SEAMLESS SOFTWARE

Integrated applications remain an aspiration for many companies. Unfortunately this is easier said than done, according to our latest research. Cliff Mills has the results.

There are many obstacles to developing and providing new IT systems, but the biggest challenge – mentioned by 73% of respondents to our latest *Evaluation Centre* survey – is integrating new applications with their existing legacy systems to deliver additional value and enhanced functionality.

At one time the word 'legacy' was synonymous with old mainframe applications, but now it really refers to almost any existing IT system. These systems and services have been built up over many years as new business needs are identified. As a result, applications are of different ages, use different programming languages and technologies, reside on different hardware platforms, use different operating systems and provide very different functionality.

In fact, many applications will have very little in common at all, resulting in isolated functionality and multiple instances of the same data. These conditions can lead to redundant activities, higher costs and inefficient response to your customers. All this has generated the demand for integration software or middleware to effectively link these diverse systems together.

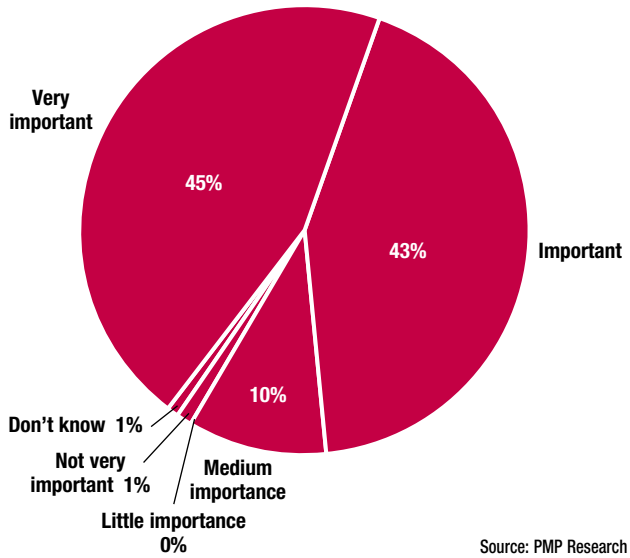
It is not surprising therefore that the consolidation and integration of disparate information systems is 'very important' to 45% of our survey respondents and 'important' to a further 43% (see Figure 1). All in all, the integration of IT systems is viewed as a pressing, ongoing requirement that is continually exacerbated by business reorganisation, mergers and acquisitions and the need to react swiftly to market changes.

But while meeting the demand for inhouse integration and flexibility is tough enough, there is now a growing need to look outside the boundaries of the business and provide interactivity with clients, suppliers and business partners. In all, 30% of the respondents see this as being a 'very important' requirement, 34% as 'important' and 17% as of 'medium importance'. Only 15% regard it as of 'little importance' and just 3% as 'not very important' to their organisation.

Meanwhile, the overall demand for integration projects shows no sign of abating, with 34% of companies experiencing a substantial increase and 54% an increase. Just 11% expect the demand level to stay about the same.

Likewise, the requirement for interoperability and collaboration projects undertaken with clients, suppliers and business partners is showing an upturn, with 13% of companies reporting a substantial increase and 55% an increase, while 30% say it has stayed about the same.

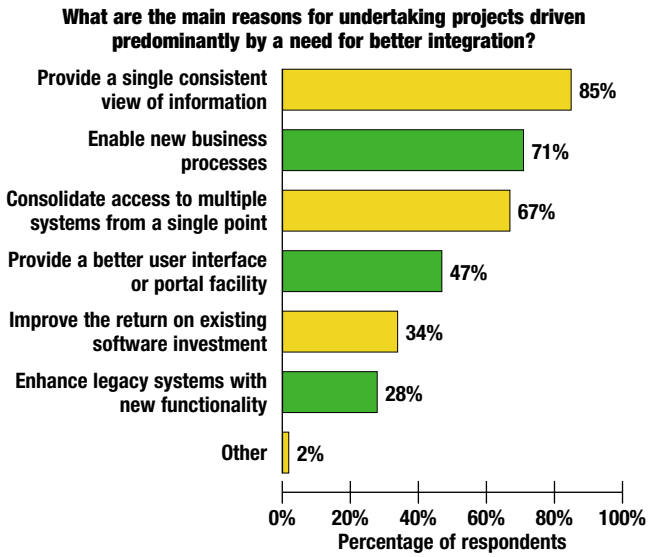
FIGURE 1: Importance of integrating information systems



Organisations also appear to be taking a more strategic view of integration, with 43% currently engaged in/planning a large enterprise-wide integration programme. A further 26% have a number of small, individual integration projects currently in place or planned, and 28% say integration activities happen on a case-by-case basis according to development needs.

