
Avoid the Common Pitfalls of

Cloud Migration for Hybrid IT Environments

How To Deal With Hybrid IT Environments After Cloud Migration



During our recent webinar, Cleaning Up After the Cloud Migration Party, guest speaker Forrester Research Principal Analyst Lauren Nelson shared insights about cloud migration and the planning that goes into a migration along with ongoing management and governance needed for applications after they migrate to the cloud. Here are our key excerpts from the webinar.

1. Planning Cloud Migration

Most enterprises associate cloud migration with migration to a software-as-a-service (SaaS) solution. With SaaS migration, the vendor brings a lot to the table. They rearchitect the application for the cloud to mitigate performance issues, modernize the user experience, bring application-specific knowledge, and manage up to the application. All of this combined typically leads to an improved user experience with higher performance.

Infrastructure-as-a-service (IaaS) migration is different. Organizations must decide whether to rearchitect the application or to run the application as is — risking lowered performance due to missing application resiliency. The cloud platform itself is usually a generic infrastructure platform without application-specific support or isolation. Furthermore, organizations are responsible for data protection, cost management, security and workload management. For migration teams, providing a seamless experience for users with an equal if not better experience seems daunting. Key challenges that migrators must solve include: correct instance sizing that differs from configurations on premises, challenges of switching from vertical scaling to horizontal scaling, sustained uptime for a given virtual machine, security and isolation changes required to support multitenancy, assessing a complete view of workload health, and the implications of this move on an organization's security model.

2. Key Drivers for Cloud Migration

A recent Forrester survey asked about perceived challenges in cloud migration and actual challenges experienced. Organizations see security, privacy and network design as perceived challenges, yet one of the key cloud migration drivers mentioned was improved security. They also cited faster time to deploy, quick and easy scaling, ease of administration, and outsourcing as difficult tasks. Note that cost savings is not on this list. The stereotypical migration story is cost savings. Rarely does migration generate savings. Usually, the compelling economics behind migration are related to cost avoidance, e.g., IT teams were considering reinvesting in a new data center or refreshing their entire infrastructure estate. Migrating to the cloud avoided this large capital expense.

A lot of organizations understand that there is a cost associated with migration, both hidden and apparent. But some of the key pain points around using cloud in general are the unpredictability of cost and not being able to have a controlled budget before and after migration.

3. Phases in Cloud Migration

Many organizations think about their cloud strategies in two groupings: building new apps and migrating existing enterprise applications. The first is easier. You're building an app from scratch in ways that complement a cloud platform. Whereas cloud migration requires a lot of due diligence to ensure that your organization does not face application performance challenges before, during or after the move. Start by managing expectations. It's harder and often less fruitful than SaaS migration. The goal is to change hosting without the business experiencing any noticeable changes unless currently plagued with latency. Next, define the scope of the migration. Look at the application dependencies, the micro- and macro-level expected efficiencies, the amount of resources committed to migration, and the time frame you're operating under. Monitor the health of your workloads before, during and after the migration to help ensure minimal disruption.

4. Different Approaches to Migration

When organizations undergo cloud migration, IT teams need to make sure they have the right tools and teams monitoring the workloads before, during and after migration. This gives them a clear understanding of any anomalous behavior with the applications. Before the move, you need to understand current health and determine if the app can scale properly. This is also the time to make sure your team is properly staffed and skilled for the migration. If a cloud migration occurs over a weekend, avoid conflicts, inform people well in advance, and make sure there's significant time for testing to uncover any challenges prior to the start of the next business day. For teams taking a phased approach or planning significant modernization as part of this effort, the staffing burden will be around application architecture reformatting and cloud platform familiarity rather than readiness at the time of a major one-time move.

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5. Cleaning Up After Migration

The cleanup phase is ongoing management. First, follow up the migration by minimizing the assets that you had on premises. Second, explore selling data center assets or adjusting your organizational teams to best support the new hosting model. Next, look to instill governance and management policies for those workloads that have made that move. That means having management tools that consider health across infrastructure and application performance while systematically testing for vulnerabilities. That also bleeds into overall management and governance best practices by looking into standardizing templates and configurations for different workload types. As of late, the most common type of governance is continual cost optimization to remove spending waste from your cloud bill. Organizations find that they start with a more generous configuration for their critical apps and then, as time moves on, they tighten configuration as they trust auto-scaling more, create their own policies, and understand the nuances of the different instance sizes and families.

And for some, the cleanup never ends. Organizations continuously evaluate the functionalities of alternative architectures that may be more cleanly aligned within given workloads — like SaaS replacement or slow modernization leveraging app or developer services native to a cloud platform. For nonpackaged applications, enterprises may work toward application segmentation into microservices.

So, do not leave off the last part of the party — do not forget the cleanup phase. This is going to be key in continuously improving performance and ensuring you're serving your business users.

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Cloud migrations can be painless with complete visibility before, during and after the migrations. Enterprises and service providers use Zenoss Cloud to ensure the seamless execution of cloud migrations.

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