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BREAK THROUGH WITH IT

Guess Who's Engaged? EA and the Enterprise!

Converged Infrastructure: Prepare or Run for Cover?

Understanding IT Governance and Why It Often Fails

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Guiding the Enterprise

BY GEORGE S. PARAS

Sometimes I wonder if EA practitioners have swung the pendulum too far away from the strategic aspects of EA in the interest of driving business outcomes. I often see EA teams fully allocated to supporting project delivery, a shortage of EA content, and design decisions made within narrow, shorter-term project contexts. While it is true that many EA teams have the wisdom to make sound on-the-spot decisions, an urgency to act can mean less objective analyses of broader and longer-term enterprise impact. We see evidence of it every day, simply by looking at the leftovers from past projects as reflected in complex and inflexible portfolios. The opportunity to shape the future and help the organization be better positioned for potential change does not get enough attention.

Why no strategic EA? There are many reasons. It could be that EA is not understood by the organization or that there is overcompensation for prior ivory-tower practices. When culture dictates that delivery is king, reward systems are biased to the short term. Even more fundamentally, most EA teams are made up of architects who are very good at short-term problem solving. It can be very satisfying, so they are drawn to it.

How can a bit more of a proactive enterprise perspective find its way into the mix, to enhance near-term decision making? It requires less effort than you might think to establish a collaborative learning culture and to build approaches to encourage it. In this issue, Tim Westbrock proposes using engagement models to provide enough structure to encourage collaboration and enterprise-wide analyses and decision making. Kent Christensen shares his thoughts on introducing the forward-looking concept of converged infrastructure. And in our final article, Lasitha Gunawardena and Latha Ramesh share their perspectives on IT governance in government, with lessons to be learned for everyone.

We hope these ideas help encourage you to be a more effective EA. And thanks for being an A&G reader! **A&G**

GEORGE S. PARAS is editor-in-chief of A&G and managing director of EAdirections.

THIS ISSUE

Guess Who's Engaged?
EA and the Enterprise!

Those on the outside looking in often see enterprise architecture as an ivory tower function. For that reason, and a few others, it is important to define and implement an EA engagement model.

By Tim Westbrock

There are a variety of aspects of EA that demand that it not operate like an ivory tower. Beyond the obvious implication that EA architects are seen as idealists with no grounding in reality, there is the practical observation that EA, in even the most limited applications, has a scope so broad with deep, deep implications that one group couldn't possibly have the reach, knowledge, or even capacity to handle it all in a systemic and sustainable manner. Additionally, there is the very real need for support and sponsorship from others. And finally, in order for EA to be its most effective and impactful, it must guide and influence the work of others in project, decision-making, strategic, and operational areas.

GETTING STARTED WITH AN ENGAGEMENT MODEL

Defining engagement models is an interesting way to help others understand the scope and objectives of EA. Many times an EA program will start off by defining a charter that includes mission, goals, objectives, scope, deliverables, and even roles and responsibilities of the EA team and some of the extended EA charter groups.

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That is followed by developing a communication plan to solicit support and funding for the EA program, based on the ideas in the charter. However, we have found that including a start-up set of engagement models actually helps some understand EA at a more base level by seeing how and why the EA team works with other groups throughout the enterprise.

Engagement models have a variety of components to identify and clarify. Each model contains the following:

- An *engagement* purpose that defines the reason for which the EA team is interacting with another person or group.
- The *participants*, which include the EA team and the people and/or groups with which the EA team will be interacting to achieve the identified purpose.
- The *artifacts* that are used, created, or modified by this engagement type.
- The *communication modes* that enable this engagement type to be most effective.
- The *timing of an engagement* indicates the frequency and/or time-dependency of the work being done, which is heavily related to the engagement purpose.

Engagement purposes tend to be grouped into four common categories.

1. Engagements focused on developing support and sponsorship for EA and related disciplines, such as strategic planning, portfolio management, and governance.
2. Engagements focused on identifying, collecting, and developing the artifacts that define the enterprise architecture current, intermediate and future states.
3. Engagements focused on influencing current work and decisions with the enterprise architecture intermediate and future states.
4. Engagements focused on influencing future work and decisions with the enterprise architecture intermediate and future states.

Engagement roles cast a wide net across the enterprises personnel, including but not limited to executives, strategic planners, business and IT management, the EA team, other architects, various subject matter experts from just about every business and IT domain, project managers, procurement groups, vendor management, portfolio managers, governance bodies, and even external roles like vendors, industry analysts, and industry standards bodies.

