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Authors:
Matthew Marden
Carl W. Olofson
Larry Carvalho

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The Business Value of Microsoft Azure SQL Database Services

EXECUTIVE SUMMARY

Organizations continue to seek ways to optimize how they maintain and use data that fuels their businesses. With significant growth to data footprints in recent years, it has become more challenging for many organizations to balance the imperative for security and reliable access to their data and the cost and staff resources required to maintain more databases. Increasingly, database-as-a-service (DaaS) cloud services have emerged as a solution that can deliver the right mix of operational and cost efficiencies, reliability, and business enablement.

Microsoft customers interviewed for this study are using Azure SQL Database, Microsoft's relational DaaS, to minimize operational costs and risk associated with maintaining databases to support their businesses. In addition, these organizations reported that they are better able to focus their resources on improving their core differentiated value proposition with Azure SQL Database. IDC calculates that these customers will achieve total five-year average discounted business benefits worth $18,784 per Azure SQL Database and a return on investment (ROI) of 406% by:

- Minimizing the IT staff time needed to build, maintain, and manage databases
- Reducing capital and operational costs associated with maintaining on-premise databases or using hosted environments that do not have standard cloud characteristics
- Alleviating the burden that provisioning infrastructure can place on their business
- Improving scalability and the ability to match database resources to business demand
- Speeding up the time to market for databases and applications
- Decreasing database-related application downtime

Business Value Highlights

53.2%
less expensive than on-premise/hosted

46.7%
increase in IT staff efficiencies

98.0%
less database-related downtime

$18,784
Total five-year average discounted business benefits per Azure SQL Database

406%
Five-year ROI

8.6 Month
Payback period

In This White Paper

This IDC white paper analyzes the business value that nine organizations are achieving through their use of Microsoft Azure SQL Database services. These organizations have an average of 72.0% of their databases in the Microsoft cloud, with an average of 584 Azure SQL Databases (median of 108) at the time of their interviews. These Microsoft customers are using Azure SQL Database mostly to support applications that serve external customers, although about half of these customers also have at least one database in the Microsoft cloud for applications for internal users. These customers reported that their Azure SQL Database environments are growing strongly; they will add an average of 48.5% more Azure SQL Databases in the next year, and IDC projects that these customers will have an average of 1,103 Azure SQL Databases over the five-year period analyzed in this study.

Microsoft customers interviewed for this study are using Azure SQL Database to support applications integral to their businesses, including:

- Online reservation engine for company in the hospitality industry
- Ticketing solution for company in the event management industry
- Remote monitoring of oil and gas wells for natural resources company
- Video services for online video company

IDC interviewed Microsoft customers with a variety of profiles in terms of size, industry, and geography.

These organizations range in size from 25 employees to 13,000 employees, with a mean size of 2,062 employees and a median size of 118 employees. The organizations conduct business across a number of verticals, with most relying on Azure SQL Databases to serve sizable external customer bases with their software or applications (average of 1.46 million users, median of 45,000 users). By geography, IDC interviewed Microsoft customers based in the United States, the United Kingdom, Finland, Romania, and Hong Kong for this study.

Table 1 provides an aggregate profile of the organizations interviewed for this white paper.

TABLE 1

Demographics of Interviewed Organizations

	Mean	Median
Number of employees	2,062	118
Number of Azure SQL Databases	584	108
Number of terabytes — Azure SQL Database environment	28	0.87
Number of external users	1.46 million	45,000
Azure SQL Database volume growth rate in the next year	49.0%	43.9%
Industries	IT managed services, event ticketing, digital entertainment, document management, ERP, and oil and gas	
Countries	United States, United Kingdom, Finland, Romania, and Hong Kong	

Source: IDC, 2015

Situation Overview

Cloud computing offers significant value by eliminating the cost, risk, and complexity of in-house-dedicated application systems (servers, storage, and software) management while delivering the benefits of elastic scalability, high availability, flexible resource allocation, and energy efficiency. In addition, some cloud services simplify database management to such an extent as to greatly reduce staff time devoted to routine work that can be automated, resulting in sizable productivity gains. Cloud service providers are delivering database management services as an integral part of their platform-as-a-service (PaaS) offerings to abstract database operational complexity from user organizations. This ability gives users the freedom to focus on writing and managing applications and database administrators (DBAs) the freedom to design and optimize the database while avoiding the complexity, inefficiency, errors, and delays resulting from in-house operations.

