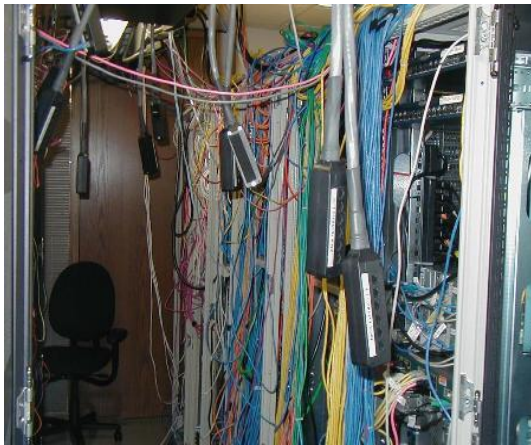


Service Oriented Infrastructure

Project Description

“From Spaghetti to Lasagne”



1 About this document

Service Oriented Infrastructure or SOI is one of the three pillars of Information Technology (See “Service Oriented IT”, below). Next to the Service Oriented Enterprise and Service Oriented Application Architecture it provides guidelines for the development of IT Capabilities. As SOI is a domain in itself and the mechanisms and structures of SOI are to some extent different from SOA and SOE the Open Group wishes to develop a common understanding of this domain. This document describes an Open Group project to develop that understanding and produce artifacts useful to the enterprise architect working on SOI.

This description will:

- Help the SOI Project to define its scope and ambitions and structure its activities;
- Publicize the project scope and activities within The Open Group and so obtain buy-in and commitment from the wider membership.

2 Project Name

Service-Oriented Infrastructure (SOI)

3 Project Status

Approved as a project of the SOA Working Group.

4 Contribution to SOA Working Group Mission

IT Infrastructure is of common interest to the members of the Open Group and the development and articulation of the relevant structures for SOI should be well aligned with the interests of the Open Group members.

Service-oriented infrastructure results from applying the principles of service-orientation to IT infrastructure. The term *Service-Oriented Architecture* is however most commonly used to refer to the application of those principles to software application programs.

Note that SOA at the application program level requires an infrastructure to support it, but the concept of this infrastructure is distinct from the concept of SOI.

An SOI reference model would be different from a technical reference model for SOA.

Governance is important for SOI. It forms an orthogonal dimension to that of a reference model. Assuming that SOI is considered part of the overall scope of SOA, the SOI project should input to the SOA Governance project rather than producing separate material on Governance.

It should therefore be possible to establish SOI as a project of the SOA Working Group, with a scope that complements but does not conflict with other Working Group projects and proposed projects, should it be agreed that SOI is within the Working Group’s scope.

5 Goals

5.1 Audience

The SOI Project will support the development of Service Oriented Infrastructure solutions. The intended audience for its deliverables is:

IT staff tasked with the development or maintenance of SOI solutions

Product Management of organizations developing solutions within the SOI domain

IT Staff developing solutions in the SOA domain that need to interface with an SOI solution set.

5.2 Items to be produced

The deliverables will be:

1. A reference framework for Service-Oriented Infrastructure, including:
 - a definition of the SOI domain - explaining what SOI is, and defining SOI terms and concepts.
 - an SOI model, structuring the domain and documenting generic mechanisms applicable. The model should identify infrastructure components, including those required for development, at run-time, and to support governance.
 - an overview of Service Characteristics relevant to the SOI services
 - an overview of the interfaces between SOI and the SOA/SOE domains
 - an overview of the relevant standards within the SOI domain
2. A Technical Guide describing how to design and implement SOI
3. A White Paper describing how SOI might evolve, perhaps to include dynamic provisioning.

6 Inputs

The SOA Reference Architecture section of the SOA Practitioners Guide input to The Open Group by the SOA Alliance (see

<http://www.opengroup.org/projects/soa/protected/doc.tpl?gdid=12062>) contains a section on SOI.

Capgemini have developed material on the web at

<http://www.capgemini.com/services/soa/soi/>

There is a CBDI paper that distinguishes SOA applied to business from SOA applied to infrastructure.

7 Project Organization

7.1 Working Procedures

The SOI Project will align its activities with the best practices established in the Open Group. The Open Group uses electronic means to distribute materials and invites all

the Project members to contribute to the deliverables and to build consensus and commitment for the output.

The members of the SOI Project will select co-chairs for the Project. These co-chairs will evaluate all the contributions and are responsible for developing the final proposals to the Working Group.

The SOI Project can also decide to schedule meetings (typically co-hosted with wider Open Group meetings) to discuss key topics and to accelerate specific tasks.

7.2 Co-Chairs

The project co-chairs are.

Mark England (HP), and

Hemesh Yadav (Unisys).

7.3 Project Team

The members of mail list soa-soi@opengroup.org will constitute the project team. (This list currently has 34 subscribers.)

7.4 Project Plan

The deliverables will be addressed in the order that they are listed above. This does not imply that each must be completed before the next one is started – they can be implemented in parallel – but it gives the priorities for allocation of resources.

