

SOA Innovation Lab and SOPERA – open innovation for a joint agenda of users and vendors

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Abstract: Service Oriented Architectures (SOA) strengthen the vendor independence of companies, freeing them from the lock-in monolithic architectures tend to incur. Deutsche Post has externalized their SOA knowledge, skills, and infrastructure to the community, engaging in open innovation to respond to new challenges in the logistics industries. One example is SOPERA, an enterprise service bus that was open-sourced to the Eclipse foundation in order to lower the investment threshold for companies engaging in a SOA approach. A second example is the SOA Innovation Lab, Germany's first business driven EAM initiative. Here one of the current workstreams, led by Daimler as one of the currently sixteen prominent member companies, investigates into the implications of standard software packages on enterprise architecture, soliciting highly positive response from ISVs towards a joint strategic agenda between users and providers.

1 Business imperatives for innovation

The logistic industry is experiencing new challenges and chances. On the one side there is increasing pressure through deregulation, European and global competition and substitution (e.g. industry discontinuity for letter business). On the other side there is Growth potential through globalization, E-business growth and the unbundling of value chains due to specialization and industrialization.

For Deutsche Post this has led to three strategic IT-imperatives and chances:

- Flexibilization under uncertainty: the application landscape needs to be transformed into a robust basis that is adaptive to strategic business change

- From barrier to enabler: the IT function needs to be the strategic responsibility of each business manager and ensure world class delivery and source of differentiation
- Externalization: the foundation for internal and external collaboration needs to be build to enable the IT to use new business models

2 IT Strategy for consistent delivery

The critical success factors that enable the IT to consistently deliver against the business challenges are high business responsibility, focus on executional excellence, and an emphasis on enterprise architecture as enabling platform.

The basis for IT delivery is the underlying enterprise architecture. The goal should be to develop a “Lego” approach of modular services that leads to flexible application landscapes (exhibit 1). As this approach links internal and external domains in the same fashion, the boundaries between enterprise and those of its partners begin to blur. This is a crucial success factor in the automotive industry, especially for large enterprises like Daimler with high growth and innovation rates.

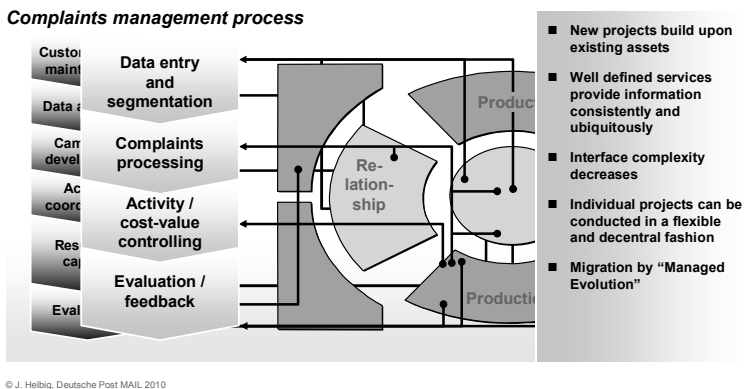


EXHIBIT 1 – “Lego” approach of modular services

Companies seeking to adopt a Service Oriented Architecture (SOA) need to address three strategic dimensions

- Governance & organization: SOA domains as master plan for orientation in a federal governance environment
- Skills & capabilities: Elaborate set of architecture management and service design processes as part of CIO function
- Applications & architecture: SOA framework: Deployable integration infrastructure to ease implementation by projects

Deutsche Post has gone through a substantial investment into SOA-enabling its application architecture through the last ten years. Deutsche Post has decided to share and externalize the knowledge, skills and infrastructure to further develop them with initiatives like the SOA Innovation Lab and open sourcing of SOPERA (exhibit 2).

