GUIDE

Multicloud Deployment: An IT Survival Guide

Nearly as soon as public cloud computing burst on to the scene a decade ago, the technology started to grow, mature and multiply. During the past ten or so years, cloud has become defined by a handful of large public cloud providers, as well as by SaaS web applications and various incarnations of hybrid cloud deployments.

As we look around today, we see public cloud and SaaS providers continually adding features, whether they're established or upstart vendors. Enterprise IT, at some point, chose cloud as its future. IDC reports that by 2018, 65% of businesses' IT assets will be somewhere off-premises, whether in colocation, hosting or cloud data centers. The report recommends that IT and business teams learn how to integrate and manage hybrid cloud and multicloud environments to adapt to future technology needs. Those environments will probably include lots of cloud-related services and locations.

Multicloud—not to be confused with hybrid cloud—refers to the use of more than one public cloud provider at a time. A recent RightScale survey found growing use of more than one cloud, though hybrid cloud is dominant (that's the use of both private and public cloud resources). Another survey found that more than three-quarters of businesses were planning to implement multicloud architectures in the near future.

Why Use Multicloud?

Multicloud use has emerged as a way to tackle complexity, even as it adds more platforms for IT to manage. It's a natural evolution as cloud computing matures and can easily fill business needs. It also avoids the dreaded vendor lock-in—especially important as IT teams get more financially savvy and adapt to cloud pricing models.

Putting your workloads in multiple public clouds has a lot of upsides. It's a way to customize your cloud architecture for the best possible performance and end-user experience. Other key benefits to using multicloud:

1. **It's flexible and accommodating**. The flexibility of multicloud is very appealing to businesses trying to meet the needs of end users, often at various locations. Using multiple cloud providers as a business standard can help eliminate, or at least mitigate, the use of shadow IT. When employees find and start using their own SaaS apps or cloud services, it's because they want the easiest experience and best technology for the job. IT can offer more options under the multicloud umbrella to include those shadow IT users. If various departmental needs are met by various public cloud providers, IT and users win.
2. **It allows for growth**. You may find that some of your workloads fit better in one public cloud vs. another. Adopting multicloud will let you use the right tool for the job by taking advantage of unique features specific to a particular cloud service. Cost matters, too: It'll take some number-crunching, but you can save money by figuring out which cloud might run your particular workload for the lowest cost. Try out some apps or services in one cloud, and move them around as needed down the road. It could also be useful when negotiating to have other cloud vendors available, too.
3. **It's more than one basket**. Multicloud effectively ends vendor lock-in when it's adopted. While a single cloud provider means you only have one cloud to manage, using more than one can bring some necessary peace of mind around losing data in the cloud. Multicloud can also add business continuity and disaster recovery capabilities to an IT environment, such as storing backups in one cloud or using one public cloud as failover for another public cloud. When an outage or slowdown happens, you're not entirely dependent on that one cloud provider to restore service.

Is Multicloud the New Sprawl?

Of course, using multiple cloud providers means managing multiple interfaces, integrations and service-level agreements (SLAs). As IT leaders move to cloud to escape the legacy sprawl of the traditional data center, are they jumping into another overly complicated environment?

The general downside of multicloud is pretty obvious: It's harder to manage a bunch of different clouds than just one. One recent survey found the majority of cloud adopters unsatisfied, with 77% saying that deploying the service that's the right fit is the hard part. However, companies finding success have taken "formal and organized approaches to cloud management."

There are some particular challenges that come along with multicloud, and some best practices to avoid them entirely or mitigate potential issues.

Start early. Before you do your research or think about signing a contract, it'll be helpful to do an audit across the business or departments that will be part of the cloud adoption. Find out every single service or app users need to get an idea of the scope and features that they require. Then you can match user requirements to cloud service features to get the best possible performance—and the least frustrated users.

If you're using one cloud but looking for another, use the audit information to help decide where the new cloud might meet needs better than the current one. And auditing can help determine how feasible it is to move an app or service from on-premises to the cloud, or from one cloud to another.

Pick your management method. Each cloud provider's service comes with its own interface. There are multicloud management tools available, and cloud brokers are emerging as a new class of consultants. Some organizations may opt to build on standard open architectures like OpenStack. Whatever your choice, know that having a management plan and revisiting it over time will be a big part of cloud success at your company.

Multicloud management also includes setting up processes around moving data to, from and among cloud providers. It should also take into account the technical integration between the data center and IT team and various clouds.

Mind the APIs. There's sadly not much, if any, interoperability among cloud providers, and it's unclear when or if that might change. So that means that cloud APIs are essential for a multicloud deployment. See if any of the providers you like have any compatible API subsets to ease some integration headaches. If not, manage APIs for different providers together for efficiency. And of course, keep an eye on any API changes or upgrades over time in case it could benefit your infrastructure.

Do the math. Before you sign multiple cloud contracts, do some benchmarking of current cloud spending as well as some basic projections of what you might spend in six months or a year on a particular project or team's IT needs. See what the pricing tiers are for each cloud and where you should spend money. Use any historical data available to get the most accurate idea of how many users, time or bandwidth might be involved with each application running in the public cloud. Part of that exercise can include calculating the cost per employee for IT cloud services, so that you can take hiring and growth into account for future IT needs.

If you could manage the sprawl of VMs, legacy servers and shadow IT, multicloud should be a breeze. Once you've done the hard work of planning your multicloud architecture and getting processes and management down, you can reap the rewards of flexibility, reduced data loss and better efficiency in operations and costs. Add monitoring tools to stay ahead of potential performance problems and continually prove the value of your multicloud investment. Look for modern performance monitoring technology that can see into cloud provider networks and get a real sense of end-user experience. You'll end up with a clear view of all that's happening with your cloud deployments—no matter how many or where they are.