

Service Oriented Architecture Benefit Realization

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The CIO and CFO challenge in 2009, driven by the economy and IFRS is to deliver more with less. What they need to realize is that they have the means at their disposal to accomplish this.

There is a significant asset in the corporate ERP that remains unexploited. The support cost displaces funds that could be used for the delivery of new function. What is needed is an action plan that will result in the efficiencies that shed some of the support burden and get the best mileage out of the funds that are released to deliver value.

This article:

- 1. Gives insight into the opportunity and where to look for symptoms in your enterprise,*
- 2. Provides a place to begin the diagnostic process to assess the severity of the problem or sizing of improvement opportunity,*
- 3. Defines how to establish a solid foundation on which you can position benefit realization, and;*
- 4. Outlines what steps may be taken to ensure lasting effects.*

Definition

The change brought about by Service Oriented Architecture (SOA) is as large as that which has been brought to mainframe architecture by the arrival of client / server. The first change resulted in a wholesale replacement of old applications in order to achieve benefits. With today's sophisticated products, migration tools provided by the vendor permit the owner to retain much of the original client / server asset and the investment in the established business processes. Unfortunately, this method not only retains many of the defects that have been introduced into the system over years of customer enhancements, but also the workarounds that have been implemented to address shortcomings in the product. In many cases, the original purpose for these and authors have long faded into memory, but the maintenance tail for them remains, as does the barrier to the exploitation of newly delivered business processes enabled by SOA.

Throughout 2007 and 2008, the majority of SAP installations have upgraded from the 4.6X release to what is called ECC 6. For valid risk management reasons, the overwhelming number of these upgrades was "technical". In other words, the original transactions, tables, application components (R3) and GUI were retained. Some of these components go back to the 3.X release vintage in older installations. The business processes they support at one extreme are deeply embedded in the organization as to be digital concrete, or at the other extreme, have been abandoned or dormant in actual use. In any case, the blueprint or design documentation and the application have long parted company resulting in what is effectively an asset warehouse without a record of inventory. To carry that metaphor to the next step, the carrying costs continue for the asset in the warehouse without the owner knowing what should be used, discarded or replaced. In fact, some of the goods have been damaged over time, which is a fact that may not become evident until use or replacement is attempted.

The new ECC 6 supports the full SAP Business Suite. This is likely already licensed to most of the customers and is an available but unexploited asset. It supports new extended architectures and application software for CRM, Supplier Relationship Management (SRM), Product Lifecycle Management (PLM), and Supply Chain Management (SCM). It extends integration through NetWeaver to heterogeneous point solutions, as well as a web transaction presentation so craved by business users. In fact, this was the promise that justified the funding for the upgrade to ECC 6 in the first place.

I.T. leadership now faces a challenge. That is to deliver benefits promised, including a lower cost of ownership, while having changed little other than the technical foundation on which the old application now operates. There was of course the hope that the continued economic strength of the first half of 2008

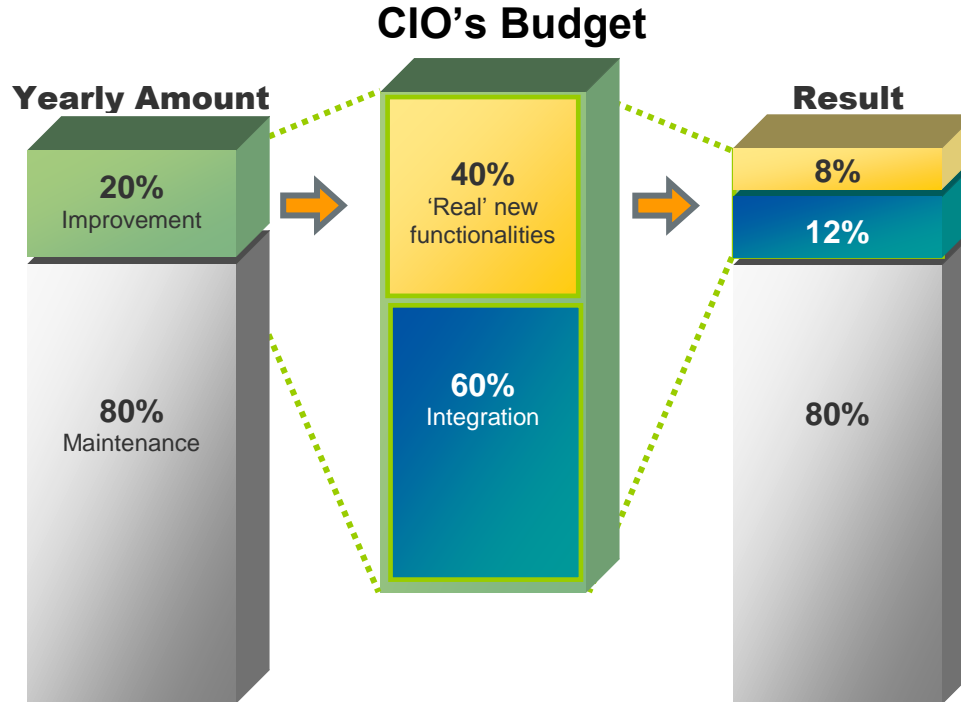
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would continue, providing the demand and associated funding that would support application reengineering and benefit realization from the upgrade.

