SaaS Counterprogramming:

Creative Licensing Strategies for Traditional ISVs

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Overview

The Gartner Group predicts that by 2011, 25% of the software sold worldwide will be delivered through the Software as a Service (SaaS) business model. Migrating traditional software applications and overall business models to a SaaS platform can be appealing to Independent Software Vendors (ISVs) and their customers, but there are also major challenges that need to be addressed – it can be a massive undertaking. In reality, the SaaS model may not be right for every type of application or ISV. Developers who decide not to make the transition must still understand SaaS' appeal to end users, in order to maintain customer satisfaction and minimize churn. This paper includes a brief history of software licensing, an analysis of the driving forces behind the growth of SaaS, and a discussion with examples of how creative licensing can protect traditional ISV's revenue without requiring the launch of their own SaaS platform.

A Brief History of Software Protection and Licensing

To frame the discussion of SaaS, it is important to consider the history of software licensing. Readers familiar with software licensing may prefer to go directly to the next section. Up until the 1980s, there were few if any licensing strategies, beyond simply selling the program and hoping that it wouldn't be copied. Licensing wasn't an issue for many early applications, because the software was shipped in a hard to copy format, such as proprietary game cassettes or on audio tapes, which were difficult to copy in the days before mass market cassette recorders.

The advent of 8 inch and 5 ¼ inch floppy disks suddenly made it easier to copy software, so ISVs were forced to adjust their business models. Some vendors simply printed a program activation code on the disk, but this didn't prevent multiple users from installing the software. Early protection schemes were developed to write programs onto disks in a unique way that was harder to copy. Other programs might ship code that prevented the programs from being installed more than once, but these rudimentary protection schemes proved relatively easy to circumvent.

Later on, software vendors developed systems to bind software to a specific machine, through the use of a unique identifier on the machine. This was called device or "node" locking, and the process remains common today. This system was unfortunately often inconvenient to customers, because the program would stop working if customers changed the underlying locked hardware. Customers also couldn't easily transfer the software to a different machine.

A more flexible licensing method was developed that required the use of a hardware dongle, which contained licensing information and had to be plugged into the user's computer and detected by the software before it would operate. This solved the issue of portability, since users could transfer the software from one machine to another, and operate one copy at a time with the dongle. With built-in advanced cryptography, hardware dongles remain one of the best copy protection methods for ISVs today.

As computers became more and more networked, ISVs developed license delivery systems that were installed on servers, rather than having individual licenses tied to a specific machine. ISVs could choose between concurrent or named license models, or a combination of both. Concurrent licenses set a limit on the maximum simultaneous users than could be connected to the server at any time. This enabled companies to purchase fewer licenses than they had users, but often at a slightly higher cost per license. Named licenses were tied to a specific user, but often had the additional benefit of allowing multiple sessions per user, in case they needed to be logged in at different places or if they needed to open multiple windows on a PC or workstation.

As electronic communications sprang into use, license keys could be distributed electronically, but unfortunately, so could illegally copied software. As more and more people started to use the Internet, some vendors started online activation. Licensing issues were similar to those of store-bought versions. An activation key was usually included in some sort of welcome email, and a central activation server would attempt to validate the key upon installation.

Online activation gave ISVs another weapon against piracy – the ability to have the software communicate with a central server to periodically check up on users, to ensure the version of the software is legitimate. Microsoft uses this approach with their Windows Genuine Advantage system.

Introducing SaaS

SaaS applications started to appear in the late 1990s, as Internet access became commonplace. The concept is very simple – rather than sitting on the end user's PC, most if not all of the software and any associated databases are hosted on a remote server, and end users access the information through a browser or custom interface. Some of the more commonly known SaaS applications are Salesforce.com, WebEx, Xbox Live and Google Apps.

SaaS is best described by highlighting the benefits to end users and ISVs.

SaaS benefits for end users

- **Reduced infrastructure costs** – A host maintains the software, security systems and associated databases remotely, reducing hardware costs such as servers, firewalls and data backup systems.

- **Less commitment required** – Some customers are commitment-adverse, and might choose their software solution if they can pay as they go, without a contract. Since SaaS often has no footprint on the end user's PC, it's relatively easy to turn access on and off, facilitating the pay as you go model.

- **Easier access** – Applications can be accessed through the web, and SSL security is easier to use than VPNs.

