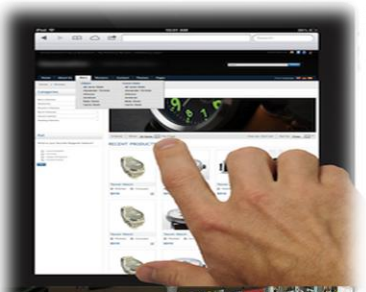

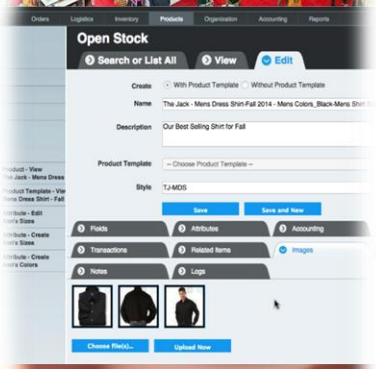

Modernization of the Midsize Business

How Small to Midsize firms can take advantage of the new world of software development

Dramatic innovations in technology are changing the way we work and how we interact. We live in a world of apps—quickly downloadable—and a web that connects us to millions of partners and customers through search and social. This is brought to us via a new software developer world which has new techniques and new platforms to work with. These provide end-users with fresh ways of working, engaging customers, and making the enterprise more productive.

New tech companies and new applications are changing the status quo in the enterprise market. They have democratized technology, bringing small companies access to capabilities that were only affordable and accessible to large companies in the past.

In this article, we will explore the dramatic changes in the enterprise software world. What are the characteristics of these new applications and the companies who leverage these new approaches? We will show why this matters to the enterprise. What are the differences in costs between the old world and the new, and how do they benefit purchasers of new technology? And finally, we'll look at some instructive examples of how these applications are built and used to make the enterprise more productive and competitive.

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Transformation of the Enterprise System

When users hear terms like *enterprise software*[1] it conjures up visions of long—and late—projects with complex technology to implement. Mostly it conjures memories of disruption and the awkwardness of learning to use densely packed data input screens and different procedures.

Small businesses just don't have the time or money to deal with all that. Most prefer incremental approaches that allow them to learn at their pace, with a high payback for the effort. Thus, many have avoided investing in full enterprise systems. They addressed the basics s with an accounting package and, in more modern times, with an ecommerce/online order management system, but the rest of the business ran on spreadsheets. Other bolder companies did take on the challenge and have implemented ERPs. However, even for SMBs, these projects could run six months or longer and cost $100k and more.

Lately, though, small businesses have been the biggest purchasers of software, acquiring mobile tools and web-based enterprise products. In our research, we found that companies are migrating to SaaS platforms for sales, supply chain, finance, and ERP. In Figure 1, you can see the growing preference for SaaS, with more small companies than large choosing SaaS. Why is this so?

