Your Step-By-Step Guide to Cloud Computing

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Your Step-By-Step Guide to Cloud Computing

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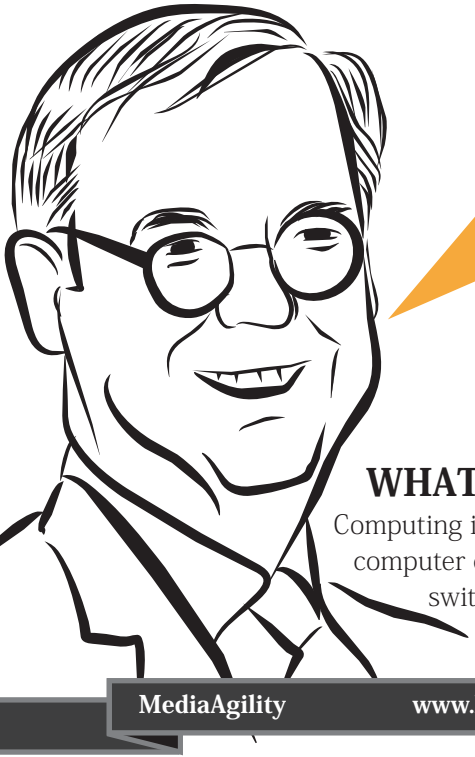
WELCOME TO THE CLOUD - The New Paradigm of Computing

Before guiding you through all those geeky and nerdy details, I'd like to quote arguably the most ardent cloud computing evangelist of our times, Google's former chief exec Eric Schmidt :



"It starts with the premise that the data services and architecture should be on servers. We call it cloud computing – they should be in a 'cloud' somewhere. And that if you have the right kind of browser or the right kind of access, it doesn't matter whether you have a PC or a Mac or a mobile phone or a BlackBerry or what have you – or new devices still to be developed - you can get access to the cloud…"[1]

WHAT IS CLOUD COMPUTING?

Computing in the age of the Internet has changed amazingly. As you sit glued to your computer checking your Facebook updates or watching a YouTube video, you're in fact switching into the collective power of numerous computers serving the information from across various parts of the world. It's just like having a supercomputer

working for you at the back-end. And this phenomenon, in technical terms, is what's widely being referred to as "Cloud Computing".

No technical jargon or big words, **cloud computing means everything you do on the web without having to install any particular hardware or software application for the purpose.** Be it about streaming and watching videos, reading articles, or saving some file over the web --- all comes under the definition of cloud computing.

WHY IT'S ALL RIGHT FOR YOUR KID TO SMASH YOUR NOTEBOOK?

Not so long ago, we stayed wary about losing our all important data in the event of a sudden system failure! Well, it's not the same anymore. Nowadays our data has migrated beyond the confines of personal computers. Besides, most of us have now started saving our data online onto "The Cloud". **Having all your data stored with mail services; like Gmail or Hotmail, or with the social networking sites; like Facebook and MySpace,**

or with any other web-based service, you can actually afford your kid to smash your laptop without having to worry about your critical data.

Google's newly unveiled CR-48 laptop[2], powered by its own signature Chrome OS, can arguably be labeled as the culmination of the cloud computing. This "test-notebook" from the labs of Google, boots in around 10 seconds and resumes from hibernation almost in no time. Basically, the laptop sports the Chrome Web OS that stores everything on the cloud, taking the notion of operating systems entirely to a different level.

COUSINS OF THE CLOUD

With so many cloud-like technologies available around, there are chances that you might get a little perplexed over the actual meaning of cloud computing. **It's imperative for you to have a clear-cut distinction between the concept of the cloud and other somewhat synonymous technologies,** which are:

1. Virtualization : Virtualization is often considered as a close cousin of cloud computing. It does have the capability of providing on-demand infrastructure supporting multiple users, but then it doesn't boast of the automation needed for self-managing, along with automated troubleshooting features of the cloud. So, clearly, it can't be tagged as cloud computing.

2. Hosting : As you might know, hosting essentially implies providing server space to clients along with the IP connectivity. But, since it lacks the on-demand services and scalability attributes of the cloud, it perceptibly can't be placed in that bracket.

3. Utility Computing : This form of computing goes hand-in-hand with the cloud. In this model, important resources like, applications, infrastructure, services etc are bundled and put on sale, with users required to pay only for what they use, just like electricity. Though utility computing has striking similarities with cloud computing, the latter is a much broader concept that involves the underlying architecture too.

