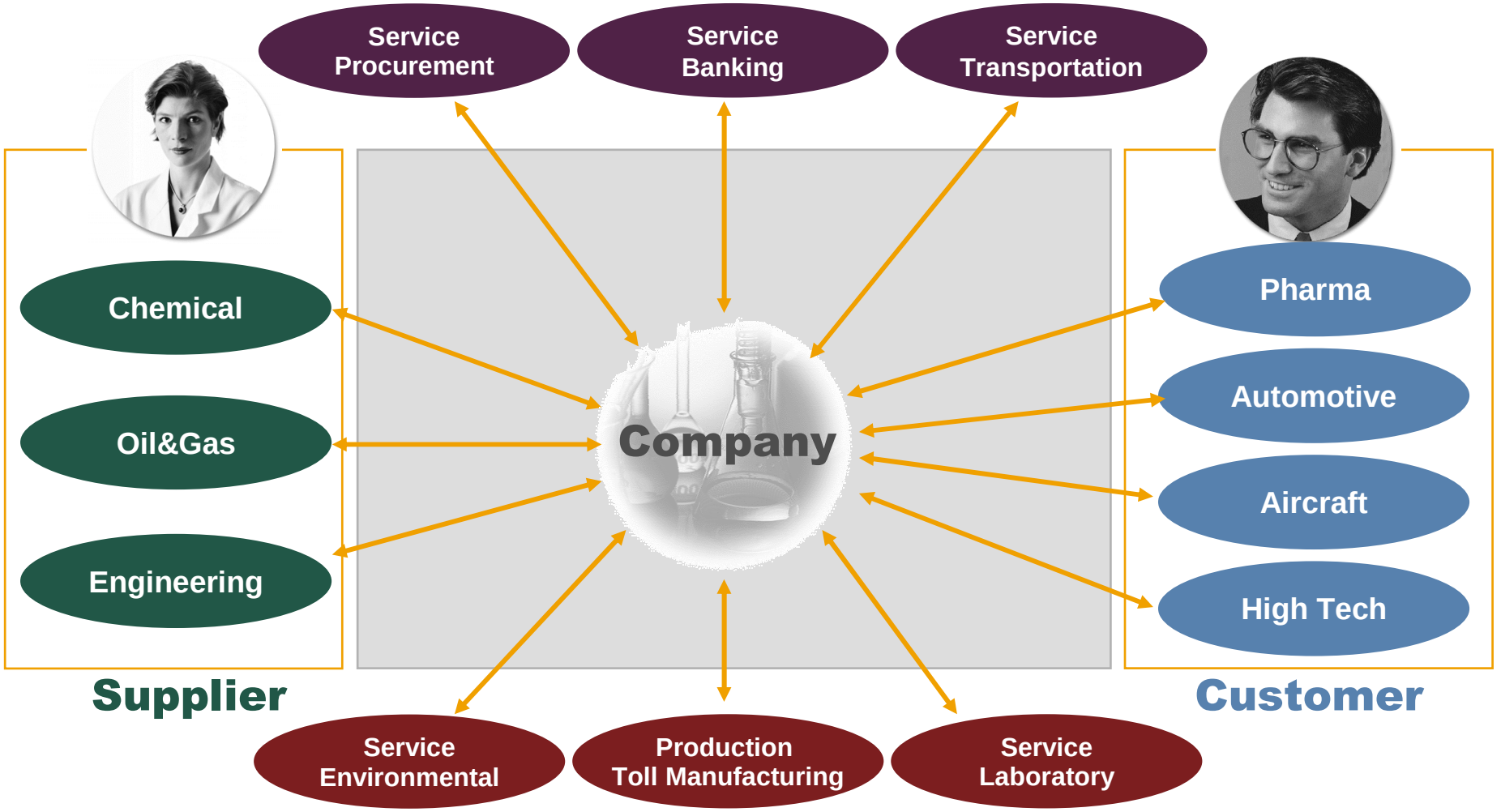
General Aspects

Semantics & Core Components

SAP NetWeaver & Core Components

Implementation Example

Vision: Enable Cross-Industry Collaboration



Unlock value across industries by implementing open standards

↔ intensive collaboration between partners

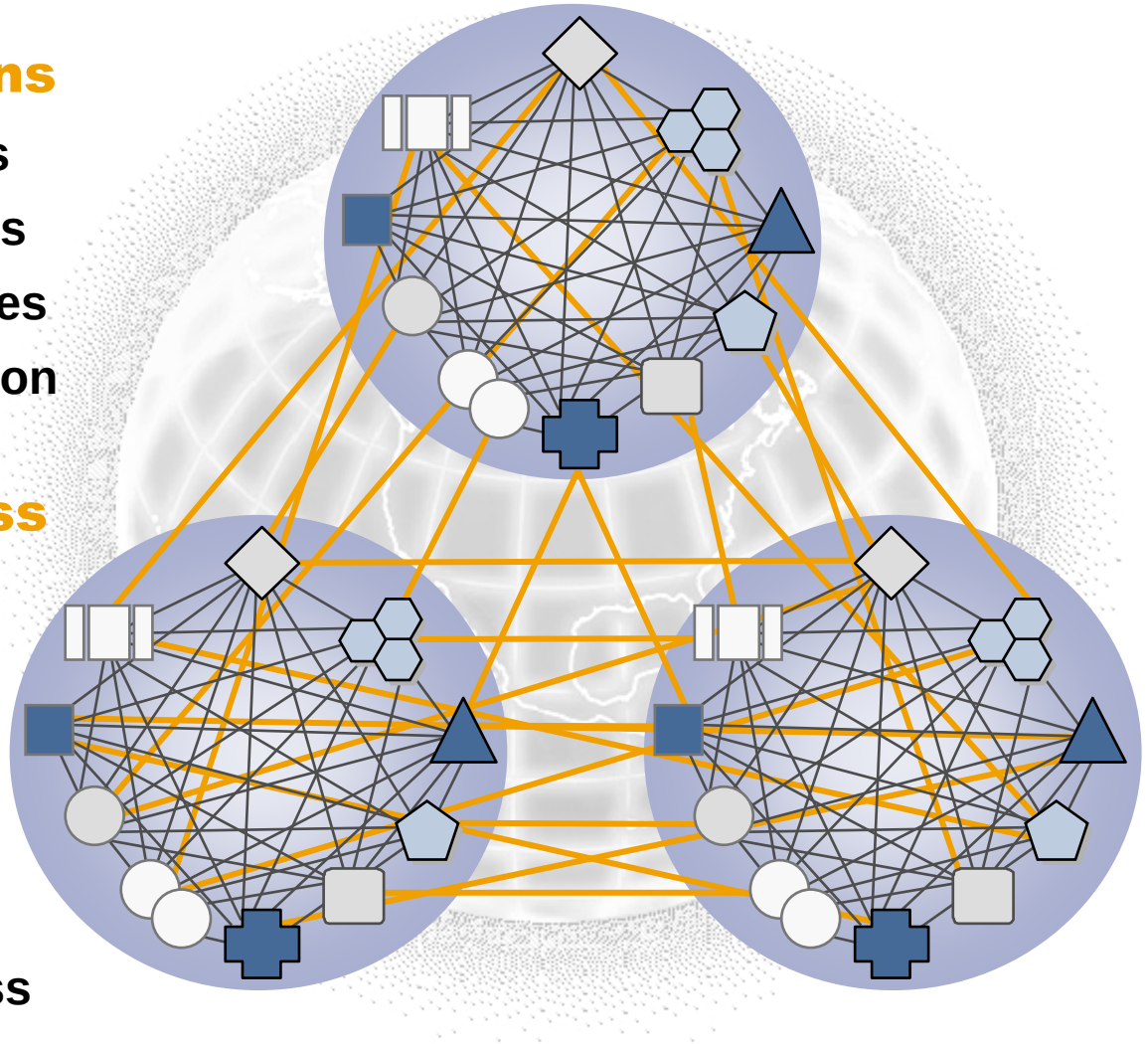
But There is Still an Inter-Enterprise Nightmare

Best-of-breed solutions

- Many different vendors
- Custom made solutions
- Proprietary technologies
- Point-to-point Integration

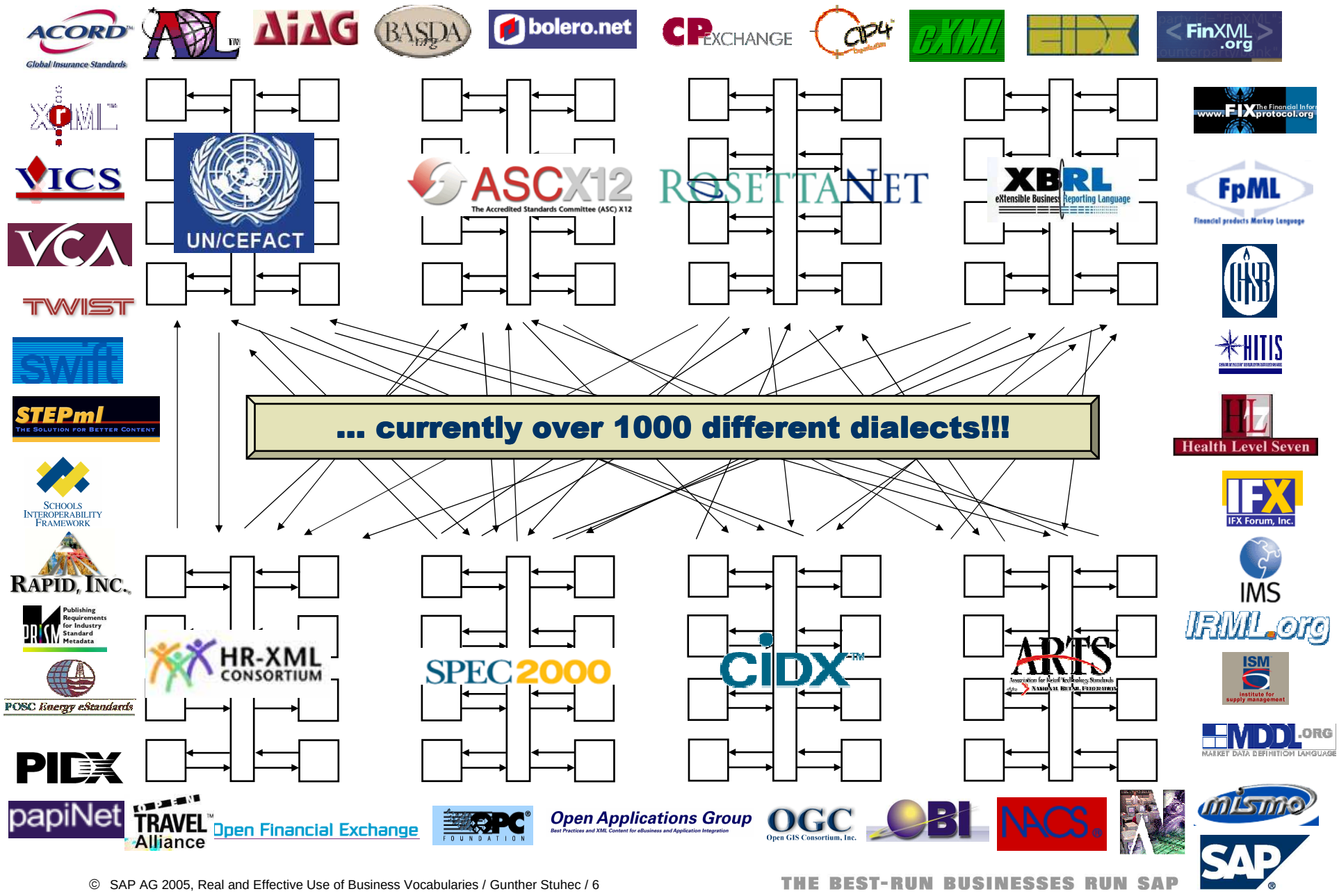
Risking future success

- Complex business environment
- Maintenance nightmare
- Multiple dependencies
- Many different business applications

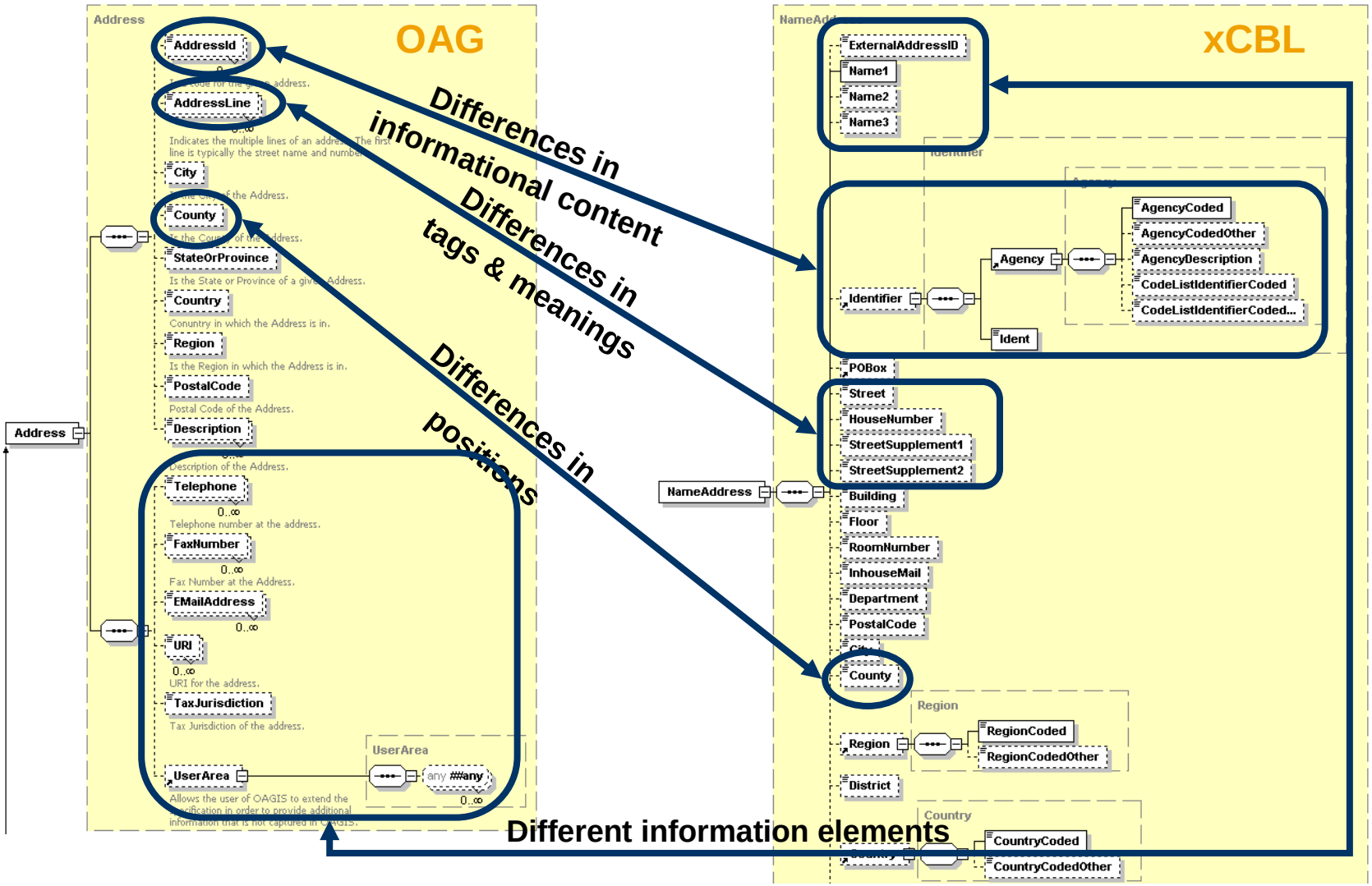


Customer value is lost

One Key-Part of this Nightmare is the Different Expression of Semantics by ..

