

## Project Results

# ROLE-ID

## It's not who you are but what you do

*Use of information and communications technology (ICT) has grown remarkably in every sector of business and public services in recent years. The economic well-being of enterprises in Europe has come to depend increasingly on instant access by all companies and their customers to an unlimited flow of information based on interoperable public networks and information technology (IT) systems. Identification is a key element and security a vital strategic aspect.*

ROLE-ID has developed an organisation-oriented identity extension of role-based access control, built on a role-centred vision. It provides a set of innovative and modular interoperable security components and processes that will enhance the use of roles in organisations.

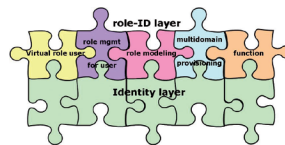
### FROM USER TO ROLE-BASED IDENTIFICATION

The purpose of ROLE-ID was to work from existing identity products, standards and concepts, already developed by the different partners in the consortium, and extend them. In addition, advanced theoretical concepts and methodologies were also used, validated and extended in order to be implemented in actual existing products. Furthermore, innovative concepts in the field of identity management along with several new organisation-oriented identity modules were introduced and proved through demonstrators in the three main application domains addressed: healthcare, public safety and cyberdefense.

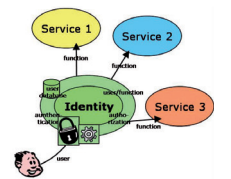
These technological achievements and general results have been incorporated in concrete applications that are directly supported by users' partners or indirectly tested by developers' partners. Information security was emphasised in each phase of the development lifecycle, including design, implementation and business logic, through testing and reviews.

The crucial need for identity access control has prompted a shift towards role-based access control (RBAC). For organisations, the two main issues concerned:

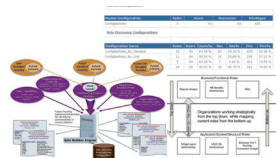
1. Managing complex environments – a large number and a disparity of users, teams, divisions, enterprises, applications, services, intranet, extranet, roles, job functions, etc.
2. Managing evolving environments – frequent reorganisations, mergers and acquisitions, people changing jobs, international, European or national regulation changes, etc.



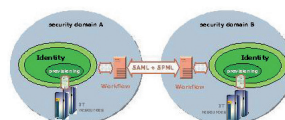
ROLE-ID objectives



Function and roles in identity layer



Real life role modelling



Multi-domain provisioning

## ROLE-ID (ITEA 2 ~ 08007)

### Partners

Cassidian Cybersecurity  
 Entr'ouvert  
 Evidian  
 ILEX  
 Insta  
 SWID  
 Telecom Bretagne  
 Ubisecure  
 University of Eastern Finland  
 University of Oulu  
 VTT Technical Research Centre of Finland

### Countries involved

France  
 Finland

### Project start

September 2009

### Project end

September 2012

### Contact

*Project Leader :*  
 Aline Andrillon, Cassidian Cybersecurity

*Email :*  
[aline.andrillon@cassidian.com](mailto:aline.andrillon@cassidian.com)

*Project website :*  
[www.roleid.org](http://www.roleid.org)

## Project Results

To address these issues, ROLE-ID developed an organisation-oriented identity extension to RBAC based on a role-centred vision.

The project allowed:

- An innovative concept of function in identity to improve notions of context sharing and delegation
- A new concept of virtual user to enable rich dynamic role attribution
- The development of new means for organisations to model a great complexity of identities and roles
- The adaptation and improvement of existing methodologies to administrate a complex organisation identity database
- The provision enhanced tools for identity provisioning that are relevant to real-life constraints.

### TANGIBLE RESULTS

The cooperation within the French and Finnish consortium enabled problems and challenges to be addressed efficiently, through each partners' added value in a variety of applications and sectors. Dissemination came through 21 conference

articles and 5 journal papers along with 5 PhD doctoral dissertations and 7 Master theses.

The benefits for organisations (public safety, healthcare and commercial) are lower user management costs, higher employee efficiency, increased levels of security and more user-friendly system use by end users. Citizens and society profit from better public organisation efficiency and greater trust in privacy protection while sharing more information. The project partners have improved their solutions and will use the results in the next versions of their solutions, with some having already deployed some of the results.

### REAL BENEFITS

The fruitful partnership in ROLE-ID has created new market opportunities with new products and solutions, thereby strengthening the competitive position of European industry in the selected sectors. This is the illustration of its improved capacity to implement and deploy powerful yet pragmatic identity and security mechanisms and solutions, mandatory for business operations in these sectors.

## Major project outcomes

### DISSEMINATION

- Participation in European Identity Awards Competition in München 2012
- 21 conference articles, in particular in following events : ARES'2011, HST'11, ARES'2012, PST2012, ECIS'12, , HICSS-2012, 5th SETOP
  - A Role-based Resource Management Approach for Emergency Organisations (HICSS-2012)
  - Information security challenges of social media for companies (ECIS 2012)
  - Towards Automated Assistance for Mined Roles Analysis in Role Mining Applications (ARES'2012'), Awarded "Best Paper Nominee"
  - An architecture for Web application session switching in virtual organizations" (7th international conference on digital information management)
  - Towards Session-Aware RBAC Delegation: Function Switch (5th SETOP)
  - Role management diversity in emergency situations (HST'11)
  - "Best paper nominee" in ARES'2012
- 5 journal papers, (in JMPT, ARES'2012, IJSSE, Journal of Information Systems for Crisis Response and Management. 2012, VIRVE journal)
- 6 open workshops

### EXPLOITATION

- 7 modules improved (Identity Providers (IDP), Policy Decision Points (PDP), Identity Managers, Policy Manager)
- 2 new solutions (function management and user identity portal)

### STANDARDISATION

- Participation in Kantara initiative work groups
- Participation in cross-domain Citizen Federation, Cross-Governmental Federation for civil servants in Finland

### ITEA 2 Office

High Tech Campus 69 - 3  
5656 AG Eindhoven  
The Netherlands

Tel : +31 88 003 6136  
Fax : +31 88 003 6130  
Email : [info@itea2.org](mailto:info@itea2.org)  
Web : [www.itea2.org](http://www.itea2.org)

■ ITEA 2 – Information Technology for European Advancement – is Europe's premier co-operative R&D programme driving pre-competitive research on embedded and distributed software-intensive systems and services. As a EUREKA strategic Cluster, we support co-ordinated national funding submissions and provide the link between those who provide finance, technology and software engineering. Our aim is to mobilise a total of 20,000 person-years over the full eight-year period of our programme from 2006 to 2013.

■ ITEA 2-labelled projects are industry-driven initiatives building vital middleware and preparing standards to lay the foundations for the next generation of products, systems, appliances and services. Our programme results in real product innovation that boosts European competitiveness in a wide range of industries. Specifically, we play a key role in crucial application domains where software dominates, such as aerospace, automotive, consumer electronics, healthcare/medical systems and telecommunications.

■ ITEA 2 projects involve complementary R&D from at least two companies in two countries. We issue annual Calls for Projects, evaluate projects and help bring research partners together. Our projects are open to partners from large industrial companies and small and medium-sized enterprises (SMEs) as well as public research institutes and universities.



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(ITEA 2 - 08007)

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