EU-Project ABILITIES
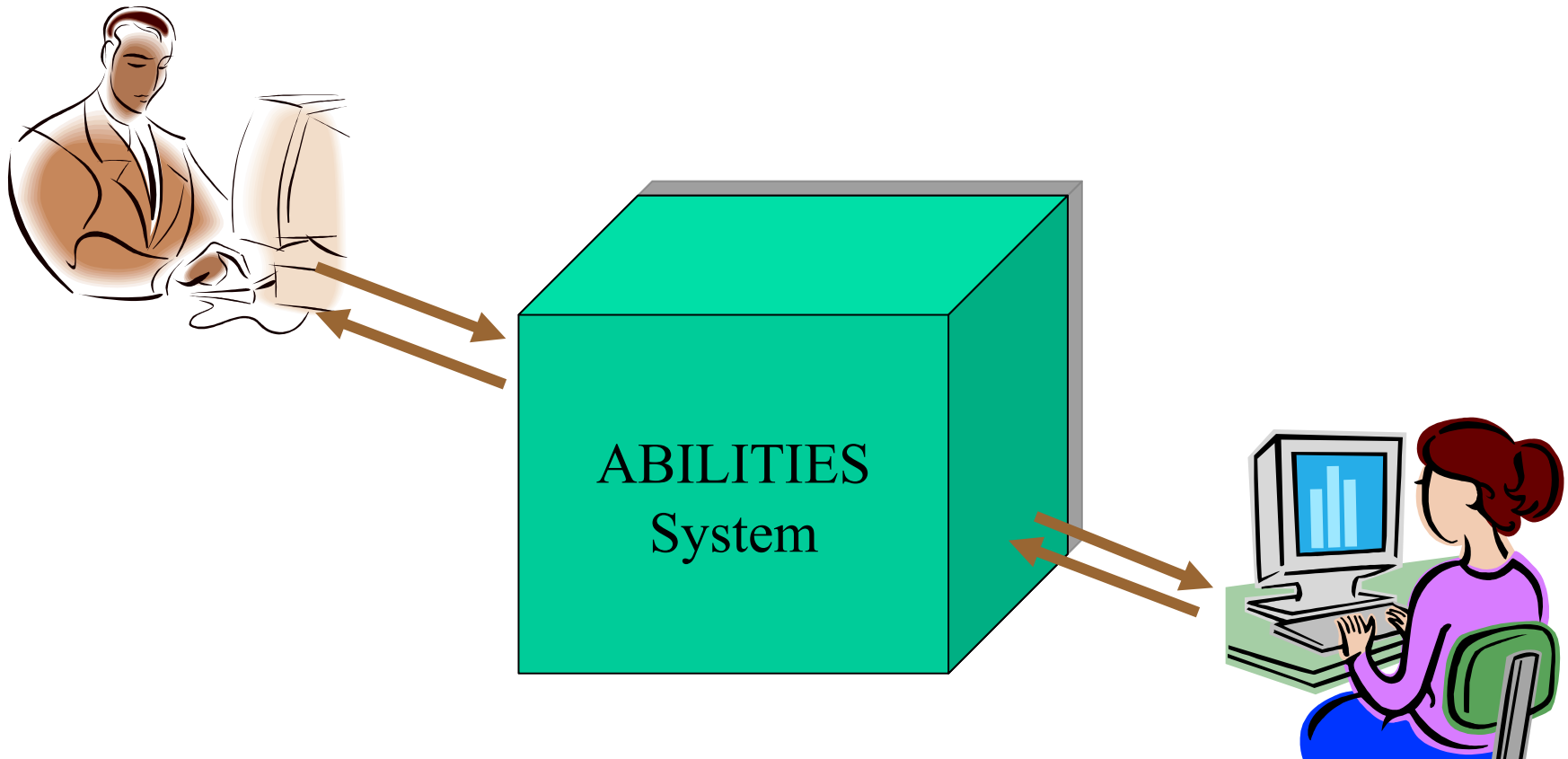
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Application BUS for Interoperability among SMEs in New EU Member States

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Application Bus for InteroperabiLITy
In enlarged Europe SMEs

