



SOA FOUNDATION DEFINITIONS

SOA Blueprint

A structured blog by Yogish Pai

The SOA foundation components are illustrated in the figure below.

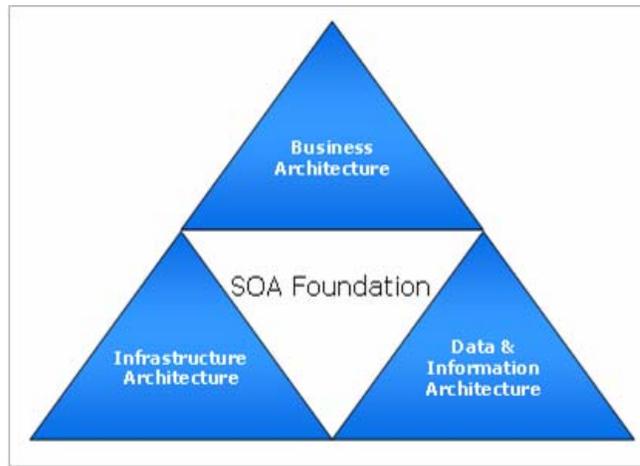


Figure 1: SOA Foundation

Business Architecture

Business architecture describes the business strategy, objectives, priorities, and processes to be supported by the SOA. An SOA is only successful if it delivers on the business architecture. Reuse of business processes provides higher ROI than the potential reuse of infrastructure or data components.

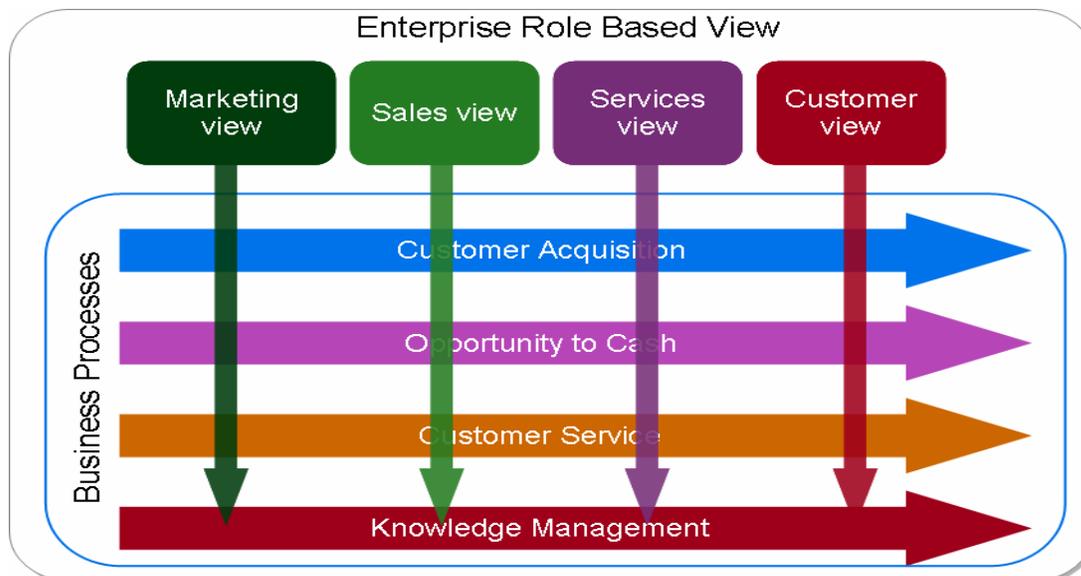


Figure 2: Focus Areas for Business Architecture





Some of the best practices for developing the business architecture include:

- Review the current system specification and the underlying technology
- Map these to the business strategy to identify gaps
- Review the horizontal (business processes) and vertical (role-based view) requirements
- Prioritize the application (services) portfolio to provide these capabilities
- Standardize the user experience across applications
- Define business policies on key aspects such as application and data access and regulatory compliance

Additional reference: Developing a Business Architecture View (TOGAF)

http://www.opengroup.org/architecture/togaf8-doc/arch/p4/views/vus_bus.htm

Infrastructure Architecture

This is the engine that enables SOA. It should address all the aspects of the scalable infrastructure from networks, enterprise servers, data centers, and firewalls, to application infrastructure, security, monitoring, and middleware.

The architecture team is responsible for identifying the infrastructure components—the architecture building blocks—required to provide the business capability.

