

Is the Answer

Cloud Computing Holds Promises for Springmakers

by Gary McCoy



in the Clouds?

Knowingly or unknowingly, most of us have encountered cloud computing in our personal lives. Perhaps you send email through Yahoo Mail, upload photos to Facebook or edit documents using Google Docs. While these processes are all initiated from your personal computer (PC) or smartphone, a service provider gives you access to each program through your web browser and your data is stored “in the clouds” on your provider’s servers.

An October 12 *Wall Street Journal* article defined the process for business: “Cloud computing enables a company to tap into raw computing power, storage, software applications and data from large data centers over the Internet. Customers pay only for the computing resources they need, when they need them. Using the cloud lets businesses avoid building their own data centers and buying servers and disks.”

The most important distinction of cloud computing is that location is no longer an issue. If you have a computer or smartphone, you can access your data from your office, your car or while on vacation in Hawaii.

The cloud model, analysts say, has the potential to cut the costs, complexity and headaches of technology for companies. But many of those same companies have been reluctant to get on board because of traditional corporate-computing concerns like the security of data, reliability of service and regulatory compliance

Brian Sutherland is president of Chicago-based Highland Solutions, and says cloud computing for business has vastly improved in the past few years. As his company’s blog, The SAVVY CIO, declares: “In the last five years, business tools in the cloud have exploded, with platforms for business email, customer databases, accounting, document authoring, project management and much more. The cloud is the future of business IT. At some point, the only thing you’ll limit by moving to the clouds is your IT costs.”

Jeff Barnett, a cloud computing strategist for IBM Systems and Technology Group, says whenever his company offers a cloud computing seminar it is “standing room only.” He says regarding the adoption of cloud computing for business, the question is not so much if you should move tasks to the clouds, but more a question of “what, when and how fast.”

Virtualization is a key component of cloud computing, says the *Wall Street Journal*, “because it allows a single computer to function as multiple virtual servers running many operating systems and applications. Virtualization is key to cloud computing because in the cloud there aren’t any dedicated computers—each one can run many software applications at the same time, with processing power and storage shared among applications depending on demand.”

This article will look at the possible applications for cloud computing for springmakers, along with the advantages of cloud computing and the potential risks.

Applications Galore

“Cloud-based IT has proven itself easier to setup and maintain, more affordable, and more flexible than traditional client-server solutions,” comments Meraki, Inc. in an August 2009 whitepaper on its cloud-based wireless solution. “As a result, ‘The Cloud’ has put broad categories of IT within reach of organizations that previously could neither afford to purchase or manage enterprise IT.”

A number of companies offer cloud-based IT, including: Google, Amazon.com, and Salesforce.com, along with IT service providers like IBM, Microsoft, Sun and Oracle.

In the manufacturing space there are numerous software companies that have linked their offerings to a cloud-based solution that utilize Software as a Service (SaaS) solutions. They often remove the need for businesses to buy pricey boxed software and the frequent upgrades that go along with it. By delivering the service through the cloud, they virtually eliminate a company’s need for their own servers and offer the potential for unlimited bandwidth.

Plex Systems and Epicor Software Corporation are two providers who support robust solutions for the manufacturing sectors. Solutions are available that can help across many different areas of a springmakers operations from operational management tools, quality management systems for the shop floor, customer relationship management (CRM) for sales and marketing, supply chain management (SCM) for procurement and enterprise resource planning (ERP) for finance and management.

According to president Mark Symonds, Plex Systems actually started within the confines of a metal forming company in Michigan in the late '80s with the idea of building a software solution from the "shop floor" up.

Symonds says in the late '90s Plex got bogged down supporting different versions of the software, different operating systems and different databases. It was in 2000 that they decided to take the service online. "All parts of the system are now available through a web browser," said Symonds.

"So for us we don't have to worry about the customer having a different kind of server, operating system version or database. And from the customer's perspective they don't have to worry about that same nonsense, plus the backup equipment, tapes, applying upgrades and all that non-value add activity."

Plex Online involves only one copy of the software that resides at the company's data center in Michigan. Any upgrades or maintenance issues are automatically applied to anyone who subscribes to their software. "It is one version of the software, but is highly configurable," says Symonds. "It will look a lot different for a stamping company than an injection molder, a welder or somebody who assembles end products." The company is solely focused on manufacturing companies.

Hybrid Model

Epicor advocates a more "hybrid approach" to cloud computing. It is a company that also offers manufacturing solutions, but is more diverse with solutions for distribution, retail and hospitality and services.