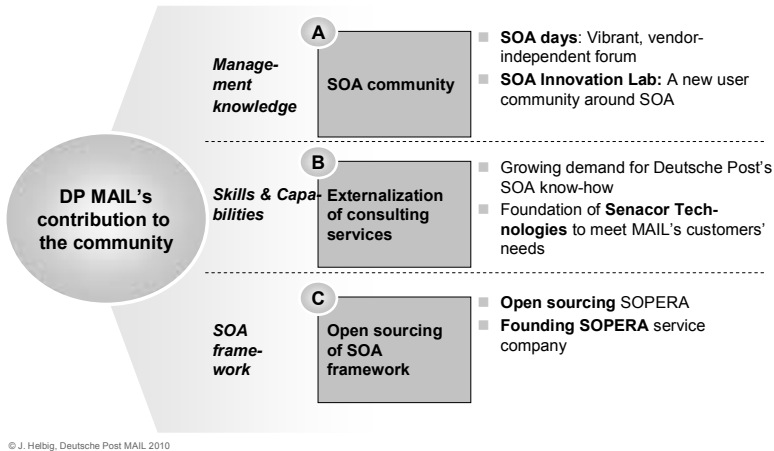


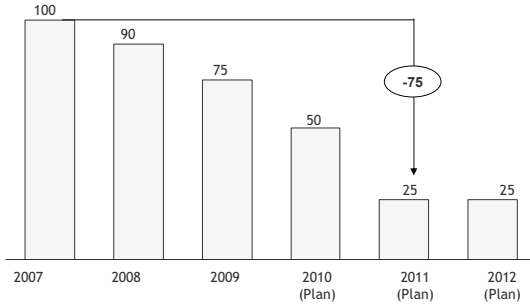
EXHIBIT 2 – Externalization of knowledge, skills, and infrastructure at Deutsche Post

3 Open innovation: SOPERA

SOPERA is the enterprise service bus that Deutsche Post developed to modularize its enterprise architecture. In 2007 Deutsche Post contributed SOPERA to Eclipse. Three years later, SOPERA comprises a complete integration suite, expanding the pure ESB functionality with BPM, security, governance and service management.

Due to a different development and sales process, SOPERA has significant lower cost. Deutsche Post reduces its costs of integration infrastructure by 75% within 4 year (exhibit 3). The eco system of customers and partners has reached a critical mass.

Cost of SOPERA development and support in percent

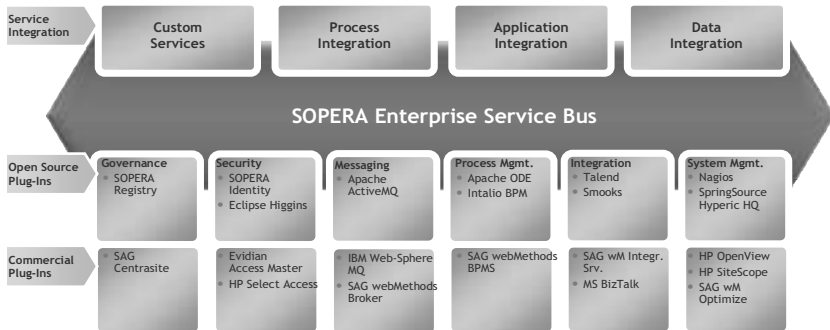


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EXHIBIT 3 – Deutsche Post has reduced its costs of integration infrastructure by 75% within 4 years

SOPERA offers vendor Independence by enabling loose coupling of business applications as a SOA principle. Through its modular architecture SOPERA avoids vendor lock-in (exhibit 4). The Eclipse open source approach makes users even independent from the SOPERA service provider.

SOPERA GmbH offers all enterprise relevant services for the SOA platform: Support & Maintenance, Technical Consulting, Development sponsored by a customer which becomes part of the standard distribution, comprehensive training and certification programs



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EXHIBIT 4 – Through its modular architecture, the open source ESB SOPERA avoids vendor lock-in

4 Open innovation: SOA Innovation Lab

SOA Innovation Lab is the first EAM business initiative in Germany (exhibit 5). Inflexible and complex IT landscapes represent a major challenge of modern large enterprises. SOA and EAM have grown into robust approaches, which, however, have to be enhanced and operationalized. User companies are at the top of SOA development. The agenda, however, is still driven by providers – therefore the idea of a user SOA community was born.

SOA INNOVATION LAB – THE NEED



- Inflexible and complex IT landscapes represent a major challenge of modern large enterprises
- SOA and EAM have grown into robust approaches, which, however, have to be enhanced and operationalized
- Today, user companies are at the top of SOA development. The agenda, however, is driven by providers

How can we, as users, ensure knowledge availability and development, and lower the entry threshold for EAM?

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EXHIBIT 5 – SOA Innovation Lab is the first EAM business initiative in Germany

The mission of the SOA innovation lab is to build expertise and explore new approaches within large corporate IT users to develop flexible and efficient IT application landscapes by means of Service-oriented Architectures (SOA) and other methods of Enterprise Architecture Management (EAM). In the SOA Innovation Lab, employees are educated and trained in SOA methods, best practices are shared between members and new procedures and approaches are developed and tested.

The SOA Innovation Lab is a growing community with currently over 16 members representing large companies in all major industries (exhibit 6). Every company can define the degree of its individual commitment; the only prerequisite for membership are active contribution and a vital role of EAM for business success.

