Dispelling Myths of Financial Accounting Applications in the Cloud

White Paper

March, 2011

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It has been my business for 27 years to serve the financial and business management software needs of small and mid-market organizations. In doing so, I am professionally invested in the evolution of services and products and in identifying the best-of-breed.

The relatively new Cloud Computing delivery of software via the Internet has left many business leaders with fear, uncertainty, and doubt surrounding processing data via the World Wide Web. My goal here is to shed light on several of the most prevalent myths surrounding Cloud Computing and to identify what I believe to be the best Cloud vendor of financial management and accounting software in the marketplace.

Simply, Cloud Computing refers to running software applications via the Internet, on a shared pool of computers that are hosted in large, professionally managed data centers. Usually these applications are rented on an as-needed basis. This model is called “Software as a Service” (SaaS). When you need the software, you use a web browser to access it via the Internet. Everything else, from maintaining the computer infrastructure to keeping the applications updated, is done by the software vendor. The end result is that you are able to significantly reduce your internal computer infrastructure and stop worrying about network glitches and servers crashing. You will no longer consume large amounts of electricity that running your own system requires — or produce the wasted heat that must be cooled and removed from the data center. You will also spend less time worrying about your systems and more time working on your business. Cloud Computing provides an alternative to the endless cycle of purchasing and maintaining more and more hardware and software.

Myth: The concept behind Cloud Computing is totally new.
Fact: Actually, it’s been around for centuries.

The concept behind Cloud Computing is essentially outsourcing. Outsourcing critical business operations to outside specialists is not new—rather, it has been going on for centuries. Think about it. What do you do with your money? Although you could keep it in a safe in your office, instead you put it in a bank because it is more secure there and it makes it easier to do business. Do you generate your own electricity? You could. Instead, you pay the utility to do it because it is more reliable than doing it yourself, and it is cheaper because of economies of scale. You share the bank and you share the electrical generators at the electrical utility with thousands of other businesses. The bank and the utility company provide multi-tenant services. Because they specialize in providing their respective services, they can do it cheaper and better than you can. In this way, Cloud Computing is another evolutionary service that is better provided by a specialist.

Myth: Complex data centers are required to run my business applications.
Fact: All you need is a browser.

For years, business people have been taught that a large, extensive computer infrastructure is needed to run business processes and that each application needs its own server. Then, additional servers need to be purchased for domain controllers, mobile applications, communications, backup,

redundancy, and on and on. It can seem endless. As the number of servers increases, so does the need for more sophisticated data centers with uninterruptable power supplies, generators, and other expensive backup devices. Multiple servers throw off heat that often requires powerful cooling systems to keep the data center from shutting down.

To help check the explosive growth in the number of computer servers that are needed, a trend towards “server virtualization” developed. Server virtualization condenses multiple server applications onto one physical machine which allows the server to perform multiple tasks and better utilize the server’s resources. However, virtualization requires even more sophisticated and expensive software.

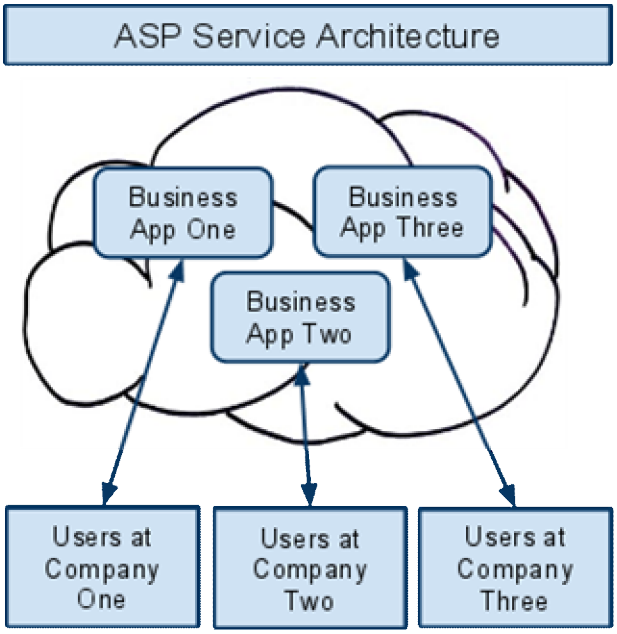
As the size and complexity of your data center increases, so does the need for highly specialized information technology personnel who understand and can maintain the systems. Their expertise is expensive and must either be employed or provided from outside consulting firms. Setting up, installing, and configuring this hardware and software is only the beginning. An endless stream of updates, fixes, service packs, and enhancements need to be regularly applied. All of these activities require additional effort to keep the system maintained, more downtime whenever they are applied, and higher cost. With Cloud Computing, however, all you need is a browser.

