

The changing face of systems integration

How do organisations make sure that complex system integrations do not run over time and budget?

They typically don't. That is certainly the message that has come out of countless research and will no doubt be echoed by the experiences of many readers. Research carried out by Dr John Manus, from the University of Lincoln helps to put the size of the problem in context.

Dr John McManus, senior research fellow, University of Lincoln - *According to research published in Computer Magazine, the annual cost of IT project failure across the European Union is a breath taking €142bn (£125bn). To put that figure in context, project failures were defined as any project not meeting any or all of the following success criteria: cost, time, quality and original requirements.*

The study looked at 214 projects between 1998 and 2005. Of those we examined, seven out of eight projects were classified as failures. Amid the current economic turmoil, such levels of project failure are cause for alarm. 'There was little comfort we could draw from the research. The firms we studied had adopted sophisticated project management techniques to steer and keep projects on track. Yet many still failed.'

So what are the key challenges for a Systems Integrator?

The answer for many has been in better **project management**. And yet as we have seen, this addresses only part of the problem. The reality is that the causes of failure are many, varied, complex, and interrelated. And most of them are very hard to define, let alone fix.

For others the problems lies with the **design** and **development**? Surely getting a handle on the detail early on will save time and pain later! This is certainly a valid argument.

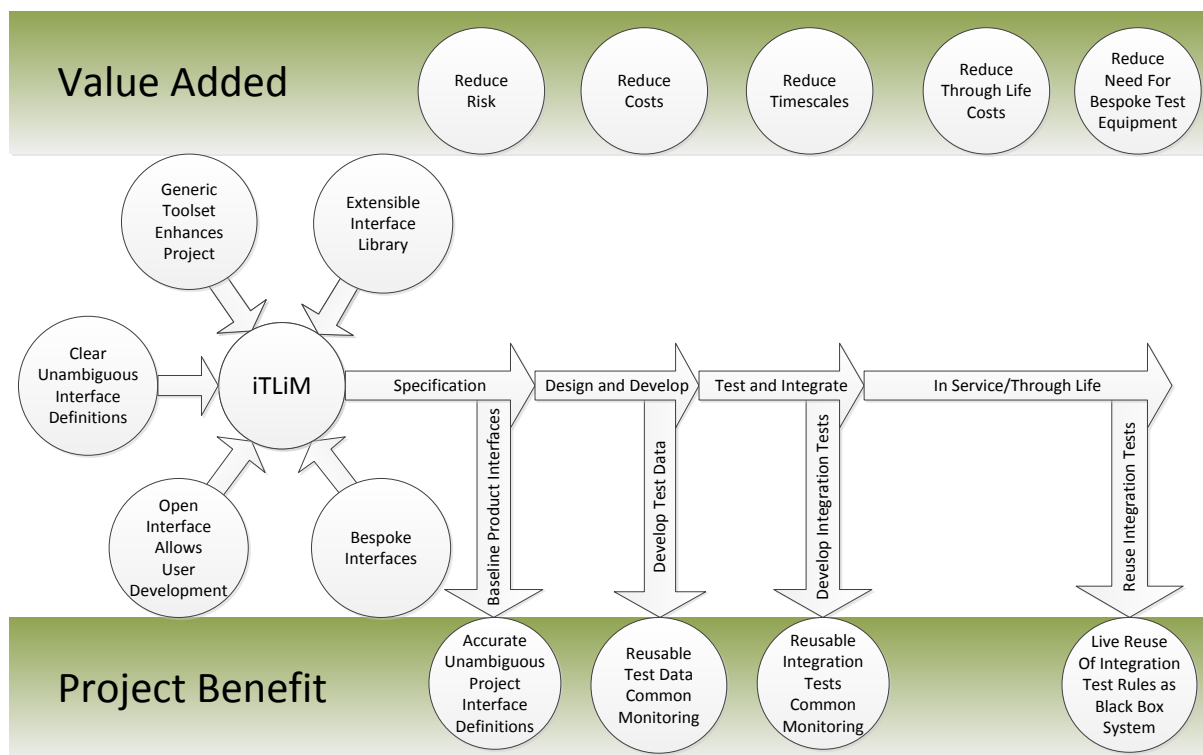
Or perhaps it's all to do with how **systems integration** has developed over time? Remember when companies did everything in house where complete control and communication throughout each stage of development was the normal practice. So often now systems integration is conducted across a much wider group of suppliers. The role of a systems integrator in this new world takes place at many different levels with the prime contractor also taking over the responsibility for managing system interfaces, the **'interface'** role.

So what might **interface management** look like at each of these stages mentioned above? Perhaps the interface role can be seen as a combination of project and programme management with strong commercial and communications expertise while still maintaining a good knowledge of systems integration. Often the real focus is maintaining the system performance and reliability throughout its life while managing a constant stream of changes.

How can we achieve this?

If, as outlined above, the challenge is to develop **accurate** interface specification early in the programme, how can an organisation justify the not insignificant upfront investment in additional resources? The answer is that the most significant issue encountered during the development, testing and integration of projects is **ambiguity** which if not addressed will add significant costs later in the project. Investing extra effort and rigour into the description of system interfaces creates the foundation to build a successful project that can be delivered on time, to budget and to customer requirements thus avoiding significant issues and avoidable re-testing. By using **accurate** interface specifications as the source for producing real data for development, test and integration can have far reaching benefits across all phases of a project lifecycle.

Adopting this approach creates an easier and more efficient change process. It facilitates the effective management of changes that can otherwise lead to costs spiralling way beyond the initial estimates, timescales slipping and requirements only being partially met.



What is required?

Integrated through life interface management (iTLiM) requires the production of an interface description that defines the message data present on a system interface in a precise and unambiguous way. Current methods do not produce accurate descriptions and as previously discussed tend to introduce ambiguity into the design process early on with potentially disastrous consequences.

Current methods tend to rely on bespoke document formats to convey the necessary technical information to the project team. The risk is that each supplier uses their own document formats making it difficult to achieve a simple, concise and accurate view of the required system interfaces.

This can lead to the production of erroneous test simulators and the execution of incorrect tests as a result of using different electronic tools when establishing the information required to make pass/fail decisions.

Using accurate, common format interface descriptions opens up opportunities to improve the processes where the aim is to increase accuracy and efficiency, thus reducing cost, risk and timescales.

For more information please go to <http://www.hawkgrove.com/iTLiM>