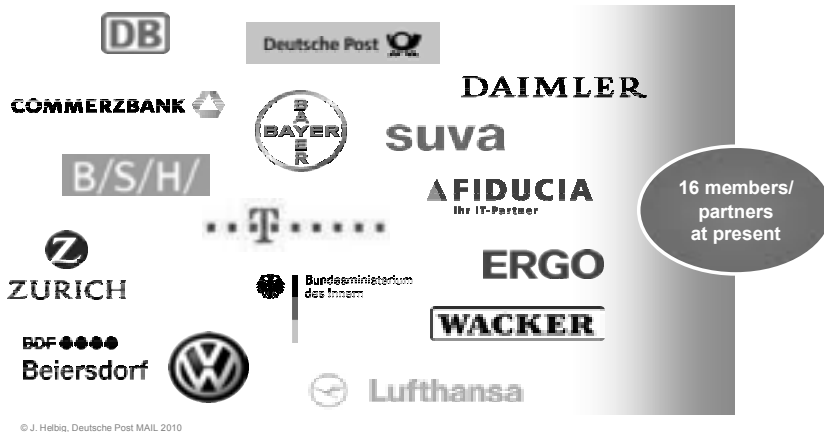


EXHIBIT 6 – Growing number of members

Current workstreams of the SOA Innovation Lab are addressing all relevant management questions with regard to Enterprise Architecture Management, the management of target architectures and SOA methods and tools (exhibit 7).

CURRENT WORKSTREAMS

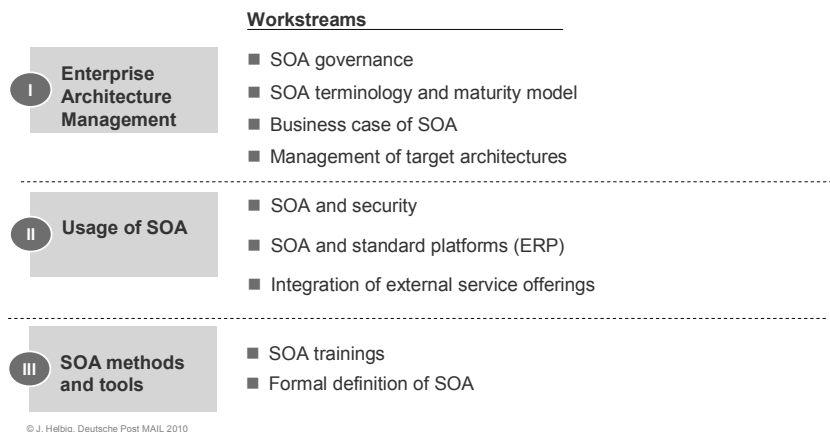


EXHIBIT 7 – Workstreams focus on practical relevance

As an example, the SOA and standard platform (ERP) workstream lead by Daimler investigates the use of standard software packages in a service-oriented context. As a part of this investigation the SOA capabilities of products from different vendors need to be evaluated (exhibit 8). For this purpose a SOA architecture maturity framework has been developed, leveraging and extending CMMI and TOGAF, as well as other state-of-the-art frameworks and methods. Besides details about our framework, we present and analyze first results from the assessment of various vendor platforms.

User perception	Examples
SOA approach is vendor specific	<ul style="list-style-type: none"> ■ Vendor domain map doesn't match user map ■ Vendor specific semantics and data models ■ Incompatible technology (ESB, repository,...)
Products are only SOA enabled	<ul style="list-style-type: none"> ■ SOA as wrapper, internally still monolith ■ Granular technical view (over 3.000 services) ■ Dependencies between services
Business model not SOA adopted	<ul style="list-style-type: none"> ■ Deployment unit still is the monolith ■ License model not adopted to service usage

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EXHIBIT 8 – SOA and Standard Software: current obstacles

Results from this workstream are that across vendors, there are still obstacles to apply standard software in a heterogeneous SOA environment. Often, a vendor's SOA approach is specific to the vendor. For most vendors, products are only SOA *enabled*. This means that SOA is implemented as wrapper around existing interfaces, and the internal structure is still monolithic. Finally, most vendors have not adopted a business model that supports the usage of standard software through services.

In summary, many vendors have invested early in SOA, long before users were ready to use new SOA enabled components in an appropriate way. The investment therefore was mostly to SOA enable products from a technical point of view, without considering the business scenarios that they should support. Therefore the adoption on the user side is slow, with only a few (100-300 per vendor) pilot SOA cases, mostly focusing on GUI integration. This is a tiny fraction of the overall installed base for standard software.

The most important result from the assessment workshops with vendors is that there is a strong interest from vendors to work together with the SOA Innovation Lab to further refine SOA methods and to develop solutions for the SOA use cases. We think that this is a great asset and we will continue to build on these relationships to further develop the maturity of SOA and standard software.

Experiences gained in the first two years of the SOA Innovation Lab are that sharing stories of success and failure, joining forces and learning from real experience are the key success factors for a growing SOA community. Given the success from the SOA Innovation Lab, the next step is now to grow internationally in order to expand the experience base and match the global footprint of most providers.