

White Paper

Enterprise Architecture: Outside-In Business Goals to Infrastructure

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Overview

In my first Whitepaper of this series: *Enterprise Architecture (EA) Inside Out or Outside-In*, I provided an overview of two approaches to initiating an EA project – from the technology side (*Inside-Out*) and from the Business Goals side (*Outside-In*). I refer to these as *Inside-Out* and *Outside-In* because my assertion is that Enterprise Architecture is about Information Technology governance and integrating it into the business strategy but as a component of that strategy rather than a regulation of that strategy.

In this paper, I will drill into the details of how an *Outside-In* approach might be structured and provide some more specific guidelines on how to improve your chances of success. I would like to state from the outset that for most organizations I am a firm believer in the value of “agile” approaches whenever possible. That means you need to show tangible benefits and value at fairly granular levels. For an approach like Enterprise Architecture, I believe this is critical because of the potential broad scale implications it might have.

Clearly, choosing the right solution for the first invocation of Enterprise Technology for your organization is critical. It needs to be important enough to validate the approach to senior management as effective, it needs to have a high likelihood of success, and yet ideally it is not mission critical for the organization to allow for learning and adapting to the specifics of the organization.

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Choosing the Solution

The *Outside-In* approach works best when the business goals are clearer than the technology underpinnings or when the business sponsorship is stronger than the technology sponsorship. Examples

- A business decision has been reached that the existing solution offering'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 and 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 first is an example of a *brownfield* opportunity and the latter a *greenfield* opportunity. While the stakeholders involved are very similar, the risks and issues are likely to be significantly different.

In a *greenfield* opportunity, both the Business and Technology stakeholders are looking forward to a new venture and while one of the risks may arise out of a different understanding of that opportunity, in most cases it promises more opportunity for all.

In a *brownfield* opportunity it is possible that all stakeholders view it as an opportunity, but it is more likely that there will be stakeholders that see the effort as a potential disruptor or even possibly as a threat. In the above first example, those strongly involved in the existing technology base are very likely to resist attempts to make the change.

The key to addressing the risks of each is to identify the crucial stakeholders, their interests, and what metrics they are likely to want reached. Fortunately, the Enterprise Architecture approach is well organized to provide guidance in these tasks.

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 an EA approach:

- Will help map their business requirements and processes into underlying technologies
- Will improve their understanding of the impacts of changes in technology on business requirements

- Will provide more timely and more accurate estimates of the technology costs for 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 on number of systems implemented, reuse of technologies and licensing cost optimization is useful.

Assessing the Challenge

One of the important questions that an Enterprise Architect has to answer to the stakeholders with an Outside-In Enterprise Architecture approach is how it differs from a traditional approach to integrating technology into the business goals. If your organization already has solid IT processes in place, the differences are going to be minor. If on-the-other-hand your organization's IT Process maturity is low, the changes may be significant.

ITIL (IT Infrastructure Library) is a broadly standardized and understood approach to integrating IT into business strategy. While ITIL is not Enterprise Architecture, many of the tools ITIL provides are useful for implementing EA. Particularly useful can be the ITIL Maturity Model.

The ultimate goal of an EA approach is to achieve Level 5 capabilities. The maturity level of your organization's IT process governance will largely define your approach:

