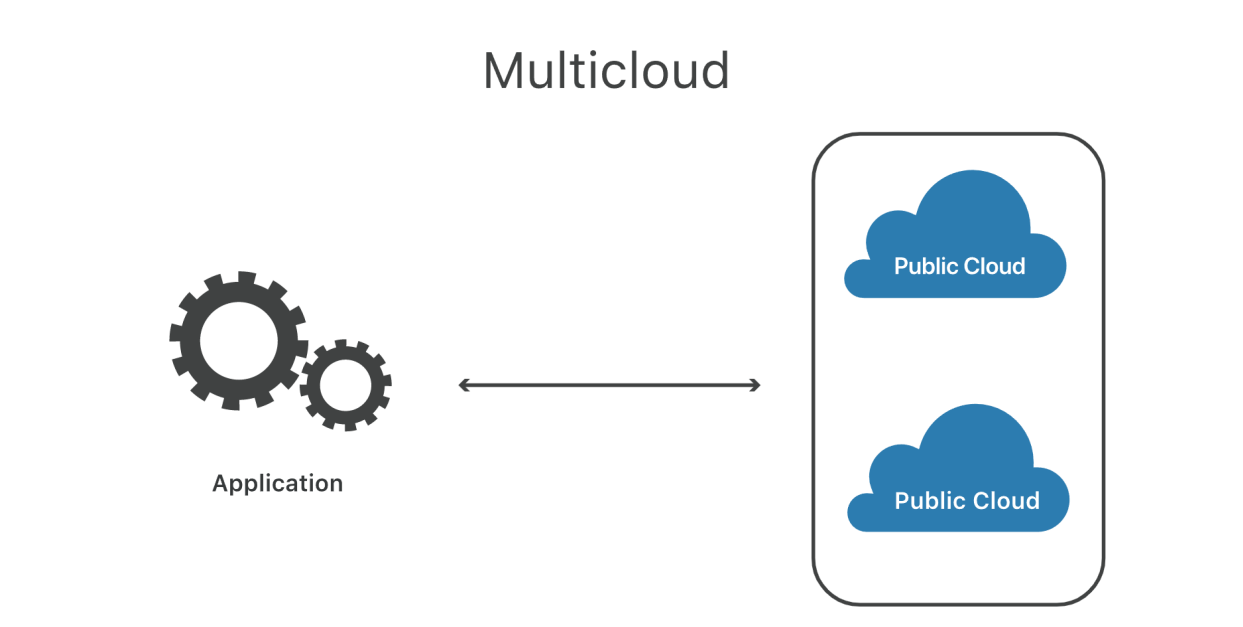
ADVANCEMENTS IN MULTI-CLOUD

Group - 2

CONTENT OVERVIEW

WHAT IS A MULTI-CLOUD?



Multi-cloud means several different public clouds are used to support one or more applications, instead of just a single public cloud.

CLOUD

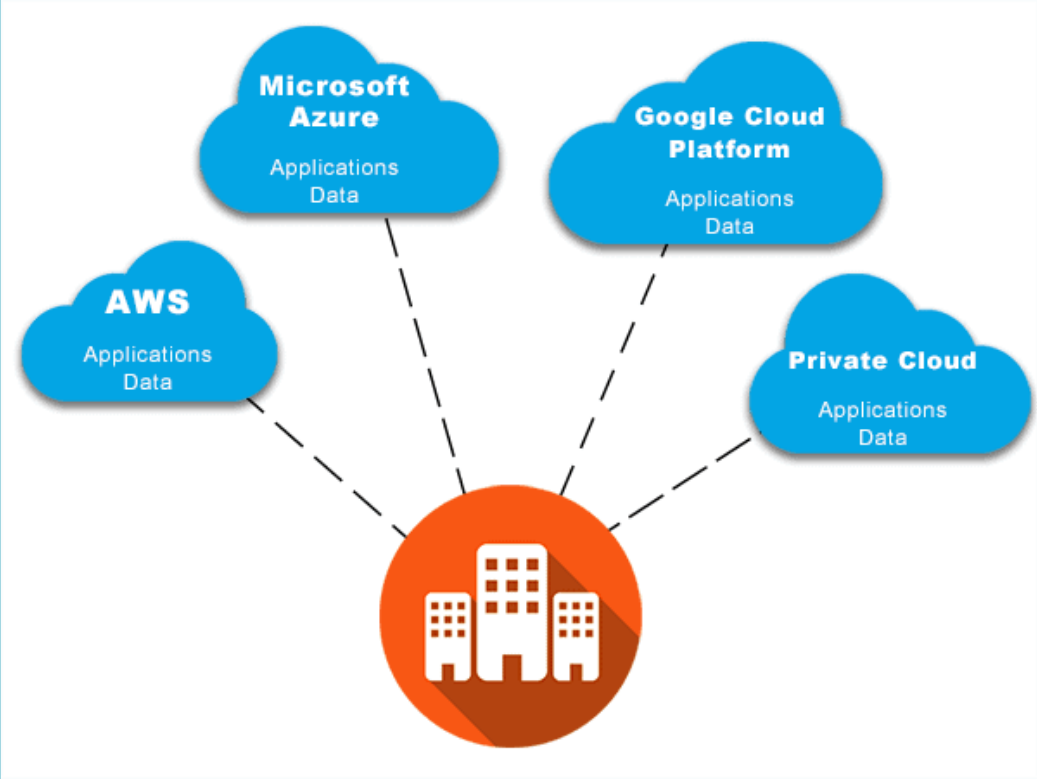
Basic cloud use, using Saas application, public cloud for test-dev or a specific use case.

