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Azure Tutorial: Be in Cloud (Part 1) [Introduction]

jebarson, 10 Jan 2011

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Microsoft in Cloud; Azure

As of today, cloud is what everyone is talking about. This is one technology where everyone has a different view. Some say that it is a new technology that will take on the future and some say that this is nothing new but just the old techniques put in a different combination and even better, some say its better it's just a marketing gimmick. But I would say it's everything and we will find about it more better.

Evolution

Cloud computing as what we see today is nothing but an evolution which started almost 3 decades back. To put a brief description, it's the combination of Autonomic Computing, Grid Computing, Utility Computing, Virtualization and Para virtualization. If your provider is not providing all these facilities as a part of what he calls as cloud, then you are not in cloud. Each and every technology originated at their own time and finally paved the way to evolve as a cloud and that is what we have today.

What Does Cloud Provide

Whenever a technology or technique gets released and is being discussed as a hot topic over the market, there will be always a debate on calling it as a boon or curse and sometimes it's nothing but a pack of unwanted options for few. But technology has to be always seen as whether it solves one's need or not and that can differ from person to person. So how does cloud help me or what does it have?

Infrastructure as a Service (IaaS)

Infrastructure is considered as a major investment for any corporate or SME. But for smaller corporates and SMEs, this can be a nightmare and inefficient machines or support engineers can put their whole business into jeopardy. Every year, there are millions of dollars ruined because of an inefficient / careless or a juvenile network or system support personnel. But to hire the best, you will need another major investment to be put and finally you will end up spending more money for maintaining your infrastructure rather than maintaining your business. Any vendor who already runs a web hosting service or data center can upgrade their process to get into this business.

Fortunately, you get this as a service in the market with many service providers. Now let's see what you will get as a part of IaaS.

- Hardware and Operating System which are required for you to run your application will be provided by the vendor.
- Hardware, connectivity or failover will be the responsibility of the vendor but they are subject to differ by vendor and the subscription.
- Software and the application you will need to run will be your (client's) responsibility. Anything which is down / crashed with respect to that will be your responsibility and most of the vendors don't entertain in helping you on that.

What Does Microsoft Provide

Microsoft is yet to get into this business. But we are definitely going to enter with a huge bang and you can expect us very shortly.

Platform as a Service (PaaS)

Now this is a trickier and the most intuitive technology / service that one have to provide. Here you will get all the infrastructure and the software/ service will not bother you anymore. In most cases, the infrastructure is totally transparent to the client and all he sees is nothing but a URL where his application is running.

Below are the features you get as a part of this service.

- Hardware, Operating and all the software that would be part of vendor platform will be taken care of itself.
- Client doesn't have to pay for the license of the Operating system or the platform.
- The only part that the client can control is the app he has built using the vendor's platform.

What Does Microsoft Provide

Microsoft Azure is the brainstorm of this service. Unlike other providers, Azure is integrated with the world's most widely used programming technology (.NET). And any .NET programmer can take advantage of the technology to have his application on cloud. We will discuss more on Azure as we walkover.

Software as a Service (SaaS)

This is one most popular service available in the web and there are many vendors and many applications which are taking this approach. Initially, when you wanted to have applications, you would require to buy or subscribe and installed over your own machine or network and avail its usage. Now with this service, your data is taken to the cloud and the vendor will provide the service through the cloud.

Below is what you get with this service.

- Hardware, operating system and platform is totally hidden from the client.
- All the infrastructure and platform licensing and maintaining is taken by the vendor.
- The client will avail the service using subscription and work with the software over web.
- The licensing will be more pronounced as subscription per user or anything else depending on the SLA.

What does Microsoft Provide

Microsoft is already having a huge share in the market with this service. Office Live is a free service available to any live id where you can edit or create office applications online. BPOS and Office 365 is another subscribed application on the cloud through which Microsoft takes the whole back office functioning to cloud and the user doesn't have to worry about the infrastructure or software licensing. Windows Intune will be the next service (already in beta) to be added soon to cloud.

Advantages

As already discussed, the advantages and disadvantages a technology will make is mostly with respect to the perspective and necessity of the user. However, let's try to find out what are the advantages that you will get to enjoy being in cloud.

Please do remember that existing technologies will also have the features which we are going to discuss below but, it's the entire feature set which you get in a single technology is what makes a difference.

