NAVISITE QUICK TIPS:
Migrating SQL Databases to Microsoft Azure

Get a quick overview of the opportunities and potential pitfalls of migrating your SQL databases to Azure and how to benefit from the support of a Microsoft Expert Managed Service Provider like Navisite.

More than 40 years after its first appearance, SQL is standing tall as the top query/programming language. Given its entrenched position in the $30-billion relational database market, it's a safe bet you won't see it knocked off its pedestal anytime soon.

What you will see is a wholesale migration of SQL resources to the cloud as more organizations put aside their security worries, embrace data-driven strategies, and turn to public cloud solutions such as Microsoft Azure to make it all happen.

If you're contemplating a SQL transition to Azure, take advantage of these quick tips to learn more about the opportunities and potential pitfalls, and why relying on a Microsoft Expert Managed Service Provider like Navisite may just be the right choice.

THE SQL MIGRATION CHALLENGE

While migrations of SQL infrastructures to the public cloud are increasingly common, that doesn't make them easy. There are different ways to configure your SQL infrastructure in Azure, multiple migration tools, varying SLA options, a range of discount opportunities and more. And with SQL databases, it's easy to overlook the misconfigurations in your current environment—they may be tolerable on-premises, but will be costly in the pay-as-you-go world of the cloud, and could break certain functionality.

Because the SQL opportunity is so big, Microsoft has ramped up the assistance available through its Cloud Solution Provider program. This includes designating a select group as Azure Expert Managed Service Providers (MSPs). Navisite is a member of the Expert MSP group, which numbers under 50 worldwide, and our expertise specifically with SQL migrations was a big factor in our selection.

WHAT'S BEHIND YOUR SQL MIGRATION?

Reasons organizations choose to migrate their SQL solutions to Azure include:

- Running SQL Server 2008, for which support is coming to an end (as of July 2019).
- Supporting new cloud-based applications and data-driven strategies.
- Getting the instant scalability that only the cloud can deliver.
- Streamlining the replication of databases locally and regionally to take advantage of Azure's extensive global footprint.
- Offloading common management operations to Azure and/or an MSP such as Navisite.

- Getting access to the latest in-memory technologies and AI-driven SQL features.

When we work with clients to manage their transitions from SQL to Azure, knowing the objectives is critical both for choosing a migration path and for measuring its success.

SAVING MONEY

Whether it's cutting your current SQL management costs or achieving new IT/business objectives cost-effectively, the cloud offers numerous ways to economize.

Consulting firm IDC estimates the benefits of a fully managed SQL Database at up to a 406% ROI over on-premises and hosted alternatives, making it an economical choice for your data.[1]

In addition, Microsoft offers a range of discounts and added support options, including:

- **Extended Support:** Get free Extended Security Updates for SQL 2008 and 2008 R2 for three years after the deadline.
- **Azure Hybrid Benefit:** Use your existing on-premises SQL licenses to save up to 55% on Azure.
- **Reserved Instances:** Committing up front to using a range of specified Azure VMs (based on attributes and quantity) can save you up to 72% versus pay-as-you-go prices.
- **VM Images:** Making use of images in the Azure Marketplace instead of building your own is another way to save on licensing costs.

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Maximizing your opportunities to save money in Azure takes experience. Programs such as Reserved Instances require that you have a thorough understanding of your specific requirements—compute, storage, time of day, seasonal peak needs, etc. Get it right, and the savings can be significant. Get it wrong, and you can actually end up paying more. An MSP such as Navisite can help you maximize ways to win and minimize any potential losses.

SQL PaaS OR IaaS

Another big decision that we focus on right away when embarking on an SQL migration is the various tradeoffs between Azure SQL Database (Azure's DBaaS/PaaS) and SQL Server on Azure VMs (Azure IaaS):

Azure SQL Database: If you want to keep things as simple as possible and are comfortable with less control, look at Azure SQL Database. This is Azure's DBaaS/PaaS multitenant solution, designed to reduce the resources you need to invest in thorny tasks like apportioning databases. But agreeing to that bargain means, for example, that you may not be able to do custom administration tasks that could improve workload performance. Also, plan on having some storage limitations and making do without certain features that are included in your on-premises solution. In general, for small to midsize databases, web-based applications and specifically new development, Azure SQL Database is often a great option.

