Integrating Enterprise Architecture and Investment Management
A perspective for Federal organizations seeking greater value from their investments

Enterprise Architecture (EA) and investment management (capital planning and investment control and portfolio management) are two inextricably linked disciplines. When they are used effectively in conjunction with one another, Federal organizations can realize the benefits of an actionable EA that could help to drive investment decisions and improve mission accomplishment. The list of specific benefits typically includes more cost-effective investment decisions, reduced investment redundancy, and a higher percentage of effective project and program outcomes. Organizations that maintain a strong linkage between EA and investment management can more effectively evaluate how well their investments support the mission-critical capabilities that can be vital to their results.

Unfortunately, few Federal organizations have been able to integrate EA and investment management sufficiently to generate investment portfolios that are optimized prepared to meet agency imperatives. Why have agencies experienced such minimal results in realizing the benefits of tightly coupled EA and investment management processes? Why are many agencies still struggling to become proficient at managing their investments and measuring results? What are the barriers and how can they be overcome?

This white paper endeavors to address these and other questions and offers chief information officers (CIOs), chief financial officers, and other executive leadership Deloitte’s insights. It also seeks to describe the tools, techniques, and calibrated approach we use to help public sector organizations extract greater value from their EA and investment management processes.

The current environment: A renewed emphasis on enterprise performance
At a time when our nation is facing a period of protracted fiscal austerity, Federal organizations are confronting a new reality of reduced budgets and greater scrutiny concerning their ability to demonstrate that agency investments deliver high performance and quality results. The requirement for increased transparency and accountability is likely to place even greater emphasis on federal executives being able to answer the question, “How do I know how well my portfolio is performing in support of my Agency’s mission?” Federal organizations can achieve a high level of enterprise performance by employing a systematic and iterative approach, such as that depicted in the following conceptual model based on the Federal EA performance improvement life cycle.

The Office of Management and Budget (OMB) is focusing greater attention on Federal organizations’ efforts to improve their enterprise performance. OMB’s recent guidance signals in unambiguous terms its resolve to cut waste and reduce the percentage of investments that fail to achieve predicted results.
### OMB’s plan for information technology (IT) management reform

OMB’s vision for realizing the full benefit of the Federal government’s multibillion dollar IT investment can be perceived in a new plan that may challenge agencies to revisit their approach to acquiring and managing their IT assets. This 25 Point Implementation Plan To Reform Federal Information Technology Management recognizes the perennial issues that confront Federal organizations and prescribes a set of concrete actions designed to remove obstacles to help improve IT management.

These strategies include time-tested, but underutilized concepts, such as modular development to shorten delivery time, in combination with newer ideas, such as increased usage of cloud computing solutions as an alternative to costly and complex custom development projects.

The plan also provides evidence that OMB is introducing a series of changes that will alter the way in which Federal organizations practice IT investment management. For instance, the “TechStat” accountability program that OMB initiated to review individual agency investment portfolios will be expanded to include bureaus and other subagency organizations. The TechStat model will also provide the template for investment management review boards as a means of strengthening these governance bodies and deriving greater value from project and program management processes. Because TechStat is a fact-based review of investments which uses information provided by IT dashboard reports, OMB Exhibit 300s and 53s, and other input, the TechStat review and subsequent decisions will only be as good as the data these items provide.

As Federal organizations find themselves held to a higher standard for enterprise performance and adapt to new OMB direction, it should become more important for agencies to reconsider how EA and investment management can contribute to strategic effectiveness. In conjunction with insightful strategic planning, EA and investment management can be critical processes for agencies who want to achieve a higher level of enterprise performance and investment management competency. Moreover, it can be essential that Federal organizations properly integrate and implement these management tools to help address emerging requirements, such as OMB’s 25-Point Plan mandate requiring agencies to move three IT investments to a cloud environment.

But against a backdrop of heightened expectation, most agencies are not yet deriving the full value and benefit of an effectively integrated EA and investment management process.
In the following section, we will consider some of the reasons why most Federal organizations may not have experienced greater results.