"From an Epicor perspective in the types of applications we provide there are probably some things that are very well suited to cloud applications which haven't gone there yet," said James Norwood, vice president, worldwide product marketing at Epicor. "For other things we see the opportunity to get our feet wet and test the waters with things that don't seem so mission critical."

He cites the example of a customer who's running the Epicor ERP software at their location using their own servers, but has started to utilize some capabilities

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Symonds says that as they show customers these things, “They begin to think to themselves: ‘Do I have generator backup to my servers? Do I have a full-time security person applying patches to my operating system? Do I have somebody managing the firewalls to make sure that I’m not getting any intruders looking at my data?’”

through cloud services. Epicor offers an enterprise search product through the clouds that “essentially lets you Google your ERP system,” explained Norwood.

Epicor builds its software on the Microsoft platform, which they feel is an advantage for a company because of the many programmers available worldwide. For cloud applications, they use Azure, Microsoft’s cloud-computing platform.

Norwood said not all of Epicor’s customers want to latch on to an SaaS model. “What they want, and I think what we need as providers to deliver to customers is the choice to move some things on (the cloud) and some things off as suits them and whatever their needs may be,” he explained.

“The difficulty with a lot of the SaaS providers out there today, including the pure ERP ones, is that’s all you can do,” he says. “You have to connect in the cloud. Your data’s up there and that’s it. There is no other option. In fact it can be very hard to integrate it back and bring it on premise.”

Norwood says Epicor has made strides toward cloud computing due to the better use of “capacity, performance and availability.” But he’s concerned that some SaaS vendors have lost track of the fact that the customers need choice. “And they may not want everything to go up there in one fell swoop.”

He believes that the majority of businesses “will end up somewhere in between with this seamless marriage of some things on premise and some things on demand.”

Barnett of IBM also believes that a hybrid approach makes sense for most businesses. He said highly standardized and repeatable applications that can be automated make sense in the clouds, while more mission critical applications like ERP systems that are highly customized may not be appropriate for the clouds, especially for larger organizations.

“For smaller manufacturers with less stringent needs it may be more viable delivered through the clouds,” said Barnett. He said a cloud solution may not be appropriate for manufacturers with larger, more complex problems.

Issues to Consider

The most common issues with cloud computing are security concerns and access.

As the Highland Solutions’ *The SAVVY CIO* blog points out, “for many businesses, data is safer in the clouds. With data not stored locally, the inevitable PC or server hard drive failure won’t affect you.”

Symonds of Plex Systems agrees that data can be safer with a third party provider like his company. He says the security issue comes down to gaining trust and educating customers.

“We hear customers say, ‘My data is just out there on the Internet and I don’t know what that means.’ Then we bring them to our data center and show them our bank vault construction with our physical and electronic security.”

He said once customers understand the rigorous security protocols that Plex Systems follows, they feel more comfortable. “We follow computer standards that are like ISO on steroids.”

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Norwood said that security was initially a big concern with cloud computing, but he believes the issue has lessened over the past year as more and more companies have started to make use of the cloud.

While security concerns have lessened, Norwood believes enterprise availability is still a big concern. “When some of the SaaS vendors have their systems go down for 12 hours or more that can bring your business to a standstill.”

For Norwood, that cements the need for businesses to be able to choose solutions that are both inside and outside the cloud.

Plex Systems recently announced that they have experienced more than a year of no unscheduled downtime for its user community using Plex Online. Plex Systems leverages two geographically dispersed

data centers with a redundant infrastructure and replicated data.

As the company said in a recent news release, “Unlike most on-premises ERP companies that provide periodic major and minor upgrades, Plex Systems releases new features and enhancements into its SaaS environment every day. This means that ‘customizations’ immediately become an integral part of the base product and never become obsolete as the product continues to evolve. The SaaS model also eliminates downtime caused by implementing version upgrades.”

Although 99.999 percent of availability is the goal for enterprise applications, according to *Network World*, 97 percent of respondents at large companies expect downtime and half of those expect the downtime to be significant enough to impact revenue.

Experts caution to do your homework on any potential cloud computing vendor and to look hard at their security and downtime record.

Everyone interviewed for this article agrees that if you choose a cloud computer vendor, you should have a service level agreement (SLA) in place. An SLA outlines the commitments from your vendor regarding the storage and availability of your data. An SLA typically has penalties that kick in if the vendor’s system is down.

Best Practices

As Barnett says, “The cloud is new...with lots of hype.” In terms of best practices that springmakers should follow he advises to “proceed cautiously.” He says to go “out there and get some experience in the cloud.”

