

Sponsored by: **Microsoft****Authors:**Phil Goodwin
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**Business Value
Highlights****337% five-year
ROI****46% reduced
TCO****6 months
to payback****99% reduction
in lost productivity****66% reduction
in average data recovery time****76% faster
backups****51% more
efficient IT infrastructure teams****46% reduction
in unplanned downtime****44% more
efficient data recovery teams**

Azure Site Recovery and Azure Backup Are Helping Improve Business Operations

EXECUTIVE SUMMARY

IT organizations have many choices with respect to data protection, whether traditional on-premise infrastructure (i.e., backup/recovery with tape or backup appliances) or cloud-based services (i.e., backup as a service, archive as a service, and disaster recovery as a service [DRaaS]).

The choices can make product selection daunting given different solution architectures and the claims and counterclaims made by vendors. To assist IT leaders with these decisions, IDC takes a business value approach to quantify the impact that organizations may reasonably expect when adopting a specific solution. This approach does not provide head-to-head product comparisons; rather, it involves an in-depth examination of a specific product based on the experiences of existing customers and the results they have seen. Recently, IDC was commissioned by Microsoft to produce such an analysis of Azure Site Recovery (ASR) and Azure Backup.

IDC interviewed multiple organizations that were using Microsoft Azure Site Recovery and Azure Backup services. IDC found that the organizations were realizing significant benefits by leveraging ASR and Azure Backup services as the core of their backup and recovery operations. According to IDC's calculations, the companies surveyed realized average discounted annual benefits worth \$1.49 million per organization by:

- » Driving higher IT staff productivity among IT infrastructure teams and data protection and recovery teams
- » Improving the overall performance of backup and data recovery operations
- » Realizing reductions in expenditures for backup and recovery hardware and software
- » Realizing reductions in unplanned downtime

SITUATION OVERVIEW

IDC estimates that as many as half of all businesses could not survive a true disaster because they are not adequately prepared to deal with its impact. This lack of preparation results in excessively long recovery times (i.e., more than a month) with a significant loss of unrecoverable data. Key deficiencies include:

- » Lack of a defined DR plan and insufficient identification and allocation of the infrastructure resources needed for a recovery
- » Lack of written failover processes (Instead, organizations rely on the heroic efforts of individuals to recover the systems, leading to false starts and incomplete recoveries.)
- » Insufficient personnel planning based on the assumption that a full staff will be available to complete the recovery, when in fact many key people may not be available

Data protection and disaster recovery involve the classic triumvirate of people, process, and technology; any recovery plan must include all three. However, technology can be used to supplant the need for some human effort and provide automated execution of defined processes. While understanding the limits of technology, IT organizations should leverage the increasingly available data protection solutions.

Data protection and DR solution deployments are largely driven by the application architectures they are intended to protect. Modern IT organizations must contend with application deployments that include traditional on-premise applications, public cloud-based applications (both in-house and SaaS), and cloud-native applications as well as structured data, unstructured data, and newer NoSQL data types. The high number of possible permutations makes data protection and DR all the more challenging.

At the same time, cloud data protection technology is fundamentally changing the data protection and DR landscape in ways that are almost universally positive. First, on-demand cloud economics are making DR a financially realistic possibility for all organizations, but especially small and medium-sized enterprises that could not previously afford duplicate DR infrastructure.

In addition, workload migration products, data replication products, and recovery orchestration products are automating the movement and recovery of applications, especially in x86 virtual environments. When combined with cloud resources, IT organizations have offsite recovery capabilities that are highly automated, with the affordability of on-demand cloud economics. The excuses for IT organizations not being fully DR prepared are dwindling.

We believe that over time the distinction between data protection, high availability, and DR will diminish. As organizations implement technologies to seamlessly migrate applications across and on-premise and cloud locations with minimal disruption to users, they will have less need for separate infrastructure and processes to meet different requirements. Instead, organizations will focus on application availability, with application location becoming less relevant.

IDC research shows that more than 80% of organizations use cloud for some portion of their data protection strategy. Cloud-based tools have reached a high level of functionality, and the choices are numerous. Knowing which products truly deliver value will help IT managers make the best deployment decisions.

AZURE SITE RECOVERY AND AZURE BACKUP OVERVIEW

The products examined in this white paper are Azure Site Recovery and Azure Backup. A brief summary of each product is provided in the sections that follow.

