

What are public, private and hybrid clouds?

Understanding your options

Once you understand the basic premise of [cloud computing \(/en-in/overview/what-is-cloud-computing/\)](/en-in/overview/what-is-cloud-computing/), which in simple terms is the delivery of computing services over the Internet, you will find there are different ways to deploy cloud resources. Options for deployment include public, private and hybrid cloud. All three scenarios provide similar benefits, including cost-effectiveness, performance, reliability and scale—but which deployment method you choose depends on your business needs.

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What is a public cloud?

Public clouds are the most common way of deploying cloud computing. The cloud resources (like servers and storage) are owned and operated by a third-party [cloud service provider \(/en-in/overview/what-is-cloud-computing/\)](/en-in/overview/what-is-cloud-computing/), and delivered over the Internet. [Microsoft Azure \(/en-in/\)](/en-in/) is an example of a public cloud. With a public cloud, all hardware, software and other supporting infrastructure is owned and managed by the cloud provider. In a public cloud, you share the same

hardware, storage and network devices with other organisations or cloud “tenants.” You access services and manage your account using a web browser. Public cloud deployments are frequently used to provide web-based email, online office applications, storage and testing and development environments.

Advantages of public clouds:

- Lower costs—no need to purchase hardware or software and you pay only for the service you use.
 - No maintenance—your service provider provides the maintenance.
 - Near-unlimited scalability—on-demand resources are available to meet your business needs.
 - High reliability—a vast network of servers ensures against failure.
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What is a private cloud?

A private cloud consists of computing resources used exclusively by one business or organisation. The private cloud can be physically located at your organisation’s on-site datacenter or it can be hosted by a third-party service provider. But in a private cloud, the services and infrastructure are always maintained on a private network and the hardware and software are dedicated solely to your organisation. In this way, a private cloud can make it easier for an organisation to customise its resources to meet specific IT requirements. Private clouds are often used by government agencies, financial institutions, any other mid- to large-size organisations with business-critical operations seeking enhanced control over their environment.

Advantages of a private clouds:

- More flexibility—your organisation can customise its cloud environment to meet specific business needs.
 - Improved security—resources are not shared with others, so higher levels of control and security are possible.
 - High scalability—private clouds still afford the scalability and efficiency of a public cloud.
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What is a hybrid cloud?

Often called “the best of both worlds,” hybrid clouds combine on-premises infrastructure, or private clouds, with public clouds so organisations can reap the advantages of both. In a hybrid cloud, data and applications can move between private and public clouds for greater flexibility and more deployment options. For instance, you can use the public cloud for high-volume, lower-security needs such as web-based email and the private cloud (or other on-premises infrastructure) for sensitive, business-critical operations like financial reporting. In a hybrid cloud, “cloud bursting” is also an option. This is when an application or resource runs in the private cloud until there is a spike in demand (such as seasonal event like online shopping or tax filing), at which point the organisation can “burst through” to the public cloud to tap into additional computing resources.

Advantages of hybrid clouds:

- Control—your organisation can maintain a private infrastructure for sensitive assets.
 - Flexibility—you can take advantage of additional resources in the public cloud when you need them.
 - Cost-effectiveness—with the ability to scale to the public cloud, you pay for extra computing power only when needed.
 - Ease—transitioning to the cloud does not have to be overwhelming because you can migrate gradually—phasing in workloads over time.
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Deployment Options

As you can see, the cloud provides many options for deployments that are suited to each organisation's needs. Learn more about cloud computing:

- [What is cloud computing? \(/en-in/overview/what-is-cloud-computing/\)](/en-in/overview/what-is-cloud-computing/).
- [Examples of cloud computing \(/en-in/overview/examples-of-cloud-computing/\)](/en-in/overview/examples-of-cloud-computing/).
- [What is SaaS? \(/en-in/overview/what-is-saas/\)](/en-in/overview/what-is-saas/).
- [What is IaaS? \(/en-in/overview/what-is-iaas/\)](/en-in/overview/what-is-iaas/).
- [What is PaaS? \(/en-in/overview/what-is-paas/\)](/en-in/overview/what-is-paas/).

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