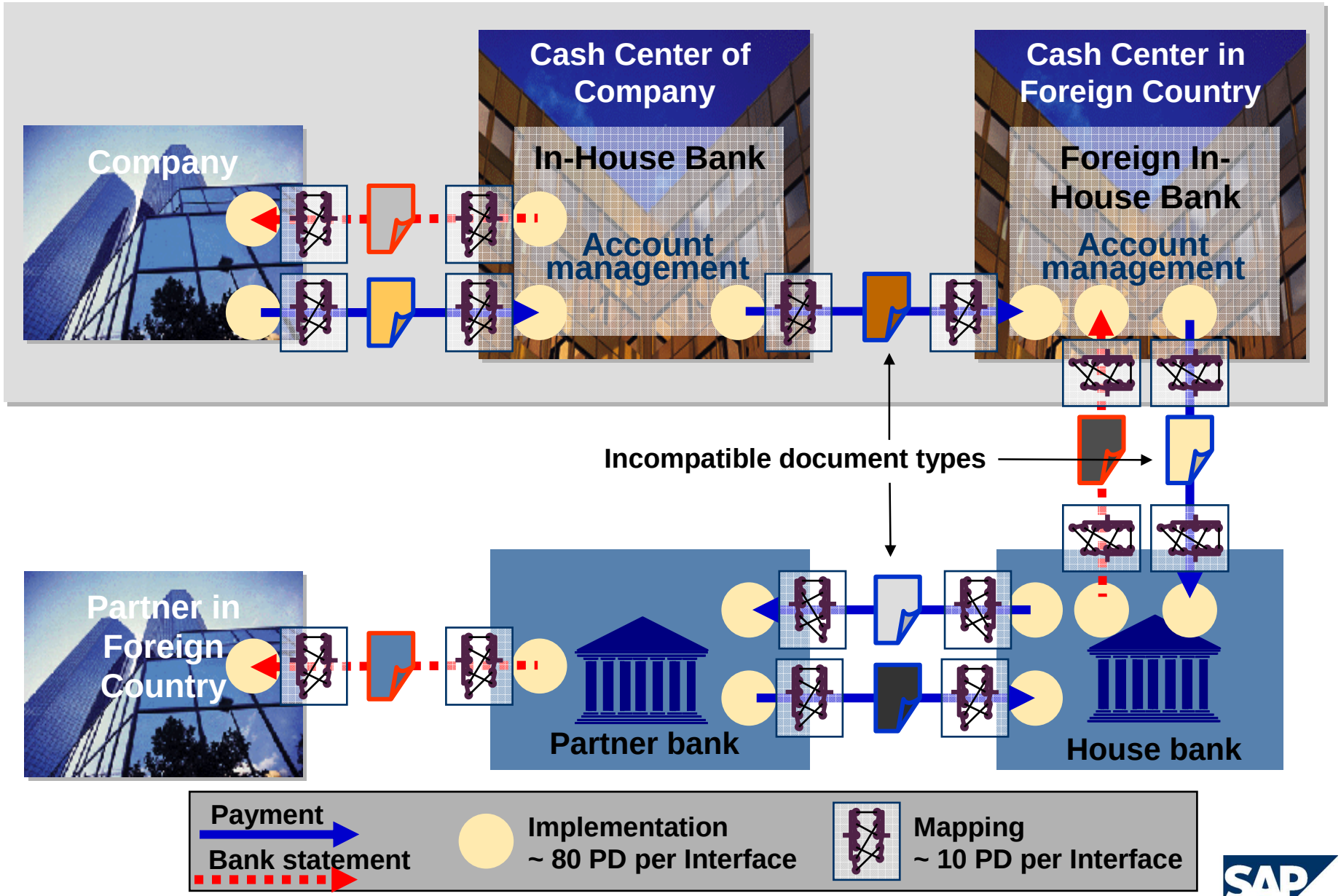


Same Semantics Expressed in Many Different Ways

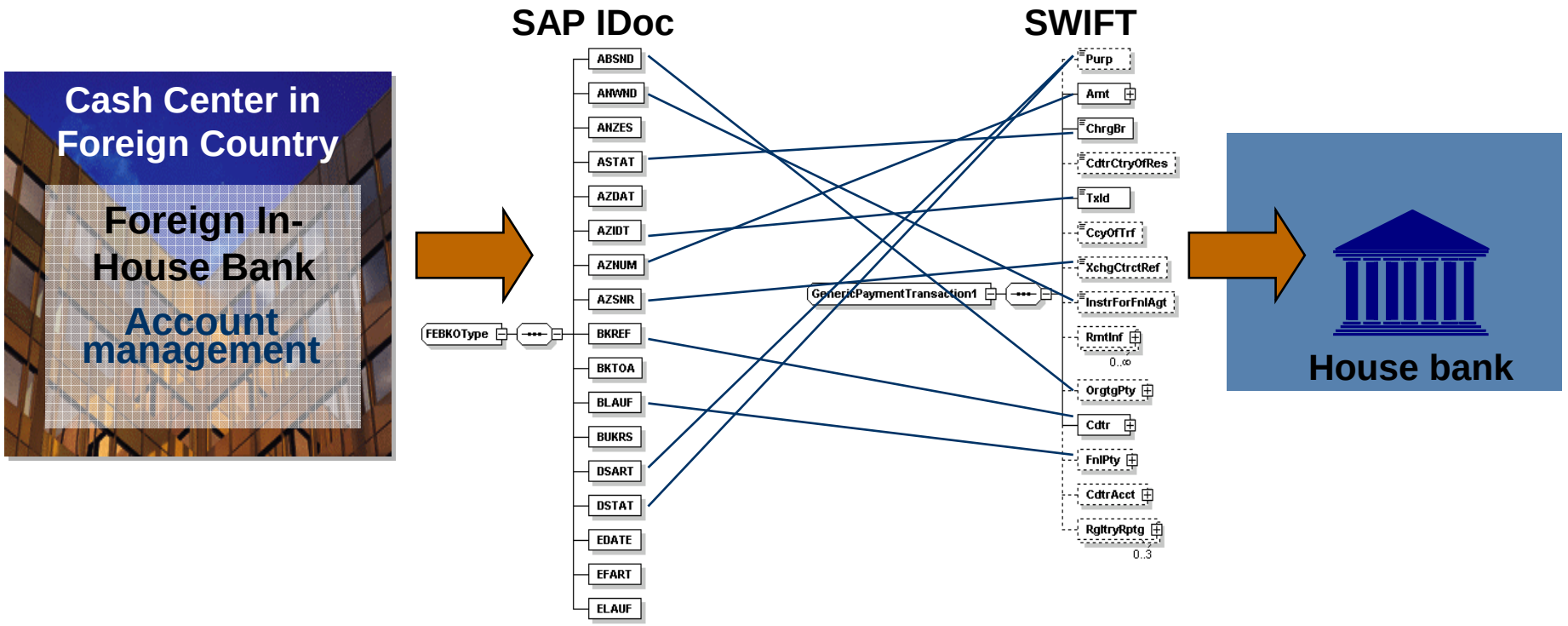


Allways an ineffective and expensive semantic mapping is required !!!

Required Mappings in a Real Scenario



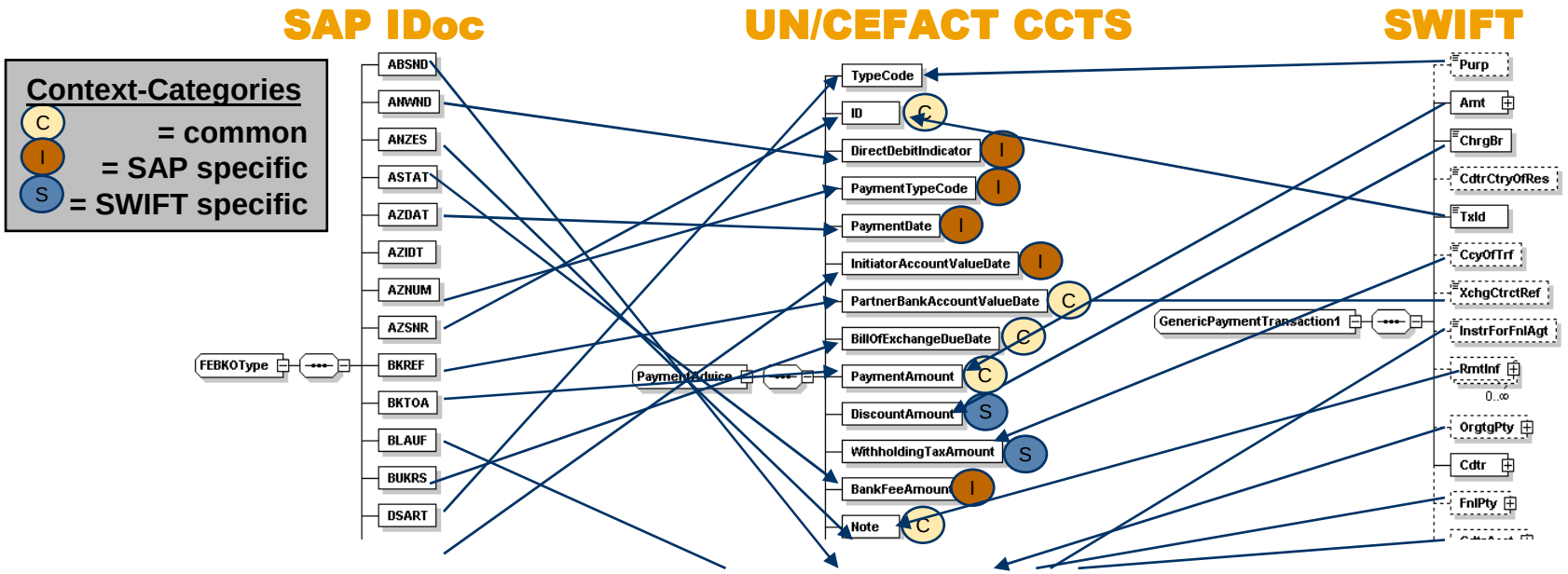
B2B Inefficiencies Today



Multiple structures and naming conventions for the same semantic meaning

- Costly and time-intensive mapping efforts required
- Cost of integration for additional partners almost unpredictable

How To Overcome B2B Inefficiencies



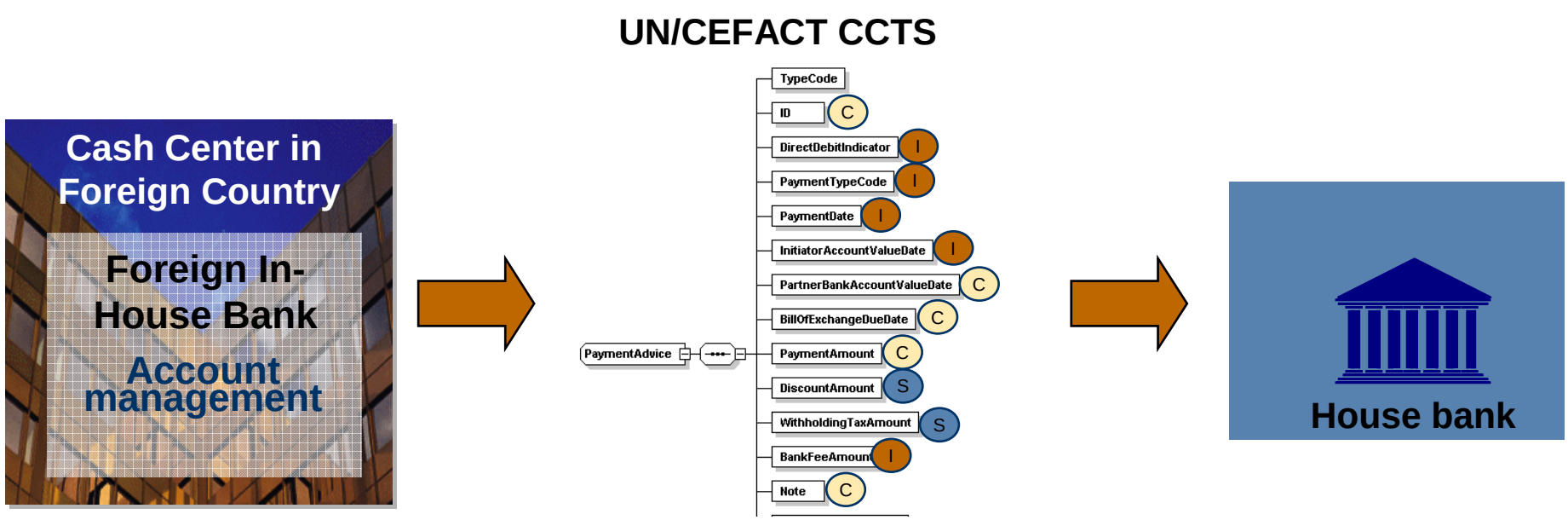
Demand for guidelines of semantic

- Human and machine readable naming and design rules for structure and meaning
- Independent of any implementation syntax
- Reusable, modular e-business building blocks
- Context-specific extension mechanisms

Benefits

- Applicable to all vertical industries and horizontal applications
- Can be used in in any implementation syntax
- Greater international acceptance

What is necessary to make B2B more efficient?

