From Integration to Collaborative Business Management Through Business Processes

Mike Payne

VITRIA-EMEA, UK, mpayne@vitria.com

Abstract: This brief paper outlines some of the areas needing consideration when creating and delivering an integration backbone to a business. It contrasts the data based approach against the more effective process based approach and highlights some of the non technical considerations in making a strategy that works. The thoughts are drawn from seeing numerous customers and partners put together frameworks with a greater or lesser degree of success across Europe over the last three years.

1 EVOLUTION OR REVOLUTION

The purpose of this brief paper is to make some observations grounded in experience of the use of business-process management as the keystone to successful business integration. This section deals mainly with the approach to the business, whilst the later sections deal with other aspects of successful integration projects.

The last five years have seen an explosion in the complexity of business systems and the speed with which changes occur to businesses and markets. One of the key drivers to successful organisations is that they are able to see at anytime key parts of their business. Some of the examples of where this failed badly were the abuse of trading systems, the over stocking of supply chains and the failure to absorb and capitalise on mergers and acquisitions. Other pressures were hugely changing competitive landscapes, requirements to deploy new services quickly and the drive to create business-to-business linkages.

Factors that influence significantly the success or failure of integration strategies hinge on whether the people within the business recognise the

The original version of this chapter was revised: The copyright line was incorrect. This has been corrected. The Erratum to this chapter is available at DOI: [10.1007/978-0-387-35621-1_43](https://doi.org/10.1007/978-0-387-35621-1_43)

need to change the way of creating solutions and deploying frameworks and that it is supported at board level. Applying a data or system-oriented approach constrains the potential of the business to genuinely free itself from the infrastructure and to focus on the real business goals.

This occurs because much of the system delivery is done through information technology groups, consultancies or application vendors, most of who have little knowledge of the way in which business processes work within the business. The stakeholders in the business can end up feeling the solution has been foisted on them and in some cases extensive in fighting has broken out within the organisation.

The approach that works in introduction of any new strategy is that it must be an inclusive process to minimise the resistance to and the orphaning of the new solution. There is an opportunity to use the initiatives as change agents.

So key requirements for any successful strategy have to be:

- Clear business goals including the ROI
- Business level sponsors
- Executive level sponsors
- Objective evaluation of technology
- A pragmatic approach to building the business-process infrastructure

The following sections review the following areas:

- Whether to buy applications from one vendor or many
- What are the characteristics of business-process integration
- Cost rationale
- Collaborative process platforms

2 ONE STOP SHOP OR BEST OF BREED

The IT industry has a habit of going through fads. One that occurred recently was sourcing all software from one application provider. On one hand this works well since there is one point of contact for all issues on the other hand there are a number of drawbacks. These are:

- Vendor lock-in
- Dependency on the vendor's domain expertise i.e. Retailing
- Failure to achieve true integration between the modules that make the solution resulting in data re-entry for example between customer account systems and accounts receivables
- Application fit to the business i.e. do you have to modify your business to meet the application capability
- Ready availability of skills in the correct products

- Dependency on the vendors product cycle for new functions and features

There are others, but this serves to illustrate one of the first hurdles. Even when the business is entirely using one application for the enterprise such as SAP there are tremendous ‘integration’ issues. A concrete example is where a multi-site implementation usually means not all parts of the business move to the same software revision level at the same time. This causes issues around software version dependencies and incompatibility between environments. This is exacerbated when the integration is tightly coupled to the underlying systems and the business processes held inside the applications.

The alternative approach is to use a best of breed approach. This however necessitates a more considered integration strategy and approach, which is application independent. The key to success is to drive the selection, and delivery from what the business is trying to do. To select a package on functionality is a little unwise, generally speaking most packages can fulfil 80% of all requirements anyway.

Drawbacks to best of breed approaches can be:

- Higher support costs through the need for more contacts.
- Requirement for more integration.
- More complex implementation.

However by articulating the requirements as business processes allows a much cleaner communication with the end users and the opportunity to create an extensible process framework.

Many implementations typically start with a number of processes that may span one or more systems. If a process approach is taken then it is possible to ‘wrap’ existing applications and to deliver new services without the high cost and high risk of re-engineering legacy systems as well as avoiding a big bang approach.

Gradually over time the integration backbone gets extended throughout the enterprise. The phases that typically are encountered are:

- Internal integration of a few small systems
- Integration of more systems through extensions to existing business processes or introduction of new processes.
- Integration on-line with partners and suppliers.
- Self-regulating business processes.
- On-line collaboration.
- Real-time view of the business processes and the real state of the business.

Clearly depending on the business requirements and the history brought to bear, many IT teams would feel safer with a one-stop shop approach. Vitria have customers who have deployed in many diverse and complex con-

figurations, and built on that or created new values add services around existing infrastructure.

3 CHARACTERISTICS OF A BUSINESS PROCESS DRIVEN INTEGRATION

If the view of integration through business process is considered, some of the things that become immediately obvious are how to manage the diversity of business processes. In the real world business processes can be:

- Dynamic
- Complex
- Long lived
- Self-regulating
- Involve humans
- Span highly distributed systems
- Act both synchronously and asynchronously

The integration backbone must be able to handle all of these options in a manner that allows a rapid deployment, using common skills and metaphors and adhere to known standards. It should also support the concept of a stateful process. This becomes particularly crucial when you have transactions that as part of a process must be delivered once and only once or are running over unstable infrastructure such as a wide area network.

