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Microsoft and
the Cloud:
Five Essential Things
To Know

Microsoft and the Cloud: Five Essential Things To Know

Kerry Doyle

Introduction

Many of the world's leading companies are making significant investments in the cloud, and cloud computing continues to evolve. The fact that a company can fulfill its computing requirements on an as-needed basis by simply purchasing services is a key benefit of the cloud. Essentially, cloud computing consists of a "pay for use" model similar to what a utility company offers. A company's size and its computing prerequisites dictate the scale of services it will require. Cloud features, such as scalability and on-demand resource allocation, are fundamental to why an increasing number of small companies and large enterprises are incorporating the cloud into their business.

Over time, Microsoft has steadily increased its investments in the cloud as well as partnered with major global companies on cloud-based initiatives. These investments reflect not only the importance Microsoft places on this technology trend, but they indicate where MS executives think the future of computing is headed. For example, user demand for access to cloud-based content and apps via dedicated and mobile devices is constantly on the increase. Most computer and mobile users make a daily experience of accessing sites, such as Facebook, Flickr, and LinkedIn, which are essentially cloud computing services. A major portion of SMBs and enterprises are expected to adopt a similar model because it will allow companies to focus more on business and leave the IT infrastructure to specialists.

As Microsoft diversifies its cloud services it faces stiff competition from a number of players who took early advantage of the trend. For example, Amazon Web Services first offered cloud-based services in 2006. It has already gained significant adoptions from small- to mid-sized businesses (SMBs) that have chosen to create their data centers in the cloud, capitalizing on scalability. However, Microsoft's comprehensive services platform, the push toward key software products as SaaS (Software as a Service), advanced testing, and development are key elements to customer satisfaction, brand allegiance, and successful cloud computing experiences. This white paper addresses Microsoft's current stake in cloud computing and examines the most recent range of cloud-based product offerings as an indication of where Microsoft may be heading.

1. Cloud Computing

The cure-all for computing's ills on a global scale?

Cloud computing can make a variety of computing services available to companies of all sizes on an 'as-needed' basis. It allows providers to offer a range of physical resources, such as processors, data storage, applications, and platform access for developers. Providers accomplish this by having extensive server farms strategically located around the world.

The result is that smaller companies can eliminate the need for physical hardware as well as the expenditures it entails. In turn, they receive access to massive computing and storage resources, then pay only for pro-rated computing services and usage.

These SMBs acquire a low upfront cost for hosting which then can be scaled up appropriately should the need for more bandwidth or computing power arise. Medium-sized companies can access computing resources that would normally require significant expenditures. They also acquire a global reach and level of redundancy that might otherwise be unavailable.

Enterprises, in general, remain somewhat wary of joining the cloud for a number of reasons: minimal application complexity or a desire to run a company's own applications in-house, data security, and storage-related issues. CIOs, as well, have a low risk tolerance for allowing data to reside outside their firewalls. However, an increasing number of big players are signing on as new cloud technologies and capabilities come online. Toyota Motor Corp., 3M Co., and Lockheed Martin Corp. are just a few of Microsoft's recent cloud customers. Moreover, enormous numbers of mobile users rely on cloud services, and this sector shows no signs of diminishing.

In terms of Microsoft, the company has indicated its cloud-technology intentions by focusing on services that will appeal across a wide spectrum, from both large enterprises and smaller companies to individual computing users. Key product offerings range from its cloud platform (Windows Azure Services Platform) and free applications online (Windows Live Essentials, Office Web Apps) to a cloud-based version of Exchange Server (Exchange Online Standard), the latest online release of SharePoint, Microsoft's premier online collaborative tool (SharePoint Online), and Office 365.

2. Windows Azure Services

Microsoft plants its platform flag and rallies the troops.

The Azure Services Platform is best described as a platform in the cloud. However, it's more accurate to say that Azure encompasses a variety of services that form a platform, and its offerings for application developers are substantial. Developers can create scalable applications off-premises by accessing a comprehensive set of development tools, services, and management systems.

With Windows Azure, new functionality will continue to be rolled out over 2011 and beyond. These features will make it simpler to move existing applications into the cloud. In addition, the services available to cloud-hosted applications will also be increased. This array of feature-rich technology indicates that Windows Azure is on track to become a far more complete platform, technologically, as compared to Amazon's EC2 and Google's AppEngine.