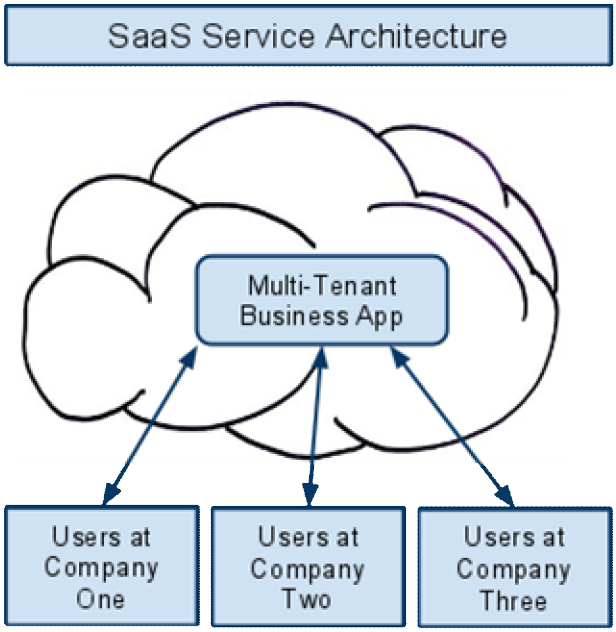
Myth: Application hosting is the same as Cloud Computing.
Fact: Hosted applications are expensive and require considerable maintenance.

To reduce the time and effort expended on building and maintaining home-grown data centers, many companies have turned to Application Service Providers (ASP) to host their business applications. Applications are accessed over the Internet using a thin-client technology such as Microsoft Terminal Services, Remote Desktop Services, or Citrix MetaFrame. The ASP maintains the equipment, performs backups, manages the servers, and provides other services that enable you to run the application.

The downside to the ASP model, however, is that it still requires that individual copies of software be loaded off-site on the host’s computers. Since the software is executed in a one-to-one relationship, each company must purchase and install a copy of the software on the hosted server. Each company using an ASP is still primarily responsible for maintaining the software with upgrades and enhancements. As a result, the only advantage that the ASP model accomplishes is that the server is no longer in your office but is now at an off-site data center.

Cloud Computing applications, on the other hand, use a different model known as Software as a Service (SaaS). Instead of purchasing the software application, it is rented for a monthly, quarterly, or annual fee. Included in this fee are software updates, enhancements, fixes, or other modifications that the vendor provides. Secondly, true SaaS applications are multi-tenant, that is, all of the users in all of the companies that are using the application are sharing the same instance and version. Additionally, when enhancements and upgrades are applied, they are installed simultaneously to all users. You can now forget that familiar support question, “What version are you on?” No longer do you have to schedule downtime for upgrades, fixes, and service packs. The responsibility, money, time, and effort of upgrades are shifted from you to the vendor. Best of all, it’s included in the rental fee.





There are cost, efficiency and environmental advantages to the multi-tenancy aspect of SaaS applications:

- **Scaling.** As your business grows or shrinks, you only need to purchase the number of application users you need. You never have to add additional servers, expand the servers you have, or otherwise change your computer infrastructure. You are relieved of the need to build and maintain more sophisticated data centers.
- **Resource Pooling.** In a SaaS environment, all of the servers at the hosting site employ special software to automatically balance the load among the servers. Everything is shared among the servers including storage, processing, memory, applications, and users. It is probable that each task within an application is performed by a different server. Even moving from field to field on the same screen may be shared among multiple servers. Pooling resources results in the ultimate form of speed and efficiency.
- **Shared Resources.** Since all users from all companies are using the same systems, servers no longer sit idle most of the time. If you have ever looked at the task manager on your servers, you will notice that the task called “system idle” is consuming most of the processor’s central processing unit (CPU) time. In a multi-tenancy environment, the processors are being fully utilized.
- **Green Effect.** Because the computing power is concentrated in a smaller space and distributed to more users, fewer computers are needed. As many as twenty-seven servers at several individual companies can be replaced with one or two in a well-managed, multi-tenant environment. According to their executives, Intacct uses about 120 servers to run their financial software for over 18,000 users, and Salesforce.com employs about 3,000 servers to service 70,000 customers. When considering the savings in hardware, electricity, cooling, and disposal of all of those servers, the cumulative benefit is enormous.

Myth: The Cloud is not secure enough for running financial applications.
Fact: Transmitting data using Cloud Computing is more secure than most traditional, on-premise software.