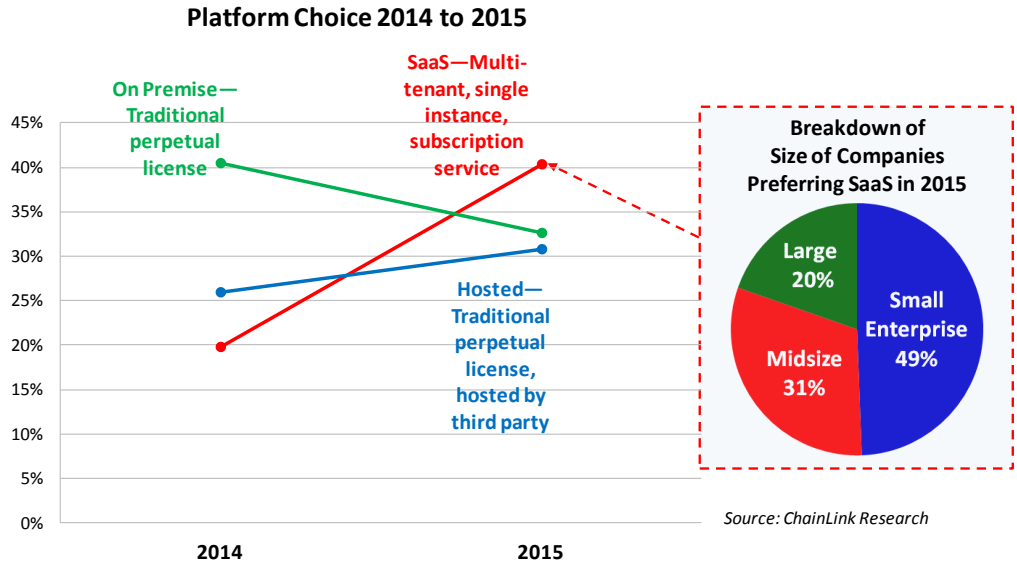


Figure 1: The SaaS Preference

In the last few years, due to the dramatic innovations in technology and cloud delivery models, a new era of enterprise software has arrived. These new developments make technology accessible even to the smallest businesses, allowing them to be part of the global digital market place. That opens the door to new business opportunities and *growth.*

Many of the newer tech companies are leading the way in the cloud. They are often founded, not by ingénues, but experienced software professionals who saw a better way. Some were part of the old software world and experienced their customers' frustrations with technology. They also had to manage

[1] The enterprise software market includes applications such as finance and accounting, ecommerce, supply chain, inventory management, sales force automation, ERP, Manufacturing MRP and MES, and other modules than run the enterprise.

the burgeoning costs of operating a software team or company using outdating technology and customer service methods.

In ChainLink's ongoing research in the technology market, we meet many companies and track them through their development. There are a lot of apps on the market that leverage new mobile and web technology. Many of these are of limited scope and limited ambition. Others have bold and passionate visions. BizSlate is a company, for example, we have been watching since it was founded in 2011. We have seen it evolve and grow over the last few years. They set the paradigm for this new way of working. Taking a clean *slate,* they wanted to turn the enterprise software model upside down—making the system truly support the user.

Cloud and the Consumerization of Technology

Technologists, through innovations such as highly visual and elegantly simple user interfaces, have dramatically lowered the barrier to technology adoption. Google, Amazon and others led the way demonstrating that extremely powerful systems could be developed in ways that require no user training.

Today we use the phrase: *the consumerization of IT*. It represents new design principles with simplicity in mind, yet still provides power and access to the world. It also represents a new adoption model with a new financial mode for the acquisition of technology—pay-as-you-go or subscriptions. These principles have been successfully applied to the enterprise world. On-premise systems of the past made users responsible for building, installing, managing the software, customizing it, writing a myriad of custom interfaces, setting up and managing trading partner communications, and then managing all the operations.

The cloud changed everything—on demand, instantly usable, and service oriented.[2] Let's look at a few of these key technology principles and how they are successfully applied to create an easy to deploy, yet richly functional systems.

UX—User Experience Design
UX is understanding and capturing:
- ***User stories****—the users needs, tasks, challenges, passions, pain points*
- ***Personas****—who is the user, the content of their work day, style of working, the information they require*
- ***Work context****—where and how the user will interface*

These become core to design requirements

UX Designers *are communicators—intently listening, absorbing, and translating the users' personas, stories, and work day for the development team.*

UI—User Interface Design
The UI is the implementation of the structural and visual components of the system. It includes the navigation paradigm, how data is displayed, workflows, look and feel, responsiveness (to different screen sizes), and so on.

UI Designers *understand the layout, touch, workflow management, and the variety of development technologies used to implement the displays and the framework that unites various tasks and process.*

User Experience

Many development organizations today are quite good at creating new screens, with touch and other techniques—the interface or UI. But they don't fundamentally alter the users' job or how they interact with the system—the experience, or UX. The old software development model was to cram in layer after layer (hierarchies) of tasks; however, each one unto itself often did not add much value to users. They were presented to customers and then users had to change how they did things to populate and maintain the system. Development teams are

[2] These are systems that provide preloaded data, trading partner integrations, workflows and other prebuilt services vs. bare software.

often at great distances from the customer and their development lifecycle has few check-ins to align with the users. Many tech companies talk about their new UIs, but they are focusing on the cool new tools. Though important, they still don't meet the mark if they don't focus and improve on how the user actually works.

