

Actionable Enterprise Architecture (EA) for the Agile Enterprise: Getting Back to Basics

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Actionable Enterprise Architecture (EA) for the Agile Enterprise:

Getting Back to Basics

Introduction

Although every enterprise benefits from Actionable Enterprise Architecture (EA), this powerful management practice is especially vital to the *federal* enterprise¹. The federal enterprise vision is to attain high levels of transparency and information sharing, to simplify and reduce costs of government operations, and anticipate and be responsive to citizens' needs.

The federal enterprise faces unique challenges that could inhibit the realization of this vision.

An **Actionable Enterprise Architecture (EA)** is an architecture that clearly expresses the enterprise vision and is **actually being used**, in a measurable way, to achieve that vision.

Federal Enterprise Challenges

- Political agendas
- Policies limiting information sharing
- Bureaucratic programming and budget policies and processes
- Rapidly decreasing number of knowledge workers and subject matter experts
- Information silos
- Data quality concerns
- Constant media attention

These are just a few of the challenges the federal enterprise faces.

These challenges can significantly limit the transparency, information sharing, and agility essential to provide maximum service to citizens. Actionable EA provides explicit, "living" enterprise blueprints and touch points in key management processes to help the federal enterprise overcome these challenges to achieve the enterprise vision.

Federal Architecture Principles form the "lanes in the road" toward increased transparency, information sharing, and responsiveness to citizens' needs. An **agile federal enterprise** embraces and embodies all of these principles.

¹ Although the targeted audience for this White Paper includes federal government leaders and architects, the basics of Actionable EA addressed in this paper are applicable to any enterprise.

Federal Enterprise Architecture (EA) Principles

- Focus on citizens
- Be mission-driven
- Operate within the federal enterprise while maintaining flexible decision making at the local level
- Protect security and privacy of information
- Treat information as a national asset
- Simplify government operations

This White Paper is a primer on how to use Actionable EA to become an agile enterprise. The primer is grounded in lessons learned over two decades and the experiences of many private and public sector enterprises. It boils all this great experience down to the 7 basics of Actionable EA. The concepts discussed here are not new ideas. Some originated in the late 1980's when EA was just beginning to take hold in pockets throughout private industry and the federal government. Several have been communicated in U.S. Government Accountability Office (GAO) assessments and audits. Many are already woven throughout books and articles and incorporated into the Federal Enterprise Architecture (FEA) guidance documents. Others are recent developments. The purpose of compiling these 7 basics into this single, succinct reference primer is to help invigorate (or reinvigorate) federal EA efforts to improve service to citizens because the need has never been greater.

The Requirement for Actionable Enterprise Architecture

Vivek Kundra, the Federal Chief Information Officer at the White House, has clearly articulated the need for Actionable EA. In an interview with Government Computer News (GCN) he was asked, "What is the new administration's view of the federal enterprise architecture?" He responded:

"As we think of architecture in general, it's great to have architecture that is actually being used. It's meaningless to have architecture filed away in cabinets. You could have the best document that is just sitting somewhere, yet everyone else is moving forward and implementing a completely different model. Part of that focus needs to be on how to move forward in terms of execution and implementation, not only in terms of procuring systems, but how are we making sure that as they are being configured they are integrated with this larger architectural vision? And as we evolve the architecture, we should evolve it to what the business side of the house [does], so it doesn't become an abstract discussion or document²."

² (Source: GCN INTERVIEW: "Better procurement can feed transition to 21st-century federal IT, Kundra says," Aug 19, 2009.)

The 7 basics described in this primer help fulfill Mr. Kundra's vision and position the enterprise for successful execution and implementation of the enterprise vision. It is only through applying the basics of Actionable EA that the enterprise can realize consistent, sustained value from their EA efforts.

Mr. Kundra is not the only federal leader who recognizes the need for Actionable EA. The need for Actionable EA to improve service to citizens was the primary focus of the recent Enterprise Architecture Conference and Exhibition (September 2010) in Washington, DC. CIOs, architects, and other representatives from federal, state, and local agencies gathered at this forum to discuss their EA challenges and to share guidance, success stories, and lessons learned. The session presentations and the discussions at breaks focused on the need to leverage EA to achieve transparency, guide IT investment decisions, expedite successful enterprise transformations, promote information sharing, protect the security of information assets, and improve decision making. For example, keynote speaker Stephen Warren, Principal Deputy Assistant Secretary, Office of Information and Technology with the Department of Veterans Affairs explained how VA is monitoring its IT programs using its Program Management Accountability System. He noted that a total of more than 200 VA IT programs were over budget or behind schedule. Issues like these are symptomatic of the absence of Actionable EA.