We of course now know that 2009 brings us a very different economic situation.

On one hand there is pressure to trim the I.T. budget, and on the other, customer demand for efficiency of business process, and information delivery to support corporate life-or-death decisions is the greatest it has ever been. All this is against a backdrop of mandatory governance programs such as IFRS. The method employed by the technical upgrade of 2008 has not planted any seeds for a harvest.

Statistical figures indicate that on the average, 80% of the I.T. budget is dedicated to

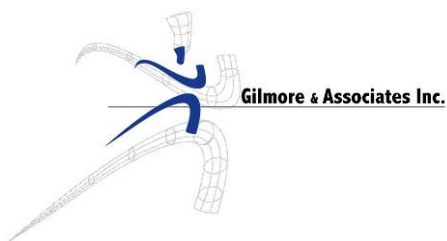


maintenance, in other words, just keeping the lights on. This leaves 20% for enhancement and innovation. If the economy continues to stall, it's likely this 20% will have to be cut from the 2009 budget. The I.T. leadership is now faced with the absolute need to deliver on the 2008 upgrade benefit promise or risks having their successor blame them for the failure to do so. Furthermore, if all that an I.T organization does is keep the lights on, can the executive have any other recourse but to consider outsourcing I.T?

So if doing nothing is not a survivable option, what should be done?

The Starting Point

Well, for one thing, mostly all what is needed in terms of the technology is there. ECC 6, Business Suite, comes with foundation building blocks and components ready for use. Fundamentals such as Solution Manager are in place. There may not be any content, but it's there, and there is a controlled place to put application objects once they are identified. That is the purpose for which Solution Manager was designed. In fact, in the future all of SAP will be managed through Solution Manager. Already application components such as SRM cannot be configured without using Solution Manager. The need to have a



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management agent like this is essential with SOA. In an environment where services are subscribed and consumed without regard to a fixed platform location, the entire notion of loading an application on a given server or a dedicated service is not within the feasible control of a human agent. Yet another dimension to this imperative is access control. With SOA and web extensions, the simple approach to role-based internal security as designated by SOX becomes unfeasible without a Governance, Risk and Control system (GRC). Requests for ERP services no longer just originate from conventional users identified by a network logon ID.

A reliable inventory of the implemented SAP asset is a pre-requisite before proceeding with any further steps that are described in this paper.

A mature SAP implementation will likely have between 1,500 to 4,000 transactions or programs that have been configured, developed, and used at some point in time. Depending on how I.T. delivered customer service, there is likely a multiple of this number of report programs that were developed since go-live. It is well-known that (a) a very small percentage of these are in everyday use, (b) many of them don't even have an owner any more, and (c) many have latent if not active defects. Moreover, the problem keeps growing as long as developers are there to create new programs.

The inventory process consists of the following steps:

First is to engage a service, in the past supported by RBE (Reverse Business Engineer), but now available commercially with the appropriate tools, to walk the log files and SAP object registries. This will provide the necessary analytic data to identify what is configured in the system, what is active and what may be obsolete. This process will also identify in-use customizations and modifications, which are an essential piece of intelligence in developing an inventory that can be compared to "best practice".

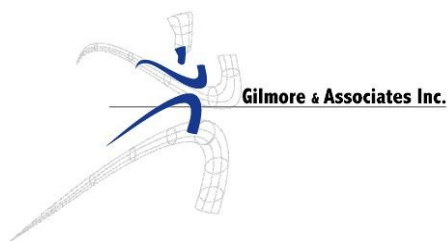
Now there is a base metric for the maintenance tail for the SAP application that consumes 80% of the budget. And what is measured can be controlled.

In a recent local case where this diagnostic was conducted, it was found that while over 1,300 SAP transactions were configured and available, only 340 were in actual use. Armed with this information, the organization was able to identify the root cause for broken business processes and was able to get some quick wins. I.T. did not need to build or modify a thing. Immediate benefits were realized just by deploying what was already available.

