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INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

PROJECT RESULTS

Open-source platform meets key business needs

Cross-domain approach offers real advantages in service provision and aggregation

The OSIRIS project has developed key building blocks for a cross-domain open-source platform that supports service provision, aggregation, delivery and dynamic contextual adaptation. A powerful business demonstrator is being evaluated in Norway to simplify electronic tax declarations by individuals and businesses.

While open-source software has become a recognised strategy for focusing on real value, few organisations understand the key role it will play in future global service ecosystems.

In general, software is a means rather than a target in itself and in all business domains, the value is strongly related to the knowledge about the customer rather than to the software product. A key difference between products and service systems is that once ownership is transferred to a customer, a product manufacturer has limited feedback, while a service system maintains close interaction with users. The value of service systems can be measured in terms of the quality of service delivered to the customer; close relationships with users allows continuous improvement and greater personalisation.

Demonstrating the technical possibilities

OSIRIS set out to derive service systems for multiple domains from the same platform that embeds architectural principles to allow for deployment and evolution in run-time without systems interruption. Demonstrators from financial, customer relationship management (CRM), tax service, development tool and end-to-end service domains provided test beds for validation.

The project built on the platform developed in the ITEA OSMOSE project. The COSI project also contributed to building a common vision through the interaction between complementary software engineering and middleware initiatives.

OSIRIS demonstrated the leveraging of OSMOSE principles to service systems through powering of the computing nodes with a bus for visualising the distributed physical infrastructure. A repository of service implementations – the OSIRIS Active Repository – performs the role of software provisioning platform updating computing nodes on request/needs. Thus, the distributed physical infrastructure is transparent for the development of system services.

Filing tax returns on the move

OSIRIS used the results of close co-operation between telecommunications companies and the Technical University in Trondheim on a platform and laboratory for mobile services to develop a prototype tax service running on a mobile phone for the Norwegian tax authorities. The architecture involves mobile phones connected to a dedicated server through a mobile network. This dedicated server collects background services from tax and other servers located throughout

OSIRIS (ITEA 04040)

Partners
ASL
Charles University
Eteration
ICT-Norway
Karde
Norwegian Computing Centre
Norwegian Tax Administration
Philips
RedIRIS
Sintef
SouJava
SuperOffice
Telefonica
Telvent
Universidad Politecnica de Madrid
University of Malaga

Countries involved
Brazil
Czech Republic
The Netherlands
Norway
Spain
Turkey

Start of the project
July 2005

End of the project
July 2008

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the country in different public organisations.

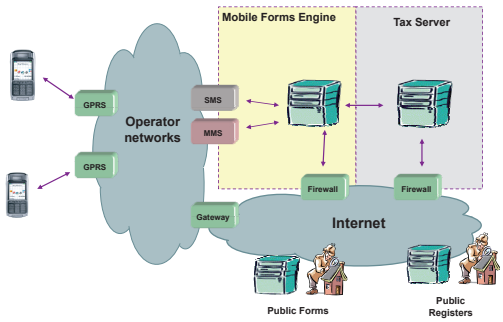
A set of building blocks was created to enable upstream definition and development of interactive tax services and downstream access to such services through mobile phones, digital TVs and the web. The idea was that a user could initiate a tax service session in one channel and, subsequently, complete the activity through another channel.

Versatile universal user interface
An important spin-off was a universal user interface for mobile phones to make electronic public services accessible to anyone, including those with cognitive and other difficulties. Audio help features can be added with sound streamed in real time from the server to the mobile phone. An adaptation mechanism enables constant matching of sound quality to available bandwidth. Help functions for different tax services are long and complicated on the web.

Services accessed on small devices such as mobile phones require concise explanations. Help functions need rework to fit the mobile channel; such simplification would also benefit web services. This is a legal issue being discussed in the Norwegian tax administration.

Goals set for the tax activities in OSIRIS were met with three tax services trialled. The tax authorities are now debating if the project results should be the basis for production and launch of mobile tax services.

Single platform for multiple domains
OSRIS demonstrated that investment in a single open-source platform can benefit service systems and vertical application in multiple domains. The dynamic building approach resembles 'cloud' principles for on-demand computing and software middleware infrastructure. Work will continue in a follow-up project: OSAMI-Commons.



Tax service architecture

Major project outcomes

Dissemination
- 40 papers (including conference presentations)
- 6 presentations/demos at events
- 1 Book
- 1 Conference organisation
- 2 Open source forum launch
- Users group launch

Exploitation
- 4 new products (1 for internal use)
- 2 new services

Standardisation
- Involvement in one Standardisation body

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ITEA was established in 1999 as a EUREKA strategic cluster programme. We support coordinated national funding submissions, providing the link between those who provide finance, technology and software engineering. We issue annual Calls for Projects, evaluate projects, and help bring research partners together. We are a prominent player in European software development with some 10,000 person-years of R&D invested in the programme so far.

ITEA-labelled projects build crucial middleware and prepare standards, laying the foundations for the next generation of products, systems, appliances and services. Our projects are industry-driven initiatives, involving complementary R&D from at least two companies in two countries. Our programme is open to partners from large industrial companies, small and medium-sized enterprises (SMEs) as well as public research institutes and universities.

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