

SOA – the Basic Concept for Flexible and Open Business Solutions

An integrated view on business processes, their improvement and rapid adoption to business innovations, impacts the competitiveness of companies since many years with upward trend. This is the reason why the „Service Oriented Architecture“ (SOA) met with high interest in the executive boards. SOA promises twice: A more simple transformation of business innovations and the use of already existing resources.

The successful implementation of a SOA and thus the use of the advantages become only possible by the employment of an SOA software infrastructure.

empuron SOA Architecture – Fit for the Future

With the forceful development of the products **empuron visual** and **empuron supervise** in the programming environment JAVA under usage of the standard „EJB“ 3.0 (Enterprise JAVA Bean), also the introduction of the SOA platform **JBoss Application Server** („AS“) was carried out (cp. Figure 1). **JBoss AS** runs on all operating systems including Linux, Solaris and Windows. A number of **JBoss** components, e. g. the **JBoss Enterprise Service Bus** („ESB“), complete the functions of the **empuron** products.

Goals of the SOA Technology

- Business process orientation
- Mutability and flexibility
- Multiple usefulness of software components
- Use of distributed software systems
- Integration and, if necessary, gradual restructuring of historically grown, heterogeneous system landscapes.

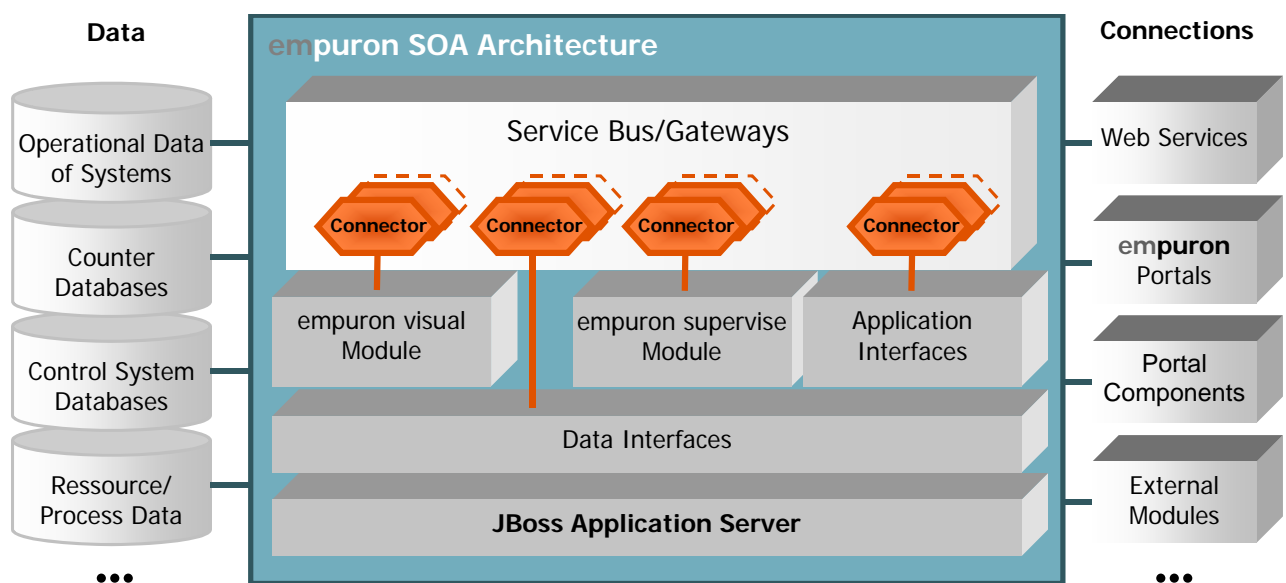
empuron-Lösungen auf Basis von SOA

- **empuron visual** portal – Integrate and visualize data graphically
- **empuron Reporting** – Merge reports into the empuron portals
- **empuron supervise** – Acquisition and evaluation of operational data, controlling of equipment, system supervision, teleservice

The use of **JBoss** standard components, e. g. **SEAM** and **ESB**, makes an open IT communication infrastructure available.