At another site where ERP has been live for over a decade, the inventory process revealed that less than 12% of the system function was employed. While this is only a partial diagnosis, further examination revealed that only about half of the total procurement activities used the ERP supply chain process.

The next step is to synchronize and map the active objects with Solution Manager. For this, there are two basic requirements. One is the ARIS product. Think of VISIO as an example. Now put it on steroids. ARIS is a business process graphic documentation tool that synchronizes with Solution Manager. Another is a service is needed that will map the transactions into a business process flow. The supplemental information that this service needs to develop is the business processes that surround the actual transaction that is employed. Without that dimension, all we have are the clicks that are used in the transaction but not the "why" and the "when".

Now there is a business context to the use of the system. And it's actively linked to the production SAP system.



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And finally, the quality issue needs to be addressed. In the days when I.T. shops were builders rather than buyers of applications, the practice of quality assurance, code walkthroughs and program performance monitoring was an accepted discipline. This practice rarely survived once applications were bought, rather than built. Moreover, it's likely that the implementation and customization was contracted out to the lowest bidder, or at the very least, was an afterthought to the minimum survivable go-live scope. Once live, the implemented system began to acquire "lint", which it continues to do with every single program that is the subject of a transport. So, essentially this step has two basic dimensions. The first step is similar to running a virus scan. The scan uses a set of unacceptable coding practices, then performs a scan of the SAP libraries to identify and categorizes defects. It helps if the step of having identified only the active components was a preliminary step. Once offenders are identified, they can be repaired. The second dimension is preventive. It's an active agent that scans ABAP code that is being submitted for transport to ensure that new defects aren't being introduced to a now clean landscape.

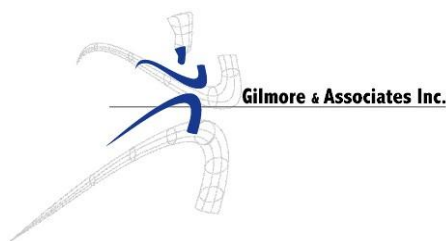
So to review what we have accomplished thus far.

The sustainment load has been reduced to maintaining only those parts of the application that are used. Solution Manager has been implemented as the gatekeeper to ensure that this remains under control. System documentation has been linked to the actual system configuration and now has graphic representation with the same gatekeeper. Existing and latent defects have been identified and removed, and safeguards put in place to keep them from returning. If one is allowed to estimate, these steps could cut the cost of sustainment by 50%. And that in itself is a significant accomplishment, as no outsourcer has a viable business case once this is achieved. But if they still have one, at least the organization has exact metrics on which to evaluate the outsourcing bid. If this is done successfully, the organization outsources sustainment and releases valuable internal staff to activities that deliver new business functions. Furthermore, these new business functions can be transferred to the outsourcer's scope under a metered control.

Build On Established Base

The I.T. organization is the custodian of the application system and very aptly so. It is important to note the word "custodian". The owner of the business process that the application supports is the Business. It is important to note the word "owner". This duality has been the root cause of problems since the beginning of the digital age. There have been metaphors that compare this to the builder of the car not being responsible for the ditch the owner parks it in. A more accurate metaphor is that the Business and I.T. are the pilot and co-pilot of an airplane. The business users are the passengers. The business and I.T. leaders are just the first ones at the scene of the crash in the event there are mistakes.

The traditional implementation of any system includes the collection of requirements and the development / delivery of a solution to its user. Upon satisfaction, the ownership transfers from the builder to the occupant. The builder then proceeds to service the next request in like fashion. It should be noted that during the delivery process, the business users in many instances appointed surrogates to represent them. Line managers in most cases do not have the attention span or discipline to work in a project role. It's not their fault as they were hired for a different skill. So at the end of the project, the entire construction team departs, leaving the line manager to maintain and understand the entire business process. Given day-to-day pressures and staff turnover, it's simply a matter of time till the system devolves into an unsatisfactory and even burdensome part of daily life. Eventually the statement that "SAP doesn't work" becomes a daily phrase, shortly followed by the use of spreadsheets that compete with the system and other "blamestorming" activities that are wasteful.



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Examining where our initial steps have taken us, we have documented what is in use in the system and who uses it. It's in graphic form and its quality is controlled and managed.

There is one more asset that can be integrated into the repository. This is integrated training content using uPerform. It requires significant effort and specialized skills. It's well worth it when one considers that that is the final step that will support business ownership by transferring the knowledge base from I.T. to the business. Now when the business has a request, it can be made within the context of an existing design that can be trusted to be accurate and done by skilled personnel who own and understand the business process. In fact, they have now become the business analysts and I.T. has successfully transferred yet another cost component from its budget to the business. The business process owners are now able to analyze and evaluate changes they need before it becomes an I.T. request.

