
Abstract

SOA is relatively new, so companies seeking to implement it cannot tap into a wealth of practical expertise. Without a common language and industry vocabulary based on shared experience, SOA may end up adding more custom logic and increased complexity to IT infrastructure, instead of delivering on its promise of intra and inter-enterprise services reuse and process interoperability. To help develop a shared language and collective body of knowledge about SOA, a group of SOA practitioners created this SOA Practitioners' Guide series of documents. In it, these SOA experts describe and document best practices and key learnings relating to SOA, to help other companies address the challenges of SOA. The SOA Practitioners' Guide is envisioned as a multi-part collection of publications that can act as a standard reference encyclopedia for all SOA stakeholders.

1.1 Intended Audience

This document is intended for the following audience:

- Business and IT leaders, who need to start and manage an SOA strategy across the enterprise/LOB
- Enterprise Architects who need to drive the vision and roadmap of the SOA program and the architecture of each implementation that falls under it
- Program Managers who need to manage a portfolio of sub-projects within an overall SOA business strategy
- Project Team Members, who need to map dependencies and develop a timeline that meets the business expectations
- Vendors who provide solutions and tools for new business capabilities to the business and IT
- Standards bodies which need a better understanding of use cases of how business and IT plan to leverage technology to meet their objectives.

Services Lifecycle Stages

1.1.1 Actors

- Executives
- Business operations
- CIO staff
- LOB-IT executives
- Business analysts
- Project managers
- Architects
- IT operations

1.1.2 Tools Used

- Data marts
- Operational data stores
- Business intelligence tools
- Portal-based dashboard

1.1.3 Artifacts (Deliverables)

- Star schemas and snowflake schemas
- Dashboard usage models
 - Scorecard metrics definitions
 - Rollup and drill-down rules and business algorithms
 - Data lineage and origin-of-information rules for audits and synchronizations

1.1.3.1 Artifact Description

A business dashboard is a shared presentation service. Artifacts capture the metadata necessary to roll up and drill down business rules.

CWM is the metadata modeling notation and framework used to capture the models for the data warehouse and datamarts. XMI is the modeling exchange or interchange notation built on the XML standard. Together, CWM and XMI allow the metadata captured in the data warehouse and datamart schemas to be exchanged across multiple vendor tools in XML, for use by other modeling tools and EII-based services.

The metadata repository includes the business rules for the roll-up and business algorithms used for deriving metrics, for leverage by the semantic translation layer of most BI tools. These metrics form the basis for business scorecards that report on key business drivers or aspects of the value chain. A business dashboard brings one or more related scorecards together to show the impact to a business driver or value chain business process. For instance, the scorecard could report on improvement in vendor relationships or support staff productivity. A single dashboard could incorporate both of these to monitor the business driver of customer satisfaction. Additionally, there may be a related scorecard on repeat sales that also records customer satisfaction gains.

Most business dashboards also provide drill-down capabilities. BI tools leverage lineage and information derivation paths to provide more detailed information about an aspect of the scorecard.

1.1.4 Service Lifecycle stage key considerations

Building a business dashboard requires identifying the criteria, metadata and rules that feed into it. Dashboard-based views and scorecards are tied to both the LOB and the user roles, with authorization rules that link to user roles to ensure that the right level of information is accessible to authorized users. Security aspects, granularity of information, and governance rules as defined by SOX and other regulatory bodies may also affect dashboard design.

Dashboard designers need to plan to ensure accuracy of both derived scorecards and the visualization of metrics, as well as lineage information to allow accurate drill-down capabilities. Each user community may have different drill-down requirements that must be factored into accessibility and authorization level rules. Designers must also ensure that granular row-level data can always back up rollups and the derived information. This supports accuracy and auditability.

1.1.5 Service Lifecycle stage recommended process

Typically organizations develop business dashboards when one or more operational and analytic services are already available and have established credibility with LOB users. Dashboards are a composite service for pulling together scorecards and interacting with value chain business processes that may impact the metrics being reported on real-time basis. Some of the drill-downs may lead to operational data or operational data stores. More sophisticated dashboards may subscribe to real-time business events to provide up-to-the-minute information. Business dashboards may also be linked to alerts and exception reporting services such as a BAM service.

Contributing SOA Practitioners

Surekha Durvasula, Enterprise Architect, Kohls

Martin Guttmann, Principal Architect, Customer Solutions Group, Intel Corp

Ashok Kumar, Manager, SOA Architecture, Avis/Budget

Jeffery Lamb, Enterprise Architect, Wells Fargo

Tom Mitchell, Lead Technical Architect, Wells Fargo Private Client Services

Burc Oral, Individual Contributor

Yogish Pai, Chief Architect AquaLogic Composer, BEA Systems, Inc.

Tom Sedlack, Enterprise Architecture & Engineering, SunTrust Banks, Inc.

Dr Harsh Sharma, Senior Information Architect, MetLife

Sankar Ram Sundaresan, Chief Architect e-Business, HP-IT