Azure Site Recovery

Azure Site Recovery is a DRaaS solution. Azure Site Recovery is a native cloud solution that can protect on-premise workloads (i.e., DR failover from on-premise to the Azure cloud) as well as provide Azure-to-Azure cloud recovery. The solution works for virtual infrastructure workloads, whether Hyper-V or VMware, as well as physical workloads.

Azure Site Recovery provides all of the technological components needed for a DR failover, including data replication, workload migration, and recovery orchestration. The solution also allows IT organizations to test DR failover without impacting production workloads. Being a cloud solution, Azure Site Recovery allows organizations to scale necessary resources on demand to minimize up-front costs while maintaining flexibility to meet full workload demands. Features of the solution include:

- » **Management console.** Manage replication, failover, and failback from the Azure console
- » **Virtual machine (VM) migration.** Migrate VMs between Azure regions or from on-premise datacenters
- » **Workload migration.** Support workload migrations for VMs (Hyper-V and VMware) as well as Windows and Linux physical servers
- » **Service-level management.** Manage both recovery point objectives (RPOs) and recovery time objectives (RTOs), with RPOs as low as 30 seconds
- » **Application-consistent failover.** Leverage snapshots to capture disk data, data in memory, and in-process transactions

Azure Backup

Azure Backup provides backup and recovery functionality built into the Azure platform. Its backup and restore capabilities cover VMs, files and folders, Exchange, SharePoint, SQL, and more — both in Azure and on-premise. Management of Azure Backup is performed from the Azure console, including centralized monitoring and reporting. Multifactor authentication and alerts for suspicious behavior help reduce the threat of attack from malware or ransomware. Users are also able to set data retention times to either short term or long term (up to 99 years).

Azure Backup also has a number of features to help customize the service to specific needs. This includes network throttling to take advantage of off-peak times as well as incremental forever backups. Data is both compressed and encrypted for secure storage.

THE BUSINESS VALUE OF AZURE SITE RECOVERY AND AZURE BACKUP

Study Demographics

IDC interviewed 10 organizations for this study, asking survey respondents a variety of quantitative and qualitative questions about the impact of deploying Microsoft Azure Site Recovery and Azure Backup services on their IT operations, businesses, and costs. The average number of employees in the organizations interviewed was more than 75,000, indicating the inclusion of several large companies in the mix, with roughly 1,500 IT employees supporting an internal user base of about 96% of all employees. The IT staff supported about 417 business applications.

Most companies were based in the United States, with the remainder located in Australia and Switzerland. The organizations represented the following vertical industries: information technology, financial services, government, construction, education, and automotive (see Table 1).

TABLE 1

Demographics of Interviewed Organizations		
	Average	Median
Number of employees	75,500	19,000
Number of IT staff	1,500	400
Number of IT users	73,000	18,905
Number of external customers	49,000	10,000
Number of business applications	417	275
Countries	United States (8), Australia, and Switzerland	
Industries	Information technology (4), financial services (2), government, construction, education, and automotive	

n = 10
 Source: IDC, 2019

Organizational Use of Azure Site Recovery and Azure Backup

Study participants described to IDC both the value proposition supporting usage and the rationale behind their choice of ASR and Azure Backup as a platform. These selection criteria ranged from capex- and opex-related financial considerations to the importance of having more agile backup capability and the newer integration capabilities offered by the ASR and Azure Backup platforms. Study participants made the following specific observations about the benefits:

- » **Enabling IT transformation:** *“The strategy behind our IT transformation is going as high up the stack as we possibly can based on the application and the business requirements, either internally or externally. Data protection is a cornerstone of this strategy because with transformation often come problems. So it’s effectively a safeguard while being able to transform a lot faster, and probably with a lot more freedom, knowing we have the backup and disaster recovery strategy in place.”*
- » **Staff and cost savings:** *“There are staff savings and cost savings uniformly across the board. For example, hardware support: We have limited the amount of hardware. We have been able to reduce about 55–65% of our obsolete hardware. We are probably avoiding 20% in hardware costs.”*
- » **Gaining more flexibility:** *“We switched to Azure Site Recovery and Azure Backup to move away from a cost-prohibitive backup technology to something that was more flexible, cloud based, lower cost, and more agile. Now we are able to evolve quickly with changes to the technology.”*
- » **Seamless integration:** *“The beauty of Azure Backup is that it is built into the platform and works well. We are pretty happy with it, but we needed to be convinced that we should adopt it and that took some time. We were waiting for certain features and finally made the leap. Now we have more than 400 servers actively being backed up by Azure Backup.”*