Engagement artifacts run the gamut from strategic planning documents to principles, standards of all types, enterprise context models, business process and capability models, data and information models, infrastructure patterns, inventories and portfolios, road maps, communication and education plans, process descriptions, governance process flows, package selection criteria, and position papers.

Engagement modes represent the communication style that the participants should use during their interactions. These are closely tied to the purpose and participants involved. The following modes are the most common:

- In some cases you are going to engage in a **Communicative** mode, usually with a purpose of trying to inform or teach the participants, or trying to influence them. This mode is dependent on the timing, content, and medium used to communicate.

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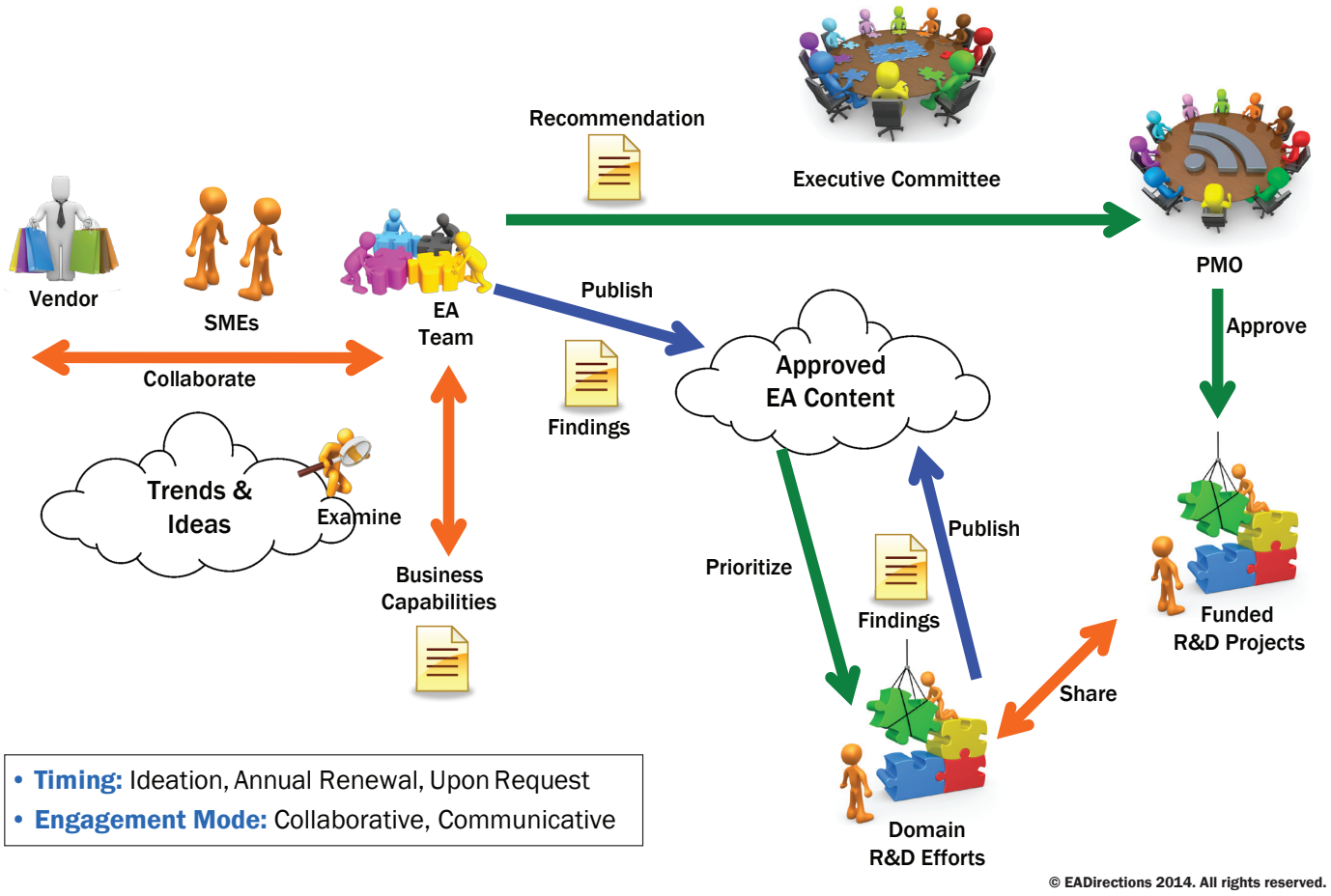
Figure 1: An Engagement Model



- Some engagements require a **Collaborative** effort, when it is helpful to develop a strong relationship with the engagement participants, building EA credibility while recognizing other's expertise or contribution to the effort.
- The **Consultative** mode involves elements of the two prior modes, in that the communicative nature of the engagement is important to provide information or influence your target, while also recognizing the relationship aspect as well.
- The **Authoritative** mode is used when you are engaged with a governance/decision-making purpose. The most important aspect of this mode is to identify or establish the accepted authority for the engagement.