Among those projects predominately driven by the need for better integration, the primary catalyst – mentioned by 85% of respondents – is to provide a single consistent view of information scattered across the organisation (see Figure 2). Access to this information is also important to enable the implementation of new or modified business processes, cited by 71% as a key driver.

FIGURE 2: Key drivers for integration projects



Note: respondents could choose more than one option

Source: PMP Research

Other major drivers include eliminating the need to switch between systems to view all relevant information (67% of respondents), creating a better user interface or portal facility (47%), improving the return on their existing software investment (34%), and enhancing legacy systems with new functionality (28%).

In tandem with the growth in integration projects, integration budgets are likewise increasing, with 4% of companies seeing a 'substantial increase' and 40% an 'increase'.

Why buy?

A number of issues need to be taken into account when choosing an integration solution. We asked our sample to rate the importance of a range of criteria, using a scale of 1 to 5. A score of 1 indicates that the feature is 'not very important', while 5 represents 'very important'.

Rated in top position, with a score of 3.9, is the ability to provide business process management (BPM) and workflow capabilities. This underlines the close link that now exists between integration and BPM software. This is followed by the need for consistent end-to-end management procedures to control the development of the entire integration process (3.7). Only slightly behind at 3.6 is the need to provide real-time management information from business processes so they can be continuously monitored and action taken when necessary.

Also rated highly (at 3.5) is an effective development environment for enhancing application functionality and creating composite applications. Hand-in-hand with this is that the software should enable the deployment of a service oriented architecture (3.5), and that it supports web services to enable business-to-business interaction (3.5).

Rated at 3.3, but still significant, is that the business process rules can be managed by end users rather than software engineers. This allows business processes to be changed quickly, either permanently or temporarily, by a trained end user without having to wait for a developer to undertake the modification.

When it comes to selecting and buying integration tools, the favoured approach – used by 42% of companies – is to evaluate and purchase tools to meet the needs of a specific project (see Figure 3, next page). This compares with 25% of companies who have a standard set of integration tools available as part of their development environment, and 12% who have a recommended list of integration tools to choose from.

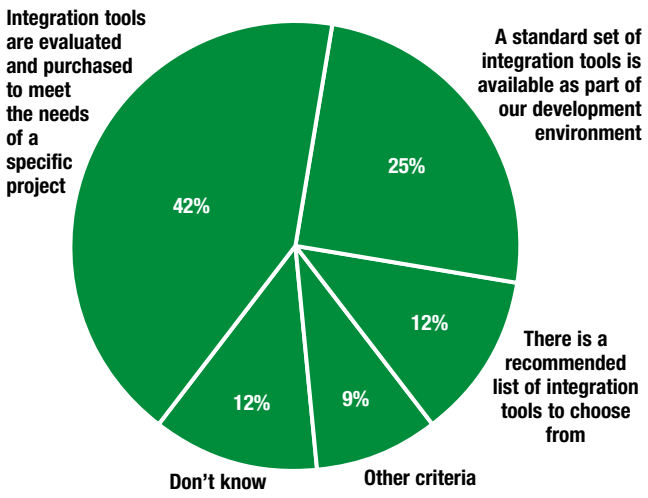
SURVEY STATISTICS

We interviewed a broad selection of companies for this year's survey into the enterprise integration market. The largest sector was banking & finance, accounting for 20% of the sample, followed by the public sector (15%), manufacturing (13%) and retail (12%).

The organisations who took part vary in size – at the lower end of the spectrum, 21% report an annual turnover of between £50 million and £100 million, while at the top, 17% have turnovers exceeding £5 billion.