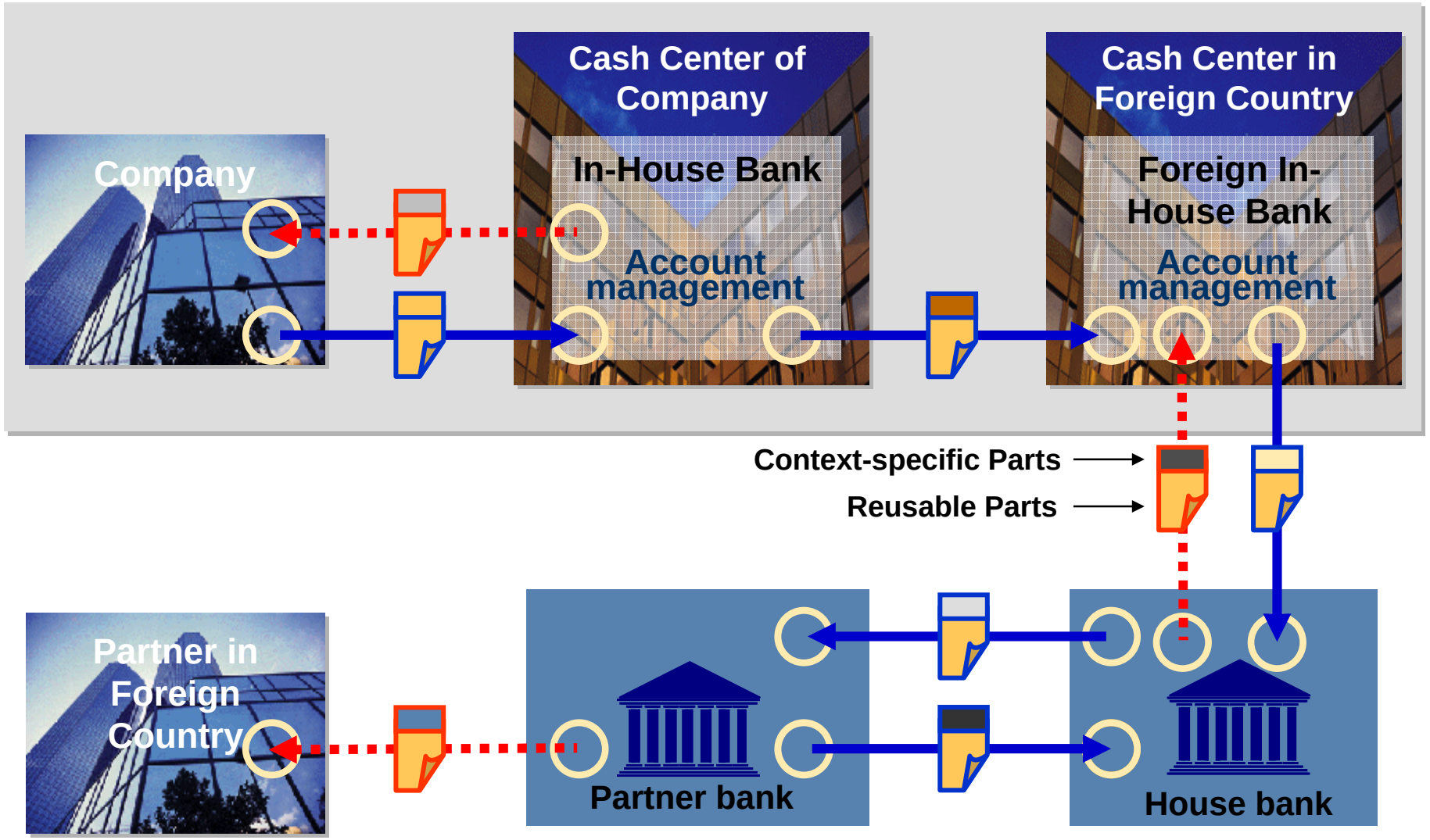


UN/CEFACT CCTS (ISO 15000-5) is the methodology for developing a common set of semantic building blocks

It is a way to

- **identify, capture and maximize the re-use of business information**
- **to support and enhance information interoperability across multiple business situations**
- **by direct implementations of interfaces and**
- **with minimized mapping efforts.**

Local Payments With Final Posting (Future)



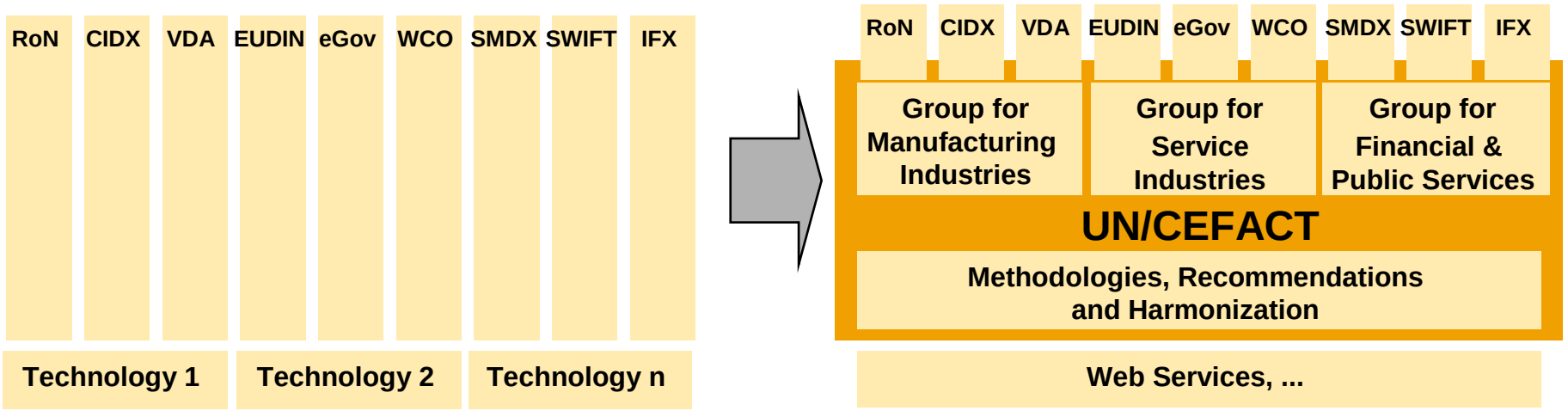
Harmonization and Maintenance of Repository Content

Content of Repository can be enriched step by step with extensions done in industry initiatives and customer projects.

Extensions are classified using the specific context categories.

Process to recognize new requirements and harmonize them if needed by different industry solutions or customers.

Process can re-use UN/CEFACT harmonization experience.



General Aspects

Semantics & Core Components

SAP NetWeaver & Core Components

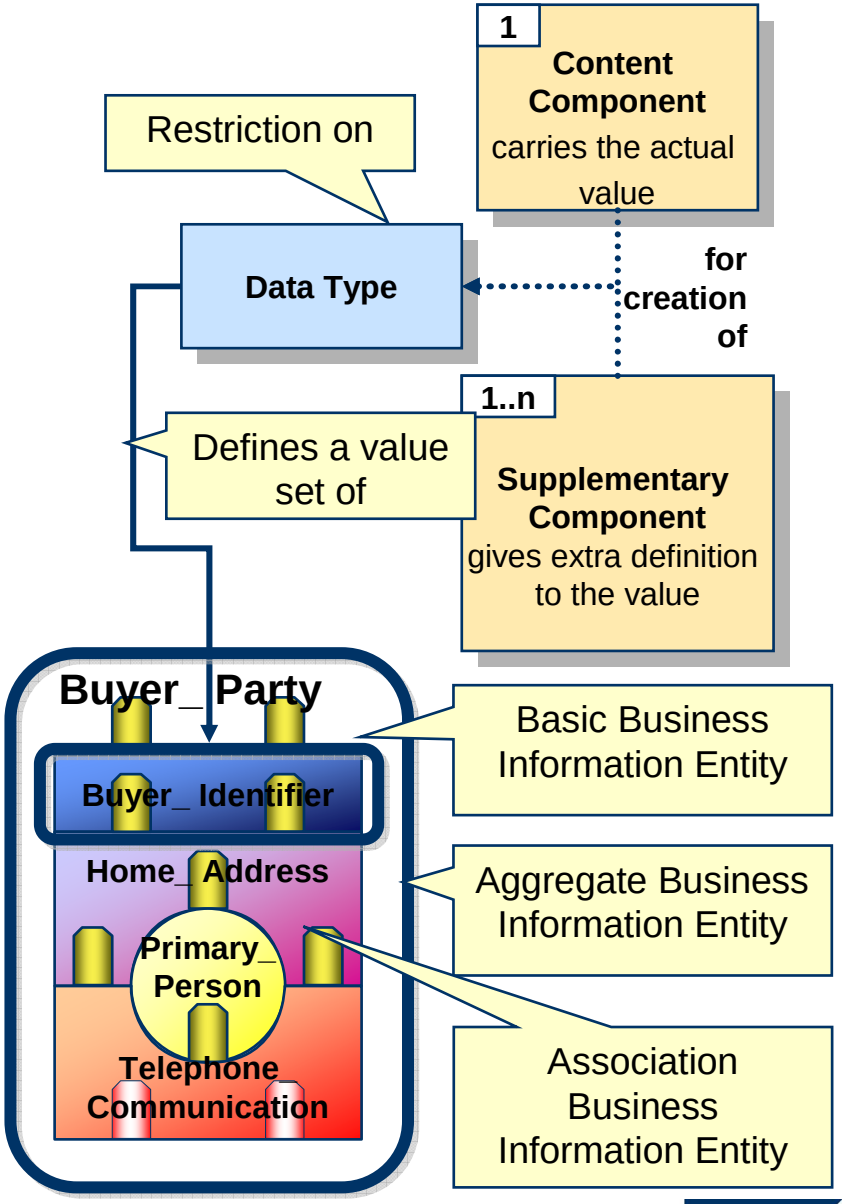
Implementation Example

UN/CEFACT Core Component Technical Specification

A syntax-idenpendent **methodology** for developing a common set of semantic building blocks

A way to identify, capture and **maximize the re-use** of business information to support and enhance information interoperability across multiple business situations

UNCEFACT Core Components Technical Specification (CCTS) was developed by the ebXML Project, now **organized by UN/CEFACT** and ratified as ISO 15000 standard



Key Features

Core Data Types

- Fixed set (text, identifier, code, etc.)
- Fixed and unambiguous representation of values based on international standards

Naming Rules

- Based on ISO 11179
- Comparable with a grammar of a natural language

Design Rules

- Aggregation and assembling of business information
- Based on Codd's rules and normalization forms
- Follows consequently the OO-approach

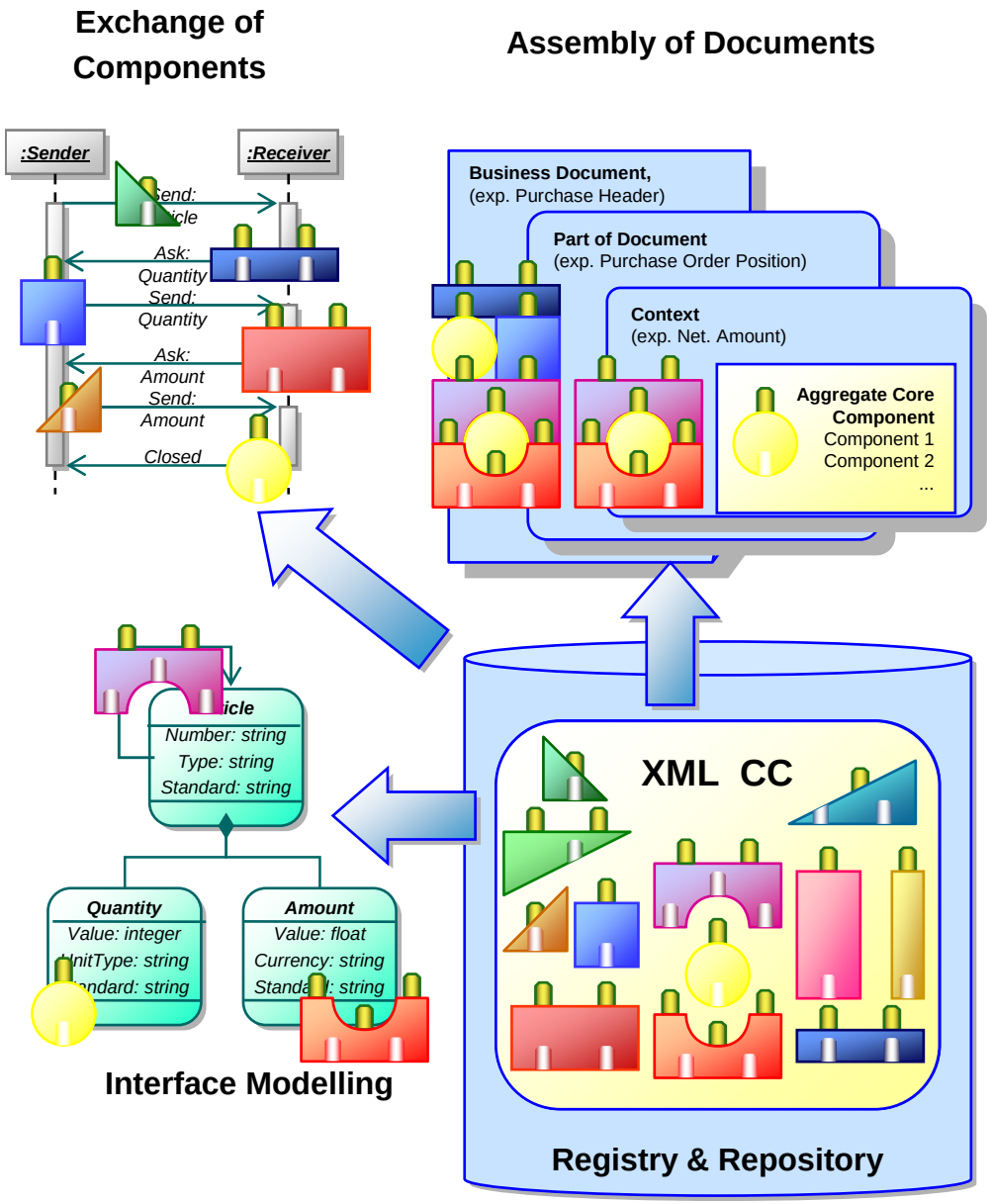
Context-Driver Principle

- Categorization of common and context-specific parts
- Used harmonization and consolidation
- Rules for selection of context specific parts (subsets)

