Microsoft Azure vs Amazon Cloud Services: A Brief Comparison

Gunjan Gupta
IMT Engineering College, Ganga Nagar Meerut, Department of Computer Science & Engineering.

Sudhansh Shekhar Pandey
Lovely Professional University, Phagwara Punjab, Department of Computer Science & Engineering.

ABSTRACT: Cloud Computing is an evaluation that is based on pay per view-based availability to everyone to reduce or eliminate necessity of high cost, complex IT infrastructure. It provides versatile & elastic medium across flexible systems to make affordable access and development. The whole data in cloud computing relies on the networked services that might exchange over the internet. AWS and Azure both are mostly seen as a leading business cloud infrastructure. We are presenting brief descriptions of AWS and Azure Cloud in this paper & it's very tough to find on any of these two service providers. We are comparing both the cloud providers mentioned, which helps us to decide selecting perfect cloud-based service provider to take decisions.

KEYWORDS: AWS, Microsoft Cloud Services, Cloud Computing, Cloud based service provider.

I. INTRODUCTION
Cloud relies on availability of the asset needed instead of having traditional infrastructure or local devices to do some kind of virtualization. Cloud computing is related to grid-computing, which is a form of technique where non-used cycles of tasks for all specified computers are within a specified network and too difficult for any single machine to handle and resolve problems is bit hard for any autonomous computer. In Amazon Web Services (AWS), "EC2" Cloud Compute-elastic and "S3" Amazon storage service are perhaps the most popular and well-known of all the services. AWS is formally celebrating its 10th anniversary since 2006. One might say the old one, while others might say that it takes Amazon enough long to create an excellent start on its competition. One such rival was launched in 2010, Microsoft Azure. But whether Amazon already been taking a strong better offering of cloud tasks by this time? Microsoft clearly does not think so, and has since been developing its IaaS product out of the shadow of AWS. Either of them are common and major Cloud service providers. These businesses are both global firms and it is also known for the IT-resources to make as offered cloud-based services as reliable by extending them as needed to offer. For server available for the size of original value, both are designed to meet the requirements of companies of all scale. But as the problem is a simple one: "So which of the two is better for my business?" the answer may be a bit more complicated.

II. SERVICES AND VARIOUS FEATURES
Considering one of given two would come to each individual customer's desires and needs, as well as the workloads they run. Occasionally, companies will use all services for various parts of their jobs. Maybe there are various factors dividing the two provider’s strategies which will help users to determine which one is good for them. It is priority to look at the services that both companies provide. All EC2 and Azure offer common features in the processing, storage, and networking lines to some degree. They share common entities of a open cloud, for example requirement based service and immediate delivery, automotive scaling, various security and other management oriented services. These businesses are included for concluding in new cloud services to meet the needs. This has contributed to more sophisticated offers on analytics. Of example, both AWS with Map-Reduce with elasticity and HD Insight of Azure provide support for the Hadoop clusters. Both AWS and Microsoft have offerings of ML tools and a range of apps that address the many issues, while users have options for any cloud to build an app in different ways or even build a better performance device environment that suits various needs. Last surveys have proven meanwhile, with either companies endorsing services with Docker. Microsoft has developed its own Hyper-V technology which runs as part of its upcoming release of Windows Server 2016 in on-premise data centres.

MICROSOFT & AMAZON IN CLOSE RACE FOR HOSTING WINDOWS
A website called Net-craft posted an article showing that Microsoft in a Windows website hosting is marginally more than Amazon. Net-craft lists 23,400 Windows computers on the site at Microsoft and over 20,000 at Amazon. Net craft says by its report, daily research and estimates, with a more than 50 percent growth since 2013 on azure platform, both amazon aws and microsoft azure have "just over 1 percent of the market." Even this share is not big, it still makes Amazon and Microsoft the world's two major windows hosting companies, while Net-craft says, "the market is still fragmented." Mr. Woodill, specifying the Net-craft report, discussed the threshold for growth in a Microsoft Trends article, stating, "The study currently comprises just 1 percent of the world's Windows-based public websites. Imagine the potential for Azure to dominate such a market."
III. PROS AND CONS
While EC2 has flaws as mentioned in Forrester’s rating in many ways, it will still rank high in major areas of its offerings, and found overcoming than other cloud service-providers. Azure speeds in certain fields, such as development and test-software, are also higher than AWS. And within an organization, Microsoft already has a good foothold. windows-server, Centre-System, and directory (active) are main on-premise microsoft systems with which Azure integrates well. aws and Azure both have PaaS possibilities; that is Microsoft’s ability. One drawback of these last months and years is a string of outages. Lydia Leong (Gartner analyst) has suggested that recovery from disaster capabilities for sensitive cloud-hosted applications be considered away from Azure.

