Next Generation SOA
A Concise Introduction to Service Technology & Service-Orientation

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ServiceTech
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Praise for this Book

"A must for those who want to jumpstart their learning of SOA. A great starting point in SOA for any IT architect, designer, or developer."

—Claude Baillargeon, Senior IT Architect, La Capitale

"What a monumental achievement! This book provides practical insights into next generation SOA for practitioners and newbies. It is a must-have compendium for anyone in the field of SOA."

—Jean Bernard Mathias, Tolmai

"SOA makes the world go round! Even more so, with the recent explosive growth of cloud computing and the billions of connected devices and apps. *Next Generation SOA* gives excellent, practical guidance on envisioning, architecting, and designing innovative service-oriented solutions in this new, always-online era."

—Gijs in 't Veld, CTO and Cofounder, Motion10

"This is the perfect book for anyone who wants to refresh or get a handle on the foundations of SOA without delving into the deep technical details and implementation specifics. By working from the principles, the book shows how the SOA concepts and goals have matured, influenced, and grown with technologies such as master data, virtualization, and cloud. The book points to other volumes in the series for the depth of detail and technicalities, allowing you to get the broad picture view without any vendor coloration."

—Phil Wilkins, Enterprise Integration Architect

"*Next Generation SOA* elucidates the foundational principles of service-orientation in a concise and insightful manner. The core concepts presented within its pages are indispensable for gaining the insight and understanding to become a competent SOA practitioner. This book will be an invaluable guide as I continue my journey along the service-orientation path."
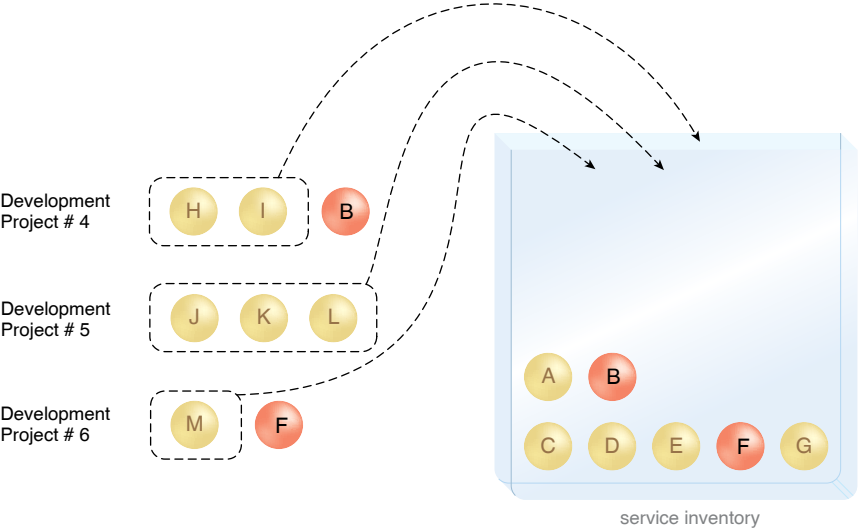
—Christian Garcia, Vice President, Conning

Figure 3.16

The quantity of services increases as do the options for service compositions. But, the service inventory is still incomplete. (The dark shaded circles represent existing agnostic services being reused as part of new compositions.)
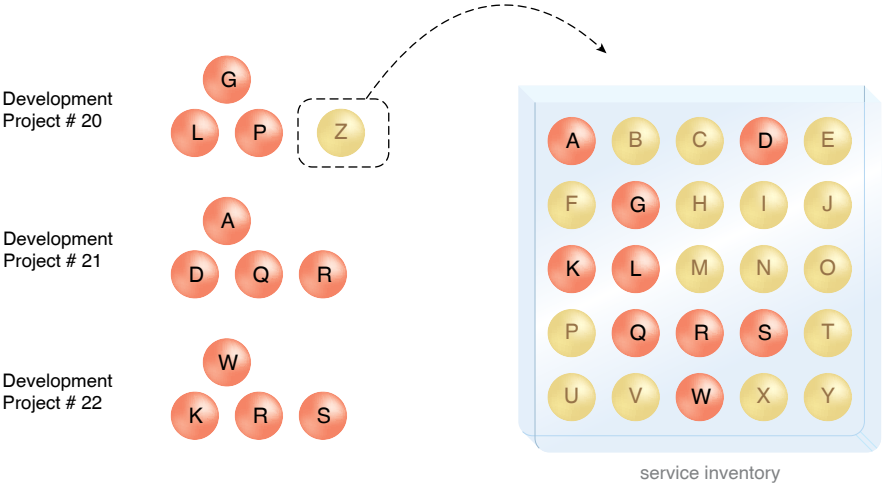

Figure 3.17

The evolution of a service inventory is relatively complete. As the inventory grows, so does the complexity potential of the average service composition.