Extensibility Mechanisms

- To address real business requirements

Syntax & Semantic with XML Naming and Design



XML Naming and Design Rules

- UN/CEFACT CCTS for semantic & structure
- W3C-Recommendation for syntax and representation

Makes the Core Components reusable by using all necessary XML based languages. It could be used for:

- building business documents
- defining application interfaces
- creating database tables
- as basis for data modelling
- creating user interfaces
- business objects in internal workflows
- defining partner profiles, catalouge strutures etc.

Rules for Creation of Core Components

1.) Determination of type

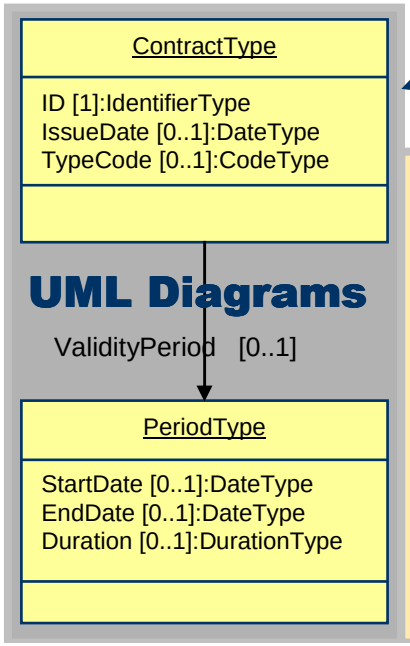
- Aggregation (ABIE)
- Basic (BBIE)
- Data Type

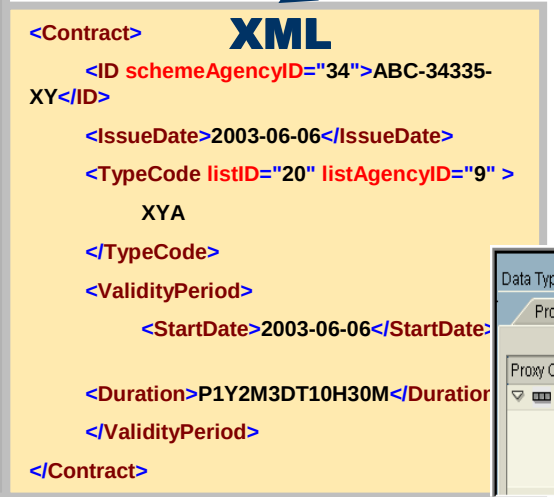
2.) Writing of the semantic description in one or two senctences.
These description should include the terms of ISO 11179,
which are comporable to the parts (subject, predicate, object) of a sentence:

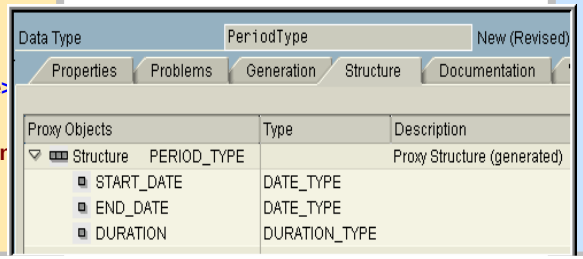
- Object Class Term
- Property Term
- Representation Term

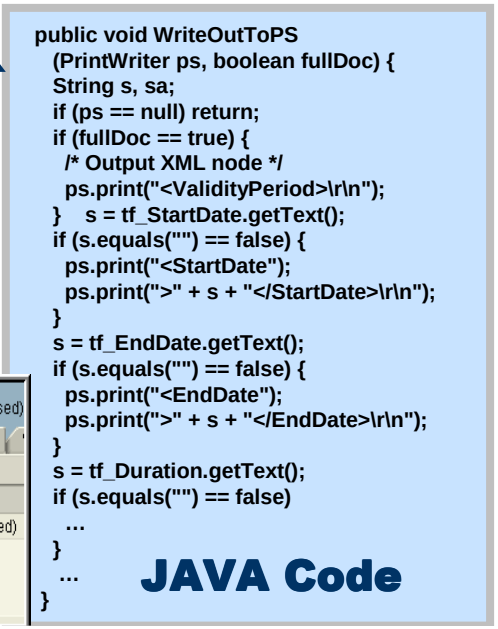
3.) Generation of the Dictionary Entry Names according CCTS rules