Certainly the established and emerging Federal Enterprise Architecture (FEA) guidance, particularly the Segment Architecture guidance, demonstrates significant progress toward Actionable EA. Yet the unfortunate reality is that many federal agencies are still struggling to attain Actionable EA. Some remain confused about what EA really is, and some are not yet even committed to making the effort. Issues persist today that were cited as problems in OMB reports dating back to 2002 and 2003³ (and before.) In too many enterprises eyes roll and sighs of frustration erupt at the mere mention of EA; thick, dusty volumes full of EA diagrams are sitting untouched on bookshelves or stashed in filing cabinets while business proceeds as usual; and phrases like "We don't have an architecture;" "The EA is useless because it's not accurate or up to date;" and "That's an IT thing," abound. At the same time, in many of those same enterprises, there are cries for increased agility, greater transparency, improved information sharing, higher quality data, and faster delivery of capabilities. Why are these enterprises not making the connection? Most likely it is because their previous EA attempts have not made (or have not been credited with) any measurable improvements in these areas.

³ Mark A. Forman, Associate Director For E-Government And Information Technology, Office Of Management And Budget, Before The Subcommittee On Technology, Information Policy, Intergovernmental Relations, And The Census Committee On Government Reform United States House of Representatives, March 13, 2003.

Actionable EA - The 7 Basics

So how does an enterprise make the leap forward in maturity with their EA practices to begin reaping the rewards of Actionable EA and the ultimate reward of transforming into an Agile Enterprise? The first step is to master the following basics of Actionable EA.

1. Understand why you're doing it.

Clearly state the business outcomes you intend to achieve or the business problem(s) you intend to solve with EA.

The number one reason for EA failures is a lack of clarity and purpose for EA efforts. If you are doing EA just to check the compliance box, then don't waste your effort and resources. Actionable EA is a means not an end. Actionable EA achieves real, measurable, mission-impactful purposes or solves mission critical business problems.

For example, Kshendra Paul (formerly Chief Architect, Office of E-Government & IT with the Office of Management and Budget) cites the following four primary purposes for the Federal Enterprise Architecture:

- Manage the IT portfolio
- Improve efficiency and effectiveness
- Enable open & transparent government, and
- Promote federal cybersecurity.

OMB has established objectives and targets within each of these "action" areas.

USASpending.gov provides a dashboard of IT project performance. Many projects reported on the dashboard are classified as "needs attention" or "significant concerns." An Actionable EA helps avoid the common pitfalls which lead to "over budget and behind schedule" scenarios by leveraging existing architectural artifacts and providing line of sight alignment with critical business needs, all of which ensure a more agile and effective project solution.

The following are some examples of enterprises and their stated EA purposes:

| Enterprise | EA Purpose(s) | Primary Focus/Objectives |
|---|--|---|
| Federal Emergency Management Agency (FEMA) -3 rd Tier Federal Enterprise | Facilitate Enterprise Transformation | "Connect the dots" (break up the stovepipes) using Composite EA |
| Intel Community's Joint Intelligence Operations Center (JIOC) Enterprise | Build the Budget for IT enhancements needed to meet JIOC Intel Mission needs of the future | Specify and fund IT enhancements required to support priority mission capability gaps |
| Department of Defense Intelligence Information System (DoDIIS) Enterprise | Consolidate IT to do more with less | Consolidate, virtualize, standardize IT infrastructure |
| Federal Deposit Insurance Corporation (FDIC) | Improve risk management to protect depositors by decreasing effort and time required to capture financial performance data from financial institutions and other external sources. | Enable rapid capture and analysis of large financial data sets |

Any agency desiring Actionable EA should do the same – state the business problem(s) or purpose(s) the EA is intended to resolve or achieve.

2. Keep it simple.

Actionable EA can take many forms. There is no single right way to represent it, but a simple (i.e., concise and intuitive) representation is always best. The goal is to determine the best form for the EA in *your enterprise*. There are only two requirements: 1) enterprise leaders must articulate the enterprise vision, and 2) that vision must be represented explicitly in an unambiguous and easy to understand and use format.

