

GET CLOUD EMPOWERED. SEE HOW THE CLOUD CAN TRANSFORM YOUR BUSINESS.

Cloud computing is as much a paradigm shift in data center and IT management as it is a culmination of IT's capacity to drive business ahead. It can be narrowly defined as "just-in-time provisioning and scaling of services on shared hardware." But really, it's an opportunity to completely transform how your business and its people work.

The cloud makes it possible for you to:

- Scale rapidly—up and down.
- Deploy services only when and where they're needed.
- Deliver rich experiences across the PC, phone, and browser.
- Generate efficiencies and cost savings by paying as you go for only the services used.

In moving to the cloud, you can choose to implement any combination of several cloud models. The "public" cloud typically describes complete services offered by third-party providers. A "private" cloud involves organizations enabling their own cloud-computing capabilities on-premises or via dedicated hardware from a third-party host.

There are three basic models in mind:

- A *private cloud* is a set of computing resources that is dedicated to an organization, usually on-premises.
- A *hosted private cloud* has a dedicated infrastructure that's hosted by a third-party but is inaccessible to other customers.
- A *public cloud* involves computing resources hosted externally but shared with other organizations and dynamically provisioned and billed on a utility basis – pay for what you use as you use it.

None of these models are all-encompassing. Part of the cloud's unique power is its flexibility. Cloud models are designed to work together, so you can use the right models for your organization as well as for individual workloads.

6 WAYS TO REDUCE IT SPEND WITH CLOUD COMPUTING

A frequently touted benefit of cloud computing is IT cost reduction for businesses of all sizes. And you might be surprised to learn that this benefit applies whether you're planning on a public or private cloud infrastructure.

The public cloud model often has the potential to serve up the most radical cost savings:

- **Pay only for what you use, as you use it.** This is perhaps the most compelling of any cloud value message. By moving your applications and workloads to a public cloud platform, your IT staff can

instantly ratchet your resources up or down, depending on the immediate needs of any particular workload. Some large Microsoft customers have estimated they can reduce their overall IT spend by a factor of 10 while gaining more agility to respond to new business demands.¹

- **Control server sprawl.** Placing workloads in the cloud means those workloads no longer require dedicated server capital expenditure investments. While the cloud isn't free, running applications there allows you to enjoy the possibility of reducing an application's server count all the way to zero.
- **Reduce data center facility costs.** Fewer servers mean a smaller data center footprint. That translates to direct savings on real estate, power, and cooling. It also translates to indirect savings on business continuity and facilities maintenance. Even though these savings extend to the private cloud model, the public cloud model offers small and medium-size businesses the possibility of eliminating the need for a data center.

But as the new paradigm of cloud computing emerges, you'll see that a combination of private and public cloud models will be the most popular implementation. This combination provides the most flexible IT infrastructure and has compelling costs savings of its own:

- **Decrease IT management costs via virtualization.** Scaling infrastructure to meet new workload demands, maintaining physical security, and software deployment and patching are just a few examples of costly IT management tasks that are decreased significantly by running a virtualized infrastructure.
- **Decrease IT management further with IT as a Service.** With private or hosted private clouds, your users will be able to provision many IT services on their own through self-service portals that can take direct action across a virtualized infrastructure. This can mean a significant savings on common help desk calls and other IT management tasks like procurement and server configuration. Specialized staffers are then free to concentrate their talents on tasks specific to your business rather than on general technical problems.
- **Simplify IT chargeback models.** Because private cloud computing enables your business to draw resources from a centralized pool of virtualized IT resources, the expensive siloed chargeback models that many enterprises use can evolve. CIOs will be able to allocate virtualized resources across workloads depending on immediate demand without the need for siloed purchasing or provisioning.

The cloud's ability to save you money doesn't end with decreased IT spending. It can extend to making your front-line business operations more agile and reliable and your business more competitive, which can help you actually add revenue. Using the cloud, you can deploy software and products more quickly and respond to market opportunities globally in a fraction of the time required today.

