

Trust and Security in Collaborative Environments

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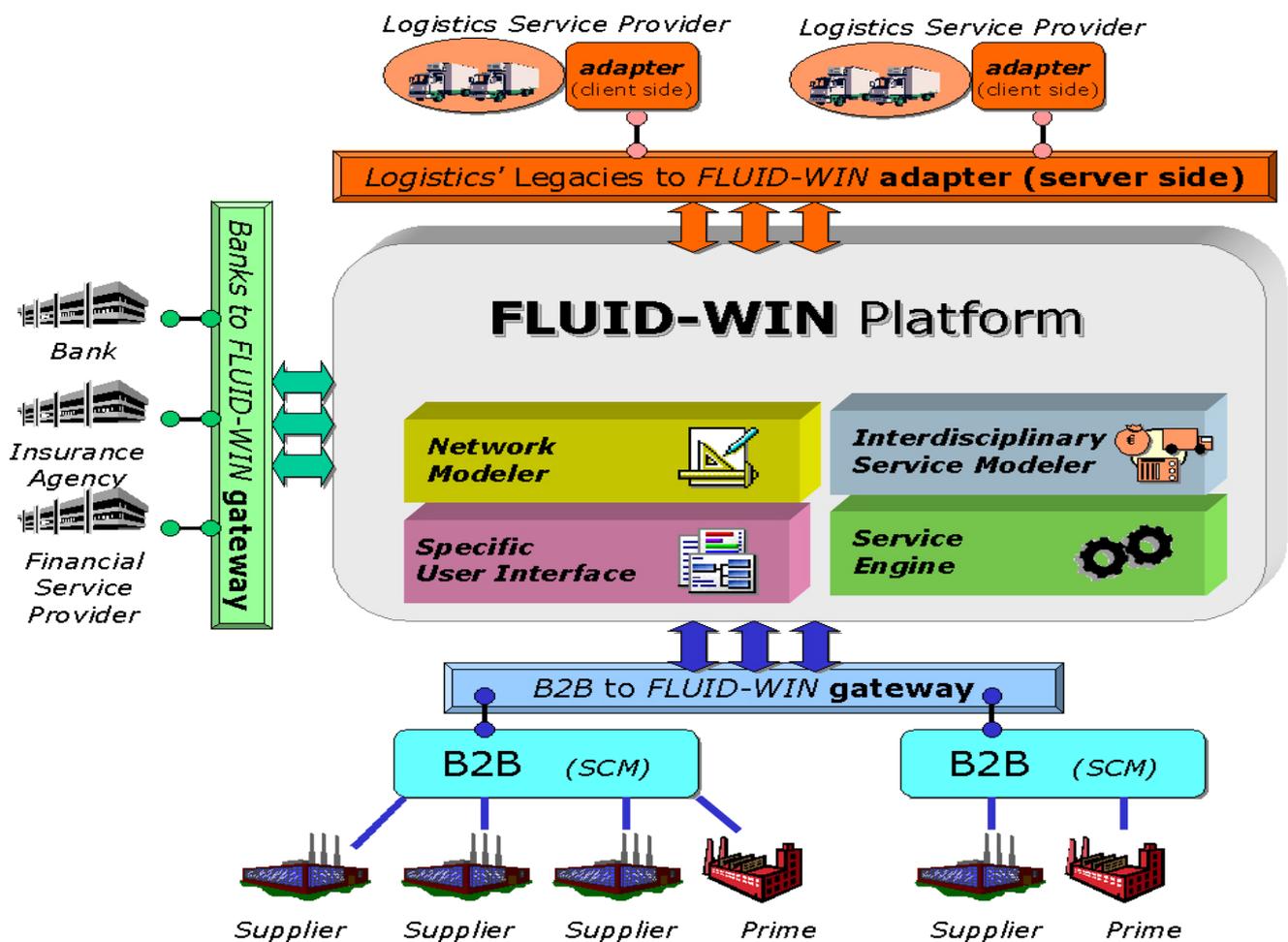
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Introduction

- Trust is often stated in literature as a basic success factor for collaboration.
- The rapid development of collaborative environments over the Internet has highlighted new open questions and problems related to trust in web-based platforms.
- We summarize how trust can be considered in collaborative environments.
- Partial results of the field studies of two European IST projects, FLUID-WIN and SEAMLESS, are presented.
- Identity management problems and trusted operational scenarios are treated.

FLUID-WIN

- FLUID-WIN, a European IST project, is the process of implementing an innovative, interdisciplinary and dynamic business model.
- This model is supported through readily adoptable e-commerce applications. The objective of the project is to develop means for B2-B2B services.
- The FLUID-WIN project covers the material flow among a supply-chain network and the associated logistic and financial services flows.
- More on <http://www.fluid-win.de>