And here is another dividend. The most risk-prone part of any I.T. initiative is the development of accurate estimates for any project. The root cause of this is lack of reliable data on what is in place and what will have to be activated to deliver satisfactory results. Then there are the unexpected defects as well as the often ignored effort of business process change. If the process is already owned by the business and; there is a solid inventory of quality objects, then supporting a repeatable process of change through tools like Quality Center is now achievable.

Redeploy to Deliver Value

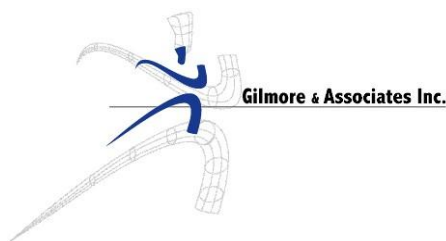
Now that the cost of ownership and change management is contained, the next evolutionary steps can be funded from the proceeds.

One of the first is to develop a strategy for the deployment of portal and workflow supported technology. It has long been observed that work isn't performed in terms of "transactions" but more in a series of collaborative actions between members of a business community. The SAP GUI transaction mindset has long been an inhibitor to this approach. In addition to presenting a complex screen, it failed to do so in a manner that represented the progression and conclusion of a business activity that spans organizational boundaries. The new Business Suite comes with pre-built standard workflows and scenarios that are ready to deploy. No construction is required, especially when the current process that it's replacing is understood and documented.

The second step is the exploitation of Business Intelligence (BI). It's time to realize a payback from ERP. With most of the investment made in capturing data through the application, it's now time to exploit this asset by making it available for decision support and business management. Given the current constraints on the economy, this is more vital than ever. The time-consuming method of writing a program to generate yet another report is just no longer adequate.

A critical success factor is I.T. leadership by example. I.T. organizations frequently don't participate in the ERP, opting instead to use third party applications for call center, such as Remedy, and various portfolio and project control tools that stand alone. This too is a significant extra cost and effort to use and sustain, and moreover, does not integrate with the rest of the enterprise for either data or process. It's time I.T. drank its own Kool-Aid. ERP handles Call Center (CRM), Asset Management (Plant Maintenance, Materials Management, Service Management), and Project Management (Project Systems), and does so in an integrated fashion with financial structures, including budgeting, AFE, and reporting.

And finally, integration and resulting access management need to be addressed. With NetWeaver, SAP is no longer a closed system. If another application can compose the required URL, SAP is ready for the dialog. Full JAVA capabilities, SOAP, Master Data Management (MDM) are just a few of the avenues



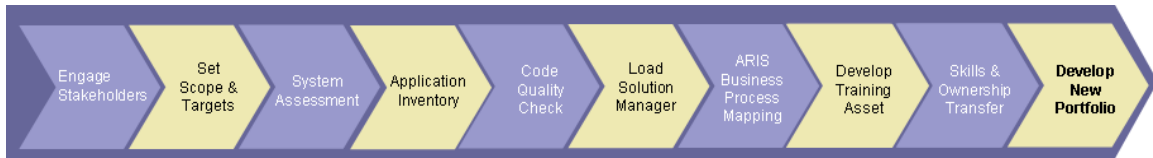
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that are now available to exploit. Access management and user profile administration will fail if handled in the classic SAP way. Access requests for system resources will originate from points outside the system and indeed, outside the firewall. Without the implementation of new access management suite such as GRC (Governance, Risk and Compliance), these technologies will not work and will become unsupportable over time.

Conclusion

Successful execution relies on joint ownership between the Business and I.T. A change in ownership cannot be achieved without this. And any change cannot be achieved without complete buy-in and a change management and adoption process.

There are a set of clearly identified activities and checkpoints as well. The structure of the process allows for quick early wins for demonstrated results and benefits. The service needs to be assisted by a local supplier who is known and trusted by the customer in order to avoid a “drive-by”. Above all, at the end of the day, in order to harvest continuous benefits, the service provider needs to disengage, leaving the customer in charge.



The current economic troubles can be looked upon as an I.T. opportunity instead of a threat or setback. Indeed, it's in responding successfully to these challenges that separates leading enterprises from those that aren't. The leaders will attract the needed talent that others will not be able to retain. The followers will be left with the talent that they would rather do without. They will also face the threat of outsourcing.

Top quartile performance is within grasp of those who have the vision. But it is essential to understand the steps and the approach, as well as the services that need to be deployed in order to lead or assist in delivering the results. And keep in mind, at the end of the day; results matter and it is definitely not business as usual in 2009.