The advantage of this approach versus a data approach is reduced costs to deliver and maintain as well as infrastructure transparency since the process is independent of the systems and is loosely coupled to the data.

One other key advantage in the approach is to externalise the business logic that has historically been secreted inside the applications. This allows a much cleaner and more effective discussion about whether that really is the business logic. It also removes the dominant application syndrome, which is where one application is the centre-piece of the implementation. Examples are where say the ERP system is held to be the core application, when in fact that is not the case. This tends to cause business logic and workflow to be placed inside this application, which negates the benefit of using a process, since much of the logic is invisible at a higher level.

The other consideration when building out the business processes is volumetrics. Once a third party is allowed access to the shared business process whether via the web for some kind of customer self-service or via a bonding to another business control over transaction profiles has gone. This requires several things to be in the backbone:

- Horizontal scalability
- Multi-threading capability

- Vertical scalability
- Statefull processes

The backbone must support these to allow the business to cope with unknown events, unpredictable volumes of activity and long-lived processes that may run over a number of weeks.

4 COST RATIONALE

“GartnerGroup advises its clients that use of an integration broker will reduce application implementation costs by one-third.

Greater savings occur after initial development.

Maintenance: a single change to an interface ripples across other interfaces, use of an integration server can reduce costs by two-thirds.”

One of the challenges faced by businesses deciding on integration strategies is to create a compelling business case. In most instances the reasons fall in quantitative areas such as cost savings through lower maintenance, reduced time to delivery, increased component re-use and lower staff costs due to using commonly available skill-sets. The other area is far more qualitative and more strategic, this typically involves a leap of faith and covers items such as ability to integrate information from other businesses quickly, a real-time view of the business and feeding through to improved customer satisfaction.

One risk is that for the initial project where staffs have just come off training there is higher start-up cost than adopting a point-to-point solution. The challenge is to create a return on investment model that has tactical deliverables to senior management and the business, whilst not being the hardest part of the integration. This helps address the emotions of accepting new technology by the business and builds confidence in the technology by the delivery team.

Implicitly all stakeholders know that creating an infra-structure backbone is a good thing, but are very wary of ivory tower approaches to key projects. This leads back to the earlier statement that driving integration through business processes allows gradual implementation and quick delivery, with minimised risk and maximum flexibility.

5 PLATFORM FOR COLLABORATION

It has been discussed earlier that most businesses using integration are taking the first step on a road, which ultimately leads to interactions with other parties, both customers and partners. This is becoming more prevalent

across multiple industries where tight collaboration is required due to initiatives such as cost reduction drives, vendor managed inventory or straight-through processing.

Clearly if the integration has been set-up through a process approach then it is transparent to the businesses what the systems topology actually is. There is a need for the integration backbone to have certain key capabilities such as authentication, repudiation, non-repudiation and protocol management.

This structure allows one business to offer information through processes to third parties with a wide variety of systems capability. Examples include communication at a basic level via secure ftp, through EDI to public standards such as RosettaNet, but all captured from a process viewpoint.

Across many industries there are drives to standardise inter-company and intra-company communication using predefined message formats and process flows. The best understood at the moment is EDI, with its defined transaction sets and process flows.

The process flows are split into public and private. The private processes access the internal systems to provide information to the public processes. It is these processes that the third parties interact with. This approach allows complete transparency of businesses, network topology and systems maps.

More and more customers are beginning to go down this route. One advantage is that new technologies such as web services can be incorporated very easily as enablers working under the control of the processes. This means the fads and vagaries of the technology marketers will not place at risk a business.

The cornerstone of successful integration projects is to drive the strategy and delivery from a business process. Anything else will result in increased risk and cost and will fail to deliver. Practical experience suggests the emotional response to short-deadlines of engaging in point-to-point solutions is the wrong one. Some customers in the UK spend over 1.5M Euros on maintaining their point-to-point legacy interfaces. There is no value add to the business, just raw cost.

6 CONCLUSION

The general discussion in this paper has been around integration through business processes. Practical experience in Europe as part of Vitria over the last three years has re-enforced the belief that process management is the key platform to building virtual businesses and secure collaborations. This process-based approach is a fundamental characteristic of the globalisation that

has occurred over the last ten years and to fail to adopt this thinking is to risk the long-term survival of the businesses.

Integration through business processes succeeds because it allows the creation of a framework on which the business can perform operationally and develop strategic plans for adapting to future change. It also makes available critical business data in real-time to enable a fast responsive business.

It is safe to say the era on non-return of IT investments is over. All IT spending must justify its incursion through measurable value added to the core business goals. This in the integration field can only be achieved through a business process approach; failure to do this leaves the company susceptible to nimbler adversaries. So the winner will be the company with access to core information and resources in the most efficient way.

For further information on Vitria see <http://www.vitria.com>