Design that truly makes the work more productive and at the same time is very engaging cannot be created by slapping a pretty user interface on top of the old complex system. User engagement should not be undervalued, since companies need their employees to feel valued, enjoy their work, and also find that the system really assists them in doing their work better, faster, and smarter. Otherwise, adoption will be resisted. In addition, as the younger workforce rises in the organizations, those workers want to use tools at work that are as engaging as their personal technologies.

A user experience design approach adapts to existing behaviors and processes, making systems easier to adopt. User Experience professionals 'live' with the users, understanding their processes, pains, passions, and create the user's *story*. They understand how each unique type of user—the *persona*—engages with and uses the system. BizSlate applied User Experience design principles and spent hundreds of hours in the initial phases of product development, working with customers to understand how they work—immersing themselves in the arena of their customers' businesses—on site and on the road with 25 different businesses. They traveled with their customers to trade shows (a prime selling arena for wholesalers) and went out with their customers on sales calls and into logistics to gain a complete understanding of their users' ways of working, challenges, and needs.

UX is not merely a pretty face. It has profound implications for managing the business with a much lower Total Cost of Ownership for the enterprise—rapid time to value through easy-to-implement software and enabling much higher day-to-day productivity.

Pervasive computing

Today's professional is mobile and global. They can be anywhere at any time—at the customer, at a trade show, in the office, or at a luncheon. The enterprise is not tethered to a desk; thus, the BizSlate system is not either. It is designed for wireless devices (tablets, smart phones) and for remote locations—yet has the same look and feel across all of these. Wherever they are, professionals are connected to customers, to the business, and to information such as sales, orders, inventory and shipments.

Multi-tenancy

Cloud delivery models have changed from hosting to a shared model—multi-tenant. The single code base radically changes the development environment and costs for the tech firm. It transforms the development organization's focus, customer-centricity, cost of support, and the time-to-market of their products.

A single code base development environment has the *innovation acceleration advantage.* Developers actually yield a *higher output per dollar* because the whole development team is working off a common architecture. They are not struggling to deal with multiple tools that are difficult to harmonize across disparate software products. Furthermore, the release cadence (frequency of software releases) is generally much quicker for single instance software than for the traditional on premise model. Users get a continuous stream of *incremental* innovation throughout the year, rather than waiting years stuck with older technology before going through another painful *major* upgrade to their system.

The common framework often also means developers are knowledgeable about the whole system and the implications of how a change in one function might impact or benefit another. This means that innovation can be leveraged across the whole platform quickly, not just in one module at a time, which can keep customers waiting—maybe for years—to see the promised innovations show up in some 'future release'.

System-wide search

Another concept we are all familiar with is search. Search engines have changed the world of business. Only now are powerful search methods being embedded within enterprise systems. Beyond marketing, search is being deployed to make the computer a real *helpmate*, reducing the administrative paper chase—the burden of constantly trying to find documents such as sales orders, agreement of pricing, purchase orders, and so on.

Multi-tenant, single instance*—one codebase (single instance) use by multiple different customers (tenants) with security that keeps them from accessing each others data.*

Single-tenant (a.k.a. multi-instance)*—unique executable instance per customer, resulting in multiple instances of the software (and often, though not necessarily, many different revisions of code). May be a hosted cloud subscription model or on premise model.*

Hosted*—the customer owns a traditional perpetual license, but off-site hosting of the software is provided by the software vendor or a third party hosting company.*

On demand*—the ability to 'sign-up' and go live very rapidly with cloud applications, often without requiring a long-term contractual commitment.*

On premise*—traditional licensed software running on systems owned and operated by the customer, typically behind their firewall; customer is responsible for software, hardware and support.*

Faceted Search

Provides searching by 'facet' or attribute. Multiple attributes can be simultaneously specified to narrow the search criteria—such as customers in New York City, within a range of sales. Multiple values of specific attribute can make the search more inclusive—for example search for Autumn Red or Sunset Gold sweaters for the fall collection. This example allows users to search for these items as well related documents and data, such as customers, sales order or channels where those color sweaters were sold; or pricing and promotions of those sweaters and so on.

BizSlate allows 'relaxing of constraints' in the search, so users do not have to remember the exact name or SKU number (for example) of products to find them.