TABLE 2

	Average	Median	Range
Number of datacenters	5	2	1 to 10
Number of terabytes	317	225	2 to 1,419
Number of countries supported	18	3.5	1 to 155
Number of sites/branches	253	9	2 to 1,000
Number of Azure server instances	360	400	8 to 872
Number of physical servers	154	105	2 to 85
Number of virtual machines	1,486	700	45 to 4,875
Number of applications	58	33	5 to 200

n = 10
Source: IDC, 2019

Business Value Analysis

Interviewed organizations are using ASR and Azure Backup to provide the levels of performance they need to support their growing business operations. IDC found that deployment of ASR services resulted in reduced total cost of operations (TCO), improved operations, and less downtime. Interviewed companies are spending less on their backup environments and seeing improvements in the amount of staff time required to manage and support backup and recovery operations.

With the survey data as a base, IDC quantified these benefits using a robust methodology. According to IDC's calculations, the surveyed organizations were realizing an average reduction in TCO of 46% per organization per year. This was accomplished by:

- » Driving higher IT staff productivity among IT infrastructure and data protection and recovery teams
- » Improving the overall performance of backup and data recovery operations while reducing the amount of unplanned downtime
- » Realizing reductions in expenditures for backup and protection infrastructure including hardware and software

Study participants spoke in detail about these benefits:

- » **Reduced management burden:** *"The burden of the management and ease of maintaining our backup environments shifts to Azure Site Recovery and Azure Backup, so we rely on Microsoft to run that for us. The other benefit is around the speed and agility of the solution and the environment. In the past, if we needed to expand our backup systems, it would take several months to procure the hardware and then install and configure it. With Azure Backup, we can increase or decrease our capacity much faster. A lot of that management burden is now on Microsoft."*
- » **Good customer service and easy integration:** *"We give some of our problems to Microsoft because you know they are going to be looking after you. Azure Site Recovery and Azure Backup come integrated well, so we don't have to worry about some of the loose ends of integration. I think that's the best thing about the service."*
- » **Easier management and strong TCO benefits:** *"The best thing about Azure Backup is that it allows us to avoid managing the backup infrastructure itself, such as servers, storage, and licenses. Also, it gave us the ability to back up servers that are shut down. And overall, it was cheaper. Based on our five-year TCO analysis, the pricing was quite attractive for the solution."*

Risk Reduction: More Efficient Backup and Recovery

Study participants across all organizations spoke about how the ASR and Azure Backup service platforms helped them reduce risks related to corporatwide use of data. They also reported the benefits of improved speed and agility in their backup and recovery operations. Other benefits cited included:

- » Ease of integration with existing systems
- » Better recovery management
- » More efficient performance resulting in lower RTOs and RPOs

Study participants spoke in detail about the following benefits:

- » **Improved service levels and reduced cost:** *“Our RTOs and, even more so, our RPOs used to be a lot higher. So we have been able to reduce that a lot while at the same time reducing costs. The actual reduction in costs would be well into the 90% range.”*
- » **Easier recovery management:** *“With Azure Site Recovery, once you go to a portal, it’s pretty simple to click and start replicating and create a policy. Anybody could walk in the door, look at a vault, and say, ‘There’s the virtual machine I was looking for; let me hit the restore button,’ and it works. You don’t have to worry about a million clicks and toggles and everything else on the back end as with our previous vendor. From that perspective, it’s widened the funnel point of people who can actually interact with our backup utility.”*

Table 3 presents quantified benefits related to the backup and recovery efficiencies associated with the ASR and Azure Backup service platforms. For example, the average time to run backups, measured in hours, showed a 76% level of improvement. In addition, average data recovery windows showed a 66% level of improvement.

