



SIIA'S Vision from the Top



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Ten years ago, “software as a service” was a new addition to the software industry lexicon. Today, it is a driving force in the development of new software products. Two years ago, the world referred to “cloud computing” much as they did with “the Internet” in 1995. Today, businesses and governments around the world are seizing the opportunities the cloud can deliver with great enthusiasm.

The evolution embraced by the software industry has yielded even greater innovations by companies in their products and services. It is no wonder, then, that our industry is able to withstand the challenging global economic times and help the rest of the world to grow out of it. But what is driving growth moving forward?

To find out, we took the pulse of chief executive officers across the software industry. Our goal was to provide thoughtful, experienced insight and perspective that can help you as you plan for the future. This publication offers the collective wisdom of 45 SIIA member CEOs. In less than 30 minutes, you can formulate your own opinion based on an examination of their points of view.

If you only have one minute, here’s the general forecast:

Cloud computing will continue to change the way we provide and consume services. We continue to see the value of cloud computing increase. Businesses and consumers alike now expect services to have the flexibility, scalability, ease of use, comprehensive platform support, and real-time management that cloud computing provides. That expectation will continue and even increase as a new web-savvy generation enters the workforce and marketplace.

In the next few years more business will be carried out on mobile devices than on PCs. Tomorrow’s always connected workforce expects to be able to carry out all aspects of their business regardless of location. We see more and more companies supporting increased mobile device usage with business applications. With IT departments now able to customize mobile devices to run their business/industry specific software, we will see mobile business increasing over the next few years. Companies who embrace mobile business see clear ROI as it reduces costs, boosts user productivity, and improves customer service, which, ultimately leads to profit.

The increasing impact of Social Media will change every day business. Social media is now a significant part of the B2C and B2B sales and marketing strategy. It provides for an inexpensive touch point that can have a direct impact on building brand awareness and sales. With Social Media, marketing is no longer solely in control of the information customer prospects receive, as they can now research and read online reviews from sources out of a marketer’s control. A good social media strategy is one where you leverage the tools to engage directly with both existing customers and prospects alike. More and more companies are beginning to figure out just how social media redefines and enhances their sales and marketing strategies.

Are these drivers originating within the software industry, or is the market defining them? The answer is “yes,” to both and that’s the great thing about our industry. We are innovators, and we are able to define the future of computing but always with eyes focused and ears tuned to the marketplace.

Take time during your travels or in a quiet moment at work to read through these interviews and get a deeper sense of the perspectives among our industry’s leaders. I’m certain you’ll find insights that will inform your thinking as you continue to grow your business and strengthen our industry.

Rhianna
Collier

VP, Software Division
SIIA



What will the software industry look like in 3, 5, even 10 years from now?

Cloud computing in combination with web technologies will change and define the software industry during the next 3-10 years. During this time most client-server applications will be replaced by those with a web-based user interface in order to simplify deployment and management of applications. Web development platforms will allow for rapid customization and integration of cloud-based applications. Some of these applications will be deployed on internal clouds, some will be deployed on external clouds, and some will be offered as a service (SaaS) requiring nothing except a browser.

Applications with less complexity and standard implementation processes will be predominately offered as SaaS. Complex applications with rigorous integration requirements and multiple customization settings will remain a mix between SaaS, on-premise, and hosted deployments. Regardless of the deployment model, web-based and cloud technologies will allow software customers to obtain a rich set of software applications that can operated independently of the type of device and the location of access.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

These trends will be driven primarily from competition and globalization. The Cloud will help businesses lower hardware costs and enable rapid scaling of infrastructure so businesses can quickly adapt to market changes. By using the cloud in combination with web-based technologies, companies can react to global market changes because the web allows access to software applications from anywhere. For example, a company experiencing increasing demand in a new location can deploy solutions to new offices and warehouses in a matter of minutes. Once deployed with appropriate security permissions, remote employees and processes can immediately access core data and business processes. For sales, this delivers the ability to collaborate on customer accounts. For operations, this delivers a global view of inventory and resources. For finance and management, this delivers a global view of results and financials. But most importantly, all organizations can work together.

Companies using legacy client-server solutions will lose their competitive edge because they will have to spend more time updating and maintaining software on end-user machines. This will be especially true in cases where employees are isolated in remote offices and home offices. When using a web-application, real-time data, reports, dashboards, and approvals can be granted instantly using only a browser.

The proliferation of different access devices and platforms also plays a role in the adoption of cloud and web. The need for cross-platform compatibility is forcing companies to move to web-based architectures with device independent user interfaces. Software development companies that rely on client-server architectures will find it difficult to move quickly and maintain low costs because separate client software will be required for the large proliferation of user devices. A web-based software company will be able to maintain one set of developers while a client-server company will have to maintain PC developers and handheld device developers on multiple platforms.

Customers will have the option to self-select among different deployment models offered by cloud and web solutions. Customers with knowledgeable

Ezequiel
Steiner

CEO
Acumatica



IT departments, spare IT resources, or excess server capacity can purchase a software license and choose between an on-premise or hosted deployment. Customers with few IT resources and little infrastructure will save money by purchasing their software as a service (SaaS). To accommodate these different delivery models, successful software vendors will have to make their solution available through these different methods. Some software companies may offer both solutions themselves, but others will outsource the operational aspects of SaaS to solution providers. Successful companies will allow customers to switch between SaaS and on-premise deployments so customers can save money and meet compliance requirements – even if their needs change.

The changes brought about by cloud computing and web architectures will be positive for the software industry in terms of meeting customer requirements and demands. In addition, the Cloud will help companies deliver SaaS offerings quickly by taking advantage of the scalability. Successful applications and add-ons can expand globally while non-popular applications can be quickly eliminated so resources can be repurposed.

Eileen
Boerger

President
Agilis



What will the software industry look like in 3, 5, even 10 years from now?

In 2010, use of the Cloud and Software as a Service (SaaS) products moved into the mainstream, but did not yet dominate the mainstream. In the next 3-5 years, the majority of products will become SaaS products and by the end of 10 years, on-premise software products will be mostly a thing of the past. It would be my hope that also in 10 years, SaaS software products will be exchanging information via standard, secure interfaces in the cloud. In other words, we will truly be seeing an interconnected and secure information technology world. An Enterprise could use a CRM from one vendor, an ERP from another vendor (or even functions from more than ERP vendor), and a social media system from another vendor all freely and securely exchanging information via a combination of private and public clouds and storing information in a secure, customized database in the cloud for each Enterprise.

In the next ten years the use of social media will move from unmanageable information generation (akin to the Tower of Babel) to intelligent use of and management of generated information. The use of social media has become quite popular for personal use, particularly by the younger generation. In the next 3-5 years, the use of social media by businesses to market their products, communicate with customers, communicate with partners and vendors, and communicate internally will mature and become a “normal” way of doing business. We are already seeing that with features such as “chatter” in Salesforce.com. This will also require the software industry to standardize around the use of social media functions in software products.

The next major shift in the next 3-5 years will be the “rise of the smart mobile devices”, such as smart phones, tablets, smart devices in hospitals, cars/trucks, manufacturing facilities, and even in homes. Connectivity to smart mobile devices will be ubiquitous, and in most cases, will be the only way users will use technology in their work environment and personal lives. In 10 years, most users will be interfacing to their work and personal environments only through a smart mobile device of some kind and will be able to do so wherever they are (at their desk, at home, while on a trip, etc).

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

In the first question above, I described a truly interconnected and secure information technology world. Customers and businesses will demand this as they move their IT environments into the cloud. But, a lot has to happen to make this world come true. First and foremost, Independent Software Vendors (ISVs) must develop or migrate their software products to a SaaS model, designing them in way to ensure secure access, privacy of information, and compliance to security requirements. Secondly, standards must emerge to allow secure and accurate exchange of information between SaaS software products used in an Enterprise. Thirdly, access to business information and processes as well as to personal networks must be 100% available from anywhere in the world.

The use of various forms of smart mobile devices will require changes to user interfaces to accommodate smaller touch screens with small or touch keyboards, changes to the way data is stored and transferred while being used by the mobile device, and innovation in how to truly multi-task on a mobile device. In other words, by users demanding to use smart mobile devices, the software industry must re-think and re-design how to effectively and efficiently give users the interfaces they need at the speed they need it whether they are at their desk or on the road using a smart mobile device.

As the use of social media matures throughout the business world, the software industry will need to address the question of how can all the information flying around be harnessed. That means there will need to be some way to sort through all the blogs, tweets, status updates, live feeds, comments, etc., etc., etc. and find the information that is truly useful to a business or to an individual. Otherwise, it will just turn into a lot of white noise out there.

In my opinion, the biggest demand on the software industry will be on the resources it will take to achieve a truly interconnected and secure information technology world. This will require a lot of new product development, migration and refactoring of current products, standardization, and solving some interesting technical issues. Successful ISVs will be the ones who can intelligently harness resources globally to develop and deliver this truly interconnected and secure information technology world.

David Roth

CEO & Co-Founder
AppFirst



What will the software industry look like in 3, 5, even 10 years from now?

And what customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Private, public and/or hybrid clouds

Over the next three to five year period, a couple things are going to start happening. The first is that people are going to be learning more about what works within both public clouds and application stacks. This turns the concept of hybrid into a growth area. People will begin to set-up hybrid environments because they currently don't know enough about what their entire application needs and how to best set up an architecture to run in two different types of clouds simultaneously. Within these next three years it will become commonplace for people to understand their application architecture needs, including how they can have the whole thing orchestrated in a hybrid fashion to get the best of both worlds.

Between the next five and 10 years, people are going to expect to have a refined level of insight into the needs of each application, what it's consuming, and what their options are. On an on-demand basis, they will expect to run their application in not just hybrid, but federated clouds.

Maturity of tools and processes is needed to come together to give timely and relevant information to the user about what their application needs, when it needs it, and the lowest cost of how it can run. The marketplace is driving to this. However, if all the capabilities were here today, I don't know if people could get their head around it. That's why I think the evolution is hybrid cloud usage over the next three years. Five to 10 years out is where it goes beyond hybrid into federation where people basically need to have complete use of visibility so they're empowered to make on-demand, automated decisions.

Platforms, infrastructure, and/or migration

Everything will need to have the ability to be extremely integrated. People will need to follow open standards and expose how information comes in and out of various places. Not just regarding data, but also how the entire application stack can be much more open and at the same time be able to have the right level of insights to know why and when it makes sense to implement changes.

What's expected of the software industry is to increase the visibility of what's going on so people can make better decisions and change easier. That's counterintuitive to the history of the software industry, where there's been more vendor lock-in. But customers are demanding change, and will not allow themselves to get locked in. If this increased visibility doesn't happen, it will kill or stunt the growth of the industry.

We come from an industry where some very large companies have tried to be an end-to-end player of whatever mainstream solution is at hand. I do believe that moving forward it's not going to be about one or two big winners that offer it all themselves, but more so an updated ecosystem. Innovation needs to keep up so we can have a cloud platform, a cloud infrastructure environment, and a cloud migration path. With all of that, it's the ecosystem that enables the win and not any one player. It will take an industry movement and a large group of us together to make the vision a reality for the users.

The sum of the entire ecosystem is more important than any one of the individual companies since no one company will be able to do it all. For the ISVs, it will be important to plan on how they see solutions plugging into theirs and to identify which solutions they should connect into.

Due to the complexity and volume of individual solutions that make up this new ecosystem, there is a large opportunity for regional to global service providers to consult, architect, and design both horizontal and vertical solutions. They will be able to deliver the end-to-end solution to not only provide guidance but to also accelerate the adoption and deployment of both hybrid and eventually cloud solutions.

Social Media

When we think of social media, we think of Facebook, LinkedIn, and other various networks coming about that are horizontal connecting points for all of us to keep in touch with each other. Social media is turning into a great opportunity to become pervasive across everything. Places like Server Fault, which are basically very populated discussion areas where people can post technical questions and look for help amongst their peers, are great because it fosters meaningful and relevant dialogue.

In the upcoming years, social media will become more integrated with the work we do everyday. When you bring social media together with the concept of big data, it becomes extremely timely and relevant. You can solve things proactively and faster. Instead of looking for a tool that's supposed to just magically give me answers, the magic becomes more about the facilitation of how we assist each other as people with similar interests and living similar challenges.

Social tools have become a natural extension of not just college, but of every level of education. The younger generation has mobile devices and a social media construct naturally extended from their thumbs. Because we look towards the younger generation to see where things are headed, it makes sense that social media will be a major driving force for future solutions as they are built.

What will the software industry look like in 3, 5, even 10 years from now?

For one thing, we probably won't call it the "software industry" anymore!

When the vast majority of enterprise software is delivered as a "service" over the Internet, the software industry as we know it today will look very different. There will likely be a small number of at-scale infrastructure providers powering a rich variety of cloud solutions, which can then be connected and extended by a new breed of "cloud service brokers."

Just as the average person turns to an insurance broker for advice, guidance and help managing various policies, a growing number of corporations will rely on cloud service brokers to make it easier, safer, and more productive to use multiple cloud services. Gartner predicts cloud service brokerage will be the single largest revenue growth opportunity in cloud computing through 2015.

In the long run, we believe these customer-focused intermediaries can improve today's often tenuous relationship between IT consumers and IT providers. With a brokerage, cloud providers can focus on innovating and scaling their offerings to the masses, and customers can focus on building and running their business – allowing both entities to do what they do best.

Chris Barbin
CEO
Appirio



The cloud is a huge paradigm shift and not every company will be able to embrace it - especially those that have huge on-premise install bases to protect. This means over the next 3, 5, 10 years, we'll likely see the role of established incumbent players like Oracle, SAP and HP change dramatically, and previously unknown companies that grew up in the cloud era take on even more market share.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Customers are demanding that their business solutions be social, mobile, and delivered on the cloud -- all trends that we're already seeing transform how consumers interact with technology. The line between business processes and collaboration will blur, as will the line between enterprise and consumer applications. It's already happening with services like Facebook and Twitter gaining greater hold in companies, and solutions like Salesforce Chatter moving down market. These, and the majority of future applications, will also be consumed primarily through a variety of mobile devices, not just through the PC. In fact, future "software" companies will likely develop first for mobile devices, and secondarily for a desktop or PC.

Another trend that has and will continue to influence how software is developed is crowdsourcing. Open source is just one aspect of this. Soon a greater number of commercial enterprises will start to crowdsource their IP, turning over pieces of projects or tough technology challenges to a growing body of independent experts outside their company walls. It's happened in almost every other industry from gold mining to pharmaceutical research, and it's going to happen to an even greater degree in this industry.

**Gil
Zimmerman**

CEO & Co-Founder
Aprigo



What will the software industry look like in 3, 5, even 10 years from now?

The pace of innovation in software is constantly accelerating. I think that we are now on the cusp of another great leap in this acceleration. As more and more of the underlying hardware and operating system infrastructure is being abstracted away with virtualization and cloud technologies, software is being detached from the anchors of the slow moving hardware and OS world. Software developers and software companies can now focus more than ever on providing real value through software and deal less with the necessary underlying support and "making it work" functions that were simply rebuilt for every program and solution.

I believe that in 3 years, most software development will leverage the public cloud for almost any software that can be provided as a service (which is the vast majority), keeping locally running (on-premise) software to the absolute bare minimum in business environments. A couple of years after that, you will have a hard time finding employment if you are not cloud software development savvy, and you will find it hard to make the business case to buy non SaaS or Cloud based solutions.

This is truly a win-win situation for both sides of the software industry, both the builders and the buyers. Developers can build better, smarter, faster, and more valuable solutions at a fraction of the cost it would have been just a couple of years ago. On the other hand buyers' dollars will go a longer way, as they will be paying less and less for things like compatibility, support, configuration, implementation, and more for the value components they needed in the first place.

As for what the distant future (10 years in software is several generations), it's very difficult to tell. Software innovation will continue to accelerate and abstraction will be the mode of transport for that acceleration. The major cloud and platform providers will have gone through several rounds of consolidations and expansions, and disruptions will continue to keep the industry on its toes. I expect that public clouds will flourish and private clouds will be gone, having given way to 3rd party offerings that simply provide a better experience and probably at a lower cost. Just look what happened in other areas, as it wasn't too long ago that businesses owned their own dedicated communications lines, hosted their own voicemail systems, printed their own paychecks, and other non-core activities.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Businesses are more competitive than ever, employees are more data and technology savvy, and the pace of innovation needed to win in the market is driving aggressive requirements from IT and the software solutions the business uses to run its operations.

Gone are the days that the CIO or IT can veto business decisions that depend on technology implementations if the business justification is clear (ROI). Those CIOs that are truly focused on providing the business with the competitive edge by leveraging the latest technology are embracing the software movement to the cloud, as they know they can move faster, and retain the flexibility they need for the ever changing business requirements. Those CIOs and IT leaders that are fighting to hold on to their silicon kingdoms, patch management, and job security will, in fact, get the opposite.

These demands of faster, more agile software solutions that are provided from the cloud, are available instantly and provide the flexibility to adapt, integrate, and mash-up will force software companies to think differently. The titans of the industry will either adapt to agile, SaaS, and cloud, or become extinct.

Businesses will be laser focused on value, will no longer be willing to pay for (in time or money) supporting or maintaining the software they are using, or wait for upgrades and extensions. This isn't to say that all of the world's software problems will be solved, on the contrary. The new problems will pop up, but they will be of a higher order, and they will be addressed faster than ever before.

Carmen Sebe

CEO
Avangate



What will the software industry look like in 3, 5, even 10 years from now?

Over the past 10+ years we have watched the outsourced, hosted application model evolve from ASP to SaaS and Cloud Based computing. The key differentiator between the hosted application service provider models of the late 1990's and early 2000's and today's SaaS applications is the coupling of subject matter and technical experts to the product. Most of us are aware of this evolution and I believe this path will continue. Along with this continued evolution will be an increased amount of commercialization with focus on leveraging Cloud based services and other SaaS foundations into user consumable products and services.

The Cloud computing models of today, namely elastic processing models and storage provide little opportunity for broad scale consumption. Over the next 3-5 years it is my prediction that the software solutions that emerge will be based on the commercialization of these models. Essentially this is the continuation of the trends we have seen in SaaS: the emergence of solution providers that couple a variety of technologies and services into useable products. In our business, for example, we couple payment processing and gateway services, electronic software distribution, Cloud based hosting and email fulfillment (among other things) with human driven process such as anti-fraud and customer support. In this manner Avangate has created a commercialization model coupling all of these services and more into a useable product for software and digital product vendors.

