Cloud Computing—What is its Potential Value for Your Company?

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Executive Summary:

In essence, cloud computing means running software and accessing data that reside somewhere else. ZDNet explains (Hinchcliffe, 2008) cloud computing in business-trend terms: "Software platforms are moving from their traditional centricity around individually owned and managed computing resources and up into the 'cloud' of the Internet."

Google explores the cloud computing trend at length in another whitepaper, "Cloud Computing—Latest Buzzword, or a Glimpse of the Future?"

This paper picks up where the other paper ended: Examining whether cloud computing makes good business sense for your company.
Let's start with some predictions:

- In the next 12 months, someone in your company will push for at least one on-demand application.
- Your company's first encounter with cloud computing will be driven by needs to save money—but within a few months of the first deployment, your horizons will expand. You'll see opportunities where you once saw problems. You'll see corporate silos tumble as people from different departments and locations collaborate on projects.
- Ultimately, you may find that moving your data to the cloud actually improves security, scalability, access, and disaster recovery.

Overly optimistic? Perhaps. But as many companies are discovering, cloud computing offers rapid and significant results.

Unquestionably, the primary reason why most companies are giving cloud computing a trial run are to save money by avoiding inherent IT and support costs, and to address the business demand for speed. A recent article (The Economist, 2008) in *The Economist* contends that Amazon and Google are proving that cloud computing "is a far more efficient way of running IT systems. … The current economic malaise will increase the pressure on companies to become more efficient. More has to be done with less, which is cloud computing's main promise."

Cloud Computing's Value Proposition: Back to Innovation

At its core, cloud computing's value proposition centers on solving a dilemma almost every CIO faces: Lack of budget dollars to truly improve a business's competitive position in the marketplace.

Information Week's Thomas Claborn reported (Claburn, 2008) on a presentation by Thomas E. Hogan, senior vice president at Hewlett-Packard, at the 2008 Cloud Summit Executive conference:

"Some 87 billion e-mails are drafted per day around the globe, the digital universe doubles every 18 months, and the number of network-attached storage devices double every two years", he said. "Yet, some 80 percent to 85 percent of IT budgets goes to operational maintenance. ... Cloud computing promises to help IT organizations dial back maintenance costs so they can spend on creating business value."

Behind that promise are the technology's widely acclaimed benefits for small and mid-size businesses:

- Low start-up costs
- Low cost for sporadic use
- Ease of management
- Scalability
- Device and location independence
- Rapid innovation

Bringing the Clouds Down-to-Earth

The concept of cloud computing may be new, but one thing hasn't changed: top management's insistence on justifying new IT investments in terms of return on investment and total cost of ownership. So you still have to weigh a proposed solution's advantages and disadvantages and convert them, where possible, into quantifiable benefits and costs.

Your analysis will cover most of the same factors you consider when evaluating on-premises applications. You'll need to look at software licensing, change management, security considerations, data protection and backup, risks of downtime, provider stability and reliability, integration issues, workflows, training, time to value, and ease of use.

And finally, you'll need to assure yourself and your colleagues that cloud computing isn't a pipe dream—that real companies are indeed achieving real benefits.

The remainder of this paper shows how four organizations use Google Apps, one of the most comprehensive cloud computing solutions, to manage their businesses. Users of Google Apps gain more than just an e-mail management system, or instant messaging, calendar scheduling, or a word processor. They gain a multi-purpose tool that includes the productivity-enhancing capabilities of all of these applications—plus the ability to foster innovation.

In the next few pages, you'll read about four organizations using Google Apps:

- A service provider turns an abstract-sounding term, collaboration, into true productivity gains.
- A retailer gets first-year savings approaching $1 million—and finds that "in the cloud" uptime is better than in-house uptime.
- A newspaper publisher puts cloud computing to a tough test with employees—and gets an overwhelming verdict.
- A city government made computing accessible and scalable for all types of users, from city hall to the firehouse.

TVR Communications: A One-Month Payback—and 500 percent ROI

TVR Communications (TVRC) is a technology-driven company with 400 employees serving the highly competitive health care industry. TVRC, like many other users of Google Apps, is using cloud computing to leapfrog the 20th century technologies of their competitors.

