

Top 5 Tips for Enterprise Integration Success

In his 1988 Harvard Business Review article, *Putting the Enterprise into the Enterprise System*, Thomas Davenport argued “if a company’s system is fragmented, its business is fragmented.” If you’re about to invest in technology to integrate your business, your processes, your applications, and your data, here are Certus’s top five tips to maximise the return on that investment.

Integration Strategy – Think Big

When it comes to integration there’s a tactical perspective, and a strategic perspective. Viewed with a tactical lens, integration is used to solve specific, discrete problems. Viewed with a strategic lens, integration is a means to transform your business. Take the example of the manufacturing company who used lean and six sigma techniques to redesign their manufacturing processes, and then implemented the improved processes using a variety of integration technologies. They succeeded in reducing manufacturing cycle times from 12 days to six. The net result? Finished goods ended up sitting in the warehouse an extra six days. There was no net change in any of the metrics that mattered, because they had failed to take an end-to-end view of what integration could achieve. If you only have enough budget to do one small integration project, develop an end-to-end conceptual integration model, even if you plan to implement just a small part of the model. It may be that there are in fact better candidates on which to spend your modest integration budget. It is also likely that taking an end-to-end conceptual view of integration will demonstrate the value of taking a platform approach.

Generally, the least expensive option when integrating two applications would be to do point-to-point integration directly between them. Using middleware such as an enterprise service bus would add time, complexity, and cost. As soon as you start adding more integrations, however, it is the point-to-point approach that quickly becomes slower, more complex, and expensive. If you take the tactical view, you would probably go with a point-to-point approach; whereas if you take the strategic, end-to-end view, you’re more likely to go with a platform approach, such as a middleware investment in an ESB, which in the medium term will keep cost and complexity down.

So in building your integration vision, it’s best to think big. But in the next tip, we argue it’s best to think small when it comes to implementing that vision.


Integration Execution – Think Small

Imagine your budget for integration is unlimited. You can undertake every possible integration using whatever technology is suitable. So should you plan a large project and get started? The answer is no.

At an enterprise level, integration should be implemented through portfolio and programme management first,, and project management second. If you treat enterprise integration as a single large project, you lock yourself into a combination of budget, timeframe, schedule, and scope to which you’re expected to conform. Paradoxically your initiative loses the flexibility and agility you want your integration investment to deliver for your enterprise. So instead you implement your end-to-end vision as a portfolio and a programme. Taking dependencies into account, you apply the principles of portfolio management to regularly rank and prioritise integration candidates, progressively moving each into a programme of small projects.

One of the reasons this approach delivers better business results is that it assumes the environment will keep changing. It’s like sitting on the bow of a boat looking at the horizon, unable to see what lies beyond. If it turns out that what lies beyond is an iceberg, you’ll want to change course. Running a programme of smaller projects makes it much easier to change course than when running a single large project where you’ve set your course until the end. This is more than a semantic difference. For example, smaller projects finish, are transitioned to BAU, and realise quick wins and benefits sooner. And some projects in the portfolio may never enter the programme of work, but other new candidate projects may enter the mix.

A project is generally seen as commitment – making changes to scope or schedule is generally viewed as a negative thing, a breaking of that commitment. So think big and act small, via a portfolio and programme of small projects, rather than a single, monolithic project.



Measure What You Treasure

Integrating your systems will make for a better business, right? Not necessarily. There are two truisms that, if ignored, mean some integration investments deliver little in the way of tangible results:

- Do the right things
- Do things right

In other words, focus integration on the right areas, and then make changes that actually improve business performance. Improvement becomes more likely with one crucial ingredient: measurement. Although Albert Einstein is supposed to have said, “Not everything that can be counted counts, and not everything that counts can be counted” it is unlikely that he worked on any enterprise integration initiatives.

Effective measurement helps identify which integrations should be undertaken. For example, if a lack of integration between a sales order entry system and the fulfilment system causes errors that result in customer churn, what annual improvement in annual revenue and margin will result from integrating the system and eliminating the fulfilment errors? The earlier example of the manufacturing company halving its manufacturing cycle time could have been a happier one if they had focused on using that improvement to reduce the amount of working capital tied up in materials and finished inventory, or by being able to reduce the time from customer order to delivery.

And measures need to be meaningful. Saying that integrating two systems will “save 400 hours of labour per year” doesn’t necessarily result in a cost saving unless headcount is reduced.

So unless you can clearly and meaningfully measure performance before and after integration, you don’t actually know whether your investment is delivering returns.

Fit for Purpose

It’s said that the person whose only tool is a hammer will see every problem as a nail. There are many different types of integration technology beyond an ESB, and it’s essential to choose the right type of technology to achieve the right benefits. For example, business process management (BPM) software is a good choice for automating and integrating business processes, but even then, there’s no one size fits all BPM model. Knowledge work involves content as well as process, and is best supported using case management tools such as IBM’s Case Manager, which is based on FileNet, whereas routine work is best supported by business process management servers, such as IBM Business Process Manager. Both are BPM tools, but are suited to very different types of processes, and trying to shoehorn one into solving the problem better addressed by the other will likely prove a frustrating experience.

Another technology we can justifiably include as an integration tool is a mobile device, which can be used to collect data in the field that would otherwise be collected on paper and typed into the back office system at a later time. A mobile solution allows us to capture and validate data in real time, eliminating the process errors that are caused from keying data from paper – roughly one in three hundred characters will be entered incorrectly when data is keyed from paper.

So when people inevitably say that integration is “a business initiative, not a technology initiative”, they are of course right, but applying the right integration technology to the problem is a part of getting the (measurable!) result you were looking for.



It's a Journey, Not a Destination

A chronometer is a specific type of watch tested and certified to meet certain standards of precision and accuracy. Without regular maintenance, however, the watch will cease to perform at its usual high level. An integration between systems is an asset in the same way the systems themselves are assets. It is subject to entropy, and requires maintenance in ways both similar to, and different from, an ERP system or database (if not a chronometer).

This means that enterprise integration is not a destination; it doesn't finish when the implementation project finishes. System interfaces may change, reference data may change, business processes may change.

Managing change is easier if you take an architecture view of integration, modelling integration points, interfaces, and dependencies in a repository. Ideally a repository would give both business and technology people a number of perspectives – of enterprise architecture, business architecture, and process architecture. A good enterprise architecture tool will allow you to model the business architecture (such as a value chain, or capability map), the process architecture and the processes themselves, and how processes are executed, including the technology components that underpin them. So looking one way, you can at the click of a mouse see the technology components that would be affected by a process change, or the processes that would be affected by an integration change.

This type of meta data is also invaluable in helping you to develop the integration strategy ("think big") while at the same time implementing iteratively ("act small").

Integration Success

There will always be technical problems to overcome when integrating the enterprise but almost always these won't have as much of an impact on achieving business outcomes as your overall approach.

Think big, act small.

Use business metrics to focus on doing the right things and on doing them right. And use the right technology both to implement the integration, and to manage and change it after it's gone live, and enjoy the benefits of an integrated enterprise.

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