

Risk-mitigated SQL migration

FOUR STEPS TO SUCCESSFUL MIGRATION FROM SQL SERVER 2008 + 2008 R2



On July 9, 2019, Microsoft will end support and security updates for SQL Server 2008 + 2008 R2. By that date, businesses using those systems will need to have migrated their operations to new software. That presents issues not only of cost and security, but availability. It's not like you can migrate during downtime anymore. The 24/7 nature of the modern IT organization demands that you transfer on the fly to minimize service interruptions. The scientists and engineers at SNP have created this e-book to give you a working framework for accomplishing this, including a unique four-step process to ensure your organization a low-risk, high-availability move to your optimal successor system for SQL Server 2008 + 2008 R2. Beyond that, this process will give you a reliable and repeatable methodology for future upgrades that includes planning, technology implementation, and validation and training.

To start with, let's look at your three basic options for moving beyond SQL Server 2008 + 2008 R2. Basically, there are two cloud-based strategies you can pursue with Microsoft Azure, and one that—at least temporarily—will keep you on-premises.

Two migration paths to the modern cloud

1. Migrate SQL on-premises to Azure SQL Database Managed Instances (SQL DB MI)

This option gives you an intelligent, fully-managed PaaS solution that provides near 100% compatibility with SQL Server on-premises. SQL MI provides built-in high-availability and disaster recovery capabilities plus intelligent performance features and the ability to scale on the fly. SQL MI also provides a versionless experience that takes away the need for manual security patching and upgrades.

2. Migrate SQL on-premises to Azure SQL VM

This is an IaaS option that provides Extended Security Updates at no additional charge above the standard pricing for Azure Virtual Machines. For customers that migrate workloads to Azure Virtual Machines, we will offer Security Updates and Bulletins rated “Critical” for SQL Server 2008 and 2008 R2.

This route to modern migration also offers you:

- Three years of Extended Security Updates at no additional charge and the ability to upgrade to a newer version when ready
- Built-in monitoring of security and performance for hundreds to thousands of databases at scale
- The option to migrate SQL Server workloads to Azure with on-premises licenses
- Significant time and resource savings with hybrid capabilities

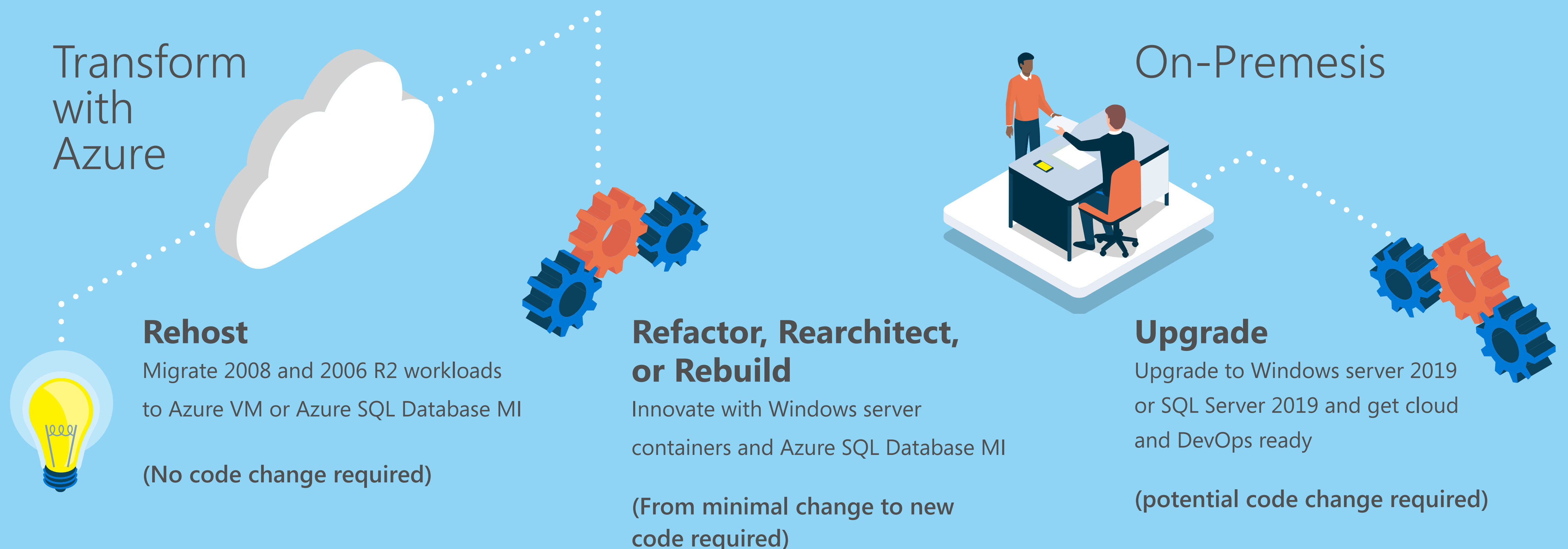
An on-premises option to upgrade

Whichever route you choose to the cloud, or if you have no digital transformation plan, we recommend you upgrade to the most current version of SQL Server. That way, even if you cannot meet the end-of-support deadline, you can buy Extended Security Updates to keep the remaining servers protected until you upgrade them.