4. Grid Computing : Initially intended for intense batch applications, grid computing surfaced as a way to facilitate users to share information and computers. From there on, contemporary grid computing technologies developed over time to enable people to have the advantages of cost-efficient servers in a data center to address a broad array of business-related problems. While it may give you the feel of cloud computing, it apparently misses out on the flexibility that the cloud has to offer.

WHAT'S IN THE CLOUD FOR ME?

Cloud computing has evolved from a futuristic technology to a commercially feasible alternative for the organizations searching for cost-efficient computing solutions. In fact, the research major Gartner has ranked cloud computing at the top of the "Strategic Technologies"[3] for the year 2011.

Cloud computing holds a raft of benefits for contemporary business outfits, some of which are enunciated in the following section::

1. Cost Benefits : One of the prime benefits of cloud computing is that it enables organizations, irrespective of their sizes, to have access to the required computing infrastructure without having to install and administer the hardware or software applications directly. It's like paying only for what you use, and nothing else.

2. Enhanced Storage : Organizations can increase their storage capacity depending on their network load without installing any additional hardware or software for the purpose. This marks a huge advantage over the physical computer systems that have limited storage capacities. Don't bother about the storage capacity of your hard-drive now, and store as much as you can on the cloud.

3. Great Flexibility : Cloud computing offers greater flexibility than the traditional physical computing systems. Benefits like anytime-anywhere access, use of multiple web-connected platforms, are some of the notable factors that make the cloud immensely flexible. Thus, with getting a hold over any web-powered device, you can collaborate on any critical project in real-time irrespective of your geographic location.

4. Highly Automated : With the concept of centralized updates in cloud computing, IT departments don't have to worry about keeping their software applications updated. Not just that, this also keeps the worries surrounding server maintenance and downtime at bay, enhancing productivity and efficiency of employees to a significant extent.

5. Increased Mobility : Your employees don't have to stick to their desks to access any information or collaborate on any important issue. Cloud computing empowers them to have access to their documents from their present locations. They can also use any of the modern web-connected devices, such as smartphones or tablets, to access and collaborate on any document.

6. Shared Resources : Ability to share resources is yet another significant component of the cloud computing. With cloud, various resources of a company can collaborate easily in real-time. This helps tremendously in saving upon time and resources of a company, and thereby significantly bolsters the collective organizational productivity.

7. Eco-friendly Incentives : Another aspect that would make you tick the cloud is its eco-friendly nature. Cloud is more congenial to the environment than its physical computing counterparts. Cutting the count of hardware components and substituting it with the cloud infrastructure diminishes energy costs and also brings down carbon dioxide emissions. So, in a way, cloud also assists you to make your own contribution to the noble cause of environment protection...

In addition to the aforementioned advantages, cloud computing offers a whole lot of other benefits too. **Easy implementation, high scalability, skilled practitioners, enhanced productivity, free-up internal resources, are some of those additional incentives that can't be ignored when we're talking about cloud computing incentives.**

TYPES OF CLOUD COMPUTING SERVICES

Cloud computing is an umbrella term that encompasses several modern computing architectures that can broadly be classified into the following categories:

1. Software-as-a-Service (SaaS) : This form of cloud computing offers a single application using the web browser to a large number of users through multi-tenant architecture. On the customer part, it implies no upfront investment for acquiring various computing requisites, such as servers, licensing, while providers, with just one app to manage, save immensely upon organizational resources. Google Apps[4] - a productivity enterprise suite from the search major Google, and SalesForce.com are known the world-over for delivering enterprise apps to businesses.

2. Platform-as-a-Service (PaaS) : An extended arm of SaaS, this type of cloud computing involves delivering development environments as a service to the developers and other related professional outfits. Under this, you can build your own apps that run on the provider's architecture, and your end-users have access to the apps through the Internet from your provider's servers. Google App Engine and Amazon's Elastic Compute Cloud (EC2) are known to deliver PaaS services to a large number of development premises across the world.

SaaS: Software-as-a-Service

PaaS: Platform-as-a-Service

IaaS: Infrastructure-as-a-Service

DaaS: Desktop-as-a-Service

MSP's: Managed Service Providers

3. Infrastructure-as-a-Service (IaaS) : Also known as cloud infrastructure services, this entails delivering computing infrastructure - generally platform virtualization environ - as a service to businesses. Instead of purchasing servers, datacenter space, software applications, etc, customers choose a completely outsourced service. Networking giant Cisco and Imperva are the champions in providing quality IaaS services to businesses in need.