- **Scalable and elastic** - Systems are highly scalable, keeping the customer from having to buy more expensive equipment as users are added. Also, demand can be easily reduced if business needs change.

- **Less software maintenance effort** - Version updates and bug fixes are handled automatically by the ISV. The users don't have to download upgrades and patches.

- **No compatibility issues** – Along with less software maintenance effort, since all the users are accessing the same version of the application, and upgrades occur simultaneously, there is no disruption from users sharing incompatible file types, which is happening with newer Office 2007 .docx and .pttx files.

- **Accounting flexibility** – SaaS costs are considered operating expenses (OPEX), and can be deducted 100%, while the cost of traditional software is treated as a capital expense (CAPEX), which is depreciated over time. Depending on the company's financial situation, they might prefer to treat their software costs as OPEX, but each case is different.

- **Flexible payments = easier budgeting** - SaaS users pay a periodic subscription fee per user, usually annually. Once the system is set up and configured, additional users are only charged the subscription fee.

- **Easier future system integration** – Through the concept of Service Oriented Architecture (SOA), which describes data exchange between different applications and different service providers, multiple complementary SaaS systems can be easily combined, such as connecting hosted license management systems with hosted CRM and ERP systems.

- **Tracking and monitoring benefits for compliance purposes** – The Sarbanes-Oxley Act of 2002 requires publicly reporting companies to identify and disclose material assets, including software. SaaS usage is easier to track, and companies don't have to worry as much about failing audits due to unauthorized internal software duplication.

SaaS benefits for ISVs

- **Easier access to customers** – Without having to wait for customers to buy and install disks, or even to download and install software electronically, it's easier for the ISVs to get the software to customers. Also, since access is usually through a web browser, ISVs don't need to worry as much about compatibility with different operating systems.

- **Increase market share for existing applications, and penetrate new market segments with new applications** - Many aging titles can get a market boost by migrating onto a SaaS platform, with a new web friendly, true "click-to-buy" interface. New applications can be rolled out more quickly, and many buyers who might resist installing software on their computers might appreciate the instant gratification of SaaS.

- **Greater visibility for market intelligence** – With the traditional desktop software model, it's hard for ISVs to know how frequently their product was being used after activation. The nature of SaaS allows ISVs to see server usage logs to determine how frequently their software is being accessed, and even which features are being used. If usage is unnaturally low, it might indicate a training issue for the ISV to address.

- **Better control of software piracy**– SaaS software never leaves the host's server, so it's highly unlikely that the software can be hacked and captured and ported to a disk or onto a peer to peer network for unauthorized duplication. However, SaaS models still pose challenges for ISVs looking to enforce licensing terms, since it's difficult to have a pure SaaS model while simultaneously preventing users from sharing passwords. Several creative ways to address the licensing challenge are given later on, but these are not considered 100% SaaS applications.

- **Improved Customer Satisfaction –** Complex licensing continues to be one of the number one causes of customer dissatisfaction, according to recent Forrester research. Another point of contention is maintenance fees, which are often seen as too high for the benefit the customer gets. With better visibility into who is using the software, and no visible maintenance activity to draw customer's ire, SaaS limits customer dissatisfaction

- **Easy to forecast recurring revenue stream** – Revenue is easier to predict, with a steady recurring revenue stream per user, and with fewer administration issues like difficulties selling upgrades.

- **Supports unique new pricing and business models -** Creative new pricing opportunities have developed in conjunction with SaaS. As an example, Sun offers the Sun Grid Compute Utility which is a secure data center on demand. Users pay $1 per CPU hour of usage, and only pay for the computational power they consume. Flexible payment options also include annual or pay-as-you-go models, allowing ISVs to deliver the payment options that the customers want.

Challenges of SaaS for Traditional ISVs

While there are many benefits to customers and software developers of implementing SaaS, not all vendors are prepared to make the jump. It is a very complex undertaking, one which impacts many different areas of the business.

Challenges include:

- **Infrastructure issues**

  - A multi-tenant, scalable hosting environment has to be developed
  - ISVs have to develop powerful security methods to protect customer data. If customer data is kept at a third party data center, issues like the security of mirrored communications have to be addressed.
  - Data communications must be robust enough to handle a large number of concurrent users, and outages are potentially catastrophic.

None of these areas are likely to be core competencies for ISVs

- **Software Technical Issues**

  - The applications have to be ported over to web platforms.
  - The user interface has to be redesigned to work in a browser.
  - Configuration tools and customer toolkits have to be developed for more complex installations.