HYBRID-CLOUD

Run the same application seamlessly on premises and in a public cloud.

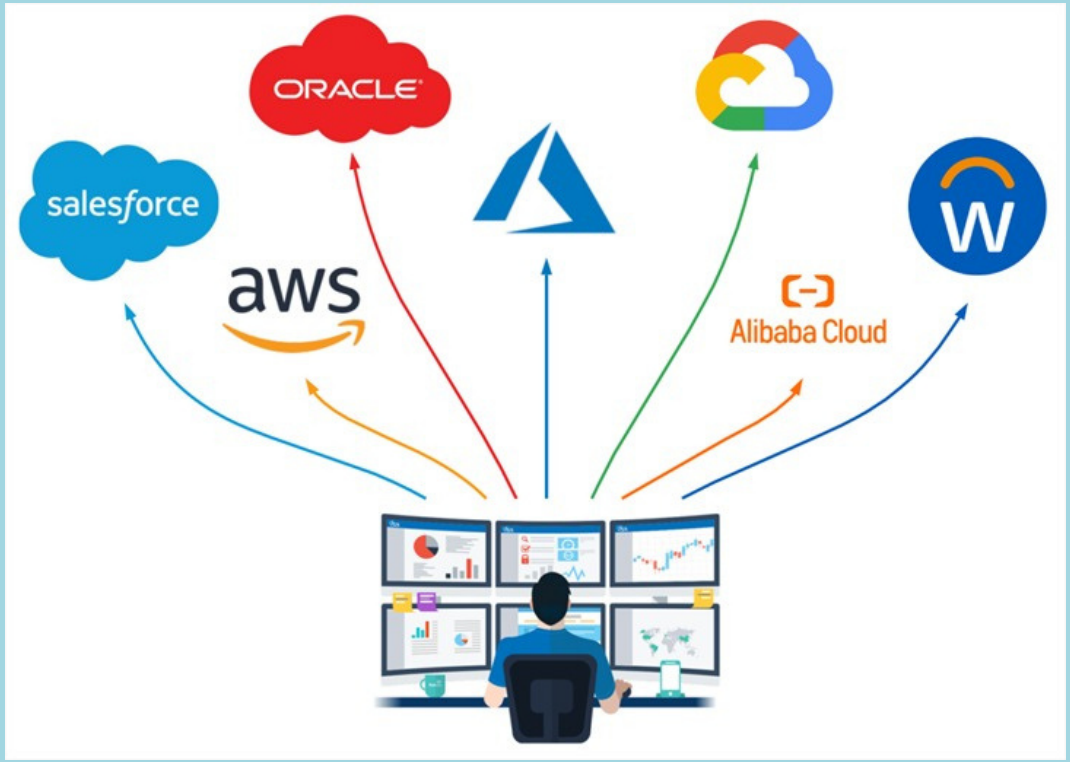
MULTI-CLOUD

Ability to use the most appropriate cloud, whether on-premises or public, for each application.



A company that uses a multi-cloud deployment incorporates multiple public clouds from more than one cloud provider.

USES OF MULTI-CLOUD?



