# Solutions Delivered, Not Installed

## Software as a service might be the future of computing, but it won't reside on desktops.

In 10 years, our view of software may be very different than what it is today. Much of the software we use now, whether desktop tools or enterprise applications, will probably not reside on our desktop computers. It will no longer be delivered in shrink-wrapped boxes or on CD-ROMs. Rather, the functions that software provides today will be delivered tomorrow as a service over the Internet that will take away the expense and frustration of configuring, installing, maintaining, and decommissioning. The user will log on to the software through a Web browser and use it as needed with "zero footprint" on the desktop. This concept is known in business circles as SaaS (Software as a Service). The change is well underway with some consumer and enterprise applications, but will soon be a major force in a wide variety of software deployments. An illustrative example will help to clarify, and I will fall back on an old favorite: the spam filter.

### Spam filtering as a service

For more than five years, spam email has been the scourge of every corporation. Many companies have repeatedly installed spam programs to deal with the ever increasing onslaught. These software packages were identified, installed, maintained, and replaced by the corporate IT department at considerable cost, with varying degrees of success. With many conflicting business priorities, the spam filter life cycle isn't always on the top of the list in IT departments. Recently, the emergence of a SaaS application, Postini (http://www.postini.com), has brought a new model to spam filtering. Postini provides the service of spam filtering to thousands of companies through a simple method.

Before Postini, email intended for "Company A" would be routed to a corporate mail server, where it would pass through whatever spam-filtering software was being used and then be released to individual users. After Postini services are deployed, all of Company A's email is first routed to Postini, where it is processed through a variety of state-of-the-art spam-filtering software—both standard and proprietary—that is carefully tuned for optimal performance and run on single purpose servers. Once filtered for spam, the email is forwarded to the company email server, where it can be routed, unimpeded, to the individual employee.

The company's IT department can configure the software through a Web browser interface, and each employee can fine tune the filtering rules. Nobody in the company, however, ever has to worry about supporting the infrastructure needed to run a spam filter—from the redundant power supply and backups, to the server and software. For a very reasonable monthly cost per user, the company can get best-of-breed spam filtering with none of the hassles.

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### Varieties of SaaS

Postini is a very successful example of a Saas company, but it is far from unique. In fact, one version of SaaS has been around for seven or eight years under the descriptive name: Application Service Providers (ASPs). Many of the older ASPs were offering conventional client-server software that were made available through the use of Citrix or "bolted on" Web front ends. More recently, SaaS software is predominately modern software, designed to be specifically used through a browser.

SaaS is a broad term that encompasses many types of software and service models. At one end of the spectrum are SaaS vendors that will host any standard, off-the-shelf software for a customer. This type of SaaS typically involves the outsourcing of hosting and support functions for software that has been licensed by the customer. In contrast, "Web-native" applications are typically built by software vendors specifically for deployment on the Web. These companies will often host and support the software themselves, acting as both software developers and service providers. A good example of this type of company is Salesforce.com, which offers sales force automation to small and large companies alike.

### Why SaaS?

SaaS has the potential to bring value in the three key areas of interest to most businesses: cost, quality, and time savings. In a larger company that deploys licensed software under a traditional model, the significant fixed costs for acquiring and managing IT infrastructure and routine technical tasks can be amortized over many different software applications. With a SaaS model, many customers effectively share these costs, which can provide

substantial savings—especially for small companies. Similarly, the cost of licensing expensive software applications can be shared over many users in enterprise deployments for large companies. Small companies and divisions of larger companies may not be able to justify the cost of purchasing expensive software for a small number of users, but could benefit from limited use through SaaS provided in an "on-demand" fashion.

The quality of software installation, maintenance, and support is important in most critical business processes, and it can fall short in companies whose primary focus isn't software deployment. SaaS vendors have the benefit of developing best practices from many different sources and can incorporate them into their businesses. They can focus on fine tuning the installation and configuration of the software, and take the responsibility for maintenance and upgrades out of the hands of the customer. Finally, in theory, the SaaS vendor is fully aligned with their customer. They aren't making a perpetual software sale; rather, they are continuing to demonstrate their value to the customer over time with services. If they don't, it is at their peril—in a Saas model, the cost of switching applications and vendors is much lower than with traditional licensing.

**SaaS vendors don't make a software sale; instead, they demonstrate their value to customers over time with services.**

In addition to the low cost of switching, the time required between selecting an application and implementing it can be dramatically shortened. For example, Postini can be up and running for an entire corporation within days. This flexibility is ideal for growing businesses whose needs may change from year to year. Additionally, no customer is "stuck" with a buying decision forever. They can monitor the vendor landscape and change, when required, to a SaaS vendor who offers significantly better software and/or service for their needs.

## Points to consider

When considering SaaS for a business need, there are several key questions to consider. The first consideration is the suitability of the software being offered by the SaaS vendor for the task at hand. This is especially a consideration for some Web-native applications. For example, Google and others are taking a run at Microsoft Office with gmail as a substitute for Outlook initially, and soon a Web-based word processor as a substitute for Word known as Writely. While these applications may function perfectly well for individuals, they don't yet have the robust functionality that major corporations and other institutions require. Furthermore, they are designed as one size fits all, rather than the flexible and customizable Office applications we have become accustomed to. Of course, the functionality gap between desktop applications and Web-based applications may shrink as technology options and Internet bandwidth continue to improve.

Another issue to consider is the security of external data. With SaaS applications, mission-critical data may be collected and housed on a server in a facility that can't be seen or inspected. Enterprise customers are very unlikely to trust their data to a company without a complete understanding of their facilities, operating procedures, disaster recovery plans, and financial stability. However, individuals who purchase SaaS applications are more susceptible,

as they can place their important data onto servers from companies that could go out of business, aren't committed to timely backups or don't adequately protect themselves from the newest virus attack.

SaaS applications can be deployed as "single-tenant" applications or "multitenant." In a typical single-tenant application, each customer would have their own server(s), where their application and data would reside. While more expensive, this configuration reduces the risk of exposing data to others and eliminates the possibility that a configuration or data issue from another user would interfere with their own use of the software. In a multitenant deployment, many or all users of the application would be working on the same server(s) and using the same application. This would reduce the costs of hardware and support in deploying the application, but it does require attention to security and application availability issues. In enterprise deployments, SaaS vendors typically have designed the applications and have the motivation to ensure that each customer's data is secure and available only to the intended users.

## The SaaS decision

The decision of an individual user to choose a SaaS application is often related to convenience and availability. The cost is usually low, and the risk is similarly minimal. A company, whether large or small, needs to do a very different assessment of SaaS. They should consider their needs in relation to the total cost of ownership (TCO) of the software. In many instances, the TCO may be very high for licensing, installing, maintaining, and supporting software when all costs are carefully considered. The use of SaaS applications is often a cost-effective alternative. However, as a company's needs grow over time, some companies may find that it becomes cost effective to bring the software in-house and manage the application internally. With many SaaS applications, especially multitenant applications, this option may not be available from the vendor. Therefore, companies should carefully consider whether in-house deployment of software is a consideration in the future. If it is, they should choose software and software vendors that can support both options.

While SaaS is only a small portion of the software market today, it will undoubtedly grow rapidly over time. In fact, the SaaS model is particularly prevalent in clinical trials electronic data capture applications, where some major vendors and third-party suppliers offer a SaaS-like model. As with many things in life, what seems unique today may well be the standard tomorrow. ❑