- **Business Issues**

  - What should be done with existing customers? Does going the SaaS route force the company into two permanent parallel development paths?
  - Is the customer base web-centric, embracing everything and everything on the web, or might there be possible resistance to this new approach to computing?
  - How will the ordering, billing and provisioning work? New systems and payment methods need to be developed.
  - Is the company willing to replace a large upfront payment with a recurring revenue model?
  - How is licensing impacted? Some vendors may not like the concurrent user model, for a variety of reasons. There may be concerns about how they integrate licensing and greater protection into the SaaS model.
  - Sales and channel development issues have to be addressed, since the selling and commissioning model is quite different.

- **Customer Concerns**

  - Concerns about difficulty integrating SaaS applications with installed systems.
  - Uncertainty in calculating the Total Cost of Ownership (TCO) - Customers have to consider TCO when deciding which path to take for their software needs. Gartner estimates that the total cost to own and manage software applications can be up to four times the cost of the initial purchase. Areas of concern include:
    - The long term cost of "renting" the software forever, versus paying once for a perpetual license and owning it forever.
    - Data transport issues related to providing secure, "always on" access for local and remote users
    - Scalability with data storage, backup and security
    - Ensuring that servers or workstations have sufficient processing power and also have any necessary underlying software, such as SQL servers needed to run popular ERP and CRM packages
    - Maintenance and upgrade efforts to keep everyone on the same version. How stable is the software and how frequently are upgrades needed?
    - Personnel costs of implementing internally – Ongoing support costs are very hard to calculate, and there are usually opportunity costs because the IT staff is tied up working on the software and can't work on other projects.
  - Financial implications of CAPEX versus OPEX
    - Every application is different, and it is up to the customer to do a full TCO analysis, but ISVs have to be prepared with supporting data to help customers make the right choice.
  - Fear of being locked into a specific vendor and being unable to terminate for any reason. For this reason, some SaaS vendors offer host-to-buy options, where the subscription fee can be applied to an eventual purchase.

All of these issues are daunting, but it's inevitable that almost every industry will soon see competition from SaaS offerings. The technology is becoming more mature and stable, managed service providers are popping up to handle the application hosting issues, cultural changes are sending more and more users to the Internet, and portable, non-PC devices such as Blackberrys and iPhones only continue to grow as a popular way of staying connected.

Since the Enterprise software market is so saturated, most new SaaS companies initially target small and medium size businesses, with future plans to move into other markets. Already, Salesforce.com has over 600 SaaS applications on their AppExchange platform, offering solutions targeted at more than 15 different business functions, including Finance, Human Resources and Sales & Support. ServiceMountain.com, another SaaS vendor, even offers such niche software titles as Dog Walking Software and House Painting software.

Meeting the SaaS Challenge for Traditional ISVs

Every ISV should be aware of the threat to their traditional business from SaaS, and develop a strategy to compete, before their competitors start taking away their customers. One option is to simply bite the bullet and begin the migration to SaaS. This will work for many companies, particularly if their current software revenue is high enough to justify the migration expense. It's generally understood that implementing a SaaS strategy can take a minimum of 18 months, so for companies that choose that path, the sooner they begin the migration, the better chance they have of coming to market with their SaaS offering before its too late.

Another option is to analyze the driving forces for customers wanting to move to SaaS, and preempt them. Below are listed the before-mentioned SaaS benefits for end users, and how a traditional ISV might respond.

- **Reduced infrastructure costs –** Data storage and associated security is a large component of a system's cost. If ISVs can modify their programs to communicate with remote third party servers, rather than local servers, partnerships with data storage ASPs could meet the customer's needs.

- **Less commitment required –** Any software that requires installation effort by the end user is at a disadvantage to pure click-to-buy SaaS solutions. Nevertheless, if the application has a SaaS component, such as remote data storage, it's easier for ISVs to add pay as you go pricing models, since the ability to revoke access to central databases is a strong protection plan.

- **Easier access -** One of the implied benefits of SaaS is anytime, anywhere access from any browser, which suggests that complex licensing methods are unnecessary and even unworkable. However, while simple user name and password access is sufficient for many mass market SaaS offerings like Google Apps and Yahoo's Hotmail, in reality few business class applications require universal access. SaaS CRM applications such as Salesforce.com are a rare exception to this rule. Most of its users are highly mobile, and Salesforce.com has developed mobile access which works on cell phones. Even so, the preferred method of common sales tasks such as proposal generation is still the PC. Most business applications have stationary users who might work on at most two systems - a PC/workstation at work, and one at home.