Otherwise, you can choose to move to Azure by opting to rehost, refactor, rearchitect, or rebuild your workload or app. Or, you can upgrade on-premises to the latest version of Windows Server.

3 ways to migrate:

Whichever path you choose for the current SQL 2008 Server + 2008 R2 migration or beyond, SNP can help you follow this proven and proprietary four-step migration plan to a successful, measurable, and repeatable process.



Step 1: Plan and define the current vs. desired state of migration

Structured, unstructured, archived, in-the-cloud, on-premises, legacy systems—most data storage systems tend to have more of an ad hoc appearance than planned structure. If yours is like a lot of organizations', you probably don't have a full picture of all your structured and unstructured data sets, let alone how these data sets relate to each other. Things often got put where they were because it made sense at the time. Going forward, the cost of managing this kind of disorganized data will only increase. To mitigate the expanding confusion, we suggest you start by taking a look at what's happening within your organization and create a prioritized roadmap of short-, medium-, and long-term projects. To do that, start with two actions:

Action 1

Collect all the relevant project information from stakeholders and active teams.



Action 2

Define your business objectives, understand the data challenges, and align your business goals to deliver measurable objectives.



If these two initial actions sound daunting, our SNP consultants can facilitate whiteboarding sessions with team leads and department leaders to help gather critical knowledge in a time-efficient manner. Here are some of the key questions we often ask as we begin the process.

Key planning session starter questions

What are the requirements of the migration?

What is the current environment?

What is the desired future environment?

Which hardware or software is needed for a successful migration?

Have you incorporated these design requirements?

- Migration architecture
- Specific hardware and software requirements
- Migration procedures and deployment and test plans

What software licenses will be needed to perform the migration?

Which data should you migrate first?

How long, if at all, should applications be offline?

Which internal and external audiences should be informed about the migration?

Step 2: Design and document the migration plan

Once you know where you stand in terms of data and overall business objectives, and you have team input on your desired end-state, it's time to start designing the migration plan itself. This step will help you identify potentially costly and time-consuming problems and find strategies to avoid them.

From your whiteboarding and team input, determine which hardware or software you'll need for a successful migration and procure enough licenses to complete the transfer. Also, based on your whiteboarding session, confirm and clearly document your migration architecture, specific hardware and software requirements, migration procedures, and deployment and test plans. Once the structural details are locked in, define which data to migrate first, and whether and for how long you need to take applications offline. You'll also need to identify which internal and external audiences should be informed regarding the migration. Once you've accomplished those objectives, you're ready to execute.



Step 3: Migrate objects and data as designed

Before you begin your migration, double check that you've communicated your plan to all those who are involved in the process, and (just as important, and often overlooked) those who will be affected by the change.

At this point, you're ready to migrate. Here's a checklist for execution. It may seem simple, but each step helps you avoid costly downtime and post-migration errors:

Migration best practice checklist:

- ☒ Obtain, install, and configure any necessary software
- ☒ Perform a pre-migration data validation test
- ☒ Perform the migration
- ☒ Perform post-migration testing to confirm that the data is in the same state after the migration as it was before

Step 4: Conduct post-migration validation and training

Once the migration is complete, make sure you create a single report that describes the process in detail and records what worked, what didn't, and lessons learned. Share the report with all members of the migration team and gather their ideas for a better process. This will give you a strong foundation for a repeatable and consistent process through continuous process improvement. It will also set you up with a practical tool that documents the migration process to help train staff and improve the next migration, reducing both expense and risk.



Case Study: A smooth migration journey

Travel company migrates for real-time analytics, enhanced security, and higher performance

Situation

With a unique business model that bridges the gap between online and traditional travel agencies, this SNP client provided convenient online booking capability as well as 24/7 personalized trip booking with hundreds of certified travel agents in multiple countries and in multiple languages.

Challenge

This company had been using SQL Server 2008 for its database and analytics needs, and was rapidly reaching its physical limits. They needed a scalable database platform that would provide advanced real-time analytics while not compromising performance or security—and they needed it quickly.

Solution

With SNP's help, they migrated their entire SQL Server 2008 system to Azure SQL Database. The company's total data warehouse was compressed from 640 gigabytes to 200 gigabytes. This enhanced the performance of the system so that hundreds of employees could access the portal in minutes, rather than waiting hours for it to load.

Results

Intelligent performance: Azure SQL Database gives the customer deeper insights into database performance, eliminating the hassle of making ongoing improvements. Since the migration, turnaround time for synchronizing, transforming, and staging data onto the SQL Data Warehouse instance has gone from days to minutes, saving resources, time, and money.

High security and fast recovery: Migrating to Azure SQL Database has ensured high availability and disaster recovery.

Real-time reporting: With always-on data availability and real-time analytics 24/7 from the OLTP systems to the Data Warehouse systems, business teams now work within a more powerful ecosystem.

Enhanced scalability: The company infrastructure now scales instantly with their business needs because of enhanced performance for ticketing applications.

Increased productivity: Since the migration, employee productivity has shot up. In-house partners and IT professionals have seen gains of up to 40%.



Make SQL migration a non-issue

The data migration specialists at SNP can facilitate these four steps in a two-week engagement that gets you up, running, tested, and trained on a new system to take your organization to the next generation of data management. Beyond the four-step process, SNP's unique migration process stands out along with Microsoft Azure cloud offerings:

