The Building Blocks of Actionable Enterprise Architecture Roadmaps

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Background

Berkeley is about to embark in a new enterprise architecture process that will develop roadmaps to guide technology planning and investment as well as induce changes in the way technology supports the strategic goals of the university. This work will be developed collaboratively under the auspices of the newly reorganized Information Technology Architecture Committee (ITAC). These roadmaps will be developed by workgroups that include ITAC members as well as other campus technology and business experts. The current plan is to develop the following roadmaps:

- Enterprise Information Architecture (EIA)
- Enterprise Business Process Architecture (EBPA)
- Enterprise Applications Architecture (EAA)
- Enterprise Technology Infrastructure Architecture (ETIA)

There are no specific recommended methodologies or approaches to develop and document these roadmaps. However, it is clear that the campus will benefit from a process that produces actionable outcomes, even if some of these take many years to implement. So, based on a review of research in this area, I propose that these roadmaps be comprised of certain *key building blocks*. By making an initial suggestion that these roadmaps include these elements, in one way or another, we will provide the following benefits: a) guidance to ITAC workgroups, b) shortening of roadmap development times, and c) higher likelihood that these roadmaps will be consistent with each other.
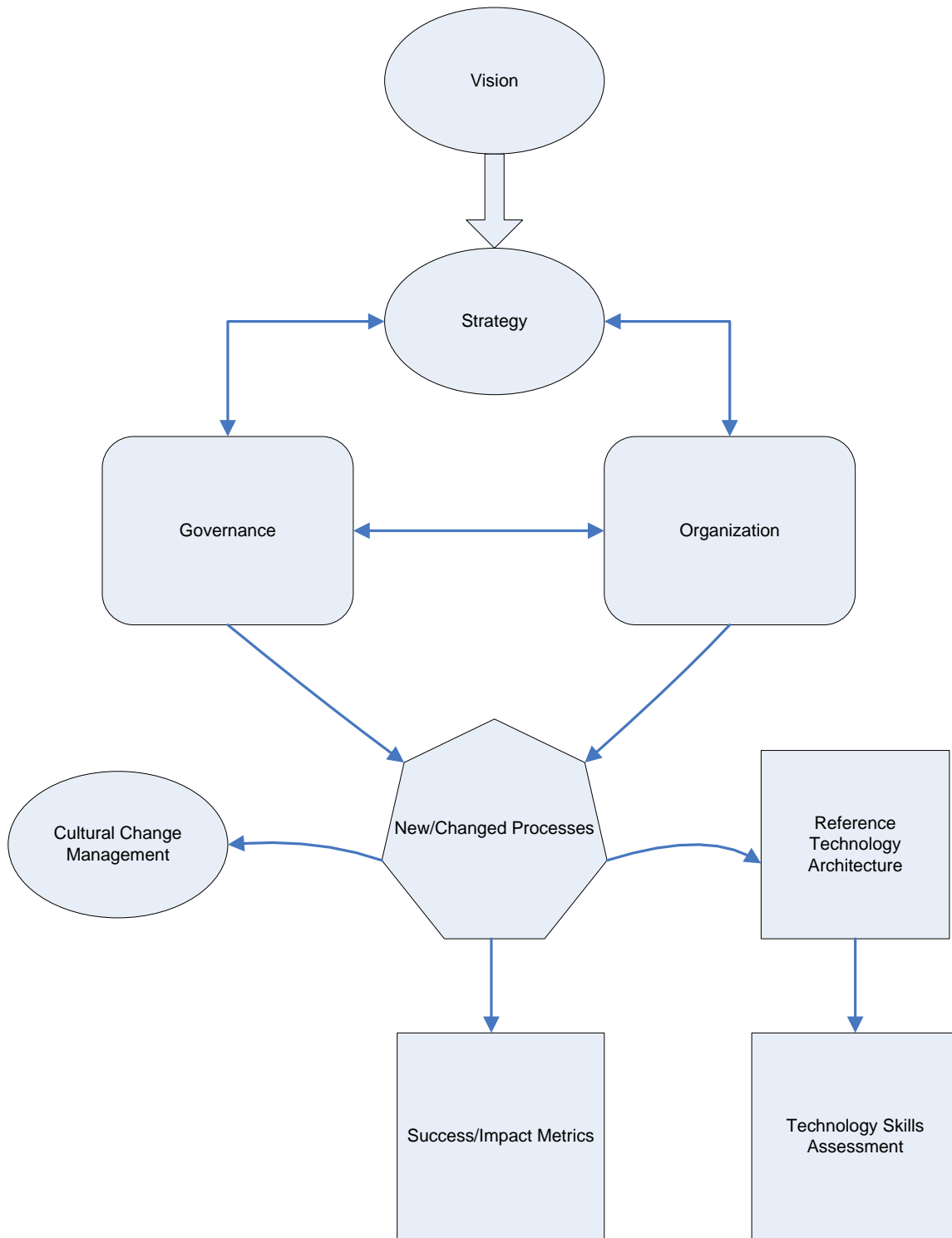
The Key Building Blocks of Architectural Roadmaps

Enterprise architecture roadmaps need to be developed taking into account the following:

- Campus strategic goals
- Technology, educational and societal emerging trends
- Documented best industry practices
- Input from campus technology and business experts

I suggest that the nine building blocks depicted in Figure 1 are key to developing actionable enterprise architecture roadmaps leading to successful change.