TABLE 3

	Before ASR and Azure Backup	With ASR and Azure Backup	Difference	Benefit (%)
Number of disaster recovery tests performed per year	9	11	1.9	22
Number of backups per month	5,053	5,327	273	5
Average time to run backups (hours)	13	3	9.9	76
Average data recovery window (hours)	11	4	7.1	66
Data deduplication rate	1.2:1	1.6:1	0.4	37
Amount of data retained on-premise (TB)	275	156	118	43

n = 10
Source: IDC, 2019

As shown in Table 4, organizations reported better data loss recovery operations as teams were seeing an 86% reduction in the number of data loss incidents per year. ASR and Azure Backup also had a significant impact on the time (measured in hours) it took to resolve these data loss incidents — a 94% improvement. Overall, the organizations realized a 99% improvement in end users' productive time as a result of improved data loss recovery operations.

TABLE 4

	Before ASR and Azure Backup	With ASR and Azure Backup	Difference	Benefit (%)
Frequency per year	27.4	3.8	23.6	86
Time to resolve (hours)	9.3	0.50	8.8	94
FTE impact — lost productivity due to data losses	11.1	0.03	11.1	99
Cost of unplanned downtime per year (\$)	776,000	1,800	774,000	99

Source: IDC, 2019

More Efficient Data Protection Teams

ASR customers stressed the importance of making both their IT infrastructure and data recovery teams as efficient as possible. They discussed how the ASR and Azure Backup solutions helped them achieve this goal by providing easier recovery management and improving related support processes. The benefits of more automated processes and easier-to-use technology features and enhancements served to make their data protection and recovery teams more efficient in the day-to-day performance of tasks. Study participants stressed the fact that both initial configuration and upgrades were much easier to accomplish with ASR and Azure Backup and spoke in detail about these and other benefits:

- » **Easier setup:** *“In the past, we had to rely on setting up infrastructure by waiting for it to be specified out properly. Scalability was not always planned for. But with Azure Site Recovery and Azure Backup, you can start with a click of the button now. We don't spend a whole lot of time interacting with internal teams to set something up. We can get it done pretty quickly.”*
- » **Optimized management:** *“Productivity has changed because of the switch to Azure Site Recovery and Azure Backup because there is less care and feeding needed. We can do planned maintenances during the day versus doing it off-hours. And part of that comes down to a cost perspective and avoiding having a person who has to either shift their work schedule or work a second or third shift.”*
- » **More streamlined upgrades:** *“We have streamlined processes with Azure Backup. We don't need to worry because it's part of the platform, and we don't need to think about things like, ‘Do we have to go to the next version of the Azure Backup solution?’ or ‘What if we are on x, y, z version of our virtualization platform; are these compatible with each other?’ You don't need to think about these kinds of things with Azure. It just works and is compatible at all times.”*

Table 5 presents granular metrics on the backup and data recovery staff impacts of both ASR and Azure Backup. For example, management of data protection and data recovery, calculated in annual FTE equivalents per organization, showed a 44% level of improvement. In addition, annual staff time cost saw a similar improvement.

TABLE 5

Data Protection and Data Recovery Team Impact

	Before ASR and Azure Backup	With ASR and Azure Backup	Difference	Benefit (%)
Management of data protection and data recovery (FTE equivalent per organization per year)	16.1	9.0	7.1	44
Staff time cost per year (\$)	1,609,000	899,000	709,000	44

Source: IDC, 2019

Interviewees noted that ASR and Azure Backup were much easier for them to manage. As a result, organizations saw an impact on overall IT infrastructure management teams, which IDC calculated to be a 51% level of improvement, as noted in Table 6.

TABLE 6

IT Infrastructure Team Impact

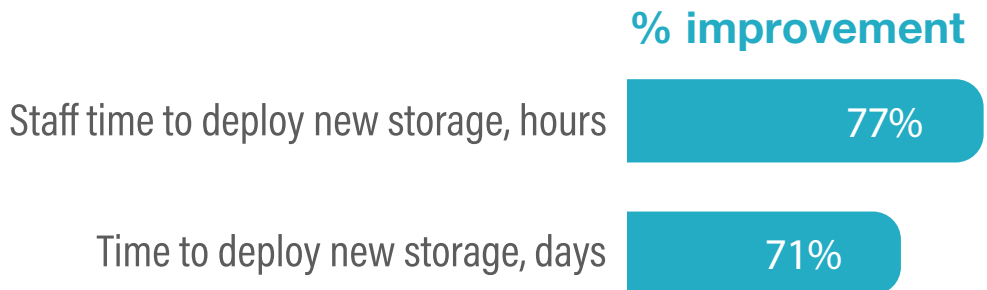
	Before ASR and Azure Backup	With ASR and Azure Backup	Difference	Benefit (%)
IT infrastructure management (FTE equivalent per organization per year)	6.2	3.0	3.1	51
Staff time cost per year (\$)	618,000	304,000	313,000	51

Source: IDC, 2019

Deployment of new resources was also more efficient with ASR and Azure Backup. As shown in Figure 1, organizations realized a 77% improvement in the staff time required to deploy new storage (measured in hours) and a 71% improvement in the total time to deploy new storage (measured in days).

