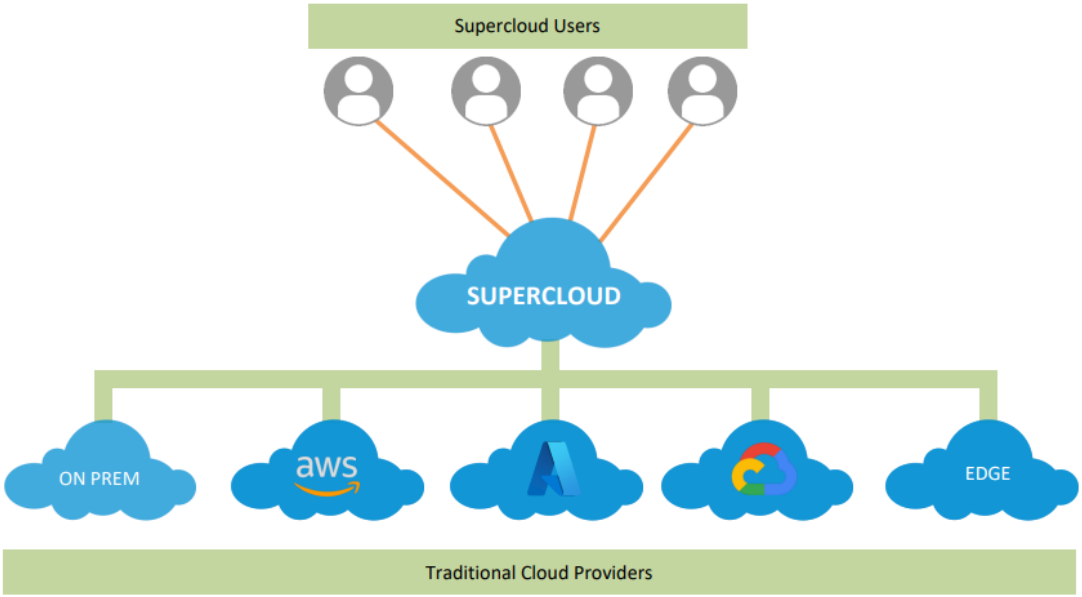
International Journal of Engineering Inventions
e-ISSN: 2278-7461, p-ISSN: 2319-6491
Volume 12, Issue 12 [December. 2023] PP: 01-03

The Rise of Superclouds: The Latest Trend in Cloud Computing

Date of Submission: 19-11-2023 Date of acceptance: 05-12-2023



I. Introduction

Since the pandemic hit the world two years ago, cloud adoption has exploded. The majority of customers use multi-clouds, which are isolated silos, and each public cloud has its own management tools, operating environment, and development environment. Companies keep investing in initiatives that create dynamic hybrid workplaces that foster agility and resilience. As a result, superclouds, a new type of cloud, are emerging.

What is Multi-cloud

Multi-cloud refers to the use of multiple cloud computing services from different cloud platforms or vendors to address a variety of business needs. Rather than relying on a single cloud provider, organizations can use a use combination of public, private, or hybrid clouds to optimize their workloads and applications. By leveraging multi-cloud, organizations can take advantage of the strengths of different cloud providers, such as cost saving, scalability, reliability, security and flexibility.

Multi-cloud Challenges

As more and more companies are migrating their workloads and applications to the multi-cloud strategy, where their workloads are distributed to the cloud provider that offers the most benefits based on business needs. Many organizations have recognized that vendor lock-in is a serious matter to consider and meet security, data governance, and compliance requirements.

Integration – Integrating multiple cloud services and platforms can be complex and may require specialized skills and expertise. Organizations may need to invest in integration tools and platforms to ensure that their various cloud services work seamlessly together.

Data Management – Managing data across multiple data across multiple cloud services can be challenging, particularly when it comes to data consistency, security, and compliance. Organizations may need to develop policies and procedures for data management that are specific to their multi-cloud environment.

Security – Managing security across multiple platforms and providers can be challenging. Organizations may need to develop a comprehensive security strategy that takes into account the unique risks and challenges of their multi-cloud environment.

Cost Management – Managing costs across multiple cloud providers can be difficult, as each provider may have different pricing structures and billing cycles. Organizations may need to invest in tools and platforms that help them monitor and manage their cloud spending.

Vendor lock-in – Using multiple cloud providers can help organizations avoid vendor lock-in, but it can also create challenges if they need to switch providers or migrate data between platforms. Organizations may need to develop a strategy for managing vendor lock-in risk and ensuring that they can easily move data and applications between providers.

What is Supercloud

The term "supercloud" refers to a cloud architecture that enables cloud computing services across various cloud providers, including AWS, GCP, Azure, and IBM Cloud, as well as private cloud, on-premises cloud computing, and edge cloud computing. Supercloud is more than just multi-cloud. A part of supercloud is multi-cloud. An organization can access multi-cloud, on-premises, and edge computing using supercloud.

The new world, according to leading IT experts, is being built on top of fundamental cloud computing technologies like infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS), and software-as-a-service (SaaS). Supercloud or meta cloud are terms used to describe this technological trend.

The development of Superclouds.

Due to the growing number of multi-cloud challenges, supercloud is becoming a new approach to multi-cloud. The primary factor is the over 90% of organizations that are using or deploying across two or more public cloud providers with an excessive number of cloud services, which has contributed to some of the business issues we are seeing today, a lack of ROI from cloud deployment, and a significant amount of IT complexity related to data workload, resources, and operational silos.

Advantages of Supercloud

Supercloud architecture makes it simpler to manage multi-cloud environments and move virtual machines between various data centers around the world without reconfiguring and resyncing of applications. A supercloud can make it possible for an application to offload overburdened datacenters to another data centers with a different infrastructure, simplify app development, enhance operations, reduce costs, and securely share data between cloud networks.

Companies building Supercloud

Several vendors in the public clouds and virtualization technology firms have begun developing a supercloud architecture. To solve the problems with multiple clouds, VMware developed cross-cloud services. Snowflake refers to it as a data cloud that spans multiple clouds and supports distributed data but is managed centrally, much like the data mesh strategy.

Supercloud workloads

- Cloud Analytics encompassing data warehouse, business intelligent
- Databases, including My SQL and Oracle
- Data science with platforms like Databricks
- Industry workloads such as those utilized by Capital One and Goldman Sachs
- General IT workload, including VMware-based workload that can seamlessly transition between cloud and on-premises environments for recovery and workload balance

II. Conclusion

In conclusion, the supercloud architecture represents a significant evolution in addressing the challenges posed by multi-cloud environments. It offers a single dashboard solution for managing two or more public cloud providers, private clouds, on-premises data centers, and edge cloud computing across diverse geographical locations. As cloud computing continues to shape the digital landscape, superclouds are poised to play a pivotal role in enhancing efficiency and flexibility for businesses across the globe.