Where to Start

Service Oriented Architecture Is a Reality, But How Should You Take Advantage of It?

At intervals over the last two decades, CIOs have found themselves locked in a vicious cycle. Every year, maintenance takes a bigger and bigger bite out of the IT budget. More money spent on operations means less money for development. Less money for development means that changes made tend to be strapped onto an already inadequate system rather than integrated in a robust architecture. This of course increases complexity—which in turn leads to more-costly maintenance.

There have been few easy ways out of this dilemma. In the ’80s and ’90s, most CIOs looked to enterprise solutions (such as ERP, SCM, and CRM) to reign in cost and complexity. While the case for investment in these solutions is typically compelling, they often came at a higher than expected price: CIOs had to spend years struggling to adapt these huge and expensive solutions into their company’s individual environment. Often, the political pushback from line organizations refusing to modify their business processes to accommodate the prewired workflows was so intense that IT departments were forced back into the kind of custom development work the CIO had hoped to escape.

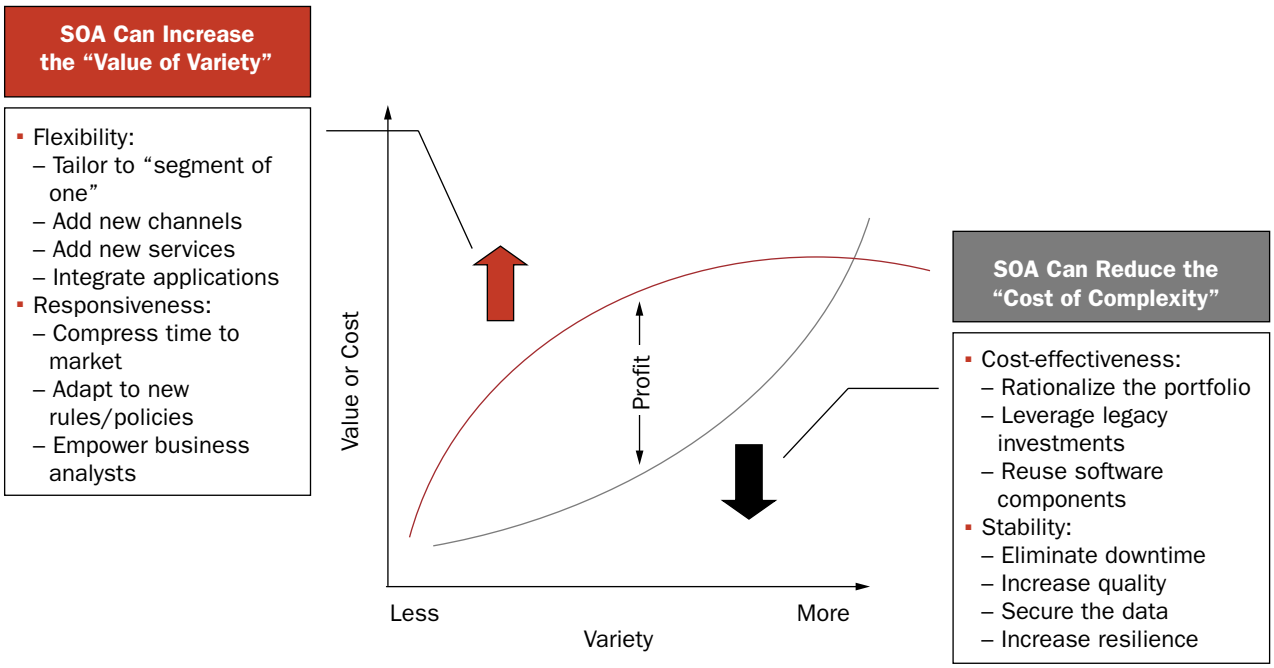
More recently, many CIOs have looked to outsourcing to provide some relief. By moving IT operations to countries with dramatically lower wages and by leveraging service providers with improved scale economies, some companies have achieved significant reductions in their cost structure. However, companies run into trouble trying to decouple outsourced applications from tightly interwoven surrounding systems. CIOs can spend years rebuilding functionality and interfaces damaged in the process.

The problem with such strategies is that while they can successfully lower the IT cost coefficient, they don’t change the overall cost equation. As internal and external systems continue to grow in complexity, CIOs will soon find themselves back where they began.

Changing that cost equation permanently requires that CIOs reengineer their IT architectures to enable their systems to grow increasingly responsive and cost-effective over time (see Exhibit 1, page 2). This has been the holy grail of IT in recent years, and in the beginning seemed just as elusive as the grail the knights looked for in the Middle Ages. Now, however, this seems to have finally changed. Many of the technologies and standards necessary to create such architectures are maturing and becoming widely adopted. After a relatively slow start, service oriented architecture (SOA) is beginning to live up to its promise.