Getting started. *Accurately forecasting your potential savings from cloud computing means a careful accounting of your current IT spend combined with detailed capacity planning for your immediate spending future. Then, work with your IT staff and your cloud provider to determine the best cloud deployment strategy and arrive at a detailed cost savings analysis.*

CONNECT WORKERS AND TEAMS WITH CLOUD-BASED PRODUCTIVITY

Productivity is often considered the most popular business function for cloud migration for companies new to cloud computing. A Channel Insider article points to a July 2010 Gartner report

projecting that cloud-based email and collaboration services will see 10% penetration of the enterprise email and messaging market by 2012 and will near 65% penetration by 2020.² This growth is predicted for several reasons:

- **Lower cost.** Companies can save significantly. Users of public cloud email will eliminate messaging server sprawl, with associated decreases in data center facilities costs. Companies like Barry-Wehmiller have garnered six-figure savings by moving to cloud-based email systems.³ But even private clouds offer collaboration cost savings, including decreased hardware expense and simplified failover and data recovery options.
- **Service maturity.** Because the concept of hosted email has been around for so long, many CIOs feel that cloud-based email may be the most mature cloud service available today. That means more reliability on the cloud provider's side, more deployment and access options, and an easier time negotiating your SLA.
- **Flexibility.** Where traditional hosted email simply hosts a number of mailboxes for your organization, cloud-based email enables full integration with the rest of your infrastructure – even if that infrastructure is still located on your premises in a hybrid cloud infrastructure. Your IT staffers manage local and cloud-based mailboxes with the same set of tools. This not only makes rote management tasks easier, but also enables more responsiveness to new requirements.
- **Better user experience.** Workers in other countries often find that distance can make connections to in-house resources unreliable. With cloud communication and messaging, you can provide more reliable global user connectivity. A high degree of reliability is especially crucial for helping users accept and work with collaboration tools.

Email and collaboration tools are hugely important for meeting today's business productivity requirements. Cloud computing makes these resources easier for your IT staff to manage and easier and more reliable for your users to access. Those using public cloud resources can investigate Software as a Service (SaaS) offerings such as email integrated with Voice over IP (VoIP) phone services, content sharing and management, and electronic meeting software. Public cloud service providers can offer these capabilities as a service – no deployment headaches required. Along with providing users the ability to connect globally and across a variety of target devices, cloud computing eliminates the cost of buying servers and infrastructure for lots of branch and remote offices. If you're looking for a first workload with which to try cloud computing, email and collaboration services provide a great place to start.

Even as you're evaluating moving your email, messaging and team collaboration platforms to the cloud, however, you should be using lessons learned to evaluate whether other business functions should live there as well. One example might be your line of business (LOB) applications. LOB applications are often the last to be considered for cloud migration because their deployment, management, and use represent the core of IT competitive advantage for many companies. But with the new agility the cloud can offer, smart CIOs are looking at LOB cloud migrations much sooner, seeking new competitive capabilities and an easier time reaching new markets.

And consider the concept of moving parts or all of your IT infrastructure into the cloud. Because of its customizability, many CIOs are looking to save significant dollars this way using combination of the following models:

- Physical server and network infrastructure, called *Infrastructure as a Service* (IaaS)
- Server platforms and management, called *Platform as a Service* (PaaS)
- Specific application workloads, called *Software as a Service* (SaaS)

Collectively, these models can be viewed as *IT as a Service* (ITaaS), which not only represents the essence of cloud computing, but also encapsulates the paradigm shift cloud computing will have on traditional datacenter and IT management.

Getting started. *Audit your email and messaging usage for the last several years to forecast where this service is going in your company. Factor in areas of functionality you'd like to add – voice, document sharing, etc. Then talk to your cloud provider about options, deployment, and pricing.*

YOU CAN STRENGTHEN SECURITY WITH THE CLOUD

CIOs unfamiliar with cloud computing are concerned over how to maintain IT security once their infrastructure is off-premises. Physical access to servers running their virtualized infrastructure, multiple forms of data security, and the ability to pass a variety of regulatory compliance audits are all justifiable concerns that need to be addressed before companies can safely embrace cloud computing. Fortunately, competitive cloud providers can provide solutions to address all these problems. Don't be satisfied with a cloud provider unless it can provide at least the same level of physical and data security as your current data center, and preferably exceed those levels. Start by choosing only public cloud providers with:

- **Demonstrated physical security.** A competitive cloud provider will be able to demonstrate that its data centers are physically secure – preferably with regular audits that comply to ISO 27001 standards. A competitive cloud provider's points of presence should be state-of-the-art data center facilities that employ the very latest in access control and data protection. Your IT staff should be able to quickly build a list of physical security and data protection requirements, and your cloud provider needs to meet those.
- **Demonstrated experience in IT security.** Long and demonstrable experience in IT and data security is paramount, and it should go beyond just hardware security at the cloud provider's sites, extending to software security up to and including full volume data encryption, granular server and data access control, and detailed audit logs. You should be able to protect data access from anyone, including the cloud provider's own on-site technical staff. And finally, any enterprise-capable cloud provider should make sure that your data won't be accessed by cloud IT staff or mined for commercial purposes by other customers.

