FOUR STRATEGIES FOR MOVING TO THE CLOUD

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Cloud computing is a major departure from the traditional IT service delivery model. Services are no longer tied to dedicated hardware silos. Instead, virtualized resources — servers, network devices, and storage — are abstracted from the hardware. They move freely about the infrastructure, delivering services when and where they are needed. But this doesn't mean that you have to completely reinvent IT to implement cloud computing.

The Impact of Cloud Computing

Many IT organizations have been driven by three major goals: achieve extreme agility in responding to the demands of the business, drive down service delivery costs, and minimize risk. Cloud computing doesn't change these objectives. It simply accelerates progress toward them.

Moreover, the fundamental technologies that enable cloud computing — virtualization, automation, and user portals — have been around for many years. In fact, you're probably already using them in your data center. Moving to cloud computing involves leveraging these technologies and combining them in new and innovative ways.

Cloud computing, however, does have a dramatic impact on IT organizations. To make a successful move to the cloud, IT must undergo four major changes: infrastructure transformation, service transformation, process and organizational transformation, and cultural transformation. Each one has important implications for service management in the cloud.

1. INFRASTRUCTURE TRANSFORMATION

Perhaps the most significant transformation you face involves the IT infrastructure. Traditional architectures are fragmented, with application stacks and data segregated into hardware silos. Cloud architecture is unified and fluid. In the cloud, application stacks and data share hardware. They move freely throughout the cloud to deliver services when and where they are needed.

So how do you transition from a fixed to a fluid environment? An incremental approach enables you to implement cloud computing while avoiding disruption and minimizing risk.

As with all new technologies, it is a good idea to begin implementing cloud computing in a test environment. This gives you and your staff time to become familiar with the workings of a cloud without affecting critical systems in the data center. Some enterprises begin their foray into the cloud by creating a development environment that lets the staff test drive the cloud functionality. Other organizations provide a self-service portal with automated provisioning for accessing their traditional virtualized environments. Both of these approaches set the stage for gaining experience and then extending the reach of the cloud to include production systems.

As you expand your cloud implementation, you will likely find that your data center remains heterogeneous. As not all services are appropriate cloud candidates, you will be managing both traditional and cloud environments. Additionally, you should consider keeping your options open by ensuring that your management tools accommodate heterogeneous platforms and diverse virtualization technologies, such as VMware, Hyper-V, or the many flavors of Xen.

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Many enterprises are pursuing cloud computing by augmenting internal (private) cloud services with offerings from public cloud providers. This hybrid approach also has service management implications. You need to be able to manage public cloud services as robustly as you do private cloud services. That's the only way to achieve the performance, security, and compliance your business requires. Consequently, it's important to choose a public cloud provider that can extend service management capabilities to your organization.

2. PROCESS AND ORGANIZATIONAL TRANSFORMATION

Over the years, many IT organizations have developed and honed best-practice processes across IT disciplines, such as those based on the IT Infrastructure Library® (ITIL®). Incident and problem management, change and configuration management, access control, and compliance are just a few examples. The best practices have delivered huge gains to IT organizations by providing them with greater agility, cost effectiveness, and risk avoidance.

You don't have to scrap these processes and start all over to accommodate cloud computing. In fact, there is a variety of ways you can leverage them in the cloud. And through automation, you can lock down many of these processes to enforce their use.

Keep in mind, however, that you may need to modify your processes so that they are more attuned to the cloud environment. For example, change management processes include change request approvals by appropriate managers. If the approval portion of the process is handled manually — as it is in many organizations — bottlenecks will hamper your ability to deliver requested services in a timely manner. As one IT manager explained, "I can spin up a new server in minutes, but it takes a month to get the paperwork signed off." By modifying your change process to include pre-approvals for certain types of changes — for example, the automatic provisioning of standard server configurations — you can eliminate delays in responding to many user requests.