Making an end run around skeptical budget committees, pragmatic CIOs are now self-funding their investments in SOA. Some CIOs are using SOA to introduce a layer of abstraction to legacy systems in a way that

Exhibit 1
Cost Complexity Trade-off



Source: Booz Allen Hamilton

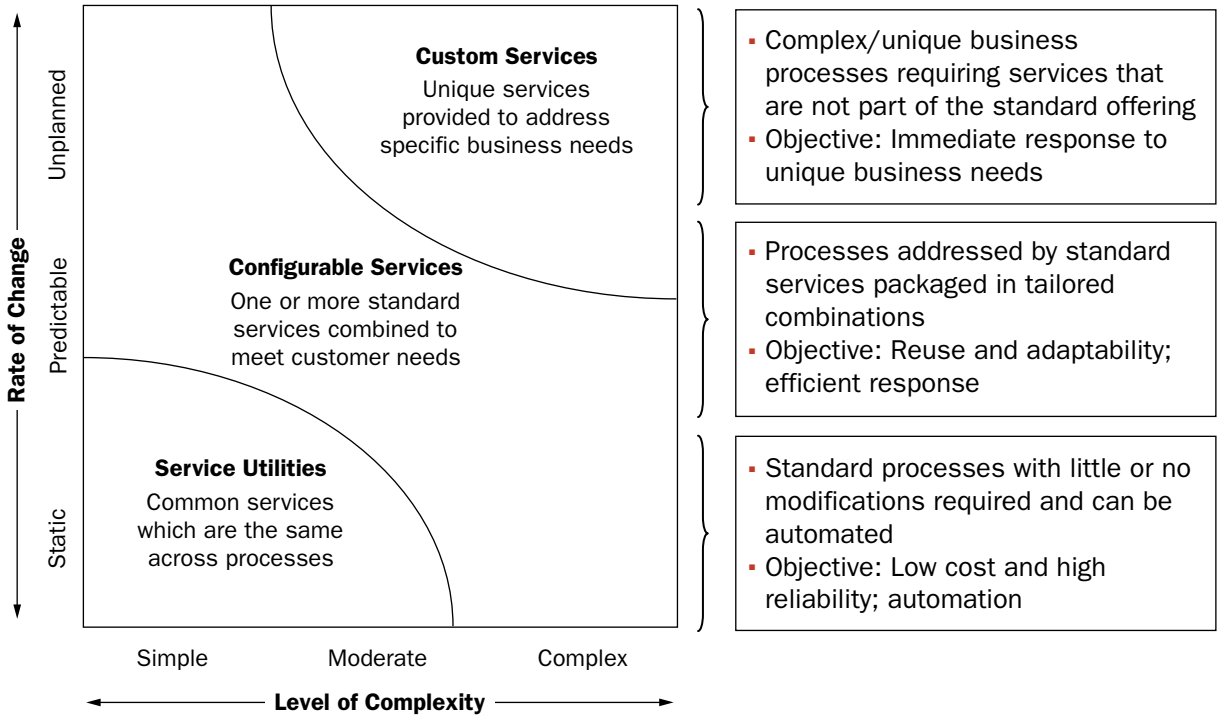
dramatically simplifies integration of data, applications, and processes. They find they are able to use a service oriented architecture to extend the life of legacy systems by encapsulating applications (or application components) into services and simplifying integration with other systems. This architectural simplification not only accelerates the system's ability to incorporate new changes, it can also do so while increasing system stability and lowering costs.

Already we've seen a variety of companies, from banks to insurance firms to online retailers, slash up to 40 percent off their IT budget through the use of service oriented architecture and at the same time provide better services. Forward-leaning companies like Motorola, Guardian Life, Wells Fargo, and Amazon have achieved tremendous success reducing IT costs while dramatically increasing responsiveness and agility.

The good news is likely to get even better: As cost savings materialize, CIOs are sure to reinvest some portion of their savings to build for the future. Development teams will construct new applications with modular design and reuse in mind. As IT produces a critical mass of service components in its inventory, we expect a transformation in the nature of the relationship between IT and the business.

Once applications are constructed in a more intuitive way, business managers should become increasingly engaged in up-front development. SOA will enable non-IT analysts to participate in planning new processes, since the significance of those blocks can be understood much more easily than code. This will dramatically lower the costs of development. It should also increase the rate of change, since so much of the pushback against new systems in the past stemmed from misunderstandings

Exhibit 2
Segment Processes by Complexity and Rate of Change



Source: Booz Allen Hamilton

between IT analysts and business analysts over defining the process an application was intended to support (see Exhibit 2)

So how should someone begin? The first step is delineating which aspects of the architecture will offer composite applications that business analysts can work with, and which "legacy" business applications will be out of sight but used to support those composite applications below the services layer.

We recommend focusing initially on the basic and stable utilities that are used across the enterprise—archiving, data backup, relatively simple payment and billing services. Such utilities can be offered at a coarse level of granularity and extended with more fine-grain modular development as needed.

Once the foundational core services are in place, find opportunities to incorporate more advanced processes using reconfigurable service components. Creating such building blocks improves the potential for reuse without requiring custom development with every new initiative. By building components once and using them many times, CIOs can help drive out unnecessary cost and complexity while providing the variety and responsiveness business requires.

Ultimately, however, the degree of success a CIO finds in designing a service oriented architecture may depend both on how well the designers understand the legacy systems and how well they understand the business. As we've seen, lack of coordination between the users of a system and its designers is likely to end in unnecessary expense and frustration for everyone. The best systems

being created now incorporate the vision not just of the business analyst and not just of the IT analysts, but both—a multidisciplinary team that is able to envision a service oriented architecture that will be strong enough to support the needs of the enterprise today and yet flexible enough that it can be expanded upon tomorrow.

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