aws small and medium business

AMAZON WEB SERVICES

Store and Protect Your Data in the Cloud

A Guide and Assessment for Small and Medium-sized Businesses

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Introduction

About This eBook

This eBook is intended to help decision-makers in small and medium-sized businesses determine whether they can benefit by using cloud services to store and protect their growing repository of data.

You'll Learn:

- What a cloud storage service is and the benefits it provides your business

- How to compare the cost and effort of managing and scaling on-premises data storage solutions vs. using the cloud

- How to evaluate whether your business is ready for cloud storage

- How to get started with Amazon Web Services (AWS)

Data Growth Presents New Challenges

If you're like most businesses, the volume of data you collect, create, and store is growing exponentially: the world's data is expected to nearly triple between 2020 and 2025.[1] Making sure you have room to store it all while keeping it secure and accessible to the applications and staff that need it is creating challenges you might be facing in your organization.

- **Dwindling storage capacity:** Increased data volume will soon require investments in additional storage devices.

- **Keeping up with IT versions and patches:** Falling behind increases your vulnerability to data breaches and misconfigurations, which can lead to lost revenue. In addition, having to provide continual maintenance keeps staff from attending to more strategic business initiatives.

- **Difficulty managing multiple vendors' equipment:** Your staff may be fully consumed managing on-site solutions, creating a technical debt that allows little or no time for innovation. Using multiple vendors can also create interoperability issues, added costs, and operational overhead as your business grows.

- **Outdated, untested, or nonexistent disaster recovery plans and systems:** These increase your risk of unplanned downtime and loss of revenue, customer trust, and brand loyalty.

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1 Statista, **"Volume of data information created, captured, copied, and consumed worldwide from 2010 to 2025,"** June 2021.

- **More employees, including IT staff, working from home:** They may be connecting over the Internet or other network connections that must be secure and high-performing.

- **IT personnel shortage or loss:** If you have a handful of highly seasoned personnel managing your storage deployment, their decision to change jobs or retire could present a hardship.

To meet these challenges and position your company for growth and success, it's important to establish best practices for storing, backing up, securing, and recovering data. The cloud enables you to accomplish all this while lowering costs, streamlining operations, and enhancing business agility.
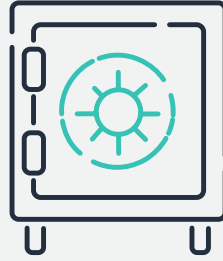
A More Efficient Approach to Data Storage

Historically, businesses have used capital IT budget to overprovision storage and backup capacity. By buying and installing more than they needed for the foreseeable future, they had wiggle room for growth. With tightening budgets, this approach is becoming obsolete. Even the largest enterprises find it difficult to justify buying, testing, and managing more and more storage devices—which also generate extra costs in terms of power, real estate, management, and specialized skills—when those resources frequently go unused.

How, then, can you plan to accommodate future storage requirements economically? Take advantage of innovations in virtualization and cloud technology. Keeping in mind cost, maintenance, and staffing for specialized skills, look for four key attributes in the data storage and protection solution you adopt as a foundation for the future.

- **Highly scalable yet affordable capacity:** Seek a solution that can expand quickly to accommodate data growth.

- **Data backup and failover features:** These will minimize business disruption if you experience a system failure, cyber attack, outage, or other disaster.

- **High-performance access to data used every day:** Near-immediate response times, even if data and users are in different locations, are critical for keeping workers productive.

- **Centralized policy-setting:** The ability to define and enforce security, governance, and auditing policies for your data in one place improves your security posture and simplifies regulatory compliance.

Cloud economics

In the cloud, large volumes of storage capacity—and other IT resources, such as compute services—are available via the Internet. Cloud customers pay for usage as they consume it. They "rent" storage capacity, for example, to meet changing data storage requirements. These IT resources are considered "cloud services."

The cloud services model differs significantly from the traditional IT operating model, in which businesses buy, integrate, and continually upgrade and manage their own devices and networks. With the cloud, you simply pay for IT resources as you use them. You eliminate the equipment, tools, power, and real estate costs associated with building and managing your own infrastructure. You also free up staff time to tackle more strategic, innovative projects that can have a positive customer impact by offloading the management of IT equipment to the cloud provider.

Because you pay only for the storage you use and eliminate costly on-site solutions, the cloud provides an affordable way to unlock new possibilities for business efficiency, growth, and innovation.

Business benefits

There are several advantages to using the cloud for some or all your data storage needs.

- **Scale rapidly:** In the cloud, you always have access to greater volumes of storage and backup capacity. You can grow or shrink your storage infrastructure dynamically to accommodate new requirements, and your usage-based payment model adjusts accordingly.

- **Eliminate capital expenses:** The cloud requires no investments in storage equipment or other hardware. The cloud provider absorbs the responsibility of buying, updating, managing, and expanding your storage infrastructure. You also offload associated power, cooling, real estate, and staffing expenses to the cloud provider.

- **Save time:** Since you don't have to procure, test, and deploy new equipment, a comparison of on-premises and cloud storage alternatives should account for the value of the time you save in provisioning equipment and maintaining. This formula could be a basic hourly fee times n hours of staff time saved. You could also add these savings to the value you place on achieving business goals faster, such as accelerating your time to market or improving a customer service process sooner.

- **Improve remote worker support:** Cloud data can be distributed so it's in close geographic proximity to your employees for high-performance experiences that mirror accessing data over a local network at the office.

- **Gain resiliency:** Cloud providers operate many large data centers in multiple geographies worldwide. They can store your data in two or more diverse locations with redundant, hot failover capabilities between them, so your data is always available when you and your users need it.

A level competitive field

You might have heard about how large, well-known corporations are benefiting from cloud services. But the cloud's advantages aren't exclusive to these enterprises.