**Issues and challenges: Common barriers to effective EA and investment management integration**
When it comes to determining why EA and investment management may not be working well as integrated processes, it is important to maintain objectivity, recognizing that no two instances or organizations are identical. However, based on our experience, we commonly see certain issues that can impede the appropriate integration of EA and investment management, one or more of which you might recognize within your organization.

**Fragmented investment management processes**
Despite executive oversight at the CIO level and above, agencies often do not have a holistic view of their investments, what they are intended to deliver, and how effective they are. This situation is usually attributable to immature investment management practices that may be characterized by an ad hoc or rudimentary selection process. In this circumstance, EA may not have developed to the point where it can be effectively used as a critical driver for investment management.

**EA inadequately understood and not properly implemented**
Too often, EA is seen as a compliance exercise or technological solution, not a critical input to agency strategic planning and mission accomplishment. And sometimes it is implemented in an overly intellectualized manner in which the creators of the EA may not be associated with the execution of the target state transition plan. In these situations, EA may become an isolated, academic exercise with no real impact on how the organization select its investments or how the portfolio contribute to the agency’s mission and strategic priorities. When this problem arises, it is often due to insufficient involvement of programmatic staff as integral contributors to the EA development process.

**Stove-piped EA and investment management processes**
Some agencies make a conscious effort to integrate EA and investment management, but are thwarted because agency EA practitioners and business case owners do not adequately understand each other’s role and the relationship between the two disciplines. As a consequence, these two essential groups tend to execute their responsibilities in a stove-piped manner and the organization may not realize the benefits of properly integrated EA and investment management.

**Inadequate enterprise performance management (EPM) perspective**
Many agencies, which lack a broad EPM perspective, can find it difficult to correctly measure the value of investment portfolios. EPM helps to establish the organization’s ability to perceive the results of its mission activities, programs, and initiatives in well-defined terms. A mature EPM competency usually relies heavily on EA and investment management to help provide a definitive view of organizational effectiveness.

The solution to these and other issues should begin with a clear understanding of the relationship between EA and investment management and how they interact.

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“IT has transformed how the private sector operates and has revolutionized the way in which it serves its customers. The Federal Government [could miss] out on these transformations, due in part to its [lack of] management of large technology investments.”

OMB’s 25 Point implementation plan to reform information technology management
EA and investment management: The Deloitte perspective

Many major management processes share at least one thing in common — a definable lifecycle that can be articulated in terms of a series of distinct stages or phases. This fact is no less true for the EA and investment management processes. There is also a concurrent linkage between the EA and capital planning and investment control (CPIC) life cycles. To achieve effective EA and investment management integration, this relationship should be not only understood, but woven into the fabric of the agency’s governance structure, processes, and procedures. To help illustrate further, the following graphic and narrative address the touch points between the EA and CPIC life cycles and supporting activities within each phase.

Preselect phase integration
During the Preselect Phase, EA can help address the question of “What are the business needs for the investments?” An effective EA program should assess business needs against the target architecture to help determine if potential projects and investments align with the mission of the organization. EA, with its view across the entire agency, can also help identify current and other potential projects that are delivering similar capabilities and services. This final assessment can aid in excluding redundant investments.

Select phase integration
Typically, the selection of investments can be an arduous and politically charged process. A well-defined EA provides standards and an agreed-upon set of measures that are intended to aid in the prioritization process. By using these criteria, investment selection becomes more focused on how the investment supports the mission, goals, and technical direction of an Agency and less concerned with subjective considerations.

Control phase integration
An effective EA program should be fully integrated into an Agency’s IT Governance and Life Cycle Management processes, providing an important assessment mechanism for the investment portfolio. As systems are developed and projects are executed, the changing mission and other factors can adjust the technical direction of those investments and contribute to the assessment of existing systems and processes, as well as those under development – for continued alignment to the architecture.

Evaluate phase integration
The correct and proper evaluation of projects and programs to help determine their effectiveness and those that should have continued investment is a critical activity. The organizational and technical performance standards used within this process can be captured within an Agency’s EA. Decision makers can use assessments based on these measures to help determine if intended outcomes have been achieved and where retirement opportunities exist.

