

Accelerate your Technology Strategy with Cloud Computing: The New IT



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CLOUD COMPUTING: THE NEW IT

By Tom Gamull

The following is one of a collection of articles that addresses strategy around hybrid cloud architecture and IT-as-a-Service.

Many industry experts call cloud computing the “New IT” because its emergence marks a new era in the IT industry. Cloud computing enables rapid delivery and consumption of IT on-demand services in concert with constantly-changing business drivers. Most of the recent hype regarding cloud computing has focused on the technology that enables this new IT model. However, the real source of innovation are new service roles and service management that are part of a recyclable set of IT resource pools to provide IT-as-a-Service. Cloud computing is driving fundamental change in today’s IT organizations. It is the culmination of all that IT was in the past and sets the stage of what IT will become.

WHAT IS CLOUD COMPUTING?

Cloud computing is a departure from the reactive and constraint-based IT frameworks of the past. It is a journey toward the next form of IT, which will adapt to the next generation of high tech IT users. Cloud computing in some form is unavoidable, and everyone in IT should be asking themselves: What is cloud computing and why is it necessary?

The National Institution of Science and Technology (NIST) provides the most widely accepted-definition of cloud computing. NIST describes a set of service and delivery models as well the descriptive characteristics of cloud computing. Cloud computing is defined as a conceptual model for providing and consuming a set of IT resources that are ordered and managed throughout the lifecycle of the service—with minimal or no human intervention. This is the new IT-as-a-Service model with emphasis on the word **Service**.

THE EVOLUTION OF IT

To help answer why cloud computing is necessary, let’s examine some IT history. Modern IT history began with the introduction of a computer system called the mainframe, which was based on vendor-sourced technology with a closed architecture. Mainframes were both very expensive and very rigid. As a result, applications were re-written to run on individual application servers at a much lower cost. While these early application servers were not reliable, workloads shifted from mainframes to servers as improvements were made. Later, as UNIX systems were supplanted by still lower-cost x86 microprocessors, adoption increased along with both performance and reliability.

Applications—no longer bound by the high costs, strict management and organization of the mainframe environment—then poured into the

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marketplace, leading to organizational chaos and server sprawl. The CIO role was created to bring order back to IT and to ensure corporate IT security, policy and governance.

Over the course of time, IT enterprises consolidated and standardized their technology choices and created policies for what is and what is not allowed. While necessary, the policies also impeded creativity and free-flowing innovation within the enterprise.

THE EMERGENCE OF VIRTUALIZATION

The World Wide Web era saw a clash between order and a new generation of innovation, which included operating systems, programming languages and a new wave of applications and application frameworks. CIOs, struggling with the ever increasing demand for more servers, welcomed the advent of virtualization, which shifted the problem to virtual machines that are vastly less expensive to procure and manage.

Virtualization enables a centrally-managed, highly-available architecture similar to mainframes but also offers tiers of resource pools and individual application servers to create distributed n-tiered environments. Yet the organization and

processes that run today's virtualized environments are fundamentally those of the older traditional style of IT management; they don't align well with the new fast-paced innovation cycles.

Many enterprises implement control by reducing the number of virtual machine templates and standardizing on a minimal set of images to clone their machines. While perhaps a necessary step at one point to bring costs under control and to make data centers manageable, it is unsustainable in the face of increased innovation demands. of virtual machine templates and standardized on a minimal set of images to clone their machines. While perhaps a necessary step at one point to bring cost under control and to make the data centers manageable, it is unsustainable in the face of increased innovation demands.

THE EMERGENCE OF CLOUD COMPUTING

Cloud computing first emerged as a public services model with organizations such as Amazon offering virtual machines on a rental basis. Application developers loved the flexibility and agility that virtual machines enabled. On the other hand, IT management was concerned that developers could now operate without IT policy constraints.

But the advent of private cloud computing provided IT with the opportunity to facilitate innovation while maintaining both cost efficiency and control. This approach allows an enterprise to redirect its valuable IT resources to business-related issues and innovation rather than spending human resource cycles on operational matters.

Private cloud computing also offers a service-delivery model enabled by automation and orchestration as well as a service framework of electronic catalogs and Web portals. IT can also maintain standardization and good management practices while offering a menu of on-demand service items that range from a single server to an entire application environment.

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THE CLOUD AS FACILITATOR OF INNOVATION

In recent decades, conflict often occurs between innovation and IT. Innovation eventually wins, albeit may take some time. Instant messaging or chat is a good example. Once considered taboo by IT, it is now one of the most valuable business tools used by many internally within a corporation and externally with customers.

Enterprise IT personnel often say that they are virtualized and do not need cloud computing. However, virtualization is a technology while the cloud is a model that encompasses business requirements, technology, organization, automated processes and a real, IT-as-a-Service lifecycle-management framework. The cloud model supports today's applications while synchronizing with the new innovation of the future.

THE CLOUD COMPUTING JOURNEY

Cloud computing, although dependent on technology, is much more than what most people think. It is the new IT, and all enterprises should all start the cloud journey right now. The transformation won't happen overnight: The journey will take time. But exploring the questions of why and what is cloud computing is a good start.

Through proof-of-concept demonstrations, workshops, assessments, and planning engagements, Presidio can help you answer these questions and determine if the cloud makes sense for your business. We also help determine which cloud architecture will deliver the greatest ROI for your specific business operations.

Hopefully, your journey starts soon and so your business can reach the new IT.

THE CLOUD COMPUTING JOURNEY

"We don't have developers, so we don't need the cloud."

Enterprises that take this perspective should ask themselves several follow up questions before dismissing the cloud as a valid IT model:

- Is your company business so static that no innovation is required?
- What are your competitors doing?
- How do you determine if there is no need for new innovation?
- If your competitors gain an edge because they try something new, how will you react?
- Has IT been briefed on the business dynamics and how customers want to interact with the company?
- If not, how is IT aligned with the business needs?

After considering the answers to these questions, it most likely makes sense for every enterprise to give the cloud serious consideration.

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CLOUD COMPUTING: THE NEW IT is one in a series of articles that create the conversation of "High Availability in a Hybrid World." These assets are meant as a resource for IT decision makers who are faced with the challenge of creating either a hybrid cloud or IT as a Service strategy.

HYBRID CLOUD DEFINED

Hybrid cloud is a composition of two or more clouds (private, community or public) that remain unique entities but are bound together, offering

the benefits of multiple deployment models. By utilizing hybrid cloud architecture, companies and individuals are able to obtain degrees of fault tolerance combined with locally immediate usability without dependency on internet connectivity. Hybrid cloud architecture requires both on-premises resources and off-site (remote) server-based cloud infrastructure. Hybrid cloud provides the flexibility of in house applications with the fault tolerance and scalability of cloud based services.

IT as a SERVICE DEFINED

(ITaaS) is an operational model where the IT organization of an enterprise is run much like business, acting and operating as an internal service provider. In this model, IT simplifies and encourages service consumption, provides improved financial transparency for IT services, and partners more closely with lines of business. This type of IT transformation is business focused rather than cost focused, leading directly to improved levels of business agility. Typically, ITaaS is enabled by technology models such as Infrastructure as a Service (IaaS) and Platform as a Service (PaaS), all of which are part of cloud computing.

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