



## Careers in

# Cloud Computing

Cloud computing has created a lot of buzz lately and many companies have started venturing in this domain and providing cloud-based services. Likewise, most companies have also started moving some of their IT operations on the Cloud. In this article, we look at the career opportunities available in this domain for IT pros

Rahul Sah with inputs from Isha Gakhar

Looking at the benefits that Cloud Computing provides, enterprises are keenly observing and devising strategies on how to move forward in this domain. Be it as a provider of services on the Cloud platform or as an enterprise to migrate its applications to the cloud, most organizations have started venturing into this domain. Whatever be the benefits and adoption rate, there shall be need for new talent to help companies adopt to this latest technology. As can be seen from past experience, a new technology brings in new career opportunities and also makes old technologies redundant, you can expect the same from Cloud Computing.

IT professionals over the years have experienced how technologies evolve rapidly and realized the need to keep themselves in sync with the latest to survive in their careers. It is no longer sufficient to know the

difference between Windows or Linux-based architecture. As the industry is becoming more service oriented, IT professionals have to learn about the various ways in which services can be delivered to customers. Software-as-a-Service (SaaS) model has already proved a good value proposition for enterprises, they just outsource their application requirement to a third party to manage and provide them with that service. And SaaS is just a pre-cursor to cloud computing. These days companies already use some form of the Cloud architecture, like virtualization or SaaS offerings. Therefore, it would just be a logical step for enterprises to move towards the Cloud architecture.

### Cloud Computing is hot!

The likes of Google, Amazon, Microsoft have already initiated efforts in Cloud Computing and are betting big on its success and eventual adoption. The reason is evident from the benefits that an organization would accrue, like reduced start-up costs and investments, scalability and ability to have flexible and powerful computing platforms with no hassles of maintenance or licensing. Cloud Computing in coming years is going to transform the IT infrastructure space. It is a platform where service providers will deliver IT-enabled services to consumers just like a SaaS-based platform, but with new benefits like built-in elasticity and scalability. As of now, a SaaS-based service or application is on a hosted setup, where each application has a defined IT resource. However, Cloud Computing is based on a more virtualized environment and there is no resource constraint for an application. An application hosted on Cloud platform should be able to >

“Most organizations are now using Cloud as a hosting and deployment platform. But once people realize how their applications grow in usage and consumption, they can use the power of Cloud’s elasticity and parallel computation. People will start moving their applications on to the Cloud to do that. IT professionals cannot ignore Cloud Computing, they should really consider how Cloud Computing can enhance the roles they are doing.”



**Manish Rathi**  
AVP - Services, GlobalLogic

harness the computing power of the resource with no constraints, ie if the requirement of an application increases, the resource allocated will also scale up dynamically. The elastic capability of Cloud Computing as an offering to enterprises should be of much sense to them, as they will have to pay for the resource that their application would be using, unlike a SaaS delivery model where they had fixed subscription fees for the service. Also, since more and more applications for organizational functions or processes are becoming standardized and less customized, there are more possibilities for larger enterprises to adopt and benefit from cloud computing.

Also, there shall be providers who will have the Cloud architecture-based infrastructure for providing services and there will consumers, which shall be organizations that will access services provided on the Cloud. Hence, there would be two-faceted impact on career opportunities for IT professionals, whether they are infrastructure engineers, software developers, networking or security experts. The positive impact would be that there are opportunities for them in organizations that plan to provide Cloud-based services. But the negative impact would be for professionals in organizations that move towards consuming Cloud-based services. Such organizations would focus on using economic resources for addressing their business needs rather than maintaining specialized personnel for running applications as they would use applications hosted on the cloud, thus making some IT jobs in their organizations redundant.

### Opportunities for IT pros

As previously discussed, Cloud Computing involves two types of organizations. One the supply side are organizations such as Microsoft and Amazon, that offer IT services on the Cloud platform. The other is the demand side comprising of companies that consume such services. For the supply side, i.e. the service providers, there will be several opportunities created in different areas.

**Software developers:** In an IT product development company there will be need to create applica-

“With the advent of cloud computing some of the low level IT jobs may get automated, there will be a need to manage more complex environments. For this, Cloud Computing Architects will be in high demand. Where there might have been a glass ceiling earlier in terms of technical growth, you will now see those open up. I would not be surprised if a similar technical ladder that is today prevalent in the software development side of things comes in place in IT as well.”



