

Become Cloud Native With SQL Modernization

Accelerate Your Cloud Migration Journey



Over the past decade, enterprises have gradually moved to the Cloud to take advantage of the vertical and horizontal scaling and match ever changing market demands. The Covid-19 pandemic and its impact on the global supply chain, as well as increasing demand for services requested online, accelerated the shift to the Cloud. Organizations typically begin Cloud Adoption with a lift-and-shift approach by moving their virtual machines (VM) to the Hyperscaler. This approach includes some parts of modernization and indeed helps to counter-balance market demand volatility.

However, the full benefits of the Cloud are not being leveraged if only Infrastructure-as-a-Service (IaaS) solutions are used,

instead of switching to Platform-as-a-Service (PaaS), such as managed databases.

By relying on a self-hosted SQL database on IaaS, organizations still have to deploy IT Ops resources to manage their databases and cope with downtimes or ever-increasing security challenges leading to a lack of scalability and agility.

The benefits of migrating from legacy technologies to modern database platforms and modernizing SQL Server workloads can be compelling. In this case study, we explore the advantages of database modernization and how MobiLab can help you to achieve them.

Bringing SQL Modernization to Life

Customer Example of the Manufacturing Industry:



CUSTOMER BACKGROUND

A manufacturing company with €7 Bn. revenue had moved its workloads in a lift & shift approach to Microsoft Azure. Due to the evolving cost structure of IT operations and its personnel, the customer considered evaluating a Cloud native alternative on Azure as a PaaS model.



MOBILAB APPROACH

MobiLab run a total cost of ownership (TCO) analysis for the customer and evaluated four different workload groups and compared the IaaS cost vs. the PaaS cost and **generated the following comparison:**

Workload Group	IaaS Cost Azure (Cost/Month)	Azure PaaS Solution	Azure PaaS (Cost/Month)
API Service Management	€1,599 – €2,565	App Engine	€482
DB & Server Monitoring	€555 – €668	Azure Monitoring	€892
Infrastructure Security App	€858 – €1,621	Chronicle	€873
SQL Servers	€1,039 – €1,300 ¹	SQL Managed Instance	€560 – €1,200



MobiLab was able to show significant cost reduction for three workload categories. Due to the large SQL database cluster of the customer, it was decided to dive deeper into the analysis and generate a clear cut cost benefit overview of different SQL PaaS solutions.