Without an explicit, unambiguous, easy to understand representation of the enterprise vision, the enterprise risks meandering and wasting resources without achieving the vision. For example, some enterprises are drowning in a sea of artifacts that were expensive to produce, but are not actionable. The risk with too many or too complex artifacts is that only a handful of architects know how to interpret them, and the enterprise has difficulty actually using them.

Create a single page Core EA Diagram that can be readily understood and guide everyone in the enterprise who must engage to achieve the vision.

Doing this doesn't have to be overly expensive or complicated. It does not require the purchase of expensive EA tools or methodologies. Jeanne Ross, Peter Weill, and David Robertson provide excellent examples of simple representations in their book, *Enterprise Architecture as Strategy*.⁴ These authors define Enterprise Architecture (EA) as the high-level logic for business processes and IT capabilities.

This definition of EA aligns nicely with the FEA definition of Enterprise Architecture, as separate and distinct from the Segment and Solution architectures. Actionable EA must establish the appropriate level of enterprise integration and standardization as defined by senior leadership's vision of the enterprise Operating Model. The authors of this book propose a simple quad chart to capture the Operating Model, designating the leaders' intent for the enterprise in terms of the degree of process standardization (low to high) and process integration (low to high) in relation to each other. Furthermore, according to Ross, Weill, and Robertson, and based on KGS experience, the EA itself can be expressed in a single core diagram representing key customers, core business processes, shared data driving core processes, (optionally) key linking and automation technologies (Ross, Weill, and Robertson, page 54).

The power of this single core EA diagram cannot be overstated. Consider the collaboration, alignment, sharing, reuse, and coordination opportunities that could be easily pursued if every federal agency would develop and publish a one-page core diagram Enterprise Architecture defined by the agency's senior leadership.

3. Keep the "Enterprise" in Enterprise Architecture.

According to Federal Enterprise Architecture guidance, the enterprise is the federal government. For an individual agency, the enterprise is the department or agency⁵. There are second and third-tier federal enterprises. It is important not to confuse Enterprise Architecture with Segment Architecture or Solution Architecture. These enterprises may participate as part of one or more Federal Segment Architectures, but they are also discrete enterprises in their own right within the overarching federal enterprise. As discrete

⁴ Jeanne W. Ross, Peter Weill, and David Robertson, *Enterprise Architecture As Strategy* (Boston: Harvard Business School Press, 2006).

⁵ The agency's participation in one or more segment architectures, for FEA purposes, should not be confused with the need for each agency to have its own Enterprise Architecture.

enterprises they can benefit significantly from Actionable EA. Each federal agency needs its own Actionable EA for agency-level agility.

Keep the “enterprise” in EA by keeping the scope enterprise-wide and the detail level low.

Furthermore, don't confuse Enterprise Architecture with Information Technology architecture. If interpreted too narrowly, OMB A-130's definition of EA could contribute to this confusion⁶ and inhibit Actionable EA by forcing too many details into the EA.

4. Communicate, communicate, and communicate.

Broadcast in every way, and in every feasible medium, as frequently as you can everything you can about your EA.

Communicate what it is and why you're doing it. Communicate who is involved and what they are doing. Communicate the benefits as they are realized with case studies of success stories. Identify the major contributors, their contributions, and publish their incentive rewards. Communicate via internal portals, status reports, executive briefings, town hall meetings, email blasts, twitter, corporate blogs, newsletters, and any other means you have at your disposal. It is helpful to develop and carry out a formal Actionable EA Outreach and Communication Plan to exhaust all possible avenues to raise awareness, train, promote participation, and use the Actionable EA.

⁶ OMB A-130 defines EA as “the explicit description and documentation of the current and desired relationships among business and management processes and information technology. It describes the “current architecture” and “target architecture” to include the rules and standards and systems life cycle information to optimize and maintain the environment which the agency wishes to create and maintain by managing its IT portfolio. The EA must also provide a strategy that will enable the agency to support its current state and also act as the roadmap for transition to its target environment. These transition processes will include an agency's capital planning and investment control processes, agency EA planning processes, and agency systems life cycle methodologies. The EA will define principles and goals and set direction on such issues as the promotion of interoperability, open systems, public access, compliance with GPEA, end user satisfaction, and IT security.”