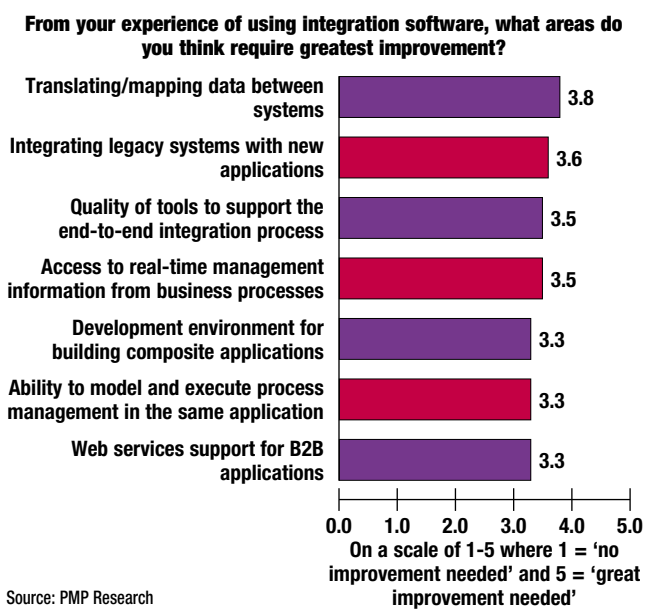
In between, 13% of companies come into the £100-200 million bracket, while 22% have turnovers of £200-500 million and 11% have turnovers of between £500 million and £1 billion. A further 16% post turnovers ranging from £1 billion to £5 billion.

FIGURE 3: How are integration tools normally purchased?



Source: PMP Research

FIGURE 4: Key flaws in integration products



Source: PMP Research

Although integration software has been around for a number of years there are still areas that are perceived to need improvement. Again using the 1 to 5 scale – where 1 equals 'no improvement needed' and 5 equals 'great improvement needed' – the top area requiring attention is enhancing the translation and mapping of data between different systems, with a score of 3.8 (see Figure 4).

This goes hand-in-hand with the second issue of improving the integration of legacy systems with new applications (3.6). This is a fundamental aspect of integration software, but for many users it is not providing all the necessary functionality.

Similarly, the quality of the tools to manage the whole integration process (3.5) is not always meeting the necessary standards for many users. Access to real-time management information from business processes (3.5) is another area that respondents would like to see improved, as is the development environment for building new composite applications (3.3).

Service oriented architecture (SOA) is becoming the great white hope in designing more modular and flexible IT systems. From the survey, 31% of the companies have started to design and implement systems based on SOA principles, with another 16% at the planning stage. However, this still leaves a significant number of companies who are yet to embark on this journey, with 16% planning to look at it in the future and 23% having no immediate plans to start developing an SOA.

Among the companies either using or planning to adopt SOA, web services is seen as the key technology required by 78%, while 55% highlight the importance of adopting vendor-specific SOA platforms. Application integration suites are vital for 51% and 45% intend to use enterprise service bus (ESB) technology.

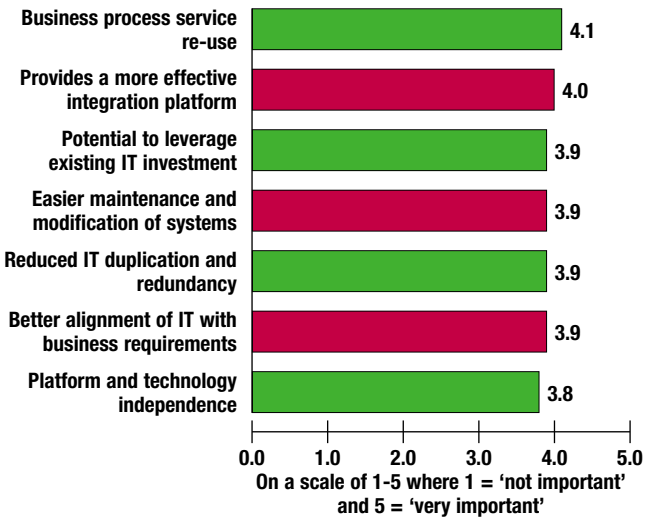
Business process execution language (BPEL) is also beginning to gain traction among 39% of the organisations, and industry-specific SOA models will be used by just over a quarter of the companies (27%).