Those building private cloud infrastructures have fewer security worries, since infrastructure is still on-premises. But private clouds do have security issues of their own that need to be addressed:

- **Identity management.** This is probably the most important private cloud security concern. Giving users the ability to access IT resources directly via self-service portals makes identity management more important than ever. Your IT infrastructure must implement an identity management solution that's compatible with your self-service portal and with your cloud provider's identity management platform if you intend to leverage a public cloud model.
- **Regulatory audits.** While private clouds are located on-premises, it's still a new model of enterprise computing. Make sure your regulatory requirements are being met in this model by running test audits – if a public or hosted private cloud model is your eventual goal, your public cloud provider can be an excellent resource here. In most cases, you'll find the provider has experience dealing with your specific audit requirements.

Next to security concerns, some CIOs are also worried about losing control of their IT operation – day-to-day management, physical control and data sovereignty are important concerns. But a competitive cloud computing solution should enhance all these facets of your IT operation, not endanger them. Today's IT management toolkits can span the gamut between on- and off-premise cloud computing

elements, managing both as a cohesive whole and actually increasing response times and application performance. Cloud computing providers should be able to provide at least the same level of

physical and data security as your current data center, and in most cases exceed those levels. Start the conversation with your cloud computing provider today, and get the answers to these questions. Then use them to build a cloud migration plan that's right for your organization.

Getting started. *Talk to your IT security officers and make sure an accurate and detailed list of requirements is available. Audit your identity management system and make sure it fulfills your needs now and in both a private and public or hosted private cloud computing model. Work with your cloud provider to develop a detailed security policy that's reflected in your SLA.*

MICROSOFT: IT'S ALL ABOUT CLOUD POWER

At this point, just about everyone's talking about the cloud. But it's not just another buzz word – and it's not new. Microsoft has been leading the evolution for 15 years, building and hosting some of the world's largest cloud services. We're the only vendor currently capable of bringing you the full power of cloud computing with a complete offering of Infrastructure as a Service, Platform as a Service, and Software as a Service. We're enabling customers and hosted partners to build their own cloud computing environments as well as implement provided cloud services.

With Microsoft, you can build, extend, or migrate to the cloud on your terms. ISVs and in-house developers will be able to easily adapt existing applications to your cloud environment because we provide a set of common management, identity, and developer tools that work across traditional server and cloud environments.

We've infused our cloud solutions with the power of experience. Having run some of the world's largest cloud services for over 15 years, we understand the requirements of mission-critical services. Our cloud services run in a global network of enterprise-class data centers that offer 99.9% up-time and full 24/7 customer support, as well as mission-critical physical and data center security accredited to ISO 27001:2005 with SAS 70 I and II attestations. Your IT staff and end users can easily move to and from the cloud using their existing investments and the skill sets they already have. We ensure a familiar and consistent experience by designing our cloud-based products with equivalent functionality and similar look and feel to that of our traditional, on-premises products.

There is a cloud on your company's horizon regardless of size, focus, or vertical. Cloud computing offers a paradigm shift in cost savings, agility, scalability, and global reach that is simply too powerful for any enterprise to ignore. Whether you're looking to move to the cloud today or you simply need to investigate this new model for the future, you should start that conversation with a cloud leader fully committed to existing cloud services and to future cloud innovation. By bringing the full power of the cloud to bear and providing you with the flexibility and control to harness that power, Microsoft will enable you to transform your business with cloud computing on your terms.

Now that you have begun exploring the possibilities of Cloud Power, contact your local Microsoft partner to learn more and to start transforming your business.

Footnotes

1. Microsoft Case Study, *Siemens Expands Software Delivery Service, Significantly Reduces TCO*, http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?CaseStudyID=4000005945 (November 17, 2009)
2. Nathan Eddy, "Majority of Enterprises to Use Cloud-Based E-Mail by 2020, Report Says," *Channel Insider*, September 2, 2010, <http://www.channelinsider.com/c/a/Cloud-Computing/Majority-of-Enterprises-to-Use-CloudBased-Email-by-2020-Report-Says-102790/>
3. Microsoft Case Study, *Manufacturer Saves \$300,000 by Moving to Scalable, Hosted Online Services*, <http://www.microsoft.com/casestudies/Microsoft-Business-Productivity-Online-Standard-Suite/Barry-Wehmiller-Companies-Inc/Manufacturer-Saves-300-000-by-Moving-to-Scalable-Hosted-Online-Services/4000005569> (November 2, 2009)