

T U S H A U S

CLLOUD COMPUTING – GETTING PAST THE HYPE

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The hottest buzz words in technology today are cloud computing. Virtually every IT magazine, webinar invitation, and technology advertisement talks about “the cloud”. To be sure, there’s plenty to like about a technology that promises great flexibility at a low cost. But before jumping into the fray with any emerging technology, it makes sense to evaluate the applicability and suitability of the technology for supporting the individual needs of a business. There are pros and cons associated with cloud computing, and we’ll explore both here.

Defining Cloud Computing

Research firm Gartner defines cloud computing as “a style of computing whose massively scalable and elastic IT-related capabilities are provided as a service to external customers using Internet technologies.” In plain English, customers may “rent” data center resources from cloud service providers, bringing together data, software applications and computer processing power from a cloud of online resources. Those infrastructure resources may include virtual machines for running applications, or data storage and databases that operate in the cloud. Typical uses could include Web application development or hosting enterprise applications like email.

We have seen this type of business model before. In the early 1900’s, as companies started to use electricity within their manufacturing facilities, each business built their own power station. Soon, utility companies were formed, with the sole purpose of generating power and then providing it to meet a specific need to a large group of businesses. Some companies needed large amounts of electricity, and others needed much less – but they could all pay just for what they needed for their particular power requirements. Even today, many companies have such critical power needs that they keep some form of power generation (generators) on-site for

needs that the utility company cannot meet, but they utilize the common, shared infrastructure for the majority of their electrical requirements.

IT infrastructure is evolving in much the same way by using cloud computing. There may always be some critical needs that are only served by a specific, on-site service. But many day-to-day needs can take advantage of a common, shared infrastructure in order to lower costs and reduce the amount of dedicated resources required to maintain a company's information technology needs.

There are typically three separate areas where companies take advantage of the cloud:

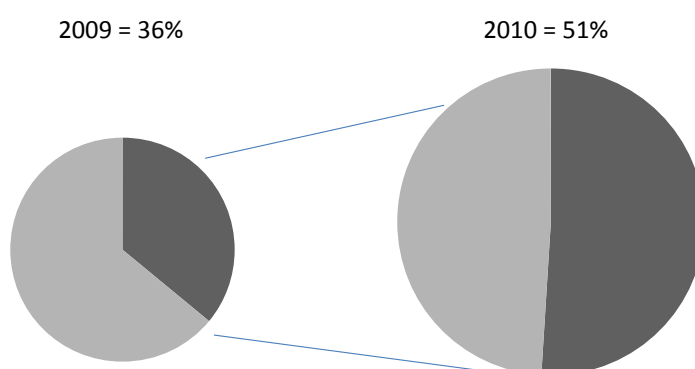
- Software as a Service (SaaS): applications delivered to a company's users completely over the Internet and paid on a subscription or license basis. Examples include Salesforce.com's popular CRM package, as well as Microsoft's Business Productivity Online Suite (BPOS).
- Platform as a Service (PaaS): servers and other hardware are made available to a company for a pay-as-you-go rate, where specific applications can be hosted and run on the company's behalf. This typically includes fully monitored and managed hardware (often provided as virtual servers on a shared, common hardware platform), so the user's concern is limited to the application and business need, and not the hardware and security needed to utilize the application.
- Infrastructure as a Service (IaaS): a highly secure, purpose-built facility in which space can be rented to house dedicated equipment to meet the user's specific application needs. The user typically pays for the space, power and bandwidth they use, but get the advantage of sharing the cost of the physical facilities with all of the other users.

Adoption

On a corporate level, the large enterprise space is leading the adoption of cloud computing technology for the delivery of some applications to their users. However, individuals have used cloud services in their personal lives for several years; whenever someone uses Google's search engine or Gmail, or watches a video on You Tube, they are utilizing the cloud.

Because of this personal experience, a transition into corporate-based services may occur very quickly. Gartner estimates that by year 2012, cloud computing will allow 20 percent of businesses to be all cloud based with no physical assets, 80 percent of Fortune 1000 enterprises will pay for some cloud-computing service, while 30 percent of them will pay for cloud-computing infrastructure.

Cloud Computing Adoption Rates



Source: Loudhouse Research surveys of 500 IT professionals performed for Mimecast

The adoption of some form of cloud computing will continue to grow exponentially. According to International Data Corporation (IDC), worldwide IT spending on cloud services will grow almost threefold in the next three years, reaching \$42 billion by 2012.

Manufacturers are reacting in new and different ways to this strong adoption cycle. For example, HP and Microsoft have teamed together to work on the Microsoft Windows Azure platform appliance, designed specifically to enable enterprises to rapidly utilize cloud-based applications as their needs change and grow.

"Microsoft and HP will align engineering, sales and professional services to provide enterprise customers a full-range of cloud services and technologies where they want it and how they want it," said Bob Muglia, president of Server and Tools Business, Microsoft Corporation.