An important point to consider is that a specific type of engagement can, and often will, require more than one mode of engagement.

EXAMPLE ENGAGEMENT MODEL

This example of an engagement model is one that not every EA program intuitively thinks of as a formal engagement. One of the important, but often neglected or minimalized, engagements involves the researching of new trends and innovation opportunities. The purpose here is to be able to understand the impact and potential benefits to the enterprise.

Much technology research is done by the specific SME—at their whim. Basically, they investigate the things that they are personally interested in. Maybe that

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is of benefit to the enterprise, maybe it isn't. EA should provide some direction for what type of research should be conducted. This should not preclude SMEs from following their own intuition, as they are the *expert* in their area. However, there should be some kind of business benefit being pursued, not just curiosity.

The approach is to understand the impact of trends and new product features or offerings from the vendors *on your specific enterprise*, then match the new/improved capabilities with the business benefit that can be achieved through leveraging that new trend, product, or innovation.

Figure 1 is a sample engagement model for researching new trends and innovation opportunities and publishing the findings. The highlights for this model:

- The EA team collaborates with SMEs and vendors to explore various trends and ideas that may be relevant to the enterprise. By combining that investigation with the Business Capabilities, the EA team can identify opportunities for improvement leveraging the trends and ideas.
- EA will publish its trend findings, and also make R&D project recommendations to the PMO to consider, that may require executive approval.
- SMEs also will conduct efforts on their own, publishing their findings as well as sharing with relevant business R&D projects.
- The timing on these engagements will vary. Someone may come up with an idea from capability mapping or reading a magazine. The annual strategic planning time frame may reveal specific areas to investigate. There may be a special request from someone to investigate something specific.
- The modes of engagement are pretty intuitive. You need to be able to collaborate with the SMEs and be able to communicate the results of your research.

The primary point to take away from this engagement model discussion is that while R&D efforts are performed by a variety of different groups and types of

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professionals, defining an engagement model like this can help coordinate, eliminate redundant and non-value efforts, and increase the value produced.

UNANSWERED QUESTIONS

There are at least eight engagement types in which an effective EA program most likely engages. However, all of them will be unique in their specifics based on several factors, such as organizational, cultural, and political factors. For instance, a typical engagement model covers how EA engages with project resources for both design compliance and requesting exception variances. Besides factoring in the maturity of your project management approach, this engagement model may have to consider the differences in the project development life cycle (PDLC) for typical custom development, Agile development, or packaged systems integration.

CONCLUSION

Defining how, when, and with whom EA teams engage is not only a sign of maturity, but also could be helpful in dealing with the misconceptions that may exist in a specific enterprise. It will help some people understand, through the interactions modeled, what EA is trying to accomplish and why there is a dependence on working with other groups. Also, figuring out all of the ways in which EA interacts with other groups helps in covering all of the bases with executives who are wondering if an investment in EA is worth it. If you are struggling to gain traction with your EA team or you have established some of the engagements you need, but not all, spend some time defining all of the engagement models for your EA practice. **A&G**

TIM WESTBROCK is managing director at EAdirections, a firm specializing in mentoring business and IT leaders on the practices of EA, strategy, governance, and portfolio management. He can be reached at twestbrock@EAdirections.com.