EA/CPIC Life Cycle Alignment

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<tr>
<th>Enterprise architecture</th>
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<tbody>
<tr>
<td><strong>Business Alignment</strong></td>
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<tr>
<td>• Alignment to target architecture</td>
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<td>• Identification of potential redundancies</td>
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<td><strong>Business Alignment</strong></td>
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<tr>
<td>• Prioritization of Investments</td>
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<td>• Alignment to mission/organizational goals</td>
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<td>• Determine standards for selection</td>
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<td><strong>Technical Alignment</strong></td>
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<td>• Determine if Investment aligns with EA technical and security components</td>
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<td>• Assessment for continued alignment</td>
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<td>• Integration IT Governance process</td>
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<td><strong>Performance Alignment</strong></td>
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<tr>
<td>• Measure performance against standards</td>
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<td>• Assess for retirement or consolidation opportunities</td>
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Capital Planning and Investment Control

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<thead>
<tr>
<th>Preselect Phase</th>
<th>Select Phase</th>
<th>Control Phase</th>
<th>Evaluate Phase</th>
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<tr>
<td>• Establish business need</td>
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<td>• Confirm support for strategic goals and mission</td>
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<td>• Check portfolio for similar investments</td>
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<td>• Perform analyses and studies</td>
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<td>• Develop business case</td>
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<td>• Define risks</td>
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<td>• Develop acquisition plan</td>
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<td>• Prioritize investments</td>
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<td>• Perform initial IIBR</td>
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<td>• Baseline project plan</td>
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<td>• Monitor performance</td>
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<td>• Manage scope</td>
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<td>• Assess investment results</td>
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<td>• Identify and implement</td>
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<td>• CPIC process adjustments</td>
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<td>• Conduct PIR</td>
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Deloitte’s calibrated approach and methodology

At Deloitte, we do not lose sight of the fact that investment management lies at the intersection of multiple enterprise planning processes, including strategic planning and EA. From this perspective, we have developed an approach to help our Federal clients identify and address impediments that prevent EA and investment management from delivering a portfolio that is most advantageous for Agency needs. Our approach is designed to help deliver value at each stage. We carefully calibrate our methodology to assist in meeting the specific requirements and circumstances that can be confronted by organizations in search of improved EA and investment management integration. The result is a set of customizable products and services that deliver a new level of EA and investment management integration to the Federal organization.

Let’s examine how we execute our calibrated methodology and what it can do for your organization.

Phase 1 — Align

The Align Phase is the “listen and learn” phase. It focuses on providing organizational context for the work that follows and is intended to provide the foundation for the execution of subsequent phases. A primary objective of Phase 1 is to acquire a detailed understanding of the Agency’s mission and strategic drivers, as well as to obtain a firm grasp of its organizational process assets, focusing on the existing EA and investment management processes and procedures and governance structure. A survey of the organization’s environmental factors, such as statutory requirements, legislative initiatives, public relations and technology assets provide information that helps to complete the initial assessment of the organization’s status.

Phase 1 output: A preliminary assessment document that takes organizational dimensions into account, thereby helping to provide the foundation for subsequent phases.

Phase 2 — Evaluate

Using the baseline assessment information established in Phase 1, the Evaluate Phase delves more deeply into the EA and investment management processes. Phase 2 work focuses on determining the organization’s current state, such as leveraging the Government Accountability Office’s (GAO) frameworks for EA and IT investment management, and other tools. An in-depth root cause analysis can help to identify the gaps that may represent barriers to the effective integration of EA and investment management and stimulates initial ideas on options for overcoming them.

Phase 2 Output: An EA and Investment Management fit-gap analysis.

Phase 3 — Formulate

The purpose of the Formulate Phase is to establish the desired target state for EA and investment management integration and to help produce a time-phased and measurable action plan to achieve it. Through close coordination with Agency stakeholders, the EA and Investment Management Process (EA/IMP) Integration Plan begins to take shape, culminating in a document that represents the right balance of process, technology, and HR and training strategies. This document is the critical output of the Formulate Phase which helps to provide a detailed, executable transition plan.

Phase 3 Output: The EA and Investment Management Process (EA/IMP) Integration Plan
Phase 4 — Implement
With the acceptance of the EA/IMP Integration Plan, the Implementation Phase begins in earnest. Deloitte and Agency personnel share aspects of the implementation to help provide government project and technical management staff hands-on participation and control. The bulk of activities are designed to occur within the first two months, accompanied by frequent updates and communications with Agency executive leadership and stakeholders.

