



PROJECT RESULTS

Smart open-services payment platform

for Europe's deregulated utilities market

The European utilities sector is facing a dramatic challenge: how to reconcile the major constraints of deregulation, increasing demand for energy and preservation of natural resources? SHOPS has tackled part of this problem through the development of a smart, open, services-oriented payment platform dedicated to the residential consumer sector. It enables utilities to offer differentiated energy services whilst improving overall efficiency in energy use.

- of high consumption such as Europe and North America, making energy sourcing increasingly critical;
- Deregulation of both the generation and distribution of gas and electricity implies the introduction of significantly different business models;
- Distributed and renewable energy production is rising, adding new issues in the field of transmission and distribution network management; and
- Political and environmental issues such as Kyoto Protocol implementation add an extra level of complexity.

The open platform developed in SHOPS, interconnecting utilities providers and their customers with features optimising utilities' internal processes and services for end customers, therefore represents a great innovation and a real answer to the market needs of deregulated utilities.

Addressing residential consumers

SHOPS specifically addresses the residential consumer sector. The primary target is in developed countries where utilities are both deregulated and competitive: the UK, Denmark, Norway and Sweden form immediately markets; Belgium and Finland will become attractive from July 2007.

Estimated in terms of energy and related services that residential consumers could purchase with the SHOPS platform, this primary target amounts to €5,400 million. A secondary target is in developed countries where utilities are officially deregulated but still concentrated and with marginal competition only, such as in France



As the utilities world enters a new paradigm, current business models are being brought into question:

- Generation capacities and grids, mostly developed in the early 1950s, have become obsolete, requiring huge investments of more than €12.5 trillion worldwide;
- Energy demand is booming and lack of electricity generation capacity is resulting in very high and volatile peak prices;
- Natural resources – both oil and gas – are declining in regions

SHOPS (ITEA 03012)

Partners

- Amena
- Ascom
- Enermet
- Ericsson
- Ortikon
- Robotiker
- ScalAgent
- Schneider Electric
- Soluziona
- Uphill
- VTT

Countries involved

- Finland
- France
- Spain

Start of the project

July 2004

End of the project

September 2006



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and Germany. This will probably take between two and eight years to emerge and amounts to €53,000 million.

Range of service options

SHOPS supports services offerings related to the home utilities such as:

- **Information services:** information such as energy consumption sent by email, Internet, digital television or mobile phone;
- **Smart metering:** optimising consumer costs, a new metering device – Last Distributor Equipment – is able to monitor and sort consumption according to various types of use such as lighting, heating or cooking;
- **Delegation:** the retailer can remotely modify customer's home equipment power consumption during peak hours to optimise energy consumption. This service also enables residential customers to remotely control some home equipment – for example washing machines or heating systems;
- **Roaming:** the consumer is able to access the system – such as getting an energy supply or managing the account – from places other than the usual consumption location; and
- **Payment:** various payment methods are possible – the

selected mode does not just depend on the environment or device but also takes into account customer preferences.

Open-platform solution

Due to the limited advancement of deregulation in the targeted sector, deployment of SHOPS-like solutions is currently very limited. Moreover, most existing deployments exploit proprietary solutions. The SHOPS approach is entirely based on an open platform, a major differentiating aspect that offers a key added value.

The SHOPS platform uses the most recent technologies and standards such as Liberty Alliance specifications, Devices Profile for Web Services (DPWS) or biometrics. Its major innovation lies in application of a mediation technology based on open-source middleware to collect and secure home user data.

As an example, web services-based technologies enable implementation of a standard and secured payment service. New payment technologies, such as VISA 3D Secure™, are used for payment by credit card. Integration of the SHOPS platform into existing systems was also a major concern and influenced the technology choices during the whole platform design phase.

Major project outcomes

Dissemination

- Eight presentations/demonstrations at major conferences (Telecom I+D, ICE Conference, IEEE INFOCOM, ICUC'06...)
- 23 publications/articles
- Booklet ISBN 951-38-6782-X

Exploitation

New business perspective for most participants. Ericsson is starting a new business with major utilities related to energy metering.

Standardisation

- Contributions to IEC TC13 WG15, AEN/CTN 71 SC37, Liberty Alliance
- Contribution to JORAM (Open Source Software by Objectweb)

Patents

One application submitted by Robotiker

Spin-offs

Schneider Electric has initiated the creation of a joint venture with a major European utility that is going to take advantage of the SHOPS results.

ITEA Office

Eindhoven University of
Technology Campus
Laplace Building 0.04
PO box 513
5600 MB Eindhoven
The Netherlands
Tel : +31 40 247 5590
Fax : +31 40 247 5595
Email : itea2@itea2.org
Web : www.itea2.org

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