4.) Automatic generation of

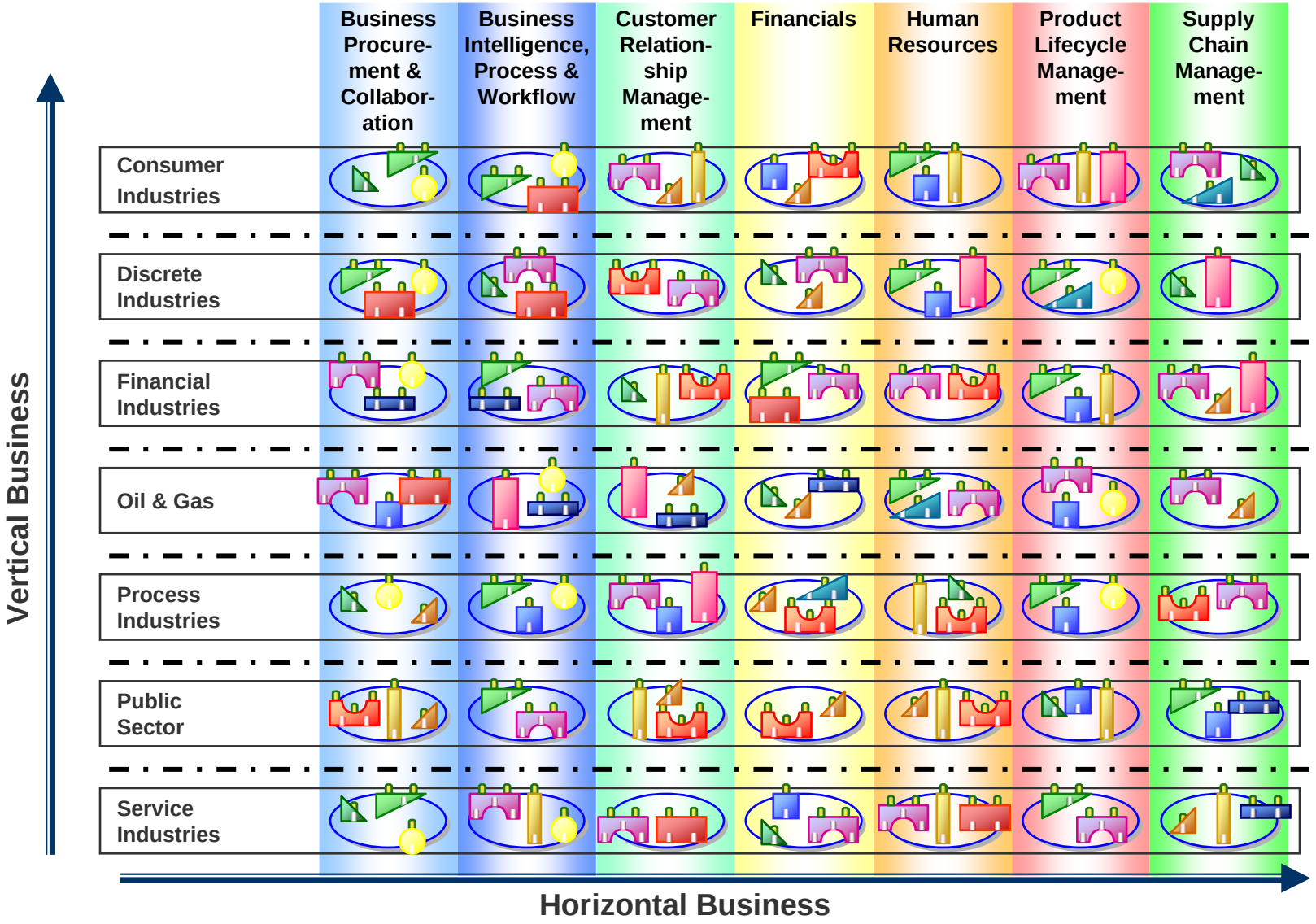




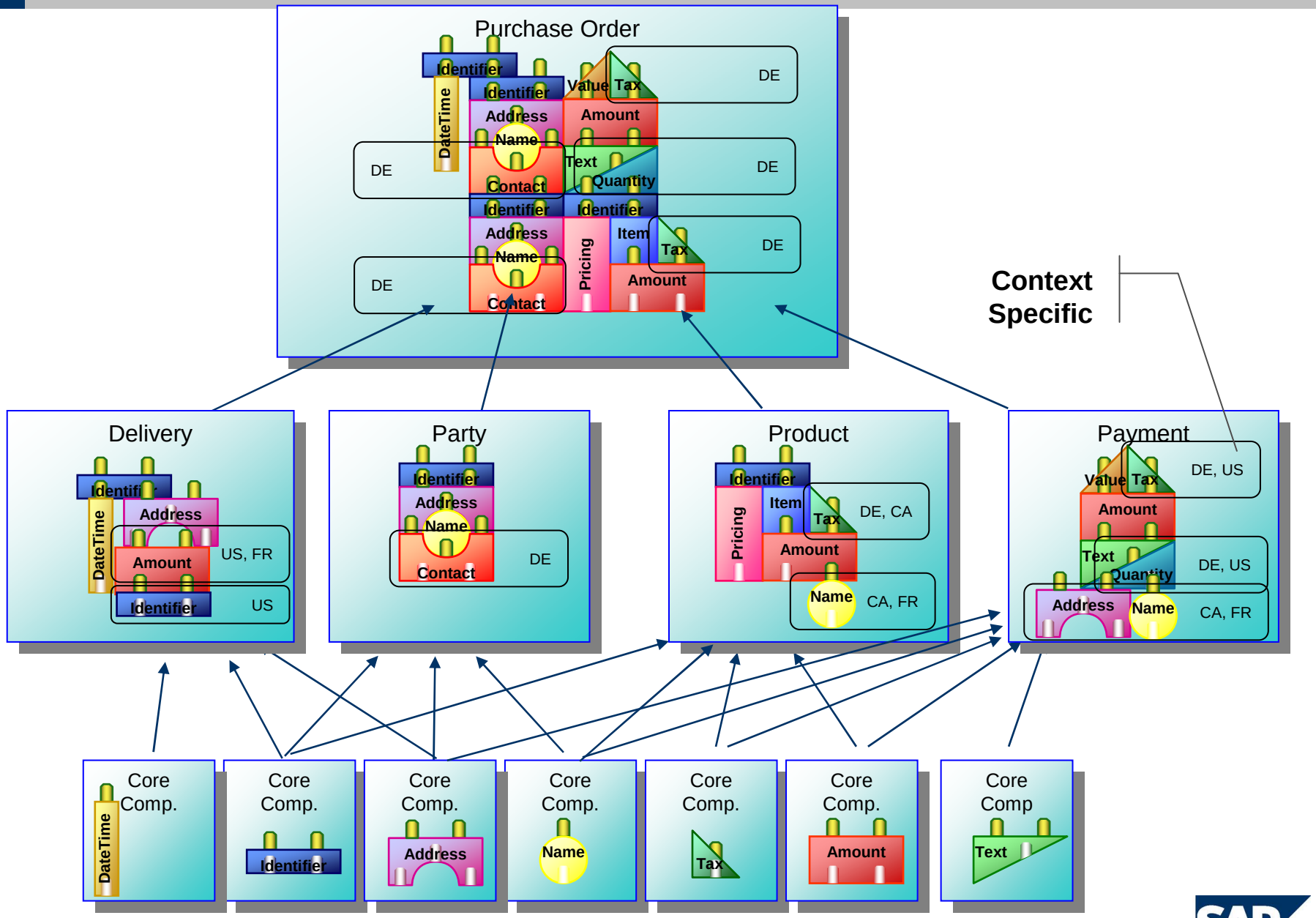




Context of Core Components



Context Specific Building Block System

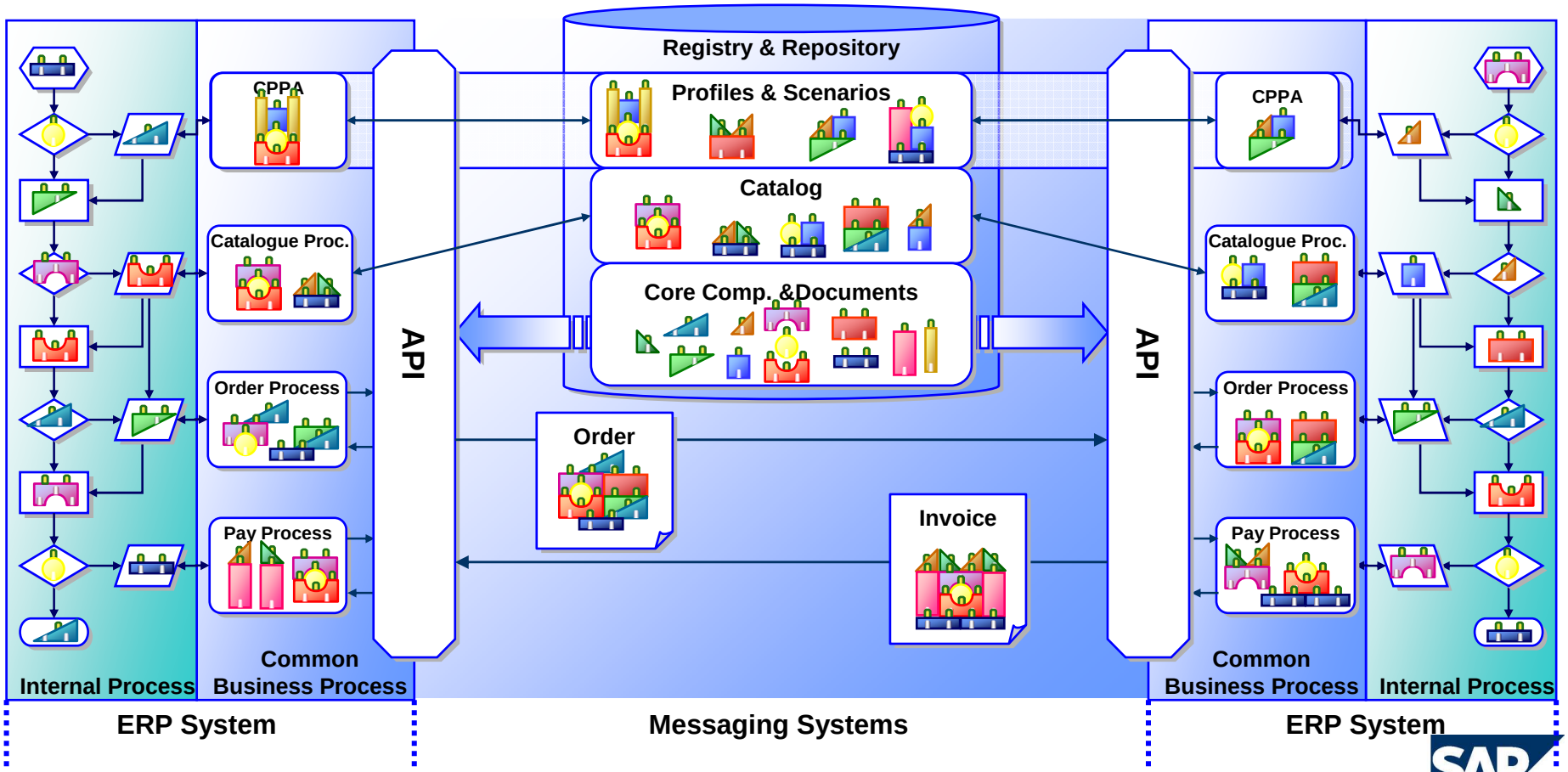


The Advantage of Common and Context Specific Semantic

Same and unambiguous understanding of business information in all industry areas (semantic) and applications (technique) –> Therefore: high reusability in semantic and technique

Same usage of business information internally (applications) and externally (between business partners

Less effort for internal and external interoperability in long term: Because of massive reducing of internal or external mapping



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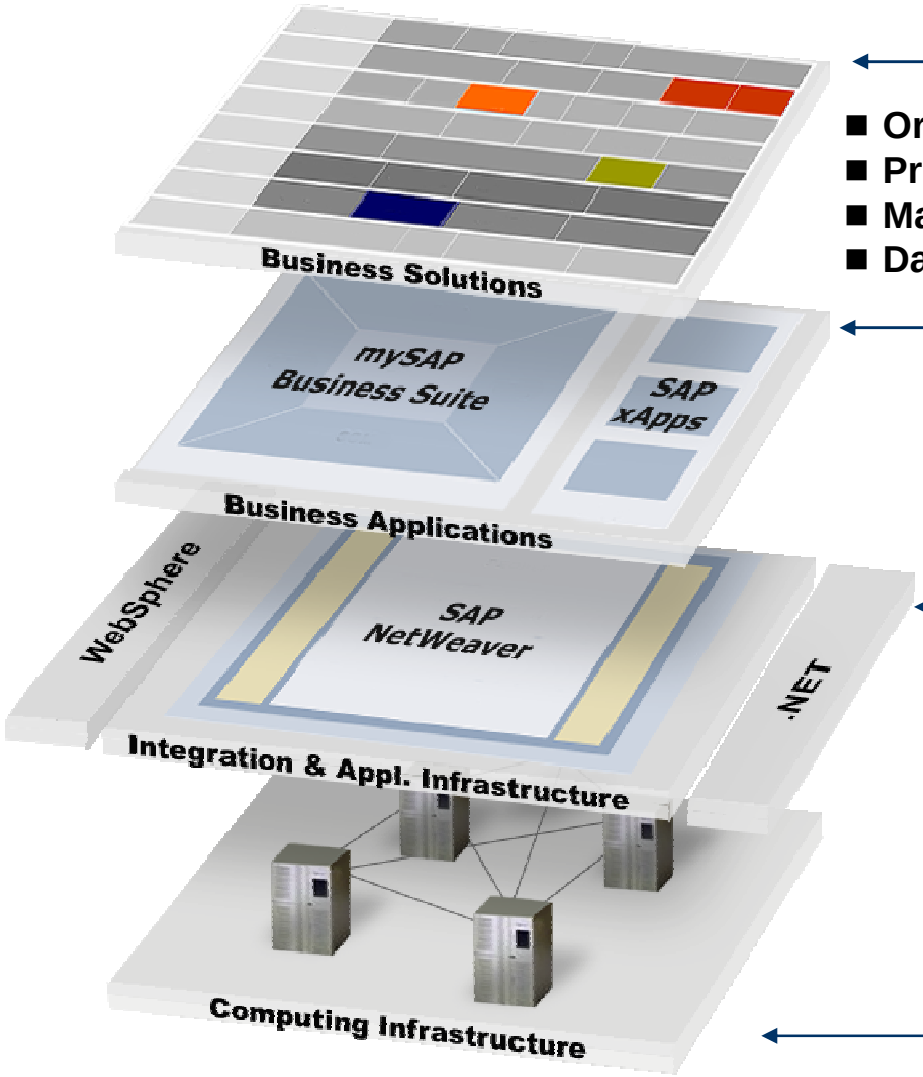
Implementation Example

Industry Standards Enable New Scenarios



Industry Solutions

Business Scenarios

- Order to Cash
- Procure to pay
- Make to Stock
- Data Harmonization
- Design Collaboration
- Plan to Performance
- Product Registration
- Supply / Demand Mgt

Industry Solutions

- Batch Management
- Recipe Management
- Production Supply & Execution
- Quality Management & Compliance
- CRM, SCM, FIN, HCM, ERP

Mappings & Enablement

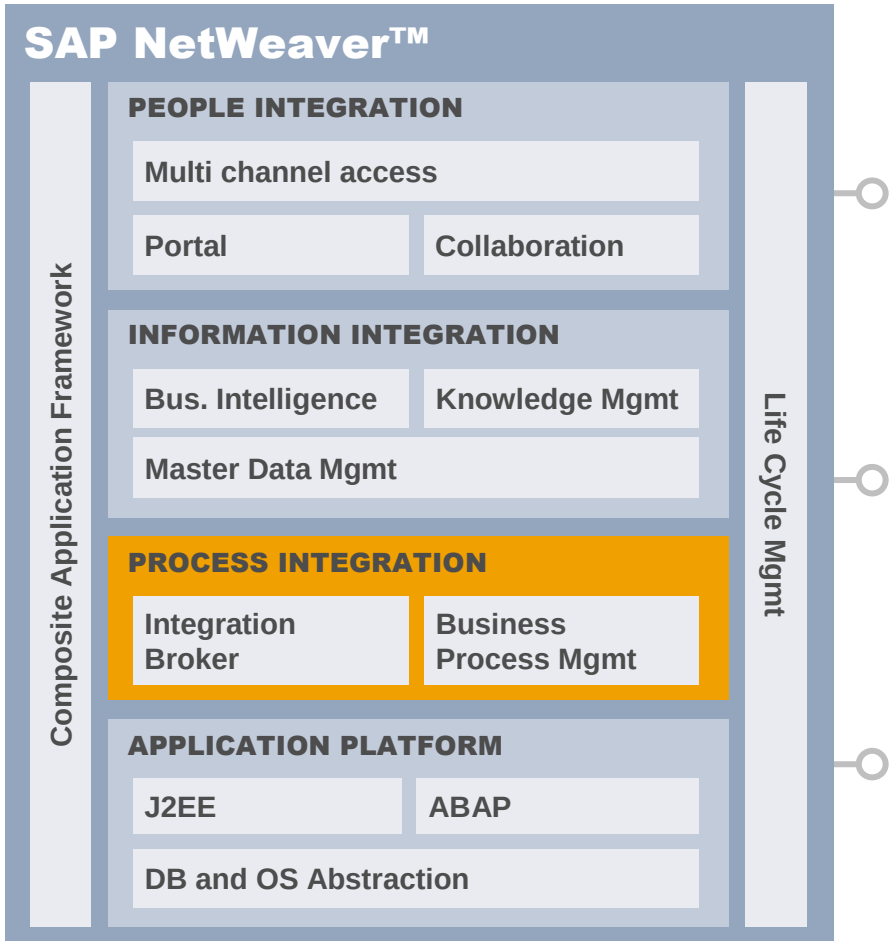
- UN/CEFACT CCTS + XML NDR, and Other Standards
- Business Process Management
- Internet Portal
- Knowledge mgt, Business Intelligence
- Integration platform
- Cyber Security
- Open, heterogeneous computing
- Solution Manager for SAP Infrastructure

Computing Platform

- Platform Interaction / Validation
- Reliable Architecture
- Scalable Transactions
- High volume capabilities

SAP NetWeaver™
The integration and application platform for lower TCO

An open integration and application platform that enables change!



Unifies and aligns people, information and business processes

- Integrates across technologies and organizational boundaries
- A safe choice with full .NET and J2EE interoperability

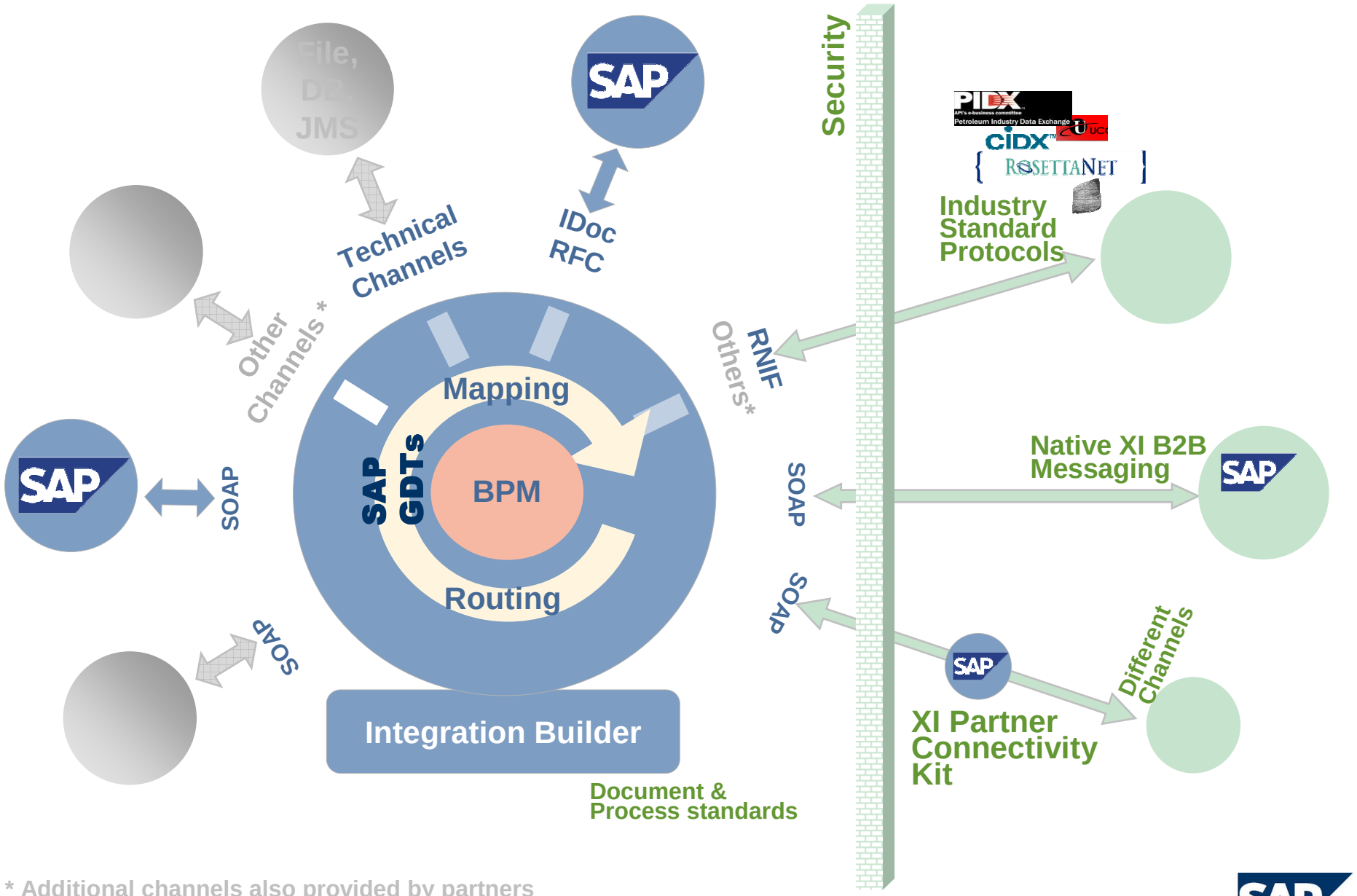
The business foundation for SAP and partners