FIGURE 1

IT Agility Impact



Source: IDC, 2019

Impacts on Unplanned Downtime

ASR customers reported positive impacts on unplanned downtime and business productivity. These organizations found that they could reduce the incidence of outages as a result of deploying the ASR and Azure Backup service platforms. This in turn translated into benefits for line-of-business (LOB) users and business outcomes.

In this context, one study participant described the benefit of easier recovery management: *“Because we’ve already proven that disaster recovery tests are better, our disaster recovery coordination group has become an ally instead of constantly haggling. This is because they now understand what Azure Site Recovery does and what it can do with some of these applications. So from a business perspective, it has absolutely improved confidence in our capability to recover their applications.”*

Table 7 shows the productivity impact of unplanned downtime with ASR and Azure Backup. Both the time to resolve (measured in hours) and the frequency of outages showed substantial improvement — 67% and 69%, respectively.

TABLE 7

Unplanned Downtime Productivity Impact				
	Before ASR and Azure Backup	With ASR and Azure Backup	Difference	Benefit (%)
Frequency per year	24.6	7.6	16.9	69
Time to resolve (hours)	93.4	30.80	62.7	67
FTE impact — lost productivity due to data losses	25.5	13.70	11.7	46
Cost of unplanned downtime per year (\$)	1,782,000	960,000	822,000	46

Source: IDC, 2019

In addition, the ripple effect of unplanned downtime showed up in business results. Table 8 shows total additional revenue per organization per year of \$571,000 as organizations are able to capture more revenue because of better availability of key applications and workloads.

TABLE 8

Risk Mitigation — Unplanned Downtime Revenue Impact (\$)	
	Per Organization
Total additional revenue per year	571,000
Total recognized revenue per year — IDC model*	85,600

*The IDC model assumes a 15% operating margin for all additional revenue.

Source: IDC, 2019

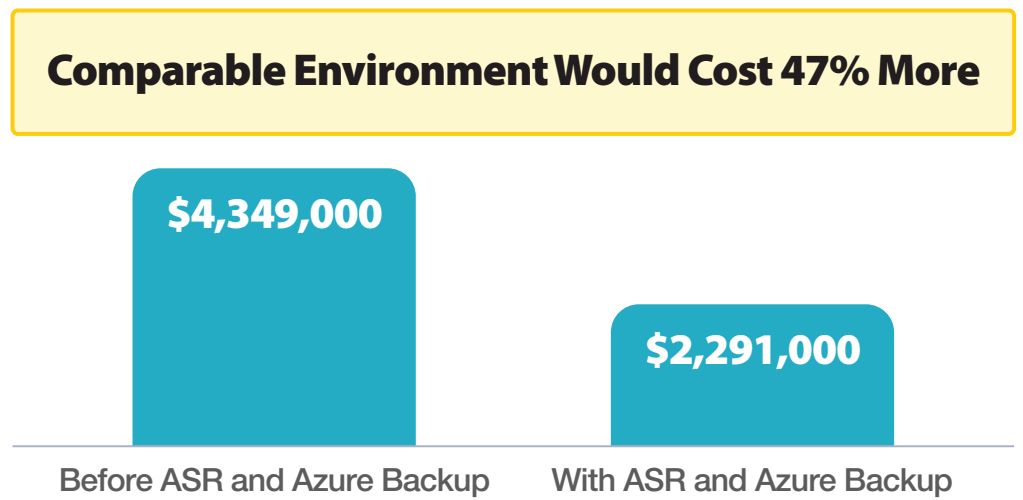
More Cost-Effective Backup Systems and Functionality

Study participants noted that ASR and Azure Backup offered a cost-effective solution for their businesses compared with other commercial options. Cost savings included both hardware and software capex and opex, which in the aggregate rolled up into TCO benefits. Companies found that leveraging a cloud-based infrastructure obviated the need for the purchase of backup and recovery on-premise solutions or operational oversight of solutions already in place.