What customer demands and business trends will drive changes in software products, how they're developed and the industry that provides them?

Mobile devices and platforms will continue to increase their market penetration and by doing so create significantly more customer touch points. As these touch points gain greater adoption customers will demand access to services on their terms, whether that is through a smart phone, tablet, set-top device, power / grid control or any one of the many forthcoming smart devices. Software vendors will expand their product offerings to allow access to their services via many if not all industry touch points. These access points will result in an interconnecting mesh of services while further growing data stores. The large variety of access points will also result in customer data being segregated across a number of independent data stores vs. a centralized facility or services.

The software market will respond by creating layers of technology that sit on top of each touch point and allow access to multiple data stores. An easy model to visualize this scenario is Mint, a very successful SaaS alternative to QuickBooks. Mint aggregates data from your credit card, mortgage, checking and savings accounts, gas cards, car loans, etc. into one, central application. You can see how in this model many if not dozens of data stores were required to build the complete overview. These application layers will continue to be defined allowing customers to interact how and when they need.

Another example to consider: growth in the online retail sector will require the ability to couple customer information with social network data and trends. We are starting to see the emergence of these services with operations such as Amazon integrating Facebook stores with recommendations powered by "friends" and network connections vs. artificial intelligence. Purchase recommendations driven by the social network will carry significantly more weight than those of anonymous shoppers or shopper trends.

Even though I predict the application layers will start to truly unify relevant data, the data-stores themselves will continue to be segregated if not becoming even further segregated as security concerns reinvigorate the markets love for silos. The requirements to integrate applicable social network data with consumable software services and an ever emerging number of touch points will keep software companies on their toes. Those companies who are capable of visualizing and understanding these interactions will lead the market. Product managers will be required to understand how third party systems with no current interactions to their existing product lines will be needed to drive consumption and adoption down the road. This is how I believe we will see companies commercialize their technologies and how the customer will drive the market.

What will the software industry look like in 3, 5, even 10 years from now?

The software industry, especially as it pertains to small businesses and CPAs that Bill.com focuses on, will continue to address the ever-growing need for efficiency so our customers can focus on building their business rather than tedious daily tasks. Software providers will continue to seek out inefficient technologies like paper-based finances (checks, invoices) and bring new solutions to market. Developments will continue to offer incremental benefits, but the true winners will be services that pull together everything users need into a comprehensive suite that works how, when, and with whatever other tools they need it to.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

One of the leading trends among businesses and the customers they serve is the need for greater efficiency. This applies to every aspect of the business touching everything from the need for time and cost savings to greater control over critical information to remote access. New software products must not only supplant processes that no longer work or make sense, but they must integrate new tools and features that provide exponential benefits over current solutions.

As such, we're beginning to see some tremendous applications of cloud technology that inherently help software developers drive users towards these objectives, and Bill.com is no exception. As cloud becomes increasingly prevalent, workers will be more mobile and the lines will then blur between mobile applications and non-mobile applications, which is what we're already seeing today with iPads in the workplace. As an end result, everything – from applications to data – will be accessed on the go. Similarly, we will see social networks evolve but the same principles will extend to non-social networks. By this, businesses will be linked and able to share information, collaborate, and conduct commerce seamlessly and without friction. It won't happen because a vast monolith dictates it, but because cloud based technologies will enable it much in the way they enable a social graph today.

Security and/or compliance

With so many platforms and online payment options available today, it's important that businesses find a solutions provider they trust inherently with managing processes and payment activities related to their hard-earned finances. At Bill.com, we take this to heart and have created a secure online platform that uses bank-

**René
Lacerte**
CEO & Founder
Bill.com



level encryption. In fact, we have invested heavily in SaaS 70 Type II certification to ensure we're using best practices to eliminate the chance of check fraud, along with providing the controls and features that allow the business to protect themselves in ways never before possible when they were tied to paper-based systems. Bill.com is secure because it's encrypted, but it's also far more secure than what businesses use today with their financial systems at the foot of their desk. Because of our secure methods, Bill.com is being adopted by businesspeople and vendors across multiple industries, including retail, healthcare, construction, real estate and virtually any other sector in which small businesses are prominent.

Finance & investment

We've created a service built by people who run small businesses and understand the complexities of the bill management and payment process. Bill.com executives have been deeply immersed – for more than 100 years combined – in solving bill payment and scalability challenges for businesses. Our trusted service creates a small and mid-sized business network that connects customers and vendors on the Internet, enabling seamless collaboration of documents and money movement. We've eliminated the friction between customers and vendors created by the outdated processes of sending paper invoices by check. By keeping information constantly connected through each individual partner relationship, we're helping SMBs manage their company and customers more effectively.

Steve Van Till

President, CEO &
Co-Founder
Brivo Systems



What will the software industry look like in 3, 5, even 10 years from now?

And what customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Based on the increasing customer demand we've witnessed over the past several business cycles, we anticipate that growth rates of 30-40% are sustainable for at least the next three years, if not well into the five-year timeframe. Major drivers in our sector include: heightened concerns with security and terrorism; compliance-driven access control and data retention requirements; federal mandates for strong identity management and FIPS 201 compliance; and growing levels of buyer comfort with "the SaaS security question".

Generalizing on our own adoption trends over the three-plus year horizon, we see stronger drivers for the entire class of IoT applications. These are clearly enabled by more and better wireless technologies for connecting physical devices to web services such as our own Security Management System (SMS), as well as reduced costs for wired solutions using POE. While the inescapably physical nature of physical security has long kept this market on electrical tethers, new products are freeing end users with low-power or network-powered devices, local and wide area wireless offerings, and the location independence that all SaaS backbones provide. The broad reach of SaaS has made it a favorite over traditional customer premise solutions for enterprises with far-flung assets requiring protection or monitoring.

Identity Management

We see the increasing 'democratization' of strong (or at least strong-er) identity tools as a driver for our own segment of the physical security sector as well as SaaS in general. With better tokens, widespread PKI, and better management tools, more value can be placed under the purview of automated

security systems, with less reliance on expensive labor. We've witnessed this extensive growth as nearly three million identities have come under our own management for purposes as diverse as access to healthcare facilities, compliance testing, membership management, and federal facility protection.

SaaS Service Used in Security

We could hardly do justice to the physical security market for SaaS without addressing the astounding growth in new entrants to hosted and managed video surveillance. While less celebrated than consumer-facing video success stories like YouTube, the transformation of the security video market from an industry of (literally) closeted, independent digital video recorders to one of centralized, networked storage is a watershed event, both in bandwidth and potential earnings as we follow Great Britain and others into the "surveillance society" era. In raw numbers, where there were only a handful of players as recently as two years ago, there are now upwards of 25 players offering SaaS solutions for physical security in the US alone, and a hundred more globally.

The SaaS Security Question

We cannot provide a proper outlook without addressing "the SaaS security question" that has haunted providers of all stripes since the inception of outsourced services. Having launched our SaaS security offering in 2002, well before the current cloud explosion, Brivo witnessed dramatically changing customer attitudes over this eight year period. We have observed growing buyer awareness that, as a practical necessity, data security often must be evaluated on a comparative rather than absolute basis. That's not to say there aren't minimum thresholds that every system must meet. Rather, it's to point out a heightened customer understanding that things aren't always rosy on the inside of their own firewalls, and that outsourced providers with dedicated security specialists will consistently outperform multi-tasked in-house IT generalists. That this attitude is now prevalent in the federal sector—underscored by Vivek Kundra's recently sanctioned "cloud first" policy—illustrates how far we have come and is a triumph few would have expected when everyone was convinced that the federal government would never compute outside its own firewalls.

What will the software industry look like in 3, 5, even 10 years from now?

Software as a Service (SaaS) solutions will become the standard for how the business is conducted. Rather than develop and deploy their own in-house infrastructures and systems, businesses will delegate their software needs to providers offering specialized solutions such as CRM, Accounting, Process Management, Human Resources and more.

At Centah, this is how we are going forward to help our customers—companies and contractors in the facilities maintenance, home improvement and repair and other trade sectors, as well as high-rise and low-rise builders. The days of managing your business manually, without interconnectivity, will end.

One application does not need to meet all your needs. You don't need to build the perfect suite of products in order to run your business effectively, because your needs and the products change. With SaaS you can focus on your core business and add new modules from a variety of companies to complete your order management, back office accounting, CRM and so on. Let the experts who provide the SaaS business applications focus on what they know -- and take advantage of the plethora of great solutions out there without getting stuck with particular ones forever.

Paul
Sorrentino

Founder & CEO
Centah



Centah's focus for 2011 is to provide our customers with the best SaaS choices – options from other providers who specialize in modules that complement our products and solutions. These could be independent developers, other platforms, other SaaS companies and their modules and mobile applications. We can be a valuable sales channel for these providers. Collaborative technology is evolving quickly, and business and technology leaders need to work together in new ways.

Our channel helps our customers win. Data about suppliers and work orders that used to require customized software to manage on an in-house infrastructure will now be available on a web-based platform that is accessible, with appropriate access controls, to their entire enterprise in real-time. That gives our customers the time, confidence and power to use it most effectively. Their data is safe and secure, and SaaS reduces or eliminates costs normally associated with in-house software solutions

As Software as a Service grows more vital to business practices over the next decade, we see our relationship with our customers as a network company growing too. Some of the trends over the next few years we're watching for:

Better use of analytics – Today, analytics to support business actions tend to look backward; businesses will be able to use this data more to project what happens next. Now that the data is more readily available and infrastructure is more scalable there is more opportunity to do better forecasting, using past business trends to look at the future. SaaS solutions work with each other. This makes it easier to integrate data from varying sources. This, in turn, allows businesses to better understand their customers, costing and their own business processes.

Expanded SaaS Management – Some companies are still not entirely comfortable with their data stored externally. Yet SaaS is the way to go. There is room for us and others to help ensure they are comfortable with the transition. The Gartner Group predicts that by 2012 larger enterprises will have their own sourcing teams responsible for ongoing cloud-sourcing decisions and management. Companies like Centah are already prepared to accommodate them, offering the right cloud technologies and best practices to run the services.

Mobility—Every year, more and more people begin using mobile computing devices such as smart phones, tablets and netbooks. This trend will require companies to make their information and business processes available on this new medium. Web-based SaaS solutions are particularly well suited for this task. Another trend is toward better understanding the context of searches and questions. This type of computing deploys information about end users and their environment, activities, connections and preferences to pinpoint the answers they need. Gartner predicts that by 2013 more than 50 per cent of Fortune 500 companies will have these kinds of context-aware initiatives and by 2016, a third of the world's mobile consumer marketing will be context based. This is important to the verified contractors on our database for reaching their customers and new business leads.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

The need to ensure security of information in the cloud, and to explain to customers how security is ensured, will become more important as business migrates—maybe stampedes—to cloud computing. Security can be a differentiator, separating the successful cloud company from the others.

Customers want visibility. The new breed of customer understands the vast new opportunities that the cloud provides. But they also want to retain control over their own information, to be able to transport it through their

own internal systems. They are wary of who gets to look at their data and they want to make sure it is in safe hands and won't be degraded.

Cloud companies will need to tackle security on two fronts. First, they need to address the real security needs of their customers, from small and medium sized enterprises to large corporations. Secondly, they need to constantly communicate how they are keeping customers' data secure.

On the protection side, most SaaS providers already follow accepted industry security standards such as SAS 70 II or PCI—analogous to ISO designations. That ensures that businesses always have external verification of the quality of the provider they choose. PCI enforces measures, which ensure that systems are secure, and they address additional issues such as backup plans, disaster recovery and provisions for business continuity in case of a breach. A good SaaS provider will also perform daily scans of its system, to determine both robustness and to emulate—and prevent—typical attacks.

On the communication side, it's about asking and telling. It will be more important than ever to make sure new customers and clients go through their own security checklist. We can remind them that with SaaS, the data is located externally, requiring the accessing party to authenticate. This means that every access can be logged, tracked and analyzed, allowing identification of anomalies and raising of alerts in the event of suspicious activity.

We also encourage customers to ask tough questions of their prospective SaaS provider, and to ensure that their employees use good password practices when interacting with a SaaS solution.

Collaboration and the New Delivery Paradigm

We are what we do and most of what we do we do in groups. If we are talking about our personal lives or our work lives, much of our time is spent getting people to communicate with us and each other. The goal is getting people to align with a common direction and then march down the road to reach the common.

The difficulty we bump into is communication, and here I will direct this discussion towards our lives within organizations. The challenge is making sure that everyone has the right information at the right time to do their part to reach those common goals in synch with each other. Since the beginning of the industrial age, and probably even beforehand, the challenge of communication is where we have seen the most dramatic evolution, from the spoken word to the written word, from post to fax to email and from overnight to real-time. And with each of these advances, we have needed to adapt ourselves and learn how to best utilize those tools to reach our common goals. The speed at which we can communicate with each other has changed the kinds of endeavors and projects we can take on together.

Although we have made great progress on communication tools, usage of those tools still needs a lot of work. We still spend a huge percentage of our time on coordination, overhead and meetings just to make sure that everyone has the right information at the right time. We still often manually handle handoffs and collaboration. Even individual contributors spend time working on work instead of actually working.

Transparency and efficiency of processes and collaboration are ambitious goals. There are many tools on the market that help solve some of these problems such as Excel, Basecamp, MSPProject. But the only solution to solve the full scope of the problem for the long run is a solution that addresses

Avinoam
Nowogrodski

CEO & Co-Founder
Clarizen



all the technical requirements, contains a robust feature set AND is a platform people are going to be excited to use on a daily basis. Building tools that address the end user and encourage bottom up adoption drive usage because they make sense and actually improve how work gets done.

The most pervasive aspect of team work is obviously communication and the most pervasive communication tool for the past decade has been email. Email is a great solution when dealing with a specific, distinct transaction. It falls short when talking about transparency and accountability. Then we moved on to platforms like GoogleDocs, Wikis and the like. But even when companies devote time and money to purchasing, installing and executing enterprise level communication platforms within their organization, when you walk around an office you will notice that those Enterprise level communication platforms are not the tools that the average worker uses on a daily basis. The average employee is still using simple tools like notepad or even sticky notes, excel, Outlook calendars. When an employee takes their own data out of the central repository, then edits and updates it on their own desktop and then must be cajoled to then go back and update the central repository, the integrity of the data is completely lost. When the information in a central repository can't be trusted, you lose all benefit of that system to begin with and end up with even less efficiency than you had before those platforms were implemented. Not to mention the cost involved and the loss in productive work time.

Conversations and collaboration need to happen around the actual work that is getting done. People are having conversations about tasks that are going on. The ability to add notes, documents and conversations about a task means that you don't need to check other platforms to get the full picture of all the contributing factors. The availability of structured and unstructured data gives you the best of both worlds; the ability to record informal conversations and the ability to search and index that information.

With these kinds of real time, bottom up tools, the role a project manager has shifted. Project managers no longer have to run around getting task updates. Instead they can remain involved in the project conversation, becoming a contributor to the team, remain up to date at all times. When the team is empowered to keep their environment up to date, organizations have the confidence that the information is transparent and a real reflection of what is going on in the organization more effectively driving projects towards completion.

Another element of driving user adoption is the ability for the software to virally sell itself within an organization and across organizations. When software is adopted with a top down approach, the traction it generates is limited to those few champions who have the vision of the software's potential. Lowering the barrier to entry into an organization starts with giving free access to the full platform so that users can start deriving benefit from it immediately. Using the platform for personal, internal tasks is the first step, but the added benefit is when other can contribute and collaborate with you, which is the built-in virality of the platform. Now you have the inner core of dedicated users inviting the out circle of peripheral users until everyone in the organization is using the platform. Once an entire organization is using it, inviting partners, customers and vendors to share the platform is the first step towards a truly B2B viral environment.

The kinds of projects we approach today are fundamentally more complex and challenging than the projects we have done in the past. The improvement in speed and efficiency mean we can take on bigger and better projects all the time. These incremental improvements give teams the tools to challenge themselves even more to push their organizations ahead by changing the scope of the projects. The right tools not only makes project delivery faster, but also improves the lives of the people working on them on a daily basis.

What will the software industry look like in 3, 5, or 10 years from now?

Today, most ISVs are pondering their plan down the future software path called Software as a Service (SaaS). Some of these ISVs have embarked on the journey of re-architecting their software for SaaS and some are testing the waters with a few customers using hardware virtualization (such as VMware) that is functionally not much different from the old ASP model of the late 1990s. There is definitely a trend of traditional ISVs moving to SaaS; in fact, it is not easy to find any traditional enterprise software startup that has been funded since 2003. It's clear that SaaS is the future mainstream direction.

Players in the software industry compete around intellectual property. It's all about who has the most compelling features. In the future SaaS world, the competition will be around its second 'S' - Service. This will require many of today's ISVs to reinvent themselves—both in mindset and products.

First, their mindset has to move from shipping products on CDs that require professional services, annual product development cycles, and high annual maintenance fees to one focused on providing their products with the absolute lowest cost of service delivery. In the SaaS world, it's all about driving down your cost of goods sold (COGS). In the future, the market winners will be those who can effectively drive the incremental cost of new customer on-boarding, and service delivery to zero. These winners will enable their customers to self provision the service with the incremental cost of adding that customer as close to zero as possible. How will they drive down the incremental cost? By eliminating the need to deploy a separate instance i.e. replicating every software component (operating system, database, app server, etc.) - for every new customer. A true multi-tenant SaaS architecture supports a “shared everything” environment with the flexibility to “un-share” components as necessary.

Second, the future of successful SaaS companies will be built on sophisticated multi-tenant architecture. Today, many software vendors are attempting to weave multi-tenancy into their applications. This process is a cumbersome, lengthy and expensive endeavor. You can think of it as writing your own database or app server from scratch for your application, and no one would attempt doing that any more. So why weave multi-tenant features into your application? It happens because most developers either underestimate the ramifications of doing so, or they are unaware that there is a better approach. Today, sophisticated multi-tenancy exists as a software “plug-in” separate from the application code, similar to databases and application servers. In the future, the best practice will be to use a standalone, proven abstraction layer for multi-tenancy that SaaS developers will incorporate into their solution stack in a similar manner that they integrate databases and application servers.