IV. ADVANTAGES:
Amazon’s Web based service has two major services like as S3 and EC2 and here equating EC2 to Azure, as they are quite major cloud service providers:

<table>
<thead>
<tr>
<th>Amazon Cloud</th>
<th>Microsoft Cloud</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compute - supports varying memory, processor and I/O configurations</td>
<td>✔️</td>
</tr>
<tr>
<td>Compute - supports multiple operating systems</td>
<td>✔️</td>
</tr>
<tr>
<td>Compute - supports creating/destroying instances from image</td>
<td>✔️</td>
</tr>
<tr>
<td>Compute - ability to install custom software, root access</td>
<td>✔️</td>
</tr>
<tr>
<td>Storage - ability to attach storage of varying sizes to instances (high performance, medium durability)</td>
<td>✔️</td>
</tr>
<tr>
<td>Storage - support for high durability long term storage</td>
<td>✔️</td>
</tr>
<tr>
<td>Application - load balancing, database, queues</td>
<td>✔️</td>
</tr>
<tr>
<td>Data Center - support for multiple data centers in different regions</td>
<td>✔️</td>
</tr>
<tr>
<td>Integration - support for web, command line and API access to compute and storage</td>
<td>✔️</td>
</tr>
<tr>
<td>Integration - applications can be cloud portable</td>
<td>✔️</td>
</tr>
</tbody>
</table>

AMAZON EC2 (Elastic Cloud Compute) - ADVANTAGE:
Basically, the ec2 is economical at the outset. One can get instance and run ec2 Windows 2008 for around $40 per month. We are familiar with EC2. The beauty of ec2 is that it is like running our own windows based system applications without the hardware-resource owners.

The major power of ec2 is that it's practical in nature. Anyone who'd never used Virtual Computing will be able to immediately have what wanted to do.

V. WINDOWS AZURE: ADVANTAGES
The ec2 is more expensive than the Azure. Azure does have no maintenance. We can simply deploy our applications and Microsoft will look after your software. In Amazon ec2 the maintenance cost is also higher than in Azure. The problem is pricing, and it is bit tough to evaluate. Scaling capability in Windows Azure is excellent. This application has many options to have a lot of users and collect huge amounts of data. If Windows Azure follows these features it’s as simple as changing a value.

VI. FINAL VERDICT
Cloud based computing is drafted for on-demand-access to various virtualized dynamic IT-resources which are located outside at remote, on the other hand we can make it available for use with different services but using easily is abled by subscribing desired service at a low time based fee and navigate the web flawlessly with various features. The cloud
related service provider company offers various cloud computing infrastructure, such as Storage as a Service-SaaS, Infrastructure as a Service-IaaS, and Platform as a Service-PaaS, etc. Current major providers of cloud service are Amazon and Microsoft. We listed here some basic user specific conclusions:

- If you need more system and device power then you should go to Amazon. It provides constant VMs, suitable for perfect control of the devices.
- You should go for Microsoft Azure if you want to run the code without having control over the OS, VM, and so on. If you run apps that don't require persistence, then you should prefer Azure.
- If you just need to measure large data to report, then either of these methods would work well for you. It is hoped that you will now be able to make your choice in relation to your requirements between Microsoft Azure and Amazon Web Services.

Features, Facilities, Advantages and Disadvantages etc in this paper by contrasting them both. This paper presented a study of cloud computing service providers Amazon and Azure, focusing on the long-list services both organizations offer.

REFERENCES
[3] “Comparative study of Amazon EC2 and Microsoft Azure cloud architecture Prof Vaibhav a Gandhi”.