Project details

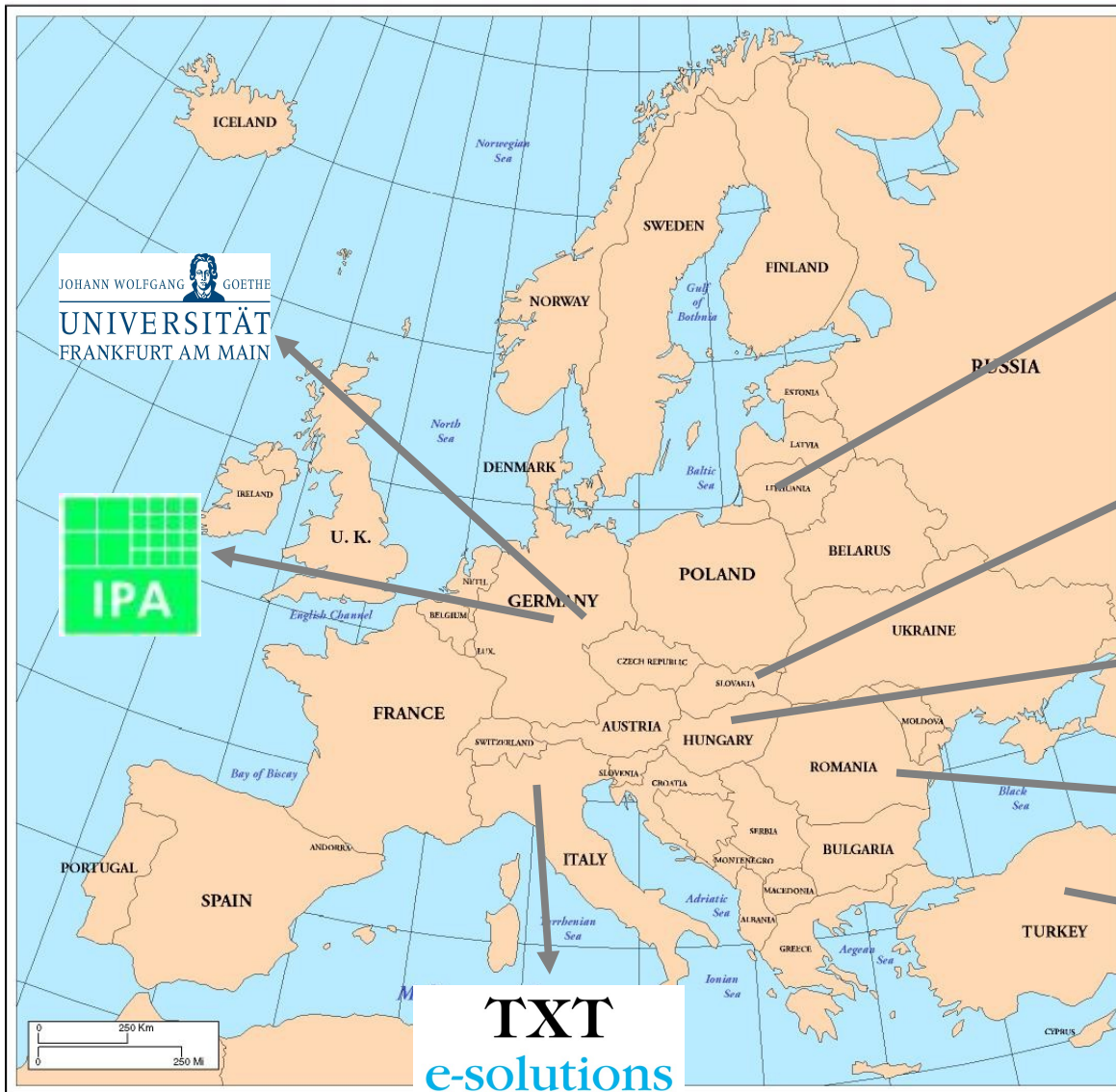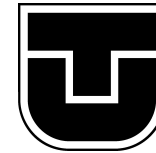|	
Project Acronym	**ABILITIES**
Project Name	Application Bus for InteroperabiLITy In enlarged Europe SMEs
Project Code	IST-4-027306-STP
Contract Start Date	01 January 2006
Project Duration	24 months
Costs	about 3 Mio. €

List of Participants

EUROPE

Krasme - Kaunas regional association of small and medium enterprices

In the project we have five different industry test beds:

- Retail Industry in **Lithuania**;
- High-Tech Industry in **Slovakia**;
- Agro-food Industry in **Turkey**;
- Wood Industry in **Romania**;
- Tourism Industry in **Hungary**.
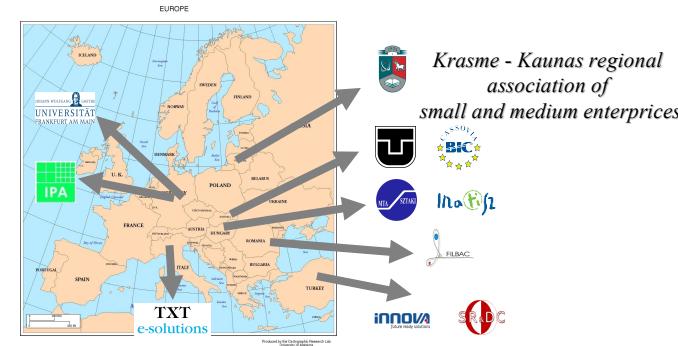
Most industrial participants of ABILITIES are incubators and work together with a number of SMEs.