In 2008, TVRC served six million patients at 350 healthcare locations. Many of the company's employees are mobile, traveling to customer sites to install and train users of leading-edge, video-based patient education and entertainment services. To be responsive to customers and colleagues, they need to collaborate while on the move.

But some of TVRC's own technology was limiting the company's ability to perform as a virtual company with high flexibility. Because TVRC's Microsoft Exchange e-mail system had not been upgraded for years, employees relied mainly on the telephone for collaboration and communication.

Facing a costly upgrade of the e-mail system, TVRC investigated Google Apps and other on-demand applications. The evaluation concluded that Google Apps was less expensive to license than other alternatives—and that underlying vendor risk would be minimized because of Google's size and strength.

Starting in January of 2008, TVRC began implementation with standard training materials supplied by Google. Google Apps was soon deployed to 150 employees, who use it for e-mail, calendaring, collaboration, and sharing documents. In addition, employees use Google Sites to create websites for short-term projects and as another way to communicate with customers and prospects.

Nucleus Research, a global provider of investigative technology and advisory services, assessed TVRC's deployment of Google Apps and reported these key findings (Nucleus Research, 2009):

- With Google Apps, TVRC employees working in different places can share information collaboratively. User access to work information has no time or location boundaries, so employees are more productive.
- Customers and prospective customers can access Google Sites for proposals and presentations. This enables TVRC to be more responsive and interactive with customers and to manage RFPs more effectively.
- Google Apps improves the productivity of the IT staff and helps IT to avoid significant licensing and hardware costs.
- On-demand computing with Google Apps reduces TVRC's risk of downtime.
- Future refinement of best practices will help drive adoption by "less Web-savvy" end users. These employees need more training before they feel comfortable with different systems and processes.

Nucleus Research's cost/benefit analysis concluded:

- The value of direct and indirect benefits over a three-year period is estimated at $284,000.
- The three-year cost of Google Apps—including software, training and personnel—totals $50,787, or $16,929 average annual cost of ownership.
- TVRC's payback period for Google Apps was only one month. Counting direct benefits only, the ROI was 380 percent.

2nd Wind Exercise Equipment: Lots of Apps, and Lots of Savings

In 2007, 2nd Wind Exercise Equipment was experiencing rapid growth in revenue, retail stores, and employment. However, the company was hampered by an outmoded IT infrastructure. Immediate needs included upgrading Microsoft Exchange and Office applications, launching a company intranet with secure access, and replacing a video hosting system.

By strategically embracing cloud computing (often called on-demand software or software-as-a-service (SaaS), 2nd Wind has become one of the most prolific "power users" of Google Apps.

At a Web-based seminar, Tom Kelly, the retailer's chief financial and information officer, described the dramatic impact cloud computing has made at his company. He compared cloud computing to online banking. Just as consumers eventually embraced online banking, he observed, the same trend is now occurring with on-demand software.

According to Kelly, 2nd Wind pays $50 per user per year for over 300 Google Apps users. For this modest investment, he said, the company gets substantial functionality and a huge return on investment.

Implementation of Google Apps went extremely well, and migrating users to Gmail was "almost a non-event," he said. Now 2nd Wind runs on Google Apps 24/7, year-round. The retailer makes extensive use of Gmail, calendaring, Google Sites, Google Talk, Postini for e-mail filtering and archiving, and Google Video.

Google Apps is delivering productivity and efficiency improvements. By switching over to Google Apps, 2nd Wind achieved first-year savings of $835,000, Kelly estimated. Here's a summary of his analysis:

DECISION	SAVINGS
Deploy Google Apps instead of an on-premises deployment of Exchange	$590,000
Use Google Video instead of buying customer video training services	100,000
Slash travel costs by using Google Video for sales award meetings	90,000
Replace a video hosting service with Google Video	30,000
Use Google Sites instead of developing company intranet	25,000
TOTAL 3-YEAR SAVINGS	**$835,000**

Security is a key concern of companies moving to cloud computing. In Kelly's opinion, few companies can internally match the security available from service providers.

"When you look at organizations like us—small to mid-size businesses—if someone wanted to get at our data, trust me, they'd be able to, because we are by no means the experts on security and data storage. But Google is an expert in data security. I actually rest easier knowing that my information is in the cloud and well protected. That's what Google does—they make sure your security is top-notch and your data is available."