A&G CALENDAR

VMworld 2014
August 24–28, 2014
San Francisco, CA
http://www.vmworld.com/community/conference/us

OMG Business Architecture Workshop
September 16–17, 2014
Austin, TX
http://www.omg.org/news/meetings/tc/tx-14/special-events/Business_Architecture_Info_Day.htm

Gartner Symposium & ITxpo N.A.
October 5–9, 2014
Orlando, FL
http://www.gartner.com/technology/symposium/orlando/

Forrester's Forum for Application Development & Delivery Professionals
October 16–17, 2014
Chicago, IL
http://www.forrester.com/Forresters+Forum+For+Application+Development+Delivery+Professionals/travelinformation/-/E-EVE6459

CAMP IT–IT Portfolio Management
October 22–23, 2014
Chicago, IL
http://campconferences.com/

Building Business Capability
November 2–6, 2014
Fort Lauderdale, FL
http://www.buildingbusinesscapability.com/

Gartner Symposium & ITxpo EMEA
November 9–13, 2014
Barcelona, Spain
http://www.gartner.com/technology/symposium/barcelona/

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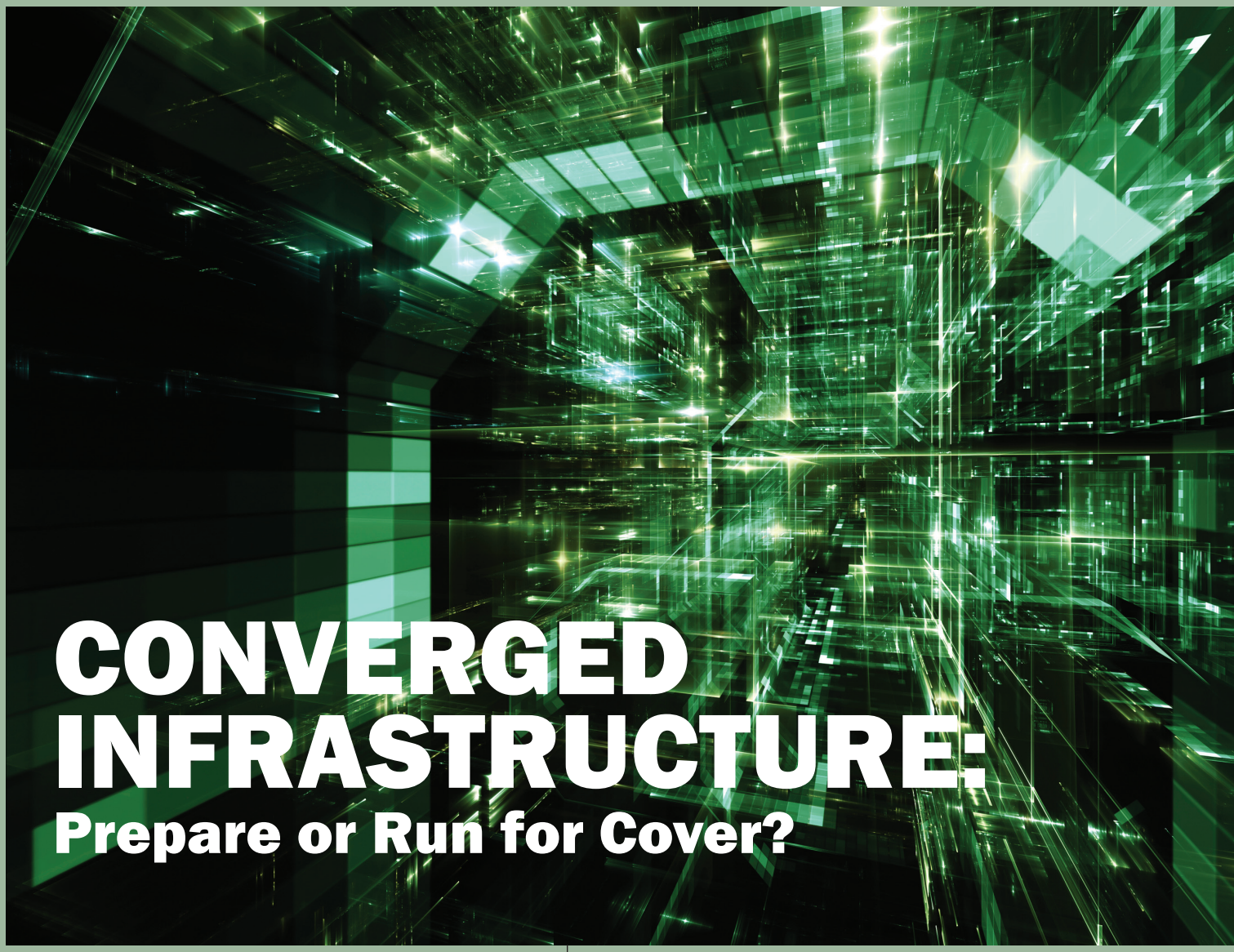

CONVERGED INFRASTRUCTURE:
Prepare or Run for Cover?