One of the first objections to Cloud Computing is, “I want to keep my computers and data on-site because putting it on the Internet is not secure.” That is an understandable concern. We have all heard the stories of hackers stealing credit cards, identity theft, viruses bringing down computer systems, and so forth.

However, without going into a detailed discussion of various security techniques, it is essential to recognize that most security breaches occur by unauthorized access to data stored on a computer’s hard drive. Have you considered how many people have access to your data center? Are all those people reliable? Did you do extensive background checks on every one of them? Are the background checks repeated periodically? What happens if someone outside of your organization breaks in and steals your computers? And what about your backups--are they in a secure location?

Transmitting data to and from your browser and the data center in a Cloud environment is very secure. Data is not stolen during the transmission from one computer to another if it has been properly encrypted. Intacct, for example, uses 128 bit encryption keys to secure all of the data coming into and going out of its data center. It has been estimated that in order to break a 128 bit encryption key, it would take the fastest computer longer than the age of the universe to systematically break it down.

Intacct achieves physical security by utilizing data centers that were built by and are owned by IBM. They are surrounded by several layers of security protection including chain link fences with razor wire. They are patrolled at all times by armed guards. Access to the data center can only be gained through several layers of bio-metric password security. Extremely sophisticated anti-hacker techniques are employed to protect the data within the data center. Obviously, the level of security Intacct provides far exceeds the capabilities of most home-grown data centers.

Myth: Cloud Computing is more expensive than owning an on-premise application.
Fact: Once you look at all the hidden costs, Cloud Computing is more economical.

How do the costs of a SaaS application compare to an on-premise solution? Below is a sample of a real-world comparison between Intacct, a leading Cloud financial accounting application, and a typical ten-user, on-premise financial accounting application such as Microsoft Dynamics. To use a traditional software application, you must first pay large licensing fees and then deploy new servers, backup devices, and network configurations. All hardware has a finite lifespan—usually about five years. In the comparison model shown below, the software and implementation fees are incurred in the first year, while the hardware costs are shown in both the first year and sixth year. It is assumed in this comparison that remote access will be required and that an electronic off-site backup service will be used to improve the chances of recovery from a disaster.

On-Premise System Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Application Server with operating system	7,000					7,000
Remote Access Server with operating system	4,000					4,000
Database Software (Microsoft SQL Server)	2,500					2,500
Battery Backup	750					750
Hardware installation and setup	3,000					3,000
ERP Application software purchase	25,000					
Annual ERP software maintenance		5,000	5,000	5,000	5,000	5,000
Off-site data backup contract	2,500	2,500	2,500	2,500	2,500	2,500
Hardware support contract	3,600	3,600	3,600	3,600	3,600	3,600
Implementation Consulting	25,000					
Implementing annual ERP upgrades		6,000	6,000	6,000	6,000	6,000
Ongoing staff maintenance cost - 25% of FTE	20,000	20,000	20,000	20,000	20,000	20,000
On-Premise Totals	**93,350**	**37,100**	**37,100**	**37,100**	**37,100**	**54,350**

A typical multi-tenant SaaS deployment, such as Intacct, usually requires minimal infrastructure costs assuming that adequate Internet access already exists. Hardware upgrades, remote access, backup, and provision for disaster recovery are already included in the cost.

Intacct Cloud Application Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Annual SaaS Fee	25,000	25,000	25,000	25,000	25,000	25,000
Initial Deployment Consulting	25,000					
Ongoing staff maintenance cost - 10% of FTE	8,000	8,000	8,000	8,000	8,000	8,000
Cloud Application Totals	**58,000**	**33,000**	**33,000**	**33,000**	**33,000**	**33,000**

In this example, the company would save a substantial $73,100 over the course of the six-year period—money that could be more productively invested in ways that would make the business more profitable.

Annual Savings of Cloud Application	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Total Savings - $73,100 over 6 year period	35,350	4,100	4,100	4,100	4,100	21,350

Myth: Cloud applications cannot be integrated.
Fact: Tools for Cloud applications provide seamless integration with other Cloud-based software and traditional on-premise applications.

Every business is different, no matter what software vendors try to tell you. And every software application needs to have some form of customization capability—from various setup options to custom coding. Because of the multi-tenant architecture of a SaaS solution, it is often incorrectly assumed that they cannot be customized around the needs of the business. However, SaaS solutions are highly customizable and provide strong integration tools.

