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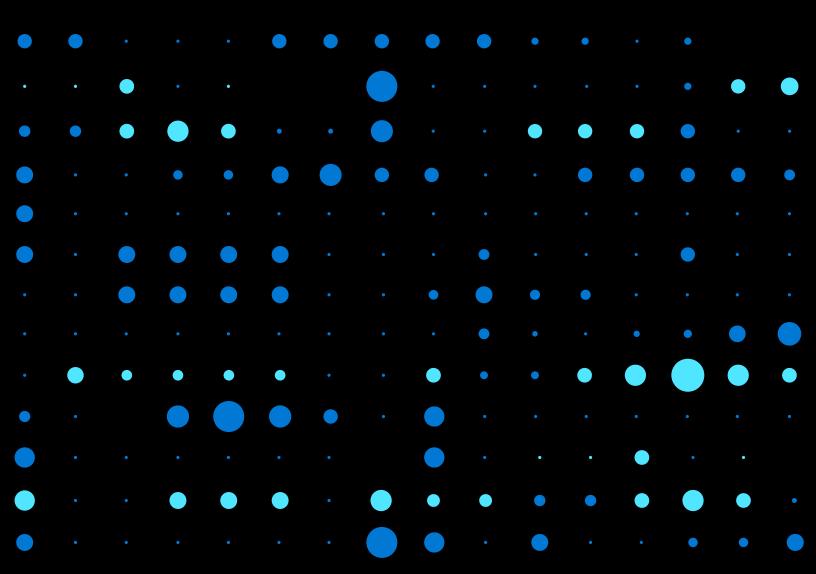Microsoft

Cloud lessons learned

Four companies that migrated their SQL data

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Contents

01.
Introduction

Technology used to be a differentiator. Now it's a lifeline. Recent findings from Accenture Research suggest that nearly 63 percent   of companies are vulnerable to technology-driven   market disruptions.

In response, companies are constantly looking for ways to cut costs, improve processes, and engage customers. But many have been unable to compete because they're using software designed for an on-premises world. In fact, from 2000 to 2014, more than half of Fortune 500 companies closed their doors or were bought out by another company.

What some have discovered is that upgrading IT infrastructure is just as critical (and perhaps more so as upgrading their line of business applications. And with SQL Server 2008 reaching the end of support, now is an opportune time to consider a platform-as-a-service (PaaS solution such as Azure SQL Database.

Azure SQL Database is a fully managed cloud Database-as-a-Service solution that offers a version-free platform with built-in security, reliability, scalability, and high availability. In addition, the release of Azure SQL Database Managed Instance offers an easier way to modernize your on-premises SQL Server databases without changing your apps.

The following are real-world examples of how companies have benefited from upgrading their databases and migrating their data to the cloud.

02.
Scalability, flexibility, and economy

An essential part of digital transformation is becoming more agile and adaptable to shifts in the market. Those shifts may be long- or short-term, predictable or unexpected, but whether a company is in startup mode or an industry leader, every business knows there is always more disruption just around the corner.

The economy and scalability of the cloud gives companies an unprecedented ability to adjust their resources and retool their priorities. Azure SQL Database offers companies a variety of ways to tap into the scalability, economy and flexibility of the cloud.

Dinero is a Copenhagen-based provider of SaaS accounting solutions for Danish small and home-office businesses. Due to rapid growth of its customer base, Dinero's needs were exceeding the capabilities of its on-premises data center.

Migration goals
- Reduced costs
- Improved data security and disaster recovery
- Scalability to meet demand

The path to migration

Dinero's on-premise datacenter could no longer meet the needs of its growing customer base, or the increased demand of its SaaS accounting solution at month's end. After evaluating Amazon Web Services, Dinero went with the PaaS capabilities of Microsoft Azure.