Figure 1
The Key Building Blocks of Actionable
Enterprise Architecture Roadmaps

Vision

Strategy

Governance

Organization

New/Changed Processes

Cultural Change Management

Reference Technology Architecture

Success/Impact Metrics

Technology Skills Assessment

A brief description of the suggested key building blocks follows.

Vision

Each roadmap should have a clear vision statement that relates to strategic campus goals. For example, the EIA roadmap should indicate that information should be valued and managed as a strategic asset because: a) it is the essential product and differentiator for the campus, b) it leads to increased organizational efficiency, c) it supports campus goals for access, transparency, and accountability (among others). The vision statement should be compelling enough to drive the campus towards changes in enterprise information management that are complex, challenging, and require significant institutional investments. How the vision statement is presented will be left to the insightfulness and creativity of each working group.

Strategy

Each roadmap should include a description of how the vision is to be realized. To succeed, we must make a strategic commitment. This requires discipline, funding, staffing, and change. Consequently, adopting enterprise architecture roadmaps must be sponsored by the CIO and the Chancellor/Provost to achieve the required impact. A strategic commitment to enterprise architecture roadmaps is operationalized as new/changed programs that include projects, budgets, personnel, and governance processes.

Governance

As illustrated in Figure 1, the governance and organization building blocks appear side-by-side to address the questions: what governance is needed? What impact will governance have on the existing or new organization? Governance addresses the development, maintenance, communication, and enforcement of management policies and procedures needed to successfully implement architectural roadmaps.

Organization

This building block addresses the questions: what organizational model is required to implement the governance process? How does this affect the current organization? Likely, architectural roadmaps will require strong collaboration between campus organizations that have not worked in a collaboratively manner before. To induce change, a matrix management approach might be used within newly formed "Centers of Excellence" (e.g., an Enterprise Information Management Center of Excellence, a SOA Applications Center of Excellence, etc.) Because enterprise architecture is not an IT issue alone, these new organizations need participation from business and academic units. Also, these centers will need a program manager which is a strong leader with credibility within the IT and business/academic unit areas.

New/Changed Processes

This building block addresses the question: what processes are needed to manage the architecture roadmap? For example, in an applications architecture roadmap, a new

process might need to be implemented to govern the development, testing, publication, and use of SOA components.

Reference Technology Architecture

This building block addresses the questions: what are the technology enablers for this architecture roadmap? How do these technologies relate to one another?

The reference architecture defines the technology components required for success. The architecture supports integration with standardized and established technology infrastructures as well as the deployment of components not yet available within the currently deployed technology stack. The purpose of the reference architecture is to eliminate redundancy and reduce complexity.

Success/Impact Metrics

This building block addresses the question: how can the success and impact of the implementation of this architectural roadmap be measured? This is always a difficult task to perform in a university environment; however, roadmap developers should strive to identify ways in which success and impact can be measured. Showing clear value is key to the long-term success of roadmap implementations.

Cultural Change Management

Implementation of modern information, business, and applications architecture roadmaps might bump against cultural practices that go against stated campus strategies.

Cultural change issues need to be identified in architectural roadmaps as a way to inform the campus on what changes are expected if we are to be successful. Change does not happen overnight, but organizations can change given appropriate external incentives and effective management leadership.

In some circumstances, it is possible that certain aspects of the campus culture might be useful in implementing modern information technology practices. Those aspects need to be identified too.

Technology Skills Assessment

Every architectural roadmap should be accompanied by an assessment of the current and needed technology skills for success. Roadmap developers should describe the technical competencies required for staffs, both in central IT as well as departmental IT to be successful in deploying and implementing the reference technology architecture.

Implementing and Managing Architectural Roadmaps

Once enterprise architecture roadmaps are developed and adopted, they will need to be implemented and managed. The implementation and management of architectural roadmaps should be undertaken at all levels of the organization, from top to bottom. Defining the role of central IT and departments in the implementation and management of roadmaps is something that must be discussed, even as these roadmaps are being

developed. Questions such as: who is ultimately responsible for success? beg further assessment and discussion.