IDC projects that customers will lower their IT infrastructure costs by 47% over five years as a result of building out their IT backup and site recovery environments with ASR and Azure Backup. Figure 2 presents metrics related to IT infrastructure savings comparing pre- and post-deployment environments.

FIGURE 2

Five-Year IT Infrastructure Costs



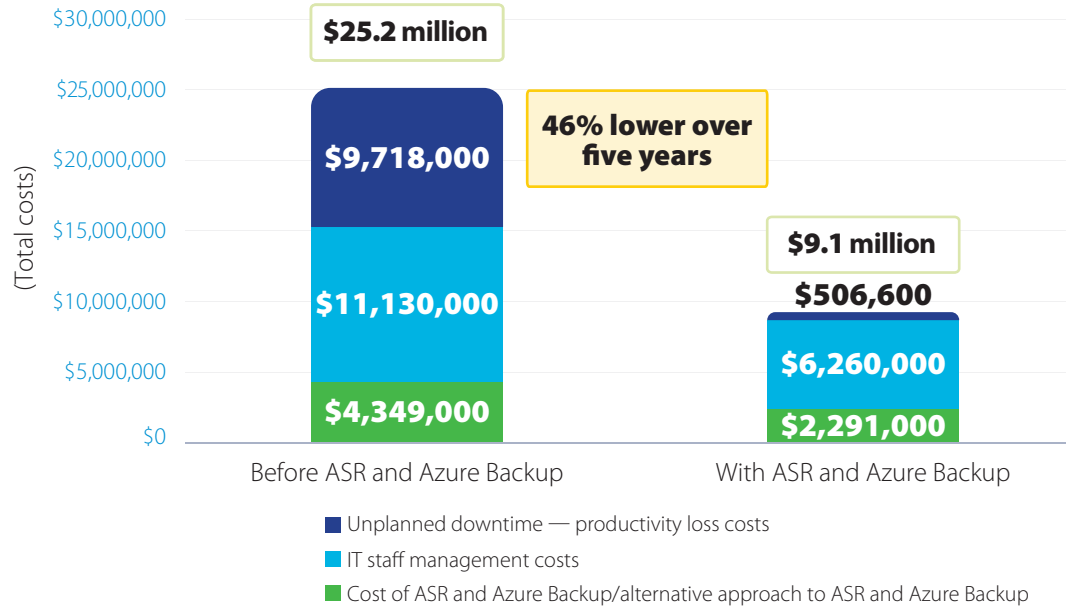
Source: IDC, 2019

In addition, IDC calculated the TCO for these organizations based on the following evaluation criteria:

- » Cost of lost productivity due to unplanned downtime
- » IT staff management costs
- » ASR cost versus cost of an alternative solution

IDC calculations show that the organizations' total costs will be about 46% lower after the deployment of the ASR and Azure Backup service platforms (see Figure 3).

FIGURE 3
Five-Year Cost of Operations



Source: IDC, 2019

Impacts and Improvements for Line-of-Business Users

Study participants spoke to IDC about how ASR provided the performance required by their business operations and how this improvement resulted in higher levels of employee productivity and increased revenue. Functional areas impacted included application development and the ability to innovate. Study participants spoke specifically about the following benefits:

- » **User-friendly attributes:** *“Azure Site Recovery is very user-friendly. You can have your own code for doing things after you recover your virtual machines. For example, you can add little scripts to finalize the small details around processes. So it’s DevOps-friendly and increases confidence.”*
- » **More confidence to innovate:** *“Since the security of our data is better, we can be braver about innovation. Azure Site Recovery and Azure Backup also help us reduce the number of security products by limiting the number of security apps that we need.”*
- » **Increased confidence for application development:** *“Our application developers definitely trust our backup operations a lot more and are more free to roam and experiment. They are saving time because they know that Azure Backup is working in the background with more frequent backups, so they don’t have to do backups themselves. For example, they are sometimes not even worried about the dev/test stage, and they go straight into production knowing that production is backed up.”*

Table 9 shows the end-user impacts resulting from deploying the ASR and Azure Backup service platforms. The average number of productive hours gained post-deployment was 1,371.