Domain Service Inventories

It is considered ideal for a given IT enterprise to have a single enterprise service inventory comprised of services that represent as many business domains and lines of business as the extent to which the adoption of SOA was carried out. However, depending on the size, culture, and internal structure of the IT enterprise, there can be significant challenges with achieving this, as highlighted in Figure 3.18.
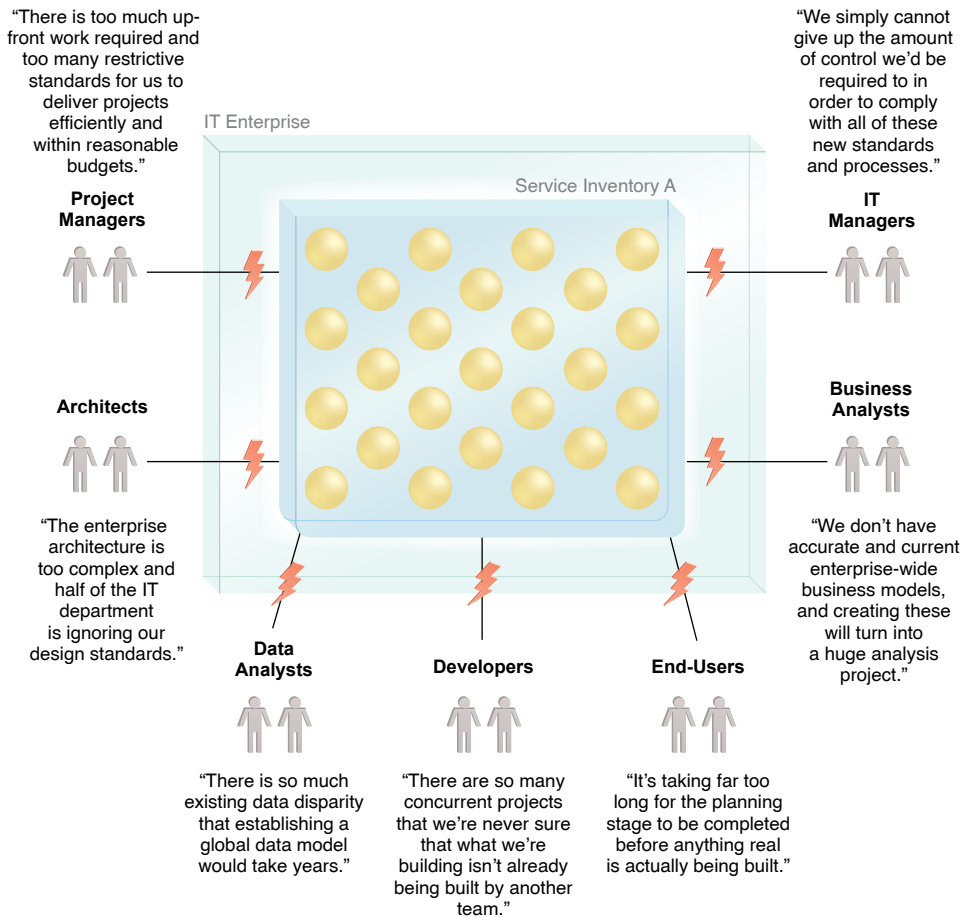

Figure 3.18

Common organizational issues that hinder efforts to establish a single, enterprise-wide service inventory.

Based on assessment of an organization's maturity (as per the seven levels of organizational maturity) and the extent to which it already fulfills foundational requirements of adoption (as per the four pillars of service-orientation), it is often advisable to consider an alternative model based on the creation of *domain service inventories.*

The use of domain service inventories allows multiple service inventories to be created and exist within the same IT enterprise. The scope of each represents a well-defined enterprise domain. Within domains, service inventories are standardized and governed independently (Figure 3.19).
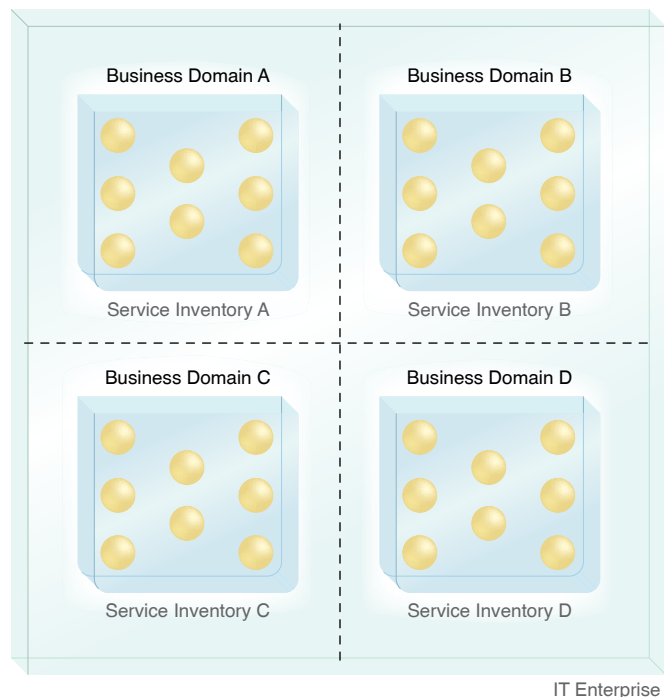

Figure 3.19
An enterprise with multiple service inventories, each representing a
pre-defined domain.