- For each test bed:
  - stay within the country and within the domain;
  - customize UBL 2.0 messages for domain and county specifics (UBLtc).

Why important?

- The number of SMEs is high → improvements will have big impact

  - E.g. about **23.000** small and medium retail enterprises in Lithuania

  - Quote: "The report from KPMG shows that the sum of the smallest SME's is responsible for the largest part of transactional business messages." (Mikkel Hippe Brun & Christian Lanng: Reducing barriers for e-business in SME's through an open service oriented ifrastructure)

Situation I

- ## Using phone and fax for every-day business

Indicators \ End-user SMEs	INNOVA	KRASME	CASSOVIA	FILBAC	MATISZ
Average number of telephone conversation occurrences between supplier and its customers within a month	4200	1000	2000	1000	1000
Average number of misunderstandings during telephone conversations within a month	250	100	70	100	10
Average number of mistakes while filling a document	2 Mistakes	2 Mistakes	2 Mistakes	2 Mistakes	2%
The possibility of finding the previous document in 2 minutes	25%	25%	30%	40%	20%
The percentage of expense related to postal services, fax and telephone services	0,1%	0.8%	15%		5%
The percentage of documents delivered by postal service	10%	15~20%	20%	20%	5%
The percentage of business documents that are stored electronically	5%	10%	3%	10%	85%
The possibility of losing the document	10%	20%	7%	20%	5%

Industrial Goals

Reduce:

- Time
- Mistakes
- Needed manpower

Save money or even make more money!

- Business of SMEs (in NMS):
  - Only few legacy systems,
  - Limited IT knowledge and manpower,
  - Limited financial background,
  - High customized products,
  - Need of flexibility.
- Solution needs to:
  - reduce barriers! → providing basic functionalities; hide complexity; reduce effort to link to legacy
  - Reduce every-day work – collaboration and negotiation

Current Project Status

- Requirements collected ✓

- Specification completed ✓

- Development
    → Prototype planed for Spring 2007

- Testing and Integration
    → incremental finish by end of 2007

TOC – addressed issues by ABILITIES

- Business Process approach
- Customization of UBL 2.0
- Working on Ontology level (Reconciliation)
- Multi-Media Enrichment
- Negotiation
- Collaboration support

Business Process approach

- To keep it simple:
  - Concentrating on order-to-invoice
  - Companies need to register
  - Basic agreements are defined during registration
  - Collaborative Process is defined inside a template (defined for each Test Bed)
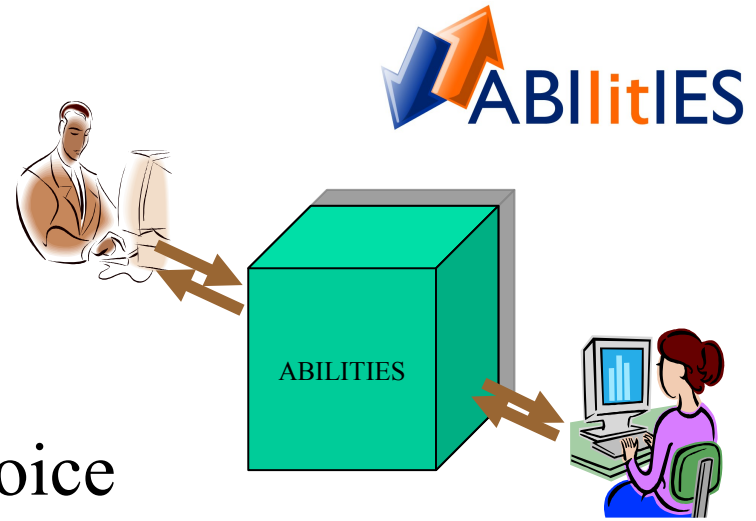
Collaborative Business Process Global Templates