This “plug-in” approach will allow each SaaS provider the freedom to choose their technology stack such as OS, database and app server. This freedom, combined with the freedom to run the solution on any public, private, or hybrid cloud, will enable the deployment of SaaS applications not only as public service but also as Private SaaS™ that provides services to a defined and private audience such as an enterprise with different divisions, regions, independent business units and subsidiaries that each could become a “tenant” and turn the corporate IT into an internal service provider perhaps as a profit center.

Those interested in more details can visit a recent Corent whitepaper published at IBM developerWorks called: “Convert your web application to a multi-tenant SaaS solution”.

Feyzi
Fatehi

CEO
Corent Technology, Inc.



What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

The way that customers are looking at software is changing. In the future, large multi-million dollar on-premise deals will decline as customers demand more predictability in their cash flow. SaaS helps the predictability by reducing upfront software and hardware capital expenditures (CAPEX) and ongoing maintenance costs and replaces it with a predictable operating expense (OPEX).

Customers will expect more features and require them more often. In addition, they will demand that the rollout of new features be (optionally) transparent. These expectations are driven by the new world we are living in—the world of the smart phone and tablet computing. Self-provisioning has come to the typical consumer. For example, you enter the Apple App Store, select an application, enter your password, and within seconds the application is on your device. There's no CDs or complicated installation process - it just works. The applications on those iPhones and Droids are also constantly being updated, and the upgrade process is simple and seamless. This consumer trend will fuel the mindset and demand for SaaS at the enterprise. Customers will demand to “try before they buy” the application, and when they do buy, they will expect self-provisioning with frequent, transparent updates just like their smart phone or tablet device.

The most common SaaS license model is a single subscription for a named user, evolved from the old on-premise software model. These user based license models will be challenged by SaaS companies whose solutions are based on a true multi-tenant architecture. Why? A true multi-tenant platform allows the software provider to deliver their solution with the lowest cost of service delivery. Also the SaaS solution of the future will provide a cockpit-like capability that measures every driver in the cost of delivery equation. These include CPU usage, disk usage, network activity, amount of time using the application, etc. With these cost breakouts from a sophisticated multi-tenant platform, SaaS providers can offer flexible pricing models, such as capacity usage over time periods or the number of concurrent users during different periods. More sophisticated models based on transactions will also appear, along with others based on actual usage of the application. SaaS customers will inevitably seek more sophisticated pricing models as they transform their business with increasing number of SaaS applications.

What will the software industry look like in 3, 5, even 10 years from now?

The software industry will continue to move toward the Software as a Service (SaaS) model. SaaS simply makes more sense for users, administrators and service providers. It is easy to use, quick to deploy, universally available and simple to adapt. SaaS forces software companies to provide great service – or customers stop using the products. SaaS models will dominate the industry over the next 3, 5 and 10 years.

The internet has fundamentally changed the way businesses buy software. The process is much more efficient as buyers can now self-educate on-line and sellers are now expected to provide free trials and sell companies only the capacity they need. Because of the ease of getting information on the internet, most buyers are well versed in a product before they ever engage with a sales person. This will lead to the next major change in the software buying process: “social validation.” The only thing buyers trust more than Google is one another, and unless your product is socially validated – that is, unless it is “Liked” (literally and figuratively) by those in your buyers’ social map, the more difficult it will be to close the deal. (In fact, because of social validation, Facebook actually drives more traffic to YouTube than Google does, the video sharing site’s owner!) The software industry is going to look very different in the coming years because success will rely heavily on social validation. Organizations will need to release products that not only perform the function users expect them to, but also do so via a user experience that surprises and delights. Design and function will merge in the future.

Social Media will also affect how applications interact with users and constituents. In short all software will be expected to help workers connect and collaborate. Social media tools are already passing email as preferred communication channels. As the next generation enters the workforce, Facebook messages, tweets, or Salesforce.com’s Chatter will be considered standard ways to communicate information at work. Software applications will need to seamlessly use these new vehicles.

Finally, mobile is critical. Ten years ago, mobile devices were not a top priority for software developers but with the advent of smartphones and now tablets like the iPad, this has changed.

Mobile will be a top priority for the software that is created in the future. The user experience needs to transform from the desktop to the mobile device. Tablets will be much more popular and developers will need to consider the look and feel of these devices. Software will be multi-channel as people log into their apps from their desktops, their laptops, their tablets, and their phones.

What customer demands and business trends will drive changes in software products, how they’re developed, and the industry that provides them?

In addition to the move to the Cloud, there are two other business trends that affect software makers. The first is that customers expect software to be simple to learn and use out of the box. They do not want to be “trained”. They do not want to learn new paradigms. They want the UI to work “like everything else does”. Because everyone uses software today, they expect business applications to be as simple as consumer apps – even when they solve complex problems. Eloqua spent two years re-writing its own software from scratch to meet this new standard.

Joseph
Payne

CEO
Eloqua Limited



The second trend is the resurgent interest in privacy. According to a Wedbush Securities study, more than 85% of consumers are concerned about online privacy. The PR “cost” of mishandling sensitive data will become so high that software companies will place the highest priority on data protection. Ultimately, software publishers will use their security practices as a competitive differentiator. This will give rise to an entire field, which we are helping pioneer, having hired one of the SaaS industry’s first Chief Privacy Officers.

Kjell Backlund

CEO
Emillion Oy



What will the software industry look like in 3, 5, even 10 years from now?

I think the current trend, everything as a service, will continue to gain momentum. The services offered will range from basic infrastructure stacks to full blown applications with public APIs and the possibility to publish and run third party applications on top of those APIs. We will probably also see new kinds of players offering specialized stacks of information and functionality to develop applications on. Government could be such a player, giving third parties the possibility to create services on top of their databases.

The demography of the industry will probably not change as dramatically as one could imagine. There will still be a couple of giants dominating the infrastructure stack, as well as a few providers of generic programming stacks. Then there will be more specialized stacks for certain industries or functions. Some of these stacks will be offered as services by the vendors themselves, others will be sold as products to companies building service based on them. The need for services will still be there as well, but we will probably see much less building of tailor-made solutions from scratch, as there is a lot of existing functionality easily accessible out there.

Some of the biggest changes in the demography of the industry will probably result from the fact that software delivery becomes much easier and cheaper. As a result, it will become much more difficult to make a living purely from distribution. On the other hand, the distribution power of the cloud platforms creates huge possibilities for innovative companies and startups, as the human and financial resources required to access global markets are significantly lower. We are already seeing the beginning of this trend with Force.com, App Store and a few other ones, and the opportunities are definitely huge.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Social media have taught people the concept of following things of interest, instead of having to browse their way through lots of information on several different sites. Business applications have to adapt to this concept, letting users define what information they want to follow, and providing that information to the dashboards users are using.

Integration has always been important, but the importance continues to grow. Everything 2.0 has shown the importance of letting everything connect with everything else to create new and better services as well as a better user experience. Every application has to be built to publish its capabilities for others to benefit from, and it has to be able to utilize functionality and information from external sources

as well. As an example, the value of a CRM application would increase a lot from showing customer employees from LinkedIn, news headlines from the customer's web site or relevant information from the archive of a business newspaper.

Everything is becoming more and more networked – business, people and applications – and that puts new requirements on how access to information and functionality should be managed. It can no longer be managed on a per-application or per-company basis by somebody in the IT department. Instead, application vendors need to offer users the possibility to use their existing credentials and identities to sign on. Access rights should be based on automation and delegation, otherwise lead times will be too long and user experience will suffer badly.

What will the software industry look like in 3, 5, even 10 years from now?

Cloud computing will overtake on-premise computing as the primary way organizations acquire IT over the next five years thanks in no small part to the advancement of the mobile apps industry. This industry is huge and growing ever more powerful as new applications, devices and platforms are developed at a rapid pace. The mobile apps industry is currently estimated at \$7 billion with an increase to almost \$17.5 billion expected in 2012.

Cloud computing in my mind is the business software industry's response to delivering business applications that end users can access and use in a convenient way using the Web as a platform. Our thirst for operating system independence, social collaboration and mobile working, coupled with expanded, easy to use mobile services and lower prices, is driving the direction of software development. The mobile web will become a primary focus for software developers over the next five to ten years and the platforms for software distribution will become more diverse as more applications move to the cloud.

The way software is developed and used has already changed thanks to cloud computing and mobile device advancements and the possibilities are exciting. Through mobile devices and multi-tenant web applications, and increasing usage of social productivity tools, evolving best practices are already breaking down the typical barriers that have developed between different business functions, encouraging collaboration. Cloud accounting for example, is helping to bridge the gap between departments such as Sales and Finance for the first time. By plugging modern accounting into CRM on one cloud platform, Finance and Sales can work side by side to understand a customer's credit status, to invoice more efficiently and accurately and collect cash more quickly. With this approach, finance and sales teams can see all the sales, service and finance interactions concerning a customer whether they are in the office, working from home or on site in the customer's office. They can achieve common company goals and help each other to be more successful ultimately improving customer service and profitably. Deals are signed quicker and customers are satisfied; repeat business improves and forecasting becomes more accurate and valuable; bad deals and bad debts are minimized.

And cloud isn't just for small companies. Although larger organizations may not yet be in a position to adopt enterprise-wide cloud models, and will likely opt for a hybrid model for the next several years, they will continue to evaluate targeted cloud apps such as customer relationship management (CRM), professional services automation (PSA) and accounting.

Jeremy
Roche

CEO & President
FinancialForce.com



What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

The software industry has seen many significant trends and changes over the last two decades and typically reinvents itself every ten years. Consumer and business demand has necessitated a change in the way business software is delivered and cloud computing marks a paradigm shift and one that will be remembered as the big change in computing this decade.

We all use laptops or desktop computers on a regular basis, but what customers want is to be able to switch between mobile and office devices more easily no matter where their data might be stored. Imagine being able to access any information from any device no matter where you are in seconds. The type of innovation we see with the latest games consoles, like the ability to interact without a controller via the user interface, will evolve to the office in the next decade and the line between software development for mobile and business desktop will blur. Adoption among business users will take a little longer, as they get used to a new way of working. However, the influence of consumer technology on business technology will help improve adoption rates as the changes will be less foreign than some of those the software industry has seen in the past.

What we must do as developers is to ensure that both desktop and mobile are given equal attention. Mobile development may become prevalent, but for the next few years, the majority of office workers will still rely on their computers for the everyday. All of this means the way in which software is being developed will see modernization across the board. McKinsey proposes a new model for managing IT that “combines factory-style productivity to keep costs down with a more nimble, innovation-focused approach to adapt to rapid change.” As cloud app developers, we use ‘Agile’ development techniques and have adopted a whole new mindset that allows us to respond quickly to customer demand and develop new functionality rapidly – in a matter of weeks rather than months or years. This new way of working means software developers can be confident of where they invest their time and money to ensure the majority of customers benefit at the end. A more efficient approach for everyone.

Globalization and greater competition will also drive people toward the cloud. Over the next several years, we will find that the companies embracing cloud computing will be the most competitive and not just because cloud computing is a more economical way to do IT. The most underrated aspect of cloud computing is the speed in which you can develop, extend and change applications. Cloud platforms such as Force.com allow developers to focus on application functionality rather than technology stacks, so a company's IT budget is focused on developing new capabilities, not maintenance. Furthermore, cloud applications allow users with limited IT skills to build, customize and extend applications at a meta layer level. This allows mere mortals to add fields, tables, drop down lists and even build their own apps. Consequently, company's using cloud platforms will operate at higher velocity. Their ability to quickly adapt and roll out new capabilities will be a competitive advantage.

The result of these changes is that the underlying technology is starting to matter less; rather business users can focus on the applications and the service being delivered. More successful interaction with customers is the key to successful business and all these new tools will need to address that, providing a huge opportunity for innovation for developers in the areas of social collaboration, application software and web/platform development.

What will the software industry look like in 3, 5, even 10 years from now?

The center of gravity is shifting to the cloud. Cloud computing and social CRM will continue to be game changers as the migration to cloud-based technology accelerates. SMEs were early adopters and continue to glean the benefits of agility and scalability. Despite concerns about security and losing control of their data, enterprise companies are now realizing the need for speed and innovation that can be powered by choosing software as a service (SaaS) offerings for business applications.

Emphasizing a key reason that makes SaaS very compelling, Ben Verwaayen, CEO of Alcatel-Lucent, told the Wall Street Journal: “On the outside we have to look like a sophisticated, long-term company, but inside we need the feel and energy of a start-up.”

In order to develop and maintain that level of creativity and innovation, enterprise companies must identify SaaS investments that can drive profitable growth. The increases in data—much of it siloed—mobile workforces and the demands for instant gratification by an increasingly social workforce mean that the tools and applications enterprises provide must be user friendly, easy to learn and help to guide front-line behavior in the execution of business strategy. Globalization means that the SaaS solutions selected must enable intelligent, virtual “face-to-face” conversations so that enterprises can utilize and retain the best talent available, regardless of location. In other words, it must enable the improvement of explicit data by combining it with the implicit knowledge of the workforce.

What customer demands and business trends will drive changes in software products, how they’re developed, and the industry that provides them?

According to CSO Insights, more than half of salespeople are not reaching their quotas. Customers have changed. They’ve become more knowledgeable and they have less time to devote to solving complex problems. To capitalize on this trend, enterprises need solutions that provide a balanced, team selling approach—aligning what the customer is looking for with the focus of the organization. Software solutions must help people become smarter at how they do their jobs, not just deliver functionality and a proliferation of siloed “tools”.

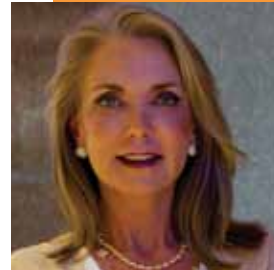
Consider a complex software solution for sales enablement such as configuration, pricing and quotes (CPQ) across a huge number of SKUs with prices in a constant state of flux. Instead of continuing to maintain and evolve sprawling custom legacy solutions or spreadsheets on steroids that are individually maintained and out of sync, enterprises need solutions that help them more holistically and dynamically drive business, not static systems that fix them in place and time.

With an on-demand CPQ solution, the software will always run on the latest version—without introducing any burden to in-house IT staff. Silos will be eliminated, providing the ability for the enterprise to analyze a defined data set. It will become the norm for salespeople to consistently pull the right product and pricing to bundle tailored solutions that meet customer needs at the moment of proposal creation.

The growth in information is one sure thing not to fade as the software industry moves into the future. The predilection that more information will

Audrey
Spangenberg

CEO & Chairperson
FPX



allow executives and workers to make better/faster decisions comes with the caveat that where there is an abundance of information there is also a deficit of execution. Before companies can realize the value of the vast amount of external data, they need to first address the internal and external data silos.

SaaS offerings will be most successful when they are based on open architectures that allow plug-and-play API integration to help enterprises eliminate those silos—gaining increases in the value of their corporate information and data and how it's used to drive revenue growth and performance. The ability to collaborate with customers, partners, suppliers and colleagues easily and virtually—with real-time information—will help enterprises set their directional compass for the achievement of strategic objectives in line with market values. In the future, whichever device is at hand will simply become the interface that connects people to the cloud-hosted software and applications they need, removing the limitation that specific hardware dictates how work is completed.

Cloud computing that enables companies to broadly embrace software as a service will become the standard that determines if companies are going to be Leaders vs. Laggards.

Roman Stanek

Founder & CEO
GoodData



What will the software industry look like in 3, 5, even 10 years from now?

The history of software industry reminds me of a pendulum swinging between centralized and distributed software development, deployment and management. Over the last twenty years, the software industry went from mainframes to client/server and then back to browsers/app servers.

We've always had to make some trade-offs. Centralization (mainframes, app servers) brings performance, security and low cost but also unintuitive user interfaces, lack of customization and no user pull. Distributed computing can be much more flexible, adaptable and "personal" but maintaining PCs is cost-prohibitive.

The latest development in mobile and cloud computing means that we no longer need to make the trade-offs between centralized and distributed approaches. Cloud computing can deliver centralized, highly scalable, very secure and high performance services and mobile clients give us highly personal, context and location-aware user experience.

The next ten years will continue this trend. Back-end processing will move to the cloud (the public/private adjective will soon be meaningless) and most of the client-software interaction will be on mobile devices.

The dominance of centralized services will have a dramatic affect on software vendors - we will see a similar trend that we already see in search and games industry: the software industry will become "winner takes all" industry.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

The biggest trends that we will see are the consumerization of enterprise software and the shift to the centralized cloud services.

Customer's expectations are formed by their usage of Facebook, iPad apps or any other consumer-friendly application. Enterprise-software vendors will no longer get away with complex and unfriendly products that require extensive training.

Delivery of cloud services is fundamentally different from selling software. Software companies need to deliver “five nines” SLAs and agile upgrades/innovations. Vendors that simply throw software “over-the-wall” to IT departments and still charge for maintenance will struggle.

What will the software industry look like in 3, 5, even 10 years from now?

I believe that we’ll see a great change in the industry with respect to state and local government (SLG). SLG lags much of the market in cloud adoption but in time the software industry will provide great value and transformation.

The first phase of cloud adoption, Software as a Service (SaaS) has begun but primarily in the form of core business applications as demonstrated by the competition between Microsoft and Google to deliver SaaS office applications to SLG. These applications provide significant and immediate savings for agencies but drive little government process improvement.

As SLG sees maturing cloud security and compliance more agency infrastructure will be moved to Infrastructure as a Service (IaaS) providers. This second phase of cloud adoption will provide great efficiencies but, again, little process transformation.

The third phase, over the longer term, will be utilization of Platform as a Service (PaaS) offerings that are positioned to meet the unique needs of SLG. The adoption and evolution of SLG PaaS has the potential for monumental cost savings, operational efficiencies, and service improvements.

What customer demands and business trends will drive changes in software products, how they’re developed, and the industry that provides them?

State IT has the advantages of large scale, great opportunity for reuse and consolidation across the enterprise (the State), and energetic, creative individuals collaborating with a common purpose. Despite these advantages realizing scale efficiencies across states is an elusive challenge and huge amounts of money are wasted every year. This will change radically over the next ten years as the cloud provides the carrot of efficiency and autonomy as opposed to the stick of legislation and regulation.