By Kent Christensen

Converged infrastructure (CI) describes the practice by storage, network, and server vendors to offer a joint, pretested, preintegrated platform. Server virtualization also plays heavily in such converged environments.

The result of CI is a highly tuned platform for optimal performance. Need more memory? Less storage? More I/O? Need to deliver 1,000+ virtual desktops? How about tuning for optimal performance of your database or Big Data applications? Joint, vendor-sanctioned SKUs, reference guidelines, reference architectures, and out-of-the-box settings offer various "knobs" you can turn to achieve such results from a CI solution. These are based on the vendors' joint integration efforts that target key usage profiles.

WHY CI, WHY NOW?

IT teams have grown accustomed to doing much of the heavy lifting themselves when it comes to integration and testing of the various moving parts of their data center infrastructure. With CI, however, much of the legwork is done for you.

Many emerging cloud service solution providers now make heavy use of CI solution sets within their own infrastructures. CI technology is also being deployed as

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part of an enterprise's own natural evolution to private cloud and hybrid cloud architectures. It is becoming an integral part of IT's changing role to that of internal service provider to the business.

As part of this natural evolution to cloud-like service provider, the use of CI often appears at a pivotal mid-stage in the process. This is where the IT organization begins to focus more on automation and methods that further automate provisioning of resources. It's also where IT moves from being reactive to more proactive. Here, the organization turns its focus away from specialized, siloed operations and the manual provisioning of disparate server, storage, or networking assets. Instead, it moves toward the automated provisioning of higher level functions (including the delivery of services from a unified platform).

THE BENEFITS OF CI

Here's an analogy I often use to explain CI: In contractor terms, you can think of CI as a solid building foundation. You haven't necessarily designed all the rooms or walls yet, but CI gives you a stronger, more flexible foundation from which to layer. This solid foundation helps you more effectively build either single-family housing (such as an application-specific architecture for SAP or Oracle) or multi-unit housing (like data center services or a service catalog for various, emerging application needs).

Other CI benefits tend to include:

- Faster time-to-market and greater agility.
- Less overall work for IT projects—from procurement to design, implementation, testing, and ongoing support (support issues resolve more quickly through combined vendor effort).
- Less risk of IT failure and less downtime.
- Greater system efficiency, better resource utilization, and better application operations.

There are several examples of successful CI in practice. One involves a globally recognized higher education company offering both online and brick-and-mortar learning environments around the world. Important to IT was the need to handle aggressive development, testing, and rollout schedules for new educational applications. Also needed was a better handle on peaks in student digital workloads throughout the school quarter.

The organization chose to deploy a virtualized CI environment to achieve a more elastic, scalable, and affordable infrastructure. Using CI, the company was able to decommission many of its physical servers and has since experienced significant cost reductions in power and cooling. New application environments no longer require a six-week deployment and coordination with multiple teams. The new environments can now come online in under a day. Virtual workloads can now also be moved or shifted quickly to address current on-demand needs.

In another case, a software company wanted to fuel growth, yet reduce the time and cost to release new solutions. The owner opted to change his business model to a SaaS provider, but knew he'd need higher levels of service from the company's own infrastructure. Using CI, he was able to bring a higher value SaaS product to market much faster and at a lower cost than originally anticipated.

IMPLEMENTING CI

IT organizations tend to implement CI in one of two ways:

1. **Bright flash of light.** Some organizations choose to make a wholesale infrastructure upgrade to CI (and a related new cloud delivery system) all at once. This might be associated with a specific application or new project initiative.
2. **Steady as she goes.** Other IT organizations see the move to CI (and private cloud) more as a journey to be taken in phases, rather than a single destination. As business issues arise or technology refreshes occur, they may switch part of their infrastructure to a CI-enabled component. This might mean selecting a certain type of blade server, or a certain type of storage. Over time, they gain the pieces of a CI reference architecture to be turned on in full later when all the puzzle pieces fall into place.

In the short-term, CI implementation means using

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components from a reference architecture with best-of-breed companies. Organizations focus on what they can do today. In future, tighter integration and further convergence between components is likely.

For more medium-term deployments of CI, IT organizations might look to deploy either application-specific CI models (SAP-specific, for example) vs. more general-purpose CI architectures.

