



A Clear Forecast: Is Cloud Computing Right For Your Organization?

The term “cloud computing” is nearly everywhere lately, one of the latest buzz words to converge on technology for the public and private sectors. Gartner Group predicts that by 2013, spending on cloud computing applications will grow to over \$150 billion. From corporate campuses to government institutions, taking it “to the cloud” seems to represent the next level of innovation for reliability, scalability and cost-effectiveness across a diverse range of markets.

If you’re looking to increase your ROI, it’s essential that you understand the basics of cloud computing. Before moving forward, you’ll need to know what exactly lies in “the cloud” environment, and how it can impact your communication initiatives.

WHY SUCH RAPID GROWTH?

Amazon is credited with the development of cloud computing when it restructured its data centers. By 2006, the company had launched Amazon Web Service (AWS) as a means of cloud computing for external customers, promoting increased efficiency and lower operational costs. Top companies to have joined the cloud computing environment over the years include the likes of Google, Microsoft, and SalesForce.com, to name a few.

As the concept continues to evolve, the standard definition from the National Institute of Standards and Technology (NIST) helps outline the vision behind cloud computing:

Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

And yet there’s an even simpler definition that can be offered. Cloud computing can be seen -- in basic terms -- as a metaphor for the Internet. Cloud computing allows users to store and access data remotely using an Internet connection, rather than maintaining their own physical databases on site.

Cloud computing benefits:

- Can help organizations cut down on costs, including travel, hardware and maintenance
- With resources readily available, increases responsiveness to project demands
- Enables dispersed teams to work together quickly and more efficiently
- Increases the impact of messaging and brand awareness

MOVING TOWARDS THE CLOUD

According to Gartner, a true cloud needs to have five attributes: it must be based on a service model; scalable to a multitude of users; shared with others; include pay-by-how-much-you-use billing; and be delivered over IP.



“Cloud-based applications have been highlighted as a particularly viable option for organizations during the recent economic downturn.”

The cloud computing environment consists of several layers. This includes: 1) the client; 2) application; 3) platform; 4) infrastructure; and 5) server.

As a brief overview (from Wikipedia):

The **client** consists of the hardware that's involved in the cloud computing system, including phones, operating systems and browsers.

The **application** software, or “Software as a Service (SaaS) is delivered over the Internet, eliminating the need to install and run the application on the customer's own computers and simplifying maintenance and support.

The **platform** of Platform as a Service (PaaS) delivers a computing platform and/or solution stack as a service, often consuming cloud infrastructure and sustaining cloud applications. It facilitates deployment of applications without the cost and complexity of buying and managing the underlying hardware and software layers.

The **infrastructure** services of Infrastructure as a Service (IaaS) of cloud computing delivers computer infrastructure – typically a platform virtualization environment – as a service. Rather than purchasing servers, software, data-center space or network equipment, clients instead buy those resources as a fully outsourced service.

Finally, the **server** consists of computer hardware and/or computer software products that are specifically designed for the delivery of cloud services,

including multi-core processors, cloud-specific operating systems and combined offerings.

OVERVIEW OF CLOUD COMPUTING TRENDS ACROSS THREE MAJOR INDUSTRIES

Corporate applications

As an organization grows, so does the complexity of its communications needs and workforce. Add to that the dramatic influence of social media and mobile computing, and enterprises are increasingly turning to cloud computing to keep up. What cloud computing offers to today's businesses is an attractive offer: Rather than investing in maintenance, storage and infrastructure of traditional applications, the cloud service provider takes on the burden, thus allowing the organization to focus on other key areas for business growth.

According to a 2010 survey by Sand Hill strategic management group has found that business agility is the leading reason U.S. companies are interested in cloud computing. Of the 500 senior-level IT and business-unit managers surveyed, 49 percent of respondents listed business agility as their most important goal; 46 percent listed cost efficiency. The No. 3 response -- freeing IT resources to focus on innovation -- got less than half that support, with 22 percent.

Education applications

What can educational institutions, including K-12s and high learning, gain from cloud computing applications? In the face of budget constraints countered by growing classroom needs, cloud computing is poised to live up to its own hype.

In 2011, Yale University announced that they would move to Google Apps, marking the move as designed to benefit students with additional services and free up staff to handle projects that the internal ITS department is better suited to handle. According to Google, more than 10 million students are users of this technology, allowing for greater:

- **Communication** – Enhancing the education community's dialogue with hosted email, shared calendars and integrated video chat.
- **Collaboration** – Google Docs and Google Sites enable students and teachers to share documents online, at any time and from any location.
- **Customization** – Easily integrating existing IT systems with Google Apps while keeping the school's domain safe and secure.

Source: <http://www.google.com/a/help/intl/en/edu/university.html>

When it comes to K-12 schools in particular, using cloud computing services helps districts quickly save by eliminating upfront costs for

hardware and software, as well as demands for increased bandwidth.

Government applications

In February 2011, Federal CIO Vivek Kundra released the “Federal Cloud Computing Strategy.” In an effort to reduce federal government data centers to 40 percent by 2015, highlighted benefits of cloud computing include:

- Reducing the federal government’s data center infrastructure expenditure by approximately 30% (which contributes to the estimated \$20 billion of IT spending that could be migrated to cloud computing solutions).
- Cloud computing data center consolidation by shifting workloads and applications to infrastructures owned and operated by third parties.
- Mitigating the fragmented data, application, and infrastructure silo issues associated with federated organizational and funding models by focusing on IT services as a utility.
- The acceleration of data center consolidation efforts by reducing the number of applications hosted within government-owned data centers.