In his experience, Kelly added, outages of on-premises e-mail systems far exceed the downtime of today's cloud computing providers.

Summing up his presentation at the web seminar, Kelly stated, "You can be a two-person operation or a 200,000-person operation. [With cloud computing], you're going to get the same features, the same performance, the same scalability and reliability, and the same global solution. And whether you have folks based in the U.S. or in China, you get the same solution in the language of that country, all managed by an organization like Google. And the different languages that apply to different locations also apply to Google Apps.

"The complexity involved to manage that is pretty profound in this day and age. The value is more than the $835,000 in cost savings that I showed you earlier—it could be two to three times that when you consider the efficiency gains and the collaboration capabilities provided."

Telegraph Media Group: Employees Prefer Google Apps in Pilot Test

Telegraph Media Group opted in 2008 to begin a transition to Google Apps, CIO magazine reported. The London-based newspaper publisher has since become a showcase for the power of collaborating on documents with real-time editing.

TMG, which had been using Office 2003, Window XP, and Exchange 2003, conducted a pilot test with ten percent of its 1,500 users. The test group was asked to use both Google Apps and their existing Office and Exchange applications.

Paul Cheesbrough, TMG's chief information officer, told CIO's Martin Veitch that user feedback was overwhelmingly favorable for Google Apps. TMG executives therefore decided to encourage use of Google Apps and to forego future upgrades of the Microsoft products.

According to Cheesbrough, about half of TMG employees are mobile. Journalists, in particular, often need to work collaboratively on large stories. For example, eight TMG reporters covered the Wimbledon tennis tournament, but communications among them was cumbersome using mobile phones.

What Other Customers Are Saying about Google Apps

IT advantages: "Google Apps saves us millions of dollars over five years over any of the alternatives that we looked at and provides us with worldwide disaster recovery, unprecedented integration and device independence." Todd Pierce – VP of IT, Genentech

Innovation catalyst: "Cost and complexity have until now limited the effective use of video to improve business functions. Google Apps...provides significant opportunities for innovation and saving throughout our global teams." Manesh Patel – CIO, Sanmina-SCI

User satisfaction: "Switching to Google Apps gave us a rock-solid email solution that our users love. When we roll out any technology that's that simple for us to maintain and universally loved by our staff, that's a win in our books." Camden Daily – Former Director of IT, Midwest Realty Ventures

Improving processes: "We're big on finding better ways to do things, and Google Apps had what we needed. We use Google Calendar so we can all keep up with our people and the places they'll be." Ross Nover – Lead Designer, Free Range Studios

Security and consistency: "With Google Apps, everybody is running the same copy because it all comes from a central server. That's a more secure and a more powerful way to run your business." Marc Benioff – Chairman and CEO, Salesforce.com

Ease of implementation: "The migration to Google Apps was very simple and painless, and that's exactly what we were hoping for. I foresee the collaboration tools in Google Apps growing in importance, as our sales partners start to use Google Docs to collaborate with vendors, customers, and folks here at corporate." Shawn Faulkingham—Director of IT, Indoff, Inc.

With Google Apps, his reporters can communicate much more dynamically. Google Sites, Cheesbrough noted, has increased staff productivity and is "much more powerful than our intranet that we have spent a lot of time and money on."

"Google Apps is good enough and rich enough for us to do what we need to do," he said. "Collaboration has been very powerful and as people use Google Mail and Calendar, they'll naturally stray to use Google Docs."

District of Columbia: 'Super-fast' Rollouts of Secure, Scalable Applications

Shortly after Vivek Kundra became chief technology officer for the District of Columbia, he made an enlightening discovery at a coffee shop near his office. With WiFi and his laptop, the coffee shop gave him more computing power than the District could give many of its end users.

Kundra's department serves more than 86 agencies, 38,000 employees and 600,000 residents. The District was seeking a collaborative, readily scalable platform that would be easy to use for all types of users, from teachers to police officers. Kundra said he wondered, "What could we do using consumer technologies in the public space?"