Just as with any other project, some legwork is still required, especially as it relates to the service levels needed to ensure proper security, availability, and performance. Specific design points in CI reference architectures can make it easier to support secure multitenancy or gold-level availability, but they still require IT due diligence. A converged infrastructure with 10 clients offers multitenancy (i.e., no comingling between Client A and Client B data). If you have a mission-critical application that needs "gold" vs. "bronze" level resources, CI reference architectures also let you automate service levels to ensure the right amount of bandwidth and storage.

CI'S NEW TERMINOLOGY, NEW RULES AND NEW MIND-SET

Understanding the difference between the main CI models and its varied language is important. Analysts and vendors have called CI everything from virtual data centers (VDCs) to fabric-based infrastructure (FBI) and unified computing (UC). More recently, IDC referred to the CI market as "integrated infrastructure and platforms,"[1] while Gartner referred to it as "integrated systems."[2]

Learning such nuances is essential to CI success. Yet, success also hinges upon a new way of thinking:

- **Changing how IT teams work together.** Many IT teams are organized as separate application teams, server teams, network teams, and storage teams. To be successful with CI may require a refocus and/or restructuring of the teams to reflect the new, converged infrastructure. Service levels for applications must be achieved as a whole, with all unified resources, not with disparate resources and teams.
- **Changing procurement.** CI solutions require a different way of approaching traditional purchasing or procurement. The old way typically focuses on buying separate IT components for the cheapest possible vendor cost, then relying on the internal IT team to make them all work together. With CI, education is needed to convince procurement how (and why) to buy converged solutions from a qualified provider and understand it is a complete solution vs. an independent set of vendor products that can be bid out as parts.
- **Changing expertise.** The nuances and benefits of different CI models and different CI vendor offerings can't always be discerned by traditional IT integrators whose expertise might lie more on the application or server side. Where needed, organizations should seek help from experts or integrators with a strong background in unified platforms and converged infrastructures. You may also need to invest in cross-training individuals within your own IT organization.

In the long-term, it's important to see CI as a steppingstone to a future state: that of delivering IT resources as a service. Sure, CI can make you faster and give you less downtime, but it may not dramatically change users' interactions to IT services.

Even though your IT organization may not be ready quite yet to define or automate core services for users, it should look to the future and consider how CI architectures and emerging tools can help better support delivering IT as a service (ITaaS) to constituents. This may involve rewriting applications to better align with business goals. It will also involve adjusting the people, processes, and technologies to support your new CI-fueled, service-oriented mind-set. A&G

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1. Source: IDC Worldwide Integrated Infrastructure and Platforms Tracker, Oct. 2, 2013, available at: http://www.idc.com/getdoc.jsp?containerId=prUS24367013.

2. Source: "Market Share Analysis: Data Center Hardware Integrated Systems, 2Q13," by Adrian O'Connell, Gartner, Inc., Document #G00257711, Dec. 12, 2013, https://www.gartner.com/doc/2636094/market-share-analysis-data-center.

Understanding IT Governance and Why It Often Fails

By Lasitha Gunawardena and Latha Ramesh

WHAT IS IT GOVERNANCE?

In today's world, IT governance can mean many things and refer to various IT frameworks. In many cases, IT governance is confused with simply implementing standards to report results and compliance. According to the IT Governance Institute,

> *"IT governance is the responsibility of executives and the board of directors, and consists of leadership, organizational structures, and processes that ensure that the enterprise's IT sustains and extends the organization's strategies and objectives."*

What does this mean in the federal arena? Fundamentally, governance is about establishing policy. It's about implementing structure around how the agencies align their IT strategy with their business strategy, to ensure that they stay on track to achieve their strategic goals, and implement effective ways to measure the agencies' IT performance. Chief information officers (CIOs), IT federal managers, and project managers have the responsibility to implement mandates and internal policies to ensure that all stakeholders' interests are taken into account and that they provide measurable results.

WHY IS GOVERNANCE IMPORTANT?

The importance of IT governance is that it achieves desired outcomes and behavior. The relationship between IT governance and effective value creation of IT investments has long been recognized and is cited as the reason for achieving excellence in the management of IT. It provides a focus on cost and allows effective communication between the customers and providers by establishing joint accountability for IT investments. Enforcing the governance processes is articulated by IT portfolio management and is used by IT leaders to manage their agencies' IT investments, projects and resources in an effort to review opportunities, reduce redundancy across the IT environment, and drive cost savings. Governance offers a formula for success and allows leaders within federal agencies to be active in the strategic management of IT and make sure the following basic elements are in place.