- Powers business-ready solutions that reduce custom integration
- Its Enterprise Service Architecture increases business process flexibility

Process Integration is provided by SAP Exchange Infrastructure

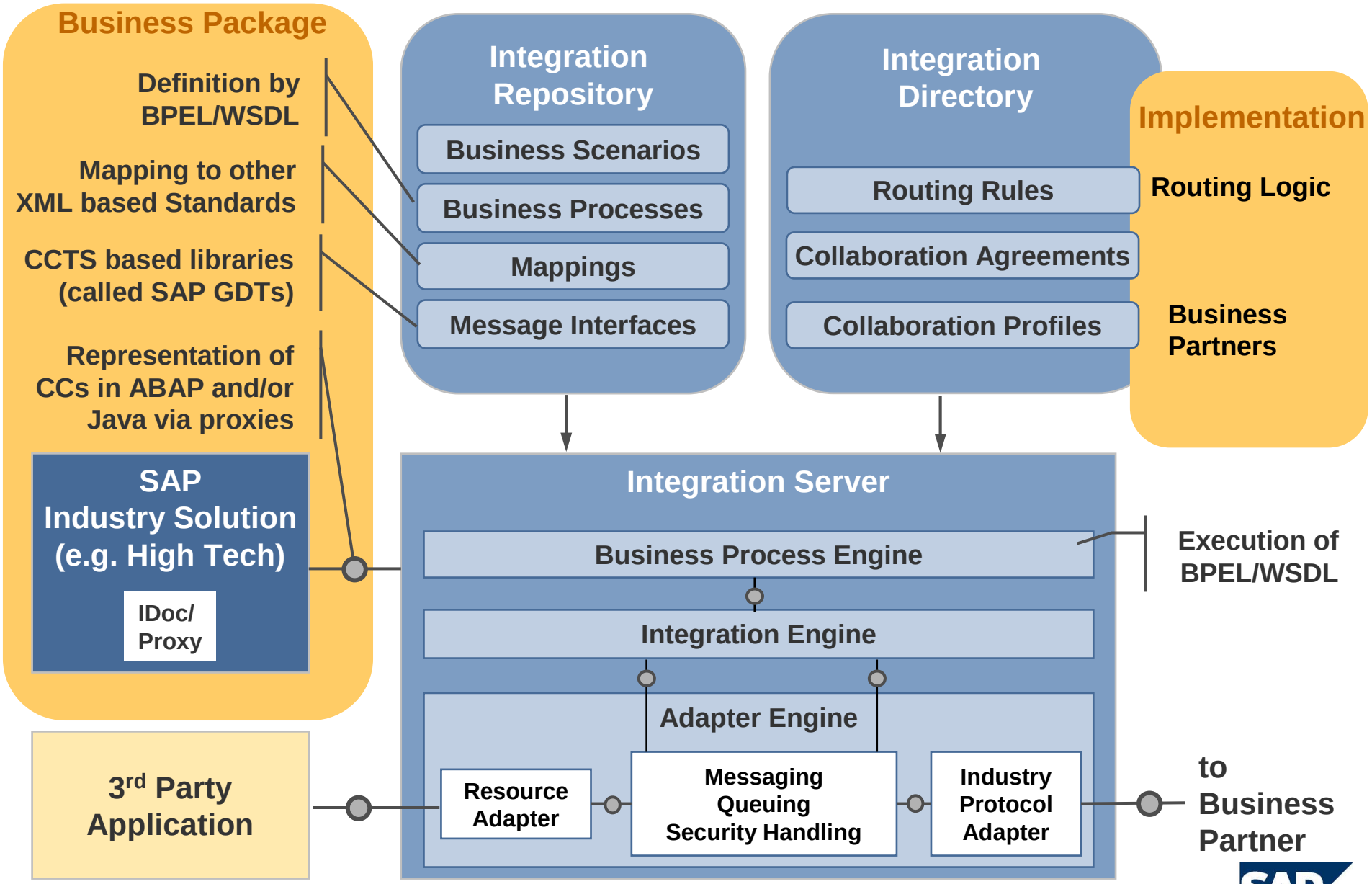
- Open and heterogeneous
- For SAP and non-SAP applications
- For A2A and B2B scenarios
- For synchronous and asynchronous communication
- For cross-component Business Process Management
- Based on Web Service and industry standards

SAP XI in A2A and B2B Landscapes



* Additional channels also provided by partners

Support of UN/CEFACT Standards by SAP XI



Interfaces and Global Data Types in the Integration Repository

Interfaces in the Integration Repository

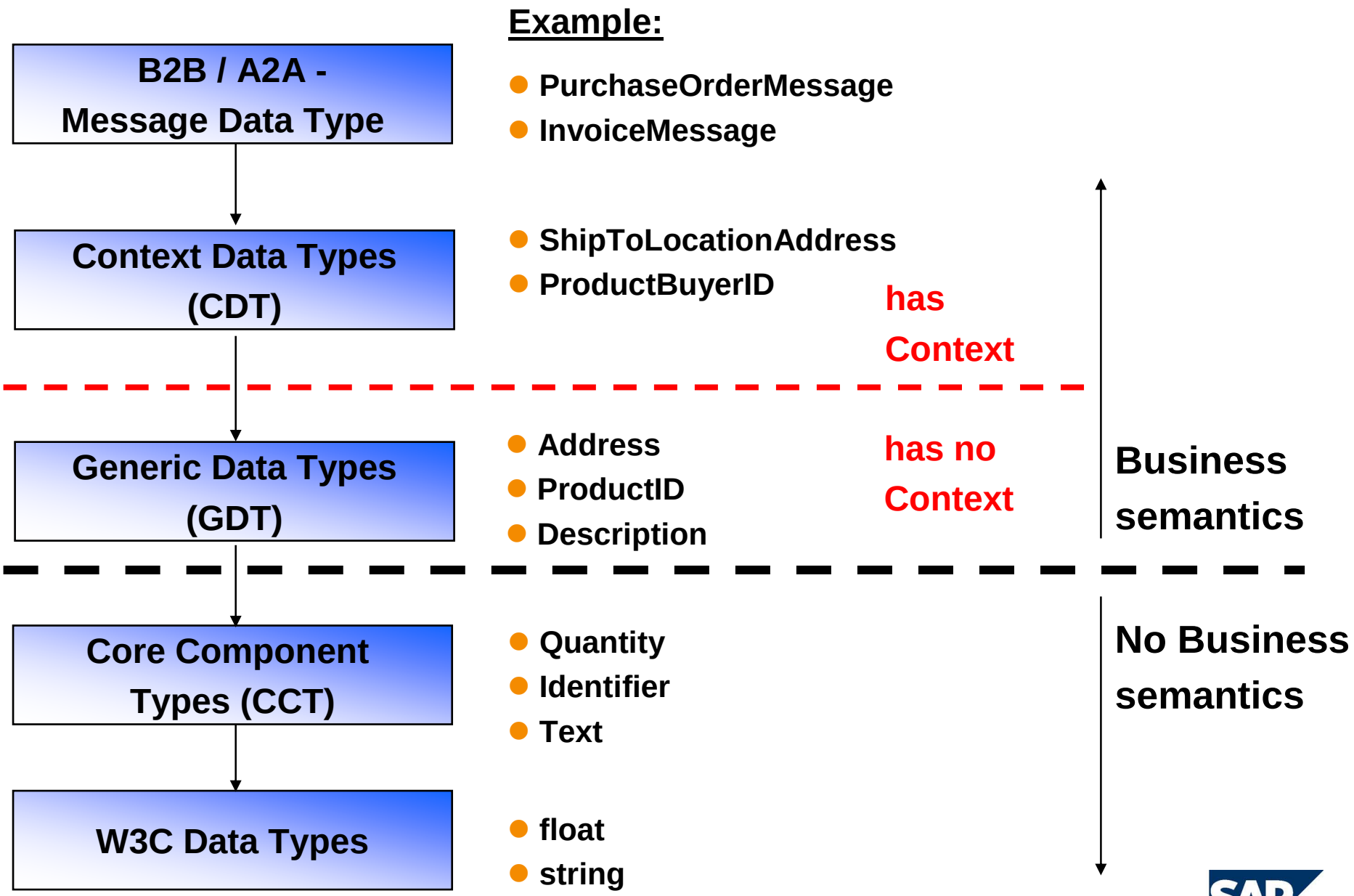
- Scenario-driven development of interfaces
- Outside-in development of interfaces with reference to Global Data Types and standards
- Interface Types
  - B2B interfaces (B2B) – for external exchange between business partners
  - A2A interfaces (A2A) – for internal exchange between SAP and non-SAP applications

B2B/A2A interfaces consist of Global Data Types only

Global Data Types in the Integration Repository

- Global Data Types are SAP-wide defined data types with business content, as found in standards, or should be found in standards, or which are structured in accordance with standards.

Meta Structure in SAP XI



Uniform structure and typing

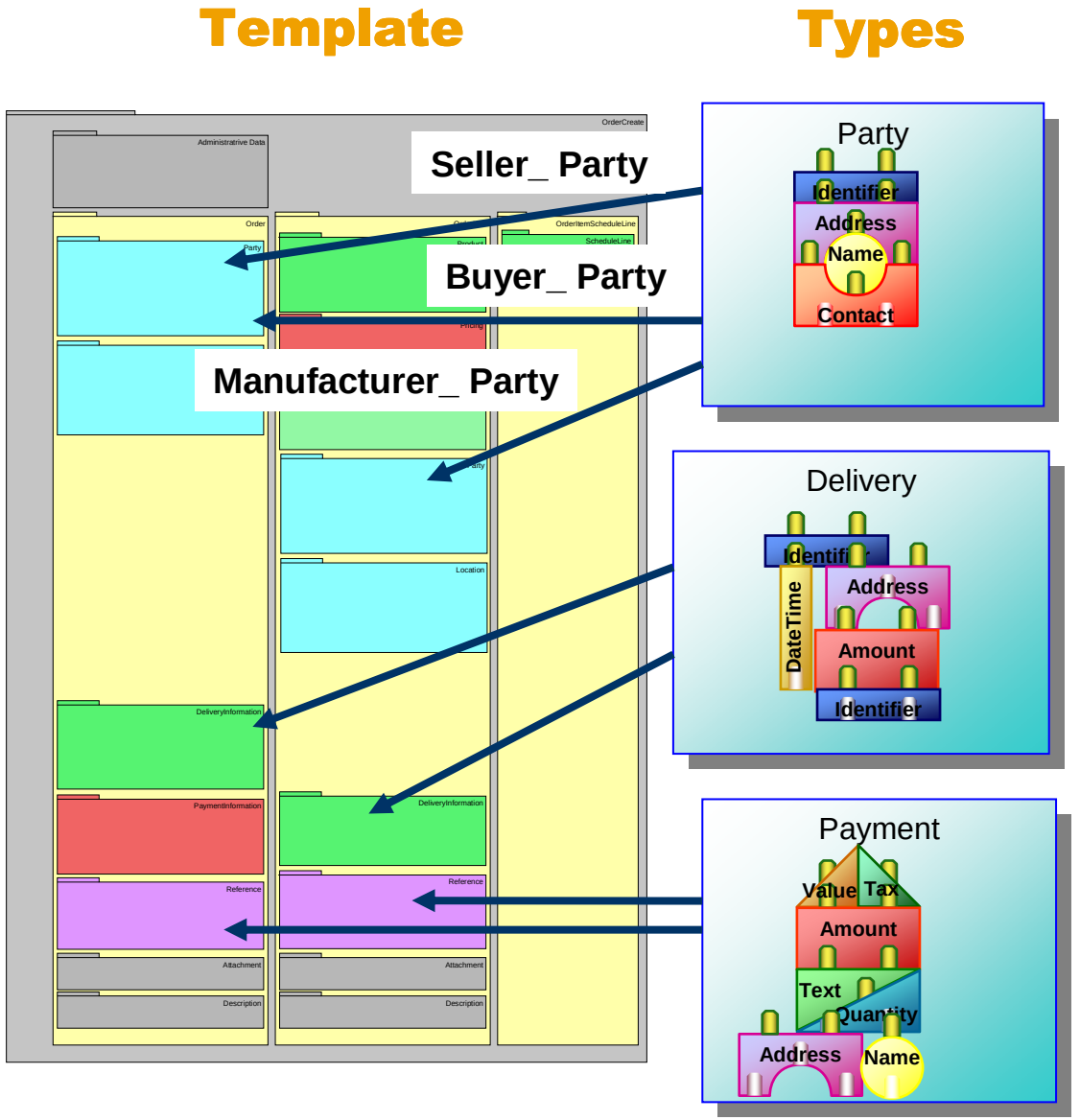
Top-Down:

- Uniform structure via Interface Templates
- Identical build-up structure
  for all interfaces

