

Governance and Management of Enterprise Architectures

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As important as building an architecture is creating processes for its management and governance. Five key governance areas need the attention of senior IT managers.

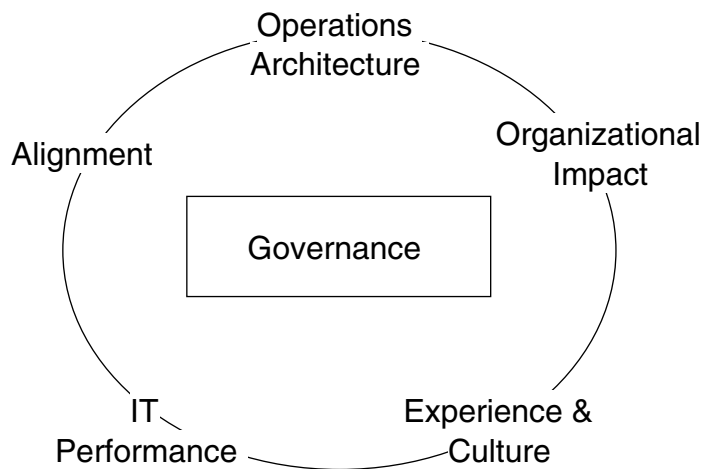
ANALYSIS

On the docket for every organization is a transition to the real-time enterprise. With this transition, the subject of IT governance is put back on the table. Long-established concepts, such as business/IT alignment, the role of the operations center and performance management systems, need to be revisited and, in many cases, rethought. Issues of governance form some of the most-important aspects if success is to be achieved in the implementation of a new architecture.

Although there are many areas of governance to be explored, we highlight five key governance elements (see Figure 1).

- First, reconceptualizing and rebuilding the operations architecture to enable multienterprise access
- Second, rethinking and re-expressing the roles and alignment of business and IT in governance terms
- Third, driving a renewed interest in IT performance using an integrated performance management system
- Fourth, planning for the impact of multienterprise architecture on organizations
- Fifth, understanding the roles of experience and culture as determinants of architectural success

Figure 1. Five Elements of Governance



Source: Gartner Research

Rebuilding the Operations Architecture

As enterprises begin to collaborate more extensively with partners and customers, significant changes in operations become necessary, and most aspects of operations architectures begin to get more complex. As an example, the shift to multienterprise integration as a lead activity has a cascading effect through the heart of software, hardware implementation and services. Furthermore, the age-old goal of balancing stability against agility needs to be recalibrated. Although stable operations architectures are linchpins of cost-effective IT environments, the

notion of the operations center as only a model of efficiency, functioning as a cost center, is receding in popularity as IT becomes more strategic to the extended enterprise goals of the business. Instead, organizations are sacrificing stability for an operations architecture that enables agility. Operations centers become core in enabling business transformation.

To make possible a more sophisticated enterprise architecture, new operations services have to be conceptualized and, often, layered on old services. As an example, new cost recovery algorithms that alter the basics of funding and cost recovery need to be created. As in so many other aspects of governance, there is a shift here from a cost basis to a value-of-services-provided basis. To represent this shift, we have worked with the term "technomics," which is a value-based methodology for computing how, in very specific terms, IT adds value in competitive business functions based on technology. Technomics, and other ways of valuing the contribution of IT within the framework of an operations architecture, are coming to the forefront. Security and availability services, among other multienterprise management interface layers, also become more important when multiple enterprises participate in transaction management, for example.

There are also new roles and responsibilities in the areas of problem, change and configuration management. New focus points and approaches are necessary. Service deployment, for example, which brings together the build, test and release-to-production sequence, will also need to undergo modification as multiple enterprises become responsible for data and processing logic.

Let's spend a second examining how the role of the operations center will change as it becomes the hub for multienterprise IT services. In cooperation with collaborative-commerce partners, a new division of ownership becomes necessary as elements of transactions, parts of application suites or Web services either span organizations or can be relocated across organizations. What becomes shared, and which participant controls elements of the operation that is shared? As a cooperating community owns more of the total of the operations architecture, each participant owns less. Where are databases housed? Who owns transactions, and who is responsible for transaction management within the loosely coupled set of cooperative enterprises? Who is responsible for recovery in an environment of shared inventory processes?

There is another dimension as well. Operations centers will not only need to collaborate but, in some measure, will also be in competition with each other for the rights to act as center of record for a collaborating community. Winners in this will become "supercenters" in the battle for dominance within industries and supply chains.

To summarize, we need to use this rebuilding of an operations architecture to break down the walls between architects, developers and operations within and among enterprises.

Rethinking and Re-expressing the Roles and Alignment of Business and IT in Governance Terms

The issue of business/IT alignment is perennially on the "top 10 issues list" among CIOs. What impact does architecture have on alignment? Businesses often have many goals, some of them internal and some external. Architectures can be used to align both types of goals with the technology plans of the business. For example, an internal goal might be the consolidation of facilities. IT plays a large role here, integrating the consolidation architecturally. An external goal might be to create shared inventory with partners. When the goals are mostly internal — for example, consolidation or platform renovation — then IT often houses the architecture function. But increasingly, when architecture supports key external business goals, the organizational placement of the architecture function becomes a more important decision.

Where IT plays a strong role in delivering multienterprise collaboration, we are recommending that organizations consider placing the architecture function within a new organization, along with

business development, in recognition of the roles that architecture needs to play in bringing multienterprise collaboration to the forefront. We believe that merger and acquisition activity will diminish over time as collaboration increases and as architecture fosters interbusiness linkage. Reconsidering this alignment breaks down the walls between business and IT.

