COMMIUS
Community-based Interoperability Utility for SMEs

COMMIUS

Programme: FP7-ICT-2007	
Start date: February 2008	
Coordinator: Softeco Sismat (IT)	
Partners: University of Manchester (GB) German Research Center for Artificial Intelligence (DE) Institute of Informatics, Slovak Academy of Sciences (SK) Vienna University of Technology (AT) Atos Origin (ES) SingularLogic (GR) Fedit, Federación Española de Entidades de Innovación y Tecnología (ES) Aitek SpA (IT) Techfin SrL (IT)	
Keywords: SMEs interoperability, collaboration, communication, email processing, semantic analysis, email annotation	

COOPERATION

www.commius.eu

www.research.softeco.it/commius.aspx

Contacts
Enrico Morten
Phone: +39 010 6026 328
Fax: +39 010 6026 350
Email: enrico.morten@softeco.it

Christian Melchiorre
Phone: +39 010 6026 362
Fax: +39 010 6026 350
Email: christian.melchiorre@softeco.it

OVERVIEW

There are **19 million SMEs within Europe, representing 99.8% of all registered businesses**, and the economy depends upon their contribution to wealth creation and employment. Although SMEs have some strong advantages in flexibility and responsiveness, they face challenges in large projects where efficient and effective collaboration with other partners is required.

Commius main objective is to **support the SMEs with a zero, or very low-cost, entry into interoperability, based on non-proprietary protocols**.

Commius builds such an interoperability solution for SMEs, allowing them to **reuse existing and familiar applications for electronic communication** (by means of innovative scientific, technical and business advances over the existing state-of-art).

The solution can be downloaded with an SME's consent using automated self-installation routines and will hook into their email infrastructure and collaboration systems.

It then proceeds to establish interoperability agreements with the peers of the SME at the levels of system, semantics and even process.

Semantic analysis of actual enterprise data and documents used within and exchanged between pairs of SMEs form a core part of this process.

BENEFITS for SMEs

Improved interoperability and collaboration
-
Increased business opportunities
-
Reduced costs
-
Increased use of advanced ICT
-
No changes in working practices required
(possibility to interoperate with basic ICT infrastructure, email, web)

OBJECTIVES

- To investigate, design and develop methods and components for **system interoperability**
- To devise a framework for **semantic interoperability**
- To investigate, design and develop methods and components for **process interoperability**
- To deliver an **open source framework** for interoperability and collaboration
- To develop a **pilot application** which allows the validation of 3 industrial use cases
- To devise an appropriate **exploitation strategy**

ARCHITECTURE

Enterprise interoperability has been addressed by research for decades without real success and little impact on SMEs. The market still lacks an affordable, easy to integrate solution: SMEs instead face costly investment, extensive integration effort and significant revision of their working tools and systems. **Commius builds such interoperability tools for SMEs, allowing them to reuse existing and familiar applications for electronic communication.** Once hooked into an SME's email infrastructure, Commius then proceeds to establish interoperability agreements according to the following architecture:
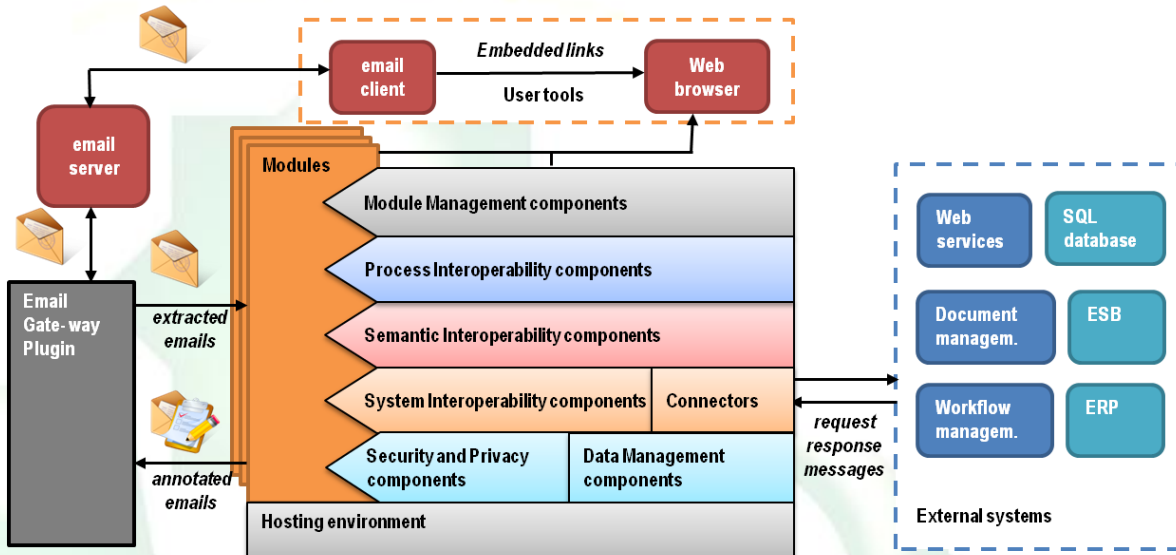
System Interoperability

- Messages and attachments are analysed and information extracted.

- Messages are modified to include both relevant information and active information elements (links, buttons) linking email message with relevant enterprise resources needed to fulfill interoperability tasks related to the messages.

- Interface to legacy systems and existing infrastructures are designed using an SOA approach and other standard access protocols.

Semantic Interoperability

- Based on text analysis techniques semi-automatic semantic annotation of documents is performed.

- Protocols are developed to support automatic negotiated semantic alignment.

- The core ontology is (semi-)automatically extended into a particular (business) domain through enrichment with specific concepts and (document) instances.

Process Interoperability

- Appropriate coordination of activities within and among partners is supported.

- Reference model templates and patterns of Business Processes are identified and mapped onto executable protocols.

- Algorithms to detect Business Processes based on communication and techniques for inter-enterprise process negotiation and process adaptation are implemented.

Business cases

Commius results will be validated in
3 different business cases

SME technological district
-
technology transfer to European SMEs
-
inter-**E**nterprise **R**esource **P**lanning