Four core components of SLG IT will drive development and adoption of cloud technologies in the coming decade: infrastructure, applications, data, and security. Here’s where needs in each of these areas taking us.

Infrastructure – Consolidation is underway in many states. Many states are in the process of consolidating many data centers into fewer, achieving costs savings in hardware, power, personnel, and real estate. The trend will be toward moving these consolidated data centers into cloud IaaS. Less sensitive data will move first and highly sensitive data later as public clouds become more secure and private clouds emerge.

Applications – We have a long way to go in the SLG software application arena. Large scale implementations are problematic; many statewide IT projects have failed, interrupting services, costing states tens of millions, and resulting in lawsuits and broken careers. On the other end of the scale, municipalities spend large amounts of money and time every year procuring systems that

Frank
Traylor

CEO
Govascend



replicate functions but cannot leverage each other or share information due to disparate platforms and data models. Consortia are formed and states promote shared services but local decisions are understandably dictated by local economics, preferences, and politics. The cloud is an opportunity to align these local priorities into a common approach providing a common solution meeting the needs, budgets, and political landscape of the locals.

I predict we will see huge advantages coming through statewide PaaS systems. Industry will provide the platform, government agencies will create the applications. Applications will be built in a matter of days rather than procured in months or years. Changes made in house rather than through vendor change orders. All local needs will be met, no matter how arcane, eliminating paperwork and improving process efficiency across all levels of SLG. Custom mobile applications will be built, in collaboration with users, automating the mobile workforce. Applications will be shared between all agencies of the State through web-based application repositories.

Imagine the cost savings when agencies throughout each state share free applications, solving a wide spectrum of problems, paying only for the shared cost of the cloud services.

Data – State PaaS systems will utilize a pre-defined data set. The data definition will be expansive, so as not to restrict its use, but will ensure a common model for applications across the state. This will be a great benefit for statewide analysis and transport of information. State agencies collecting local data will receive electronic records without the need for transcription or transformation. Locals will retain control of their data, defining which data remains local, which is transferred for state use, and which is allowed public access. Web services will provide access to the data deemed accessible to the public. This will facilitate the “open government” initiatives as well as efforts such as “apps for democracy” that are crowdsourcing access to government information.

Security – Although security is currently a barrier to cloud adoption it will become one of the major forces moving SLG to the cloud. Larry Kettewell, Chief Information Security Officer for the State of Kansas describes the current “federation” of state IT security as a challenge. Although each state sets standards for security the structure for management, oversight, and funding is complex and multi-layered. Not all concerns of cloud security have been alleviated but the cloud allows states to focus on security standards, compliance, and audit within a single state system rather than trying to manage disparate systems across the state.

Predicting the impacts of technology is difficult and this is but one vision. Still, it is indisputable that states with the vision, planning, and execution will realize transformative benefits from the cloud in the near future.

What will the software industry look like in 3, 5, even 10 years from now?

Enterprise customers have learned that, for many applications, software that is light and nimble can support even the most complex business processes. I see enterprise software continuing to become more specialized and better tailored to address specific business problems while offering customers flexibility to innovate and customize on top of the off-the-shelf capabilities. This shift will have an incredible impact on the public sector clients that GovDelivery serves.

From the largest federal agencies to the smallest cities, public sector organizations have an opportunity to transition technology from a support function to a strategic function. In some cases this will mean leaving behind legacy systems and bringing new systems online that support mission results. Software can be more specialized now because disparate and specialized systems are increasingly able to work seamlessly together due to Web services and other tools. Our industry should continue to focus on integration options that allow each of our solutions to work well with solutions created by other providers or custom-built by our customers.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Even five years ago, enterprise customers, including our public sector client base, were accustomed to delayed deployments and software that lived up to some, but not all, of its promise. Those days are rapidly coming to an end. This change is driven by the openness with which most software companies now operate and the high standards we must live up to in order to gain traction in the market. Recent trends, like the rapid adoption of software as a service and other forms of cloud computing have brought the customer and provider together in an ongoing partnership. The SaaS business model creates a healthy incentive for customers to provide regular and actionable feedback, and for providers to deliver high quality support and ongoing innovation. Software as a Service companies like ours can see when clients are struggling to use our system well, and we're likely to pick up the phone and help them before they even think to call us. Our success depends on taking ownership for the results our clients achieve with the software we provide to them.

Another important trend is the growing adoption of open source technologies, both by our customers and our industry. Our company takes advantage of many open source technologies today, but we know that for enterprise solutions, both open source and commercial options require a support structure behind them. Open source software requires more staff and integrator support over time which raises the total cost of ownership in comparison with commercial software. For this reason, I believe that customer-focused commercial software providers are in a great position to deliver amazing value even as the customer gains influence and considers open source.

Scott
Burns

CEO & Co-Founder
GovDelivery



Morris Panner

CEO
GroupFlier



Mobility and just in time access to information will redefine the technology industry in the next three to five years.

Four factors will drive the change:

Ubiquitous TCP/IP access: extending Internet access from the desk top or the coffee shop to the device, opens up the ability to provide just in time information to the device.

Device form factor: hand held devices are entering the golden age. Screens are becoming useful and the iPhone, iPad revolution has opened up a frenzy of activity. Android operating systems are taking these devices out of the realm of the wealthy and into the hands of everybody.

Geo-location as part of identity: geo-location will gradually grow into a part of identity, which will enable information to be distributed in a timely and more relevant way.

Cultural and social expectations: social applications have changed the way people communicate. Those applications are also changing our culture in subtle ways, where we are expanding the definition of how we communicate and share information.

What does this mean?

Enterprise should position itself to take advantage of these changes. Here are three recommendations:

Develop a mobility strategy: for most enterprises, a mobility strategy means giving employees blackberries. Given the changes afoot, all employees need devices with the capability of interesting clients. That doesn't mean an iPhone, but it does mean considering iPhone, Android and others. It also means that even a cell phone with SMS can be turned into a powerful mobile device if the company integrates that or caters to that type of communication. Watch how many groups organize themselves outside of the business world and you see a strong bias toward brief and timely messages. SMS is hot.

Enable more open networks: as in the early days of SaaS, there will be no end to the concerns about security and control in mobile networks. As in SaaS, these concerns are misplaced and will be shown to have no merit. What that means right now is that consumer is well ahead of the business market in mobility -- just as it was in SaaS. Enabling employees to experiment with more and varied ways of doing business will lead to more efficiency across the enterprise.

Enable a continuous experience for employees: SaaS started the end of the divide between the office and life. For better or worse, with SaaS applications employees were able to access information remotely and were more productive, even as they spent less time at their desks. Mobility amps that up. The best workplaces will take advantage of the flexibility that mobility will enable. Employees will be able to be more productive, even as they have richer lives.

The mobile and social revolution is already in full swing outside of the enterprise. The winners of this next phase of IT innovation will be those companies that emulate the consumer experience rather than try to repress it.

There is an emerging group of mobile companies that can help enterprises make this transition. It is an investment well worth making.

What will the software industry look like in 3, 5, even 10 years from now?

Cloud computing is the catalyst for a sea of change in the way business operates, transforming every aspect of the enterprise from the executive suite to the receiving dock.

Companies will no longer need vast IT departments to maintain on-premise servers and software. The IT department as we know it today, will cease to exist. This change will free up the CIO to have a much more strategic role within the company. In fact, many of today's forward thinking CIO's are rushing to embrace the cloud for just this reason. They never wanted to maintain server farms or manage IT infrastructure – their goal was always to utilize technology to add strategic value to the company.

From a functionality view, services and applications delivered via the cloud will become a great leveler, providing best-in-class solutions to companies of any size allowing them to better compete with the largest companies by essentially removing implementation and cost barriers that have excluded small and mid-sized companies from adopting expensive, yet strategic enterprise solutions. These technologies with frequent and transparent upgrades will enable small and mid-sized businesses to stay ahead of enterprise solutions allowing the best of these companies to beat stodgy incumbents in a variety of industries. In addition, widespread adoption of these applications permits companies to shift resources and focus on more strategic projects, which in turn will fuel new innovation within industries and add to overall economic growth.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

As businesses strive to become more agile in their management and better anticipate future economic events, they will continue to look outside their company to factor economic indicators into their overall business planning. Companies will demand solutions that provide a deeper look into the "goings on" of their business and be keen to incorporate external data, bringing a new level of data and analytics into the decision making process as this process becomes more science than intuition.

Armed with the best cloud-based applications, business leaders will more tightly align organizational units and become more agile in their management. As this happens, we'll see new developments in finance applications, particularly in the area of corporate performance management (CPM) solutions, which will incorporate world-class reporting and analytics.

To visualize the impact on businesses, visualize the car you drove in 2001. Now, fast-forward to a shiny, new technology loaded automobile. In 2001, we had limited data – a speedometer and perhaps a distance to empty indicator. Today cars come loaded with a navigation system that guides you to your destination packed with a host of data providing the best route, traffic conditions, fuel needs and where to find the nearest gas, food or ATM. The technology not only saves on resources and time but also has changed for the better the experience of driving to a new destination.

The SaaS-based CPM solution of the future will be available to all decision makers, not just senior executives and finance professionals. These decision makers will utilize the CPM solution to accurately predict the future effect of current decisions using both internal and external data along with smart leading

Jon
Kondo

President & CEO
Host Analytics



indicators. Ultimately this technology will allow the finance function to become true leaders within the organization and key business partners to functional decision makers – becoming the “go to place” for more informed decision making.

Like today’s technology-loaded vehicles, the CPM solutions of tomorrow will drive better executive decisions by providing a collaborative management solution that combines the latest market information, financial data and best practices to improve the corporate bottom line.

Sohaib Abbasi

Chairman & CEO
Informatica



What will the software industry look like in 3, 5, even 10 years from now?

Over the next five years, the computer industry will be shaped by the current nexus of megatrends: Cloud Computing, Social Computing and Mobile Computing. As a consequence, these trends are elevating data integration as one of the most strategic technologies.

1. Cloud Computing is driven by the compelling value proposition: lower cost and better results. However, the platform shift to cloud computing is driving the next wave of data fragmentation, across enterprise boundaries.
2. Social Computing allows organizations to go beyond traditional business management: holistic brand management including proactive customer engagement and timely consumer sentiment analysis. The new era of social computing is fueling an unprecedented explosive growth of data.
3. Mobile Computing is making pervasive computing and connectivity a reality. The new mobile devices are raising the importance of both integrating geospatial data for location-based services and enabling near-universal data access from any device.

I will elaborate on the first two megatrends:
Cloud Computing and Social Computing.

Cloud Computing vendors deliver the same resources to thousands of customers. Their economies of scale mean better economics for customers. Their specialization means best-in-class results. There are now three specialized categories of Cloud Computing vendors. Infrastructure-as-a-Service vendors, like Amazon EC2, that offer hardware to rent. Platform-as-a-Service vendors, like Google Apps, that allow developers to productively build new cloud applications. And, Application-as-a-Service, or Software-as-a-Service vendors, like salesforce.com, that provide a wealth of applications in the cloud.

Despite the impressive growth, Cloud Computing will not replace on-premise enterprise computing, just like client-server computing did not replace mainframes. No one can afford to simply rip out the old computers and replace the old with the new. However, with each new computing platform, all the innovation shifts to the new platform. Few can afford to be left behind. One of the key challenges is to support the hybrid platform, giving the flexibility to integrate data from both old on-premise and the new cloud platforms.

In the new era of Social Computing, the focus is shifting from managing business transactions to managing interactions. The relational database is the foundational technology for capturing business transactions and analyzing this data. Relational database applications have improved productivity for business management. Now, the latest social data allows organizations to do

more for holistic brand management including proactive customer engagement and timely consumer sentiment analysis. For brand management, the data is about interactions. Organizations can be proactive with current social data, rather than being simply reactive with past relational data. The recent explosive growth of data, led by social data, is unprecedented. The technology trend called Big Data will require big changes in the technology stack.

Over the past 40 years, the relational technology stack has been optimized for managing structured transaction data. A new stack is now available for managing large volumes of data, including interaction social data. This new stack is called Hadoop. And, for the large volumes of social data, only parallel processing of Hadoop delivers acceptable performance. To fully realize the benefits of social media, the challenge is to integrate the two worlds – relational transactions and social interactions.

The growing adoption of the three new platforms - Cloud Computing, Social Computing and Mobile Computing – will elevate the strategic role of a comprehensive data integration platform to leverage the wealth of information assets.

What customer demands and business trends will drive changes?

Enterprises across a broad spectrum of industries aspire to become data-centric enterprises. The extraordinary experiences of the Great Recession and the recovery have underscored that data matters even more in uncertain times of change. Simply put, no one can predict the future but we can all be better prepared with relevant, trustworthy and timely data. The five defining business trends include:

1. Accelerating globalization: opportunities and competition are across national boundaries.
2. Continued industry consolidation: pace of acquisitions is picking up, across many industries, with the next wave of consolidation.
3. Renewed focus on growth: new wave of customer-centricity initiatives including mobile and social commerce.
4. Operational efficiency: applying the lessons of the Great Recession.
5. Increased focus on risk management and compliance: new and changing regulatory regimes.

These trends are shaping the top business imperatives. Globalization mandates modernization to be competitive. Industry consolidation requires successful post-merger integration. Growth demands customer-centricity and agility. Operational efficiency demands business process optimization including outsourcing. Governance requires an enterprise risk and compliance initiative.

All these business imperatives demand that IT deliver the critical data. IT often cannot deliver this data as it is locked up in multiple systems, on-premise and in the Cloud. Without a doubt, data is the difference between success and failure of these business imperatives. No wonder organizations across vertical industry segments and around the world aspire to become data-centric enterprises. Data integration has a higher sense of purpose, priority and urgency than ever before. Our singular focus at Informatica is to empower the data-centric enterprise.

Umberto Milletti

CEO
InsideView



What will the software industry look like in 3, 5, even 10 years from now?

Cloud computing and social media are the two very significant trends that will shape the future of the software industry for years to come. Core cloud applications (email, CRM, ERP, etc.) will become an “operating system” that nearly all companies will have in place. These business applications focus on workflow automation – bringing in process efficiencies – and are sufficient to run a manufacturing or process business. However, businesses are increasingly delivering services, where employee knowledge and intelligence are the keys to success. This is where social media, business intelligence and collaboration technology becomes relevant, and crucial. It is designed to make employees smarter and more effective, not just to automate their jobs.

The big challenge with social media & collaboration is that it creates very, very large quantities of information. If you include systems-generated streams, the amount of information and data quickly becomes overwhelming. Software companies need to effectively tap into this growing source of “social intelligence,” developing technologies capable of monitoring the information stream for important and relevant intelligence. For example, a social conversations about their brands, products and people that might give users new insights and detail otherwise not available through traditional news sources. Software companies then must tackle the quantity-versus-quality problem by effectively filtering and analyzing the large quantities of available information. Lastly, they need to deliver the most relevant and useful intelligence to end-users in the easiest-to-consume manner: directly within the workflow of the business applications they enrich.

Of course, end-user technologies have to be just as easy to deploy as they are to use, both for the end-users and IT decision-makers. The days of hard to use, difficult to implement software, will quickly fade. A new, two-pronged software distribution model is emerging to improve adoption: first, make the application as widely available as possible, promoting ‘bottom-up’ adoption, which in turn drives ‘top-down’ implementation. As an example, at InsideView, we created a free version of our sales intelligence application to facilitate broader adoption and distribution. I believe the “Freemium model” will become more and more prevalent in the software industry. But even without the universal availability of an app, the single-most important principle is making it easy for a decision maker to deploy with little effort across the target user base – and making it seamless, customizable and most applicable to the organization.

What customer demands and business trends will drive changes in software products, how they’re developed, and the industry that provides them?

Social media is driving significant change in software, which is only going to accelerate over the next decade. Let’s start with the buyer. We are now selling to a new breed of prospect that I call Customer 2.0. These are socially engaged and well-informed buyers. They have abundant visibility into the companies they consider doing business with (products/services, pricing, competitive strengths and weaknesses, customer satisfaction, etc.). They’ve done their homework. And not surprisingly, this new breed of buyer expects vendors to be more educated about their business, too. They want to be engaged in targeted and relevant conversations about how to solve specific business challenges and urgent needs, not just receive a generic pitch. Social media changes the dynamics with prospective employees,

business partners and vendors, enabling significantly greater visibility into business and personal aspects that can shape relationships and drive business decisions.

By listening to social media, companies have the opportunity to learn what is being said about and by their various stakeholders and audiences. This provides unique insights that aren't available through more traditional sources. Of course, it's a huge task to monitor the social conversation, filter out the noise to hone in what's relevant. That's why I believe any "external-facing" business application that targets customers, partners, vendors or employees will have to incorporate social intelligence directly into its workflow.

Unfortunately, many of these solutions have remained mostly in the ranks of workflow automation. This makes them useful for automating structured processes and reports for management, but not for enabling effective relationship building and engagement with their intended audiences. I strongly believe that the next-generation of software applications will have to tap into social intelligence within application workflow to bring in a new level of engagement and authenticity into the relationships these applications are intended to manage— and in the process improve business productivity. Next generation apps will also need to associate these new social insights with what we already know about our customers, prospects, vendors and employees to create a 360 degree view of these relationships.

This need for greater intelligence is a key tenet upon which to build any successful business application for sales, marketing, customer service, finance or human resources. All these professionals need to "get smarter" in their interactions with their constituents. Put simply, integrated social intelligence becomes an essential enabler for successful businesses engagements as we enter the new era of social media.

What will the software industry look like in 3, 5, even 10 years from now?

To see the future, watch how people are changing now.

I recently met one of our customers, Helena, who designs and prints stationery. Her "office" is a renovated garage. Or a table at a coffee shop. She conducts her entire life and business on her phone. She doesn't want to feel confined to her location to complete a task – whether it's reviewing a quote, responding to a client or taking a customer payment.

Increasingly Helena isn't the exception, she's the rule.

The world is quickly shifting from a paper-based, human-produced, brick-and-mortar-bound market to one where people understand, appreciate and embrace the benefits of truly connected software, platforms and services.

At Intuit, we're adapting to meet and anticipate customer needs. We obsess about our customers – to understand what matters most to them – through deep empathy and the power of observation. Now we must combine that with the greater insights from data and new social and mobile technologies to create the next generation of products that solve people's problems and help them be more successful.

