

Software as a service: Helping companies make the right decision

White Paper 2008

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Contents

- 1 Introduction
- 2 Investment-related considerations
- 4 Operating and management considerations
- 7 Intangible considerations
- 8 Does SaaS make sense for your enterprise?
- 9 About Grant Thornton LLP



Executive summary

Software as a service (SaaS) is a rapidly growing software application delivery model that enables customers to pay for the use of a particular Web-based software instead of purchasing or licensing the software outright, which has long been the traditional approach. Audit Partners Immanuel John and Michael Schamberger explore some of the key issues for software buyers and sellers/providers in determining if the SaaS delivery model is right for them.

Introduction

Introduction

Software as a service (SaaS) – also called on-demand hosting or subscription-based software – is taking the software sector by storm. The relatively new software application delivery model is growing rapidly among both software providers and buyers alike. Software companies relying on the SaaS model reportedly are seeing double-digit revenue increases (McKinsey, 2008). Moreover, revenue in the SaaS market is predicted to grow from \$5.1 billion in 2007 to \$11.5 billion in 2011 (Gartner, 2007).

Given the growing acceptance of the SaaS model, many decision-makers are considering whether SaaS is an opportunity to achieve strategic goals and build value for their organizations. Software buyers and providers are evaluating SaaS trends, potential benefits, adoption rates, early adopter results and, of course, costs. Decision-makers are asking themselves: Is SaaS the right path to future success?

How SaaS differs from licensed software

As a subscription-based model, SaaS is very different from the traditional “licensing” model of software sales, in which software vendors sell software licenses, seats, upgrades and tiered levels of technical support. In this model, buyers are responsible for deploying, testing and managing the software they purchase. They also accept total accountability for implementing and testing upgrades, while ensuring for privacy, security and regulatory compliance. The licensing model generally relieves sellers of any post-sale responsibility for supporting or upgrading their products, unless buyers opt for continued maintenance at an additional expense.

Under the licensing model, the major costs for buyers include deployment, training, customization and support. In many cases, the costs of internal IT support alone may constitute 60 to 70 percent of the overall outlay. These ongoing expenses are incurred by the buyer and, depending on the scale of implementation, easily can reach millions of dollars over the life of the software.

SaaS, on the other hand, minimizes or eliminates many of the buyer’s traditional costs of ownership. Applications are delivered on a monthly or annual subscription basis at rates that generally are far lower than licensing fees. Deployment is conducted across the customer’s internal IT network and typically is faster and easier to accomplish than a license-based roll-out. Application management, maintenance and upgrades are supplied centrally by the service provider. This relieves the buyer of significant hardware and ongoing IT support costs.

Evaluating SaaS in a TCO framework

Decision-making factors related to SaaS implementation will vary greatly between software providers and software buyers. One size clearly does not fit all. Buyers likely will evaluate the total cost of ownership (TCO) for SaaS. Providers, on the other hand, will assess the organizational costs involved in converting to a SaaS delivery model and in offering products that meet buyers’ expectations.

This report examines SaaS investment-related considerations, operating and management considerations, and intangible considerations for both buyers and providers. It helps companies identify costs involved in a licensing versus a SaaS model. These costs, in turn, can be evaluated on a projected annualized basis to forecast short-, medium- and long-term impact on value.

Investment-related considerations

Buyer SaaS considerations

- Low IT capital expenditures
- Limited training, customization and support costs compared with licensing model
- Monthly subscription fees far lower than licensing fees

Provider SaaS considerations

- High upfront costs of developing and maintaining multi-tenant Web architecture
- Greater investment in customer service and technical support
- More market opportunities among small and midsized companies
- More steady, predictable revenues due to subscriptions

Investment-related considerations

For buyers, the case for SaaS rests on its ability to leverage affordable IT for profitability and stakeholder value, by offering a compelling alternative to high IT purchase and support costs. The traditional software licensing model, alternatively, requires buyers to make a substantial upfront investment in a given application. Moreover, several research firms report that the initial purchase price of licensed software typically represents only a small fraction — often less than 10 percent — of the long-term cost of ownership.

IT-related capital expenditures required to deploy SaaS typically are low. For most buyers, implementation substantially will reduce a company's IT costs over time. Beyond the possible investments required to accept incoming service software — such as increased bandwidth, adequate telecommunications equipment and necessary Web-browsing tools — SaaS buyers generally incur only a few capital expenditures when they subscribe. In the event that capital expenditures are necessary, these qualify for depreciation, amortization and other favorable tax treatments.