- **Scalable** – External data hosting removes part of the scalability issue. Flexible web based licensing models ensure that new users can be brought up quickly and easily.

- **Less software maintenance effort** – Remote access to end users' computers for upgrade and maintenance services can be a big challenge. Not every company can develop upgrade processes as extensive as Microsoft's, and even their process can be disruptive. Still, there are ways companies can remotely access software. It can be a manual remote access based solution for more expensive niche systems with fewer nodes, or an automated system that gives the user the option of when to perform the upgrade. Effective, unobtrusive alerts need to be developed, whether it's through messaging via the application interface, or through traditional email communication with the end user. Minimizing end user and IT staff disruption is the key consideration.

- **No compatibility issues** – As above, this issue can be mitigated with a well thought out upgrade process, but it does require more careful planning and communication than with a pure SaaS offering.

- **Accounting flexibility** – Reduced infrastructure costs will reduce CAPEX, and ISVs can consider different pricing models to further reduce expenditures. Subscription or pay-as-you-go models can be implemented. With the data hosted externally, ISVs have more visibility into usage, and flexible licensing with rights management software such as SafeNet's Sentinel RMS will improve customer satisfaction.

- **Flexible payments = easier budgeting –** As above, flexible licensing is the key. With a robust licensing infrastructure keeping honest users honest, ISVs just need to integrate flexible billing into their payment process, to emulate the SaaS model.

- **Easier future system integration –** With remote data storage and standard data formats, it will be easier for multiple applications to share data. Corporate data can be shared by several different applications with minimal integration required.

- **Tracking and monitoring benefits for compliance purposes** – Tracking and monitoring features are typically not built into applications. Today's entitlements management systems (EMS) are designed to give both ISVs and end users greater visibility into license activity, improving tracking, compliance and customer satisfaction. As an added benefit, EMS systems will allow ISVs to consolidate tracking of licensing strategies across different software titles.

Licensing: Bridging the Gap between Traditional Applications and SaaS

Licensing techniques can help traditional ISVs either respond permanently to some of the competitive pressure from SaaS - or bridge the gap during SaaS development.

The architecture and hosted nature of SaaS applications provides ISVs knowledge of feature usage – a capability that most modern licensing technologies can also bring to a traditional software product. While this benefit is interesting and valuable to ISVs – the primary competitive threat from SaaS relates to the pricing and enforcement of a license. A SaaS vendor typically offers some form of consumption model that affords the end user the flexibility to grow or shrink their licensing requirements. Traditional ISVs are more used to a combination of perpetual and named or concurrent licensing. While the license cost is not usually the highest component of the overall investment required by a customer to take on a new software product – it can provide pricing pressure to incumbent vendors that is hard to resist – even when the actual risk of switching is low (i.e. when the cost of switching outweighs the reduced obligation risks and potential overall savings of SaaS). Regardless of

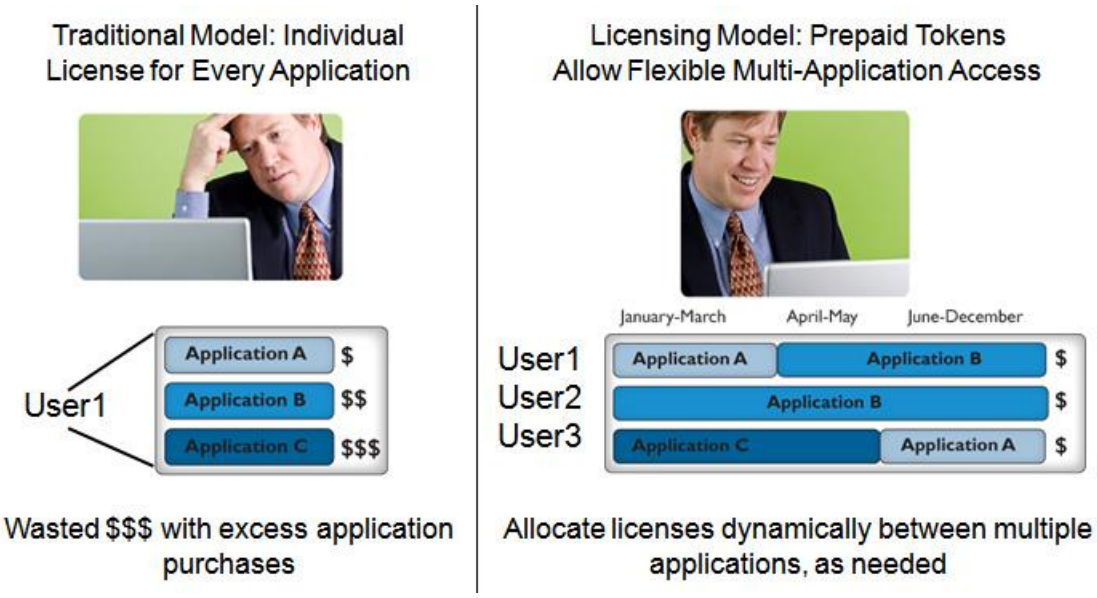
the total cost of switching – customers may also feel as if the vendor that has reliably provided software solutions for a number of years is overcharging because of the advantage of their incumbent position.