Multi-cloud deployments have a number of uses. A multi-cloud deployment can leverage multiple IaaS (Infrastructure-as-a-Service) vendors, or it could use a different vendor for IaaS, PaaS (Platform-as-a-Service), and SaaS (Software-as-a-Service) services.

PROS AND CONS OF MULTI-CLOUD

PROS

Reliability and/or redundancy

Reduced vendor lock-in

Potential cost savings

CONS

Complexity of management

Increased latency

Greater attack surface

Performance and reliability

WHY IS MULTI-CLOUD RELEVANT TODAY?

- A multicloud environment affords you several options to stay flexible and prevent vendor lock-in.

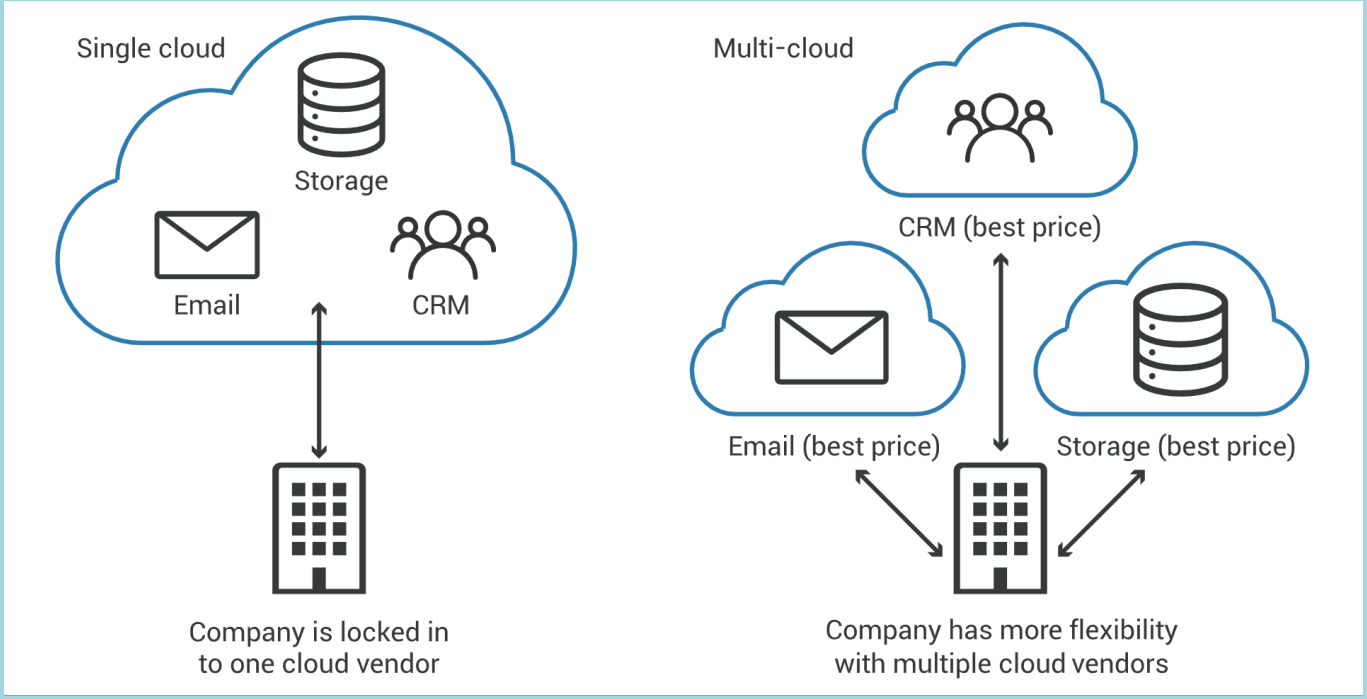
- Multicloud environments help enterprises and businesses to meet their target for risk management, compliance regulations, and governance.

- Utilizing a multicloud strategy provides unlimited access to data and resources online at any time.

Moreover, companies like Instagram, Netflix, and Dropbox rely massively on multicloud computing due to safety reasons.

ADVANCEMENTS OF MULTI-CLOUD

THE PROBLEM OF VENDOR LOCKING



Beyond the production-ready management tools, there are significant efforts of the research community to support the development of innovative solutions for the Multi-Clouds

Most of these efforts are intending to help in eliminating the barrier of vendor lock-in. The reasons of vendor lockin are various: services that are subject of high investment protection, lack of wide acceptance of standards, proprietary APIs of the services, and so on.