To take maximum advantage of the cloud architecture, it is important to choose a database management system (DBMS) that is designed for the cloud environment rather than a DBMS that is based on a fixed server and storage model that has simply been ported to the cloud. A number of products that deliver cloud-optimized capabilities have emerged. All of them are designed to maximize the use of elastic, scalable resources and operate in a highly virtualized

environment, but not all offer full compatibility with existing applications — some require significant changes or rewriting of the application to take full advantage of their capabilities. While some application changes are inevitable to take full advantage of a cloud environment, it is still desirable to find a relational DBMS (RDBMS) that is already largely compatible with the application and leverages the existing skill set of the application development staff.

Microsoft Azure SQL Database Service

"We chose Azure SQL Database because we did not want to have to deal with having databases and servers — the "nuts and bolts" type of things."

Microsoft has sought to offer database services that represent a smooth transition from Microsoft SQL Server while still fully exploiting the benefits of cloud execution. To this end, Microsoft Azure SQL Database was developed from the ground up as a native cloud RDBMS that fits hand in glove with Microsoft Azure yet is an easy migration target for Microsoft SQL Server databases and applications.

Business demands for faster, better, and cheaper means of leveraging actionable information are driving a digital transformation, which in turn is challenging everyone to make better use of fast-growing data and cloud-delivered database services. Customers taking part in this survey that deliver SaaS functionality based on Microsoft Azure SQL Database show how Microsoft Azure has enabled them to grow their cloud-delivered business. The resulting transformation is realized in the growing migration of resources from on-premise to cloud service providers. Azure combines compute and storage, helping users eliminate the complexity of assembling hardware systems and using common underlying versions of supporting operating systems and databases. Also, application providers can focus on functionality and leave security and management to the cloud service provider while most IT functions shift from manual activities on-premise to automated functions executed by the cloud provider.

Choice Of Microsoft Azure SQL Database And Migration

The Microsoft customers interviewed for this study had similar reasons for choosing to maintain databases in the cloud with Azure SQL Database. Above all, they realized that moving databases to the Microsoft cloud would help them reduce the burden of database costs and support operations on their business while allowing them to maintain the benefits of the Microsoft SQL Server environment. These organizations all face strong competition, and they perceive an imperative to focus their resources and energies on their core business differentiators rather than on database build and administration. Further, they view the

business flexibility of faster provisioning of database resources and improved database scalability enabled by Azure SQL Database as important business benefits that enable them to better serve their customer bases.

The organizations' migrations to the Microsoft cloud depended to a significant extent on the number of databases and volume of data being moved to Azure SQL Database. For several customers, migrations occurred over a number of months, while one customer described successfully going live with Azure SQL Database on short notice when wiring failed unexpectedly in its datacenter. On average, it took these Microsoft customers just under 8 months to go live with Azure SQL Database.

Financial Benefits Analysis

"One of the most significant benefits of using Azure SQL Database is that it gives us the ability to focus on software and not systems."

IDC aggregated data taken from the interviews with nine Microsoft customers to determine the average financial impact of their use of Azure SQL Database. IDC projects that these organizations will achieve average annual benefits worth $5,455 per Azure SQL Database over five years ($6.02 million per organization). The customers obtain these financial benefits with Microsoft Azure SQL Database because it enables them to:

- **Reduce the burden on their IT staff** of maintaining and administering databases and related datacenter infrastructure, thereby freeing up time for other business-enabling activities
- **Cut costs substantially** for datacenter-related hardware, software, facilities, and hosting
- **Focus time and resources** on their core revenue-generating activities
- **Scale database resources** faster and more accurately to meet business demand
- **Minimize downtime** as a result of more reliable database performance