Intacct, for example, uses an open architecture to make integration easy and cost effective, using standards including HTTP, XML, and SOAP plus web services and SOA to provide frameworks for other applications to communicate and interoperate over the Internet. The diagram below indicates some of the many applications that integrate with Intacct:

Intacct uses a best-of-breed approach to integration, versus a software suite approach. With best-of-breed, you use applications that are specifically developed for the purpose intended and provide seamless integration. On the other hand, with the software suite approach, software vendors often over reach by trying to include everything, often leading to mediocrity. It makes little sense, for example, to develop a new customer relationship management (CRM) package and add it to Intacct when many businesses are already using this leading CRM solution from SalesForce.com. Intacct's integration with SalesForce.com provides the ability to exchange customer and contact information, quotes, orders, product and price lists—essentially melding the two solutions into one package.

Myth: Cloud applications are not reliable.
Fact: Uptimes for Cloud applications surpass on-premise applications.

Obviously, with SaaS applications, the key to operational stability is reliable Internet access. This is the crucial requirement for a Cloud platform to operate. This network access has to be provided without interruption between the Internet Service Provider (ISP) and the final user. In the past, when Internet access was not as reliable, companies were afraid to trust Cloud applications. This stigma continues to make business executives wary.

If you carefully read most traditional, on-premise software license agreements, you will find that financial application software vendors don't offer guarantees that the program will be uninterrupted or error free. To some extent, this is reasonable, because the software vendor does not have any control over the hardware, network, or environment in which the software will be used. For the most part, after you purchase the software, any problems become your problem—especially if there are conflicts among the various and complex components that make up your system.

SaaS applications are different. First, the Cloud vendor owns and controls the systems which run the hosted software programs, so there is no one else to blame if there is any kind of incompatibility. Secondly, it is imperative that they perform at higher levels of service or customers will cancel their annually-renewable contracts. For this reason, SaaS vendors offer comprehensive service guarantees. For example, the Intacct service level agreement provides that their software is available 24 hours a day, 7 days a week, 365 days a year, with 99.8% system availability commitment.

Can you claim 99.8% uptime with your on-premise software? Every morning when you come into the office, is the system up and running? How often do you have to take the system down to install fixes, updates, service packs, or enhancements? And then there are those annoying "automatic" updates that get applied and suddenly you are surprised to learn that your system is down for the rest of the day while trying to figure out how that "minor" update managed to affect everything on the network. Aside from software, what about those annoying hardware glitches—crashed hard drives, failed power supplies, and tape drives that don't work?

Let's consider worst case scenarios—disruptions of service from situations beyond your control. This includes everything from a failed server to a major natural disaster. Do you have a plan in place for disaster recovery? When it comes to backup, most companies consider a full backup once a day to be adequate. But do you have a plan for what to do if fire destroys the data center in your office? What if a thief breaks into the building and steals all the computers? Suppose someone sets off the sprinkler system in the computer room and all those complex electrical components get drenched? Do you really need to lose sleep over all these "what if" scenarios?

In contrast, the development staff at Intacct does consider and prepare for these and many other scenarios and have earned the SAS 70 Type II Certification. Widely recognized in the industry, SAS 70 audits are conducted in accordance with American Institute for CPAs (AICPA) standards. The audits measure control over information technology and related processes and demonstrate that the service provider has effective controls, design, and operating effectiveness.

The IBM data center that hosts the Intacct applications is a world class facility. There are battery and generator backups in case of power failures and multiple layers of redundancy in everything from hardware to Internet access connections. Transaction log backups are performed every 30 minutes and daily system-wide backups-to-tape are performed and securely stored at off-site locations. In addition, transaction backups are electronically transmitted to SunGard, arguably the leader in disaster recovery services, every two to four hours. In a worst case scenario in which a catastrophic earthquake or a major disaster were to occur near IBM's data center, Intacct customers will be up and running with full functionality within 24 hours. Can you even imagine how long it would take your data center to be up and running if such a disaster happened to your company?

Focus on the Bottom Line

When comparing enterprise resource planning (ERP) software solutions, it is important to weigh all the critical factors. Geoffrey Moore in *Living on the Fault Line, Revised Edition* recommends

> "For core activities, the goal is to differentiate as much as possible on any variable that impacts customers' purchase decisions and to assign one's best resources to that challenge. By contrast, every other activity in the corporation is not core, it is context. And the winning approach to context tasks is not to differentiate but rather to execute them effectively and efficiently in as standardized a manner as possible."

In other words, focus on your core business activities and outsource those processes to those with the requisite expertise who are as dedicated to their core business and servicing customers as you are to yours.

About the author Larry Shafer founded Shafer Solutions, Inc. in 1983. Located in Baltimore, Maryland, Shafer Solutions specializes in identifying and serving the financial and business management software needs of small and mid-market organizations in the mid-Atlantic region. A graduate of the University of Delaware, he holds degrees in Mechanical Engineering and Business Administration.