As an industry, we will continue to innovate, but must make our customers our copilots, as they will guide our future direction.

Brad
Smith

President & CEO
Intuit



What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Yogi Berra said it best: "It's hard to make predictions, especially about the future." I agree. Yet understanding trends and market shifts is an incredibly helpful tool for leaders when they think about roadmaps.

To get that insight, this year we included a 10-year visioning exercise in our strategic planning process, with help from IDEO. It included research to identify significant forces affecting consumers and small businesses over the next decade. The study, led by Emergent Research, built on a body of work we embarked on with the Institute for the Future five years ago. We released much of this in the Intuit 2020 Report.

The exercise revealed four fundamental shifts that are already occurring in the market today that I believe will affect how we build software in the future.

- **A shift from do-it-yourself to do-it-for-me**

Technology will play a critical role in data entry and the handling of key tasks. We can harness the power of data and new technologies to create and improve user experiences.

We can already see it our tax business. One of our latest innovations is SnapTax, a mobile app that allows users to take a picture of their W-2 on a smartphone, answer a few questions, review for accuracy and e-file. Now the 60 percent of Americans who complete a 1040-EZ can file right from their phone without filling out forms.

There are many more opportunities to automate everyday tasks, delighting customers by saving them time with intelligent and actionable value and saving them time.

- **A world without borders**

Global growth will originate in emerging economies over the next 10 years. This will add 1 billion new middle-class consumers to the global economy, many from developing countries. The total economic output of the developing world will rival that of the developed world. As a result, shoestring innovations targeting developing country demand must be developed, adopted and adapted globally.

We recently launched Intuit GoConnect in India. Aimed at the country's millions of micro and small businesses, the service makes it easy to create and distribute personalized messages that resonate with their customers. It's more effective, less costly and easier to use than manual marketing methods, and can be used via SMS or the Web, which is ideal for that geography and demographic.

To succeed, we must not only localize products and services, but create new ones to meet the needs of this new middle-class.

- **Connected platforms and services**

People want their technology to work together. We hear it from customers every day. There are thousands of productivity-based Web and mobile apps available, many of which use similar or complementary data, but few of them talk to each other.

To deliver what our customers want, we need to embrace open platforms, storing and integrating data in the cloud. We need to build them on open standards and APIs to ensure a seamless experience between devices.

We've gotten started with the Intuit Partner Platform. To provide a seamless experience to small businesses, we built an open platform where developers can quickly and easily connect their apps to our secure cloud. It doesn't matter what language they're built in or what cloud resource they use. Using a common data model and authentication, we synchronize all apps so customers only have to enter data once and that any changes automatically flow through to their other apps, whether on the desktop or in the cloud.

- **Revenue streams and business models are being transformed**

Our industry's revenue models are evolving at light speed. The widespread demand for broadband hastened the transition from selling packaged software to retailers and relying on a licensing and upgrade model. We now sell subscriptions to Web apps based on user volume. The next step is how to generate revenue on mobile devices.

Consumers expect and demand free or 99-cent apps. We are already creating ways to deliver free apps and still make money by including functions that stimulate purchases or provide purchase rewards. Retailers, for example, are beginning to pay developers to deliver their value through an innovative app.

We need to step back and look at the entire ecosystem around a problem we're solving to evolve our offerings and business models.

Understanding these shifts will allow us to create better services that meet customers' needs. As we move more to the cloud, customers place more trust in us as we handle their sensitive data. Just as we talk to our own customers about product development, we also talk about their expectations about privacy. They've told us explicitly that they expect us to be stewards of their data, using it with integrity, for their benefit, while keeping it secure.

As an industry, we cannot afford to view customer privacy and security as an exercise in compliance – they must be part of our value proposition. That's how we'll responsibly use data to fuel new business models and innovation.

The next decade's leaders will be those who remain grounded in what matters most to customers while embracing the future.

Umang Gupta

Chairman & CEO
Keynote Systems



What will the software industry look like in 3, 5, even 10 years from now?

The software industry has gone through a series of cycles over the past 50 years or so that successively involved greater empowerment of end users. From mainframes which served only a few specialized corporate users, to the desktop PC that improved the productivity of millions of people and businesses, to the Internet which connects hundreds of millions of people to each other and to information across the world, and now we have the mobile revolution which is empowering billions of people. None of this could have ever taken place without the creative energies of software developers for these successive computing platforms. The next exciting revolution is the cloud, where users get transparent access to information and entertainment in a way that does away with traditional notions of computing platforms.

Technically, what this means is that we carry virtualization to its logical end-point. Over time virtualization has allowed for operating systems, storage and networks to transcend different computers and different systems. Putting an additional virtualization layer that hides the complexity of various software applications in the cloud will free up end-users to focus on the things that really matter.

This trend towards increased virtualization and transparency is also being reflected on the business side with the shift towards SaaS pricing models and away from the idea of buying or licensing software or data storage. And it all results in greater empowerment of the end user and provides businesses with more flexibility and increased efficiencies.

So in the future there will be a significant difference in the way people will perceive, interact with and purchase technology products and services. Those products and services will be more transparent, they will be easier to use, the user experience will be better, and there will be a profound evolution in how pricing is approached, going from a license-based model to more of a transaction and usage based model. We're seeing the early stages of this today, but all these trends will continue to pick up steam going forward.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

One of the things that has driven our industry in the past decade has been the shift from business computing to consumer computing. In the early days of the technology industry, a large part of what was being built was to make businesses more productive. But starting with the Internet, we have been shifting to a world where technology is not just about touching people in their professional lives, but also in their personal lives.

Most innovative information technology that has been introduced recently has been in the area of helping consumers. People are demanding tools that make their life easier, and get them more connected with each other and with information sources worldwide. At the same time, the walls between people's professional lives and their personal lives are coming down. Companies like AOL were some of the first to recognize this shift even before the Internet went mainstream. And then over time, we have had powerful new consumer-oriented technology companies successively enter the industry such as Yahoo! and Google, Amazon and eBay, and now Facebook and Groupon. All these entities represent a huge shift from the world of business computing to consumer computing.

At Keynote, we recognize that with this shift it has become critically important to ensure the best possible user experience. The more information that is provided from the cloud, the more consumers get empowered through different devices and interfaces, and the more applications that emerge for these new platforms, the more complexity there will be. And with increased complexity comes increased challenges in delivering a user experience that keeps customers engaged and loyal. With our advanced and continuously expanding global test and measurement infrastructure for Internet and mobile cloud monitoring, Keynote is able to provide enterprises and service providers with the kind of neutral, unbiased and accurate data that they can use to mitigate performance issues and optimize the user experience. No two users access a website, e-business application, or mobile content in the same way. There are different backbone and cellular networks in different geographies, and different devices, browsers, apps and access speeds. Keynote takes all these variables into account in order to provide the most accurate and authentic real time portrayal of the end user experience. Going forward, it will be those companies that have figured out how to deliver a consistently pleasing and trouble-free online experience that will become the leaders in this new cloud-based economy.

What will the software industry look like in 3, 5, even 10 years from now?

The realization of cloud computing offers the promise of fast, easy access to the next generation of complementary business services. This, in turn, is significantly altering the ways in which software companies generate revenue.

Today's sales and marketing teams face a shortage of time, money, and IT resources, but are also on the hook for continually higher revenue performance and results. At Marketo, our goal is to empower these organizations with the proven cloud-based technology, comprehensive services, and expert guidance they need to create a high performance growth engine and drive outsized revenue results.

The new cloud-based technology environment is playing a key role in enabling Marketo's mission, and driving the fundamental transformation in how corporations create, manage, and grow revenue. Today's buyers are spending more time online, interacting with like-minded colleagues and friends over social networks, and accessing or sharing dynamic, persuasive content. This has created a sea change in how companies need to engage with buyers, who now have more control than ever. By eliminating the cost, risk, and complexity of deploying traditional marketing tools, the rapidly expanding Sales and Marketing Cloud is helping to accelerate this historic shift. In the process, it is opening new revenue-building opportunities for smart companies that are embracing these breakthrough revenue-building solutions.

As we look out a few years, the Sales and Marketing Cloud will continue to be delivered by combining open, interoperable, and secure marketing- and sales-related services across multiple categories. These include business intelligence (BI), community, content management, lead generation, lists and data hygiene, marketing automation, online meetings, and virtual events — with more services being added over time. It truly is an exciting time for everyone involved in the revenue function, and the new cloud-based software environment is a big contributing factor to this growing revenue revolution.

**Phillip
Fernandez**

President & CEO
Marketo



What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

I'd like to focus on one key trend: businesses today are looking for software solutions that deliver increased data intelligence – and in particular, analytic tools that provide actionable information to increase productivity and effectiveness across multiple business functions.

The use of business analytics to drive strategy has been around for decades. With the rise of cloud computing, it's playing an even more important role with newer, and more sophisticated, technologies coming to market. And these new solutions are enabling organizations to collect and measure massive amounts of granular data across many platforms.

However, the real “payoff” of analytics for many businesses remains elusive, as evidenced by a recent global study conducted by the IBM Institute for Business Value and MIT Sloan Management Review. Called Analytics: The New Path to Value, the study surveyed nearly 3,000 executives, managers, and analysts around the world. To quote the summary, “knowing what happened and why it happened are no longer adequate. Leaders need to know what is happening now, what is likely to happen next, and what actions they should take for optimal results.”

Real-time, actionable analytics that optimize sales and marketing performance across the entire revenue cycle have moved from the “nice to have” to the “must have” category. Of course, this is easier said than done, as the impact of digitalization and globalization are creating more channels and resources for buyers to research and purchase competitor offerings than ever before. For businesses, it has created extensive behavioral data that represent a big opportunity for companies, but also pose significant challenges for processing and analysis. As a result, many businesses are leaving huge amounts of revenue on the table.

Today, advanced revenue analytics are evolving to give businesses the same power to optimize activities on the revenue side of the house as has been done for many years with the supply chain. In fact, best practice companies are using analytics to continuously improve their revenue-producing processes in the same ways in which they once looked only at the cost side.

Solutions like Marketo's Revenue Cycle Analytics allow corporations to capture and measure buying behavior, and also predict how prospective buyers move throughout the revenue cycle over time, eventually to become customers. These powerful analytics tools reveal which sales and marketing activities drive conversion and at what velocity they will or will not create leads at each stage of the revenue cycle. Going far beyond the old point-in-time reporting model, the new tools also employ statistical analysis applications and predictive models to discover defects and opportunities to continuously improve and maximize performance in the revenue generation process. The net result is that businesses are able to optimize their sales and marketing operations and focus on the activities that have the greatest future impact on revenue. In the business world – and the technology sector, too – these are big changes that are already having an enormous impact on everything to do with revenue.

The really exciting thing is that this journey is just getting started. Marketo will continue to be laser-focused on creating innovative, business-building analytics software that provides actionable insights that drive bottom-line results that meet the revenue growth imperative that I talked about earlier. Welcome to the revolution!

What will the software industry look like in 3,5, even 10 years from now?

Just as Moore's Law predicts the ever increasing power of micro-processors, in the not to distant future dependable, secure and extremely high-speed Internet access will just continue to promote Cloud Computing and software products being delivered as a service.

Today, there are still concerns about certain mission-critical applications being placed into the Cloud for a variety of reasons. Just like the early days of eCommerce and concerns about security, Cloud Computing and SaaS will win over the skeptics and with ubiquitous access to high-speed Internet; these subscription models will rapidly proliferate. This means that finally true real-time access to application services will be available through a variety of devices like laptops and PC's as well as powerful tablets and smartphones.

Another interesting trend that could emerge in the next five years is the App Store for the Enterprise. Delivery of SaaS-based products now have come a long way in really shortening the time-to-value for many kinds of software products, even for enterprise products. The App Store concept of instant availability to all types of products and specific application capabilities will be increasingly attractive to changing buyer behaviors based on software consumerism. This Do-It-Yourself approach to software deployment will become increasingly popular to buyers but also for SaaS companies too who are looking to improve the cost of delivering their services.

With dramatic advances in computing speeds, high bandwidth and virtually unlimited storage, I think we will also start seeing truly intelligent software products. These smart applications will be able to process huge amounts of data related to specific business processes, companies and even individual preferences rendering a predictive customer experience, it will feel almost like the products are reading your mind. Even now there are SaaS companies that are taking business intelligence to the next level by analyzing past trends and current data to begin creating predictive notifications and alerts. These smart software products could be really useful for eCommerce, healthcare, supply chain, financial services and even with government solutions.

What customer demands and business trends will drive changes in software products, how they're developed and the industry that provides them?

Software companies are constantly trying to improve their product's capabilities, the demand for sophisticated Platform-as-a-Service solutions will continue to grow. Currently the use of PaaS offerings is quite popular with start-ups and developers who are trying to prototype new product concepts. These all-in-one platforms offer many integrated components like an integrated development environment, reporting and analytics, workflow and usually sit on top of a service delivery capability, they make it easy to quickly build, test and deploy. My hope for future PaaS solutions will be an ability to more easily import and transform legacy products as well as portability to other open platforms, when it makes business sense without extracting a huge penalty.

Probably the biggest change in customer demands over the past few years has been the popularity of the pay-as-you-go business models. I believe that the Great Recession has permanently changed the behavior of software

Kevin
Dobbs

Owner &
Managing Partner
Montclair Advisors



buyers, because they have seen that subscription models work and they would rather keep more cash on their balance sheets. The economics of the software business were changing slowly from ASP to On-Demand to SaaS and Cloud Computing subscription models over the past ten years, and now even large, complex enterprises insist on renting, not buying, their software. We will probably see an emergence of hybrid – Cloud and on-premise solutions over the next few years and I am certain that we won't see customers looking to pay for their software upfront. Why buy when you can rent instead?

Zach
Nelson

President & CEO
NetSuite, Inc.



What will the software industry look like in 3, 5, even 10 years from now?

Over the next ten years we will see the last great architectural shift in the software industry take place as everything shifts to cloud computing. Fifteen years ago, there was this inescapable sense that the Internet would change everything. It has, and the cloud is the ultimate expression of the Internet's disruptive nature. Once cloud computing has truly taken hold in every sector—which it will before the next ten years are over—the full promise of the Internet revolution will have been realized. The first successful cloud services were companies like eBay and Amazon, which put consumer transactions in the cloud. Now, there's no going back.

It may seem like a long time has passed since the days of Netscape Navigator and AOL, but after a clearly superior technology emerges, it takes time for the shift to take place. It was clear back in 1980 that Oracle was the leader in database technology, but it took a long time for the disruptions of their superior relational database to ripple through the system and push out the old guard. So even though it has been more than 15 years since the public Internet opened for business, we still haven't reached the point where all applications are delivered over the cloud. But we will get there.

If you don't believe me, ask a venture capitalist the last time he or she invested in a company that delivers software on a CD. All the serious development with major backing happens today in the cloud, and that will make itself more and more obvious in the next three years.

There is a lot of discussion about whether this move will be to the "public" or the "private" cloud, but when I hear that it tells me that people are misunderstanding how the cloud works. The nature of a public cloud is to provide secure, seamless access to information and applications. You won't buy services from me if I can't keep that "private" when you want it private, but "public" when you want it shared. More often, the term "private cloud" is abused by people who are just trying to slap a new coat of paint on the client/server architecture that we know is already dead.

Workforce churn is going to play a huge part in the adoption of cloud services in the next few years. Most people coming out of universities have lived their lives in the cloud. Show them a room full of servers and they're going to ask, incredulously, "What is this? This is how you run your business?" The Zuckerberg generation was born on the Internet, not the PC, and they're going to turn to the Internet for both their business and consumer needs.

A lot of this change will be subtle and unnoticeable. Nobody can say exactly when people stopped visiting a bank just to check their balance—it happened slowly, over time. Five years from now we will see multi-billion dollar companies running all of their core business processes in the cloud, but it won't be part of some grand plan. We will wake up one day, look around, and realize that the old ways have faded away.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

The best way to look at any trend or demand is to ask whether the Internet is going to be core to that business process going forward. The answer is almost always going to be “yes.” So any business or industry that isn't willing to truly embrace modern, Internet-based cloud architecture is one that will, by its own admission, fall behind and lose out.

The shift from the computer to the smartphone is fascinating. Microsoft has struggled so mightily, despite the fact that they basically invented the tablet, because they kept trying to drag the notion of the desktop computer to mobile devices. Nobody wants to be tethered to a desk—they want to be tethered to the cloud. That's why the younger generations use their smartphones for virtually everything we once thought of as the exclusive domain of the computer. In fact, it seems like just about the only thing they want PCs for, oddly enough, is to make calls with Skype.

Of course, a “smartphone” can mean many things, and a Blackberry has pros and cons that differ from an iPad. Developers will have their work cut out for them to keep pace with the different choices consumers and business users have in smart devices, and will need to make some strategic decisions about what to support.

Social media is changing the way companies evaluate their performance. Instead of evaluating quarterly profit/loss statements, we can find out if we are doing our jobs correctly just by tuning in to what individual customers are saying. We can capture their thoughts from Twitter feeds, comments and reviews, and what they tell us in transactions, and break that down to immediately understand what these individuals are telling us about how we do business, and how our products, marketing, and customer service need to adapt to address gaps. That change will be coming soon—definitely within the next five years.

The sheer volume of social media content is going to force companies to get smarter about which customers they choose to respond to. Some are squeaky wheels which will simply never be satisfied. Others are canaries in the coal mine and will deserve immediate attention. And still others will be competitive saboteurs. Building the discipline that turns social media into competitive intelligence will not be easy, but it will be necessary.

Regulatory demands, both by businesses and governments, are going to drive consolidation of processes and data storage. The more systems data flows across, the more difficult it is to coordinate security policies and ensure compliance. There is no meaningful, consistent way to apply security standards to 25 different systems. So consolidating the number of systems that touch a particular data process, and consolidating all those individual servers running in data centers and utility closets in tens of thousands of businesses around the globe, is going to be a major concern.

Neil Wainwright

CEO
Nexonia, Inc.



The software industry 3, 5 and 10 years from now will continue its move to the cloud and extensive mobile support. We'll be using predominately browser-based and mobile apps for all but the most demanding content-creation or analysis needs. Those are the two clearest unstoppable trends, the move to the browser and mobile devices. It's underway already.