Expected timescales for delivery are to be added later.

8 Service-Oriented IT

This section provides the mindset of the SOI Project. Its purpose is to provide some insight for the SOA Working Group members into the concepts to be developed within the SOI Project.

The SOA practitioners' guide that was input to The Open Group by the SOA Alliance defines the three domains for Service Orientation within the Information technology: the Business Architecture, the Data & Information Architecture and the Infrastructure Architecture.

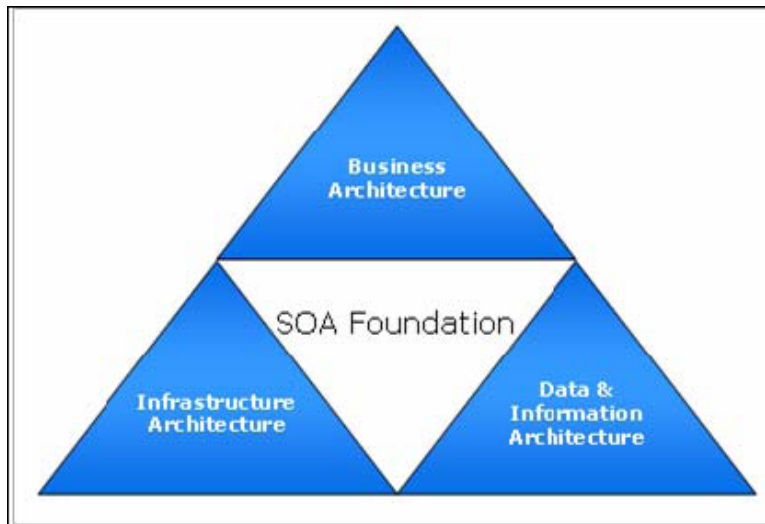


Figure 1 SOA Foundation

This aligns well with other models defined within the IT industry¹ which distinguish the same three aspects using different terminology: Service Oriented Enterprise, Service Oriented (Application) Architecture and Service Oriented Infrastructure.

The use of the three different domains for Service Orientation recognizes the fact that Service Orientation leads to different structures within each of these domains and therefore can be addressed independently. This is true despite the situation that there is benefit in adopting Service Orientation in each of the domains. Also: Service Oriented Applications, e.g. fully J2EE or .NET compatible applications, can be accommodated better on a fully Service Oriented Infrastructure than legacy IT Applications (it is more difficult to develop an SOI solution for an RPG application requiring an OS/400 or S/36 environment).

SOI delivers bottom-line benefits to the enterprise. It provides the basis for greater IT automation which results in higher IT productivity and lower operational costs. SOI also enables organizations to move from dedicated infrastructure resources for each individual application to dynamic resource allocation in which virtual processing, storage and network resources are allocated to applications as needed. This results in reduced capital costs through better resource utilization. It also yields higher reliability, with fewer service outages and delays, since applications can fail over to available resources without disruption of the application. IT can deliver more consistent service levels since software can automatically allocate additional resources in real time as an application's workload increases. SOI should be viewed as a mechanism to deliver core infrastructure services as a "service" to the business rather than individual components.

The guidelines for Service Oriented Infrastructure will provide support for the essential elements of SOI solutions:

- Life Cycle support for SOI solutions to manage the deployment of SOI components

¹ Intel introduced the SOE/SOA/SOI model in 2005

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- Virtualisation of Infrastructure Resources to provide a Service interface to the SOI users
 - Service Management to assure the SOI solution provide the required Service Characteristics

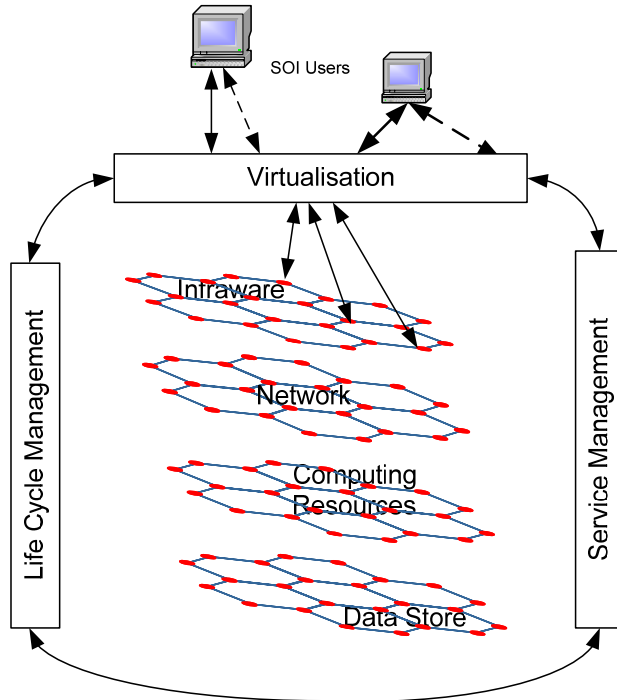


Figure 2 Generic SOI Elements