**Deepak Visweswaraiyah**  
Sr. Director – SSG Group, EMC India COE

tions that would adhere to the Cloud architecture. As these applications shall be available as services and accessible through browsers, software development skills such as SOAP, AJAX, Web Services, etc. would be required to develop the applications for the Cloud platform. The difference would be that during project development one will have to remove any constraints that would not work on the cloud platform. According to true essence of cloud architecture, any application should be able to run on the platform provided it is properly architected. Similarly, for professionals in the testing domain, performance testing would have to be done on applications meant for the Cloud. As

Cloud provides elasticity and scalability features, they would have to conduct testing wherein they'll have to check whether an application is meant for 100 concurrent users and whether it can scale up automatically to cater to 10,000 users if there is sudden increase in traffic. Certainly, for the software developers or testers, there will be plenty of opportunities for Cloud Computing domain, provided they upgrade their knowledge by having proper understanding of the Cloud framework pertaining to

their domain. Those having understanding of a content driven network, can leverage their skills on product development for platforms like Amazon EC2 and Google AppEngine, that provide a platform as a service for developing and hosting your application on ▶



Your IT Challenges are Addressed at



support@cloverinfotech.com | www.cloverinfotech.com

their infrastructure. The application would be using their environment for database, operating platform, etc.

**Infrastructure engineers:** Professionals who are into IT infrastructure creation and management like networking professionals, virtualization and security experts can render their skills to enterprises who are setting up their own Cloud Computing framework. Cloud is an evolution of the Services Oriented Architecture. So, solution architects who are working with Service Oriented Architecture (SOA) would be able to catch on with the Cloud Computing concept very swiftly. Another area where Cloud Computing is creating an opportunity is within Security and Data Storage.

### Skills required

If you look at job postings from enterprises venturing in the Cloud Computing domain, you will notice that there is a new profile created known as 'Cloud Architect.' But looking at the skillset for the job, you'll come to know that there's no rocket science involved for this profile, what is required are professionals who understand enterprise networking, security and virtualization aspects. Cloud platform is a new architecture, the underlying technologies for its usage are already existing. Likewise, for software developers, .NET or Java, the development requirements for building the application would remain the same, the only change would be that they have to re-engineer their applications as per Cloud's Architecture. This requires that both developers and the infrastructure engineers increase their understanding of the Cloud platform. And when their organization plans to have a Cloud Computing platform for their applications, then their understanding of the Cloud architecture will prove to be invaluable for the organization.

Security professionals will find a major place in the Cloud Computing environment. The reason is that with Cloud Computing what you are doing is taking away all your IT needs and giving it to a third party to manage, so here companies become a little sensitive about their corporate data being hosted on third party servers as there is lot of sensitivity about data. The recent Dynamic Denial of Service (DDOS) attacks on some social networking sites like Twitter and Facebook resulted in disruption of services for hours. If

"It is still early days for Cloud Computing and people are yet to understand the concept. It's really an evolution of whatever exists today, there isn't a formal curriculum out there. I think what you need to do is choose your stream between software development, software architecture, testing, security or infrastructure and learn the basics. The best way for this would be to pick this all while in job, because there isn't any formal training available in Cloud Computing per-se."



**Bhanu Chopra**  
CEO, RateGain IT Solutions

there is a similar kind of an attack on a Cloud service provider's infrastructure, that would result in disaster for those who are using their services. Therefore security is a major concern and addressing these concerns would be a prime job role for a security expert.

There are multiple areas and disciplines in cloud computing. Virtualization is the main theme that drives this technology. A good understanding and expertise in virtualization, ability to consolidate server and storage infrastructure, designing complex infrastructure environments, ability to handle much higher scales of data can be summed up as some of the skills that would be required in this domain.

### Certifications

Having requisite certifications is one of the ways to convince prospective employers about your efforts in a particular field. The hype around Cloud Computing has been there for the last couple of years and whenever there is a new technology, there are various organizations that start certification courses. This is followed by professional institutes giving out certification courses in that field. The same hasn't happened in the case of Cloud Computing as it is still in a conceptual phase and organizations are using the Cloud platform for hosting and deployment perspectives, which is the bare-minimal usage of the real Cloud architecture. However, when adoption increases, we may see a slew of institutes and organizations coming up with Cloud Computing certifications. IBM has already taken initiative in this regard and started a course on Cloud Computing. □