



PROJECT RESULTS

Easily creating smart services everywhere

Service templates, enabling services and open-source tools

End-users seek differing services depending on the occasion and their location – yet they want them consistently to accommodate personal likes and dislikes, while also respecting privacy. There is great market potential in fulfilling these desires, but would-be providers lack the creative environment and business models to address it. The LOMS project has established a framework and methodology for easy service creation that effectively enables the smallest players to launch rich and localised services.

Given the ubiquity of information technology (IT) and commoditisation of telecommunications, end-user expectations of easy access to ad-hoc services in varying circumstances and locations have gradually increased. Moreover, third parties such as small companies, independent professionals and other individuals desire to participate in the e-trend by offering their own services. The ability to create service value has become the distinctive market driver for all players. Apart from mastering current and future wireless-network

technologies used in enterprises or in public places, many hurdles face newcomers aiming to introduce innovative and widely-available services to the general public or to targeted customer segments.

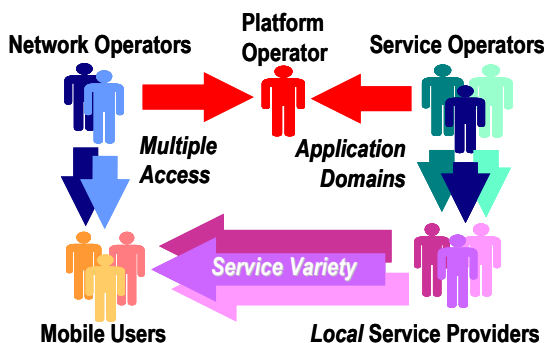
LOMS value-chain model

To solve the market dilemma of populating an ecosystem of local services, LOMS has defined an extended roles model, introducing a number of intermediate value chain roles for actors in the service creation process:

- **Platform operators**, who provide – part of – a run-time platform and expose network-related enabling services through it, either related to network operators or not;
- **Service operators**, who add domain-specific knowledge into LOMS service templates for a specific market sector, possibly in multiple, abstracting layers; and
- **Service providers**, who drive the market by launching new services based on LOMS service templates, fast and easy, addressing the demand of their specific – local – market niche.

Encapsulating enabling services

As an architectural foundation, LOMS has introduced LOMS service templates as the main service-creation mechanism in its framework. The LOMS service templates encapsulate a variable, transformable orchestration flow between underlying components, e.g. expressed in transformable web-services business-process execution language (WS-BPEL), as chosen in most of the LOMS demonstration example services. The templates can even contain other transformable functions as



LOMS value chain roles model

LOMS (ITEA 04012)

Partners

- Communology
- Concentra
- European Software Institute
- Devoteam Telecom & Media
- Fraunhofer IAO
- Ibermatica
- Infoman
- K.U. Leuven
- ORGA Systems
- Siemens C-Lab
- T.U. Berlin
- University of Paderborn
- University of Rostock
- Yellowmap

Countries involved

- Belgium
- Germany
- Spain

Start of the project

August 2005

End of the project

June 2008



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well as user interface definitions. LOMS service templates also hide the complexities of template-controlled enabling services in the underlying network. Some effectively demonstrated enabling services are:

- Context awareness in template-generated LOMS services;
- Context-dependent charging of service features and content; and
- Encapsulation of heterogeneous indoor and outdoor positioning systems – e.g. for enterprise services.

Create – deploy – use

The process starts with service operators creating LOMS service templates, either manually or through the LOMS Service-Creation Tools – released as open source. This includes the identification of variable parts of service code, descriptions on how it should be automatically deployed and provisioned, as well as descriptions of which parameters a service provider is able to provide when creating an actual service from the



template. In a next phase, service providers select the template of their choice – addressing their application domain – and transform it into a real, live service. They do this by simply answering questions, either through a webpage included in the template or via questionnaires in the richer LOMS Service-Creation Environment and deploying their configured service by a single click of a button. From then on, the service provider can manage content, charging rules, etc. depending on what the template provides, and ultimately also undeploy the service. In the mean time, mobile users can also use the launched services through the variety of devices as foreseen in the templates. This thus also allows for consistent, truly converged and device-independent services.

Offering clear value to all

LOMS has made it possible to combine service creativity easily with rich, powerful features of a well-controlled service environment, thus offering clear value to all roles in the LOMS value-chain model. A wide range of large to especially small service providers can benefit from the LOMS framework methodology, ultimately even allowing end-users themselves to offer their own services and content. The concept has opened a broad set of opportunities in concrete solutions of LOMS partners and their customers.

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Major project outcomes

Exploitable assets

- Unique service-creation methodology and value-chain roles model
- LOMS Service-Creation Tools suite, as well as other open-source releases
- About ten derived commercial products planned and several initial business cases evaluated
- Many internal methods, tool kits, demonstrators and licensable assets at partners

Dissemination

- More than 100 LOMS disseminations: many reviewed papers and presentations at conferences, multiple PhDs and several book chapters
- Four co-organised international research workshops, and project theme cluster with five IST projects
- Continued open-source dissemination of toolset, documentation and project deliverables at SourceForge
- Multiple follow-up research projects

Spin-off

- Start-up company founded based on LOMS results