A Few Advantages of the Cloud

Among early adopters, the most often mentioned advantage is being able to access applications and/or data from any device, at any time, no matter where the user is located. In addition, cloud computing can significantly reduce capital costs by allowing the company to purchase software and hardware as a utility service. Basically, the cloud provider allocates computer resources for the user based upon the needs of the application. Consequently, the resources are scalable and customers “pay-on-demand”, allowing for greater flexibility. There is often a financial benefit to treating these services as an operating expense, rather than the capital expense required to purchase hardware and software needed to provide the application in a traditional manner.

In addition, moving to this "software-plus-services" model decreases the need to manage hardware and software. IT departments can hand over to vendors the often tedious work of maintaining and troubleshooting the servers and applications for common software, which allows companies to focus their resources on those specific areas that add to their business value.

Users also cite the benefit that reduced cloud provisioning times can have on their projects versus traditional network provisioning timelines.

Today's IT manager faces another issue that can be addressed by the cloud - managing massive data growth on a tight budget. Capacity or systems can easily be added as the company's needs change. Cloud computing provides a cost-effective alternative beyond traditional hosting services, as storage requirements are based on consumption rather than the amount of physical real estate used, and can be expanded or contracted accordingly.

Considerations Before Moving to the Cloud

However rapid the adoption rate may be among enterprises, some questions and concerns exist. The issues of reliability, performance, and availability of cloud software (SaaS) hosted in vendor premises and accessed via the Internet are chief among the issues voiced by businesses considering the technology. In the cloud environment, control shifts away from IT departments to the vendor hosting the software, and giving up that control creates some concern to some in-house professionals. Microsoft is combating that worry through their Business Productivity Online Suite (BPOS), which utilizes a purpose-built infrastructure that boasts a 99.9 percent uptime guarantee for its enterprise collaboration and communication

software. (BPOS includes Exchange Online, Office SharePoint Online, Office Communications Online, and Office Live Meeting, all hosted by Microsoft and available through Microsoft partners like Tushaus.)

Some organizations, especially those in highly-regulated industries like finance and healthcare, have expressed concern for the security of applications hosted in the cloud. Most vendors have invested heavily to ensure cloud and infrastructure security is as high as possible, but these types of institutions may determine it is best to utilize a mixed approach, combining the benefits of the cloud for some enterprise-wide applications, and a complete premise-based solution for others.

Of course there are hiccups inherent with the utilization of any new technology. According to *Network World*, one of the concerns associated with moving applications to the cloud is that many applications utilized by an enterprise are significantly intertwined to prevent one application from being separated from another. That can make it difficult to run one application in the cloud without affecting every related application. And, since each application has its own classification of privacy or governance, the decision to move an application to the cloud carries with it a measure of sensitivity. Some of these concerns have prompted another version of cloud computing to take hold – a “private cloud”, which takes advantage of shared infrastructure (IaaS), and perhaps shared virtual servers, but does not share the cloud on an application or data level.

The Journey to the Cloud is an Evolution

Many vendors are developing applications that can be fully implemented and supported with no on-site resources and are supported by end-user subscriptions, like Microsoft’s BPOS as noted above. These will continue to grow in both scope and effectiveness, and many organizations will be able to take advantage of the real cost and support savings they represent.

Even for other more company-specific applications, using some aspect of the cloud can lead to significant savings in investment and time.

It may still be several years before the cloud becomes acceptable for every business application in every organization. However, it certainly makes sense to look at all of the applications a company is running and determine how (or if) utilizing any level of cloud services would bring savings or other benefits to the organization. This kind of review should also include application planning, so the company knows at what point in the future utilizing the cloud will bring benefit to

the company. Many companies are finding it beneficial to use an outside firm familiar with all of the cloud computing options to assist with this application audit and planning. Tushaus Computer Services is one such firm that consults with clients every week so they utilize the cloud appropriately and in a deliberate, cost-effective manner.

Make no mistake - the cloud is here to stay. Just one look at all of the “apps” now available for the iPhone, Android, or other cell phones will confirm that delivering services to any user, anytime, anywhere is now a part of our worldwide culture. Transferring these capabilities to a business environment will bring profound changes in the way IT departments operate; planning today for those potential changes allows a company to receive the largest benefits from a cloud computing structure as quickly as possible.

For more information on cloud computing, and how it affects your business, you can visit:

www.Tushaus.com

http://h71028.www7.hp.com/enterprise/us/en/messaging/feature-ent-it-services-cloud-computing.html?jumpid=reg_R1002_USEN

<http://www.infoworld.com/d/cloud-computing/what-cloud-computing-really-means-031>

Tim Mauck is the Director of Product Management for Tushaus Computer Services. Tushaus has offices in Milwaukee, Madison, Green Bay and Oshkosh, and is in the process of building a Cloud Computing Center in Appleton to compliment their Milwaukee-based Cloud Computing Center. Tushaus provides a full range of technology related services including software development, networking, product sales, E-Commerce, Internet and Intranet services, business technology consulting, IP telephony, Customer Relationship Management, Managed Services, and technical support. Committed to forming lasting technology partnerships with its customers, Tushaus provides quality technology solutions supported by superior customer service. More Information on Tushaus Computer Services can be found at Tushaus.com