ABIlitIES

Start

Buyer party

Order cancellation

2A6 Cancel Order

Cancel

2A1 Place Order

2A4 Update Order

Change

2A5 Change Order

Order

Order Change

2B5 Change Order

Order Respons

2B3 Accept Order

Response not r

Seller party

Accepted

2B1 Receive Order

2B2 Process Order

Rejected

2B6 Reject Order

Order Respons

Modified
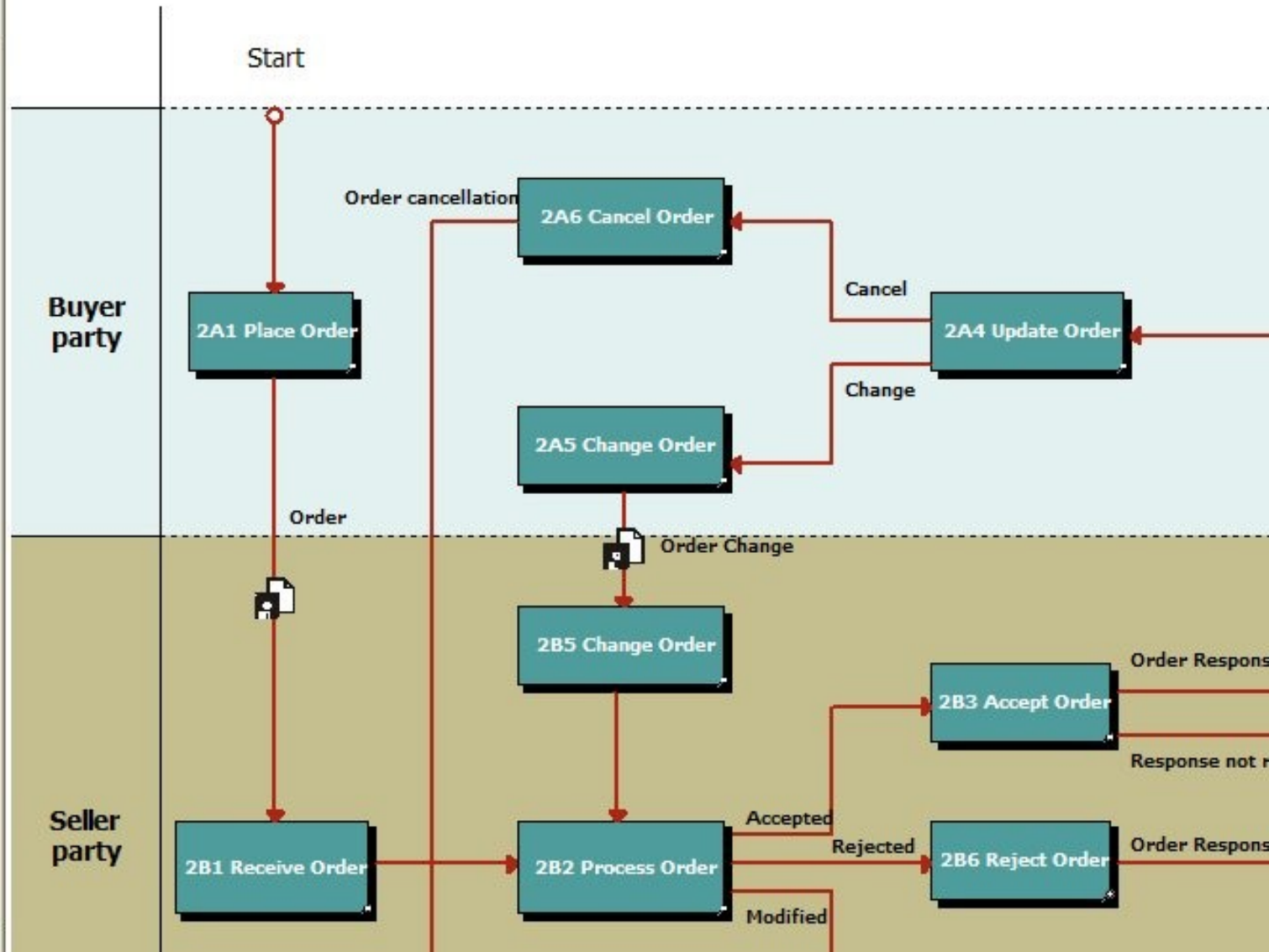
Private Process Abstraction

- Global Templates model the intercompany collaboration

- Need to capture and model the private processes in each collaborating partner, in a context where low BP support is available

- Need to model the coordination between the two levels of abstraction

- Models of private processes need to include support for human actions to support flexibility and organisational constraints of SMEs.

