

ADIOS HYBRID, HELLO PUBLIC

The responsibility of managing applications across multiple environments in a complicated IT architecture falls upon the shoulders of most enterprise IT departments. Additionally, they must also constantly reevaluate their mix of private and public cloud infrastructure and on-premises infrastructure to support business goals. They also determine how applications can be migrated to the public cloud in the most cost-effective way.

This is no easy feat. Multiple applications built at different times, in different languages, need to be evaluated for migration to the cloud, which often requires deep knowledge of the existing IT infrastructure as well as the public cloud resources that could replace these functions.

Ultimately, enterprises must determine the hosting solution that suits each application: on-premises, private cloud, public cloud, or hybrid cloud. Below we outline some basic considerations and cloud comparisons, as well as best practices for how to integrate and manage these complex deployments.

Public Cloud

By now, most organizations understand the cost benefits of an IaaS provider, including a low and predictable cost of ownership and a shift from a capital expenditure (CAPEX) to an operating expenditure (OPEX). This makes it possible to significantly reduce an organization's upfront costs, its ongoing costs of IT labor and potentially its tax liability.

The technical benefits are equally attractive: scalability, automated deployments, and greater reliability, to name a few. There are also very few technical limitations that would prevent an organization from moving their infrastructure to a public cloud; almost every function a traditional resource supports in the private cloud or in a datacenter could be replicated in. Applications that are high suitable for public clouds include:

- Long-term storage, including tape storage, which has significantly more cost-effective solutions
- Data storage of any kind, especially physical media that fails often or needs to be replaced
- The web tier of an application that is mission-critical or latency-intolerant
- Any new application that demand is uncertain for, especially for microsites or other interactive properties for marketing and ad campaigns
- Testing environments, due to the fact that it is so much easier to spin up and down instances for load testing.

Enterprises have to decide whether they want to manage their public cloud infrastructure themselves or outsource it to a managed cloud services provider. A managed cloud services provider can maintain the entire cloud infrastructure (web servers, application servers, load balancing, custom failover scripts) and some may also be able to integrate with on-premises or private cloud solutions to provide a single monitoring interface.

Hybrid Cloud

As explained above, enterprise architecture is often so complex that a hybrid cloud solution — where public, private or on-premises infrastructure supports a single application — is the best solution.

Hybrid architectures are especially attractive for large organizations that want to explore the flexibility and scalability of the public cloud. An audit will not always reveal how an application will perform in the public cloud, so enterprises choose to test a single tier in the public cloud while maintaining key infrastructure on their private cloud or dedicated infrastructure.

A hybrid system is also a good solution if there is institutional hesitancy about the security of the public cloud for sensitive data (whether this is justified or not). Frankly, it is often easier to convince internal executive or IT teams to experiment with cloud solutions rather than adopt them wholesale. Maintaining veteran IT staff and legacy applications on legacy infrastructure while opening new lines of business in the cloud is a cost-effective solution that also manages institutional risk.

An important thing to understand about hybrid environments is that they are only as strong as the integrations that unite them. Performance monitoring, regular testing, and data ingress and egress procedures will reveal future areas of difficulty as well as signal when and how to further evolve the application. The team orchestrating the infrastructure is almost always more important than the specific type of cloud solution you chose.

Public or Hybrid?

Well it all boils down to multiple factors of decisions including institutional hesitancy of the security of the public cloud and the organisation's needs. With the multitude of pull factors encouraging company to go onto the public cloud, here's one more. The U.S. government has moved their Tier 1 top-secret documents to the public cloud back in 2014. If it is safe enough for the U.S government, shouldn't we give the public cloud a go too?