SOA Solution Reference Architecture

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Abstract:

In this tutorial, we present the results of abstracting a reference architecture for SOA based on multiple projects during the past 6 years. As an example SOA Solution Reference Architecture, the SOA Solution Stack (S3) defines the layers, architectural building blocks, design decisions, patterns, options and architectural decisions and the separation of concerns needed to model, architect, assemble, deploy and manage an end-to-end solution in the context of a service-oriented approach. The SOA Solution Stack (a.k.a. Service-oriented Solution Stack) provides a blue print for an enterprise or application architecture scope. The SOA Solution Stack is based on establishing the building blocks of SOA: services, components and flows that collectively support business processes and goals. The meta-data underlying each layer and relationship between layers can further facilitate SOA in bridging the gap between business and IT from solution modeling to solution realization.

The other major capability afforded by the SOA Solution Stack is the increase of reusability when designing and developing solution assets for rapid development, deployment and management of SOA solutions within industry or cross industries. In this tutorial, we will cover the following aspects of an SOA Solution Reference Architecture: Dashboard View (9-layer); UML 2 Meta Data Model ; Method and Tooling Support; Industry Standards Initiatives (IEEE, Open Group, OASIS); and Case Studies.

Especially, in the case studies, we will use industry-specific solutions as examples to illustrate how SOA Solution Stack was used to address custom pain points. Best Practices and Lessons Learned will be highlighted throughout the tutorial. Embedding some best practices into reusable SOA Solution Stack patterns will also be introduced.

About the presenter

Dr. Liang-Jie Zhang is a Research Staff Member (RSM) in Services Technologies Department at IBM T.J. Watson Research Center. He is the worldwide lead of an IBM's end-to-end SOA solution design and modeling tool. He has been co-leading the IBM-wide SOA Solution Stack project since 2004. Dr. Zhang was the Chief Architect of Industrial Standards at IBM Software Group. He was also assigned to define the technical strategy of the Global Industrial Sector for IBM. Dr. Zhang is one of the leading pioneers of Service-Oriented Architecture (SOA) and Web Services. Dr. Zhang was the lead inventor and architect of Business Explorer for Web Services (BE4WS), WSIL Explorer, and Web Services Outsourcing Manager (WSOM), all released by IBM alphaWorks. In 2001, he led a worldwide team to create the first comprehensive Web services-based Managed E-Hub to enable services provisioning and business on-boarding for supporting business process on demand. LJ is leading IEEE SOA Standards Working Group. He is also the worldwide lead of IEEE Services Computing Community (ICWS, SCC, SERVICES). He has been the Editor-in-Chief of the International Journal of Web Services Research (JWSR) since 2003.