Low level Abstraction
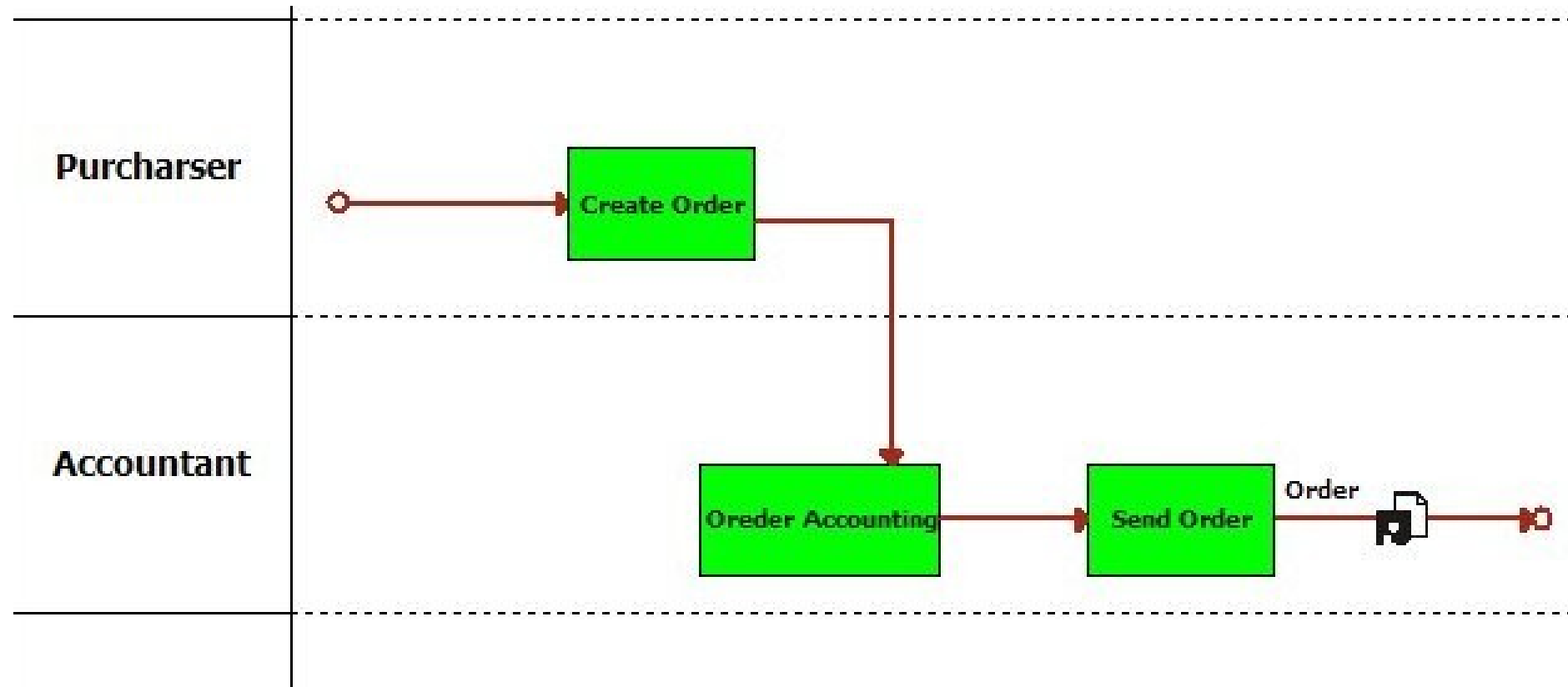
- Needs to be modeled by a business manager of the partner.

Where are we?

- Business Process approach
- Customization of UBL 2.0
- Working on Ontology level (Reconciliation)
- Collaboration and Multi-Media Enrichment
- Negotiation
- Collaboration support

Customization

- Customizations caused by law

- Customizations caused by common practice

   – Identifier of Lithuanian invoice must consist of two fields - serial number and number. Different invoices can have same numbers if their serial numbers are different, but all numbers must be different if they have same serial number.

   – In Slovak invoice and other documents it is common to include grand total written in words to avoid mistakes entering numbers.

Customization

Customization Name	Customization Description	Customization Reason
New field: Party->PartyType	Add new field. Cardinality 1. Possible values "Ltd" or "Corp." etc.	Types of corporations
Party->Address->PostBox	Add field from UBL 2 to field Address	A post office box number
New field: Party->Address->MainStreetName	Add new field. Cardinality 1.	The name of the avenue or boulevard
New field: Party->PartyTaxScheme->RegisteredTaxOffice	Add new field. Cardinality 1.	The tax number and tax office name which the company is registered should be presented on the invoice which is required by the invoice regulation in Turkey. Therefore tax office name will be added to "PartyTaxScheme". The CompanyID field corresponds to the tax number.

Customization

Part of Forward Instruction – Turkey

Terms

Yukarıda cinsi ve miktarı yazılı malları Karacabey MATLI Yem Sanayi ve Ticaret A.Ş.'den sayarak ve sağlam

olarak .... götürmek üzere
vasıtama teslim aldım.

Malın yolda seyri sırasında doğacak her türlü zarar ve ziyan vasıta sahibi ile müteselsilen tarafıma ait olacaktır.

TAŞIT RUHSATININ :

Ruhsat Tarihi : ....

Ruhsat No. : .... Carrier's Vehicle Details ....

Varış Yeri : ....

Plaka No. : ....

TAŞIT ŞOFÖRÜNÜN :

Adı Soyadı : .... Carrier's Driver Details

Ehliyet No. : ....

Ehliyet İli : ....

Şoförün İmzası : ....