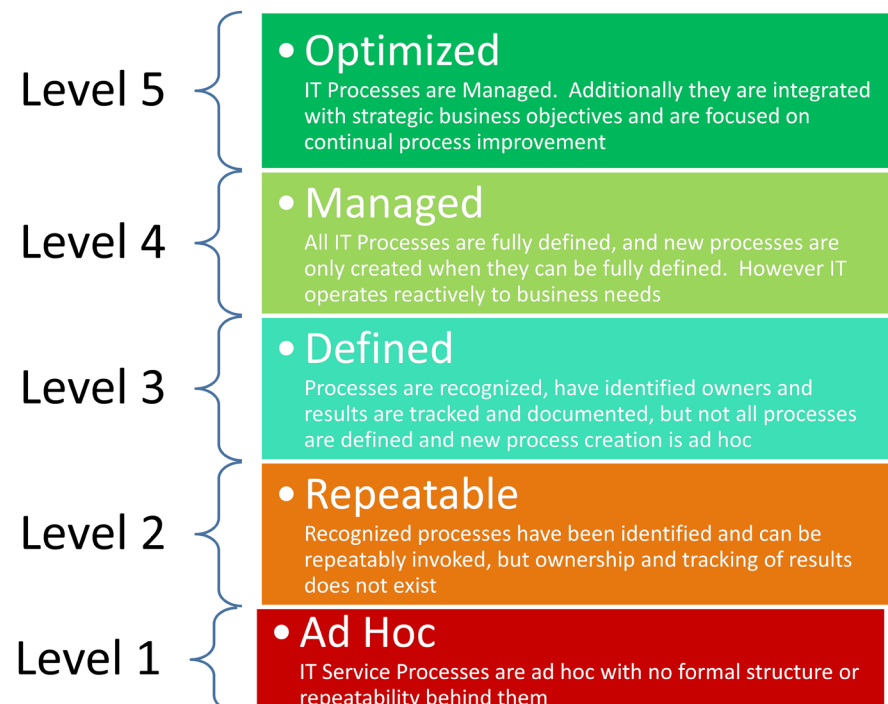


Figure 1: ITIL Maturity Model

- Level 1 – Your approach here is to position EA as a way of documenting the business goals and roadmaps and to begin the process of defining repeatable support and integration of IT processes with Business Goals and Roadmaps
- Level 2 – Your approach here is to position EA as a way of integrating support requirements and accountability of results into the existing support processes; giving the Business Owners a SPOC (Single Point of Contact) for their processes (also sometimes known as the “One Throat to Choke” level of accountability)
- Level 3 – this is frankly where most medium sized and some enterprise scale organizations live. At this level the promise of EA is to begin not only satisfying the immediate Business Goals and measuring how the support processes deliver on those goals, but to begin synchronizing development of new IT initiatives with the business roadmaps that are being documented
- Level 4 – You are doing well if you have an organization that is executing at Level 4 without an existing EA methodology. Odds are that you have many of the pieces needed for EA in place already, and you may already have started various EA initiatives to reach this level. The approach here is to present the incorporation of EA efforts into the process as the means with which IT can communicate process and technology changes proactively to the business leadership thereby reducing risk exposure and improving long range Planning
- Level 5 – frankly you will not be in a situation where your IT organization is operating at an Optimized level without having incorporated EA methodologies. However, on the off chance that a pure ITIL approach has resulted in an “Optimized” level, the approach here is to refocus that effort from an IT Centric approach to one that is seamlessly integrated with the Business Goals

Why Not Just ITIL

A natural question arises from my use of the ITIL maturity model as a way of identifying the EA approach to be used: why not just continue with ITIL instead of the more complex and less well-known Enterprise Architecture approach. The answer is hinted at by the difference in the names of the approaches: ITIL is an IT Infrastructure Library approach. It is necessarily IT centric, and builds a library of IT processes and tools. It incorporates Business Drivers only at the highest levels of Maturity and results in an IT organization that is a service organization to the business goals rather than a partner in informing, creating, and executing Enterprise strategy.

Enterprise Architecture, on the other hand, begins incorporating business goals into the process from the outset. Particularly with an Outside-In approach, we start with the Business Goals and begin tying them to the underlying systems.

