TNGS Learning Solutions
AWS Solutions Architect
Online Course
Cloud Computing
Models

Cloud Computing Models

- Cloud computing models refer to the various service and deployment models that define how cloud computing resources are delivered, managed, and accessed. These models are fundamental in understanding the different approaches to using cloud technology and the roles of both cloud providers and users.
- The two primary dimensions of cloud computing models are:
  - **Service Models**
  - **Deployment Models**

Cloud Computing Models

Deployment Models

A **Private Cloud** is a cloud computing deployment model that involves creating a dedicated cloud infrastructure for a single organization, either on-premises or hosted by a third-party provider. In a private cloud, the computing resources, networking, and storage are isolated and used exclusively by that organization.

This model provides greater control, security, and customization compared to public clouds and is often chosen by organizations with specific compliance, security, or performance requirements.

Private Cloud

Dedicated Infrastructure: Private clouds are built on dedicated hardware and infrastructure, ensuring that all resources are exclusively used by the organization that owns or manages the private cloud.

Private Cloud

Isolation: Private clouds offer complete isolation of resources, data, and configurations, providing enhanced security and privacy. This isolation reduces the risk of unauthorized access.

Private Cloud

Control: Organizations have full control over the private cloud environment, allowing them to customize infrastructure, network configurations, and security policies according to their specific needs.

Private Cloud

Customization: Private clouds can be tailored to meet unique requirements, including performance, compliance, and application dependencies. This flexibility is particularly valuable for industries with strict regulatory demands.

Private Cloud

Security: Private clouds enable organizations to implement their security measures, including firewalls, encryption, access controls, and monitoring, to protect sensitive data and applications.

Private Cloud

Predictable Performance: Organizations can ensure consistent and predictable performance because they have sole access to the resources and can allocate them based on their application demands.

Private Cloud

Costs: While private clouds offer control and security benefits, they typically require a higher initial investment compared to public clouds. However, they can be more cost-effective for specific use cases or over the long term.

Common references of Private Cloud

Sensitive Data Handling: Organizations in industries with strict data privacy and regulatory requirements, such as healthcare and finance, often choose private clouds to maintain control over sensitive data.

Common references of Private Cloud

Mission-Critical Applications: Private clouds are well-suited for running mission-critical applications where consistent performance and uptime are essential.

Common references of Private Cloud

Customized Environments: Companies with specific IT requirements or legacy systems may opt for private clouds to replicate their existing infrastructure in a cloud-based environment.

Common references of Private Cloud

Research and Development: Private clouds are used by research institutions and companies for secure and isolated development and testing environments.

Common references of Private Cloud

Government and Defense: Government agencies and defense organizations may opt for private clouds to ensure security and control over classified and sensitive information.

Common references of Private Cloud

Legacy Systems Integration: Organizations can integrate and modernize legacy applications within a private cloud while maintaining control and compliance.

Conclusion

- Private clouds can be deployed in several ways:
  - On-premises using an organization's own infrastructure
  - Hosted by a third-party provider in a dedicated data center (hosted private cloud).
  - Through a hybrid cloud model that combines elements of both private and public clouds.

  The choice of deployment depends on an organization's specific requirements and resources.