

Cloud Computing Confusion Leads to Opportunity

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The concept of the cloud has emerged and is now gaining traction. Our Special Report examines the realities and risks.

ANALYSIS

Cloud computing is what is referred to by Gartner as an "emerging phenomenon." Phenomena emerge when conditions are right and multiple factors are in play. Much like the aurora borealis, which emerges when solar winds, charged particles, and Earth's atmosphere collide, "the cloud" is emerging at the convergence of three major trends — service orientation, virtualization and standardization of computing through the Internet. Associated concepts include the democratization and industrialization of IT, both subjects that hint at IT-enabled capabilities becoming more accessible and widely available to anyone with the wherewithal to adopt it.

This is an indicator that the cloud is not just a simple trend toward one model of computing. Cloud computing has been seen by many as a re-envisioning of other distributed and utility computing models that have been around for quite some time. Utility computing, on-demand services, grid computing, software as a service (SaaS) and others all play a role in the evolution of this emergent phenomenon. As a model, cloud computing will evolve over time to deliver different choices for how both vendor and user organizations might benefit.

This Special Report contains 13 pieces of research compiled by more than 20 analysts. Because this only begins to scratch the surface of the subject, Gartner's research on cloud computing will always be multidisciplinary and wide-ranging. By its very nature, the subject is broad, exposing both risks and opportunities throughout the IT and business worlds. However, it is important to note that these are not competing disciplines. Instead, they are complementary in that they all support common concepts that must be embraced to enter a new stage of computing dominated by the delivery of IT-enabled services. These common concepts include:

- Service orientation (including SOA) and delivery
- Virtualization and distributed operation
- Consumer/provider relationships
- Elasticity of the computing model
- Evolution of the Internet and global-class computing

In our reports, topics such as security risks, processes in the cloud, e-mail, portals and even IT operations all have cloud angles. This is illustrative of the fact that global-class computing (computing encouraging freedom and flexibility of interactions) has truly become a primary way to deliver value beyond just the enterprise. Research such as the following offers many perspectives for examination:

- "IT Operational Considerations for Cloud Computing"
- "Identity Services (in) the Cloud"

These topics will be approachable to those new to cloud concepts because they start from familiar foundations of understood and popular technology categories. Beyond that, we also cover use of the cloud in HR services, health record tracking, procurement management and even printing services from the cloud. A key realization is that any and everything might become affected or supported by cloud computing.

However, confusion still abounds when cloud computing is discussed. Many people believe that there will be thousands of public clouds, while Gartner recognizes only one. Certainly, there are many cloud platforms (such as Amazon's Elastic Compute Cloud) and many cloud services from companies that range from Google to Zoho; all of them will inject their services into the one public

cloud. Some believe that SaaS and cloud computing are exactly the same — Gartner does not. The definitional issues are examined in:

- "Cloud Computing: Defining and Describing an Emerging Phenomenon"
- "Tutorial for Understanding the Relationship Between Cloud Computing and SaaS"
- "Key Issues for Cloud Computing"

Conclusion

Although confusion will remain throughout 2008, it is our goal to cut through the hype, as well as to illustrate opportunities for consumers and providers to take advantage of the cloud. We expect that users will use this Special Report to understand what cloud options are available to them today and how to approach cloud providers. Vendors will need to examine how they should evolve their platforms to be cloud-capable and how their business models will need to evolve to remain key technology and service providers. By 2010, confusion around the cloud will have been replaced with clean-slate competitors delivering and consuming services from search, to identity, to core infrastructure operations.

Those inquiring about the cloud will find a lot to discuss. This report can become a starting point for understanding how a phenomenon might dissipate or evolve into a way of life over time.

Other research in the Special Report includes:

- "Assessing the Security Risks of Cloud Computing"
- "Cloud Computing and HR"
- "Cloud Computing, the Printing Opportunity for Enterprises"
- "E-Mail and the Cloud"
- "Enterprise Portals in the Cloud"
- "Enabling Transactions 'in the Cloud' Through Extreme Transaction Processing"
- "Shared Services in Government: Obscured by the Cloud?"
- "The Cloud-Based Personal Health Record"
- "The Significant Potential Impact on IT Procurement and Vendor Management as Cloud Computing Matures"
- "Business Processes in the Cloud: The Rise of the Business Process Utility"
- "Will Network Service Providers Be First with Enterprise-Focused Cloud Computing?"
- "How to Identify Cloud Computing"
- "Economies of Scale Are the Key to Cloud Computing Benefits"
- "Risks and Rewards: Examining Cloud Computing's Effect on Vendors and Users"
- "Seeds From the Cloud: How Remote Relevancy Services Will Improve Information Access"
- "Cloud, SaaS, Hosting and Other Off-Premises Computing Models"

- "Cloud Computing Doesn't Require Massive Providers"
- "Cloud Computing and Open Source: An Industry-Altering One-Two Punch"
- "Cloud Computing Changes IT Asset Acquisition and Ownership"
- "IT Industrialization: Redefine Your IT Portfolio in Service Components"

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