From a business point of view, the key benefit of SOA is to provide an agile and flexible infrastructure to support a company's business processes. By building their SOA foundation on open standards such as XML, web services and SOAP, 15% of respondents think this agile and flexible infrastructure can be achieved 'very well' and 37% 'well'.

But a further 21% see this as only providing an 'average' platform to meet their needs, 4% see it as only 'somewhat suitable' and 4% 'not at all suitable'.

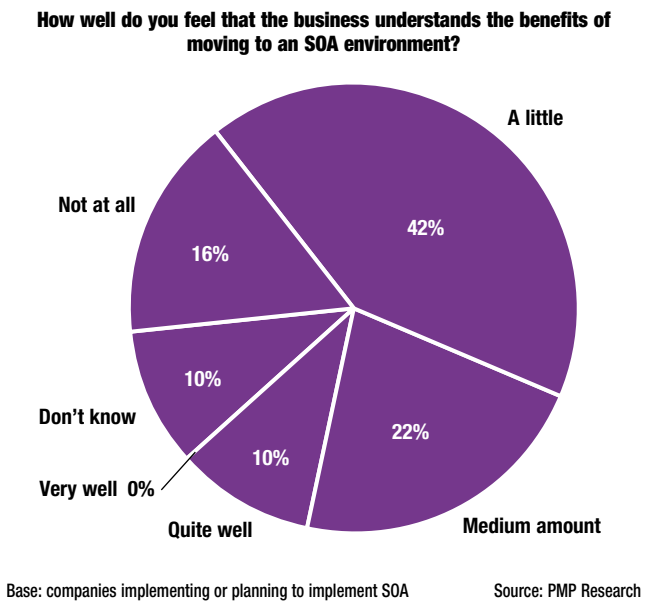
From a technology perspective, the companies implementing or planning to adopt SOA principles see a range of potential benefits. Using the 1 to 5 scale, where 1 is 'not important' and 5 is 'very important', the most vital perceived

FIGURE 5: Main benefits of deploying an SOA



Base: companies implementing or planning to implement SOA Source: PMP Research

FIGURE 6: Level of SOA knowledge



Base: companies implementing or planning to implement SOA Source: PMP Research

benefit, with a high rating of 4.1, is the ability to re-use business process services (see Figure 5). This is followed by the capability to provide a more effective integration platform (4.0).

SOA is also seen as an effective way to maximise the organisation's existing investment in IT systems and software (3.9) and provide easier maintenance and modifications to systems (3.9), as well as reduce IT duplication and redundancy (3.9).

Being able to align IT more effectively with business requirements is also rated highly (3.9), as is the modular nature of SOA – which allows business processes to be modelled and reconfigured as the business needs change.

But while SOA provides a range of potential benefits, it also requires a different approach to designing and developing IT systems. Our respondents feel it is not so much the technology implications of SOA that can present problems, as the adoption of these new design principles.

Ensuring that SOA practices are adhered to throughout the organisation is a key challenge for 73% of the companies, as is defining and creating appropriate SOA services (60%). The latter in many ways goes in tandem with the difficulty of defining business requirements and processes accurately, mentioned by 60%.

Cost justifying a move to SOA is also a problem for nearly half the respondents (49%), and the difficulty of managing a mix of third-party suppliers is cited by 42%. System security is also a cause of concern for 29% of them.

Service oriented architecture is viewed in some quarters as providing a common language in which both business and IT practitioners can converse and hopefully understand each other. However, from the survey we still seem to be some way away from this nirvana (see Figure 6). The majority of respondents think there is either 'little' (42%) or 'no' (16%) understanding of the concept and its value to the business. Only 10% think it is understood 'quite well', but no-one thinks it is understood 'very well'.

With the ever-growing level of integration activity and system re-design being undertaken in organisations, there is a need for better control and management of this activity. However, only 43% of companies have created an architecture team that co-ordinates all integration activity and enforces policy standards across the enterprise. A further 15% anticipate creating one, but this still leaves 33% of organisations with no central control in this area.

With a growing acceptance of SOA design principles, then the management and maintenance of services from a central point will become a more pressing issue.

In summary, organisations face an increasing requirement to integrate their data and applications, not only within their own company but increasingly with external enterprises. SOA promises to ease this burden, but it is by no means a quick fix. Its use will require careful planning together with strong management and governance to fully maximise its potential.

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