

Web-delivered Applications Will Revolutionize Business

A major revolution is brewing today concerning the way applications are delivered to business users. Companies such as Microsoft have traditionally delivered applications to users inside of products such as the Microsoft Office Suite that are installed on the desktop or connecting to server based applications like Exchange through desktop applications like Outlook. Your model has been to install these products on your desktop machine, and if you need to travel with it, you must have another copy running on a laptop that you have to lug around with you. If you do not have access to either of those systems, or if you lose that system, access to the applications is lost.

Over the past two years, however, Microsoft has indicated a desire to deliver applications, especially to small and medium-sized businesses (SMBs) using Web 2.0 technology, in a revamped incarnation of what used to be called the ASP (Application Service Provider) model. They call it Microsoft Office Live. You can log into a website and start to use applications, such as the Live Business Contact Manager, plus online applications for managing customers, employees, projects, and critical business data. It's all done through a web interface and is based on such things as ActiveX and the Spotlight technology for Microsoft applications.

Companies such as Adobe and CommuniGate Systems (www.communi-gate.com) have also recognized the benefits of using Web 2.0 to deliver Rich Internet Applications (RIAs) to users. In the case of Mill Valley, California-based CommuniGate Systems, it has developed an extremely flexible, extensible interface client software called Pronto!, enabling network operators, service providers and enterprises to develop Mobile Rich Media Internet communications.

Jon Doyle, CommuniGate System's Vice President of Business Development, says, "The future belongs to applications delivered over the web as services that run

through a web browser. You just pull it down and run it, using in our case the Flash Player that is in nearly every browser out there". Microsoft uses ActiveX and now their Spotlight technology. Others do web-based applications in technology such as AJAX, or, as in our case, we wrote Pronto! on the Adobe Flex platform for the Flash player. We program in Flash because it's actually much more popular than Microsoft's ActiveX - over 90 percent of computers worldwide have Adobe Flash Player-enabled browsers, and it works seamlessly on nearly all browsers and OS types: Mac, Windows, Linux, even Solaris. Flash is used quite a bit in multimedia, gaming, and basically anything to do with graphics and audio, since it's much better at this than Java technology. Hence, when CommuniGate Systems decided to build a communications application suite that could be delivered via the web, we jumped into the Adobe Flash Framework."

"The web delivery of applications is all-important for network operators or carriers because they target two types of subscribers: consumers and business people," says Doyle. "Everyone salivates over the prospect of capturing the interest of business subscribers, since they typically will pay more per subscriber for values added services; indeed, the potential revenues are five to ten times

greater than with consumers."

"Business people do want useful, rich-media applications, so how can network operators and other providers deliver them?" asks Doyle. "Obviously, Web 2.0-delivered applications make a lot of sense, because they can serve millions of subscribers, and the provider doesn't have to install software on everybody's desktop and act as a sort of IT call center department, which would be a nightmare in terms of support. That's why Microsoft as well as Adobe want to deliver applications as Web 2.0-based services. Microsoft would obviously like those delivered applications to be components of the Microsoft Office Suite, and Adobe would like them to leverage something like Acrobat or Photoshop or communications tools such as CommuniGate Pro's via Flash-based technologies."

"This idea is also relevant to Unified Communications [UC]," says Doyle, "because the Pronto! Flash interface can deliver any kind of communications capabilities you need to the desktop or mobile handset, whether it be email, voice-over-IP, presence information, calendaring, and so forth. Operators and ISPs can now deliver all of these different items via web-based technology to valuable business subscribers."

"One would expect a comprehensive communications product such as ours to be used with a full-blown Office-type suite," says Doyle. "As it happens, a company like Adobe is well-positioned for producing business applications like the Office suite most of us use to create documents, share them, and collaborate. Our communications technology paired up with Acrobat Breeze is already compelling, but it doesn't take much imagination to see something like Pagemaker becoming a document editor via the web. CommuniGate Systems is a partner of Adobe and we've been working with them for the past two years to make Pronto! work



easily with Adobe's technologies like AIR or the Adobe Integrated Runtime. Looking ahead, we'd like to see users load up Adobe's technologies, or partners that develop in Flex/Flash right along with a version of Pronto! to handle all of their email and voice communications needs."