Over the short term, SaaS implementation costs are more substantial on the provider side. SaaS products must incorporate Web technology and must be designed in a framework of multi-tenant architecture for optimal accessibility. Providers newly entering the SaaS marketplace may incur significant upfront hardware and development costs as a result. The cost of research and development (R&D) in a SaaS environment is mitigated, however, by the fact that SaaS applications need not be designed for specific platforms. Assuming that the provider has

built appropriate application programming interfaces (APIs) into the software, a single version of a SaaS program can be developed for delivery across multiple systems.

The SaaS model's comparatively low costs for buyers ultimately represent a strategic advantage for software providers. Low SaaS costs may translate into expanded market opportunities for software providers, particularly among small and midsized buyers that may be unable to incur the cost of comparable licensed software. Consequently, the substantial cost advantage offered by SaaS addresses buyers' upfront cost concerns and helps to minimize initial sales resistance. In addition, because SaaS is based on a subscription strategy, it may encourage more enduring provider-buyer relationships. For the same reason, provider revenues may be more steady and predictable within a SaaS framework.

Impact on internal business processes

Management on both sides of the SaaS equation proactively should determine the service model's impact on internal business processes. Buyers, for example, will need to analyze staffing necessary to oversee and manage service level agreements (SLAs), evaluate provider performance, and conduct ongoing assessment of software utilization and relevance to specific needs. Likewise, buyers must assume that no SLA is perfect and that contingency planning needs to be developed, implemented and tested regularly in order to optimize their return on investment (ROI).

On the provider side, managers will need to consider the implications of SaaS delivery on key customer-facing functions, such as customer service and technical support. SaaS places significant demands

The SaaS model places responsibility for continuous, quality service squarely on the provider's shoulders.

on the provider's ability to address subscriber issues quickly and completely. Providers will want to be aware of their current customer service capacity and any adjustments needed to ensure their ability to resolve customer problems consistently. If the provider's customer service function does not operate on a 24/7 basis, or lacks the business and technical expertise to handle customer queries on demand, investment may be necessary to bring provider capabilities up to speed. Management will need to determine whether ROI justifies these costs.

The SaaS model places responsibility for continuous, quality service squarely on the provider's shoulders. Comprehensive contingency planning will be needed to maintain expected levels of service and operability and to route customer inquiries appropriately. Providers should examine their staffing and infrastructure capabilities — current and projected — to determine necessary investments in human resources and IT talent, ongoing training, communications, data-center operations and other prerequisites for continuous SaaS service demands.

SaaS-related trends and projections

A review of recent research conducted by Gartner, McKinsey, Saugatuck and other reliable observers generally supports the conclusion that SaaS is a dynamic and rapidly evolving delivery model that can provide real and enduring enterprise value if effectively implemented. Current research into the SaaS model produces several critical conclusions, including:

- The number of organizations adopting the SaaS business and delivery model is growing steadily and is projected to continue for the foreseeable future. SaaS rapidly is being implemented worldwide.
- The technologies that enable SaaS are continuing to develop and are predicted to be capable of supporting the delivery model as it matures and as demand for its implementation grows in numbers and global distribution. Technological advances in areas such as communications, data transmission and management, electronic networking and security generally are keeping pace with the overall market for SaaS delivery.
- During the first decade of the 2000s, markets for SaaS and SaaS-facilitating technologies and services have increased dramatically on a global basis. This trend shows every sign of continuing.
- In the context of the SaaS delivery model, long-term IT costs and returns on IT investment generally are favorable in comparison to other software delivery models. This conclusion is predicated on software solutions that are amenable to the SaaS format and are geared toward midsized and large organizations.
- Individual organizations have needs that are highly specific to their business strategies, operations, risks and perspectives. The SaaS model is capable of addressing many — but not all — of these organizational needs. Its relevance to a given organization should be determined on a situational, case-by-case basis.



Operating and management considerations

Operating and management considerations

SaaS is a customer-centric delivery model.

Consequently, many of the expenses associated with day-to-day application management fall within the provider realm, so SaaS reasonably can be expected to have a positive impact on buyers' operating and management costs.

Ownership costs that were once solely the responsibility of software buyers now are shared or wholly assumed by SaaS providers. This means that buyer TCO relative to IT operations and management probably will be reduced — or at least favorably re-allocated — in comparison to TCO under the traditional licensing model.

