Lecture 7
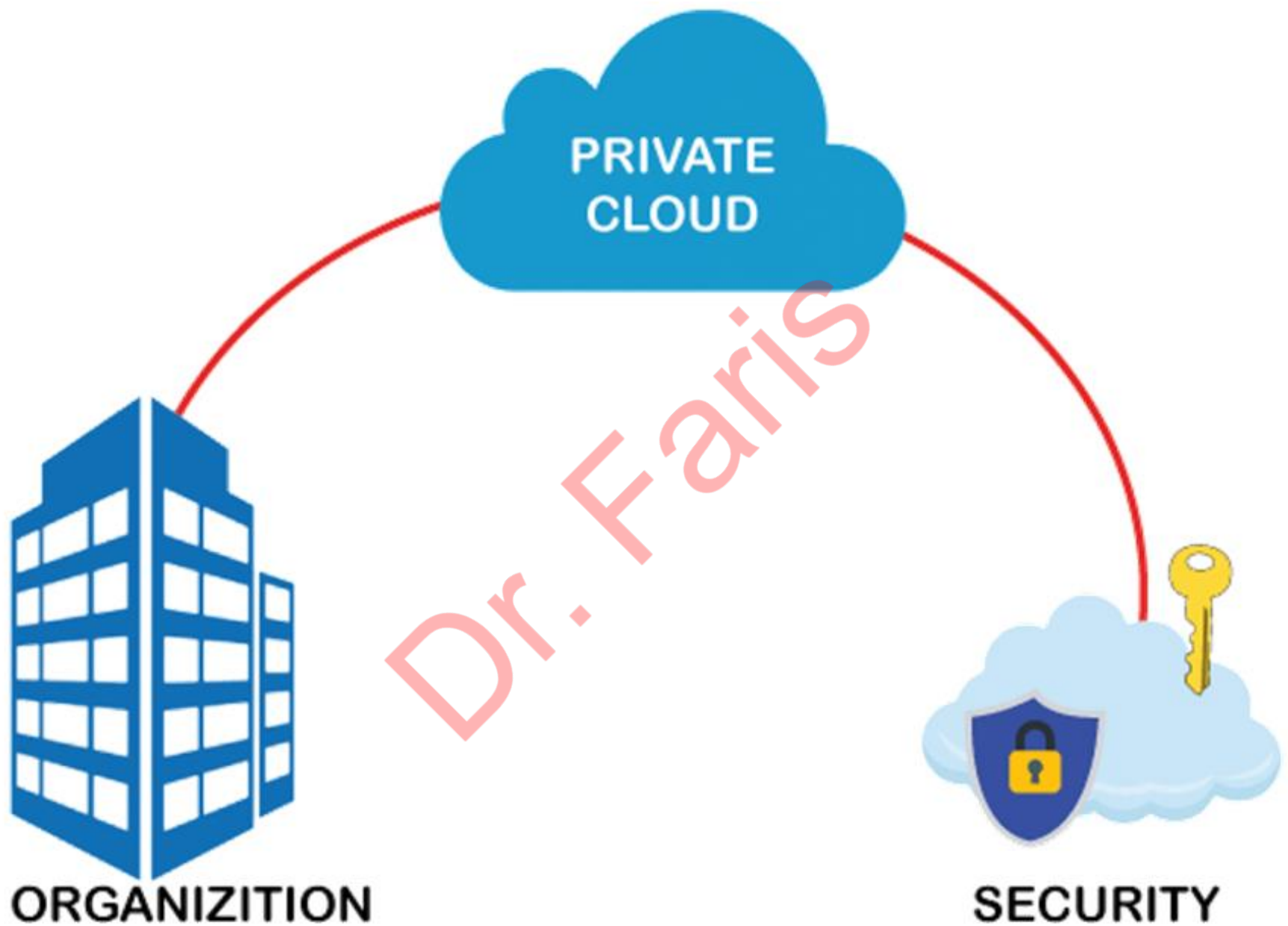
- **Private Cloud**
- **Hybrid Cloud**

PRIVATE CLOUD

Private Cloud

❑ Private cloud computing is a form of cloud computing that offers similar advantages to public cloud computing, such as self-service and scalability, but it operates on an exclusive architecture. A private cloud, also referred to as an internal or company cloud, is used to meet the requirements and objectives of a single organization, while public clouds offer services to multiple organizations.

Private Cloud

❑ A private cloud is a single tenant computing infrastructure and environment, meaning the organization using it, the tenant, doesn't share resources with other users. Private cloud resources can be hosted and managed by the organization in a variety of ways. The private cloud can use resources and infrastructure already available in an organization's on-premises data center.

PRIVATE CLOUD

ORGANIZITION

SECURITY

Private Cloud

❑ The main benefits of a private cloud is that users do not share resources. Because of its owned nature, a private cloud computing model is best for businesses with dynamic computing needs that requires direct control over their environments, typically to meet security.

The difference between a private cloud and a public cloud

❑ A public cloud is where an independent third-party provider, such as Amazon Web Services (AWS) or Microsoft Azure, owns and maintains compute resources that customers can access over the internet. Public cloud users share these resources, a model known as a multi-tenant environment. For example, various virtual machine (W) instances provisioned by public cloud users may share the same physical server, while storage volumes created by users may coexist on the same storage subsystem.

The difference between a private cloud and a hybrid cloud

❑ A hybrid cloud is a model in which a private cloud connects with public cloud infrastructure, enabling an organization to coordinate workloads ideally smoothly across both environments. In this model, the public cloud functions as an extension of the private cloud, forming three distinct, uniform clouds. A hybrid cloud deployment requires a high level of compatibility between the underlying software and services used by both the public and private clouds.

Is it better to use a public cloud or a private cloud?

❑ A private cloud may be better for some businesses, especially those that have very strict security rules. When a business uses a private cloud, they have more control over the security measures that are put in place for the cloud. This means that there is no longer intercompany multi tenancy, but there is still multi tenancy between internal teams.

❑ A private cloud, on the other hand, may cost more to set up, especially if the business manages it itself. Groups that use private clouds often end up with a hybrid cloud setup that includes some public cloud services to save time and money.

Types of private cloud?

❑ Virtual private cloud. A virtual private cloud (VPC) is a type of cloud model that offers the benefits of a private cloud (more control and an isolated environment) with the help of public cloud resources,

❑ Managed private cloud. A managed private cloud is a type of private cloud model in which the infrastructure is not shared.

❑ Hosted private cloud. Hosted private cloud vendors offer cloud servers in their own data and are also responsible for security management.

❑ On Premise private cloud. Unlike hosted private clouds, on-premise cloud solutions allow users to host a cloud environment internally. For such a cloud model, it is necessary to have an internal data center to host the cloud server.