Companies will predominately assemble cloud-based solutions out of applications hosted in either public, private or hybrid clouds. I don't believe one vendor or one solution will dominate an industry or vertical space. You have to have very deep solutions to meet a customer's real needs, and no one vendor can provide that level of depth in all aspects of running a business. At Nexonia we integrate our expense management and timesheet systems into many accounting systems that already have expense and time systems, but not at the depth that we do and not in a sufficient way for our customers to be able to run their business effectively. I believe the future will be one of integrated solutions assembled out of component parts, likely from a variety of different vendors. Successful software companies will recognize this and plan for it.

Virtually all successful cloud solutions will have a mobile component, predominately via native apps but possibly moving to browser-based apps in the future as wireless bandwidth continues to improve. Smartphones and now tablets are part of the mobile landscape and they all need to be supported. Unlike what the competing mobile operating system vendors might say, I don't believe a single standard will evolve. I believe there will be at least several competing architectures that will exist in the mobile space.

I believe the biggest application/solution vendor winners in this move to the cloud and mobile will be those that focus on their customers needs, refining their offerings on an almost-daily basis to meet the diverse and ever-evolving needs of their customers. I don't believe saying "our features are fixed and you'll have to work with that or wait for a new release in three months" will work in the future. It's not the path at Nexonia as we're already doing feature updates several times a week, and I believe the larger software industry will have to follow this path as well. Customers are demanding of cloud solutions, as they should be. It's their business that we need to support and not the other way around. This rapid-change model requires an intimate understanding of a customer's needs and actively listening to requests and elegantly designing refinements to support them. Successful vendors will understand this and be able to act on it effectively.

Taking a world view, companies will move to buying more and more bandwidth for their offices and employee's homes. The selection of office locations, business regions to enter, hotels, vacation destinations and even the choice of where an employee lives will be affected by available bandwidth is and how much it costs. It's going on now and will become even more important over the coming years. I personally believe some of the most successful economies of the future will center on extremely fast (when measured against other economies, not against prior years) and affordable access to the Internet. Countries and governments that don't make this a priority will be at a significant disadvantage in the world economy.

I'm excited by what the move to cloud and mobile will do for the world economy. The barriers for businesses to start and grow will be significantly reduced as their infrastructure/solution needs can be met by easily accessible cloud solutions. This means a more efficient and high-growth world economy, and we'll all benefit from it.

Finally and as we all know from being in the software industry, the only constant is change. New architectures, new alliances, acquisitions and market-disrupting solutions have always been there in the past and will continue to exist in the future. If you like constant change, software is the place to be. :)

What will the software industry look like in 3, 5, even 10 years from now? What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Throughout the next decade, the software industry will continue to converge more rapidly with the web industry. As a generation of users who have grown up using the web enter the work force, they bring to the market a whole new set of expectations about technology and software. This "cloud generation" have three expectations on how software works:

Immediate Availability

Cloud Generation users expect immediate gratification - they want to do a search and get going without any wait. This trend has been accelerated by the concept of small payments even for simple applications that are acquired through app stores. Even for paid applications, there is an expectation of immediate access without any delays.

Ubiquitous Access

The concept of data and information being available only in certain locations and certain times is a complete cipher to anyone under the age of 30. This trend is being accelerated by the adoption of smart phones and tablet computers. Mobility is dependent on ubiquity of data access.

The Ability to Share and Collaborate on Data

For a generation that is used to immediate sharing of any type of media or information, the thought of closed systems with limited access is an anathema.

This trend is greatly accelerated by the ubiquitous adoption of simple web-based Application Programming Interfaces or APIs. The cloud generation expects to not only be able to access data but to program against it.

As the cloud generation enters the work force, traditional client server computing looks like mainframes did to the PC Generation 20+ years ago. It is slow, inflexible and dated. As this cloud generation starts being promoted into decision-making positions, they are demanding same attributes in their work software that they have grown accustomed to over the course of the last 15 years.

This "cloud" software will have a number of attributes that distinguish it from traditional software.

- **Self Service**

One seemingly obvious point about the cloud generation is that people who like to go on-line like to buy things on-line. Often software companies will say they don't sell on-line because their customers want to create deep relationships with their sales people. That's a cop-out. On-line selling does not necessarily mean you don't have sales people. It means that customers interact with sales at their leisure. If you force them to talk to a rep, a number of prospective buyers in the cloud generation will not consider your product.

Treb
Ryan

CEO
OpSource, Inc.



The other point traditional software vendors miss is that they underestimate the power of web and community-based support. If users lack the ability to go on-line and check the status of an application or collaborate with a community of users on a particular issue, they will skip over to an application that provides these capabilities.

- **Continual Updating**

No one ever says, “I’m going to wait for release .1 to upgrade Facebook”. Cloud users expect to see a continual stream of new features and functions being added to their applications. That can be a minefield as you run the risk of tweaking the parts of the application that the users have come to love; however, doing nothing is a sure path to obsolescence.

- **Ubiquitous Availability**

The desktop metaphor is quickly dying. Not only do people want to access their systems from any web browser; but also, they want to access it from any device. Ubiquitous availability means that they can work from an iPhone app as easily as from their office PC (if such a thing even exists anymore).

- **Simple API’s**

And not only do they want to access their apps from anywhere, they want to be able to access it from other applications. The ability to cross connect data and functionality across applications has been a huge boon to the consumer web experience. Think what will happen when businesses are able to do the same thing with their corporate data. Simple API’s are critical to making that happen.

- **Scalability**

Often the biggest excuse for not implementing the previous recommendations is “my application is complex” so I can’t make it available as a cloud application. The depth and scale of most of the larger cloud applications show that to be not only a fallacy; but also, it demonstrates that only truly multi-tenant clouds apps can gain the level of sophistication that will be required for the next generation of users.

These underlying drivers will force the enterprise software industry to look much more like the consumer web industry does today. That’s a very good thing. Not only does it mean new software ventures can reach unthinkable heights; but also, it might finally allow enterprise software developers to start getting back some of the hot-shot developers that left them originally for Twitter and Facebook.

Internet Identity Security – 2011 and Beyond

Identity is one of those sneaky subjects. The issues surrounding it creep up on you from every angle and you often don't see them coming until they're smack dab in the middle of where you want to go. For many, identity has been a tactical conversation. Get the user in and out of the right application and get a record of it. What's the big deal? It sounds simple, yet it's the basis of just about everything we want to do in a digital world. Don't underestimate its complexity or significance.

For those with the insight and appetite to innovate and take advantage of disruptive new technologies, 2011 is going to be a watershed year because finally, we're going to get a better picture of all the players who will eventually make up the identity ecosystem. Here are a few of the emerging trends to watch for in 2011 and beyond.

Cloud Identity Providers

We're on the cusp of a major new service provider category, the Cloud Identity Provider. The entities behind these services will be responsible for vetting that you are who you say you are and then subsequently authenticating you to the Internet. They will be the trusted guardians of our digital identity from a consumer perspective. Google, Facebook, Microsoft and soon I believe every Telco will all line up to battle for this trusted position in our lives, enabling enterprises to know and engage with consumers in ways that were simply not possible a few short years ago.

Directories in the Cloud

The directory has been the anchor of user management within the enterprise for decades. That's likely to change in the next ten years. For starters, federation is now able to connect users from outside domains, thus enabling a shift in management to the rightful owner. But the real reason change is inevitable is simple – it's a cost thing. Installing and running directories is expensive. Managing those users is also expensive and to make matters worse, today it's largely redundant. Everyone is managing the same set of users, multiple times. So both from an infrastructure point of view as well as a management point of view, it's inevitable that change is in our future. Identity portability is the enabler. Once identity becomes intrinsically portable (aka "federated"), something interesting happens, it becomes possible for someone else to do it. A best of breed entity which is willing to take on all of the cost, complexity, customer service and risk of managing users, and then federating those users on behalf of the rightful owner into the appropriate applications. This may all sound like science fiction today, and for the most part, what I'm describing is still many years off, but the beginnings of this are all around us, and trust me when I say when the directory becomes unhinged from the enterprise it's going to force a radical shift in thinking to the end-state.

Mobile Identity

I read an interesting newsletter recently focused on Telco 2.0 wherein the telecom industry is waking up to the goldmine they're sitting on with respect to mobile user identity. I've always believed the mobile device was the ultimate personal identity device and the keystone to just about everything in our digital future. Not only is our workforce increasingly mobile and needing real-time access to corporate resources, but the mobile device is unique in its ability to provide nearly constant authentication and engage the user in authorization decisions. The conversation is just beginning, so don't expect a breakthrough tomorrow, but mobile identity is coming, and it's going to be really big.

**Andre
Durand**
CEO
Ping Identity



As I think about 2011 and beyond and Ping Identity's vision to enable One Secure Identity, what's clear to me is that our role as the identity industry Switzerland in and amongst the various vendors, platforms and environments couldn't be more needed. We're now within years of witnessing the end-state, where identity becomes a full-fledged citizen and an independent layer of network infrastructure. While stack vendors battles to lock customers into their solution stacks, it's Ping's role to ensure that everything works together and that companies maintain their choice, balance and openness when it comes to seamlessly connecting users and applications over the Internet.

Mark Symonds

President & CEO
Plex Systems, Inc.



What will the software industry look like in 3, 5, even 10 years from now?

And what customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

I can address the enterprise software space.

There is no question that SaaS, or the Cloud delivery model, will continue to grow as the preferred way to deliver business software applications. Point solution vendors such as Salesforce.com, SuccessFactors and NetSuite have led the way. It is inevitable that deep, vertical full-suite SaaS solutions will gain widespread adoption.

ERP Forecast

We see a changing of the guard in ERP. The major companies when I began my career were Cullinet, Walker, Dun&Bradstreet and McCormick & Dodge. Those mainframe players were replaced by a large number of client-server vendors. Many of the famous companies of the 80s and 90s have already disappeared into the abyss at Infor.

Many of today's ERP brands will not survive. The chasm is too deep and wide for them to get to a true and sustainable SaaS business model and technology.

As I see it, technology will be the least of their problems. Subscription pricing, SAS-70, Service Level Agreements and agile development will do them in.

More vendors of scale will likely offer deep and wide solutions to specific vertical markets. Generic ERP that must be heavily modified for each industry will give way to comprehensive, purpose-built offerings meeting the needs of users in a given market.

Community-Driven Development

This scenario will drive another macro trend – community-driven development.

Users of SaaS-based, industry-specific solutions will have more input as to the features that go into the software product. In turn, the vendor will build those features into the core product much more rapidly and offer them to the entire user community. This signals the end of customization and of software that becomes frozen in time due to the painful upgrade process of traditional software.

I also see the rise of continuous application improvement, in which the vendor develops and delivers new features every day, in a manner by which the customer "opts in" to activate them.

Finally, the ability to configure (or tailor) a solution without touching the underlying program code will continue in the decades ahead, as well a vendor's willingness to develop new functionality for an individual customer. The goal will be to keep all customers on the same, continually refreshed version of the software.

Compliance

Stricter regulations in the US food and beverage industry will drive a new class of technology solutions for processors.

An example is new legislation from the Food and Drug Administration (FDA) and Department of Agriculture (USDA) such as the Hazard Analysis Critical Control Point or HACCP. HACCP is mandatory for juice and meat products and voluntary for other food products. The Food Safety Modernization Act will increase oversight and impose further mandates for inspections and recordkeeping.

Given these compliance changes, web-based systems will become a game-changer. With the applications and database in the cloud, partners from the farmer, the rancher and fisherman to the retailer and even the consumer can update and access data as required to meet safety and quality tracking mandates.

We see a trend where even small growers and processors can be given access that requires only a web browser – no applications to install or maintain on their local device. This new generation of software for food processors combines traditional ERP functions with recipe and production management, supply chain management and quality and compliance.

In the years ahead, cloud-based information management will be a key tool for bringing smaller, distant, and foreign supply chain partners into the process to maintain a comprehensive record of all food ingredients, batch identification, test results, environmental factors, and usage throughout the life of the materials and products.

Similar technologies will help doctors, pharmacies and consumers determine whether their medications are authentic or counterfeit.

Mobility

We at Plex Systems anticipate a continued focus on making software applications available on whatever device is appropriate for the task – handhelds, tablets, thin client terminals or whatever makes sense – and to make full use of the onboard scanners, cameras, GPSs and so on.

This means vendors will develop applications so workers in factories can use wireless handheld devices to record production, scrap and inventory movements in real time. Tablets will be very useful for workers on the move in manufacturing facilities for preventive maintenance, tool tracking, and a variety of other functions where mobility is important.

For example, the mobile development platform could enable users to move inventory via GPS coordinates. At the executive level, performance and production metrics can be accessed “on the fly” via mobile devices and they can approve orders from wherever they may be. At the operational level, alerts on production problems might be useful for operations personnel.

Leveraging the multimedia aspects of a mobile device allows a quality inspector, for example, to take a picture of a bad part, create problem resolution request and automatically notify the suppliers, all from the mobile device.

Social Media

Social media is changing the world for companies of all types - manufacturers, software vendors, anyone with a “brand” in which they have invested. Today, disgruntled customers or hostile competitors can create real problems if the vendor is not engaged.

As we look into the future, real time Tweets, Facebook postings or other social media updates will let vendors know about a dissatisfied customer immediately. They can then act on the information as an opportunity to reconnect and improve the relationship. Often, customers are unhappy when they feel disconnected from the vendor and are not up to date on recent offerings and developments. In the future the connection between vendor and customer will grow stronger via social media.

The real-time nature of social media also plays a role in providing integrated plant floor reporting via status updates via Twitter or other services. We see this trend continuing.

Tracking real-time data is ideal for creating awareness, which enables intelligent, effective use of resources. This is an important trend that facilitates an environment that encourages accountability and transparency.

Lars
Björk

CEO
QlikView



What will the software industry look like in 3, 5, even 10 years from now?

Users, particularly business users, are going to be able to make better, more informed decisions thanks to their software. The term “user friendly” is going to be table stakes as we’ll see a shift in enterprise software, and more broadly in IT, to a very “consumerized” state where people are able to get the information they need more quickly and more efficiently. Several trends that are emerging today are going to play a critical role in that transformation. Mobility will drive the software industry, especially enterprise software companies, to create more app-like solutions that are visual and easy to use. Cloud based software, whether public, private or hybrid will enhance users’ ability to collaborate. And I think open network architectures are going to allow for a much faster pace of innovation throughout the industry that will have a carryover effect into the way companies use software to make decisions and interact with their customers.

That fast paced innovation is going to disrupt a great deal of the software categories we have today. Take what QlikTech is doing in Business Intelligence for example. Even today people who never used (business intelligence) BI before are now able to afford and understand a solution that helps them on a daily basis. Not just once a week or once a month when reports are run. So if we’re able to redefine the functionality of the solution and redefine the user set, we can redefine the size and type of market we’re competing in to serve the largest need.

What customer demands and business trends will drive changes in software products, how they’re developed, and the industry that provides them?

Software companies that take advantage of the “consumerized” environment we’re likely to see, will be the disruptors that open up their markets and create new ones. Over the past 10 years we’ve witnessed several changes to enterprise

IT, the greatest of which we seem to be witnessing now as our emerging workforce is part of a new generation that expects technology to be always on, always secure, and inherently social. These expectations combined with the proliferation of smart mobile devices are what's driving the consumerization of IT. Employees are expecting their IT organizations to provide the capability for all work to be done on the go, and they expect all of their enterprise tools and applications to be available on the devices they use in their personal lives.

Additionally, when you look at the information and data that is currently stored in databases and in the cloud you'll see an even greater need for transition to anytime, anywhere access and it will need to be available in a variety of forms. All of that data will be the raw materials that drives progress in the next generation. Companies will gain their competitive advantages by how well they use their data and turn it into useful information. The software companies that win will be the ones that best adapt to this mobile information ecosystem where they either help customers access it, find it, protect it, or make it more useful and actionable.

What will the software industry look like in 3, 5, even 10 years from now?

Fundamental change usually comes slowly. There's inertia in existing practices, infrastructure, and ways of doing business. As a result, industries—such as the software industry—don't generally look a lot different over the course of just a few years. That said, cloud computing is going to have a huge impact. Smaller organizations with relatively generic IT needs may well get out of owning and operating computer systems and software.

However, cloud computing is a much broader story than Software-as-a-Service or outsourced IT more broadly. It's a change in the way we think about IT resources from physical servers hard wired to software to a more fluid catalog of IT services that can be running in a variety of places. These changes will have to occur in an evolutionary way over a number of years because they have major implications—which are probably not as widely appreciated as they should be—for the way IT infrastructures are operated and governed.

However, as these changes become pervasive over the next decade, the impact on both the software industry and the consumers of that software will be profound. Because, if we often overestimate the short-term impact of new technologies, we also tend to underestimate the long-term effects.

We're at a crossroads with cloud computing and should take some lessons learned from the past. The 1980s were a decade that brought many things that shouldn't be repeated – not just bad fashions and questionable hairstyles – but also the emergence of mega IT vendors that forced lock-in. As the industry marches toward cloud computing and vertical stacks, the need is great for open choice, and not a repeat of the vendor lock in prevalent in past decades.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

One big change that we're seeing is that enterprise users and buyers are increasingly bringing their expectations as consumers to the workplace. They expect software that's easy to use, easy to acquire, and that can be consumed on a

Jim
Whitehurst
President & CEO
Red Hat



variety of devices, including personal ones. This is happening at the same time that mobile devices and the growth of data are stressing the scalability of enterprise IT infrastructures. Public cloud services and infrastructure are by no means magic bullets for these challenges, but can be leveraged as at least partial answers.

Another big trend is integration. Users have diverse environments and they expect software that interoperates. If you consider just how stovepiped vendors were historically, you'll see that we've actually made a lot of progress—in large part because of open source and open standards. Although there are a few companies seemingly trying to turn back the clock, interoperability and openness are such compelling user demands that they are the future.

Greg Gianforte

Founder & CEO
RightNow



What will the software industry look like in 3, 5 even 10 years from now?

Cloud computing is more than a trend – it is the future of the software industry and represents one of the most important technology shifts of the past 20 years.