Giden Mal .... Sigortaya Sigorta .... YTL.'ye Sigortalı

Fabrika Yetkili İmza → Signature of Authorized Person (Supplier)

B. YERİ TUNA Mahaası : S. TUNA Devamlı Mh. 85 Sk. On Bel. KARACABEY
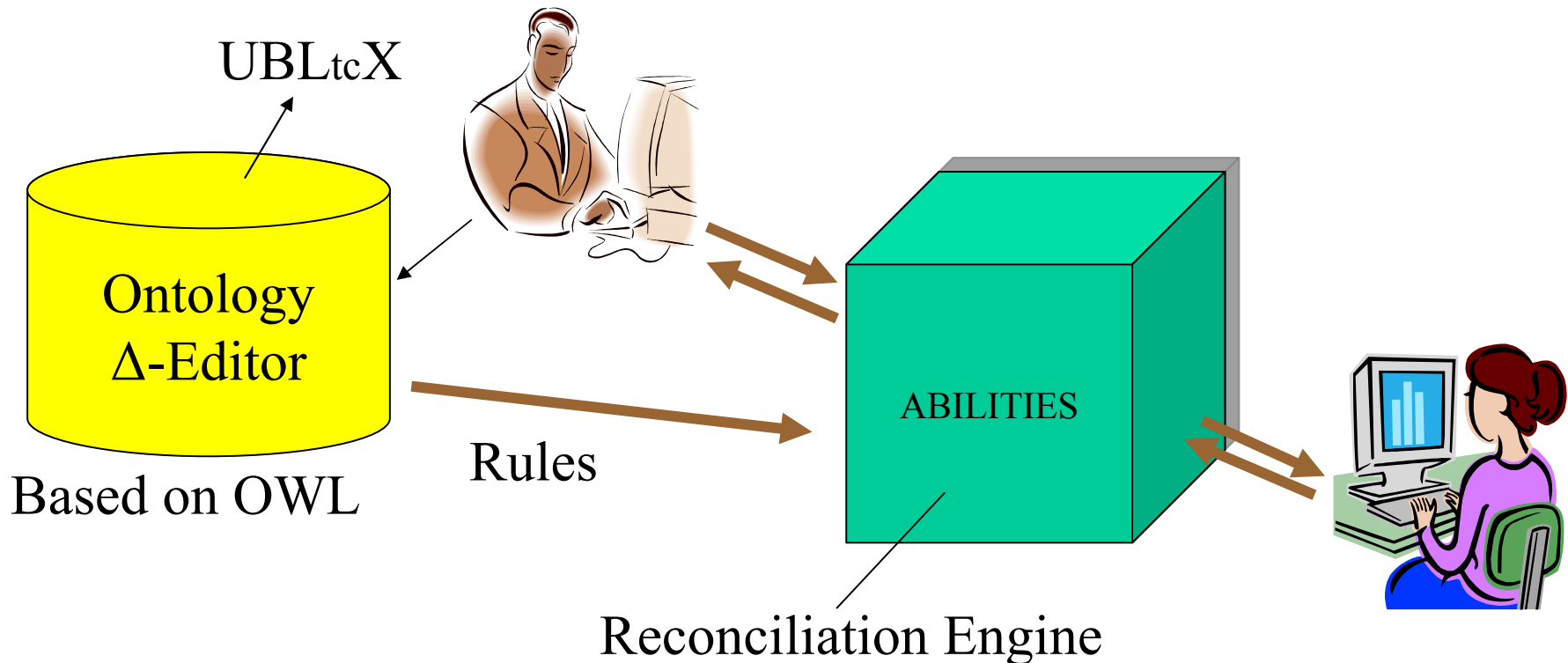
Where are we?

- Business Process approach
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Company internal customization

- Need to map UBLtc to legacy Data/Application
- Special needs for single company possible
- Goal: Reduce effort to adopt solution!

UBLtcX

Ontology
Δ-Editor

Based on OWL

Rules

ABILITIES

Reconciliation Engine

Where are we?

- Business Process approach
- Customization of UBL 2.0
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- Multi-Media Enrichment
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Support by Multi-Media

- I need a chair exactly the same as the one I have. → use a picture to describe the chair
- Tourism industry – during the sourcing phase
- Agro-Food – to ensure quality

Questions we address:

- How to handle files?
  - Where to store?
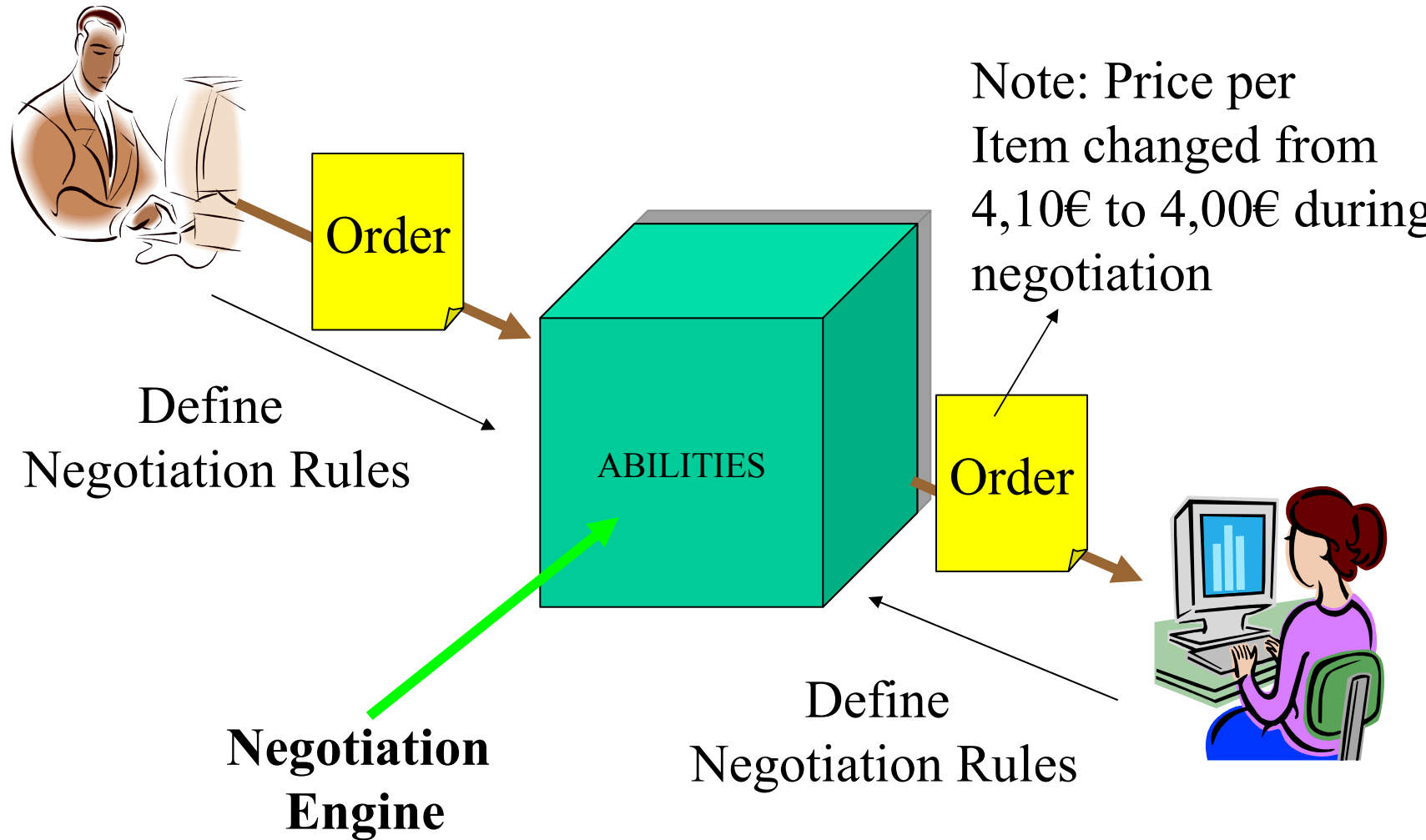 - How to ensure consistency (fraud protection)

Where are we?

- Business Process approach
- Customization of UBL 2.0
- Working on Ontology level (Reconciliation)
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- Negotiation
- Collaboration support

Why negotiation?

- Barging conditions and prices is common praxis!

- Currently not supported by tools
  – No company-unique way of doing it
  – No visibility to customers
  – Might annoy customers (who paid more)

- Cycle using OrderResponse and OrderChange documents takes to much time!