Many companies have been announcing new advancements for their multi-cloud computing infrastructure that enables customers to move their enterprise apps to the cloud in nearly half the time and less than half the cost.

VMWare is one of such companies, which made innovations like

- A new portfolio of managed Kubernetes services to modernize apps on VMware Cloud;
- Capabilities that will make it simpler and safer to run enterprise apps in VMware Cloud;
- A new initiative supporting the need for customers to run their business in sovereign clouds;
- Tech previews that showcase the future of VMware Cloud.

A NEW PORTFOLIO OF MANAGED KUBERNETES SERVICES TO MODERNIZE APPS ON VMWARE CLOUD;

VMware Cloud with Tanzu services is a new portfolio of managed Kubernetes services that will be available at no additional charge as part of VMware Cloud on AWS. Tanzu services will make app modernization with Kubernetes faster, easier, and less expensive on VMware Cloud than alternative managed Kubernetes solutions.

CAPABILITIES THAT WILL MAKE IT SIMPLER AND SAFER TO RUN ENTERPRISE APPS IN VMWARE CLOUD;

Simpler: VMware Cloud gives customers the flexibility to move to the cloud on their timelines and run vSphere workloads on the cloud of their choice. Only VMware Cloud runs as a native service in 100+ regions spanning all public clouds—Amazon Web Services (AWS), Azure, Google Cloud, IBM Cloud, and Oracle Cloud— as well as 4,000+ partner clouds, in private data centers, and at the edge.

Safer: VMware uses the power of software, a scale-out distributed architecture, and a cloud delivery model for better security and data protection that's easier to use. VMware Cloud customers benefit from consistent security policy and features across all environments.

ADVANCEMENTS IN MULTI-CLOUD SECURITY

Increasing the number of cloud providers for an organization can increase your security by providing failover options. If a primary cloud provider suffers an attack, you can still continue to operate.

While on-premises data centers and solutions typically relied on third-party tools for infrastructure security, most organizations adopting enterprise multi cloud platforms want security tools that are built-in and native to the cloud provider.

This is quickly becoming a best practice in the industry.

As more cloud services and more cloud service providers are added, the complexity of consistently managing configurations and governance across a multi-cloud infrastructure increases.

As such, we're seeing a rise in Intelligent Cloud Security Posture Management (CSPM) to help unify compliance and configuration management across platforms.

In multi-cloud environments, there can be thousands of settings to manage. Even a few misconfigurations can lead to security problems — especially in public cloud environments.

- Microsoft says it spends more than $1 billion annually on cybersecurity across its platforms, including Azure, and recently announced the intention to add CyberX to its portfolio to help manage growing connections to IoT devices. Microsoft also bought Blue Talon to help simplify data privacy and governance.
- Google folded its enterprise security company Chronicle into Google Cloud and continues to acquire other third-party security providers, such as Actifio to protect business-critical workloads.
- VMWare bought Carbon Black in a $2.1 billion deal. It recently acquired Mesh7 to secure cloud-native applications and microservices with improved monitoring of app behavior at the API layer.

A LOOK INTO THE FUTURE OF MULTI CLOUD

VMware is showcasing additional R&D investments and innovations currently underway for VMware Cloud with the following tech previews:

Project Capitola

Project Cascade

Project Ensemble

PROJECT CAPITOLA

A software-defined memory implementation that will provide the best price-performance ratio for current and next-gen applications by aggregating memory tiers across DRAM, PMEM, NVMe and other future technologies.

PROJECT CASCADE

This tech preview will address the needs of developers and DevOps professionals with an industry-standard programmatic interface powered by Kubernetes that provides a common declarative consumption interface for both infrastructures (IaaS) and containers (CaaS).

PROJECT ENSEMBLE

Designed as a unified control plane for VMware Cloud, Project Ensemble will further improve operations by delivering a unified view across vRealize Cloud Management services.

CONCLUSION

- Multicloud is no longer a matter of ‘if’ — it’s a matter of ‘when’. But like other technological advancements, multicloud services present challenges and threats to companies in different industries. Moreover, implementation often interrupts the regular workflow as some companies are doing ‘multicloud’ like a single cloud.

- Following the current achievements in sustaining multiple Cloud usage scenarios, a concrete image of what a MultiCloud is and is not can be formed. However such a concrete image has not been exposed yet, and we considered useful to point which are the latest solutions enabling Multi-Clouds and to identify the gaps that are needed to be filled in the near future.

THANK YOU