SQL Server on Azure VMs (IaaS): If your goal is to achieve the kind of control you now have with SQL Server (or a non-Microsoft SQL solution, such as Oracle) on-premises—while still benefiting from all that the cloud can give you—consider SQL Server on Azure VMs. This is Azure's Infrastructure as a Service option. It lets you lift and shift your current applications and gives you full control over the operating system and instance configuration (e.g., you control when to update/upgrade the operating system and database software or install additional software such as antivirus). It requires more work and more expertise (and more resources) on your part, but it keeps you in the IT driver's seat. For moving an existing SQL implementation as is, this is a top choice.

Navisite has worked with organizations that have chosen both routes. We've also developed workarounds to help overcome the limitations and/or challenges that arise on either path.

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KNOW WHAT YOU'RE MIGRATING

In planning your SQL cloud implementation, your first impulse might be to start planning your ultimate cloud build-out. When we work with organizations, we get them to resist that impulse. Focusing first on the ultimate build-out might have been the process you followed for an on-premises installation (to accommodate the long lead times for approvals, acquisition and implementation), but that's not the way things are done in the cloud.

Instead, our first step is to look under the hood of your existing applications to see how efficiently they're running. Start flagging all those instances of inefficient configuration and bad coding that create resource hogs. When you're paying for every byte and every transaction in the cloud, these are the kinds of things that are going to cost you.

We work with you to map your processes, look at throughput and resource consumption per request and identify your dependencies. Even if you choose not to refactor these configurations now, having this information will equip you to understand your consumption hotspots and make better cost-control decisions later.

KNOW YOUR SLAs

In migrating SQL applications to the cloud, uptime is going to be a top priority, so it's important to know the different Service Level Agreements (SLAs) for Azure SQL Database (PaaS) or SQL Server running on Azure VMs (IaaS):

- For Azure SQL Database, Microsoft provides an availability SLA of 99.99%.

- For SQL Server running on Azure VMs, Microsoft provides an availability SLA of 99.95%, covering only the VM itself, not any of the processes (such as SQL Server) running on the VM, so you'll need to implement additional mechanisms to ensure availability of your databases.

- For database high availability (HA), you can configure one of the supported high-availability options in SQL Server, such as Always-On Availability Groups. This doesn't provide an additional SLA but allows you to achieve >99.99% database availability, albeit at a significant additional cost.

MANAGING YOUR SQL MIGRATION

Juggling the considerations and priorities that go into planning an SQL migration can be overwhelming. Navisite is committed to making it as easy as possible.

Our Azure experts will work with you on a comprehensive plan to migrate your SQL databases, including the target platform, tools and approach to be used and timing. This groundwork enables us to understand everything from stakeholder functionality requirements and goals to budgets, schedules and beyond.

We also understand something that others don't: when it comes to successfully transitioning to the cloud, every organization needs a custom solution. There is no one-size-fits-all answer.

Navisite leverages the proven best practices for each use case. We also have the know-how to address migration challenges that most organizations lack either the staff or experience to deal with to ensure that your organization's migration to the cloud is a success.

Navisite offers managed Azure services in which all aspects of configuration, security and management are handled by experienced Azure professionals. This alleviates workloads on already-taxed IT teams, allowing them to focus on critical business growth objectives. And we follow it up with the post-migration care and monitoring that are essential for you to continue operating at peak performance.

Once planning and design are complete, Navisite executes the plan and leverages our expertise to efficiently complete the migration. We provide end-to-end project management, giving you full visibility into the project's status and progress throughout the migration.

Visit our website or call us at (888) 298-8222 to learn how to take full advantage of Navisite's SQL-to-Azure services.

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