"Based on those metrics, and the economic value of being able to roll out a technology super fast at a low cost, we decided to go with Google Apps," he said. Kundra is impressed with how easily Google Apps was implemented and deployed. "You just turn on the solution, and it's very easy for any user to understand it."

With Google Apps, the District of Columbia shares training videos, documentation and spreadsheets among users at disparate locations. The fire department's EMS providers, for example, can access time-sensitive documents from home or work computers.

Demetrious Vlassopoulus, deputy fire chief and chief information officer, uses Google Sites to easily create websites where he can post and update documents and presentations.

Delano Squires, project coordinator, has the role of assuring that new technology is being used effectively, projects are on track, and agencies get the reports they need. Efficiency improvements from Google Apps, he believes, are directly benefiting taxpayers.

"We are investing in technology that will fundamentally change the way this government operates. Google Apps definitely allows my team to be more collaborative with our colleagues," he said. "It allows us to share information across the agency. I think if I didn't have Google Apps, my workday would be a lot longer!"

In addition to Google Apps, district agencies also make extensive use of Google Earth. "We have Google Earth in a mobile command center, so we don't have to be tied to a brick-and-mortar facility to use the application," noted Vlassopoulus.

- IT managers use Google Earth in real-time to help schedule, route, and redeploy technicians to job locations.
- Fire department personnel can quickly find the locations and phone numbers of city facilities, dialysis centers and other key support facilities. The fire department also has Google Earth in a mobile command center.
- Dispatchers can advise firefighters in route where to find the closest operating fire hydrants.

"The cloud computing model allows us to provide services rather than technology," Kundra said. "It allows us to create a government that is more transparent—so that government is not practiced behind closed doors, but in the public square."

Four stories with the same happy ending

The four case studies have striking similarities. None went through long, excruciating implementation projects. None experienced huge cost overruns. None had to embark on major reengineering of their processes.

Yet, all four organizations experienced major benefits—often, at higher levels than they expected. All found that using cloud computing has surprisingly rich payoffs. It overcomes organizational barriers. It

fosters innovation. It minimizes capital investments in IT technology. It maximizes the sharing of information and ideas for mutual gain. From their homes, offices, customer sites, or fire trucks, end users at all four organizations are saving time and money getting the information they need to perform.

About Google Apps

Whether your business is moving everything to the cloud, or struggles to give employees access to critical information, or just wants an affordable email solution, Google Apps can help you stretch resources and work smarter.

Google Apps offers simple, powerful communication, and collaboration tools for enterprises of any size in business, education, or government—all hosted by Google to streamline setup, minimize maintenance, and reduce IT costs.

Google-powered e-mail, IM, and calendaring help users stay connected and work together effectively. The essential collaboration tools—Google Docs, Google Video, and Google Sites—boost productivity and encourage innovation.

Google Apps has multiple layers of protection to keep your business data safe and secure. Google operates one of the largest networks of distributed data centers in the world, and the company goes to great lengths to protect the data and intellectual property on these servers. Each piece of content can be as private or as public as necessary.

Google Apps includes a 99.9% uptime guarantee. Phone support is available for critical issues.

Google strives to make Google Apps as open as possible, with full accessibility and an ever-growing library of plug-ins. In addition, the Google Apps engine provides an infrastructure for people to do their own applications development within the Google Apps architecture.

For More Information

Visit www.google.com/a

References

Claburn, T. (2008, October 14). *Cloud Summit: Cloud Computing Is Real* . Retrieved from InformationWeek: http://www.informationweek.com/news/services/saas/showArticle.jhtml?articleID=211200504

Hinchcliffe, D. (2008, April 11). *Enterprise 2.0: Comparing Amazon's and Google's Platform-as-a-Service (PaaS) Offerings.* Retrieved from ZDNet: http://blogs.zdnet.com/Hinchcliffe/?p=166

Let it rise. (2008, October 23). Retrieved from Economist: http://www.economist.com/specialreports/displayStory.cfm?STORY_ID=12411882

Nucleus Research. (2009). *ROI CASE STUDY: GOOGLE APPS TVR COMMUNICATIONS.* http://nucleusresearch.com/research/roi-case-studies/roi-case-study-google-apps-tvr-communications/: Nucleus Research.