Providing a licensing scheme that offers a customer flexibility and choice in the use of a traditional software product does not necessarily result in a decrease in license revenues. Flexible and new licensing schemes do reduce the competitive threat from a SaaS vendor – and greatly increase goodwill with the customer.

For example - one area of licensing that impacts customer satisfaction is if a customer feels that they over-pay for licenses – usually manifested in terms of unused or underused features or applications within a suite. ISVs have traditionally provided upgrades to products over time – with new features that appeal to narrower segments of the market. Upgrade and EOL policies over time may lead to customers feeling that they are purchasing titles or features with more restrictive terms and at a premium when the overall utility is low.

One of SafeNet's customers, a Burlington Massachusetts based ISV, solved this problem in a creative way. The ISV develops a variety of complimentary software applications used by oil companies to manage the different steps of designing, building and operating refineries. Rather than require their customers to purchase a license for each program for each user, the company recognized that their customers might not need to use all the programs all the time. Based on what stage of the refinery process the customer was currently focused on, there might be a higher demand for a particular title, while the other titles might sit temporarily unused.

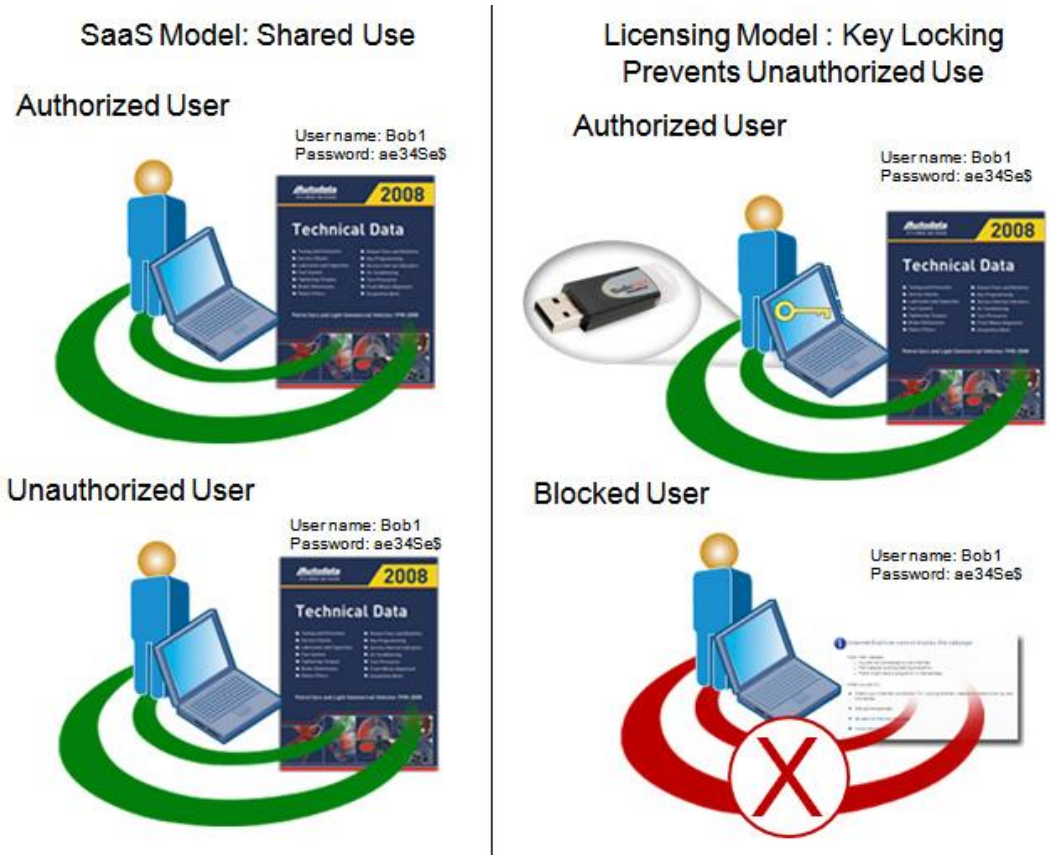
In response to this, the ISV developed a clever token-based model, whereby the customers could use prepaid tokens (credits) to control how many users used a particular program. The customer had the flexibility to decide which combination of software to use at any time. While this seemed to limit software sales, it actually had the opposite effect. With the flexible licensing model, customers were encouraged to try the ISV's other titles, and the long term customer satisfaction and corresponding retention more than made up for any short term revenue loss. Another nice aspect of this solution is that the tokens can be self-replenished, adding to the ease of use for the customer. Furthermore, the payments for tokens can be treated as OPEX, allowing end users to immediately write off the expense. With three complimentary applications and a unique way of dividing usage up between different applications, the company doesn't have to worry as much about their customers migrating to SaaS solutions.