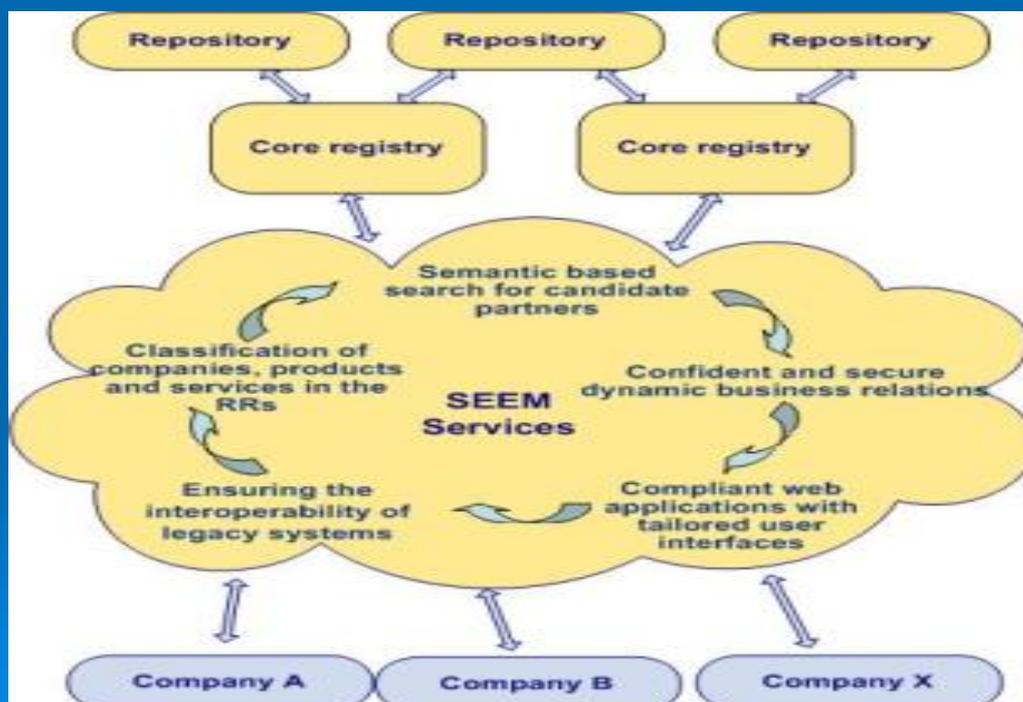


SEAMLESS

(Small Enterprises Accessing the Electronic Market of the EnLarged Europe by a Smart Service infrastructure)

- The project is intended to study, design, develop and experiment an advanced ICT-based service to enable a certain small enterprises, the so-called Craft & Trade companies, to access the e-Business space created by the Single Electronic Market of the Enlarged Europe (SEEM) and to play an active role in establishing and running frictionless dynamic collaborations.
- More on <http://www.seamless-eu.org/>

SEAMLESS



Basic Concepts

In the context of collaboration it is of importance to differentiate between trust and security. The basic concepts and terms are defined as a base for the further discussion.

Trust is a seemingly very abstract factor and as a complex notion, synonymous to confidence, it has a lot of meanings depending on the context where it is considered.

We present a survey of some approaches. In many current business relationships, trust is based on a combination of judgments or opinions... There is a need for a more formalized approach to trust establishment, evaluation and analysis to support e-services not involving human interaction.

Basic Concepts

Security is “a wish” of being free from danger, the goal is “bad things don't happen”. Computer security is the effort to create a secure computing platform, designed in a way that users or programs can only perform actions that have been allowed.

This involves specifying and implementing a security policy. In the context of information-sharing computer systems, everything reduces to access to appropriate information. Provision (or disclosure) of information is the key element.

Basic Concepts

The main technical mechanisms that have strong influence on the trust in networked based systems include:

- Identity management
- Access control
- Data encryption and security
- The *identity management* systems provide tools for managing partial identities in the digital word.
- The *access control* is the enforcement of specified rules that require the positive identification of the users, the system and the data that can be accessed.
- Finally, *data encryption and security* are related to cryptographic algorithms, which are commonly used to ensure that no unauthorized user can read and understand the original information.

Trust and Security on Web-based Platforms

- Trust usually is conceptualised as a cumulative process that builds on several, successful interactions. It is not known exactly which trust-building processes are relevant in an e-commerce context. It is suggested that, in this setting, trust building is based on the processes of prediction, attribution, bonding, reputation and identification.
- According to several research activities, the research on significance and acceptance of trust building mechanisms is still missing and is necessary for future development in this field. This absence has been examined in the Seamless project. The results are presented in Deliverable D1.2 “Trusted Operational Scenarios” of the project.

Trust and Security on Web-based Platforms

With respect to the FLUID-WIN project and its platform mainly two security and trust building mechanisms can be differentiated:

- Mechanisms based on workflow design, policies and contractual issues.
- Technical solutions ensuring a save login and data exchange.

Both mechanisms are strongly related and build upon each other. For secure access to the FLUID-WIN Platform it could be convenient to use digital signatures.

Conclusion

Following Song, R., Korba, L., Yee, G: *„E-services like web-banking, web-shopping, web-auctions, e-government, e-health, e-manufacturing, e-learning are becoming part of everyday life for citizens everywhere. As a basis for deciding to use the service trust is becoming a major impediment. To fill the gap between identities and their level of trust is one of the eight major issues in developing identity management for the next generation of distributed applications and use of e-services.“*

A lot of interesting questions and problems are considered in the recent publications and can be found as public deliverables of the EU IST projects.

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and

FLUID-WIN: Finance, logistics and production integration domain by web-based interaction network (No. IST-FP6-27083).

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