

Chapter XIV

The Integrated Enterprise Life Cycle: Enterprise Architecture, Investment Management, and System Development

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ABSTRACT

The enterprise architecture provides benefits to the organization that embraces it. However, in many organizations, the enterprise architecture effort is not tightly coupled and integrated with other enterprise level programs such as investment management and system development processes. This chapter will identify the process integration and enterprise architecture touchpoints from the perspective of the investment management process and it outlines an overall integrated enterprise life cycle process flow. Specifically, this chapter explores Why it is important for an organization to follow an architecture-driven integrated enterprise life cycle? What are the processes of an enterprise life cycle and how do they fit together, specifically the enterprise architecture, investment management, and system development processes? What is an organizational structure for managing and executing the integrated enterprise life cycle? What is an approach for implementing an integrated enterprise life cycle?

INTRODUCTION TO ENTERPRISE ARCHITECTURE AND THE INTEGRATED ENTERPRISE LIFE CYCLE

An enterprise architecture provides significant benefits to an organization that embraces it. However, in many organizations the enterprise architecture effort is not tightly coupled and integrated with other enterprise level programs such as investment management and system development processes. (Bernard, 2005; Rehtin, 1991)

The target enterprise architecture and the IT initiatives needed to achieve the target should be managed in an IT portfolio within an overall investment management process. Additionally, as these IT initiatives are being implemented and deployed, there is a need for oversight and good project management. To ensure comprehensive IT governance and business/IT alignment, the enterprise architecture must be integrated into an overall “integrated enterprise life cycle” that includes not only the enterprise architecture, but also an investment management process as well as the individual system development life cycles. The challenge for most organizations is that the guidance, responsibility, and skill sets for these various processes can be spread out across the organization and are often implemented in a silo, nonintegrated fashion. Only by viewing these processes as a whole can an organization achieve the maximum benefits that an enterprise architecture can provide. This chapter will identify the process integration and enterprise architecture touchpoints from the perspective of the investment management process and it outlines an overall integrated enterprise life cycle process flow. Specifically, we will discuss:

- Why it is important for an organization to follow an architecture-driven integrated enterprise life cycle?
- What are the processes of an enterprise life cycle and how do they fit together, specifi-

cally the enterprise architecture, investment management, and system development processes?

- What is an organizational structure for managing and executing the integrated enterprise life cycle?
- What is an approach for implementing an integrated enterprise life cycle?

BACKGROUND AND MAJOR PROCESSES OF THE ENTERPRISE LIFE CYCLE

We start by defining the major processes of the integrated enterprise life cycle (IELC) which include the following:

- **Enterprise architecture:** The enterprise architecture establishes a comprehensive understanding of an organization’s core business processes and defines the technology that supports and optimizes them. (Armour, Kaisler, & Liu, 1999a)
- **Investment management planning and oversight:** The investment management process (IMP) is a fluid, dynamic process by which an organization selects and monitors both proposed and ongoing IT investments (initiatives) throughout their life cycle. An organization evaluates IT investments to assess the impact on future initiatives and to benefit from any lessons learned. The IMP can contain three phases (GAO, 2004):
 - The *select phase* discovers and selects the IT investments that best support the organization’s mission needs and identifies and analyzes each project’s risks and returns before committing significant funds to a project.
 - The *control phase* ensures that, as the investment is implemented, the project continues to meet mission needs at the expected levels of cost and risk.

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