TABLE 9

End-User Impact	
	Per Organization
Number of users impacted	45.2
Average productivity gains (%)	2
Productive hours gained	1,371
End-user impact (FTE equivalent per organization per year)	0.7
Value of end-user time (\$)	51,000

Source: IDC, 2019

ROI Analysis

Table 10 presents IDC's analysis of the benefits and costs related to participating organizations' use of ASR and Azure Backup. IDC projects that over five years, these customers will make a discounted investment of \$1.71 million per organization (\$2,350 per 100 internal users) in ASR and Azure Backup. IDC expects that in return, the customers will realize discounted benefits of \$7.47 million per organization (\$10,250 per 100 internal users). This would result in a five-year ROI of 337% and a breakeven on their investment in 6 months.

TABLE 10

Five-Year ROI Analysis		
	Per Organization	Per 100 Users
Benefit (discounted)	\$7.47 million	\$10,250
Investment (discounted)	\$1.71 million	\$2,350
Net present value (NPV)	\$5.83 million	\$7,904
Return on investment (ROI)	337%	337%
Payback period	6 months	6 months
Discount rate	12%	12%

Source: IDC, 2019

CHALLENGES AND OPPORTUNITIES

The cloud-based data protection market group is one of the fastest-growing data protection–related market areas today. IDC estimates that this market — comprising disaster recovery as a service, backup as a service, and archive as a service — will reach \$6.7 billion in 2019, growing at a composite CAGR of 16.2%. We also estimate that more than 2,000 cloud service providers have some data-protection-as-a-service (DPaaS) offering. Thus, while growing rapidly, this market group is also highly competitive. Remaining technologically competitive in this market will challenge all participants, including Microsoft.

We believe that over time the trend is toward application-centric data protection, whereby data backup and disaster recovery are elements in the continuum of application availability. This application centrality will be especially acute among SaaS applications, where the standalone nature of the application will demand specific recovery requirements. However, the applications will not be truly standalone — many will share data through containers or gather information from Internet of Things (IoT) devices.

All of this adds up to a challenge and an opportunity — a rapidly growing market, but one with almost endless permutations of requirements. To be successful, even a large organization such as Microsoft must focus on specific requirement areas and partner for many that it cannot address. Using its position as a major cloud platform, Microsoft certainly has the means and opportunity to do so.

SUMMARY AND CONCLUSION

Data backup and disaster recovery are increasingly seen as complementary, not separate, operations. Disaster recovery as a service has dramatically changed the economics of DR, making it affordable and cost effective for nearly every organization. Moreover, by leveraging the cloud for backup and DR, organizations have ensured the survival of their data in the event of a disaster and can quickly reestablish application services using on-demand infrastructure.

According to our study, Azure Site Recovery and Azure Backup have been proven to be effective in execution as well as returning significant business value and cost savings. Organizations desire solutions that can improve business outcomes (such as higher service levels) with less human intervention and reduce costs. The participants in our study reported that these Microsoft solutions delivered 46% less unplanned downtime, 76% faster backups, 51% more efficient IT staff, and a 337% five-year ROI. In summary, these findings showed the desired combination of greater efficiency, cost savings, and better business outcomes.

APPENDIX

Methodology

IDC's standard ROI methodology was utilized for this project. This methodology is based on gathering data from current users of ASR and Azure Backup as the foundation for the model. Based on interviews with organizations using ASR and Azure Backup, IDC performed a three-step process to calculate the ROI and payback period:

- 1. Gathered quantitative benefit information during the interviews using a before-and-after assessment of the impact of ASR and Azure Backup.** In this study, the benefits included staff time savings and productivity benefits and operational cost reductions.
- 2. Created a complete investment (five-year total cost analysis) profile based on the interviews.** Investments go beyond the initial and annual costs of using ASR and Azure Backup and can include additional costs related to migrations, planning, consulting, and staff or user training.
- 3. Calculated the ROI and payback period.** IDC conducted a depreciated cash flow analysis of the benefits and investments for the organizations' use of ASR and Azure Backup over a five-year period. ROI is the ratio of the net present value (NPV) and the discounted investment. The payback period is the point at which cumulative benefits equal the initial investment.

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. For purposes of this analysis, based on the geographic locations of the interviewed organizations, IDC has used assumptions of an average fully loaded salary of \$100,000 per year for IT staff members and an average fully loaded salary of \$70,000 per year for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).
- » 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.
- » 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.

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