Navigating the Cloud Frontier: A Comprehensive Whitepaper on Successful Cloud Migration Strategies

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Managing the challenge of migrating to the cloud

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As many have discovered, it's not simply a case of 'lift and shift'. There are a lot of considerations in terms of which flavor of cloud to choose, what data to move to the cloud, how to move it, and how to monitor it once it's there.

The key is to break it down into four steps, not one.

Get to know the cloud

Flexera's 2023 State of the Cloud Report highlights the evolving cloud landscape, revealing that 58% of organizations use multiple public clouds. Enterprises with complex environments allocate 50% of workloads and 48% of data to public clouds, while SMBs favor the public cloud for 67% of workloads and 63% of data. AWS leads among public cloud providers, followed closely by Azure, with Google ranking third. This diversity in cloud providers is advantageous, as each competes to simplify migration through extensive learning content. For informed decision-making, explore resources like "Getting started with Amazon RDS," Azure SQL documentation, and "Cloud SQL on Google Cloud," understanding the unique strengths and considerations of each provider—AWS's robust capabilities, Azure's Microsoft integration, and Google's focus on data analytics and machine learning.

Plan what you're migrating to the cloud

As you delve into cloud migration decisions, it's crucial to assess your existing server estate and identify optimal candidates for migration. Not every instance and database may be suitable, so prioritize based on performance and business needs. Introducing a monitoring tool proves invaluable, offering insights into computing requirements, performance trends, and resource bottlenecks. Understanding peak usage times and potential issues allows for strategic optimization before migration. Additionally, address common database challenges like outdated syntax and legacy components to ensure a smooth transition. This proactive approach ensures you're well-prepared to leverage the flexibility of the cloud, adjusting compute needs efficiently without the constraints of traditional infrastructure.

Set up a Proof of Concept

Before you migrate anything to the cloud, you'll want to know how it will perform in the cloud. With a PoC, you and your team can get familiar with the new approach and start experimenting. It will also help you discover if the cloud offering you've chosen does live up to the promise and deliver on real-life issues.

This is a good time to test out your monitoring solution as well. Can it handle monitoring in the cloud alongside your on-premises monitoring, what kind of metrics does it provide, and does it give you the insights you need to maintain performance?

Be proactive, not reactive

Once you're ready to make your first migration, make sure you're prepared if things do go wrong. You'll need to keep an eye on performance issues like latency, interoperability, dependencies on no-cloud apps and unexpected downtime.

A good monitoring tool comes in again here because it will help you be more proactive and anticipate issues before they materialize. And remember to have contingency and recovery plans in place just in case.

Migrating to the cloud summary

Migrating to the cloud is a challenge for every organization, so remember you're not alone in terms of the issues and questions that will come up. It's about choosing the right cloud provider first, and there are several options, each of which offers different advantages. Then there's the question of which workloads and data you want to move to the cloud, and why. And finally, there's being able to monitor what happens when you've moved to the cloud, and being able to compare the performance with established baselines to ensure you're making the most of it.

A monitoring tool like SQL Monitor has a place here because it lets you monitor your entire database estate, whether on-premises, on Virtual Machines, or in different flavors of the cloud, from one screen at one time. Before you even make the move, it can also help you identify existing issues with a database that might cause problems, and give you an accurate picture of the I/O performance and help you optimize it to make the cloud as cost-efficient as possible.