Amazon EC2 platform:

Service model (IaaS, PaaS, SaaS): all three types of cloud computing are available in the EC2, for the IaaS it contains the basic building blocks for cloud IT and typically provide access to networking features. For the PaaS it removes the need for organizations to manage the underlying infrastructure and allow to focus on the deployment and management of your applications. As for the SaaS it provides the user with a completed product that is run and managed by the service provider.

Virtual Machine: Amazon EC2 provides different instance types to enable you to choose the CPU, memory, storage, and networking capacity that you need. Amazon EC2 provides each instance with a consistent and predictable amount of CPU capacity, each instance type provides higher or lower minimum performance from a shared resource.

Storage: amazon has and provide flexible, cost effective, and easy-to-use data storage options and It can be used independently or in groups to do the requirements for the user.

Storage options are (Amazon Elastic Block Store, Amazon EC2 instance store, Use Amazon EFS with Amazon EC2, Use Amazon S3 with Amazon EC2)

OS environments offered: it supports Linux, MacOS, windows and Raspbian.

Security: the security in amazon EC2 is the highest priority. It's responsible for protecting the infrastructure that runs the server, as well as it provides the user with services that can be used securely.

Performance and scalability: AWS offer solid strong scaling and exceptional weak scaling. In addition to low cost and quick turn-around time, important considerations for HPC also include throughput and availability. AWS offers nearly limitless throughput, security, cost-savings, and high-availability making queues a "thing of the past". A long queue wait makes for a long case turn-around time.

Pricing model: there are five ways to pay for amazon EC2 instances (on demand, saving plans, reserved instances, and spot instances)

Auto-Scaling/Elasticity: amazon EC2 have an autoscaling that helps to maintain the availability of the applications, and the user can use the dynamic and predictive scaling features of EC2 Auto Scaling to add or remove EC2 instances.

Monitoring tools/service provided: amazon has a service that is responsible for monitoring and observability called cloud watch built for certain people such as (built for DevOps engineers, developers, site reliability engineer and IT managers).

Google Cloud Platform:

Service models: It is same as Amazon EC2.

Virtual Machine (VM) instance types offered: all instances can be created using Google Cloud Console.

Storage: Unified storage, SQL and NoSQL, persistent disk.

OS environments offered: Linux and Windows environments.

Security: Security scanner is a web application security scanner which can do a custom scan of deployed applications with public IPs and URLs that are not behind a firewall.

Performance and scalability: Users can expect to get 99% reliability.

Pricing: It uses flexible and deep discounts for customers.

Auto-Scaling/Elasticity: Helps in handling traffic increases and it reduces the cost when the resources need is low.

Monitoring tools/service provided: Storage, Computing and hosting, Databases and Networking.

Microsoft Azure:

Service models: It is same as Amazon EC2.

Virtual Machine (VM) instance types offered: A-Series (Entry-level VMs), Bs-Series (Economical burstable VMs), D-Series (General purpose VMs).

Storage: File, Disk, Blob, Data Lake Storage, Archive and HPC Cache.

OS environments offered: Linux and Windows.

Security: Azure security center, it detects and blocks cyber security threats, and it controls the security of Azure resources.

Performance and scalability: designed to be hugely scalable to handle the data storage and performance needs of current applications.

Pricing: Situation-based discounts, needs experience to understand pricing packages.

Auto-Scaling/Elasticity: Has 2 types of scaling, vertical and horizontal.

Monitoring tools/service provided: Azure machine learning, Azure virtual machines.

Amazon Web Services Advantages & Disadvantages

- **Advantages**
  Unlimited Capacity
  Companies are launching various initiatives and guessing what capacity they will require. AWS supports them by offering this functionality at a low cost. The workload is minimized by this advantage, and they can concentrate and create new concepts. Clients predict capacity and charge higher costs than that, but AWS provides capacity at a low rate. The moments you seem like you are supposed to improve your power, you can do it easily. In comparison, once you remember that you do not need so much capacity, you will go back to your former storage and all you must spend is what you need [2].

  Fast and agile
  Amazon Web Services offers speed and agility to apps. The application can be quickly implemented within seconds with a simple set-up phase that helps us to reduce time and expense and increase speed performance and agility [4].

- **Disadvantages**

  Insecure Services
  It is essential to mention that while setting up resources in such a way that they are not safe is possible with Amazon Web Services, this is not an issue unique to AWS. Both service providers are faced with this problem [4].

  Technical Support Fee
  AWS costs you for instant assistance and you can pick either of the Three bundles [2].

Finally, in this AWS guide, we looked at the benefits and drawbacks of Amazon Online Services. as a result. There are the advantages of cloud storage that make us appreciate Amazon Web Services [2].

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