



E2E: Simplifying SOA Integration for SAP Customers Now

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It's unlikely that you have come across the Swiss software company **E2E** yet. But if you are looking for a highly innovative approach for rapidly building service-oriented architecture (SOA)-based integration between your enterprise applications, you might be interested. If you are also an **SAP** customer, you should definitely evaluate E2E.

Who is E2E, and what does it really offer?

In 1996, the founders of E2E, Serge Gansner and Alex Büch, shared the vision of automating the end-to-end process to integrate application software. This culminated in the E2E Bridge SOA integration platform, which was introduced at **UBS** in 2001 and internationally from November 2005. Today, E2E is a small ISV with headquarters in Basel, Switzerland, and offices in Dallas, Boston, London, and Sydney.

The central idea was to define and execute integration services as unified modeling language (UML) models without any programming at all. Sound too good to be true? Smoke and mirrors? 10 large enterprises, including UBS, **DKSH**, **Swisscom**, **Antalis**, and **Agrano/Dr. Oetker**, would be more than happy to disagree with you.

The E2E Bridge is the first enterprise services bus (ESB) that is based on a high performance virtual machine for the standard UML (for more, see "A Framework Approach To SOA"). In other words, the product allows users to rapidly build integration services without programming at all.

The complete service description—metadata, mappings, logic, orchestration, deployment architecture—is characterized with a small subset of standard graphical UML model diagrams, plus UML action semantics for execution purposes. Reusable integration services are built by combining SOA and event-driven architecture (EDA) styles.

These service models are first stored in standard XML metadata interchange (XMI) format, after which the XMI representation is validated, compiled, deployed, and debugged, all graphically within the E2E Builder. Integration models are then executed on the E2E Bridge runtime environment, which uses a high-performance UML virtual machine, tuned for AIX, Linux, Windows and Solaris.

The execution of integration models is faster than one of Roger Federer's serves as it completely avoids an underlying Java application server. The E2E Bridge supports various client-facing protocols, such as HTTP/S, XML/SOAP, and SAP RFC. For back-end connectivity, it provides a universal adapter approach, which includes a broad range of standard A2A and B2B components, plus a framework to develop and maintain adapters for homegrown applications.

What does this mean for SAP customers?

With its Enterprise SOA strategy and NetWeaver application platform, SAP offers its installed base a compelling vision for SOA. Until the next release of NetWeaver (code-named "New York") is introduced, however, SAP customers do not have a full SOA platform capability.

Enter the E2E Bridge, which offers fast, bidirectional, low-level SAP communication (RFC, BAPI, IDoc) to all supported releases of SAP applications. It is Certified for NetWeaver, and handles web-services-based communication to high-level Enterprise SOA interfaces. This means that the E2E Bridge can be set up quickly to handle high transaction volume A2A/B2B interfaces—millions of transactions a day—between SAP and non-SAP enterprise applications.

Case study: DKSH

DKSH is the perfect example of an SAP customer doing exactly that. It is the No. 1 sourcing company in Asia, with \$6B in annual revenue and a presence in 35 countries. With its Pegasus project, DKSH has built a corporate shared service center (CSSC) around the largest single SAP instance in Asia.

For the first phase of redeveloping all B2B connectivity from its 2,000 principals into the central SAP system, DKSH was under pressure to implement 78 interfaces to integrate Singapore into the CSSC in only 10 weeks, using just three E2E employees. An aggressive proof-of-concept proved the viability of E2E's model-driven integration approach up front. The project was delivered on time and on budget.

The E2E product enabled the original 78 interfaces to be reduced to just 30 core interfaces and 15 services, with an initial reusability of 60% for country rollouts. Pegasus interfaces included mission-critical exchange of orders,

invoices, delivery information and reports between DKSH customers and the CSSC SAP system, using IDoc-to-IDoc, EDI-to-IDoc and Flat File-to-IDoc message transformation.

The E2E Bridge is targeted at generic A2A/B2B application integration. It does not provide the sophisticated business intelligence, portal, collaboration, or local persistence capabilities that NetWeaver offers for building composite applications. But as DKSH has proved in its rapid SAP integration project, the E2E Bridge delivers fast, high-quality integration with high SOA reusability and, best of all, no programming. Furthermore, the E2E Bridge is simple to operate and can easily be supported by existing SAP Basis operations teams.

Wrap-up

E2E has taken a big step toward the vision of simplified business process reconfiguration for enterprises through business process management (BPM) in conjunction with SOA and EDA. Currently E2E is only a small SAP partner, with limited geographic coverage and resources. However, innovative SAP customers needing to gain SOA experience now in application integration projects should challenge E2E and other integration vendors to conduct a proof-of-concept project.