Barnett says the cloud is going to grow, and it’s going to be long term as a fact of IT life. “It’s coming, it’s going to be the next wave, and so now is the time to gain experience. So look for those projects that you can gain experience within a public cloud solution where you can do it in a relatively safe fashion while still deriving value from it.”

Nightmare on Cloud Street

Many proponents of cloud computing merrily sing “Somewhere Over The Rainbow” about the wonders of the service. However, there have been some high profile examples of “cloud bursts” that remind people of the perils of this new phenomenon.

So to keep the movie metaphor going, here are some scenes from “Nightmare on Cloud Street” that occurred in 2009 that point out the dangers of trusting a single provider to safeguard your information.

- The *Chicago Tribune* reported in an October 13 article that some owners of Sidekick phones may have lost all the personal information they put on the device, including contact numbers, because of a failure of servers that remotely stored the data. The outage occurred at Sidekick provider Danger, a Microsoft subsidiary. T-Mobile USA said many Sidekick owners’ information is “almost certainly” gone.

- When Google’s Gmail faltered on Sept. 24 it wasn’t down for more than a couple of hours, reports the website *Network World*, but it was the second outage during the month and the latest in a disturbing string of outages for Google’s cloud-based offerings, including Google search, Google News and Google Apps over the past 18 months. Various explanations have been served up by the vendor, from routing errors to server maintenance issues.

- *Network World* also reported that early adopters of Microsoft’s cloud-computing network Windows Azure suffered an overnight outage over a weekend in mid-March during which their applications being hosted on the network weren’t available. This was only a test release of Azure, so observers noted that this obviously wasn’t as big a deal as a production service outage.

- Rackspace was forced to pay out between \$2.5 million and \$3.5 million in service credits to customers in the wake of a power outage that hit its Dallas data center in late June. Rackspace, which offers a variety of hosting and cloud services for enterprise customers, suffered power generator failures on June 29 that caused customer servers to go down for part of the day.

There are many other cautionary tales that can be easily found through an Internet search. Conversely, there are many cloud solution providers who provide a very reliable and safe alternative with robust security and backup services built-in.

Experts predict that cloud computing solutions will improve as time goes on, but as in most things: buyer beware.

Does your vendor have the capability to continue to provide the same level of service as they sign-up more and more customers?

“So for best practices you want to look very hard at virtualization and how you can start to make use of virtual environments to lower your costs,” commented Norwood.

Symonds said another area that springmakers should look at is scalability. “Does your vendor have the capability to continue to provide the same level of service as they sign-up more and more customers? Be sure to vet your supplier to see what their capabilities are and whether their solution will be able to grow as your business expands over time.”

Pricing is another area where careful analysis is helpful, says the Highland Solutions’ *The SAVVY CIO* blog, “Pay careful attention to the pricing structure of a cloud platform. Some offerings have tiered pricing that are attractive for low needs and low cost entry, but can add up quickly as you begin to take real advantage of the platform.

“For example, very basic access to Salesforce.com only costs \$9 per user per month. But the fully featured Salesforce.com maxes out at a costly \$250 per user per month. Not all cloud platforms scale in this way, but a careful analysis of costs and returns are needed before making a move to the cloud.”

Final Considerations

Like most things, the advice of peers can make a big difference. Mike Mallory, president of AutoPower, a software provider to automotive and heavy duty aftermarket distributors, said when he talks to potential customers he never uses the term “cloud computing.” He says it tends to confuse and scare people.

He puts the focus on what on-demand software or virtualization can do to enhance their business. AutoPower is a preferred supplier to VIPAR Heavy Duty, a group of heavy duty truck distributors. He says his adoption rate in that group has gone from 1 in 10 to nearly 4 out of 10 who convert to their hosted solution.

Mallory says the number has increased as peers have shared information with each other. He says it helps get distributors over the concerns about security and availability, especially when a colleague says “this works and I’m saving money.”

Symonds has had similar experiences with Plex Systems customers. One of the company’s most ardent

supporters is James Zawacki, chairman of GR Spring & Stamping, Inc. in Grand Rapids, Mich.

Zawacki was an early Plex customer who Symonds says was quite reluctant to adopt their solution. “We’ve had no security or downtime issues with them,” said Zawacki. “We’ve doubled our size since becoming a customer, but we haven’t had to add people to our IT department. They’ve grown with us.”

For many springmakers the advantages of adopting a cloud based solution could already outweigh the challenges. The good news according to everyone interviewed for this article: working in the cloud is only going to get better as time goes on. ♦



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