As software vendors, we increasingly see the cloud as table stakes with respect to software delivery. And for better or worse, many customers have accepted the theoretical values associated with this significant technology shift. However, when we look closely on delivering on the full promise of the cloud, reality has been a bit underwhelming. The cloud has much promise in fundamentally changing and improving not only how software is delivered and used but how clients engage with vendors, with clear, but unfulfilled potential to deliver:

- The Elimination of “Shelfware”
- Pay for What You Use
- The End of Long-Term Lock In
- Vendor Accountability

It is time for the software industry to take a look in the mirror and ask, “Are we delivering on the entire potential of the cloud?” If we are being honest, the answer is “no.” As an industry, we have only delivered on half of its promise. We have mastered using the cloud for software delivery for lower TCO and fast deployment and innovation, but we are far from solving the client engagement challenge.

Cloud vendors are still thinking about their own well-being, instead of understanding their customers’ business goals to deliver true business value. This way of thinking has resulted in shelfware and forcing customers to buy more than they need, which effectively negates the “as-a-service” premise. Customers are also locked into long, inflexible contracts so the vendor can gain pricing predictability while those same vendors shy away from accountability to their clients.

So how will the software industry look some years down the line? We anticipate that this specific issue—delivering on the other half of the cloud’s promise—will be soon addressed by the vast majority of software vendors. In the coming five to ten years, the software industry will see vendors change their mindset to think more about the business side of their customer relationships while corporate buyers will stand up and demand their rights for more flexible engagements and putting an end to “shelfware-as-a-service.”

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

The rising tide of consumer expectations makes customer experience a pressing business issue for organizations of all sizes and industries. Each year, I meet with hundreds of executives at the world's largest consumer brands and the customer experience imperative is consistently top of mind. The explosion of social networks and the proliferation of mobile devices only intensify the importance of the customer experience, and it is this challenge that RightNow is singularly focused on helping consumer organizations solve.

The mistake we see some organizations making is to treat social or mobile as new, disparate channels. Organizations need to be careful not to just put up a Facebook page or iPhone-optimized support site and create more silos; social networks and mobile devices must be seamlessly incorporated into their overarching customer experience strategies. Consumers who visit an organization's Facebook page or tweet about an experience or access self-support on their BlackBerry are likely to pick up the phone or send an email at some point. Organizations need to ensure a consistent and seamless experience across all of the places where their customers interact with them.

Unfortunately, this siloed mindset is also finding its way into some of the enabling software tools. For vendors to truly help organizations with the customer experience imperative, they need to provide a unified platform that powers all interaction channels consistently and seamlessly. This requires that the platform is architected in such a way to allow easy incorporation of new channels—such as we are seeing now with various social networks and mobile devices—and integration with existing channels and processes.

While the exploding adoption of social and mobile make them areas that we software vendors must address today, we also need to keep our eyes on the future. We need to constantly stay on top of emerging channels and incorporate important ones into our solutions. Our mission at RightNow is to rid the world of bad experiences, and this starts with our ability to power all the interaction channels that matter to our clients.

Markku Montonen

Chairman & CEO
RM5 Software Oy



In certain areas current generation's vendors have created poor results in forms of complex solutions, poor project performance and high costs. Customers are demanding something different. New emerging technologies and vendors are bringing a new approach and tools into the market. Cloud computing and software as a service provide an opportunity to introduce a new business model to design, develop, deliver and source business and IT services.

Expanding your business with increasing type and number of external business parties is a major trend in every business. This leads to a shift from protecting your business to enabling your business. More and more business products, services and operations are digitalized and delivered as an e-service. This will position the Entitlement Management - who has access to what - one of the top priorities on CxOs' plate.

Each organization - one way or another - has more or less the same value chains: enterprise domain - business to production, life-cycle domain - design to support, value chain domain - from suppliers to customers together with all-embracing collaborative infrastructure.

Companies have been trying to get under control authorization of internal and external users for internal services. As some have succeeded in this, they are now facing the same issue with Cloud Computing. How to manage internal and external users and their entitlements for external services?

Thus even a small to mid size company can easily have dozens of business information systems in which one has to be able manage users and their entitlements. Prevailing practice is to do it in each of the system individually and separately. This leads to duplicate activities, laborious processes, access problems and higher costs.

With Entitlement Management you can centrally enable, manage and control service, organizations, users and their entitlements for different business applications, e-services as well as non-it resources. For many companies a possibility to introduce a shared service with life-cycle approach for request and approval processes, delegated administration and multi-dimensional reporting and auditing capabilities will provide for the first time a complete picture of business ecosystem. This improves organization's access governance, enhances risk management and can be a key system in achieving compliance with applicable regulations.

The real business goal for entitlement management is to have confidence, that a business stakeholder with a single identity only has access to the business resources for the tasks they have been assigned to and for which they are legally entitled to. This is the ground for which the identity and access governance initiatives and systems are based on.

It is really a different business challenge to manage on-boarding, off-boarding and re-boarding of external user population of hundreds of thousands or millions users scattered around in hundreds of thousands organizations than just internal users. The only way to succeed is to base the identity and access governance solution on your business model and relationship between different parties. We will be seeing more and more a multi-service provider and multi-service customer business cases. Like in an industry cluster multiple independent, but business related companies provide services to multiple customers with shared, over-lapping users, processes and information systems.

In the future no organization can develop their business or IT service portfolio in isolation. To achieve business compatibility everyone should put emphasize on how to standardize, develop, provide and source new services

in business triangle of Identity Provider providing identity services, Service Provider providing business services and Service Customer using these services. This is still un-mature zone and standards, practices and tools need to both developed and bring into use. As this can get complex, one should have a working entitlement management model and system that is designed to manage relationships, services and data between different parties.

Today majority of solutions are still mainly unconnected. When developing or sourcing new services one should target to standard based services that can be shared among business units and which share each other's services.

What we will be seeing in the future are SaaS service stacks containing composition of services forming a fully functional business service. The service provider may collect individual services from several providers. As an example, SaaS your IDM stack: authentication as a service, access management as a service, federation as a service and at the bottom entitlement management as a service. This trend will eventually enable new market players that will piece together new type of business services based on ever changing customer needs instead of fixed software solutions.

This will require a major shift in attitude both in vendor and customer side. For vendors it means that they will discard the brilliant DIY (Do-It-Yourself) approach and start focusing on perfecting core capabilities and leveraging available best-of-breed services for common service functionality from emerging industry players. Customers are more prepared for this change and the criteria are obvious.

Taking a new approach by aligning entitlement management with business model and empowering business stakeholders is the key to succeed in managing who has access to what in your business ecosystem.

As Entitlement Management is one of the most urgent issues each organization should start preparing them for the new era. Or combine that with Cloud Computing and make a perfect case.

Given the dynamics of innovation and ever-changing user landscape, in many ways it's difficult to predict what the software industry will look like in 3 years let alone 5 or 10 years. With this said, however, here are some thoughts for consideration.

Security: Security will ultimately be linked more often to an individual's biometric markers. The trend continues towards multi-factor authentication where both physical and virtual considerations prevail. As advancements in security technology are achieved, cyber criminals will also continue to advance and keep this segment of the software industry ever-changing.

Private, Public and/or Hybrid Clouds: The existence of all three may very well be a reality for years to come. With most business decisions, associated risk must be well balanced with specific technology advancements to determine appropriate IT decisions. When it comes to private and public clouds, attention will remain focused around the sensitivity of intellectual property and related data which is collected, processed and stored. By simple categorization, valuable intellectual property and/or sensitive data which might be subject to too much risk in a public cloud will continue to remain in private clouds both physically and logically separated from other types of information and services.

Mobile: The so called "third screen" has come a long way. In fact, most experts suggest more transactions will take place on mobile devices than on PCs in years to come. Although advertising dollars currently dominate revenue

Bill
Loss

CEO
SaaShr.com



models, more value will be placed on consumer and business applications by merchants who will be willing to “pay-to-play” so long as compliance and other factors can be overcome. Simply put the convenience and value of having access to more accurate, complete and timely information from a consumer’s perspective will be more equally balanced by the value provided to merchants in distributing products and services more effectively. The greatest challenge will remain categorization in the sense there needs to be an adequate pairing of products and services for each segment of consumers in order to create a strong enough value proposition for both consumers and merchants.

Social Media impact on Sales and Marketing: The software industry continues to experience the broad impact of social media on sales and marketing. As the use of social media on a personal level continues to accelerate, individuals and their employers will begin to accept social media and associated technologies within their work environment. Adoption will continue with the exchange of business information for enhanced decision making (customer relationship management applications, etc.), and will ultimately lead towards consumption of consumer products and services in the workplace, including areas such as voluntary insurance, group rates for educational and entertainment events and other similar areas. The technology is here, the monetization or cost offsetting ability on the employer level and potential disruption to worksite productivity needs to be more fully understood before mass adoption will occur.

Long-term predictions on the future of Software: It is said that at any point, if someone gets a brilliant idea, two other people in the world get the same idea at the same time. Ideas will become cheaper and more readily available. Software will continue to help abstract much of the thinking behind and completion of processes that are necessary to perform tasks more efficiently. Emphasis will continue to be placed on improving user experience, where application user interfaces will become more intuitive and replace the need for online help and other forms of user documentation. Software will also continue to incorporate collaborative elements such as crowd sourcing and will evolve in response to the trend of information sharing.

Intellectual Property: An interesting aspect of the future of software is the question, “What types of devices and products will evolve to a point where software drives their use?” For instance, our vehicle can tell us where we are through global positioning or let us know when our vehicle’s tires are low on air, with software potentially being a key component to how this technology evolves. Recently, vehicles are being equipped with software technology to avoid collisions and change handling capabilities depending on driving conditions. Who’s to say in the next several decades our vehicles won’t be performing most of the driving for us, and if so, using software as a service (SaaS) via the cloud, will this mean our vehicles will require security software to protect against viruses???

The software industry is one of the most dynamic industries of modern times. We have seen dramatic changes in technology, and how it affects our lives both professionally and personally – and software has been the driving force behind it. Over the last five years, access to the Internet, and an evolution in how it is used, has driven incredible innovation. The Internet is no longer about accessing websites for static information, but about linking people and systems to create always-on, hyper-connected, and real-time systems. The shift from analog to digital transmission of everything, including voice and video, is creating new ways to connect people and is driving new opportunities – and software is the catalyst that makes that happen, and the interface to people that can delight and amaze us.

Today, the cost to develop software is low and continues to decline. Hardware is inexpensive, the supply of talented software developers is seemingly unlimited, and distribution is virtually ubiquitous. As a result, we are seeing increasing amounts of new software, an upsetting of the traditional software brands, and amazing valuations for companies that use software to create magical experiences. This increase of supply lowers the cost of accessing high quality products and the valuations continue to drive more innovation in these areas. Taken together, these forces will continue to provide more choice to customers. More choice leads to more complexity in decision making – and so we will see new ways of accessing and consuming software; for example, software is already taking over innovation in the mobile space.

Over the next decade, customers will likely find themselves making fewer complex and capital-intensive decisions involving software. Software will transition into services, where ownership, operation, and maintenance of software and their systems will transition into ever evolving and shifting mash-ups of services. Large, complex, and all-inclusive software systems will be replaced by best-of-breed combinations of services – linking software as a service that is best in class at a limited set of specific features to other services, resulting in new and exciting combinations.

Companies providing these combinations will not look like the software companies we know today. They will operate under very different economics, with thinner margins—outsourcing development on an as-needed basis, and selling their services in new ways that monetize both software and services to be more like utilities and less like home purchases.

At SafeNet, we have led the way in helping monetize software for over 20 years, and we are adapting our offerings to stay relevant in this changing world – continuing to innovate and drive solutions to help vendors and their customers manage their purchases and establish competitive value for their offerings.

Mark
Floyd

CEO
SafeNet



Bill McNee

Founder & CEO
Saugatuck Technology



What will the software industry look like in 3, 5, even 10 years from now?

Fundamental shifts are now occurring in the Software Industry. These shifts are driven by the success of the early Cloud innovators combined with the old philosophy of “follow the money” – as traditional Master Brands and ISVs evolve to provide a wide range of SaaS (or Cloud Business solutions) and traditional hosting vendors evolve as providers of Cloud infrastructure. The Cloud is raining new opportunities on those in a position to recognize and take advantage of them. ISV migration to the Cloud will continue for the next few years as Cloud platforms grow in influence and capability. Through 2015, the Cloud IT industry will itself transform and consolidate, while SaaS plays its central role.

As enterprise customers of software in the Cloud transform themselves, exploiting new Cloud capabilities, their counterparts in the IT industry will also undergo transformation as their business models and partnering relationships change. The increasing diversity of Cloud platform offerings that can complement and supplement the offerings of Cloud business solution providers such as analytics, billing, mobility management, PaaS, security and work flow (among others) will create a network of composite capabilities to persuade even the most reticent of on premise ISVs to migrate to the Cloud. Some Cloud providers will acquire or partner with providers of these collateral offerings and services. We are also likely to enter a new phase of industry consolidation as a handful of SaaS providers and Master Brands seeking to strengthen their Cloud positioning beef up and go on a buying spree to create broader portfolios of offerings, targeting specific buying centers.

Through 2015, the largest driver of Cloud IT workloads will continue to be SaaS solutions (in all of its forms), followed by IaaS deployment and the migration of traditional on premise workloads. The SaaS value proposition is typically very easy to grasp and consume versus other Cloud resources. In regards to IaaS, business and IT executives that we regularly speak to and survey indicate that the lack of standards, as well as transaction and data/security integrity issues are still inhibiting serious adoption plans. However, over the next several years, the effect of these inhibitors will lessen significantly, especially as business priorities begin to shift from an obsession with cost efficiencies and toward business agility / flexibility. As for PaaS we believe the primary users through 2015 will be system integrators who have greater resources and expertise, and openness to risk-taking absent in most enterprises – as few PaaS development environments will be ready for prime time use by mainstream developers for several more years.

Despite early claims that the Cloud was a predominantly a direct sales medium, channel development exploiting the cross-geographic reach of SaaS and Cloud business solutions will continue to increase in influence through alliances, joint selling, composite offerings, value-added and vertical solutions (e.g., via private and internal Clouds with carefully targeted functionality). Cloud channels will be expanded and deepened as a result of the role that ISVs can and should play. If they can understand and execute the transition process, ISVs can play a dominant role in the Cloud and serve as natural channels for the Master Brands. However, before too long the migration of existing on-premise ISV solutions will decline in favor of Cloud-native solutions from pure-plays and traditional on-premise vendors who invest for success.

These Cloud-driven shifts will impact every aspect of the Software Industry:

- Participating in, or providing, a Cloud ecosystem
- Vertical business solutions by Financial Services, CPG, Healthcare, Life Sciences, Transportation, and Hospitality.

- Private Clouds will deliver a very high percentage of vertical Cloud business solutions
- Service ecosystems will be inherent in the Cloud world.
- Cloud-based application innovation will move to traditional production locations like India and Eastern Europe. Silicon Valley investment will increasingly move to Bangalore.
- The outsourcing business model will change significantly. New providers with globally recognized brands and economies of scale like Google and Amazon could radically alter the economics of traditional outsourcing. Some traditional outsourcing companies like IBM are heavily investing in the Cloud to get ahead of the curve, but many more are sitting on the fence, wishing the problems away and simply not understanding the extent and speed to which change will happen within their client base.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

While we could point to many influences from the Cloud in terms of IaaS, PaaS and SaaS and their transformative value upon businesses and upon the software industry, I'd like to highlight two other trends that will lead to massive change: one, the continuing criticality of Integration and two, the accelerating rise of Mobility and Social Networks.

First, Social Networks will increasingly find acceptance in the business community, as both functionality in a business context and the increasing viability of platform providers combine to lower enterprise resistance. Social media/networks will become a significant part of the enterprise business portfolio, as an overwhelming majority of enterprises large, medium, and small adopt these solutions for business use. For providers of social networking solutions in the Cloud, advertising revenues will accelerate, exceeding license and subscription revenues combined, in driving growing viability and profitability. Mobility will become ubiquitous in the business environment.

Mobility access to Cloud Business Solutions will become a de facto standard for many work environments, leading with sales and services organizations. Pervasive mobility and social networking together will change the landscape of enterprise SaaS and Cloud Business Solutions:

Second, integration will remain the key glue making the Cloud in all its forms not only possible, but impossible to derail. However, increasingly sophisticated customer requirements will shift the issue well beyond data integration to the challenges and issues related to workflow and process integration, a key gating factor for larger enterprises.

As enterprise customers of IT in the Cloud transform themselves, exploiting new Cloud capabilities, their counterparts in the IT industry will also undergo transformation as their business models and partnering relationships change. Software, as we know it now, will never be the same.

Jan
Aleman

CEO
Servoy



What will the software industry look like in 3, 5, even 10 years from now?

The biggest shift in the software industry is happening right now - the global shift to Cloud Computing - and the results will become very clear over the next 10 years. The definitive end of the Client-Server model that has been the most significant in the past 20 years after the mainframe and mini computer era.

In some markets this transition is taking place very quickly, in other more traditional markets it will take longer. The trend started with social media, followed by email and CRM, and it is now getting to the stage where general business software including ERP is moving to Cloud Computing environments. The benefits to the user are of such importance that this transition is taking place at a much faster pace than was originally predicted. For new companies the best solution choice is to go with Cloud (SaaS) only, and not worry about on-premise software at all. For existing companies with an existing installed base, the most viable option is to choose a hybrid solution: continue the on-premise version in addition to rolling out an online platform, ideally from a single code-base to avoid doubling the development, testing and support effort.

For startup companies that develop software from scratch this provides less of a challenge than for the traditional ISV. At Servoy we have developed a toolset to specifically assist companies by making this transition fast, seamless and risk-free. This allows companies to move swiftly to a hybrid model without taking more risk than necessary. We're quite proud to have helped more than 300 ISV's in the past three years to successfully make this transition.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Cost reduction and ease of use are the key trends.

Cost reduction of software can be achieved by using more effective and modern development tools, increasing the customers base, including more services such as hosting of the application and cutting out unnecessary clutter. For example, many products rely on Terminal Services or Citrix to deploy over the internet. With modern tools (such as Servoy amongst others) this is not necessary and can immediately reduce the cost to an ISV by literally hundreds of thousands of dollars.

Ease of use is reflected in many parts of the software, but none more so than the initial look and feel. Many software companies try to develop the user interface in-house, however it is often much more cost effective to work with a design company to build a modern, sexy look and feel. In today's world of the iPhone and iPad, sexy user interfaces are critical in making sales. With social media being the first software application that many people interact with, it is key to be inspired by how easy it is to start using that kind of application. The software industry can learn a great deal from the world of social media, for example, is it really necessary to have 200 fields on the screen, or can they be reduced to the 10 that the user actually needs? Such reductions not only make the software easier to use, but also reduce training and support costs. Additionally, as they will create a much lower load on infrastructure they provide the benefit of being much greener.