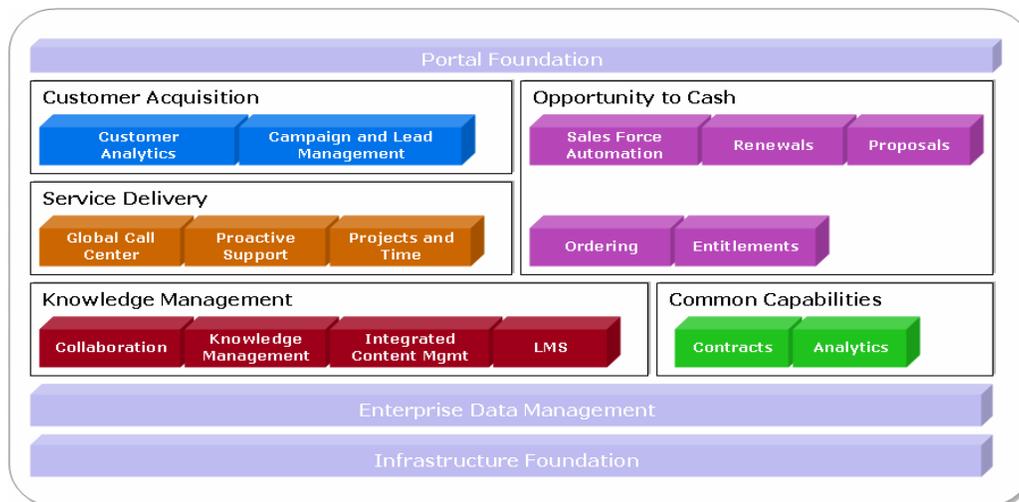


Figure 3: Example of Architecture Building Blocks

The above diagram is an example of the of the architecture building blocks required to provide the business capability with the primary focus being business process. At the same time, the infrastructure architecture also needs to include role-based portal requirements.



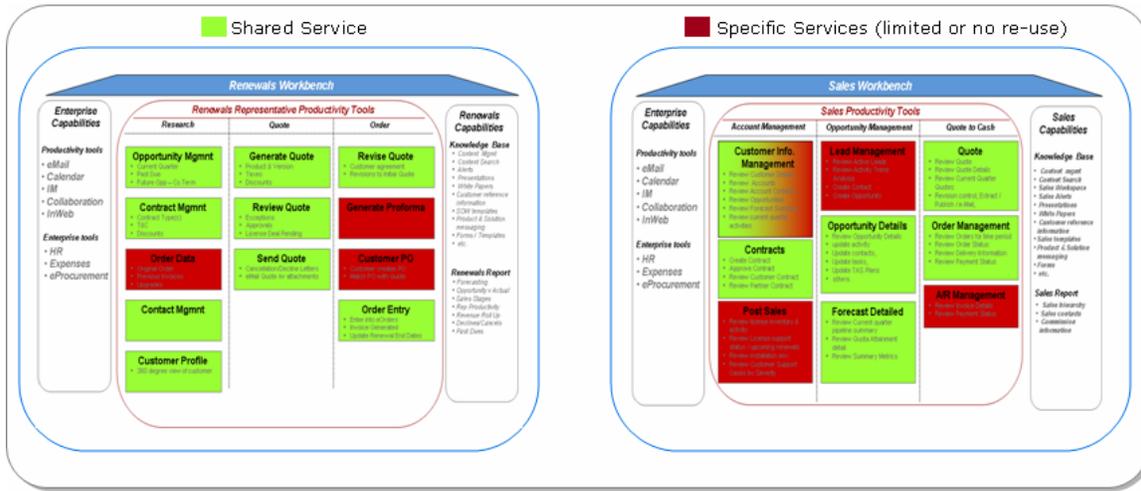


Figure 4: Example of Role-Based Portal

Infrastructure needs to combine architecture building blocks and role-based portals in order to enable:

- High reuse of common services
- Reuse of infrastructure and foundational components
- Reduction in time needed to develop new capabilities.

| Infrastructure Components | Description |
|--|--|
| Custom application frameworks Data services Logging services Exception handling Audit service Search framework Notification framework | Common components required for developing custom applications |
| Security Authentication Authorization Single-Sign-On (SSO) Delegated administration | Security framework that could extend to the enterprise level |
| Shared data services Master data management Data profiling Data quality service Data matching Data validation Data modeling Analytic services | Data services to support SOA |
| Portal services Common look and feel Personalization Reporting Localization Web traffic monitoring | Portal services for consistent user interaction and ability to leverage WRSP |





| | |
|---|---|
| Enterprise infrastructure services LDAP E-mail Collaboration (Chat/IM/Whiteboard) Content management Integrated structured and unstructured search | Common services required enterprise wide |
| Master data management Customer data integration Product master | Capabilities required to provide ability to execute the business processes across applications and business silos |
| | |

Additional details on the infrastructure components are defined in the SOA reference architecture section.

Additional reference: Infrastructure Architecture (TOGAF)

http://www.opengroup.org/architecture/togaf8-doc/arch/p4/infra/infra_arch.htm

Data Architecture

Data architecture deals with the logical and physical modeling of the data as well as data manipulation and data quality. The SOA reference architecture covers each of these areas at length by providing approaches, requirements, and design patterns wherever possible.

Information Architecture

Information architecture models key concepts and events for a given business process. The business concepts represent any business entities that need to be exchanged by the processes or applications that support the enterprise.

Information modeling creates canonical models described by XML schemas. Canonical models are very crisp definitions of the business concept attributes, including attribute relationships, value enumerations, value patterns, sequencing of the attributes on the XML document, and whether an attribute is mandatory. SOA uses canonical models to represent both the request and response documents traded by the service and also the content payload that is returned to a consumer.

Canonical models that are exchanged by a business application are typically business concepts. For example, "Candidate Product List" may be returned in response to a product catalog search. Canonical models that are sent out or published by a business process are typically business events. For example, "Purchase Order Approval" business event may be published by the Supply Chain Management business process and will need to be subscribed to by the supplier.

Another aspect of information architecture is the definition of key performance indicators (KPIs) that capture business-level information. KPIs help an organization define and measure progress toward organizational goals. KPIs are abstractions of information that report value extracted from a business process.

Additional reference: Wikipedia definition on Information Architecture

http://en.wikipedia.org/wiki/Information_architecture





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