Challenge

Service-oriented architecture (SOA) projects struggle from tools that can align business requirements to the software architecture and the IT infrastructure, which increases risks for business slowdowns or service outages.

Focus

This CA Labs research project is focused on improving alignment between key aspects of a SOA through a prototype framework designed for unified SOA management and governance.

Result

A unified framework would help improve management of SOA governance of services and policies, provide mechanisms to automate the alignment of business policies to software runtime operations, and help increase the quality of runtime monitoring and adoption.

Getting and keeping IT technologies aligned to changing business processes is a never-ending condition. This focus has precipitated the emergence of SOAs and standards but current capabilities for holistically managing the requirements of business and IT services require greater maturity.

![Diagram](image-url)

Figure 1  RSR research is exploring how to automate the relationships between business-level policies and IT system-level policies

Organizations need improved solutions that blend the management of health indicators for business and technology, particularly to ensure governance and service quality. SOA products already employ basic end-to-end IT management capabilities but do not do enough to account for business policies and provide quality-based service monitoring.

The CA Labs RSR research project is targeted at investigating a foundation for a unified SOA management and governance framework. The research project will include the creation of a prototype that applies a policy metadata registry to decision support systems for developers and users, and to automated IT management workflows for end-to-end SOA governance of services and policies.

The prototype will utilize a new approach that allows for the automatic verification and matching of business and IT policies, serves as a policy storage and management facility, and performs checkpoints to ensure discovery of changes to quality objectives or non-conformance to those objectives.

The RSR research also will investigate how to better align business requirements with software architecture by developing business-level specifications for creating quality-oriented policies, and then understanding how to refine quality-oriented policies into IT system-level policies that can be automatically monitored.
CA Labs Research Brief: Business Process Optimization

RSR registry scope and value

The RSR prototype wants to infuse non-functional and functional requirements into a registry repository that can be applied to automated end-to-end SOA management solutions.

Pulling business requirement metrics into IT management metrics will reveal how IT symptoms are impacting business governance and service quality and which IT technologies are causing the impacts. This level of data is important in helping organizations understand where to invest in IT improvements and if SOA components delivered by cloud service providers are affecting business efficacy.

The registry will not be limited to standards such as Universal Description, Discovery and Integration (UDDI). It will be much broader encompassing the attributes of all artifacts that will ensure end-to-end SOA governance of atomic services, service composites and policies, with the hope of enabling an important step forward in automated composition of Web services.

More information on CA Labs RSR research project

CA Labs is collaborating with researchers from the Swinburne University of Technology in Australia. The following papers have been published about this research project:


For additional information about this or other CA Labs projects, please contact Steve Versteeg at Steven.Versteeg@ca.com.

About CA Labs and innovation

CA Labs is the research arm for CA Technologies and a hub for the company’s initiatives for innovation. CA Labs collaborates with the world’s foremost researchers in academia, industry and government to perform advanced research to address cloud, software-as-a-service, security, virtualization, automation, mainframe, service assurance, and service and portfolio management challenges. For more information, visit ca.com/calabs.