IDERA®

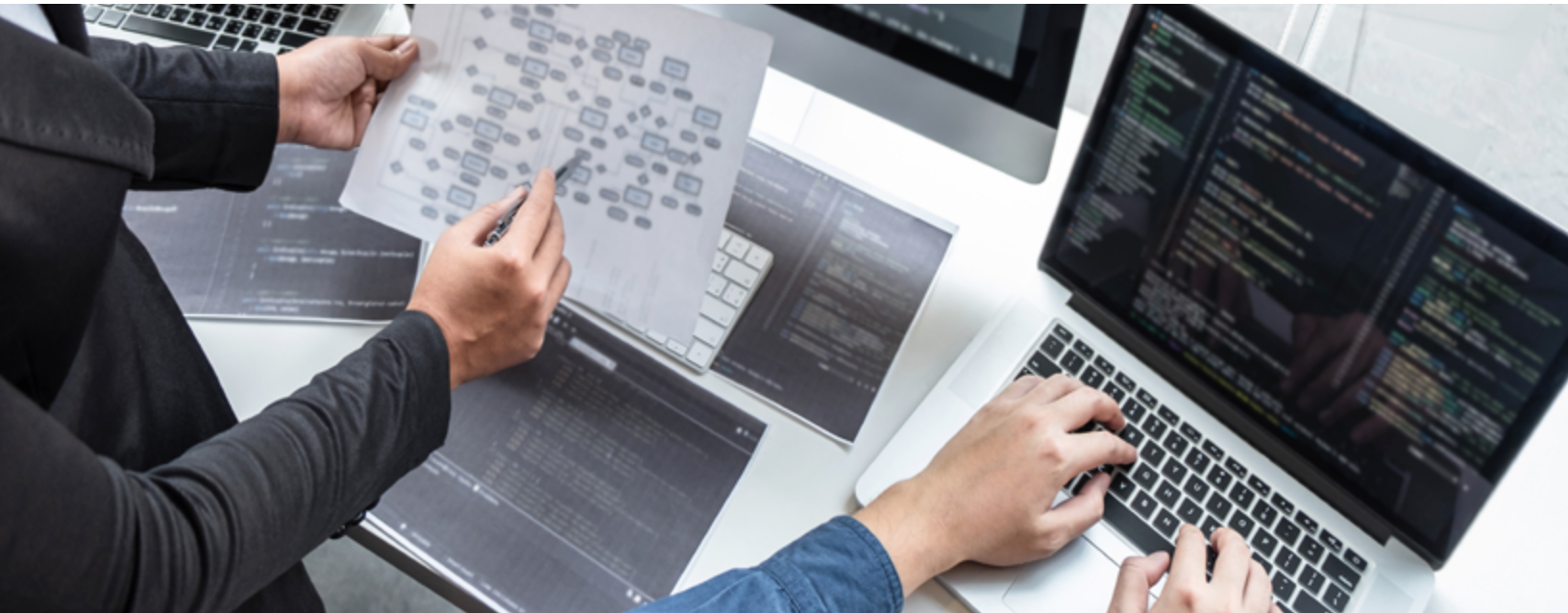
CLOUD MIGRATION PROBLEMS & SOLUTIONS

PROBLEMS AND SOLUTIONS FOR MIGRATING DATABASES TO THE CLOUD

Migrating database instances to the cloud is a complex task that often results in a disappointing outcome, including a complete failure. To repatriate a database back to an on-premises infrastructure wastes time and money. In addition, it causes disruption in the operations of an organization. It is therefore essential to ensure you develop the right strategy with proper optimization, planning and monitoring throughout the entire migration.

PROBLEMS

Cloud solutions provider Virtana commissioned a survey of 350 cloud decision-makers who worked in the United Kingdom or the United States of America during 2020. Over two-thirds of the respondents reported they had already migrated at least one-fourth of their applications to a public cloud. While these respondents recognized the benefits of this process, 72 percent also said they had to move at least one application back to an on-premises platform. Many observers find this result surprising, given the time and effort that cloud migration requires. The respondents cited unanticipated problems as the reason for their rollbacks, while repatriation can be a strategic decision to support a change in business requirements.



CAUSES

The most common reason for repatriating databases is that they should have remained on-premises to begin with. A public cloud is not the best platform for all databases. It requires a solid understanding of their data, privacy, and security requirements to determine where a database should live.

To select the wrong cloud provider can cause organizations to rethink their database migration. The capabilities and support they offer vary, and the wrong decision is often expensive and disruptive. Public clouds only require customers to pay for the resources they use. This is an attractive pricing structure compared to the capital expenditure that an on-premises data center requires.

Unlike an on-premises solution, however, unexpected usage will increase the cost of a cloud platform, whether it is because of a surge in business or just poor planning. In addition, hosting costs can be greater when one does not optimize a database for the cloud. To optimize database instances while migrating them is impractical, so it is a better idea to do so while they are still on-premises.

Technical challenges play a major role in database repatriation. The significant number of configuration options and environments requires careful consideration of a lot of pieces that need to fit together. Database administrators often assume they will integrate into the cloud platform with little effort, while databases are not that much more difficult to migrate than other workloads. However, this is not often the case, as a not well executed migration can cause problems ranging from compromised performance to complete outages.

Performance degradation may also be a deciding factor when migrating a database back to a local server. This problem is common in hybrid clouds, where the infrastructure is more complex than a single platform. In these cases, some loss of performance is inevitable, and may overwhelm the benefits of migrating a database to the cloud.

SOLUTIONS

Better monitoring of the characteristics of the workload of a database before the migration is an important part of a successful migration. The greater your understanding of the databases within the context of their operating environment, the less likely it is that you will need to undo the migration.

An offline migration is the simplest approach, provided the database applications can tolerate the downtime needed to complete the migration. Where this strategy is not possible, an online migration involves copying the database to the cloud platform while the database continues running. One can then propagate changes from the source database to the destination database, allowing the cutover to occur once one synchronizes the databases. Applications can then switch their connections to the target database and end the ones to the source database. Online migration requires much more planning, so it should include a test run to identify and correct any problems with the migration plan.

IDERA'S DATABASE TOOLS FOR CLOUD AND HYBRID ENVIRONMENTS

The path to successful cloud database management

If you are not managing SQL Server databases properly in the cloud, it is just a matter of time before lightning strikes. Proper database management across the environment involves multiple aspects and tasks, and produces critical benefits:

- Manage the inventory, security, configuration, disaster recovery, performance, migration, data, and data models of your databases on physical machines, virtual machines, and cloud-hosted virtual machines, as well as managed cloud databases.
- Save on software purchases, reduce the learning curve, reduce deployment time, and maximize the return on investment.
- Manage your databases across your entire environment seamlessly to ensure that goals are achieved, and costs are controlled.

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