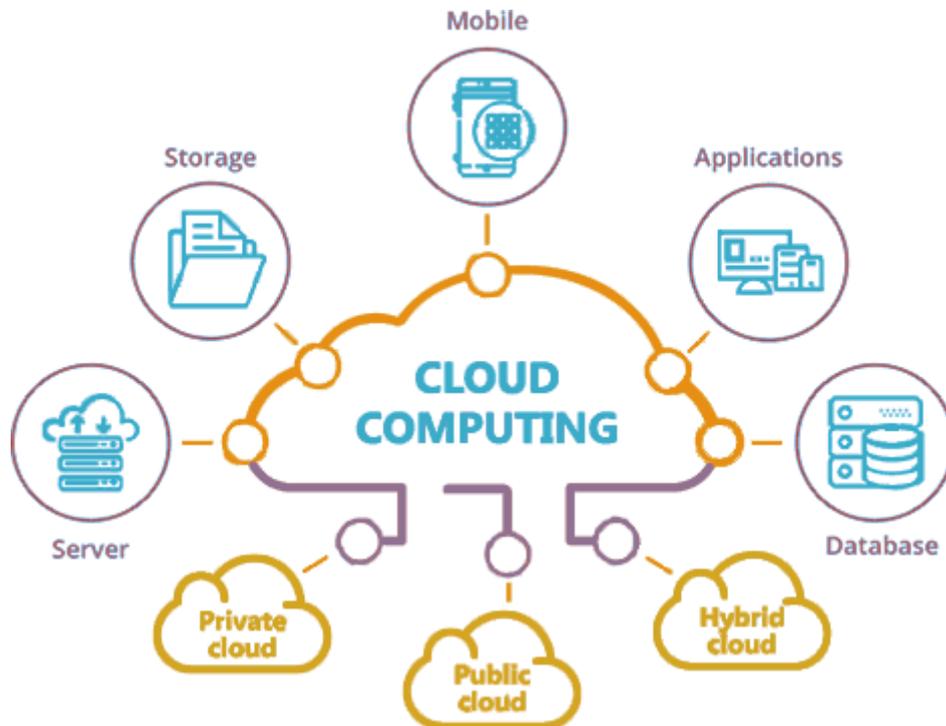


An introduction to cloud computing right from the basics

What is cloud computing, in simple terms?

Cloud computing is the delivery of on-demand computing services -- from applications to storage and processing power -- typically over the internet and on a **pay-as-you-go** basis.



How does cloud computing work?

Rather than owning their own computing infrastructure or data centers, companies can rent access to anything from applications to storage from a cloud service provider.

One benefit of using cloud computing services is that firms can avoid the upfront cost and complexity of owning and maintaining their own IT infrastructure, and instead simply pay for what they use, when they use it.

In turn, providers of cloud computing services can benefit from significant economies of scale by delivering the same services to a wide range of customers.

What cloud computing services are available?

Cloud computing services cover a vast range of options now, from the basics of storage, networking, and processing power through to natural language processing and artificial intelligence as well as standard office applications. Pretty much any service that doesn't require you to be physically close to the computer hardware that you are using can now be delivered via the cloud.

What is public cloud?

Public cloud is the classic cloud computing model, where users can access a large pool of computing power over the internet (whether that is IaaS, PaaS, or SaaS). One of the significant benefits here is the ability to rapidly scale a service. The cloud computing suppliers have vast amounts of computing power, which they share out between a large number of customers -- the 'multi-tenant' architecture. Their huge scale means they have enough spare capacity that they can easily cope if any particular customer needs more resources, which is why it is often used for less-sensitive applications that demand a varying amount of resources.

What is private cloud?

Private cloud allows organizations to benefit from some of the advantages of public cloud -- but without the concerns about relinquishing control over data and services, because it is tucked away behind the corporate firewall. Companies can control exactly where their data is being held and can build the infrastructure in a way they want -- largely for IaaS or PaaS projects -- to give developers access to a pool of computing power that scales on-demand without putting security at risk. However, that additional security comes at a cost, as few companies will have the scale of AWS, Microsoft or Google, which means they will not be able to create the same economies of scale. Still, for companies that require additional security, private cloud may be a useful stepping stone, helping them to understand cloud services or rebuild internal applications for the cloud, before shifting them into the public cloud.

What is hybrid cloud?

[Hybrid cloud is perhaps](#) where everyone is in reality: a bit of this, a bit of that. Some data in the public cloud, some projects in private cloud, multiple vendors and different levels of cloud usage. According to research by TechRepublic, the main reasons for choosing hybrid cloud include disaster recovery planning and the desire to avoid hardware costs when [expanding their existing data center](#).

