

IS CLOUD COMPUTING RIGHT FOR YOUR BUSINESS?

The Questions you Need to Ask Before Implementing a Cloud Computing Solution

By David L. Murray, MBA

We hear the term cloud computing everywhere today. It seems like I cannot read any type of business periodical or technology blog without coming across an article about cloud computing. Gartner Research predicted: “By 2012, 20 percent of businesses will own no IT assets.”¹ Gartner’s did not validate their statement with regard to size of business or clearly define what they had in mind with the words “no IT assets.” None-the-less, I get the intention of this statement and I can identify with their prediction. Cloud computing definitely has some validity for certain business applications and business functions. But will Gartner’s predictions turn out right? Time will tell. In the meantime, the purpose of this article is not about the actual technology of cloud computing. Instead, the intention is to add some clarity around the business side of cloud computing and evaluate it as any other business decision using proper discovery and due diligence. Let’s start by getting some non-technical information in your hands to help.

What is Cloud Computing?

Before we move into the thesis of this discussion, I thought it would be a good idea to define a little more clearly exactly what cloud computing is. Cloud computing has been evolving for awhile now in various forms. The simplest non-technical and conceptual definition of cloud computing is this: ‘*Using an internet browser and some level of “bandwidth”² to access software applications located offsite.*’ In other words, computer users or employees do not rely on software that is installed on their PCs or on a server within the building they are working. Email services of Yahoo™ or Google™ are forms of cloud computing. Social sites such as Facebook™ or LinkedIn™ are other examples of cloud computing. And one of the leaders in the development of cloud computing has been Salesforce.com®, which is a powerful sales tool (CRM application) that can only be purchased on a subscription basis.

To add some additional clarity around cloud computing, we should also define several variations of cloud computing. The two most common are called “private cloud” and “hybrid cloud.”

A **private cloud** can be created for the exclusive use of a single company. That situation exists when a company locates hardware offsite (which can have its benefits as well as drawbacks) and the employees of the company are accessing the server remotely through their Internet browser. The most notable example of a private cloud is the adoption of Google Applications by the City of Los Angeles. In an effort to reduce costs, the city exclusively began using Google for its entire computing needs.³ In essence, Google created a private cloud for the city by locating the hardware offsite.

A **hybrid cloud** would exist in an environment where a company might blend the use of selected cloud services while maintaining in-house hardware to run other applications. Those applications might be ones where they are customized or could not be easily integrated with other solutions.

Although each solution has complexities, there is no doubt in my mind that cloud computing is here to stay. As we see a younger generation familiar with such cloud-based services as Facebook take on more business responsibilities, we will see more acceptance of doing business in the cloud. The key to success will be having a trusted advisor—such as a CIO, CTO, or outside consultant—who understands both technology and business functions that can help conduct a thorough analysis of your company.

The Business Basics of Cloud Computing

Now that we can conceptualize the definition of cloud computing, let’s begin to determine how cloud computing impacts businesses. Since most cloud computing vendors sell their products on a subscription basis, one of the most apparent advantages of cloud computing is initial lower costs:

- **No high capital investment costs for expensive infrastructure, such as servers.**
- **No initial licensing fees or annual support contracts.**
- **No ongoing hardware maintenance or support costs.**

Based upon cost alone, it would seem businesses should begin the migration to cloud computing as fast as possible. But we know better than that! Let’s make sure we conduct some due diligence before we begin that migration. Most

businesses have basic computing needs including email, word processing, spreadsheets, presentation software, and accounting applications.

Then, depending on specific business environments, computing needs begin to get more complex. This may include CRM applications for sales and marketing, ERP applications for manufacturing, CAD/CAM applications for engineering or design, and/or other industry-specific applications.

All of these examples are readily available today as cloud-based services. But there is still a lot of discovery to be done to see how those services will integrate into your business operations. This discovery stage would be no different than a business evaluating a capital expenditure for a new piece of equipment or a new facility lease. There are plenty of questions to be asked and answered.

Whether you are just starting out on your entrepreneurial venture or if you are a well established business, you need to engage an IT consultant or trusted advisor that can help you wade through both the business issues and the technical issues. Cloud computing is not simply about technology—it's also about business process and functionality.

