

Intellectual hot property

Web services could offer a way for IT departments to turn their in-house technology expertise into a revenue stream.

IT departments in organisations of all sizes have embraced web services. With few exceptions, they believe the approach will revolutionise the way they build, package and integrate applications and services over the Internet.

But with this enthusiastic acceptance comes a note of caution. IT teams agree that web services is a great asset to internal application delivery and

integration, but feel the technology is still too immature for integrating internal company systems with partners' systems. The prospect of using third-party web services, or allowing enterprise systems to subscribe themselves to those services automatically, is even farther down the line, they believe.

Yet there are a few trailblazers. These companies have not only extended their

web services expertise to external partners, but are even selling their work to third parties. Online grocer Tesco.com, financial services providers Lloyds TSB (see box, *In practice: Lloyds TSB*), Dun and Bradstreet, Standard & Poor's and CheckSpace have all deployed systems to their own sites as well as to partners' sites using web services – and some are even considering selling pieces of this intellectual property to competitors.

One such pioneer is the Bank of Ireland. Since March 2002, the Bank has partnered with Dublin-based tool developer Orygen to develop web services-based customer-retention applications that it has now sold to 30 businesses, generating £200,000 in royalties. "The business side of the bank is paying us to deliver software," says Dennis O'Leary, head of IT investment for retail banking at Bank of Ireland, "but now we can go back to them with added value – an extra revenue stream."

THE BIG EASY

Proprietary intellectual property becoming a commercial product is nothing new. But only occasionally do IT departments develop software in-house that can be sold on to other organisations – the software is too platform-specific; selling and supporting it is too much of a distraction; and its wider availability can dent the unique competitive edge the organisation sought to create with it in the first place.

What is different about web services is that it seems to offer organisations an easy way to commercialise their work without having to invest the same amount of time and money in supporting it. "We've seen all aspects of this over the years," says Jonathan Hopper, technical director for web site developer Smart421. "There have been floods of companies out there



In practice: Lloyds TSB

GETTING a credit reference on new clients is something virtually every financial services organisation has to do. Usually the process takes hours, sometimes even days, but Lloyds TSB Commercial Finance (LTSBCF) managed to develop a web services application that can check credit ratings in just a few minutes – and has been able to supply the system to partners under their own branding.

LTSBCF lends money based on a company's credit history, but the manual system it used before was slow and costly. It uses data from its previous dealings with a business together with information from Graydon, a UK credit rating service.

In early 2001, LTSBCF decided to automate the process to improve efficiency, cut costs and provide new revenues. It realised that the results of the credit check would need to be accessible through a browser interface for incorporation into the company's customer portal and portals operated by other divisions of Lloyds TSB and by third parties.

The company decided on a web services-based system running on Microsoft Biztalk servers. Web services fulfilled both the business and the technological requirements, says LTSBCF. "We cannot always deliver a credit rating immediately, especially if a business is new or where the data we hold needs interpreting by one of our specialist staff," explains Martin Walmsley, LTSBCF's then e-business development manager. "We needed a process that can accept a request for a credit opinion and allow a response to

be supplied several hours or even days later." It also needed to be able to interface with the company's mainframe database.

After seven months of development, LTSBCF deployed its 'Firstcheck' service in October 2001 and is now looking for other opportunities for its technology. "This approach gives us economies of scale compared with a standalone Internet service and



allows us to capitalise on the Lloyds TSB brand," says Walmsley. The use of web services for Firstcheck means partners can incorporate it into their own portals, or have LTSBCF do it for them, allowing it to offer partners a 'closed-loop' system through a branded user interface.

The greatest impact the new system has had on LTSBCF is a positive change in the way the rest of the company views the credit team. "It's gone from a cost centre providing a support service to other areas of the business to a revenue centre generating new income," says Walmsley.

providing IT-based services, organisations such as Reuters or the Press Association. [Web services] are not simply a software product you can deploy and copy. They offer a lot of scope for anyone, even hobbyists, to create software code."

Furthermore, the ease of programming of web services and the fact that development tools from companies such as Microsoft, Borland and Rational comply with agreed standards allows organisations to add web services interfaces to their internal applications and integrate them together with relative simplicity. And since web services use the same transport protocols as web servers to transfer pages to browsers, it is also possible to integrate these applications over the Internet.

"One of the biggest advantages of web services is their ability to encapsulate or

componentise applications in a portable way," explains Gavin King, developer tools product manager at Microsoft.

"Traditionally, you've had to think about installation, target platforms, managing DLLs (device drivers) and libraries. But web services are built on open standards and are a platform-agnostic way for transferring applications."

Online grocery Tesco.com has been using web services to integrate with its partners' sites. Internet community iVillage.co.uk, for example, uses the system to link recipes to Tesco.com – when users click on the link, it will take them to the site and fill their shopping basket with the relevant ingredients. Billing is via a click-through model.