4. Desktop-as-a-Service (DaaS) : Popularly known as virtual desktops or hosted desktop services in the tech arenas, DaaS is about outsourcing a virtual desktop interface (VDI) to businesses via a multi-tenant architecture. In this type of cloud computing model, provider handles all the back-end tasks, such as data storage, security, updates, as well as backup, thrashing users' dependence on network, device they're using, and their geographical location.

5. Managed Service Providers (MSPs) : It's one of the oldest forms of cloud computing models that includes offering a managed service to the IT department rather than the end-users of any organization. Google's email security suite Postini comes under this category of cloud computing domain. Postini[(5)] offers email archiving and web security solutions to the enterprises of all sizes and shapes. Managed services delivered by Verizon, IBM, and Secureworks also fall in this category.

BEGINNER TO THE CLOUD

TAKE YOUR FIRST “CONFIDENT STEP”

Having understood the rudiments of the cloud, the question might have switched from "if" to "when". As we're at the offset of the global credit crunch, perhaps it's the critical juncture when you should start reaping the benefits of the cloud. If you're a little uncertain about where to start from, then the following section can help you through:

1. Kick-Off with SaaS Adoption: Your baby-step towards cloud can start with embracing the SaaS model. Several major cloud players like Google, SalesForce.com, Amazon, etc, are already there with their respective SaaS offerings. We recommend you to begin with adopting Google Apps and SalesForce.com's CRM enterprise software. **With these easy-to-negotiate software services, you would be better positioned to understand what it's like using computing architecture in a manner you use any other utility.** Subsequently, you can also opt for moving your other critical operations, such as accounting and finance, network security and the likes to the cloud.

2. Port Non-Critical Apps: Once you've got your fundamental business operations migrated to the cloud, you can proceed with porting your non-critical processes, such as document-management, email security, customer management, among others to the the cloud. Here again, you can march ahead with deploying Google's Postini email security and archiving service, which helps businesses stay well-connected by keeping their email systems secure and compliant round the clock...

...Further, you can try out Amazon's Elastic Compute Cloud (EC2) for document management and cloud-based storage services. With Amazon's established expertise in cloud architecture, Amazon EC2 constitutes a wise choice for the businesses seeking efficient storage solutions.

3. Accomplish Cloud adoption by porting business-extension apps: After having your entire business architecture running on the cloud, it's time to paddle the top gear by porting business extensions, or other auxiliary services on the cloud. Take some simple services, such as customer management and business presentation apps, in the first place. Almost every major cloud player has its own respective online marketplace, such as Google Apps Marketplace[6], where you can get the required business-related applications. Another business extension app that you should have in your business extension basket is a brand monitoring tool[7]. Such a tool helps you to keep a close eye on whatever is being said about your brand and business interests on various social media platforms. Search thoroughly and find a business tool that can completely address your various brand monitoring requirements. Just hop on to these online marketplaces and come out with the apps that best fit in with your business requirements.

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Let's have a walk through the Cloud... Together

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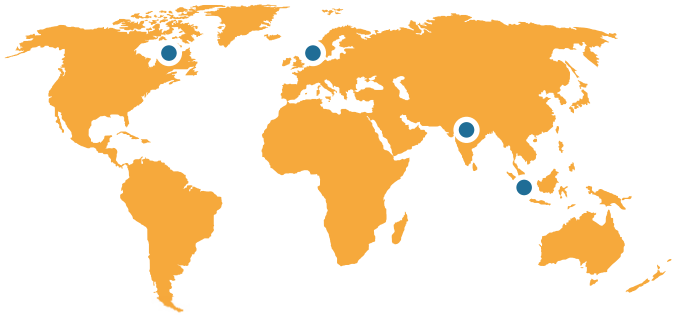

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MediaAgility Headquarters
14 Wall Street Suite 5E
New York, NY 10005, USA
Phone : 1-(866) MEDIA-V1
mail : sales@MediaAgility.com
Website : www.mediaagility.com

Billing and Administrative Contact
MediaAgility
34 Stonewall Lane
Mamaroneck, NY 10543
Phone : 1-(866) MEDIA-V1
Fax : 1 (866) 633-4058
Email : sales@MediaAgility.com

MediaAgility Europe
37-39 Lime Street, London EC3M 7AY
United Kingdom
Phone : + 41.78.890.1916

MediaAgility India
SCO 43, Old Judicial Complex
Gurgaon, Haryana – 122001
India
Phone : + 91.124.470.7876

MediaAgility Singapore
750-A Chai Chee Road #07-02, Suite 16
Singapore
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