Doyle beams: "Our Pronto! download is just north of a megabyte in size, which is actually smaller than many MP3 music files. It's very compact and efficient, thanks to Flash, and what it delivers is quite amazing because it provides the same functionality as clients like Outlook, which sits on the desktop and is many megabytes in size. Plus, Pronto! has a whole suite of Media Management applications, and soon our partners will be able to plug in their applications, like shopping carts, FoIP widgets, games for consumers, and even IPTV."

Skeptics may say, all well and good, but aside from Microsoft and Adobe, is anybody else doing this?

"I answer such doubters by pointing to salesforce.com that has had a huge success in CRM delivery via Web 2.0 technology," says Doyle. "I would also point to the many social communities such as MySpace, Facebook and even commercial networks such as eBay and Amazon that are essentially large communities that run a store delivered via web technology. All of these services are very scalable, often up to tens of millions of users. The time has arrived for web-delivered applications on our desktops and mobile handsets."

"Moreover, it's not the vendors who are dictating how we will live our business or personal lives," says Doyle. "People themselves want fewer applications to buy and install, since we're all becoming increasingly mobile. If I walk over to my neighbor's house and he lets me flip open his laptop and input my login into one of these Web 2.0 services, then I instantly have all of my applica-

tions at my disposal, but on his laptop at his location. I don't have to install anything or do anything to 'impact' or 'alter' his laptop in any way whatsoever. That's why everybody wants Web 2.0 applications. If on the other hand he gives you his laptop but you use a Mac-based application, well you won't even be able to install it there. Pronto looks, acts, and performs the same, in fact normally faster than so called 'fat clients' on any platform"

Thus, delivering applications over the web as services makes the most sense. The whole world is evolving to a state where Web 2.0 is the delivery mechanism for applications/services, and applications vendors such as Microsoft, Adobe and CommuniGate Systems are going to deliver applications to you wherever you are."

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Rich Internet Applications for the Enterprise

By Chris Swenson, Director, Software Analysis, The NPD Group

The emergence of Rich Internet Applications (RIAs) has taken the development world by storm. With the abundance of bandwidth, the advent of technologies such as AJAX and Microsoft's Silverlight, along with dramatic improvements in the capabilities of traditional media runtimes such as the Adobe Flash Player, developers can now create and deploy Internet-based applications that have the look and feel of traditional desktop or "fat client" applications. Furthermore, with the abundance of web services and other data streams, developers can now build small applications or "mash ups" quickly, easily incorporating real-time data streams and online content such as streaming video into their applications.

Although many RIAs are small, lightweight applications, we are now starting to see an increasing availability of serious enterprise applications such as ERP or CRM RIAs, with Salesforce.com and 24SevenOffice being prime examples. These powerful "enterprise caliber" applications can easily integrate with existing back office solutions; and because RIA runtimes such as the Flash Player incorporate the same "sandbox" security model employed by Sun Microsystems' Java, these applications can be deployed securely.

RIAs have many advantages, most notably in the area of software distribution. In the past, IT managers have resorted to a hodge-podge of expensive client-based utilities and server solutions to deploy new software and keep existing applications updated. With RIAs, such costs are minimized, as users can be sure they are always using the latest version of an application.

Another advantage of RIAs is that users of enterprise RIA apps don't need to be tied to a specific piece of hardware in order to get their work done, as is the case with most fat client applications. Using RIAs, knowledge workers can be productive anywhere they have an Internet connection.

RIAs do have certain drawbacks, however. To date, the biggest weakness of RIAs has been the "offline problem"; i.e., the inability of RIAs to work when users are disconnected from the Internet. Another issue with RIAs has been the inability of many RIAs to run in certain browsers due to the different implementations of Javascript by the various publishers of web browsers.

However, NPD expects many of the kinks involved with deploying RIAs to be ironed out in the near term. For example, with the introduction of new technologies such as Google Gears and Adobe AIR, we're going to see enterprise RIAs with the ability to work "off-line," allowing knowledge workers to use a specific application even when they don't have an Internet connection. And with many enterprise RIAs targeting runtimes such as Adobe Flash or Microsoft Silverlight, we'll see more consistency and application compatibility across browsers and operating systems.

While there is still much work that needs to be done around the edges of the RIA ecosystem, the foundational technologies these applications are built on top of have already matured to the point where mission-critical online applications can be deployed quickly, securely and inexpensively.