But, really, Microsoft's cloud computing strategy is a tale of two clouds. On the one hand is its emerging platform as a service as described above. On the other hand are its popular application offerings: SharePoint, Exchange, Dynamics CRM, and Office Web Apps. This indicates Microsoft's approach toward the cloud as also based on offering a Service-as-a-Software (SaaS) platform.

However, it in the area of basic Infrastructure-as-a-Service that Microsoft still needs to come up to par with competitors, such as Amazon's EC2. For example, Microsoft wants to make it easier for companies to bring existing workloads to the Azure platform. To achieve that, the company must convince customers to trust Microsoft's data center over their own, an area where both Google and Amazon have shown success.

In some cases, such as running SQL Server programming and relying on Microsoft for database administration, it may work. In other instances, allaying customer concerns about latency, storage security, and privacy may be a harder sell.

3. Office Web Apps

Online Applications? According to MS, "You ain't seen nothing yet."

As part of its effort to rally more users and companies to the cloud, Microsoft had originally introduced Office Live Workspace as a direct competitor to Google Documents. With the launch of SkyDrive, Microsoft's online storage repository, the company renamed the online suite of applications to Office Web Apps as part of its Windows Live Service.

Office Web Apps includes browser-based editions of Word, Excel, and PowerPoint. Documents are saved "in the cloud," in the Microsoft SkyDrive, and can be created and edited in a browser or opened in Word.

In addition to the free version of Office Web Apps on Windows Live, there is also a version of Microsoft Office Web Apps for Organizations. The software both enables organizations to set up their own intranets and to access and store shared files via the SharePoint website. SharePoint's close integration with the Office Web Apps for Organizations software provides diverse means for document sharing and collaboration.

For example, once multiple users open, edit, and save changes to an Office file from a SharePoint repository, the program keeps a record of changes made. Then, an employee using Office Apps from any location, even without Office 2010 installed, can access that document and collaborate with users in the organization running SharePoint 2010.

Clearly, this is another indication of the level at which the company hopes organizations and users engage with a Microsoft-sponsored cloud that fulfills many roles. The number of options for development, collaboration, and communication that Microsoft is making available via the cloud all point to this: A degree of ubiquity where all roads eventually lead to the Microsoft cloud.

However, each application in Office Web Apps online is not as robust as its stand-alone counterpart. In fact, the online apps pale somewhat in comparison to the versatility of competitor's similar offerings. To reach parity, and to offer a truly robust online suite, look for Microsoft to roll out major revisions throughout 2011 and beyond.

4. Microsoft Exchange Server

Microsoft offers its own “messaging for everyone.” Anytime. Anywhere.

Since Microsoft Exchange Server was first introduced as Windows Messaging, an email client bundled with Windows 95, it has gone through a number of significant changes. Now, in today's more distributed, cloud-based, and mobile world of messaging, a range of previous standards has been forever altered. Cloud-based services and Web messaging solutions, such as Google Gmail, have transformed how organizations and users view email.

While individual users have flocked to these new messaging solutions, for large enterprises it has not been a simple transition. Compatibility issues between on-premises and Web-based (i.e., cloud) systems, security, data retention, and compliance are just some of the roadblocks large organizations face as they move their messaging infrastructure to the cloud. Microsoft has sought to ameliorate the problems and capitalize on this trend by recently releasing Exchange Server 2010 while simultaneously introducing Exchange Online, its cloud-based messaging service.

Overall, Exchange Server 2010 improves greatly on the previous version, Exchange Server 2007, most notably with the enhanced Outlook Web Access Webmail Client. It offers much of the same functionality as its full Outlook client across diverse Web browsers, and having Outlook as a Web app is a great feature. Administration is also made easy with updated management tools.

With Exchange Online, Microsoft's goal is to attract individual users and organizations. It plans to become a direct competitor to Google's Apps for Business even though IBM and Cisco have both introduced cloud-based messaging services as well. Microsoft plans to lure enterprises with its complete cloud-based email service (Exchange Online Standard) and also by offering a public/private combination.

This combination consists of a devoted Exchange server (Exchange Online Dedicated) used in conjunction with cloud-based Exchange Online. Then, older emails and less important data can be stored in the public cloud, and the more secure private cloud can be used for sensitive data and communications.

The Dedicated offering is delivered by Microsoft from a dedicated, virtual server, and the customer controls platform management. When employing a Dedicated offering, the organization migrates its on-premise systems from its own data center to Microsoft's data center, and no features are missing.