Phase 4 Output: Regular status reports to Agency management detailing the implementation progress of the new EA and Investment Management Integrated model.

Phase 5 — Assess
The advent of Phase 5 signals the full implementation of the new EA and Investment Management Integrated model, at which time Deloitte provides ongoing facilitation and support, and ongoing assessments until the Agency decides to assume the newly implemented functions independently. For postimplementation assessments, GAO frameworks are employed.

Phase 5 Output: A series of time-based assessments that provide insights about the progress made since the initial pretransition assessment and fit gap analysis.

The foregoing represents a typical scenario and may deviate significantly from one instance to another, depending on the specific needs of our client. It bears repeating that among the preconceptions that Deloitte brings to the table is the firm belief that the strength of our methodology is in its adaptability and our knowledge of how it can be applied in different circumstances. The end result is EA and investment management integration that is not only markedly improved in real terms, but that can make practical sense for our Federal government clients.

Stories of effectiveness
On a daily basis, we help our Federal clients extract greater value from their EA and investment management processes and solve real world problems. Using a Center of Excellence (CoE) approach, Deloitte endeavors to focus on critical business processes and governance with the objective of harmonizing the interaction of these two disciplines, and — most importantly — helping to create a new level of organizational capability and maturity.

Centers for Disease Control & Prevention (CDC)
At the Centers for Disease Control and Prevention (CDC), Deloitte is providing the consulting services to help implement a progressive, collaborative effort among CDC leadership teams to create effective IT governance structures that can be tailored to the needs of each Center, Office, or Institute, as well as to CDC as an enterprise. As part of CDC’s overall emphasis on improved IT program and project management, Deloitte provide services to support the Enterprise IT Portfolio Office, which is charged with the continued development, operations, and ongoing support for Information Resources Governance, the deployment of the Department of Health and Human Services (HHS) Enterprise Performance Life Cycle across CDC, and with development and use of the CDC EA.

DoD Health Care (EA)
The Department of Defense (DoD) health care system is the largest and most complex health care provider-payer enterprise in the world. With a patient base of over 9 million active military members and their families, as well as more than 20 million veterans, DoD operates over 300 medical treatment facilities located around the globe, including Iraq and Afghanistan.

Working with DoD health care agencies, Deloitte provides strategic operation planning, DoD business transformation, systems engineering, requirements analysis, and enterprise architecture (EA) assessment and development services that enable decision makers to answer critical questions around: investment alignment with business goals and imperatives, solution viability, information management, infrastructure sustainability and modernization, and enterprise performance effectiveness. Deloitte’s EA services have established enterprise governance models, development guidelines and standards, as well as a DoDAF 2.0 EA compliance assessment framework. Deloitte’s EA health care services to DoD is a dynamic service model that rapidly adapts to changing priorities, such as DoD/VA interoperability and information sharing and enterprise-wide Electronic Health Records (EHR), while maintaining accurate representations of the enterprise processes, capabilities, information, solutions, services and infrastructure.
Conclusion
The intention of a well-conceived EA remains clear for most Federal organizations: an effective EA helps to clarify mission priorities, inform strategic decision-making, and provide the basis of measuring progress across a wide range of Agency activities. Properly used, the EA is an essential input for the selection of Agency capital investments, endeavoring to provide budget resources that are committed in a way that increases the attainment of Agency goals and objectives and ultimately delivering greater value to America’s tax payer.

Organizations that become adept at the skills and capabilities that define effective investment management tend to have a clearer understanding of the linkage between their investments and their strategic direction, have improved project and program outcomes, and can establish their enterprise performance with greater clarity and precision.

Ideally, EA and investment management work together as seamless and complementary processes. Unfortunately, many Federal organizations may not have realized the benefits of highly integrated EA and investment management disciplines. At Deloitte, we stand ready to apply our depth of knowledge and experience to address this problem.

For more information on EA and investment management integration and Deloitte’s multifaceted approach, contact Peter Bayer at 571-882-5770 or pbayer@deloitte.com.

References

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