Integrating Cloud: A More Concrete Example

One area where an Outside-In approach is a strong candidate is evaluating strategies for integrating Cloud Computing into existing solutions. The usual path for “Cloudifying” a solution is to move the servers associated with the solution to an Infrastructure-as-a-Service (IaaS) cloud (either public or private). While this might satisfy the abstract goal of “Cloud First”, it does not necessarily integrate with the business goals of the overall solution. Such an approach really is an example of a Level 1 implementation: The business goal identified by IT is “we need to move this to the Cloud to reduce costs”. However, questions like

Why did we go to Cloud? Because it saves us money
How much? Well we aren’t measuring that
How do we transfer that knowledge to the next project? We aren’t sure...

Largely, goals are either not identified and usually lack tangible metrics.

An Outside-In approach instead would look something more like:

1. The Business Unit has identified that it needs to expand its sales exposure on the internet, and brings in the Enterprise Architect to drive the IT side of the process. The Enterprise Architect organizes a meeting with the business stakeholders to identify
 - a. Who the owner of the project is
 - b. What the business timeline for this is
 - c. What is driving that business timeline
 - d. What are the expected outcomes of this change
 - e. What is the budget for this change
 - f. What are the business processes involved in the change
2. The Architect then contexts the owner of each business process to work through the details of that business process and identify all the explicit and implicit workflows and human computer interactions

The Architect then maps these processes to the applications and systems impacted.

Tooling Choices for Business Processes

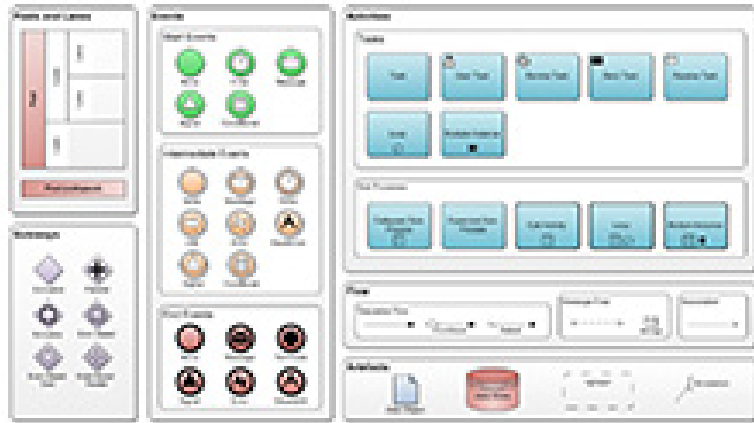


Figure 2: Orbus BPM Process Tool

In all of these steps, Enterprise Architecture tooling such as that provided by Orbus' iServer can be used. What I personally like about the iServer approach is that it uses existing Microsoft Office documents and integrates them via Visio Stencils to create documentation of your business processes. Since iServer also has support for ITIL, the integration between your Enterprise Architecture initiative and the internal IT centric ITIL approaches can be easily integrated.

Please note, there are a variety of tools available besides the ones listed and you may find one that meets your organization's specific needs more closely. The general approach does not change with the tooling, though specific details of how you deploy and integrate the tooling does.

Demonstrating Value Early in the Process

I implied earlier that Enterprise Architecture enables IT to integrate into the strategic planning processes of an enterprise. This requires that the process described so far not be a one-way process, and yet the description so far, has been one way, hierarchically from the Business Process towards the IT organization as a service delivery organization. In your first EA effort in an organization, this will be somewhat true – after all, you first have to build the information path before information can begin flowing bi-directionally. The key, though, to a successful EA effort is to begin cycling back to the business decision makers as soon as possible with information that is useful to them.

In this case, a map of the processes involved and impacted can in turn be used to refine the goals for the project. For example: if the business goal for "Cloudifying" an application is to add Social Media (Facebook, G+ and Twitter) functionality to the existing web presence, identifying which business process is impacted by which feature changes enables the business decision makers to immediately begin to apply their

knowledge of the rhythm of the business (such as when the annual partner training conference is and what new capabilities and processes need to be in place by then) to prioritizing the feature set. Exposing the Business Decision makers to the process inter-relationships enables them to better understand the business impacts of feature changes they are building into their roadmaps.



