

White Paper

Enterprise Architecture

Inside Out or Outside In?

WP0055 | January 2013



Karl Schulmeisters

Karl Schulmeisters is Technology Advisor for the Carver Global Health Group where he provides expert leadership in Business Process Architecture, Enterprise Architecture and Cloud Computing. Karl's current emphasis is on the impact and integration of disruptive technologies into traditional enterprise IT organizations: Cloud, Mobility, Consumerized IT, Machine Learning/Big Data and Social Media.

Karl Schulmeisters is an internationally recognized speaker – his most recent speaking engagement was at the Congress on the Future of Engineering Software in St. Petersburg Russia. He welcomes your comments at karl.schulmeisters@cg-hg.com

A common question asked about Enterprise Architecture (EA) is whether it makes more sense to start with the Business Architecture or the Technology Architecture of the company. Like many things, the answer is “it depends”.

EA comes out of the technology side of the business, so the technology approach is inherently more of an “insiders’ “ approach (Inside Out) while the Business Goals/Roadmaps approach aligns more with the external pressures (Outside In) than the technology side of the business faces. This whitepaper will discuss what circumstances lend themselves better to each approach and provide some guidelines for successfully implementing each approach.

Greenfields vs. Brownfields

Implementing a full Enterprise Architecture Practice across the whole of an organization, all of its IT assets, all of its Business Processes and Roadmaps is a huge undertaking; large enough that the risks and costs associated with it will preclude its being approved without the existence of a positive record of accomplishment.

The operative approach is to identify the right scope of projects to prove the payoffs of EA. The broader your ultimate scope, the more significant your payoffs need to be. In identifying potential projects, it is useful to categorize them as Greenfield or Brownfield projects.

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In a Greenfield project, the decision has already been made to start a new business initiative. This does not necessarily mean a brand new business. It could be an existing product line that has decided that it needs to revamp its offerings and technologies radically to be competitive in the marketplace. For example, they may have identified that the software stack supporting the existing solution is too expensive to deliver the functionality at a competitive price point.

In a Brownfield project, there is a need for incremental change within a solution, or the existing technology infrastructure is reaching some sort of limit and needs revamping without major changes to the way the business operates.

Greenfields lend themselves more to an Outside In process since the business analysis has already been initiated, and Brownfields are more amenable to an Inside Out process since the issue is IT implementation.

Initiating a Formal Enterprise Architecture Process

Regardless of which Enterprise Architecture process you have chosen to use, the overall magnitude of that effort is daunting, not just to you, as the individual looking to initiate the process, but to the stakeholders you need to present it to as well. This is for good reason: done right, a fully implemented EA will have as broad a reach as a fully implemented ERP, Sales Forecasting, or CRM system. Unlike with the aforementioned systems, the proven success stories for EA are fewer and more difficult to align with most businesses. The industry blogs are also alive with questions such as “Does EA apply to the Small, Medium Business market?”, “How do I pitch EA to the CEO?” etc.

The best way to initiate a larger and broader EA process is the same way you would initiate any new process, or business idea: you build a Proof Of Concept (POC) with support from a sponsor who benefits from the POC's success. You then use the success of the POC to expand the scope of the EA.

The ultimate question then becomes how to demonstrate the POC's success. Metrics are the key, with the focus being on collecting those that not only benefit your sponsor's goals, but the ones that will also support the case to build a larger practice. While there may be a difference in the focus of the metrics you collect from an Outside In vs. Inside Out approach, there are also common metrics you will want to collect - more on this later.

The Pieces You Need

Regardless of whether you are building an Inside Out or Outside In Proof of Concept you will need various components. The most critical is an Enterprise Architecture tool like Orbus' iServer Enterprise Architect. Unlike IBM®'s Rational® System Architect®, Sparx's Enterprise Architect, the open source Essential® Project as well as most other tools, Orbus leverages Microsoft Office's Excel™, Visio™ and PowerPoint™ as the input, analysis and output tooling. This dramatically improves the accessibility of the EA implementation tooling, which is a critical part of the Proof of Concept as Time to Value is critical.

You will also need to build in time for training your EA team to use the new tooling. Since EA tools are all repository based, you will need some kind of server solution. This may be "in the cloud", hosted on your IT infrastructure or potentially on your local desktop. Which option you choose will really depend on the scope of your POC.

It is critical that you identify a list of tangible goals against which to evaluate your metrics. These may be as simple as some questions you wish to answer (how many different middleware technologies are in use in our business), or specific metrics such as cost reduction for the project or identification of some percentage of technologies to obsolesce.

The People You Need

As with any IT project, not only do you need the individuals implementing the EA initiative, but you also need a sponsor for your Proof of Concept along with a list of stakeholders. Your Sponsor will be one of your stakeholders by definition. Who your sponsor is will drive the decision as to Inside Out or Outside In at least as much as whether or not your POC is associated with a Greenfield effort or a Brownfield. Selection of a sponsor is critical because you will need to structure your success metrics to support both your project and also your sponsor.

Outside In (Business Roadmaps first)

It is important to highlight that regardless of which approach you take: Outside In or Inside Out, you need to consider how you would complete the task from the other end of the spectrum as well. Doing so will simplify completion of the full EA process in some future iteration.

TIP: The importance of these metrics to the long-term acceptance of EA cannot be overstated. It is the success metrics that will guide your POC efforts, furthering a broader implementation of Enterprise Architecture.

Outside In or Business Roadmaps First starts with gathering the business goals, roadmaps and processes first, then iteratively working through the relevant stages in the ADM process

towards documenting the final underlying technologies supporting those processes.