5. Use it!

Use your EA to achieve your stated purpose and solve your business problem.

This is the step that enterprises sometimes overlook. It is easy to get caught up in creating the EA artifacts and then miss the opportunity to actually use the EA to achieve a purpose or solve a problem. In the FEA guidance this basic best practice has at least two parallels: 1) the Architect, Invest, Implement cycle; and 2) the integration of EA practices with Capital Planning and Investment Management, System Development, and other IT management disciplines and practices. In practical application it can really be as simple as analyzing a business problem in light of the information the Actionable EA exposes. For example, the Enterprise Architecture can be used to guide the analysis of the potential risks and benefits of deploying a particular technology across the enterprise, from a customer's perspective, from a financial perspective, and from a technology perspective. The results of this analysis can be used to make an informed investment or scheduling decision with regard to the deployment of this technology.

6. Make people accountable.

Establish clear roles and responsibilities and create an incentive strategy for rewarding those who contribute to the EA.

There is general agreement now that business-led EA is the way to go. A good way to accomplish this is to leverage an existing executive level governance board to lead the EA effort or have the members of that governance board assign senior leader "action officers" from each of their respective divisions to EA tasks. A facilitator from the IT organization's architecture team can then facilitate discussions with these assigned action officers to design and define the Actionable EA. This model proves quite efficient and more effective than senior management approval of IT-led designs. The latter approach is not really business-led; there is minimal if any business commitment, and no real business "skin in the game."

7. Don't get hung up on which tool to use.

Don't get hung up on selecting the perfect EA tool or in endless theoretical arguments about the EA framework or artifacts.

Focus on the questions you need EA to answer or the business problems you need EA to help you solve instead of fretting about which EA tool to purchase or use. Focusing on the problems you need to solve with EA ensure that you won't be confused by vendor rhetoric or by conflicting frameworks or methodologies. Instead, this focus on problem solving will actually help you evaluate and select the most appropriate EA framework, artifacts, and tools for your Actionable EA to solve those problems.

Summary

The federal government enterprise and each federal agency component of that enterprise need Actionable EA to realize the enterprise vision. It is only through Actionable EA that these enterprises will be able to transform themselves into agile enterprises. An agile enterprise is able to set a course toward achieving enterprise goals, navigate toward those goals, measure progress along the way, and continually assess and respond, near real time, as needed and in a timely manner to make course corrections. This White Paper offers a perspective and a way to step back and objectively assess EA efforts to ensure that these basic best practices are being employed. The goal is to reinvigorate stalled EA efforts and invigorate new EA efforts to support federal architecture principles and to realize the federal enterprise vision.

About KGS

KGS has provided innovative and award-winning services and solutions to a broad range of federal government clients since its inception in 1970. With over 750 associates in 24 states, KGS represents a time-tested and reliable resource to our clients. KGS specializes in guiding federal agencies through the complex challenges of achieving Data Confidence®: the measurable certainty that your data is actionable. The value of actionable data to any business cannot be overstated. Data is actionable when it is active (current and relevant), assured (accurate and secure), and available (accessible and shareable). When combined as information, or facts placed in context, actionable data is the foundation for productive analysis, reporting and informed decision-making, all of which are crucial components for the successful operation of any business. This is particularly so given today's complex and rapidly paced business environment.

KGS delivers state-of-the-market, leading-edge, differentiated solutions to overcome federal agencies' toughest management challenges. Our solutions combine process maturity with extensive technical and domain knowledge built on insights gained over decades of government experience in six core competency areas:

- *Achieving Data Confidence*
- *Financial Management and Accounting*
- *Research and Development*
- *Intelligence Analysis*
- *Cyber Operations and Information Assurance*
- *Staffing*

KGS actively participates in and contributes to a wide range of associations and government initiative organizations geared towards improving data management and process maturity practices. Representative affiliations include: Armed Forces Communications and Electronics Association (AFCEA), DAMA International and its local Washington DC chapter DAMA-NCR, the Federal CIO Council's Data Architecture Subcommittee, the Federal Open Government Initiative (Data.gov), American Council for Technology's Industry Advisory Council (ACT/IAC), and the National Information Exchange Model (NIEM).

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