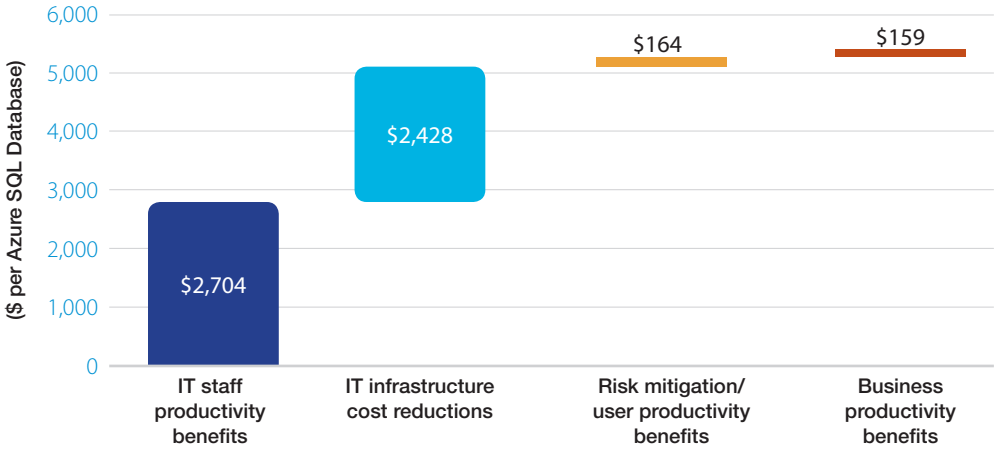
IDC has grouped the financial benefits being achieved by Azure SQL Database customers into four main areas (see Figures 1 and 2):

- **IT staff productivity gains:** Microsoft customers dedicate substantially less IT staff time to building, maintaining, and administering databases and datacenter infrastructure with databases in the Microsoft cloud. IDC calculates that these organizations will realize average IT staff efficiencies worth $2,704 per Azure SQL Database per year over five years, or $2.98 million per organization.

- **IT infrastructure cost reductions:** Microsoft customers avoid costs associated with building out datacenter environments they would otherwise need to maintain databases or costs for using hosted services. IDC puts the value of the avoided hardware, software, facilities, and hosting costs at an average of $2,428 per Azure SQL Database per year over five years, or $2.68 million per organization.
- **Risk mitigation** — user productivity benefits: Microsoft customers benefit from experiencing fewer database-related application outages with Azure SQL Database. IDC projects that they will realize user productivity improvements worth an average of $164 per Azure SQL Database per year over five years, or $181,400 per organization.
- **Business productivity benefits:** Microsoft customers capture more revenue by reducing downtime, improving scalability, and speeding the time to market for applications and databases that drive business. IDC calculates that these organizations will achieve business-related benefits worth an average of $159 per Azure SQL Database per year over five years, or $175,400 per organization.