BizSlate has created a combination of parametric/faceted search techniques which allows free form and structured search approaches. This frees users from have to know exact product names or numbers, customer numbers and so on, and gives them the ability to find all the related documents associated with customers and suppliers.

These are just a few innovations that companies like BizSlate are employing. Modern development organizations do create much more usable and expansive systems that provide engaging yet productive environments for their customers.

Why Does All This Matter?

Technology is only useful if it truly benefits the user. For BizSlate, in particular, small business is their prime focus. There are many other enterprise software companies in the market who sell to the SMB (Small & Medium Businesses). Lately the sales pitch is often that mid-market companies are just as complex as the large enterprise. This is frequently true, but is often a justification for trying to sell their *overly* complex software.

Yes, the software should be complete, compliant, and *expansive*—with more features and functions for the users to grow into. But complexity should be what techies call *abstracted,* that is removed from the user. Great design actually reduces complexity. Automation should work for the office worker—not just the factory worker—automating tedious tasks and making complex ones easier.

To make this concrete, let's look at a typical wholesaler business environment.

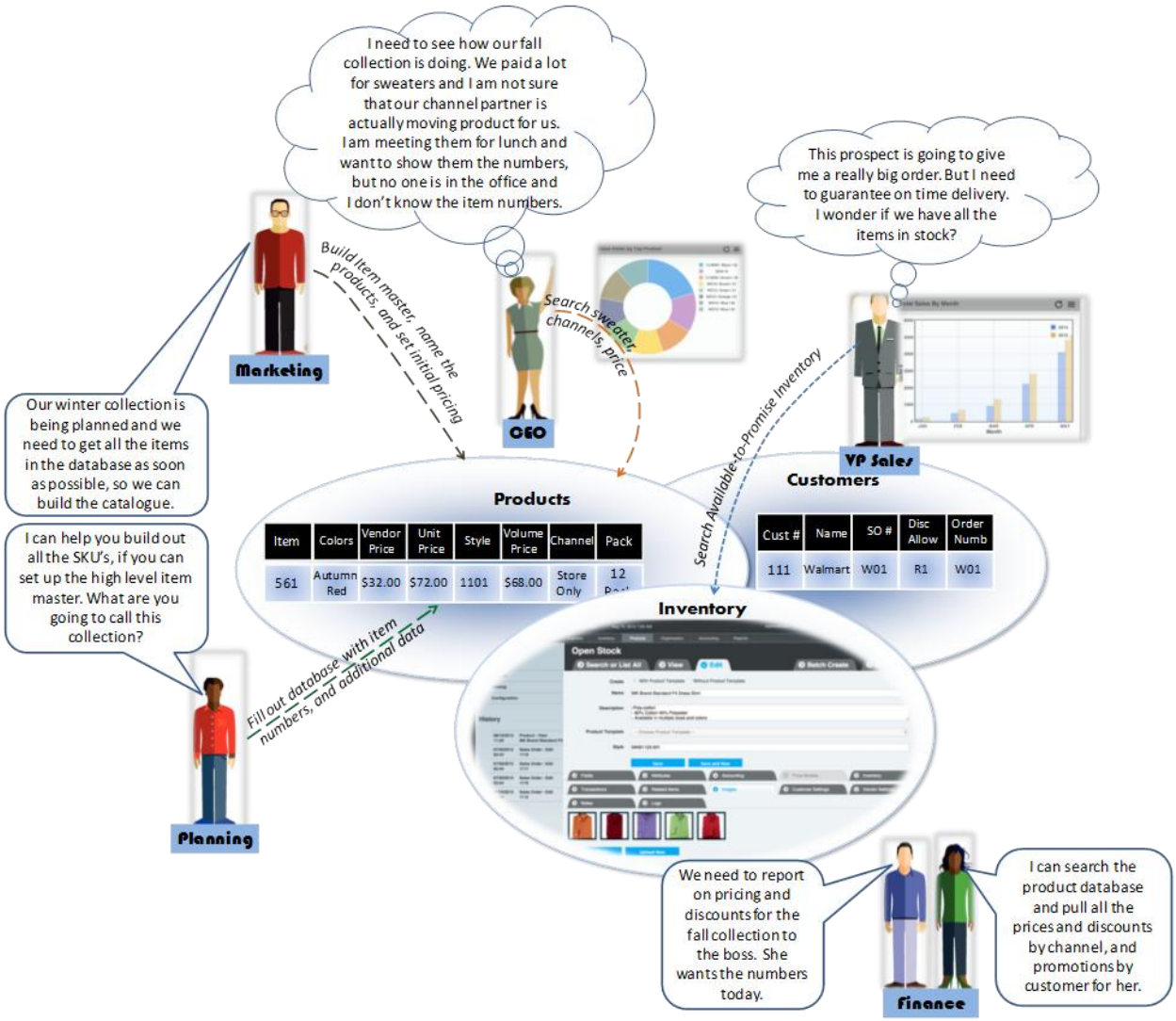


Figure 2: Day in the Life…

In a typical business day, multiple individuals and departments have diverse and yet integrated activities. BizSlate's approach to the business is a data-centric organization focused around key drivers of the business—like products, customers, etc. A product has a lifecycle. It is a design or item coming from the vendor via procurement; it becomes inventory—an item in stock; and then it becomes a sale and so on. The product has a cost and a price. The price generally changes as the product is listed, discounted, promoted and so on. Products also have many other attributes such as sizes and colors available, variable pack sizes, dimensions and weight, and other product-specific attributes, creating huge data sets to manage and keep accurate. All of this data is managed with a common look and feel, allowing users to flow from tasks such as creating the product name and numbers to applying prices and discounts. Each *persona*—sales vs. finance for example—then can access, update, search, and report on the exact same data in real time.[3]

Sounds simple, but ironically, some of the richest enterprise software firms cannot offer this straightforward approach. Their software was built on older generation architecture, with multiple file structures. Additionally, they are often bogged down by multiple acquisitions that are not truly integrated. That means to perform some of the queries in the example above requires integration code between modules (often purchases of several unique modules and going through data mapping and translation exercises) to share data between modules to keep databases in sync. Business intelligence (BI) software is also needed to integrate the separate modules to create reports.