TIP: Ensure that your project plan provides useful deliverables back into the strategic planning process as early as possible. This will keep the business participants actively engaged through the IT process, which is critical to the perception of value that you are working to create.

Moving to the Technology Layer

Returning to our Outside-In process above: the impacted systems have been identified so that now the technologies involved can be assessed, including issues such as the licensing lifecycle for a particular supporting technology. For example, if the license agreement with the Content Delivery Network (CDN) provider is in year 2 of a 5 year license commitment, and there is plenty of utilization headroom, it makes very little sense to turn to a cloud provider for the CDN. That in turn may well alter the data migration strategy for the project: if your CDN is not in the cloud, perhaps you should only migrate data replicas to the cloud. On the other hand, if the CDN is projected to exceed capacity by the end of the contract, starting a data migration to the cloud and engaging with a cloud based CDN immediately, even if the current CDN is presently adequate to handle the new loads. Of course, at the business decision level, this level of technical detail would not be exposed directly. Instead, the information presented would be about costs, timelines and scope of project impacts. By using a centralized repository such as Orbus' iServer this type of integrated view becomes quickly available.

Tooling for the Technology Layer

Here we come to another question. What sort of tooling should be used for EA? Tools like Orbus' iServer leverage the ubiquity of Microsoft Office documents to involve BDMs more directly in the process. For an Outside-In process, I would definitely recommend a tooling solution that maximizes the ability to directly leverage the existing process and

The next step is to convene the stakeholders to identify both the actual

business goals as well as the high-level business processes affected.

An iterative cycle of business process refinement and validation follows as well as the start of mapping these processes to the underlying applications and systems. This requires the use of tooling to document and track this information. Tooling that leverages the existing form of documentation (usually Microsoft Office documents) is strongly recommended.

As soon as possible, begin feeding this holistic model back to the Business Decision Makers to inform them of the trade-offs in their business decisions. business documents and repositories as well as one that enables the BDMs to easily create queries and views into the data without having to involve additional IT resources to create new reports and new tools.

UML Connects Technology Tools to Business Tools

Now that we have documented the business processes and the systems impacted, how do we proceed to actually implementing the changes we need to execute? Often this is where the disconnect occurs in the project, particularly in organizations where the overall ITIL maturity is low. The key is to recognize that even if organizationally your IT organization is operating in an Ad Hoc manner (Level 1) that beginning the process of moving up the scale by demonstrating best practices in this new project will improve the organization as a whole.

Often such a “best practices” approach will involve a temporary increase in the number of tools in use. One of the most prominent systems and software development tools: Microsoft Visual Studio supports UML (Unified Modeling Language) as inputs into the software and systems design tools. This suggests that for any project of significance, the choice of tooling should at least provide a UML export as well as import process (after all, developers are going to update the UML documents as they build the system and find the need to make changes).

UML opens the question as to what level of detail should be exported to the IT development and deployment process. To avoid a Waterfall process in development, which dramatically increases the risk exposure to the project, I would recommend limiting the UML granularity to a documentation of the business processes and Interaction Diagrams and possibly specifications of the entities interacting. However; until the Enterprise Architecture process is significantly advanced in the organization, greater detail will in essence be “false precision” since organizationally that sort of information has not been consistently collected.

Summary

The Outside-In approach works best when the business goals are clearer than the technology underpinnings or when the business sponsorship is stronger than the technology sponsorship.

The first step in the process is to identify stakeholders as well as the IT process maturity. ITIL offers a broadly accepted maturity model for this assessment

The next step is to convene the stakeholders to identify both the actual business goals as well as the high-level business processes affected.

An iterative cycle of business process refinement and validation follows as well as the start of mapping these processes to the underlying applications and systems. This requires the use of tooling to document and track this information. Tooling that leverages the existing form of documentation (usually Microsoft Office documents) is strongly recommended.

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