Cloud Computing: An introduction

What is cloud computing?
The delivery of software, infrastructure and storage services over the internet. SMEs use cloud computing organisations to deliver their data, software and other computing needs on their behalf. This avoids the SME having to own or run the usual physical hardware and software themselves.

Global cloud adoption
- 82% of small businesses say it's important to buy cloud computing from a company with local reach
- 41% of profit-focused small business owners plan to invest in the cloud by 2014
- 45% of SMEs in Qatar have listed cost reduction as a strategic focus
- 55% of SMEs in Qatar have that they are mostly interested in migration their HR applications to the cloud
- Cloud computing reduces IT labor costs by 50%

Did you know? There are many ways that you may come across cloud computing in everyday life, without realizing it.

560,000,000 user accounts
2,000,000,000 videos viewed daily
360,000,000 Hotmail accounts
150,000,000 Gmail addresses

A brief history of the cloud

Born 1950’s ...
AT&T started planning a system architecture where data would be located centrally and accessed by businesses through redesigned telephones and an updated telephone network. The designed system architecture did not get implemented.

In the 1960’s ...
John McCarthy, an American computer scientist and cognitive scientist - invented the term “artificial intelligence” (AI)
Joseph Carl Robnett Licklider's research and funding led to today’s canonical graphical user interface, and the ARPAnet, the direct predecessor to the Internet.

In the 1990’s ...
Web 2.0 was the most recent cloud deployment. Because of low bandwidth, cloud was a late developer. Traction only started in the 90’s. Salesforce.com in 2000 pioneered the concept of delivering enterprise applications via a web interface.

In 2002 and 2006 ...
Amazon web services in 2002 provided a suite of cloud-based services. 2006 Amazon launched EC2 Elastic Compute cloud as a commercial web service. Users could rent computers for private/business use. First widely accessible cloud service storage, computation, etc.

Today ...
Web 2.0 hits its stride with Google & others providing browser-based enterprise applications.

Things to do before you adopt cloud
- Conduct a readiness assessment to see how ready your organisation is for cloud and assess your requirements
- Create a strategy and a set of realistic goals upfront
- Discuss concerns with those who have tried and failed and those who have tried and succeeded in setting up a cloud solution
- Assess what data you can afford to move to the cloud and what you cannot
- Establish guarantees of performance and data availability from your service provider

Why use cloud computing?
- Reduce capex costs and improve the predictability of on-going operating expenses
- Enable your employees to work from anywhere
- Access your data anytime, without risks associated with physical storage since this is managed by cloud providers
- Avoid complex disaster recovery planning; let cloud computing vendors take care of this for you
- Access the same class of technology as your bigger, more established competitors
- Let cloud computing vendors do your server maintenance for you, freeing up your resources for more important tasks
- Improve your document control, with all your files in one central location, allowing everyone to work from one central copy

Some useful definitions
- Software as a Service is where the service provider hosts the software so you don’t need to install it, manage it, or buy hardware for it. All you have to do is connect and use it.
- Platform as a Service is where your operating system (such as Windows) is hosted “in the cloud”, rather than being physically installed on your own hardware.
- Infrastructure as a Service is where physical server space is rented and kept at a vendor's data warehouse. As the customer, you can install any legal software to the server and allow access to your staff and clients as you see fit.
- Private Cloud are services which are owned and operated on-site by you and your company, operating as a single enterprise.
- Public Cloud are services provided by third party vendors. They may be multi-tenant or dedicated to you as a single company. Multi-tenant means that your company shares the solution with other organizations – the data is kept separate and secure.
- Hybrid Cloud is where a combination of public clouds and private clouds are used and connected by the same organization.