Again, the “pay-for-use” model on which the cloud is based is a prime focus for Microsoft. The company has already made strides in bringing its fee structure into parity with competitors. The general consensus is that Microsoft will continue to ramp up its Exchange Online offering to make it easier for larger organizations and enterprises to transition to the cloud.

5. Microsoft Office 365

Pie-in-the-sky or Office access for all? That's the question...

Microsoft understands that to make the cloud appealing to large enterprises, it must generate a wave of devotees and converts at all levels. To achieve this, Microsoft has introduced the subscription service Office 365, an online suite of applications that include Exchange, SharePoint, Office Live Meeting, and Lync.

In order to discuss Microsoft's future direction with Office 365 (formerly titled Business Productivity Online Suite (BPOS)), as well as other services, such as Live Mesh, it's useful to consider the status of two recently updated products: SharePoint and Lync Server.

The current upgrade, SharePoint 2010, now provides a diverse range of cloud-related and enterprise-friendly features. SharePoint Online, the cloud-based Office 365 feature, helps to define, organize, and manage collaborative groups as well as offers document libraries, Web and enterprise content management, and custom code testing.

However, if you're used to the robustness of earlier incarnations, such as SharePoint 2007, notwithstanding its drawbacks, SharePoint Online leaves more to be desired. Microsoft has committed to bringing enduser feature parity between the on-premise and online versions of SharePoint throughout 2011.

Microsoft Lync Server 2010 is the next generation of Office Communication Servers (OCS) that enables management of communications from one UI. As Microsoft rolls out Office 365, Lync Online will provide access to enterprise IM, audio/video conferencing, and Web meetings, as well as PC-to-PC voice capabilities.

Office Live Meeting, another Office 365 component, is a comprehensive real-time conferencing and collaborative platform with all the bells and whistles. Whiteboard? Check. Application sharing? Check. Desktop sharing? Ditto. Although face-to-face meetings will never diminish in importance, Office Live Meeting makes the exchange of information simple, especially in this era of geographically dispersed organizations.

Microsoft continues to adjust its subscription prices aggressively for its cloud services to compete with Google, Amazon, et. al. Its challenge will be to narrow the gulf between on-premises server features and the Microsoft-hosted versions of these services. By all accounts, the company is aware of the areas where inconsistencies are discouraging individual users and larger companies from committing to the cloud. As Microsoft eliminates inefficiencies and cloud computing evolves, the beneficiaries most likely to reap the rewards will be businesses themselves, in terms of pricing and computing power.

Conclusion

If 2007 to 2010 was a watershed period for SaaS (Software-as-a-Service) to begin showing the breadth and depth of its potential, look for 2011 as the year when Microsoft reinforces its offerings toward achieving further cloud robustness. Because even though Microsoft's diverse upgrades and releases have met, and sometimes exceeded, expectations for out-of-the-box software, the online components have often fallen short.

Of course, Microsoft would argue that building a cloud that meets everyone's expectations—individual users, SMBs, enterprises—is a constant work-in-progress. However, it's useful to keep in mind some of the inherent deficiencies that the cloud will likely never overcome. For example, databases with their high I/O requirements perform best when located in an on-premises server as opposed to a remote WAN-based location. Latency is another pitfall to 24/7 high-intensity businesses. CIOs need to consider what constitutes acceptable and unacceptable relays of information. In general, a LAN-based application will deliver micro-second response times. WAN latency via the Internet can increase significantly to milliseconds.

One must also assess an application's high availability potential and whether downtimes are acceptable. Perhaps the bottom line is that there are some aspects of a company's datacenter that will never be appropriate in the cloud. Mainframes have existed as long as they have for a reason—and the cloud may just not be appropriate for everything. It's a given that Microsoft executives have taken all of this into account. In the next few years, as the cloud advances, it will be interesting to see how conflicting computing needs are addressed and whether the cloud will fulfill its potential to become the definitive solution.

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About the Author

Kerry Doyle writes for a diverse group of companies based in technology, business, and higher education. As an educator and former editor at *PCComputing*, reporter for *PCWeek Magazine* and Associate Editor at *ZDNet.com*, he has written extensively on high tech issues for over 15 years. He specializes in computing trends vital to SMBs and enterprises alike, from virtualization and cloud computing to disaster recovery and network storage.