Innovative licensing models are an important consideration when competing against SaaS, because of the flexibility they can provide ISVs and customers. Customers are primarily interested in having more fine grained control over their software consumption – that does not have to result in a decrease in licensing revenue. A 3rd party licensing toolset removes the complexity of developing and maintaining enforcement technologies – and supports many varied models based on the broad and lengthy experience with licensing from the toolset vendor. ISVs should invest in the introduction of new and flexible licensing models.

An Englewood Colorado-based SafeNet customer has a prepaid licensing model that is similar to the previously mentioned example, but the licensing is done at a feature usage level rather than a product level. The company develops accounting reporting software for businesses. The company uses a SafeNet metered hardware key, preloaded with credits that are depleted when various features of the software are used, by clicking on the feature. Once the units are depleted, the customer simply buys another metered key. The keys provide license portability, a feature that is not common with traditional licensing models, without forcing ISVs to sacrifice security by opening the door to unauthorized usage. Also, with a pay per use model, end users are able to better control their spending and usage. This type of model is competitive to SaaS models, but without the connectivity requirement and it is very popular with ISV's customers.

The prior examples focus on innovative and new licensing schemes. Sometimes a SaaS model provides operational benefits – but because of the nature of the application it does not offer strong enough enforcement of a license from the vendor. A UK-based SafeNet customer, one of Europe's leading publisher of technical automobile information, has products which are used by mechanics to repair and service automobiles. The materials are available online, but with a twist. Since the valuable intellectual property is the technical information rather than the software application used to access it, the ISV needed to find a way to keep users from downloading the info and sharing it improperly. The solution is unique – the company developed a proprietary browser which allows for data viewing but prevents electronic copying. A secure SafeNet USB Sentinel Hardware Key (SHK) is required in the PC in order to open the browser, ensuring that only a legitimate user can access the info. This solution is a hybrid SaaS approach – with a traditional application licensed per seat, strongly enforced with SHK (providing strong enforcement but with ease of portability) – as well as web delivered content.



These types of examples show how ISVs can develop creative licensing solutions for their customers, emulating the value and convenience of SaaS applications, and removing some of the incentives for customers to switch.

Summary

In the last twenty years, the explosion of the Internet in conjunction with phenomenal bandwidth availability has created challenges for traditional ISVs. New ways of delivering software online brings benefits to end users, appealing to a new type of user – a web-centric buyers who expects and even demands that the information he or she needs to do their job will be on the Internet. As the cultural shift sends more and more people to the Internet, SaaS will continue to grow, and already terms like Web 2.0 and cloud computing are joining the popular lexicon. PC-based software isn't going away anytime soon, and SaaS business models are not for everyone, but ISVs can ensure their competitive standing by always considering how to give their customers what they want. Whether it's by doing a partial SaaS migration by moving some aspects of their software onto the web, or implementing flexible licensing for customer satisfaction, ISVs can remain successful in today's competitive environment.