The company's transition team converted some of the trigger jobs within its accounting application into Azure WebJobs and cloud services. Then they uploaded all of the user files to Azure Blog Storage and created a wraparound to route future uploads directly into Blog Storage, rather than to their local disk. The entire process of copying SQL Server to Azure SQL Database was completed in about eight hours.

The new solution uses Azure Redis Cache to optimize data accessibility, and Azure Web Apps to deploy new features in Dinero's application. To reduce costs, Dinero started purchasing elastic Database Transaction Units (eDTU), which it can purchase in bulk, for all of the databases in a pool. Dinero can then allocate DTUs to the databases that are doing the most work.

Azure offers a great PaaS platform that matched our needs for deployment agility and scalability. We needed a solution where we just had to tick a box to replicate data to another server.

Lars Nikolajsen
Chief Technology Officer

03.

Bringing your legacy with you

As companies mature, they become accustomed to a certain way of doing things. Regardless of your situation, the software you're using has value and moving to a new system shouldn't come at the expense of losing your historical data.

With Azure VMs and SQL Database Managed Instance you can seamlessly migrate and manage heterogenous workloads. And because SQL Database Managed Instance is compatible with nearly 100 percent of SQL Server 2005, you can run your applications in the cloud with few, or zero, code changes.

Allscripts is a Chicago-based professional services firm that develops and hosts software for hospitals, clinics, pharmacies, and pharmaceutical companies around the world. Through a corporate acquisition, the company inherited roughly 1,000 virtual machines (VMs)   containing dozens of applications running on older versions of Windows Server and SQL Server, or on Linux.

Migration goals

Integrate newly acquired workloads, consolidate data centers, increase data security.

The path to migration

**Allscripts
migrated nearly**

6,000

**virtual machines
to Azure**

Through its corporate acquisitions, Allscripts inherited numerous apps running on more than 1,000 VMs. The company had the workloads up and running in three weeks using a variety of migration paths:

- Using Azur e Site Recovery (ASR) to replicate some VMs running Open Source apps to the Azure Data Center, then initiating a fail over.

- Reusing some of its existing on-premises SQL Server licenses on Azure **(through Azure Hybrid Benefit), and migrating 600 VMs with older editions** of SQL Server.

- Moving some VMs r   unning Linux apps to its own data center and then setting up a VPN with the Azure data center.

- Lifting and shifting some of its on-premises workload to Azure SQL Database Managed Instance.

Since moving these VMs to Azure, Allscripts has streamlined its data center operations, and the company plans on migrating an additional 6, 000 VMs that it owned prior to the acquisition.

"

Using Azure has dramatically accelerated both our acquisition time and our new product development time. We've been able **to shut down older, inefficient data centers and focus more** resources on developing great software. This is one factor that moves us ahead in a very competitive market.

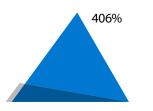Peter Tomlinson
Director of IS, Technology Operations, Allscripts

04.

Reducing your overhead and stimulating growth

One of the biggest benefits of the cloud is having access to vast compute, development, and   storage resources without the complexities of infrastructure management or licensing—and at a much lower cost.

A report from IDC research suggests that Azure SQL Database could help achieve up to 406% ROI by giving greater control of where and how technology is deployed, and creating opportunities to reduce capital, operational, and IT costs.

406%

Azure SQL Database could help achieve up to 406% ROI [3]

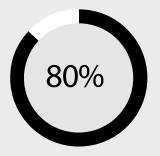Malaysia Airlines is a regional carrier with a fleet of 80 jets.

Migration goals

To cut costs, be more competitive, improve service, improve customer engagement, avoid vendor lock-in.

The path to migration

Malaysia Airlines was running its 10-module SAP deployment that was running on aging, costly IBM P-Series hardware and AIX 6.2 software. With the help of Tata Consultancy Services, the airline shifted its SAP solution to Windows Server 2016 and SQL Server 2016 running on Azure Virtual Machines (VMs).