Infrastructure Overhead & Cost

As discussed earlier, for any company, this would be the worst nightmare of the business. Infrastructure creation and maintenance might sound easy but for any financial officer who runs the business will definitely understand the pain he has to go into in keeping the back office running and up to date. With the infrastructure put into the cloud where you don't have to worry about keeping it

updated and maintaining and data backup, this would definitely help any organization which doesn't have a full fledged infrastructure or a capable support person or which doesn't have a budget for huge investment.

Think about forgetting space rent, maintaining / buying servers, electricity, cooling, hiring excelled employees and keeping them up to date. For most companies, this would be a big overhead dropped out.

Agile

Any cloud service provider has to be agile and if not then, you are not in cloud. Sometimes, requirement hits you on the head with no intimation and the only way you can handle is having everything in place. But why would one have to keep everything prepared for the worst time which might or not happen. Keeping the cost in mind, most companies never prepare for it and when it hits, it hits for bad. With cloud, you always have the option of changing your requirement on the fly without any affecting delays.

Reliability

Reliability is something that you can take for granted with machines. Imagine your whole data center goes center due to a network outage of a bad virus hit and you have no 911 in place. Depending on the size of your business and the down time, your loss will be in millions and even in billions. Most companies have to sign up with different vendors across the globe for data backup, mirroring or emergency setup and you can imagine the cost involved in replicating your datacenter. The reliability has to come as a bundled package with cloud service. Azure ensures that your application or service or data is 99.9% up and running.

Remember it is the application which is guaranteed in Azure whereas most competitors provide the guarantee only to the server or the VM alone in Azure.

Scalability

Yet another feature that most businesses on the web need as of today. Imagine you are running a NFS streaming site and the races happen only few times in a year and your major business will be on those days and if your bandwidth outs one single day; your loss will be a bigger percentage on annual growth. Say on an ordinary day, your site will have a hit of few hundreds and during the days when races are on, it will raise millions. Now without cloud, you will need to maintain the hardware and infrastructure which will happily allow the maximum traffic throughout the year which will lie unused for most of the year. However, with cloud, all you need is to pay as per the usage and with the cloud, you will have virtually infinite limit of resources that your application can make use of.

Availability

Since the cloud vendors have to maintain your resources in a globally available location and with almost no down time, you will be released with the overhead of maintaining your resources available 24/7.

S+S Model

Software and Service model is available only with the cloud technology where the software and service is normally bound with a SLA.

Why Cloud

To conclude this part, let's have another look at why you would need to get into the cloud. Let me assume that there are two major crowds that will look into the blog:

If you are a SME or Corporate

We build our business on refining our process daily and spending on needed resources; thereby we keep our production and brand on the line or par the line. Have a look at the scenario below:

Azure Scalability

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This might be any organization's situation. We keep upgrading our hardware and infrastructure based on our rate of growth and as you see, there might be a sudden decrease in the usage due to the market share loss or because of the market pattern change or just because the bandwidth was higher as we had higher demand previously. This delta of investment on infrastructure which is lying unused could be a potential threat to the organization's business while in bad times. In the above case, most of your infrastructure lies unused for almost 6 years and by the time your bandwidth is back, you might need to invest more to keep your applications in pace with the technology up gradation in the market. These scenarios can be effectively managed with cloud as it is pay as you have demand.

If you are a Programmer / Service Provider

Now after looking at the market approach and the higher manageability with the cloud, you will be more sure that more SME and corporates will have a green corner towards cloud and will definitely consider it as a potential option. With the Cloud / Azure technology already keeping in pace, it is mandatory that you extend your skills to the cloud. Always remember that Azure supports most of the .NET techniques available along with extended supported on cloud and with Microsoft already releasing updates on Azure toolkit more than twice a year, the ground is growing exponentially.

What's Next

Now as we have covered the brief look on the cloud and Azure with a satellite picture, we will jump into more depth about the Azure and its offerings and programming in the next post.

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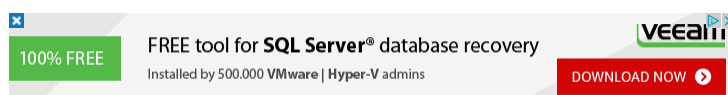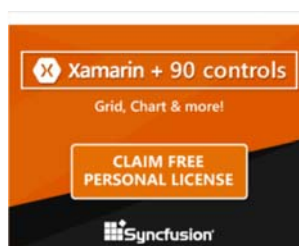## Share

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