FIGURE 1

Average Annual Benefits per Azure SQL Database

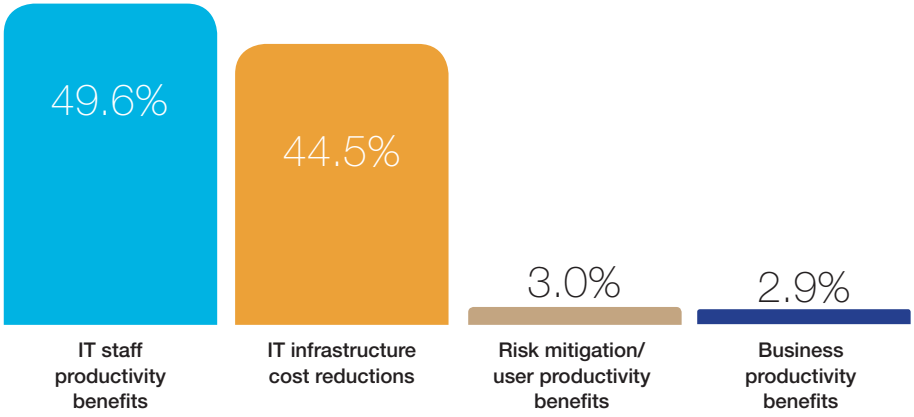


Total average annual benefits per Azure SQL Database: $5,455

Source: IDC, 2015

FIGURE 2

Azure SQL Database Benefit Share by Category



Source: IDC, 2015

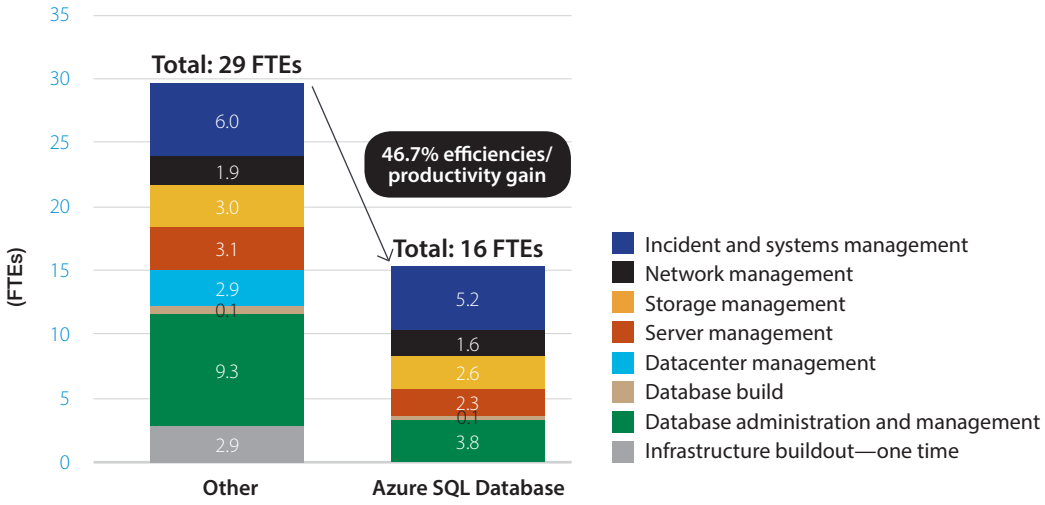
"Without Azure, we'd probably need three, four, or five systems people on my team. Azure is dramatically less expensive."

IT Staff Productivity Gains

Microsoft customers using Azure SQL Database reduce the cost of providing IT services by requiring less IT staff time and fewer IT staff resources to support the deployment, maintenance, and management of databases and related datacenter infrastructure. As their businesses expand, these organizations require more databases to house customer and other data. Each database added to an on-premise environment requires IT staff support in a variety of areas, including the building and administration of the databases, the building and maintenance of datacenter infrastructure to support the databases, and the handling of incidents as they occur with databases. These customers are leveraging their use of DaaS with Microsoft to achieve efficiencies in managing and administering these databases through increased automation and the ease of provisioning new databases, in addition to efficiencies related to maintaining a streamlined datacenter environment. IDC calculates that in total, the IT staff of Microsoft customers participating in this study are 46.7% more efficient with Azure SQL Database, which allows these organizations to achieve with 16 IT staff members what would otherwise require 29 IT staff members (see Figure 3).

FIGURE 3

IT Staff Productivity Benefits with Azure SQL Database



Source: IDC, 2015

"We are able to use our people in different ways with Azure SQL Database. We save at least three to four people per customer installation. Now, those people can do development and create more revenue opportunities for us."

"Right now, with Azure SQL Database, we don't have anyone working on the infrastructure level. If we did it ourselves, we'd need at least 5–10 people at the datacenter level."

Beyond cost savings, Azure SQL Database is providing these organizations with an ability to focus IT staff resources on business enablement that they would struggle to achieve if they were to maintain so many databases in an on-premise environment. Several customers noted that they are able to reinvest efficiencies gained with Azure SQL Database to better align IT staff resources with efforts to grow their businesses. Freed from "keeping the lights on" for databases supported in the Microsoft cloud, these organizations can devote IT and DBA staff to higher-value activities such as focusing on application development or pursuing innovation in IT to support the business. With unprecedented data growth, such work benefits not only the enterprise but also the staff, enabling them to do more work that is understood and appreciated by management.

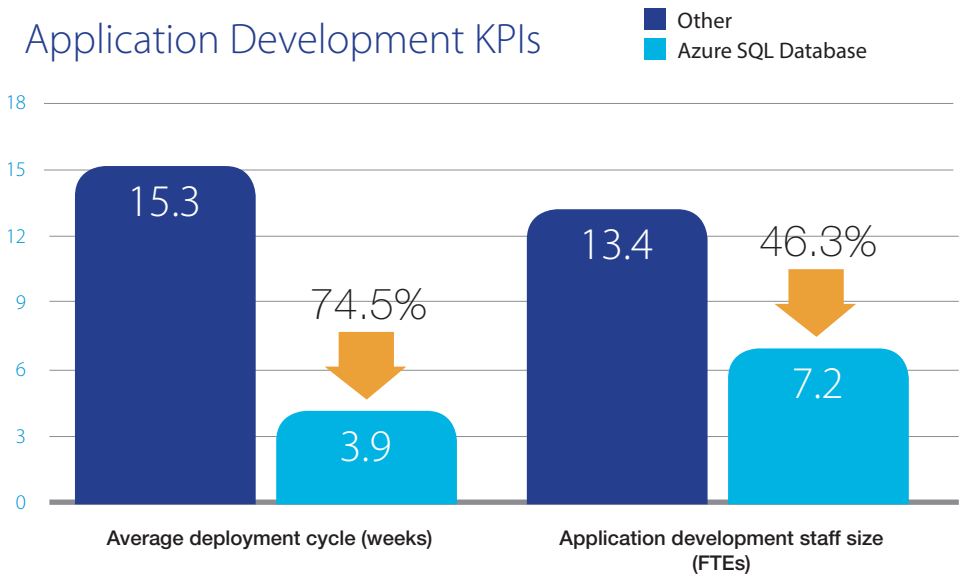
Azure SQL Database also reduces the challenge these organizations face in terms of constantly matching IT staff resources with growth in their datacenter environments. With these Microsoft customers set to expand their Azure SQL Database environment by an average of 48.5% in the next year, they are avoiding not only the IT staff hires that would otherwise have to accompany this growth but also the processes that surround growing their IT staff to such a degree. Meanwhile, existing IT and DBA staff can move from tactical operational tasks to strategic tasks that support the overall business mission of the enterprise.