The company also re-platformed its legacy infrastructure (a proprietary UNIX machine) to Azure VMs. Now Malaysia Airlines runs 80 percent of its apps on Azure, with the other 20 percent remaining on its own platform. And with Azure Express Route, the company can manage its on-premises and cloud-based assets through one system, reducing total IT costs by 45 percent.

80% Malaysia Airlines runs 80 percent of its apps on Azure

Azure serves as our primary technology platform for what we call the evolving digital airline. We use it to engage closely with our customers and to enhance the customer relationship and **customer value, while maximizing efficiency and effectiveness for the front-end and back-office operations.**

Tan Kok Meng
CIO, Malaysia Airlines
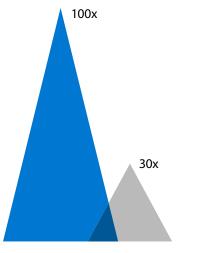
05.

Advancing, transforming, and thriving

"Adapt or die." As harsh as it sounds, it's a business imperative that seems more relevant than ever. So as you update your business operations and engagement funnel, don't lose sight of the need to overhaul the foundational technology that can help your entire company be more responsive.

Infosys, a global IT consultancy based in India, has 165,000 employees around the world. SQL Server 2008 was the linchpin of its operations, connecting to more than 250 internal apps   and processing 45 TB of data , but the company was experiencing ongoing latency issues.

Migration goals

Continue providing an optimum level of service and performance, ensure the high availability and security of its data, and position itself to easily migrate to the cloud.

SQL Database Managed Instance provides the ability to dynamically scale, so your company's applications and data analytics are responsive in the midst of fluctuating demand. With in-memory, online transaction processing, you can experience up to 30x improved network performance, and generate queries and reports 100x faster. And because it's fully managed, SQL Database can help your IT team strike the right balance between operational efficiency and business enablement.

100x

30x

30x

improved network
performance

100x

generate queries
and reports faster

The path to migration

Microsoft Premiere Support helped Infosys design a solution based on SQL Server 2012, Always-On High Availability (a feature in SQL Server), and an 8-node Windows Cluster with Failover Cluster Instances for 11 SQL Server cluster instances.

The team blocked off a year to devise an upgrade and migration plan that would ensure minimal down time. This included:

01.   Completing a feasibility   study , as well as proof-of-concept and network bandwidth testing

02.   Generating reports   to highlight and address upgrade obstacles

03.   Assessing the risk of online transaction processing environment and the upgrade complexities   for new features and add-ons in SQL Server 2012

04.   Creating performance baselines   and comparing and analyzing pre- and post-upgrade query performance

05.   Scripting, testing, and automating a majority of the upgrade tasks

06.   Creating a step-by-step and overall review of the upgrade plan

Infosys and Microsoft Premiere Support completed the upgrade and data migration over a few days. Once complete, Infosys saw immediate performance improvements:

- Reporting latency dropped   from two hours to near real-time

- Speed o f frequently run data queries improved by 70 percent

- Execution of BI reports   reached near real-time

Other benefits included broader integration with third-party applications and access to new BI tools such as Tabular Models in SQL Server Analysis Services. And with the added ability to scale SQL Server workloads on demand from its datacenter to the cloud, Infosys can now build hybrid BI and OLTP apps that are more robust and will help the company perform at its peak.

→ Moving forward

The end of support for SQL Server 2008 and 2008 R2 requires companies to assess their environment's security and capabilities. Whether you're looking to simply rehost your application, refactor, rearchitect, or rebuild your application, Azure provides the flexibility, scalability, and security you need. And Azure SQL Database will give you a responsive data-management solution that has become essential to staying competitive, enabling scale-up capabilities, with practically zero downtime. And if you're looking for a more cost-effective solution to modernize your business, consider Azure SQL Database Managed Instance. In both cases, you'll get full compatibility with SQL Server as well as the benefits and savings of a fully managed PaaS. Additionally, the value of your on-premises SQL Server licenses will be applied toward the cost of the upgrade.