According to Jon Higgins, head of ecommerce development at Tesco.com,



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the advantage of web services is that these links to third-party systems are more difficult to break. "If you link two sites together [in a non-web services environment], a relatively small change in content of one site can break the whole thing. But provided

interfaces remain constant, content appearance can easily be altered without causing the link to fail," he says.

WORD OF WARNING

Success stories such as these have fanned IT departments' enthusiasm for web services, but analysts warn that current web services standards are deficient in a number of areas, including authentication, billing and security. As a result, web services may not be appropriate for all external applications. But standards bodies and development tools vendors are working together to provide new standards or upgrade existing ones to fill in those gaps. "At the moment," concedes King at Microsoft, "authentication and security are things that are going to have to be constructed on a case by case basis for verifying web services."

And while developing a web service can be simple, selling it is another matter. "The technological case for web services is very strong," argues Clay Shirky, a partner at development consultancy The Accelerator Group. The business case for web services is more limited right now, he argues, in part because it raises the same questions as application service providers and business-to-business marketplaces did.

"Just because it's possible to adopt the same data standard as your competition, and just because that's better for the market as a whole, doesn't mean it's better for you. As the software industry has learned to its chagrin over and over again, people strongly prefer buying a product outright to paying an annuity for services," he says.

In the short term at least, this means that many organisations will sell on web services as an adjunct to other services and applications. "My belief is that there won't be standalone web services merchandised for some time," says John Hagel, a web services consultant.

“Enterprise systems are systems of record that must provide high levels of integrity, security and reliability.”

The initial winners in the web services marketplace, according to Brent Sleeper of consultancy The Stencil Group, will be “established service providers that can extend their existing offering into a new channel or a new version of the product” and “new businesses formed by [those] who have existing ties and deep expertise in a particular sector or with a specific, complex business process”.

A web services provider must provide a way to solve a specific, valuable business problem, says Sleeper, identify the processes integral to the business and figure out a way to express that in a services architecture – something the IT department of a

expensive previously,” explains Sleeper. The rules will be exposed to partner companies, eliminating the need for hard-coding and permitting companies to change pricing on a daily or even hourly basis.

MANAGEMENT MAZE

But as David Truog of Forrester Research points out, managing such processes can be a nightmare. “It’s tough enough for IT to monitor and secure the services it runs, but it’s a bigger challenge entirely when the firm depends on services under a partner’s control. And when companies offer programmatic interfaces on the Internet and ask customers to pay for accessing them, tracking who’s using what is no longer just a matter of good housekeeping – it’s core to the business,” he says.

thus generate additional revenue, trusted third parties that act as brokers of web services could help departments that want to offload those difficulties. Bank of Ireland, for example, relies on development partner Orygen to market its web services capabilities to other companies.

But IDC research manager Karen O’Brien warns that organisations need to balance out the competitive advantage their software gives them with how much money they can generate from reselling it. “They may want to keep their most highly customised applications private, but be willing to share some [less strategic] software,” she advises.

Compass’s Tennant, meanwhile, maintains that it is not the software modules that make up a system that matter, but the combination of modules used, so it is unlikely that an organisation will lose much competitive advantage simply by selling on standalone web services components.

Smart421’s Hopper believes that, in most cases, IT departments will find their software too specific to their own needs to sell on. “So few organisations have been able to develop software that is truly generic. Web services are inextricably linked to the ‘plumbing’ of an organisation. It’s hard to have clarity of vision and develop a generic architecture,” he says.

For this reason, few organisations have made the jump from implementing web services to selling them on for commercial benefit. As Tennant at Compass concludes: “If you have the belief that your offering has market viability and your organisation has the commercial and managerial skills to sell in the outside world, then marketing web services is a potentially lucrative revenue stream.”

Unless they possess that belief, organisations will be forced to restrict their enthusiasm for web services to the confines of the IT department. [i](#)

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Gavin King, Microsoft: “Web services are a platform-agnostic way of transferring apps.”

major enterprise is uniquely capable of doing in its own vertical market.

As a result, the first organisations to sell web services are those in highly specific niches, such as financial services, where existing trust relationships are in force. These

companies, says Sleeper, have simply used web services to develop new licensing models for their products.

“Web service providers won’t be married to a subscription or per-use model and will adapt to satisfy customer requirements. Web services will let companies put in much more complex rules so that their systems can interact in a very specific and dynamic way that would have been much more cumbersome and

Apart from the problems of tracking use and billing, a major problem for developers of web services is how to coordinate transactions between different services, particularly over extended periods of time. Prospective standards such as the Business Transaction Protocol will help, but until these standards are finalised, most organisations will have to settle for simple interactions between web services – iVillage’s link to Tesco.com is a good example.

For those IT departments that simply want to be able to make back some of the money invested in developing software, these management complexities may prove too much. “Commercialisation only goes so far with internal IT organisations – and selling a package outside of the corporation is often difficult for many IT organisations,” says Martin Tennant of Compass Management Consulting.

Although public directories of web services will help to bring in potential users of organisations’ web services and

C O N T A C T

Article by Rob Buckley

Email: rbuckley@infoconomy.com