Pricing is such a good example, since this is vey problematic in many software offerings. Pricing and promotions are often sold as different software modules and it is not so straightforward to determine things like margin per product, by customer, or by channel without going through some programming cartwheels.[4]

In contrast, the data-centricity and user experience design approach of BizSlate allows users a seamless way to create new products, apply mass pricing, search for channel-wide sales data, or find just one specific customer, all using the same consistent user interface. This ensures that the entire organization always has the same single version of the truth—from purchasing and allocating inventory, setting prices, to checking status, to reporting results.

[3] No latency waiting for nightly or weekly batch updates that synchronize different databases.
[4] These become custom reports often requiring IT involvement which can add months or even years before the capability is available.

The Democratization of Technology Cost

One of the most stunning changes in the enterprise market is how customers pay for software. The old model of spending money up front, months or even years before any benefits are accrued, is quickly becoming obsolete. The ROI (return on investment) model is being replaced by RBI (return *before* investment). This is not just some clever play on words. In a subscription model, users are often *gaining the benefits far ahead of their payout for the cost of the software.*

Perpetual License*—a contract that entitles the customer to perpetual use of a specific release of the software. The license is perpetual, but the software is not! In other words, maintenance fees are required to acquire updates. Limitations include possibly paying for software modules that might not be used, as well as maintenance charges that most customers must pay for to get ongoing support and software enhancements.*

Subscription*—entitles the user to use of the software and periodic updates over the term of the agreement. There may be additional charges such as the up-front payments for onboarding and implementation services to enable the customer to go live into production. Some providers charge a flat fee, some charge variable fees, and some don't charge at all for these startup services.*

Traditional ERP vendors have been making a lot of noise about their SaaS/cloud offerings recently. But most of these ERP providers have just taken the same concepts and complexities from their on-premise approach and ported them to the cloud. Development efforts for this migration have cost big ERP companies a lot. They are spending anywhere from $400M to over $2B to transform their codebases and put the required infrastructure in place. Those costs ultimately will be passed onto customers.[5] Most of the Big ERP solution providers will also still maintain their traditional on-premise products, in addition to their newer cloud offerings. Maintaining this multi-platform, multi-delivery-mechanism approach costs a lot of money over the long run, which has to be reflected in customer pricing.

