**Cloud Computing**

***What are the benefits of cloud computing?***

Cloud computing provides greater flexibility, efficiency and strategic value compared to traditional on-premises IT infrastructure.

**Flexibility**

Users can scale services to fit their needs, customize applications and access cloud services from anywhere with an internet connection.

**Efficiency**

Enterprise users can get applications to market quickly, without worrying about underlying infrastructure costs or maintenance.

**Strategic value**

Cloud services give enterprises a competitive advantage by providing the most innovative technology available.

**Flexibility**

* Scalability: Cloud infrastructure scales on demand to support fluctuating workloads.
* Storage options: Users can choose public, private or hybrid storage offerings, depending on security needs and other considerations.
* Control choices: Organizations can determine their level of control with as-a-service options. These include Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS).
* Tool selection: Users can select from a menu of prebuilt tools and features to build a solution that fits their specific needs.
* Security features: Virtual private cloud, encryption and API keys help keep data secure.

**Efficiency**

* Accessibility: Cloud-based applications and data are accessible from virtually any internet-connected device.
* Speed to market: Developing in the cloud enables users to get their applications to market quickly.
* Data security: Hardware failures do not result in data loss because of networked backups.
* Savings on equipment: Cloud computing uses remote resources, saving organizations the cost of servers and other equipment.
* Pay structure: A “utility” pay structure means users only pay for the resources they use.

**Strategic value**

* Streamlined work: Cloud service providers manage underlying infrastructure, enabling organizations to focus on application development and other priorities.
* Regular updates: Service providers regularly update offerings to give users the most up-to-date technology.
* Collaboration: Worldwide access means that teams can collaborate from widespread locations.
* Competitive edge: Organizations can move more nimbly than competitors who must devote IT resources to managing infrastructure.

***An IBM perspective: Four considerations for evaluating cloud benefit***

If you are considering adopting cloud technologies and practices, you will receive a ton of different guidance about the benefits you might see.

**Infrastructure and workloads**

Many companies position the low initial costs and pay-as-you-go attributes as a very significant cost savings. They’ll note the considerable cost of building and operating data centers and argue for avoiding that to save money. Numbers can get astronomical depending on how you calculate them.

**SaaS and cloud-dev platforms**

A SaaS provider can discuss the savings from paying for application access versus purchasing off-the-shelf software. Software providers will add those “cloud attribute” benefits to the specifics of their software. Recently, there has been more discussion regarding the savings that cloud-based platforms can offer developers.

**Speed and productivity**

How much is it worth to your business if you can get a new application up and running in 30 hours rather than six to nine months? Likewise, the generic “staff productivity” doesn't do justice to the capabilities that cloud dashboards, real-time statistics and active analytics can bring to reducing administration burden. How much does a “person hour” cost your company?

**Risk exposure**

I like to think of this simply. What is the impact if you are wrong?

* Is it riskier to buy all the hardware and software to create 128 virtual machines, or rent it by the hour?
* If you are not sure that your application will get widespread adoption, should you draft a 12-month plan, build the environment, write and test the code and release it?
* Is it better to prove value using free or next-to-free services for a few weeks?

When the negative impact to trying new things is low, meaning that the risk is low, you will try many more things. The more you attempt, the more successes you will have.

If you asked me how to benefit from adopting cloud services, my first question would be, “Which services?” Every user and every organization is going to get a different set of benefits. The most important thing that I can suggest is to think across the spectrum. Evaluate the potential savings, but also think about the soft benefits: improved productivity, more speed and lowered risk.

As hockey great Wayne Gretzky observed, you will miss 100 percent of the shots that you don’t take. How much of a benefit is it to take your shot?