Providers, on the other hand, will have heightened operations and management costs and greater risks than with a licensing model. In contrast to the traditional licensing model, the “pay-as-you-go” SaaS approach requires providers to service the sale on a continuing basis. Failure to deliver full-function applications supported by responsively managed services could lead buyers simply not to renew their subscriptions. This failure to renew — customer churn — is an obvious threat to the provider's top and bottom line. In addition, provider cash flows may be affected significantly by the SaaS delivery model because upfront cash flows tend to be substantially less than traditional licensing.

Monitoring and management services represent key sources of provider cost, and providers must take real care to identify and control them. Providers are responsible for virtually all application maintenance and timely upgrades over the term of the subscription, typically including comprehensive rollout and on-demand help desk support. These and other service-related accountabilities present substantial cost-reduction opportunities to buyers, while they represent a major source of costs for providers.

Provider performance expectations

The agreement or SLA that typically is a central component of any SaaS subscription explicitly defines buyer expectations of provider performance. Performance standards described in the SLA, such as sustained service reliability, upgrades, maintenance schedules, support demands, security and accessibility requirements pose continuing challenges to the provider. The costs of meeting performance challenges versus the benefits of maintaining service must be projected accurately over the life of the subscription. The consequences of SLA noncompliance are heavy for buyers and providers. Buyers experience service disruptions that impact their ability to run their businesses, while the providers can incur costly penalties.

Increased risks

Moreover, in addition to cost considerations for providers, enhanced responsibilities stipulated in the SLA expose providers to new or increased risk. Providers, in particular, bear a greater risk management burden in the SaaS model than in traditional licensing, in which their responsibilities generally end at the point of sale. As such, providers should address their increased exposure with heightened risk management policies. Also, required risk management costs must be factored into TCO calculations by both buyers and providers. For example, a provider should be aware that a buyer may request an AICPA Statement on Auditing Standards Number 70 (SAS 70) report — an independent auditor opinion on the control structure and internal controls of the SaaS provider's software. From the provider's perspective, this may represent an additional cost consideration.

Buyer SaaS considerations

- Significantly less IT operations and management costs than licensing model
- Shared responsibility for data security with providers

Provider SaaS considerations

- Need for responsive customer service and minimal downtime for customers
- May need to provide SAS 70 reports
- May need to strengthen risk management procedures
- Changing requirements for revenue recognition

Regulations require SaaS providers to accept a significant risk management role. After all, SaaS vendors “host” buyers’ data, which is managed from the providers’ servers. The transmission and storage of sensitive data presents real vulnerability to hacker attacks, even given today’s sophisticated encryption methods and tightened communications links. In addition, providers need to make data available on demand to multiple users across customer organizations, which raises significant issues of accessibility.

Data security

Responsibility for data security is shared by buyers and providers. Data security generally can be controlled, assuming that adequate provider and buyer internal controls are in place and that appropriate communications technology is utilized. SAS 70 requires providers to demonstrate adequate controls and safeguards over customer data. In addition, Sarbanes-Oxley Section 404 emphasizes the importance of SAS 70 reports related to the effectiveness of internal controls over financial reporting. The guidance defines two levels of audit examinations designed to assure vendor security vis-à-vis buyer data. Both providers and buyers may benefit from the outcomes of a SAS 70 audit because the process identifies areas of risk and recommends specific measures that may be taken to improve security.

Although SAS 70 focuses on provider accountability, both providers and buyers have statutory responsibility for the safety of data. The theft, misuse or improper dissemination of data opens both parties in the SaaS arrangement to risk, and this area of corporate liability must



be continually evaluated. Buyers and providers must fund and monitor the internal controls needed to assess risk and to comply with regulatory requirements, factoring the cost of regulatory compliance into the TCO equation.

In the event of a catastrophic data loss due to natural disaster or power-grid failure, for example, the provider may be exposed to liability. Most SLAs stipulate rigorous provider accountabilities for emergency preparedness to ensure buyer business continuity. Buyers also are responsible for disaster preparedness. Both providers and buyers must identify the optimal level of disaster-recovery investment needed to provide reasonable, comprehensive and cost-effective protection in the event of catastrophic loss. They will need to weigh the potential costs, for example, of redundant systems, data-storage decentralization and damage-mitigating business insurance against the advantages of the SaaS value proposition.