Young enterprises like BizSlate, on the other hand, are starting with a clean *slate*. They have just the single codebase to manage. This provides an economic advantage to both developers/support organizations and to their customers. Customer-centric cultures, like BizSlate, really go to the next level in how they price—sharing their development and operating cost savings with their customers instead of looking at cloud as a profit windfall.

Cloud helps companies avoid many of the expenses normally associated with owning the technology. Figure 3 compares the license/on premise costs vs. SaaS/multi-tenant. But it is not just *what* you pay for but *how* you pay for it that is different—that is a lump sum upfront license cost vs. ongoing subscription costs. The subscription approach is a huge benefit for small business, allowing them to preserve cash while having the benefit of the most advanced technology, continuously updated over time.

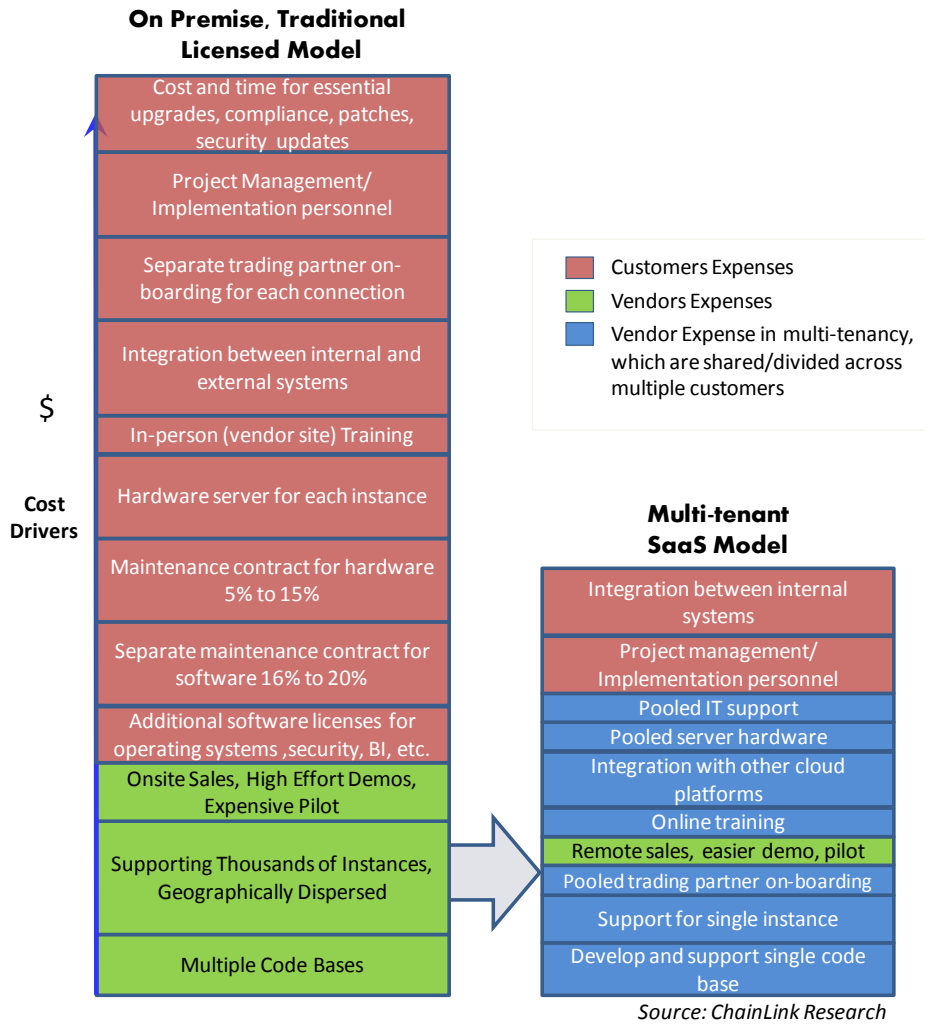
In an on premise or hosting model, there are other costs that need to be considered:

Support—Software companies typically charge high support fees, ranging from 18% or as high as 29% annually. Many of these firms are highly dependent on these fees to continue to exist and maintain profitability. Some users pay these fees to mitigate the risks. However, small businesses often decline to purchase support due to the excessive cost. Furthermore, even paying for support does not entitle the

[5]Many of these firms do offer a more attractive pricing for their cloud offering than their on-premise offerings, once total cost is factored in.

customers to get the latest revisions of the software. With major changes to the software, the vendor will still require a new purchase—users must pay additional costs to install and upgrade to newer revisions. Ouch! Modern cloud players include the upgrades and support in the flat monthly, quarterly, or annual fee and the software is managed and upgraded for them. BizSlate has decided to also offer 7X24 phone support, i.e., real US-based people, for free as part of their package. That is a rare move amongst software providers, SaaS or otherwise.

Implementation Services—Past models of enterprise software created a whole industry of big hardware and consulting firms. The services of these companies were required because the software was *so* complex, especially as enterprise software vendors continually added functionality, swelling with more and more complexity in each release. Consultants continue to recommend these complex systems since it provides them more revenue than cloud implementations. And they have existing 'bench strength'—a workforce they need to keep billable—with experience implementing these on premise behemoths. Yet even with their workforce trained on those enterprise systems, the fact is that on-premise projects get delivered on time *less than* 50% of the time![6] In contrast, cloud projects report on time metrics[7] between 70% and 99%.[8] Since so many customers have had these negative experiences, they often avoid upgrades, because with



Source: ChainLink Research

Figure 3: On Premise vs. SaaS Costs

[6] According to *CFO eBook—Midmarket ERP Buyers Guide*, only 47% of on premise implementations are delivered on time. The numbers from ChainLink's own research vary from year to year between 40% to 50% for on time implementations for on premise

[7] One of the issues here beyond complexity is the user just can't see or use the system until it is built, so early training, data cleansing, and other critical go-live activities are delayed. With cloud systems you can see it all and with some clouds—like BizSlate—you can begin populating and using the system in just a few days.

[8] Source: ChainLink Research

each one comes the entourage of consultants, more time and expenses, and real disruptions to the business. You may wonder in all this: *who is my advocate? Who has my best interest at heart?*

The business world marches on, and companies lose out if they are not current on all those pesky things like changes in tax laws, compliance, security, as well as modern digital interactions with customers and trading partners. They can't afford to be stuck with yesterday's systems and capabilities.

This is one reason ChainLink is so bullish on the new generation of cloud solutions. Not only is the delivery model so different, but the cultures of these companies is also different. As the cloud market evolves, newer, more innovative and competitive approaches are being offered. For example, BizSlate is priced for a small business,[9] without the hidden additional service charges. Support and maintenance are included in the annual subscription fees.

Conclusion—Living in the Digital Universe

This article has been fairly technology oriented.[10] But as a buyer, it is critical to understand the foundation of what you are buying and why one solution provider may be different than others. And if the developer did it 'right,' with a productive and scalable SaaS architecture and continuous-upgrade delivery model, much can be expected over time. If the architectural approach fails this test, it means over time the solution will fail to keep up with needed functionality and innovations.

In today's fast changing world, keeping up is key for the business. It seems, in fact, that business flexibility and agility are some of the value propositions that need to be more fully considered in many of discussions and decisions when purchasing enterprise software, particularly when it's the core software that you will run your business on for years to come. Business change is an ongoing issue—especially for those who have rapid product turnover, seasonality, and many channels to support. Agility, the ability to absorb change easily and rapidly, determines how well you can overcome obstacles and seize opportunities. Traditional on premise approaches can dampen agility by creating many obstacles to change: legacy code that has to be replaced, investment in new hardware that depreciates working capital that is tied up in technology and support staff, and the amount of time required to manage and implement the upgrades. All of these suffocate agility.

A *continuous deployment model* that is a core part of the support model of cloud providers like BizSlate, on the other hand, delivers steady incremental improvements, easing the inevitable changes needed for a business to keep pace with their markets, customers, and trading partners. Thus, the technology foundation of a business *can become the driver of business opportunity and growth.*

[9] http://bizslate.com/press-releases/bizslate-awarded-top-20-most-promising-erps-for-2015/

[10] In our next article we will focus on business benefits in this new world.

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