ISV's should not be afraid of, or worried about, these challenges that lie ahead. Instead they should show vision and invest in the redevelopment of their software. There will be some initial pain, but this is the only option to be successful in the Cloud Computing Era that lies ahead of us.

What will the software industry look like in three, five, even 10 years from now?

Over the next few years, we can expect more technology that's completely browser- and Internet-based, such as the new Google Chrome OS appliance. These will be laptops and tablets without many of the characteristics of a typical computer or operating system, as computing continues to shift from "on-terminal" to everything being housed in the cloud.

This doesn't come without consequences. As we move closer to this, we become more vulnerable, not just from a business perspective, but as a society. The hackers of the world would love the challenge of disrupting thousands of users with one fell-swoop, and may start targeting the massive data centers. A virus infecting a few computers is bad, but an assault on a large data center can affect GDP and cost billions in lost revenue, productivity and lawsuits. It's a scenario that both our industry and society will need to address.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

It used to be that consumers and businesses cared about who developed their software, making name recognition an important part of the buying decision. This is no longer the case. This definitely benefits software developers, but creates potential problems for users. There is often uncertainty about who's developing the software and from what part of the world. Thus, a host of geopolitical issues come into play, such as the fear of not knowing where your data is being housed, if it is safe, and what, if any, security measures are being administered.

The business-to-business software industry, which is the focus of our company (StormSource Software), continues to evolve in interesting ways. For example, take enterprise-level solutions, where big companies have traditionally had large budgets for software and technology. Now, we see decision-makers at these companies are looking for ways to save money and increase efficiency by implementing more affordable solutions. Although this can affect a SaaS provider's profit margins, it also creates huge opportunities. A related trend is department or unit-level SaaS adoption. Departments understand that getting the central IT department involved in software-purchase decisions is often a death sentence for getting their problems solved in a timely manner. So, we are finding more of them moving ahead with unit-level solutions, thereby making quicker decisions and being more willing to try new concepts.

Regarding financing, the venture capital and angel markets have seen plenty of change, including a recent tightening of standards. But the model still works, and there is an abundance of investment money available. This is due in large part to the way investors look at businesses. These are people who simply love business. They get a rush out of finding and participating at the strategic level of companies doing interesting things or developing game- or world-changing concepts. Sure, they are in it to make money, but their love of business is what makes it fun for them.

Conventional business rules will continue to be challenged. There are lots of examples of this. Take pricing, for example. There used to be a time when low cost meant cheap or inferior. Now, many successful companies offer very useful, high-quality apps at a very low cost or even for free. This is good for consumers, but can be tough on businesses, especially startups. Companies using the popular freemium model have had a difficult time getting the free users to

Robert La Loggia

President,
CEO & Founder
StormSource Software



move to the fee-based versions, so many companies have ended up eliminating their free versions. So here we see how a conventional business rule holds up pretty well: it is hard to make money when you are giving away your product. But the software industry is dynamic and entrepreneurial, so we will continue to see the testing of conventional business rules, with interesting results.

Enrique Salem

President & CEO
Symantec



What will the software industry look like in 3, 5, even 10 years from now?

The future of the software industry is a new world, more distributed than ever – a world beyond the data center and beyond the PC. Cloud computing, virtualization and mobility are exciting trends that are driving our industry forward and propelling the evolution of the information economy. When looking at the future of the software industry, we need to take an even closer look at information – where it comes from, what we do with it, how we manage it, and what it really means to us. We know that information is going to live in more places than ever and will be accessed by many different devices. This new world requires security that enables simple and easy access to the information no matter the device or location; security that gives people confidence that their information will be protected.

Cloud computing will play a large role in the evolution of the software industry. As IT shifts systems, applications, data and infrastructure to the cloud we need to think how to provide security for the cloud. At Symantec we believe you need a three pronged approach that includes a policy engine, a protection layer and a monitoring layer, or compliance layer. This approach provides a unified architecture consisting of a policy engine that lets an organization determine and set the rules for every individual, device, and interaction; a security layer that enforces the rules and authenticates identities, devices, and information; and a monitoring layer that simplifies reporting and facilitates compliance while providing visibility into how an organization's governance is being enforced and managed. The goal is to know that your infrastructure, information and interactions in the cloud are safe and secure.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Customer demands and business trends have one main theme: flexibility. Business and personal lives have merged. People expect simple and secure access to information. And, above all, businesses want to be more scalable and cost-effective.

Users are bringing more of their own devices and their own technology habits into the workplace – a trend we call the consumerization of IT. At the same time there's the massive proliferation of mobile devices and mobile data traffic is expected to increase by almost 4,000 percent in just the next three years. There's also the unprecedented growth of social media, which is now being used in the workplace to conduct business as much as it is to connect with friends. Virtualization is well past the "early majority" stage, with analysts estimating 60 to 70 percent of servers will be virtualized by 2015. Finally, organizations continue to adopt public and private clouds.

What all of these trends point to is a loss of control for IT. Key information and applications are no longer confined to the four walls of an organization's data center. Organizations now need to secure and manage information and identities across a range of devices and locations.

As an industry we need to provide the right solutions to enable users and organizations to embrace these new technologies with confidence. As new trends drive our industry forward, it is time we change how we think about our IT architecture – building one focused around people and information – and cloud computing represents a great opportunity for organizations to do this.

What will the software industry look like in 3, 5, even 10 years from now?

The software industry is one the most dynamic markets in the world – just think about the way it went from the software development for mainframes in the 60s through PCs in the 90s and now cell phones. The developers may be the same, even the programming languages have not changed much, but the way how the user installs and works with software has changed dramatically.

Software on PCs will not disappear, but it will be surrounded by much more software on mobile devices and on huge server farms where memory and execution speed is cheap and virtually unlimited capacity on demand. The software of the future will not be running in isolation – everything will be connected. Such connections will change all the time and a lot of connection will be anonymous and very temporary. Just as today we surf the web of information, in the future we will use the web of connected software applications. Such connection will be established directly in the cloud between different web services as well to all kinds of computers and mobile gadgets through providers, process filters, connection points, and a lot of new types of communication levels we don't know about today.

There will be not many changes in the way software will be delivered and purchased; we will continuously see a lot of open source solutions – especially around operating platforms, communication logic, standard libraries, databases etc. But a lot of software products are very specialized, expensive, and need professional support. So I don't expect a dramatic change in the constructive coexistence between open-source, freeware, trial ware, leased and perpetual-licensed software. But software vendors need to be more flexible in providing different license models to different customers for commercially sold software products: the day when a software company just provided one license model and expected that all customers would accept it is gone.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

I see two intellectual challenges that have to be addressed. First, how do we control access to secure or private information as well as execution of secure or private applications? Today a lot of this access is physically controlled; if you want to use your credit card, you have to get it from your wallet. But tomorrow your credit card is probably stored in your cell phone. This added convenience comes with increased potential for risk: how do you guarantee that no one can use your card without your permission?

The second challenge is the protection of software itself – or more precisely the licenses of the software applications. Licensing of software is already a challenge today. Compliance is difficult: you need enough copies to be legal but no more than necessary. Cheaters still try to get licenses for free. Pirates try with malicious attacks on license management systems to crack the software

**Marcellus
Buchheit**

President & CEO
Wibu-Systems
USA, Inc.



protection. Leasing or pay-per-use models could be more efficient for both software vendors and users, but technical issues frequently prevent their wide availability. All these limitations around software licensing exist today with software on a local computer and a vendor who knows who bought it. In the future world of connected software, millions of different software packages will be able to call each other and on-demand systems will frequently change the number of simultaneously started software copies. Then there are the providers of the cloud hardware, the software platform infrastructure and the connection management who want to get paid, maybe on demand by the user, or perhaps from the installer of the software products. And at the very end is a user who is ready to pay a fair amount of money to get a service thru this connected-software puzzle.

Both challenges will be solved by new standards for data and license protection in a connected world of cloud computers and mobile devices. Just as today we use local area network standards with security settings and get licenses through activations or other protection mechanisms, we will have standards in the web that guarantee only authorized users and software callers can use specific data and specific software products. And the payment system will probably be similar to the we pay for our products today – some share to the credit card company, some share to the store, some to the delivery company, some to the wholesaler/distributor, and the rest to the product developer. Much more complex, much faster but still more reliable and more flexible! Users don't see this payment splitting process today and it is unlikely they will see it tomorrow in the world of connected software.

Our company, Wibu-Systems, is currently working with several research groups around the world to develop effective cloud-computing software protection, licensing, and payment systems. We recognize that a lot of smart people in the world see the same challenges and we are very confident that in the near future we can provide solutions for the two challenges I have described.

Christopher Cabrera

CEO
Xactly



The rise of Software-as-a-Service (SaaS) and Cloud computing has been a major disruptive force in the enterprise software industry. In the past several years countless new SaaS and Cloud-based start-ups have emerged and traditional on-premise players have rushed to diversify their offerings.

Yet, SaaS and Cloud computing have primarily been considered delivery mechanisms, not fundamental changes in business strategy. In the coming years, SaaS and Cloud will be more prevalent and continue to transform the rules around how enterprise software companies are created, solutions are delivered, and customers are serviced.

For instance, Cloud computing has dramatically lowered the barrier of entry for start ups. Previously, entrepreneurs would have to raise a significant round of initial funding just to begin building an offering. This often came with the added cost and complication of relinquishing control over the company to the investing venture firms.

With Cloud-based platforms, such as salesforce.com's Force.com or Microsoft Azure, entrepreneurs can leverage an existing infrastructure to quickly innovate and deliver new solutions to market at a fraction of the time and cost. Companies building on these platforms will be able to significantly stretch their angel investments and deliver a commercial product to market well before they need to pursue further venture funding (at just the right time given the post-recession venture environment). By removing such strenuous capital constraints, the balance of power will shift further away from venture capitalists and

open the door to a wider spectrum of budding entrepreneurs. If the 185,000 applications on Force.com alone is any indication, we will see a flurry of new SaaS and Cloud-based applications and start-ups emerge in coming years.

Customer care and service are other areas SaaS and Cloud computing will transform. In the past, customers labored under bulky, expensive on-premise applications, and even hefty license fees. They would rarely hear from their sales representative after the sale was complete and would wait years for updates. This was in large part due to non-customer centric cultures and because traditional software vendors were forced to maintain different flavors of their applications to support a variety of operating systems, platforms, and configurations-making it laborious, expensive and restrictive to update solutions.

But times have changed, and so have customer expectations. We have become a “real-time” society. When we want news, movies, information – we aren’t willing to wait. The same will become the paradigm for enterprise computing. Customers will demand that applications move with the changing dynamics of their business and SaaS and Cloud computing companies will rise to the challenge.

The beauty of multi-tenancy is there is one, maybe two lines of code (typically due to building solutions on multiple platforms, such as a Force.com). Changes can be loaded once and dispersed instantly to a company’s entire customer base, leaving more time for customer-driven enhancements and innovations. Companies who claim to offer SaaS solutions - that are really no more than a hosted version of on-premise software -will struggle to keep pace with customer demands in a SaaS world, and will either need to “fish or cut bait” or risk becoming irrelevant.

Customers are in more control than ever before in this new world order. The limited upfront investment and contracts synonymous with SaaS and Cloud computing applications also means customers can switch vendors much more easily than they could previously. As reoccurring revenue is the lifeline of any SaaS or Cloud company – losing customers is business suicide. So, companies will now have to go to much greater lengths to ensure the happiness of their most profitable customers.

While technology will play a big role in facilitating all this – it will have to be an inside out transformation in the way companies foster their relationships with customers. At Xactly, we are driven by the notion that each customer’s business must be earned anew every day – and that means consistently delivering great product and exceptional customer service. As I like to say, it’s approaching each new customer relationship like you are interested in a lifelong marriage, rather than a one-night stand.

A big part of this transformation will come from compensating employees correctly to optimize the behaviors the company wants to see. Today, this is standard practice mainly in sales organizations, and is the very cornerstone of our business. In the coming years, I believe we will see this same concept of variable compensation extend further into the enterprise. Businesses will have to compensate teams and individuals based on new metrics that extend well beyond closing a deal - how long a customer stays, higher NPS scores, a customer’s propensity to refer business or buy additional solutions, and an overall higher level of customer satisfaction.

In short, SaaS and Cloud computing have changed more than just how companies access the products they use every day. It has changed the way we think about software innovation and customer service and lowered the barrier and cost of entry for new players in the market. While it’s anyone’s guess what may happen next– we can be assured that SaaS and Cloud computing will continue to take enterprise software on an exciting and transformative ride in the coming years.

Paul Lambert

CTO & CEO
xAssets.com Ltd.



What will the software industry look like in 3, 5, even 10 years from now?

Over the years software has evolved to meet the opportunities and markets that were presented by new computing devices and technologies. The consumer-based packaged and “shrink-wrapped” software market arose to meet the needs created by the advent of the personal computer. Software-as-a service applications became available as the internet matured. Smartphone and pad computer apps are a direct result of the available of the new mobile devices. The software industry is quickly adapting to the new mobile computing environment, and I firmly believe this trend will continue, becoming the dominant model in the future. In the near-term I believe that we will see a steady decline in packaged software and a rapid rise in “app-stores” for almost all application areas. The CD will likely go the way of the 3 ½ inch floppy disk. Software publishers will be morph into online providers, and applications will become smaller and more specialized. In addition, I see the overall number of application providers growing exponentially as pad computers take more market share. I also see a rise in cloud-based applications, especially business and productivity applications, where access to the software and related data and files will be delivered on-demand, for use on any device in any location that supports web access. The cloud will provide the computing power and storage now provided by PCs and laptops and end user devices will only need to wirelessly interface to the server in the cloud. Licensing will change from a device-based model to a user-based model, where organizations will purchase blocks of authorized or concurrent users and user or subscription compliance will be monitored and controlled by the app provider in real time.

What customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Mobility and access to data wherever the user happens to be located will be the key drivers. In the future I believe computing will be dominated by the next generation of pad computers that will be used for virtually all computing functions, from communications to games to workplace productivity. That evolution will require near real-time wireless access to data and files. Whether used in conjunction with public or private clouds, end users will employ their pads as universal access devices. Software companies will need to develop and provide products that can operate in that environment and communicate with the new devices, which I believe will be as ubiquitous as laptops are today. Moreover, their software will need to support multiple CPU and chip designs as well as multiple operating systems. Technology from companies like ARM and NVidia will be commonplace in the pad devices, and will likely sit alongside chips from Intel or AMD. Users will have a choice of systems running on operating systems from Google, Microsoft and Apple, along with yet-to-be identified entrants. End user licensing practices will change from counting copies to counting users, either in the aggregate or as concurrent users. In addition, new partnerships will develop between and among software publishers and telecommunications companies to insure that the software is compatible with any telecom standards or bandwidth limitations or restriction. Software may become lighter with specific functions accessed as needed. Storage limitations will also come into play, as the pads will not utilize hard drives and local storage will be far less than what is available on a laptop. Effective use of remote storage will become a requirement. Mobility requirements and a new computer form factor will invariably reshape the business as we know it today.

What will the software industry look like in 3, 5, 10 years from now?

The software industry's evolution can be defined by distinctive events. Given the relative adolescence of software, the distinctive trends and events appear rapid and ubiquitous. However, the popularity of the "cloud" and "software-as-a-service" defining the current era represents a defining step for the next burst of development. CRM, ERP and collaboration applications have successfully migrated to the cloud, and as such virtually all software applications are being forced to consider a rebirth of their delivery, development and value models in response.

Perspective has a tremendous impact on the adoption of cloud application delivery. Having begun my career as a technology consultant and then moving into technology leadership positions within Fortune 50 companies, I have experienced the difficulties of adoption and am not immune to the complexities of software development. With ZirMed, I have experienced the ability to subtly shift revenue cycle management for healthcare to the cloud and deliver a SaaS application on a rapidly growing scale. The US healthcare sector has historically been a laggard in terms of technology adoption and has defied many ASP and cloud delivered services. Healthcare providers must weigh their significant security and privacy concerns along with the availability and maturity of the software providers. Only recently have healthcare providers begun to broaden their consideration of SaaS beyond revenue cycle to include clinical applications. These trends are defining the next versions of medical applications.

While much of my energy and time is consumed with evaluation of how to use software to provide a knowledge platform and achieve efficiencies within our business, an equal amount of effort is consumed considering the impact of the shift to the cloud within healthcare in general. Healthcare produces enormous amounts of information specific to the patient, provider and disease/treatment which can drown users in data. It is a quick extension of these trends to see that the ability to distill and streamline information is fundamental.

Despite the obvious value of processing, coordinating and analyzing information that affects the health and wellbeing of our population, the infrastructure is not established to facilitate the structuring and combination of that data to empower its use. With federal stimulus investments and regulatory nudging, the healthcare sector will be investing heavily in technology over the next three years. For all the popular reasons driving consideration of cloud SaaS models, healthcare buyers will be migrating software purchases to these models. However, significant movements of off-premise data will naturally lead, over the longer term, to necessary investments in data collaboration and sharing between SaaS applications for analytic and disease management purposes. This movement has already begun, and ZirMed has been able to take advantage of the ability to deliver business analytics efficiently and effectively because the breadth of our revenue cycle management applications spans the administrative and financial processes within healthcare. However, as clinical systems evolve, we are beginning to experience client demand to make our data available to combine with clinical systems for a more holistic view of the business, and we anticipate that this trend will continue for the foreseeable future.

And, what customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?

Business efficiencies and cost control are not the factors impacting the design, development and deployment of SaaS applications. Rather, it is the experience – user experience and patient experience. Particularly in healthcare, workflow

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considerations are fundamental. Software design must be both adaptive to existing processes and flexible to evolve with changing best practices. Corporate purpose must influence the application design and system architecture; however, the user must define the interface and intuitively navigate the software.

Healthcare is not dissimilar from other industries in that software purchasers aren't always the end-users; however, customer demands for intuitive and simply designed software targeted to the specific user has a heightened importance within healthcare due to the high training costs and risks associated with misusing software.

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