In addition, the application development efforts of these companies have become more productive with Azure SQL Database. These organizations reported that they have gained application development–related benefits such as faster time to market and developer

"We can get things out faster with Azure SQL Database, like if we want to do a new initiative or a new prototype, Azure's really great for that. We can get a new application out now in less than a month pretty easily. And if we were doing it ourselves, we'd have more up-front effort to get up to that month — or say six weeks."

productivity gains common to PaaS solutions. Microsoft customers are achieving these benefits by scaling the data-tier level of their applications and making use of templates and other resources available through Azure SQL Database services. The result is faster application development cycles for Microsoft customers, which translates to faster time to market for important business applications and higher levels of productivity for valuable application developers (see Figure 4).

FIGURE 4



Source: IDC, 2015

IT Infrastructure Cost Reductions

"Without Azure, we'd have to throw hardware at new business that wouldn't be used much of the time. That cost savings goes right to the bottom line."

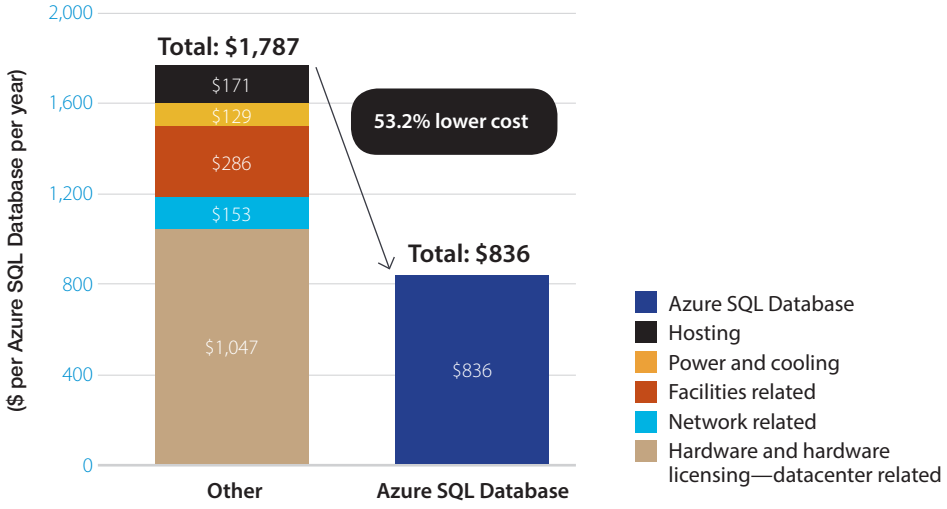
Microsoft customers reported that they are saving money and avoiding costs for datacenter–related hardware, software, facilities, and hosting by using Azure SQL Database. Each database that is supported in a customer's datacenter requires an investment in IT infrastructure, and using hosted datacenter services also carries associated costs. With Azure SQL Database, Microsoft customers pay a monthly fee that is related to the number and volume of Azure SQL Databases they use. Interviewed organizations reported that the costs of using Azure SQL Database were substantially lower than the capital and operating costs they believe they would otherwise incur. Besides, Microsoft customers also explained that they would have little choice but to overprovision datacenter infrastructure resources were they to maintain these databases on-premise to ensure that they have sufficient capacity to support business growth. Inevitably, this would leave under- or unutilized assets in their datacenters. Moving to the cloud enables them to avoid these unnecessary capital and maintenance costs.