Regulatory compliance costs

Regulatory compliance costs also represent a key, but rarely discussed, element of TCO for both buyers and providers. Sarbanes-Oxley and increased regulatory scrutiny now require publicly owned software providers and buyers to manage enterprise risk with care. Those same regulations will apply to an organization that is moving from private to public ownership via an IPO. Both entities face significant costs associated with the need to thoroughly audit and/or report their efforts to comply with steadily growing security, privacy and anti-fraud regulations. Obviously, companies registered with the SEC are required to adhere to regulatory requirements, but private companies that seek growth through additional private investments or by conducting an IPO will find that proactively adhering to regulatory requirements may help to create higher valuations and increase investor confidence.

Revenue recognition and tax implications

Providers also will need to identify any costs associated with changing revenue recognition policies and procedures resulting from a switch to SaaS delivery. From the provider's perspective, management must determine when buyer subscription fees should be recognized as revenue. In most cases, revenue is recognized as services are delivered over the term of the subscription. A SaaS provider may recognize revenue at different points in the subscription timeline, which may vary under GAAP. Revenue recognition in accordance with GAAP is

outlined in the AICPA's Statement of Position 97-2 (SOP-92), *Software Revenue Recognition*, and by reference to other authoritative literature, including Emerging Issues Task Force (EITF) Issue 00-21, *Revenue Arrangements With Multiple Deliverables*. Specific application of the guidance depends on details of the provider-buyer SLA. For tax purposes, providers must apply relevant state and federal tax rules as they bear on specific service-delivery situations.



Intangible considerations

Intangible considerations

This category of TCO demands careful attention. While difficult to measure accurately, it is an important contributor to bottom-line success and long-term value. Intangibles may include program-focused characteristics such as application utility, integration or inter-operability with other programs, or the software's ability to be customized to address specific buyer needs. From a buyer's perspective, TCO may involve subjective estimates of key provider qualities such as reliability, help desk performance, Web design and customer service capability.

Scalability

Scalability is a significant intangible component of the TCO calculation. SaaS applications may be distributed application-by-application during rollouts and module-by-module to changing numbers of users across a buyer's organization. The ease, speed and cost-effectiveness of SaaS delivery to buyer populations compare favorably with the high investments in cost, time and support that characterize scalability in the traditional licensing model, where unused licenses can represent a substantial cost.

Customization

The cost of software customization – extensibility – is another critical TCO factor. Typically, SaaS applications lack the extensibility of licensed products, although developers gradually are improving extensibility in various SaaS products. When customized configurations are needed, they generally can be supplied by the SaaS provider at relatively low cost. In contrast, most licensed applications

readily are extensible, but configuration costs often are high because external resources must be utilized for original code modifications along with the long-term management of those modifications related to upgrades and maintenance.

Opportunity costs

Opportunity costs represent another meaningful component of the TCO calculation because they give insight into how finite organizational resources can be allocated better to mission-critical needs. License deliveries result in large outlays of money, resources and time, all of which might have been applied to more strategic objectives. The ongoing internal support required by licensed software produces a continuing opportunity cost that may undermine the organization's ability to achieve more imperative goals. Clearly, opportunity costs have a negative impact on organizational profitability and value and management must act to avoid them whenever possible. The SaaS model may offer an effective way to minimize this category of cost by curtailing internal support expenses.

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Buyer SaaS considerations

- Easy, rapid, inexpensive scalability to new users
- Can use organizational resources for other, more mission-critical needs

Provider SaaS considerations

- Customized configurations created easily and at relatively low cost

Does SaaS make sense for your enterprise?

Does SaaS make sense for your enterprise?

SaaS may represent an attractive, value-enhancing proposition for many organizations. It offers an advanced alternative to many of the earlier application delivery models and may serve to promote new markets, strengthen internal organizational capabilities and build lasting stakeholder value. On the other hand, SaaS should not be perceived as a perfect solution for every circumstance. The evidence shows that it is suitable for some, but not all, corporate environments, and that its implementation may involve too great of an effort to justify its anticipated reward.

In short, decisions surrounding a possible SaaS rollout should be approached with healthy skepticism on the part of corporate leadership and a careful analysis of the potential costs and benefits. Decisions must take into account a comprehensive assessment of potential value versus potential costs, all set within a framework that considers the specific strategies, needs and capabilities of the individual organization. Buyers as well as providers must consider the competitive advantages and imperatives SaaS presents in terms of increasing market share and growing global demand for companies' products.

In volatile economic times, the SaaS delivery model may be easier to fund than the licensing model, which has large, upfront costs. And because SaaS is scalable, it can be expanded at relatively low cost. For these reasons, knowledgeable investors may be encouraged to fund enterprises that have adopted SaaS.



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