The Moving Parts of Cloud Computing

We all know that one size does not fit all business needs. There are always various moving parts that business managers need to weigh when they consider any business decision. Cloud computing solutions are no different. In the case of cloud computing there are five moving parts that can be summarized concisely:

- ✓ **COST** – Or savings, depending on how one might be looking at the final evaluation.
- ✓ **SECURITY** – The risk of losing data or a fraudulent breach in the network.
- ✓ **BUSINESS RISK** – The risk of losing operational control and functionality.
- ✓ **SERVICE** – How the needs of the business are serviced by cloud computing vendors.
- ✓ **TIMELINE** – Time can change everything. What is risky today may not be risky in the future. What is a specialty today may be a commodity in the future.

Let's wrap our minds around some simple examples and definitions of these moving parts so that we can understand them.

✓ **COST:** There is no doubt about it: in business we are always looking for the best solution at the lowest cost. At this point in time, it is probably way too early to definitively say the cost of cloud computing is cheaper than ownership. At first glance it would appear to be that way. The entire world is tired of paying high licensing fees to software companies and in some instances getting little or nothing in return. We are anxious to find alternatives, which is one of the reasons cloud computing has become such a hot topic and trend. As we learned earlier, there are no large infrastructure costs with cloud computing. A company simply subscribes to the services.

Gartner's Research makes this statement: "Using cloud resources does not eliminate the costs of IT solutions..." Don't tell Google that, because they appear to have a goal of disproving—or at the very least minimizing—that statement. They offer businesses one of the lowest cost solutions for some of those basic computing needs we discussed above. But is it unrealistic to expect that a company can offer such low-cost solutions forever? Think of all the times we have seen companies start with too-good-to-be-true prices that they ended up raising. Time will tell.

There are other hard costs and soft costs to consider as well. Will additional bandwidth be needed to use cloud computing services? One good example might be where a company shifts its computing needs to the cloud only to find out that an important business function now needs to be done manually, which means paying someone to perform that function. The cost of computing will continue to exist in one form or another, even as cloud computing evolves. Businesses will pay someone for computing needs. It is important that managers and decision makers understand that a "subscription cost" will not eliminate other fees and soft costs associated with the service.

✓ **SECURITY:** In this day and age, the most valuable business asset a company owns is its data. All of that business data—invoices, drawings, spreadsheets, customer lists, lead lists, etc.—is a critical ongoing concern of the business. Once that data is moved offsite, companies expose themselves to a loss of control and increased security risks. Of course, there was risk of data loss when it was onsite, and the absence of any disaster recovery plan exacerbated that risk. Now the risks have changed shape and form. Most cloud computing providers that I have reviewed insist that your data is equally if not better protected in their data centers. There may be some truth and reliability to that claim, but it is too early in the evolution of cloud computing to confirm with 100 percent certainty.

Here's what I mean: with Google or Microsoft™, most of us blindly trust the fact that their data centers are secure and have redundant protection in place. After all, they're the big guys. However, we've never seen their data cen-

ters, and we have heard the horror stories of data breaches from both of these giants in the past. Now when it comes to smaller cloud computing solution providers, for all we know each of their data centers could be a closet or server room just like yours is now. *I don't know*. It is a question to ask and answer. The solution providers that read these words will probably send me irrefutable evidence that their customers' data is secure and protected from hackers. To be fair, some of them have a good point that your data being stored offsite increases your security. But what happens when there is a disaster at your provider's location? One question keeps gnawing away at me regarding the claim that data is safer: Are they really sure the data is safe?

Knowing who has the keys to your kingdom is an important consideration. Once your data is in the cloud it becomes even more important to ask questions about Internet browser security features, authentication rules when logging in, and a potentially higher threat from virus attacks. The important point is to use a trusted advisor who can help filter through security issues.

✓ **BUSINESS RISK:** What do I mean when I talk about *business risk* compared to security? I'm referring to operational control and functionality. If business data is the most valuable asset, then operational control is next. Loss of control or loss of functionality still concerns me when it comes to cloud computing. Many companies have built a business model around functional processes where certain actions are required in a defined progression. It is important to understand how cloud computing solutions might change those functions before hand, not afterwards. It is equally important to understand that cloud computing could result in a loss of control for the organization. Here are some bullet points for your trusted advisor to consider:

- Will using cloud computing increase or decrease cash flow? Can you afford to be fully reliant on a single vendor?
- How will you get your data back from the cloud if you want it? ...when you want it? ...in what format? ...at what cost?
- What happens if your business grows and you want to migrate to an in-house platform?
- If there is a disaster at your vendor's data center or if there is an interruption in Internet services, how will that impact operations?
- Will employees have decreased or increased productivity when applications are shifted to the cloud? Will the cloud solution change a critical function in sales, marketing, manufacturing, or distribution?