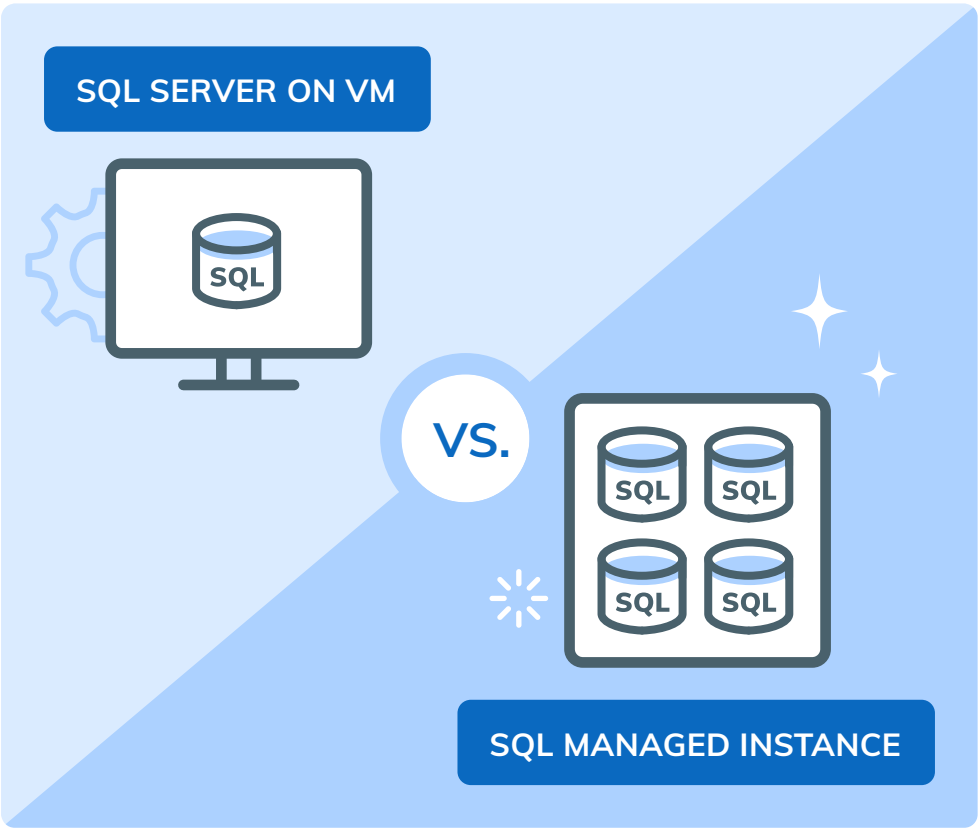


Starting Point: SQL on IaaS vs. SQL on PaaS

SQL Server on Virtual Machines vs. SQL Managed Instance

The customer its TCO journey by evaluating with MobiLab the differences between SQL on a virtual machine and SQL Managed Instance.

While it made sense for the customer to move their SQL databases to Azure as part of a lift-and-shift approach (in a first step), the IT Ops team was still maintaining and supporting the databases and needed to ensure that promised SLAs towards the business units could be met. The administrative costs of managing the databases were still significant and close to the on-premise environment (although with a better cost structure). The IT Ops team still had to patch and update the machines and take care of maintenance. Compared to an SQL Managed Instance, it was shown that uptime and service availability were significantly better and IT Ops resources could be freed up.



SQL Server on VM

PRO'S

- ✓ Isolation between workloads
- ✓ Control over database features

CONS'S

- More admin overhead:
 - Patching & version upgrade
 - Backup maintenance
 - Performance / Health monitoring
- Inefficient resource usage
(1 DB instance per VM)

SQL Managed Instance

PRO'S

- ✓ Significant administrative cost reduction with PaaS features:
 - Automated patching & version upgrades
 - Performance / health monitoring
- ✓ Free up VMware & Windows license
- ✓ 99.99% uptime SLA and high availability
- ✓ Automated & user-initiated backup
- ✓ PIT restore option
- ✓ VNet integration and data encryption at Rest
- ✓ Supports migration from SQL Server 2005 onward

CONS'S

- Less isolation between workloads




Moving Onto the Modernization Path

Deep Dive Into the Facts & Figures

We proceeded and calculated in detail the cost structure of SQL Server on VM (running on IaaS on Azure) vs. SQL Managed Instance (PaaS on Azure).


SQL on VM Allocated Resources		VS.	SQL Managed Instance	
Number of VM	20		With granularity	Without granularity
Number of vCPU Cores	78	vCPU (Core)	4	16
Compute + Storage Cost	€3,600 / Month	Storage (TB)	2	8
Backup Cost	€500 / Month	Instances	4	1
Administration (2h / month / VM)	€1,500 / Month	Cost per Instance	€660 / Month	€2,650 / Month
Administration (2h / month / VM)	€5,600 / Month	Total Costs	€2,640 / Month	€2,650 / Month



A 50% cost benefit was compelling enough for the customer to initiate the project with MobiLab to modernize all its SQL databases which were running on SQL VM and move them to SQL Managed Instances

Additionally, the customer asked MobiLab to run a complete analysis of their remaining SQL databases which were still residing on-premise and to calculate the cost benefit of moving those directly to SQL Managed Instance on Azure.

A 64% cost benefit convinced the customer to directly move and modernize the on-premise SQL databases to SQL Managed Instances.



Conclusion | Cloud Modernized Business

Cloud Native Solutions to Leverage the Full Potential of the Cloud

The acceleration of online services combined with ever increasing and volatile market demand is forcing organizations in various industries to rethink the way they manage their infrastructure today. Companies have realized that moving to the Cloud gives them the best agility to respond to the ever growing market demand as well as the potential to scale their offered services at a speed which was not possible before.

Our extensive experience in various industries has proven and shown that rehosting SQL databases are just a first step on the way to becoming a Cloud Native Company. To take full advantage of the Cloud, we recommend creating a plan for moving traditional solutions to a PaaS solution and unlocking bounded IT Ops resources.