

how to migrate from on-premises virtual machines to cloud.

Cloud migration is the movement of data, applications, and other IT services into the cloud. We're mainly discussing **on-premises to cloud migration** i.e., the transfer of the data hosted in your in-house **data centre** and other infrastructure to an **infrastructure-as-a-service (IaaS)** or **platform-as-a-service (PaaS) cloud deployment**. But "**cloud migration**" is sometimes used to describe moving data from one cloud to another, either within the context of a **multi-cloud system** or, in some cases, to an entirely different deployment.

During a migration, **on-premises** data will typically be transferred either to a **single public cloud**, a **multi-cloud service**, or a **hybrid cloud solution** that leverages **public cloud resources** alongside **private on-premises data infrastructure**.

The 4 types of cloud migration

There are several approaches to cloud migration strategy, and the choice you make will be **contingent** on your specific business needs. How much of your enterprise's data needs to be migrated into the cloud? Several hundred gigabytes? A dozen terabytes? Is this your first migration? Answering these questions will help determine the best cloud migration strategy for your organization.

Rehosting: Also commonly known as the "lift-and-shift" or "forklift migration" approach, **rehosting** is the simplest type of **on-premises to cloud migration**. Applications, data, schema, and workloads are moved from the data centre to an **IaaS** cloud deployment, without being changed in any way. While this type of migration is fairly easy to accomplish, it limits what you can do with your apps because they haven't been modified to be cloud-native. It's best suited for select low-impact, on-premises workloads, or as the initial migration method for organizations new to the cloud.

Refactoring: This strategy, sometimes called "rip and replace" or "redesign," is much more labor- and time-intensive than rehosting. It entails rewriting and restructuring the architecture of apps and, potentially, data and schemas either before or after migration; post-migration is more common. The key benefit of refactoring is that you essentially redesign apps from the ground up with the cloud in mind, taking advantage of the latest, most advanced features your cloud service provider (CSP) has to offer. Initial cloud migration costs may be higher, but in the long run, your cloud tools will run more effectively. If you intend to move a lot of your apps and workloads off-premises, refactoring may ultimately be the best choice.

Replatforming: Falling somewhere between rehosting and refactoring, replatforming involves making some changes to an application while keeping some of its other core elements. Because of this, it's sometimes referred to as "move and improve," or "revise." A common example would be modifying the way in which an app interacts with the database. Replatforming can work for migrations from on-premises infrastructure to IaaS, as well as moves to a PaaS service.

Replacing: In this migration strategy, data is taken from existing on-premises applications and moved to cloud-based software-as-a-service (SaaS) apps created by third parties, while the original in-house apps are discarded. This approach may make sense for enterprises that have had their apps compromised in some way or are simply working with legacy tools that they consider inferior to third-party SaaS options.