"Without Azure SQL Database, we'd have a lot of excess capacity, and the initial investment to get that kind of capacity wouldn't be a feasible option for us. To provide the same service, it might require over $1 million in investment."

In total, after annualizing one-time datacenter investment costs such as server and network hardware, IDC calculates that Microsoft customers interviewed for this study pay on average 53.2% less for their Azure SQL Database fees than they would for the datacenter and hosted environment they would otherwise use (see Figure 5).

FIGURE 5

IT Infrastructure Costs Versus Cost of Azure SQL Database



Source: IDC, 2015

"To be able to do what we're doing in the Azure cloud, we'd need to buy servers and bandwidth that would mean an investment of millions of dollars."

In particular, Microsoft customers are leveraging Azure SQL Database to reduce or avoid costs for:

- **Servers:** Supporting and maintaining an average of over 500 databases require substantial investment in physical server hardware and associated licensing, even with virtualization.
- **Network-related hardware and bandwidth:** Ensuring database operability requires investment in network hardware and constant increases to network bandwidth.
- **Datacenter:** Maintaining databases on-premise means dedicating datacenter space to hardware supporting the databases as well as incurring power and cooling costs.
- **Hosting:** Several Microsoft customers said they would not maintain databases on-premise but reported that they are avoiding substantial costs associated with hosting services.

"There were definitely times where we'd look at a project that was coming along, and we'd have to go order hardware and fill out a bunch of paperwork. I'd have to look at the pricing, decide what hardware we'd want, have the procurement people go and buy it, deal with the shipping to the datacenter, and deal with getting it racked, tested, and using it … that stuff still goes on, but Microsoft does it now, not me."

"We've had no downtime with Azure. None. I would estimate that we'd have one downtime incident per year with an on-premise solution. The last time we had downtime, it was high season, and half a day probably lost us $100,000."

"When we were maintaining databases on-premise, we had one downtime instance and we were down longer; I think one was 16 hours. I think we lost $100,000–200,000."

Microsoft customers also reported to IDC that using Azure SQL Database has enabled their businesses by removing infrastructure as a hurdle to growth. With Azure SQL Database, these businesses are able to access database resources in near real time, as needed, which compares favorably with having to justify the capital and operational costs associated with maintaining databases on-premise or in a hosted environment. The process for gaining approval for these additional costs can extend the time frame for provisioning databases, either leaving organizations without the capacity they need to support business growth or forcing them to overprovision database resources. For companies that experience shifting demand on short notice for database resources, the ability to scale up or down with Azure SQL Database can be not only a substantial cost savings but also a clear business advantage.

Risk Mitigation — User Productivity Gains

Microsoft Azure SQL Database customers benefit from experiencing less application downtime resulting from database-related issues. Nearly all of the customers interviewed by IDC for this study reported that they experience fewer instances of downtime by avoiding issues with hardware supporting their databases. As a result, these organizations minimize the costs they were bearing in terms of lost user productivity and lost revenue.

User productivity suffers when database-related downtime takes important business applications out of commission. Although Microsoft customers interviewed for this study mostly use Azure SQL Database to support customer-facing operations, several customers described the productivity benefits they are capturing for their internal users by limiting downtime. IDC calculates that these customers are reducing the cost of lost productivity as a result of unplanned, database-related downtime by an average of 98% with Azure SQL Database (see Table 2).

Database-related downtime can also exert a toll on business operations when it prevents companies from serving their customers. Such downtime can result in lost revenue and opportunities to capture business, in addition to customer frustration. Beyond revenue loss, these types of downtime instances can have a lasting effect on perceptions of customers regarding the ability of these organizations to serve them. IDC projects that minimizing the occurrence and duration of downtime with Azure SQL Database helps Microsoft customers lose 92.1% less revenue than previously.

TABLE 2

Impact of Unplanned Downtime on Productivity

	Other	Azure SQL Database	Benefit	Advantage (%)
Instances of unplanned downtime per year	2.61	0.75	1.86	71.3
Mean time to repair (MTTR) for unplanned downtime (hours)	35.39	3.17	32.22	91.1
Average number of staff impacted	14	13	1	7.1
Productivity impact (%)	87.5	75.0	12.5	14.3
Productive time lost (hours)	1,133	23	1,110	98.0

Source: IDC, 2015

"With Azure, we can have a new customer provisioned and online within 90 seconds. With an on-premise scenario, we'd be looking at same day — 8 hours."