Common reasons to consider domain service inventories include:

- The implementation environment is a large enterprise without strong executive sponsorship and wide-spread support for the SOA initiative.

- The enterprise does not have an established, global data representation architecture, and creating one is considered unrealistic.

- The organization is incapable of changing the complexion of its IT departments in support of a more centralized governance model.

Communication between service inventories will likely still require integration effort to overcome disparate standards and conventions. However, this is often considered an acceptable trade-off in exchange for the increased flexibility gained by the domain-based approach. Determining whether to utilize domain service inventories and the determination their respective scopes and boundaries ties directly back to the Balanced Scope pillar of service-orientation that was introduced in Chapter 2.

Ideally, domain inventories correspond to enterprise business domains, such as those based on an organization's lines of business. This allows each inventory to be tuned to and evolve with its corresponding set of business models in full support of establishing the business-driven architecture characteristic.

NOTE
Enterprise and domain service inventories are the basis of two design patterns for which profiles are also provided in Appendix A.

Chapter 4
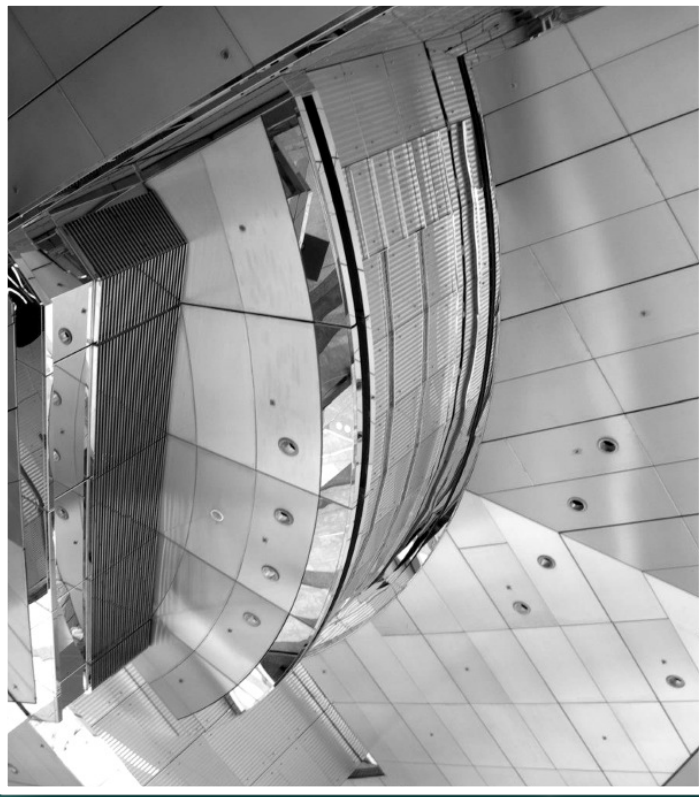
An Exploration of Service-Orientation
with the SOA Manifesto

The SOA Manifesto
The SOA Manifesto Explored

The SOA Manifesto is a formal declaration that explains the underlying design philosophy of SOA and service-orientation. Authored by a working group comprised of industry thought leaders, the SOA Manifesto addresses the core values and priorities of service-orientation. By studying the SOA Manifesto we can gain valuable perspectives and insights into the service-orientation design paradigm.

This chapter first presents the SOA Manifesto and then breaks it down to elaborate on the meanings and implications of its individual statements. In addition to fostering a deeper understanding of service-orientation, this exploration of values and priorities can help determine their compatibility with an organization's own values, priorities, and goals.

The SOA Manifesto

The following is the verbatim SOA Manifesto, as originally published at www.soa-manifesto.org.

Service orientation is a paradigm that frames what you do. Service-oriented architecture (SOA) is a type of architecture that results from applying service orientation.

We have been applying service orientation to help organizations consistently deliver sustainable business value, with increased agility and cost effectiveness, in line with changing business needs.

Through our work we have come to prioritize:

- *Business value over technical strategy*

- *Strategic goals over project-specific benefits*

- *Intrinsic interoperability over custom integration*

- *Shared services over specific-purpose implementations*

- *Flexibility over optimization*

- *Evolutionary refinement over pursuit of initial perfection*

That is, while we value the items on the right, we value the items on the left more.