Negotiation

Order

Note: Price per Item changed from 4,10€ to 4,00€ during negotiation

Define Negotiation Rules

ABILITIES

Order

Negotiation Engine
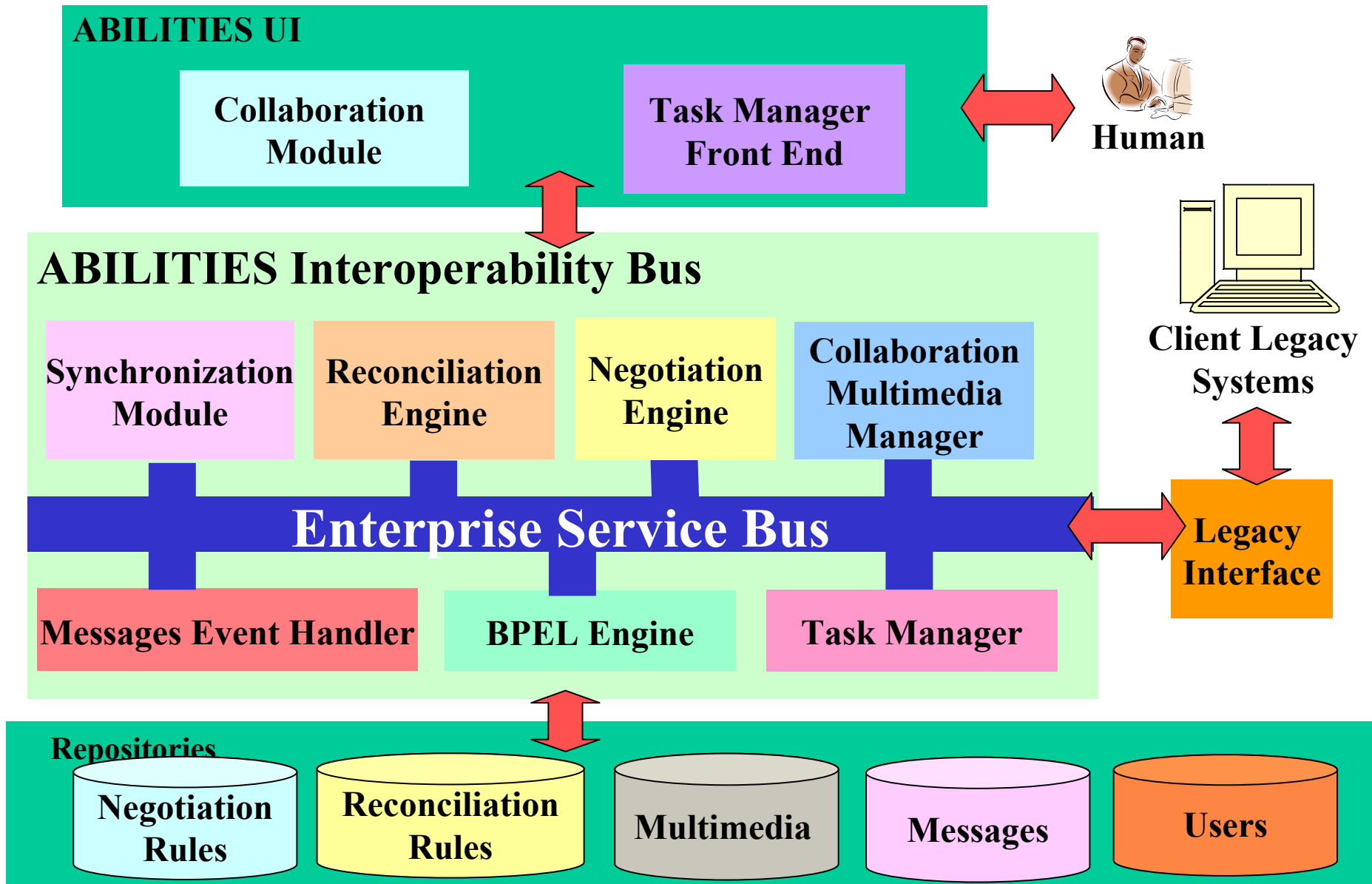
Define Negotiation Rules

Where are we?

- Business Process approach
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Collaboration/Communication

- Support of communication between parties
  - Finding dates and times to communicate
  - Providing communication channels
    - Phone, Fax, SMS, e-mail, Skype
- Can be triggered by the system in case needed
  - Failure during negotiation
  - Errors
  - Usage of Multimedia

ABILITIES Architecture at Operation Time

ABIlitIES

ABILITIES UI

Collaboration Module	Task Manager Front End

Human

ABILITIES Interoperability Bus

Synchronization Module	Reconciliation Engine	Negotiation Engine	Collaboration Multimedia Manager

Client Legacy Systems

Enterprise Service Bus

Legacy Interface

Messages Event Handler	BPEL Engine	Task Manager

Repositories

Negotiation Rules	Reconciliation Rules	Multimedia	Messages	Users

Project Description

ABILITIES

Application Bus for InteroperabiLITy In enlarged Europe SMEs

Study, design and develop a federated architecture implemented by a set of intelligent and adaptive UBL active messages (an Application Bus for EAI) and basic interoperability services, which aims at supporting SMEs EAI in e-commerce contexts, specifically in less developed Countries and less Research and Technology Development intensive industrial sectors.

Additional Information

- http://services.txt.it/abilities/project.html - Project Website

- http://www.viewzone.org/abilities/ - Portal describing and tracking project relevant standards

- Contact: tolle@dbis.cs.uni-frankfurt.de

UBL has an extreme high potential for SMEs to enter new markets and to provide new business opportunities.

Thank you for your attention!

Questions?

UBL International 2006 - Copenhagen

UBL International 2006

http://www.ublconference.com

Source for presentation slides (updated 2006-11-24):
http://www.ublconference.com/200611/UBLInternational2006Presentations-20061124.zip

From the UBL International 2006 Home Page
http://www.ublconference.com/200611/index.html

UBL International 2006 is running its inaugural event in Copenhagen
Denmark (Scandinavian Trade Building in Allerød) the week of
November 13-17, 2006.

UBL International is a training summit bringing together worldwide
Universal Business Language expertise to deliver full-day and
half-day lectures and hands-on courses from commercial training
companies, and a full day of free symposium presentations, this
year marking the launch of UBL 2.0!