"I can also scale up with Azure in no time. If a customer needs it, I can scale the database up to support more performance, which wouldn't have been possible, at least in no time, or [couldn't have been] easily done with any competing solutions."

Business Productivity Benefits

Microsoft customers are also leveraging the Azure SQL Database service to expand their businesses and capture more revenue. In addition, by enabling strong business growth at a lower cost, several Microsoft customers said that operational efficiencies and new channels opened up by their use of Azure SQL Database also helped them capture new revenue streams. IDC calculates that these Microsoft customers will grow their operating margin by an average of $48 per Azure SQL Database per year, or $52,800 per organization.

Interviewed organizations also reported to IDC that they have become more agile and better able to meet demand with Azure SQL Database. For Microsoft customers, this translates to several types of potential business gains by using DaaS. One benefit is that these organizations can spin up databases to support their businesses and customers in far less time, reducing the time it takes for them to provide their services to customers. This not only enhances their operational efficiency but also means that they can begin capturing revenue earlier.

In addition, these Microsoft customers benefit from being able to match database resources with their business needs with speed and precision. For organizations that face time pressure or unpredictable demand from their customers, this can serve as an important element of their business strategies. It would be challenging if not impossible for these organizations to achieve such agility with database resources without spending substantially more for on-premise or hosted environments.

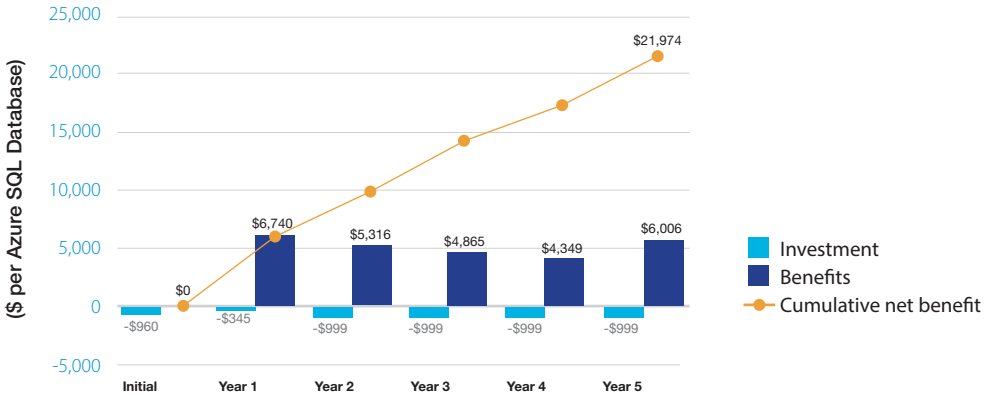
ROI Analysis

IDC uses a discounted cash-flow methodology to calculate the return on investment and payback period. ROI is the ratio of the net present value (NPV) and discounted investment. The payback period is the point at which *cumulative* benefits equal the initial investment.

IDC assessed the cost, benefits, and value associated with the use of Microsoft Azure SQL Database services by the nine organizations interviewed for this white paper over a five-year period. IDC calculates that these organizations initially invested an average of $960 per Azure SQL Database ($574,500 per organization) in preparing for and transitioning to the Microsoft cloud. In addition to these initial costs, Microsoft customers will spend an average of $868 per Azure SQL Database ($1.05 million per organization) per year over five years on licensing and associated costs. These costs compare with benefits that IDC projects will average $5,455 per year per Azure SQL Database ($6.02 million per organization) over five years (see Figure 6).

FIGURE 6

Cost-Benefit Analysis per Azure SQL Database



Source: IDC, 2015

IDC's five-year ROI analysis shows that the average organization interviewed for this white paper will spend $3,713 per Azure SQL Database ($4.09 million per organization) to deploy and use Microsoft Azure SQL Database services (see Table 3). IDC calculates that in return, the average organization will generate $18,784 per Azure SQL Database ($20.72 million per organization) in total discounted benefits over five years. This results in a net present value of $15,071 per Azure SQL Database ($16.63 million per organization). This means that interviewed Microsoft customers will have an average time of 8.6 months to break even on their investment in Azure SQL Database and an ROI of 406%.