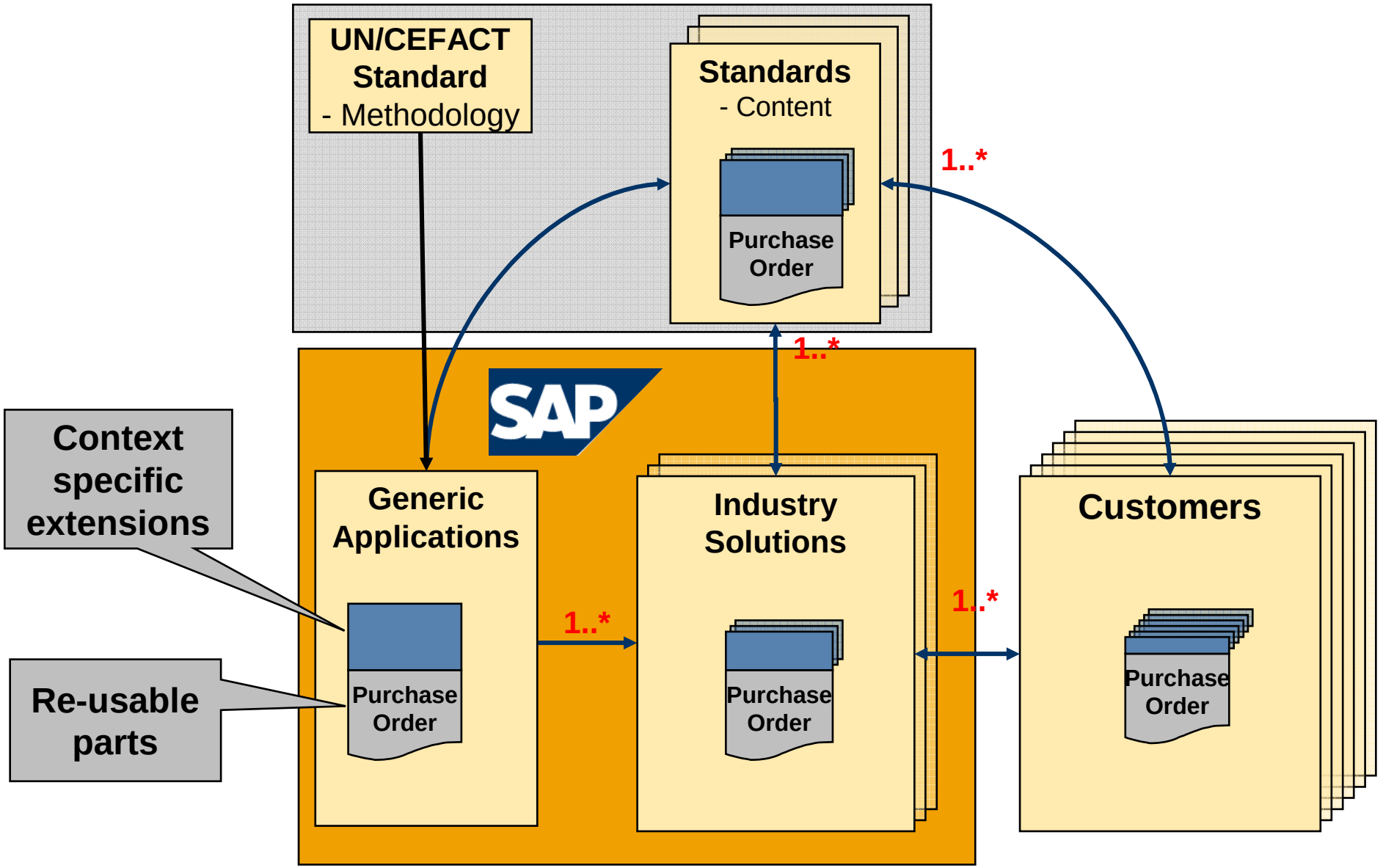
Bottom-up:

- Uniform typing of SAP GDTs be CCTS conventions
- A Message Interface is a hierarchical structure.

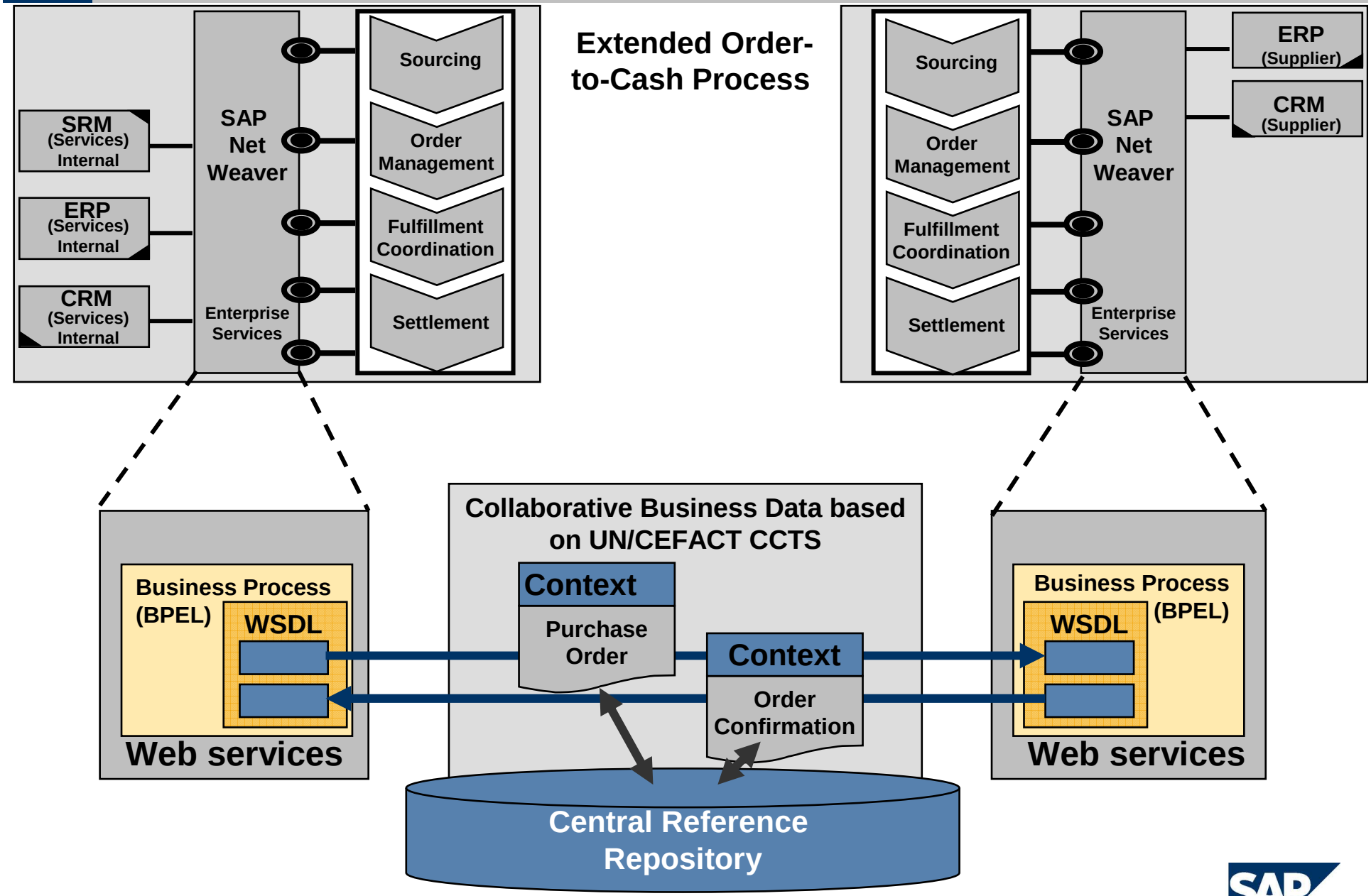
In B2B and A2A Interfaces the same subject matter is always described with the same data type



Closed Loop Process Vision



Enterprise Services Architecture



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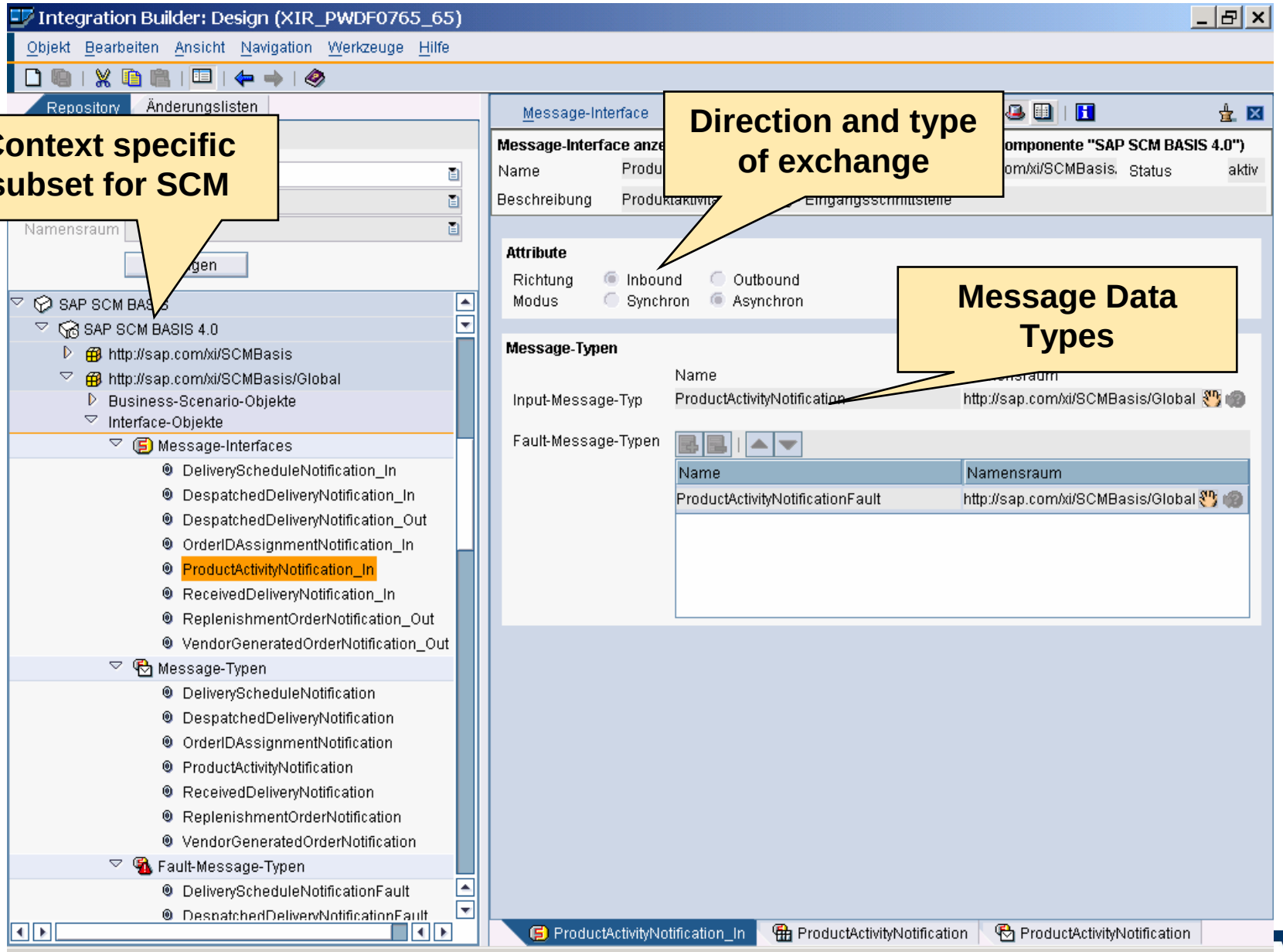
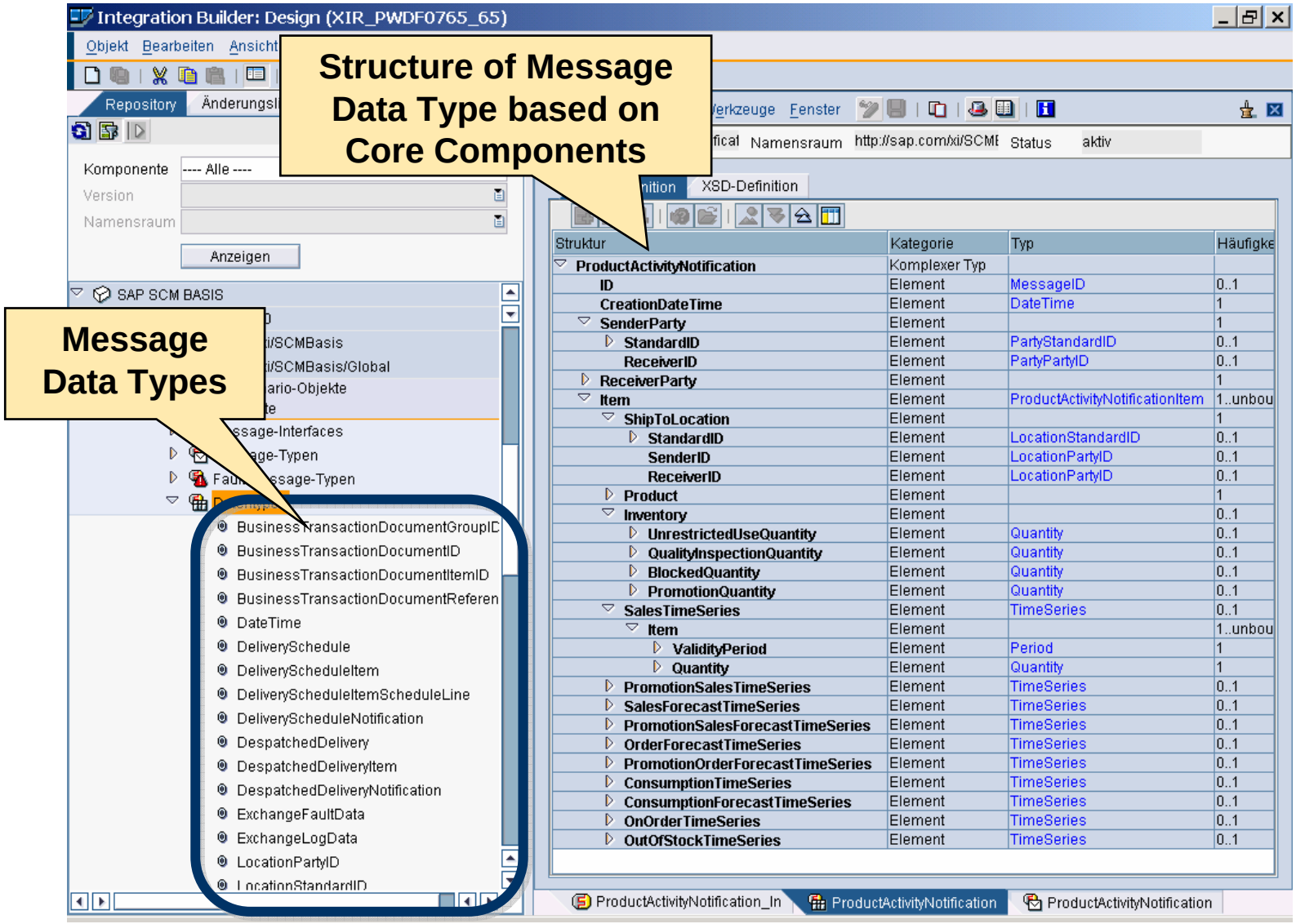
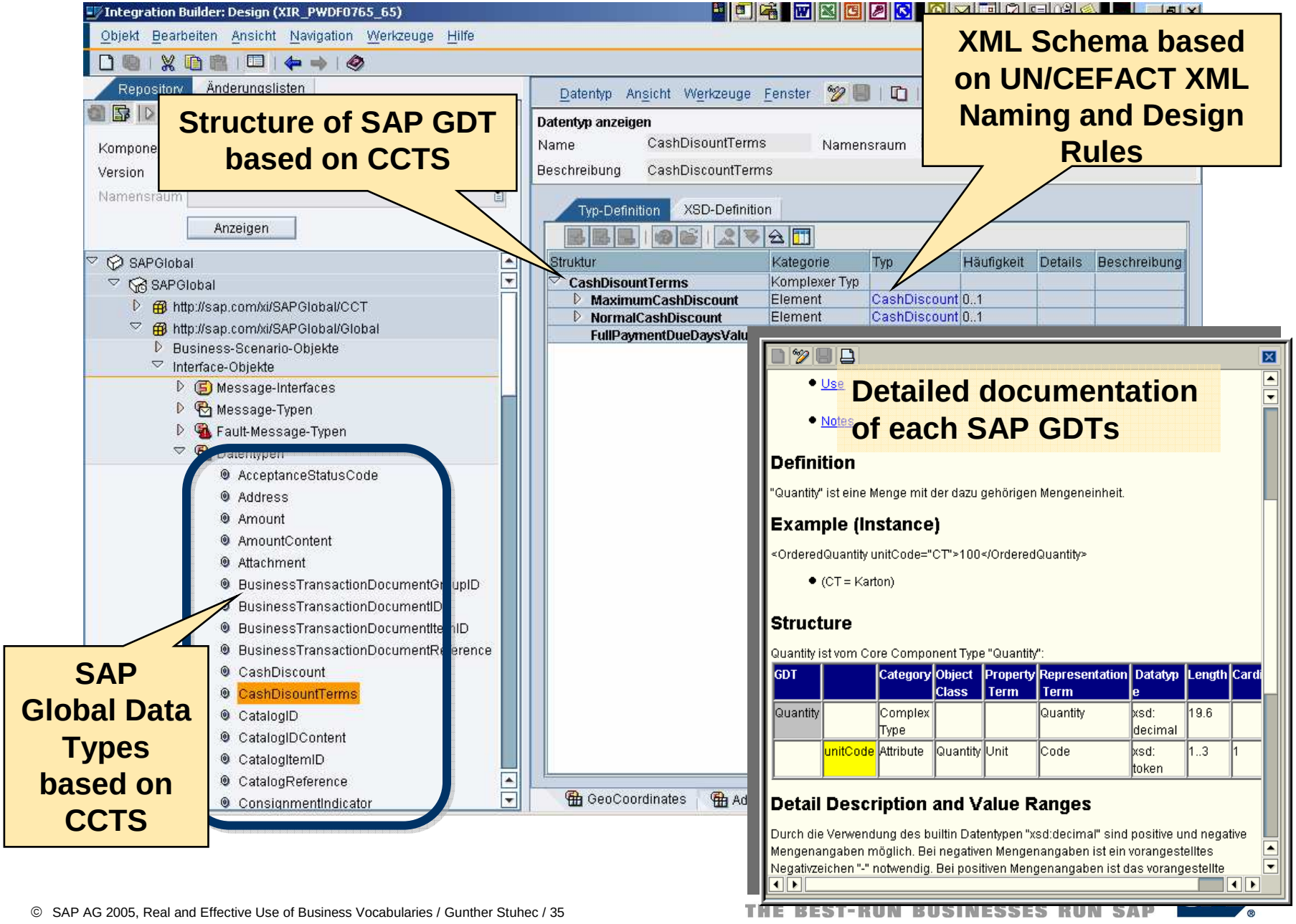
Message Interface: ProductActivityNotification_In