- **Alignment and responsiveness:** Governance works hand in hand with IT portfolio management to align IT investments with agency objectives, enabling federal managers to improve responsiveness

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to challenges and manage current and future IT investments. It provides transparency to agency IT investments and ensures taxpayer money is spent in accordance with the agency's mission.

- **Objective decision making:** Governance allows leadership to actively commit to improving the management and control of IT activities in the agency.
- **Resource balancing:** Proper management of critical resources enables control in planning and organizing IT initiatives. This gives federal managers the ability to ensure adequate IT support is available for current and future IT investments.
- **Organizational risk management:** Proactive risk management ensures that IT federal managers and leadership are aware of the risk associated with the IT initiatives and provides the basis to implement risk mitigation strategies.
- **Execution and enforcement:** Governance provides federal managers with the framework to manage all IT initiatives and demands, through a single point where they are prioritized and fulfilled. It allows standardizing technology platforms and helps managers make informed decisions on IT initiatives.
- **Accountability:** Effective governance is about accountability. This enables federal managers to enforce the responsibilities that relate to IT program management.

IT governance cannot exist in isolation and is a process by which decisions are made around enterprise IT investments and projects. By rolling up all investments and projects into the agency's IT portfolio, a complete and comprehensive view of the entire IT portfolio emerges. This enables leadership to make better strategic decisions and proactively manage and evaluate future investment as a group. IT portfolio management also provides the mechanism for effective IT governance and reporting of Office of Management and Budget's (OMB's) Oversight and Government Reform.

INEFFECTIVE GOVERNANCE AND COMPLEXITIES OF GOVERNANCE TECHNIQUES: TOP 10 REASONS FOR INEFFECTIVE GOVERNANCE

Establishing IT governance is not a one-time implementation or achieved by a mandate; it requires commitment from the federal leadership. IT governance is an activity that requires continuous improvement, and the challenges faced by CIOs are numerous and complex.

Over the past few years, federal agencies have worked diligently to establish effective IT governance. This has helped federal agency IT managers prioritize and optimize the IT investments decision-making process. At the same time, budget constraints have become the operating norm. The recent legislature had a 7 percent across-the-board cut among several agencies. This shrinking budget and increased scrutiny of federal initiatives has become the greatest concern for IT leadership at all levels of government.

The report GAO-12-461, dated April 2012, warned that the administration is at risk of losing momentum of fully completing the key action items in the Office of Management and Budget's 25-Point Plan to Reform Federal Information Technology. Section D of this plan consists of three actions needed to strengthen IT governance: 1) Reform and strengthen Investment Review Boards, 2) Redefine the role of agency CIOs and federal CIO council, and 3) Roll out "TechStat" model at the bureau level.

NetImpact Strategies' experience supporting numerous federal clients has enabled us to identify and recognize the reasons for the absence of good governance. Generally speaking, the following 10 reasons are the most common factors for ineffective IT governance at federal agencies.

Top 10 Reasons for Ineffective Governance

1. Authority not properly delegated
2. No budget control authority
3. Infrequent meetings
4. Compliance vs. strategic focus
5. Poorly structured boards
6. Policy without surveillance/penalty
7. Poor quality of data to support decision making
8. Unbalanced division of authority
9. Lack of timely decision making
10. Lack of organizational buy-in

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IT governance spans the agency policy and practices that provide for IT management. Federal managers face continuous scrutiny over investment management and performance. In most federal agencies, it is not an isolated activity and CIOs and IT governance boards often face challenges including: lack of effective communication, lack of reliable data, lack of interest/clarity, having no accountability, certain decisions are not respected, having ineffective processes, having forced participation, lack of follow-through, too much bureaucratic "red tape," and benefits which are not clearly articulated.

CONCLUSION

IT governance is important and will ensure the effective and efficient use of IT to achieve agency goals. As Peter Weill, chairman of the Center for Information Systems Research, Massachusetts Institute of Technology, said:

> *"If I was to choose one factor that most contributed to the success of IT, it is IT governance."*

Each agency is unique, and each agency's approach to executing governance may vary with the culture and organizational structure. Implementing good IT governance requires a framework based on three major elements: effective structure, effective process, and effective communication. To achieve maturity ensures that IT is working as effectively as possible to maximize cost savings and the benefits of each IT investment, ensuring that the investments are consistent with the organization's business strategy. A&G

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