TABLE 3

Five-Year ROI Analysis

	Average per Organization	Average per Azure SQL Database
Benefit (discounted)	$20.72 million	$18,784
Investment (discounted)	$4.09 million	$3,713
Net present value (NPV)	$16.63 million	$15,071
Return on investment (ROI)	406%	406%
Payback period	8.6 months	8.6 months
Discount rate	12%	12%

Source: IDC, 2015

Challenges/Opportunities

Web applications are increasingly based on NoSQL DBMSs that offer high degrees of agility because of the lack of formality represented by a schema. The trade-off here is the lack of shareability, enforceable data consistency, and reusability of such data in a NoSQL database. This is because data definitions are not externally visible, and data forms can change in a NoSQL database in such ways that the data becomes structurally inconsistent and nonreusable. While Microsoft has a schemaless DBMS service called DocumentDB, this approach does not obviate the need for relational database capability. For Microsoft, as well as for other vendors looking to offer relational DBMS products for Web applications, a key to success will be educating a new generation of developers that the relational paradigm, at least for certain classes of applications, is a critical requirement if consistent, reusable, and well-defined data is needed. Furthermore, an RDBMS ensures immediate usability for analytics, including support for unpredictable, random, and complex queries.

Another challenge for Microsoft Azure is the general worry about data security in the cloud. It should be noted that most professionally managed cloud datacenters are far more secure than on-premise company datacenters, so this concern is somewhat unfounded. Also, a mature RDBMS has built-in capabilities for ensuring proper security and other aspects of data governance, which is becoming an increasingly big deal in the public cloud.

Added to this is the ability of software developers to move existing on-premise Windows-based code to the Azure environment, and to move users to Azure with minimum conversion, while leveraging multitenancy capabilities that are native to Azure SQL Database.

Conclusion

All enterprises are dealing with the pressures of greater demand for higher-volume data processing and the need for timelier reporting. Also, new opportunities for achieving greater efficiency and cost-effectiveness in database management are presenting themselves. Cloud computing stands above the many options as the one that offers a high rate of return with lower operational cost and much lower capital cost. Microsoft Azure is an established cloud environment that is well designed to meet the needs of Microsoft users while delivering affordability and the kind of elastic scalability required of emerging database workloads. The database technology built for Azure is Microsoft Azure SQL Database, not a port from the established fixed-resource models of the past but a technology designed from the ground up to take full advantage of a cloud architecture. In examining the experiences of this platform by a range of users, one may draw the following conclusions:

- The cost savings and reduced risk involved in adopting this professionally managed database service are compelling.
- The flexibility of the environment ensures that users can dial up the resources they need on demand to respond to real data-driven business issues as they arise.
- Freed from the drudgery of tuning database allocation, adjusting buffer sizes, and tending to other operational concerns, DBAs can turn their attention to ensuring that the databases they manage fully address the business needs of the enterprise and thereby enhance their own value as employees.
- Any enterprise frustrated by the costs and limitations of conventional fixed-resource on-premise database deployments should consider a move to the cloud.
- Any enterprise considering such a move, especially Microsoft SQL Server users, should examine Azure SQL Database as a strong candidate RDBMS to target.

Appendix

Methodology

IDC utilized its standard ROI methodology for this project. This methodology is based on gathering data from current users of the technology as the foundation for the model. Based on these interviews, IDC performs a three-step process to calculate the ROI and payback period:

- Measure the savings from reduced IT costs (staff, hardware, software, maintenance, and IT support), increased user productivity, and improved revenue over the term of the deployment.
- Ascertain the investment made in deploying the solution and the associated training and support costs.
- Project the costs and savings over a five-year period and calculate the ROI and payback for the deployed solution.

IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:

- Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings.
- Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.
- The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue.
- Lost productivity is a product of downtime multiplied by burdened salary.
- Lost revenue is a product of downtime multiplied by the average revenue generated per hour.
- The net present value of the five-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.

Because every hour of downtime does not equate to a lost hour of productivity or revenue generation, IDC attributes only a fraction of the result to savings. As part of our assessment, we asked each company what fraction of downtime hours to use in calculating productivity savings and the reduction in lost revenue. IDC then taxes the revenue at that rate.

Further, because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

Note: All numbers in this document may not be exact due to rounding.

IDC Global Headquarters

5 Speen Street
Framingham, MA 01701
USA
508.872.8200
Twitter: @IDC
idc-insights-community.com
www.idc.com

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