This approach works well when the business goals are clearer or have stronger sponsorship than the technology underpinnings. For example:

- A business decision has been reached that the existing solution's underlying technology stack is too expensive to compete in the marketplace. A new, less expensive solution architecture is required. This means the business goals of price performance, and necessary supported business processes are the best-documented parts of the solution. Starting with these and mapping them into potential technology choices will demonstrate clear benefits.
- A business decision has been reached to add a new offering to the portfolio. Again, the business goals and processes are better understood here than the technologies and EA can help guide the technology process without appearing cumbersome.

The sponsor and primary stakeholders in these cases will be the business executive(s) tasked with bringing the new business initiative to fruition. Convincing them to sponsor an EA approach to mapping the business goals into as yet unknown technology support requires:

- explaining how EA approaches will help map their business requirements and processes into underlying technologies
- that going forward they will be able to understand the impacts of changes in technology on business requirements as well as to be able to evaluate the technology costs of new business requirements.

The metrics for an Outside In EA POC are derived from the business goals that the selected initiative has. Additionally, adding in metrics to the number of systems implemented, reuse of technologies and licensing cost optimization is useful.

One area where an Outside In approach is a strong candidate is evaluating strategies for including Cloud Computing into supporting solutions. While at first it might seem that a Cloud Computing assessment would be an Inside Out approach – after all it is fundamentally a technology platform issue – the key factors are really business goals and roadmaps:

- What is the business goal of adopting a Cloud Computing model? (Often it is a combination of reducing cost as well as being able to demonstrate technology leadership)
- What are the business processes that would be least impacted moving to a Cloud Supported model (which ones can tolerate outages, which ones support globally distributed interactions, which ones are less sensitive to Data Safe-Harbour requirements)?

- Which Business Processes can best leverage the benefits of Cloud Computing (which ones run on fairly standard IaaS stacks, which ones have highly dynamic scaling loads)?

Notice how in starting at the business side of the EA effort here, the success metrics fall out quite obviously: Cost Reduction, No increase in downtime, Data Security, Scalability/Performance improvement, Global connectivity improvement, Disaster Recovery improvement.

Also, once the business processes to be moved are identified, an inventory of the applications and underlying infrastructure that currently supports them can be enumerated, completing the Architecture Development Method (ADM) stages for TOGAF 9 EA Process (<http://pubs.opengroup.org/architecture/togaf9-doc/arch/>).

Next, let us look at how a Technology First or Inside Out approach can be best used.

Inside Out (Technology Inventories first)

Most Enterprise Architects are naturally attracted to the Inside Out approach first. After all, it deals with technology inventories, roadmaps, deployed systems etc. All things a technology architect is already comfortable with. Furthermore, the IT technology organization already understands the importance of architectural analysis, so EA does not need to be sold as something dramatically new. This means that the process is easier to get approved, the structure of the documentation better understood by EA lead etc. The challenge then is how to make such an approach relevant to the broader business side of the house. Without such relevance, there is still benefit from implementing an Enterprise Architecture (Technology building blocks, reduction of redundant technology) but you will not be able to achieve all the benefits that EA can provide, nor complete the full TOGAF ADM.

Therefore, if you are going to pursue an Inside Out strategy, you first need to decide if your ultimate goal is broad adoption of Enterprise Architecture in the Enterprise, or whether you simply seek the tactical benefits within the IT organization that the lower layers of the EA can provide.

IT Focussed Projects

An IT focused Inside Out project is usually the easiest to get sponsorship for and to implement, but it most likely will not really be a true Enterprise Architecture project because it will lack the connection to business goals and roadmaps. This can be addressed if you keep in mind the goal of eventually integrating with the business side; it is an easily achievable first stepping-stone.

Business Relevant Projects

The advantage of a business relevant but IT focused Inside Out project is that it mostly is an IT focused project, but it does bring business stakeholders to the table. Ideally, in this sort of project you are able to arrange for co-sponsors: one from the business side and one from the IT side.

Without that, you need to have a strong commitment from the senior stakeholder who is not an active sponsor. Usually the business side will be the one hesitant to actively sponsor EA out of concerns that it might limit options, increase costs and delay the project. If you fail to address these and get at least a strong buy-in from the business lead on the project, you will have difficulty getting the business relevant information captured.

Therefore, it is critical that you proactively engage the business side to identify what metrics they would like to see tracked, as well as to address any concerns they might have.

An example of this sort of approach would be to extend the above IT Focussed technology and systems inventory to include the complete solution portfolio the business offers. By mapping the existing technology and application use into the portfolio, you can provide business decision makers with alternative technology options that may well be less expensive. For example, a Portfolio solution that already incorporates Microsoft SharePoint Server as well as a custom document workflow engine could benefit from eliminating the functional redundancy of having two document workflow engines.

Of course, to accomplish this, it is important that within the TOGAF model you track not only the technology, the infrastructure and the applications, but also the functional capabilities being provided by these systems. As with the previous examples, the success metrics quickly fall out from this sort of approach.

Summary

Full Enterprise Architecture projects are comprehensive and complex. To successfully receive corporate approval for such efforts, it is critical to demonstrate the value of EA through a Proof-Of-Concept initial project. Such a project can begin with a business focus (Outside In), which has the benefit of demonstrating the top to bottom EA value, or it can begin with an IT focus (Inside Out).

The two critical components of success for each are: identifying the relevant set of metrics to use to prove the value and success of the project, and planning for how to integrate the aspect less focussed on in the POC: the Inside/technology side in an Outside In project and the Outside/Business side in an Inside Out project.

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Orbus Software

3rd Floor
111 Buckingham Palace Road
London
SW1W 0SR
United Kingdom

+44 (0) 870 991 1851
enquiries@orbussoftware.com
www.orbussoftware.com