Driving Performance Using an Integrated Performance Management System

Gartner's view of performance management programs is rooted in defining new critical success factors (CSFs) that shift the emphasis from internal views of performance to key indicators that are externally based. For example, how can the results of all partners in a supply chain be maximized? For comanaged inventories, it might be the number of turns across the collaboration. As the roles of players in a collaborative-commerce chain mature, CSFs need to be flexible to accommodate changing roles.

Leveraging the CSFs, we create key performance indicators (KPIs). Historically, these KPIs focused on five key elements: efficiency, effectiveness, alignment, agility and integration. This sort order specified the priority order of maximization, with efficiency being the hallmark of an IT performance management system. New enterprise architecture calls for us to reverse this sequence. Integration, both within and among cooperating enterprises, now comes first and is most important, providing the highest value. Dynamic integration creates the ability for many enterprises to participate within an IT architecture. Agility, the ability to react quickly, comes second. Although partnerships in the near term will be planned and carefully organized, over time partnerships will become more dynamic. Architectures must allow for that agility.

We discussed alignment above. It contributed to the linking of IT and business goals. Effectiveness and efficiency are important, but "good enough" gets us to where we need to go now, and getting to business goals quickly is better than perfection. Also, although creating architectures that are durable is important, it is more important to put agility and "evergreening" features into architectures that make them easy to change as new business conditions come along. Creating a process for architectural change will end up being more important than creating the perfect architecture. So, although we are not jettisoning effectiveness and efficiency as KPIs, we are putting them "on the back burner" and shaking up our viewpoint.

Let's come back to value metrics. Value metrics focus attention on the business relationship or partnership, and are technology-independent. There are also service innovation metrics that are designed to show where differentiation can be created in the multienterprise environment. Those who incorporate a culture of performance management within their organizations while developing their enterprise architectures will be able to demonstrate the value of their IT investments to the business community. IT in itself can become the conveyance for implementing a new business policy.

Planning for the Impact of Multienterprise Architecture on Organizations

The implementation of a multienterprise architecture causes a cascading series of organizational considerations leading to organizational change. These considerations span enterprise and multienterprise organizational, technical and geographic boundaries. One of the most profound is the creation of the multienterprise integration competency center. This multienterprise view builds on the capabilities established within one organization's competency center, and extends that to all participating enterprises. The competency center is responsible for creating and managing a specific implementation of the "technology power grid," and looking after the shared data and process models necessary for interenterprise cooperation. This organization decides what is to be shared among, for example, physical services, logical definitions, data and components. Which participating organization manages what is shared? Which owns the Extensible Markup Language (XML)/Simple Object Access Protocol (SOAP) components? Are there owners of core data elements or processes?

Once services become generally available on the Web and organizations are formed to provide these highly competitive services, how will they be managed? What processes will there be to install them and retire them? How will liabilities be managed? Who will be responsible for the security architecture? Where will the data and processing fundamentals be located, given that there need to be wider capabilities for sharing in a service-oriented architecture model?

More generally, how should governance be managed organizationally? Globalization and virtualization require an IT foundation that enables shared processes. Unfortunately, habitual behaviors get in the way of making this happen. We are beginning to see best practice models emerge, and a three-tier structure for governance is becoming a model we like: At the first tier are the high-level executives, from either a single organization or multiple organizations, who articulate and align business objectives across the multienterprise. Below this tier is a permanent steering committee composed of CIOs and divisional business, business development and technology leaders from key functions within the domain of the architecture. Architects need to be aligned with this second tier. The last tier consists of the working integration competency centers that develop, manage and monitor the infrastructure building, integration and operation. Breaking down the walls between organizations is necessary to achieve multienterprise integration.

Understanding the Roles of Experience and Culture as Determinants of Architectural Success

A critical governance factor from the standpoint of the implementation of architecture is the experience level and culture of an organization. Breaking down cultural walls brings multienterprise success.

We have defined a five-level matrix that looks at architectural maturity.

- Chaos
- Reactive
- Proactive
- Service
- Value

The first level is *chaos*, where technology choices within the enterprise or across partners are made in isolation. At this level, multienterprise interoperability is very expensive, and can only be attained in isolated cases, usually through brute force retrofitting. The second level is *reactive*. Here, businesses work to remove the proliferation of technologies through joint efforts and design approaches. If there is an established architecture group or integration competency center, then there are still few formal processes that guide this work. Furthermore, there is little in the way of formal measurable achievement toward integration. The third level is *proactive*. At this level, each of the major participants in a multienterprise architecture effort actively manages architecture even though, overall, there is still a lack of coordination across all participants. In the fourth level, *service*, some consistent architectural processes are put in place across enterprise partners, and architectural work clearly aligns with key business objectives. In the fifth level, *value*, architectures are fully leveraged, aligned and oriented to providing competitive business leverage.

It is important to understand how your organization and your partners fit within this matrix. Plans for moving forward need to be coordinated with partners so that the architectural capabilities of the community move forward together.

Governance forms a key part of the success of architecture. The new challenges that business models and architectures face require a new view of governance. The time to construct new governance initiatives is now.

Features

"C-Commerce Raises Architectural Governance Issues." Because collaborative commerce will require enterprises to grant wider access to their data and applications, it will be necessary to re-examine architectural governance policies and practices. **By Michael Blechar**

"Business Processes: A Compass for Architecture." An understanding of enterprise architecture maturity is essential to the establishment of realistic goals and expectations. **By Greta James**

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"Architecture Maturity: Acting on the Signs." Success with enterprise architecture requires a framework to assess architecture maturity and set realistic goals. **By Greta James**

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This research is part of a set of related research pieces. See "Enterprise Architecture" for an overview.

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