Perhaps the biggest business risk to overcome is the integration of data. How will you manage your business

when you need the data that is stored in the cloud to integrate with a CRM, ERP, or accounting package? Perhaps there may be two different solution providers that have the data. It is enough of a challenge to integrate data when your servers are in the next room. With cloud computing it may be even more complex.

There is an inherent business risk surrounding IT regardless of whether the solutions are in house, in the cloud or a hybrid approach. The job of your trusted IT advisor is to manage that risk. Much like a financial advisor, it is the IT advisor's job to work with managers in outlining the levels of risk each solution provides and to help your business design and implement solutions that meet your needs (and comfort level) regarding risk.

✓ **CUSTOMER SERVICE:** When your email does not flow correctly or when you can't print a spreadsheet, have you ever spoken to anyone at Google or Microsoft for a resolution? Even as cloud computing solutions improve over time, there will always be a need for customer service. It would be naïve to think that cloud-based computing will eliminate end-user incidents, questions, or requests for information. Understanding the level of service provided will be an important discovery item. There will be customer service issues related to each of the business risk issues discussed above. Today, both small businesses and enterprise businesses provide IT help for their employees. That's either through a help desk or contracted service company. Those help desk issues will more than likely still exist after you have shifted to the cloud. A trusted IT advisor can help you determine if you will be able to overcome customer service obstacles.

✓ **TIMELINE:** Time is our final moving part when considering cloud computing. Technology has a way of making advances like no other industry. As we go down this timeline things will change. No one knows for sure how this will unfold. Here are some important considerations on this evolution:

- What is the life of the infrastructure you have now? If you have servers that still have extended warranties, there is no need to rush to the cloud. Take the time for due diligence so you can make the best decision for your company.
- Will time improve data transmission speeds?
- Will time improve availability and reliability?
- Will time demonstrate that cost, data risk, business risk and customer service have all been satisfied?
- Will time flush out marginal vendors who might have your data but do not have the financial stability to survive over a longer period?

Consider how cloud computing might have an impact on one of more of the moving parts.

Situation 1 | You have placed your email and calendar services in the cloud. You get a call from a customer who says you have never responded to his/her email. You respond in disbelief and tell the customer you will research the issue. In today's IT world there is a very good chance that your IT support team can retrieve that email quickly and discover why and where emails are being held up. In the cloud computing world you may have no one to call, and you may never discover the root cause, leaving yourself exposed to future lost emails.

The impact | You lost data. If the problem occurs again, you may experience business risk as the customer may lose confidence in you, and you received no customer service in addressing the problem.

Situation 2 | You have subscribed to a cloud computing spreadsheet application. One day an employee walks into your office and says that s/he accidentally deleted an important spreadsheet. Most cloud computing solution providers can probably retrieve that file—or at least they should be able to do that.

The impact | Clearly this issue will center on customer service and cost. How do you recover that lost data? How quickly will the company respond? How quickly can they retrieve the deleted file? How much will it cost to provide that service?

Of course, these examples are purely hypothetical. Businesses will find personalized solutions for each, once they have thoroughly explored their options with a trusted IT advisor. The purpose of these examples is not an attempt to discredit cloud computing as a viable solution. The purpose is to consider and resolve the potential conflicts before committing to a solution in order to reduce risk.

Each of us has our own level of aversion to risk—some are early adopters of technology and others are more inclined to let others go first. Cloud computing must not only be about technology, but it also must be about business solutions that will work for you. Even though cloud computing has been around for awhile, it is still in its infancy. Time is on our side for making good business decisions.

Conclusion

It is easy for some of us in the technology world to quickly see the advantage of new trends and want to rush to adopt those brave new solutions. I believe the place to start is where all other business decisions begin—by discovery. According to Gartner's Research, "Several interrelated trends are driving the movement toward decreased IT hardware assets, such as virtualization [and] cloud-enabled services."⁴ As a business person, after reading that statement you may have stood up and cheered, because you do not want to think about that closet or server room with tons of technology that no one understands.

"Decreased hardware IT assets" sounds like good news, but the reality is that there will probably be some minimal need for in-house IT for awhile. Companies need to rely on their trusted IT advisors to help them sort through the maze of choices. When we address cloud computing in this sense, we should know that we are doing the same for IT that we would do for any other major business decision. After all, business does not serve technology. Technology should serve business. ■

¹ *Gartner Newsroom*, January 13th 2010, <http://www.gartner.com>

² Bandwidth is data communication resources and transmission speeds obtained from a telephony or ISP resource.

³ *InSecurity Complex – CNET News*, August 20, 2009, Elinor Mills

⁴ *Ibid* 1

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