With respect to service management, many IT organizations are benefiting from technology breakthroughs that simplify the management of processes in the cloud. Advancements in configuration management, for example, support the fast-moving cloud environment in which large numbers of resources are automatically and rapidly provisioned, deployed, and retired. Sophisticated change management capabilities maintain strong control and tracking of changes without impeding the rapid change that must occur in the cloud. New automation orchestration solutions accommodate the greater complexity and dynamic nature of the cloud environment. Robust integration across service management solutions is helping to ensure that provisioning occurs with appropriate monitoring and tracking to maintain service quality and compliance.

A service orientation requires an IT organizational structure that is able to better manage and support the cloud environment. The transformation may involve new roles. For example, you may replace teams structured around technology lines — *servers, applications, networks,* and *storage* — with teams such as *service administration* or *IT product management* that work from a service perspective across all technologies.

3. SERVICE TRANSFORMATION

ITIL best practices are focused on helping organizations move to a service perspective. Cloud computing can support that approach by empowering business people to request services on their own. Self-service increases agility in meeting the needs of the business. Additionally, it reduces the cost of service delivery.

For self-service to work, however, it must present resources in terms that users understand. Business people don't care about the IT infrastructure components required to deliver the services they need. They want to request services in terms they understand and have those services delivered in a timely fashion. For example, they aren't interested in how many CPUs and how much memory is required to host an online shopping cart application. Instead, business users would be better served with a "Supports 1000 concurrent users" tier and a "Supports 5000 concurrent users" tier, enabling them to make the choice based on anticipated customer volumes.

To meet this requirement, you need a set of standard offerings presented in business terms. Standardization makes it easy for people to request services. It also simplifies management and helps drive down IT costs.

Business service management (BSM) can help IT organizations as they transition to a more service-oriented approach to systems management. BSM is a comprehensive approach and unified platform for running IT. This approach enables IT to manage the infrastructure from a service standpoint by relating services to the components of the underlying IT architecture that supports the services. As a result, IT can manage services based on business impact, greatly increasing efficiency.

BSM solutions can help you operate more effectively in the cloud environment. Service request automation capabilities, for example, are making it easy for business users to request the services and service levels they need from a catalog. Identity and access management components are ensuring that people can request only those services that they are authorized to use, and access levels are controlled based on user roles in the organization.

4. CULTURAL TRANSFORMATION

In the past, some IT organizations were hampered by organizational or budgetary constraints and, as a result, were slow to satisfy business requests. In contrast, cloud computing provides agility. IT responds in minutes to requests for service. That represents a major change in culture not only for IT, but also for business units. With the rapid response to service requests enabled by the cloud, business users can be far more agile in responding to changing conditions in the business environment. That agility means an enhanced ability to seize new business opportunities.

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Cloud computing also promotes better insight into costs. IT can publish the cost of a service in the service catalog so that business users can accurately budget their IT needs up front. Cloud computing supports granular usage metering, enabling IT to construct a credible, transparent pricing model with which to charge the business for resources used. This model could include everything from physical resource utilization and software costs to augmentations for service level outages or peak/nonpeak usage patterns.

IT must be the driving force behind this cultural transformation. Effectively communicating the cloud message to business users is essential. You must, of course, deliver on the message by empowering people to request the services effortlessly, fulfilling requests without delay, and meeting user expectations for service quality.

Putting It All Together

Cloud computing is transforming every aspect of IT: the infrastructure, processes, services orientation, organizational structure, and corporate culture. Despite the huge transformations IT must undergo, it's still an ongoing process. You can move to the cloud without throwing away all that you've built in your traditional environment.

Your objectives remain the same: agility, cost effectiveness, and risk management. Cloud computing will help you continue to drive toward these objectives. You may already have many of the technologies in place: virtualization, automation, and user portals. These technologies provide a foundation for your next step toward cloud computing. BSM solutions can help you manage services in the cloud for maximum value, enabling you to strengthen the ties between IT and the business and to help ensure the continued success of your enterprise.

For more information about cloud computing, visit www.bmc.com/cloud.

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