Message & Data Type: ProductActivityNotification



Example: CashDiscountTerms in the Integration Repository



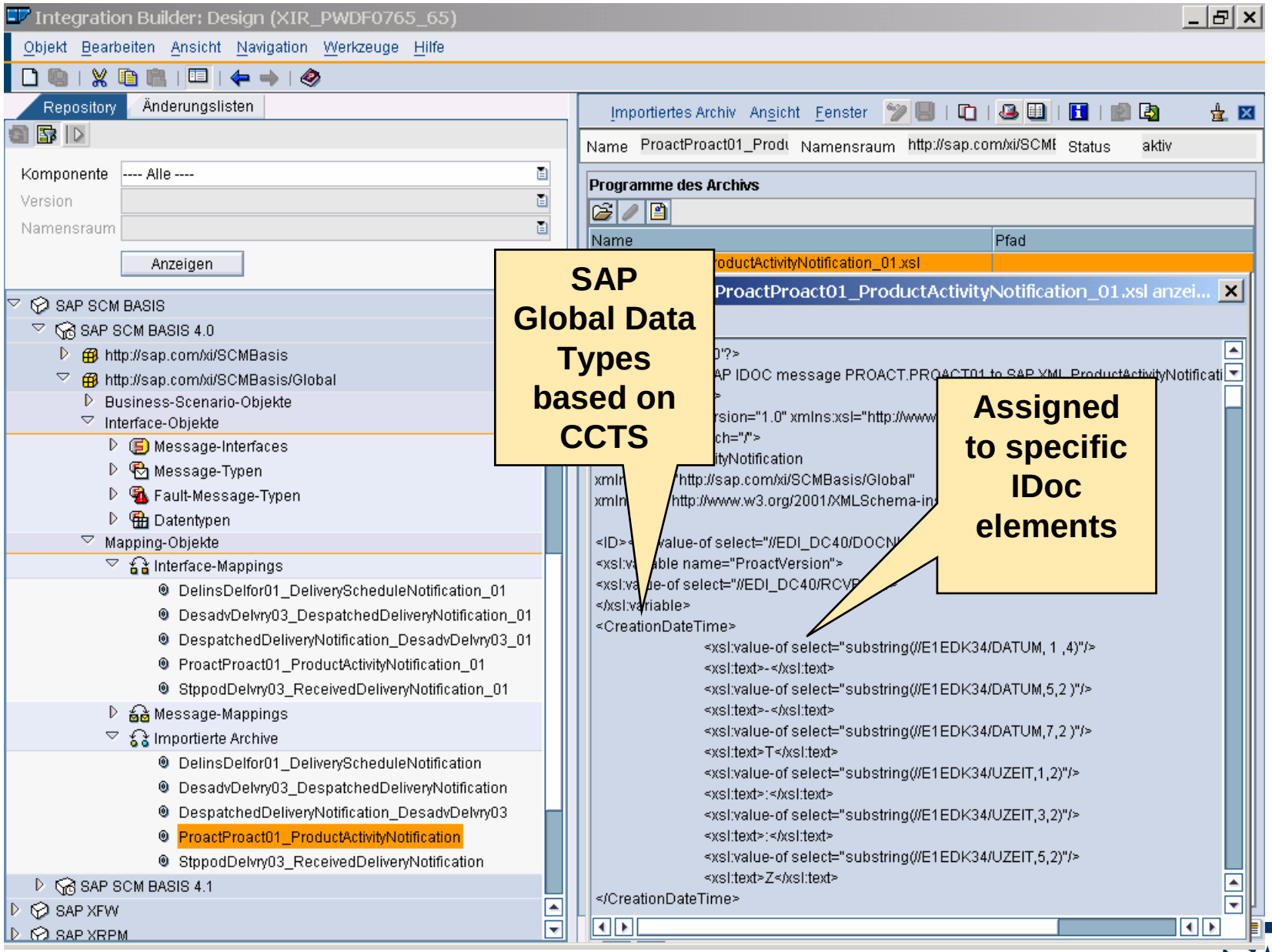
Structure of SAP GDT based on CCTS

XML Schema based on UN/CEFACT XML Naming and Design Rules

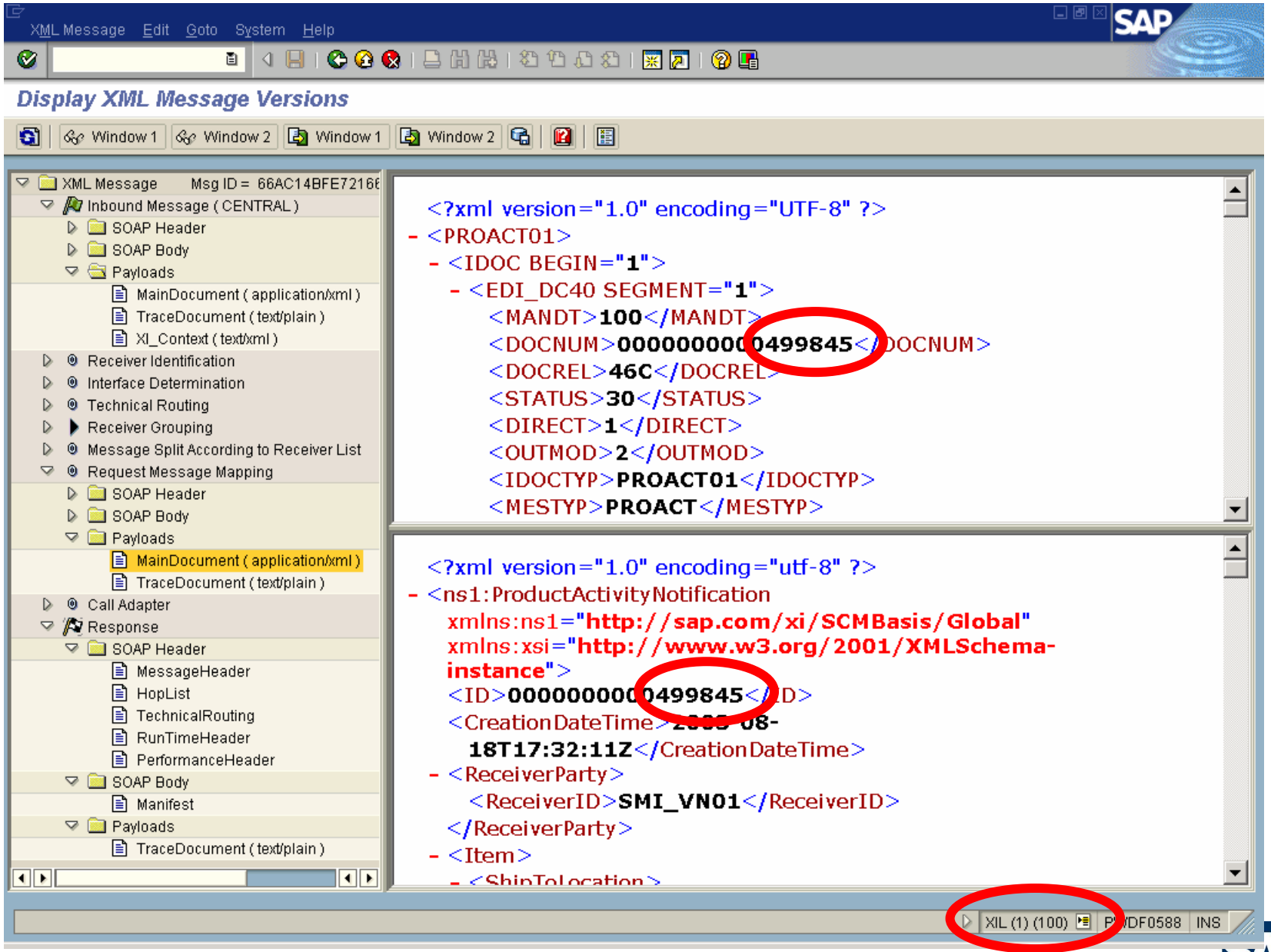
SAP Global Data Types based on CCTS

Detailed documentation of each SAP GDTs

XSLT Mapping Content: R/3 IDoc to SAP GDTs (CCs)



Mapping and Routing in XI



Conclusion

SAP NetWeaver is SAP‘s integrated platform for application development and cross-platform integration

SAP XI Adapter Framework provides a rich and extensible means for connectivity to

Web Services Standards provide adapter-less cross-platform interoperability due to broad industry support

UN/CEFACT CCTS (ISO 15000-5) addresses the need for semantic interoperability

SAP actively participates in the development of open standards for maximized interoperability and minimized TCO

Questions?

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