At the time of publication, the government owned or leased about 2,100 data centers that are larger than 500 square feet. The Department of Defense has about 770, the highest number, and second place is held by the State Department with 361.

AN AFFORDABLE ALTERNATIVE FOR DIGITAL SIGNAGE?

In addition to impacting the IT world, cloud computing continues to leave a lasting influence in the audiovisual environment. Today, many AV integrators are looking to incorporate digital media services across a cloud computing platform. This includes AVI-SPL, who launched their subscription-based Digital Media as a Service (DMaaS) in June 2010.

Cloud-based applications have been highlighted as a particularly viable option for organizations during the recent economic downturn. Deploying Digital Signage through a cloud-based network frees the organization from having to invest significant capital for the centralized hardware. In turn, companies can easily leverage the very latest in digital media technology without committing to a major up-front investment.

Applied to various sectors, Digital Signage implementation models deliver tangible, measurable results.

Corporate

- Kiosks offer the customer an interactive and “soft” approach to learning more about the company as soon as they enter the lobby.
- Displays throughout a showcase center or corporate headquarters provide the latest company news, including product/ service information and awards.

- Share key metrics, upcoming events, and mission critical alerts with employees.

From building corporate messaging internally to solidifying brand awareness and increasing sales with customers, Digital Signage solutions offer the maximum return on investment.

Retail

- Upon entering the store, a customer can simply look to a digital display to quickly discover the latest sale or promotional event.
- Interactive touch screens and way finding displays can help easily direct customers to their product aisle.
- Check-out line signage can display infomercials, tips and other content that help promote the retailers’ specialty areas.

Whether it is messaging to the consumer within close proximity of brand or product, or incorporating an educational “how-to,” retailers can experience elevated product awareness, increased customer traffic or improved brand impression.

Hospitality

- While diners wait, an advertisement reveals the newest specialty dish being offered at their restaurant.
- Theatre patrons can quickly learn up-to-the-minute details about upcoming entertainers.
- Resort guests can easily locate the meeting room or conference room they need.

This type of consideration for accommodations promotes a higher level of convenience and ease for staff, event planners and guests alike. In the right setting, Digital Signage can engage the guests and increase dwell time, which will result in increased revenues.

Education

- A primary school may want to report on the small wins and inspirational moments of the student’s day.
- Signage can provide helpful, up-to-the minute event information, or incorporate live feeds and student announcements into the daily curriculum.
- A secondary or post-secondary school may want to provide directional messaging, deliver security communication or reports on campus sports or fundraisers.

With a wide range of possibilities, Digital Signage has become one of the most effective and efficient ways to promote meaningful messaging about everyday life on a school’s campus.

Healthcare

- A sign strategically placed to publicly recognize foundation donors can encourage more of the same philanthropy.
- Delivers alert and directional messaging in the case of an emergency or security event, while secure ER and OR locations can provide up-to-the-minute information on patient location and status.
- Waiting room signage or integrated into patient rooms can present much-needed educational messaging designed to support a patient's healthier lifestyle.

These and many other applications can effectively transform environments, creating operational efficiencies and improving brand visibility.

WEIGHING THE RISKS

While cloud computing offers significant cost advantages for small to medium-sized businesses (SMBs) who otherwise would struggle with the costs of networking technology and personnel, cloud computing is not without its issues. This includes the public cloud's increased risk to privacy and confidentiality because of third-party involvement, with legal implications.

In addition, those renting space on public cloud computing servers need to be wary of power outages that could disrupt service. As an example, in April 2011, Amazon's EC2 (Elastic Cloud 2) outage caused widespread disruptions to those renting from their hosting service, including popular sites such as Reddit, Quora and Hootsuite. The problem was resolved several hours later, but not without raising concerns as to the ultimate reliability of cloud services.

With a wide array of database and distribution options, cloud computing offers its users an easy and seemingly effortless way to connect, share and expand resources and improve communications.

Despite safeguards in place by cloud service providers, no service is 100% fail proof. With this in mind, it's important to have a disaster-recovery plan in place. In addition, it's essential to read the fine lines within your service level agreement (SLA), as well as continue to monitor operations.

WHAT'S THE DIFFERENCE BETWEEN PUBLIC, PRIVATE AND HYBRID CLOUDS?

Public Clouds

A public cloud provides services and infrastructure off-site over the Internet. While they deliver the greatest amount of efficiency, they are also more vulnerable to security issues due to third party dealings.

Private Clouds

A private cloud is one in which the services and infrastructure are maintained on a private network. While they offer greatest level of security and control, the company is still required to purchase and maintain the software, hardware and infrastructure.

Hybrid Clouds

A hybrid cloud can be considered the "best of both worlds," blending public and private options over multiple providers. At the same time, organizations employing hybrid clouds will need to ensure that both methods converge to meet their needs over multiple security platforms.

Source: <http://www.dummies.com/how-to/content/comparing-public-private-and-hybrid-cloud-computin.html>