The **JBoss** server basis affords high reliability and redundancy functions for the **empuron** solutions where necessary: „Load Balancing“ and „Fail Over“.

Figure 1: Structure of the empuron SOA Architecture



The empuron SOA Software Architecture – Approved Strategy Yielding New Possibilities

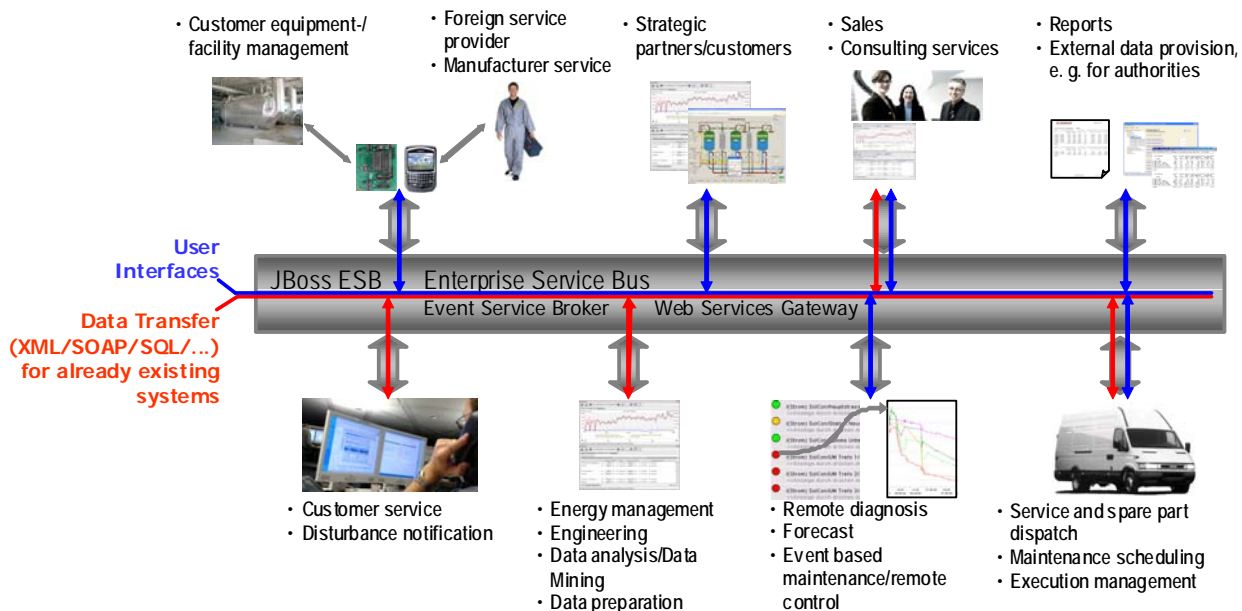
SOA describes an architectural concept, in which functions, and/or software modules are constructed as independent, loosely connected services, which can be accessed by use of standardised interfaces. Thus services can be arbitrarily distributed and realized in different programming languages and on different system platforms. They can be connected dynamically to business processes and used manifold. The use of gateways enables all clients, which are not directly connected to **JBoss AS**, to interact by services and to be linked by the **JBoss ESB**.

The new approach in the SOA environments consists in the realisation of an architecture, based on Web-services and in doing so to use in this environment the manifold available tools and open standards. Expenses and risks in the software production and maintenance are substantially reduced.

Advantages of the empuron SOA Solutions

- **Minimized Investment** for system operation (Hosting of the solutions provided by empuron)
- **Easy Integration** in already existing IT Infrastructure due to the basis provided with the SOA Architecture
- **Reusability** of the provided interfaces for other manufacturers/systems
- **Variable Services** – user interfaces as well as format-independent data exchange
- **Variable Environments** - executable on all operating systems, user interfaces in the Browser or as „Web start applications“
- **Quality in User Comfort** - use of the proven empuron Multi-Document Interface (“MDI”)

Figure 2: „Smart Services“ Based on the Provided Jboss SOA Infrastructure



The interfaces displayed in figure 2 („red “and/or “blue “) are exemplarily, modular usable and vary depending upon requirements and the already available solutions and subsystems.