The cloud is a great equalizer that provides businesses of all sizes, in any industry, with affordable and immediate access to the same cutting-edge technology, regardless of IT budget. Again, you simply pay for what you use. According to TechAisle, these are among the reasons that the cloud has become the number one IT priority for companies with under 1000 employees.[2]

The cloud's flexibility also lets you address seasonal and other spikes or dips in IT usage. You can dial your cloud IT resources up or down and pay accordingly. Companies that use AWS services, on average, say they save 31 percent compared to running infrastructure onsite.[3]

2. TechAisle, **"2021 Top 10 SMB - Business Issues, IT Priorities, IT Challenges,"** 2021.

3. IDC, **"Fostering Business and Organizational Transformation to Generate Business Value with Amazon Web Services,"** February 2018.

CHAPTER 4:

Assessment: Is Your Business Ready For Cloud Data Storage?

When assessing how cloud data storage and protection might be beneficial, it's helpful to take stock of your current business situation and how you anticipate it changing. Check next to each of the following statements that applies to your organization.

☐ I'd like to reduce my data storage costs.

☐ I need to gain business agility (e.g., get to market faster, serve customers more efficiently).

☐ It's hard to find time to spend on business strategy because daily operations are all-consuming.

☐ My business has a growing number of home or remote workers that need IT support.

☐ It's important that we increase our resiliency to disasters, outages, and cyber attacks.

☐ It's likely that I'll soon need to hire additional IT staff with specialized skills to manage growing data volumes and/or more storage devices.

My business is required to comply with one or more regulatory mandates (check all that apply):

☐ The European Union's General Data Protection Regulation (GDPR)

☐ Payment Card Industry Data Security Standard (PCI DSS)

☐ Health Insurance Portability and Accountability Act (HIPAA)

☐ Sarbanes-Oxley Act (SOX)

☐ Federal Information Security Management Act (FISMA)

☐ US Federal Risk and Authorization Management Program (FedRAMP)

☐ California Consumer Privacy Act (CCPA)

☐ Other (specify):_____

☐ My company finds it difficult, expensive, or both to maintain compliance with one or more of the above mandates

☐ My company is required to archive certain business or customer records for several years.

☐ My business stores 15 terabytes of data or more.

☐ Business data at my company is growing at 10 percent per year or more.

☐ My business supports 20 or more employees/data users.

If you checked any of the above, cloud services can help you realize your business goals, manage data growth, improve data security and resiliency, and accelerate innovation.

Additional evaluations

To further evaluate how prepared your organization is to begin using cloud services, consider using free digital cloud assessment tools, such as the AWS Cloud Adoption Readiness Tool (CART). These simple calculators gauge your cloud readiness based on a few unique factors about your business, such as the following:

- Your business reasons for considering cloud adoption

- The level of internal communication between those in charge of computer systems and your users

- What (if any) cloud services your business is already using

- Whether you have a documented data backup, security, and recovery plan in your company

This tool helps you determine what remaining steps you should take, if any, before you begin using the cloud to optimize your experience and outcomes.

Getting started with the cloud

1. Begin with cloud storage

Storage is the simplest, most logical place to gain experience using the cloud, particularly for data that isn't used every day. This could include backup data and data that must be archived for policy, compliance, or other reasons. Once you have a cloud storage account, you can easily direct any or all of your data to the cloud for storage.

With cloud storage, you automatically meet the storage industry's "3-2-1" best practice guidelines for backup protection against data loss and, in turn, lost revenue. The 3-2-1 rule centers around maintaining at least three copies of your data, two of which may be on-premises but on different devices, while you store at least one copy off-site (in the cloud). Cloud providers store your data in a different geolocation than your office or data center; should your primary site fall off-line, cloud backup automatically begins serving users, keeping your business functional and thriving.

2. Decide what data to store in the cloud

A common way to get started with cloud storage is to back up existing data or to archive data you access infrequently to the cloud. As a rule of thumb, most companies use 20 percent of their data once a day or more. This critical data requires a cloud service with the fastest access performance available. However, for the 80 percent of data that sits unused most of the time, you can opt for a more economical cloud storage service.

If you elect to use the cloud for both types of data, you'll divide your data into groups based on access frequency and performance requirements, then match each group to the appropriate service and pricing tier offered by your cloud provider.

Even if you're unfamiliar with your data access patterns, there are cloud storage options that deliver automatic cost savings when those patterns change. These services dynamically move your data to the most cost-effective storage option, with no performance impact or operational overhead.

3. Sign up for an account and estimate monthly fees

When you sign up for a cloud storage account, you'll connect with someone who can provide guidance about what specific services and pricing tiers to use. The right choice accounts for your expected data volume, how frequently you access data, and other factors. Most services are priced by usage. If you have an initial estimate of the volume of data you'd like to store, back up, or archive in the cloud, you can calculate what your approximate monthly cost will be.

At AWS, for example, the sales team can help you create and secure your account and set up your AWS interface into the AWS cloud environment. You can also set up services yourself using documentation and tutorials supplied by AWS or get a recommendation for an AWS Partner to help you. Businesses that opt to use a partner are usually looking to simplify operations and often lack the time or expertise to learn about which services to use on their own.

4. Prepare your data

It's common for businesses to store unnecessary amounts of redundant data. Before you move your data to the cloud, revisit your backup and archive policies and possibly revise them. This step could enable you to clean up your dataset and reduce its volume, saving you both time and money as you move data to the cloud for storage.

5. Migrate your data

Once you're on board with a cloud service and have identified the data you want to store in the cloud, it's time to migrate your data to the cloud for storage. The time it takes to complete your data migration depends on your volume of data and which method you choose for to move it.

- AWS, for example, offers several online and offline cloud storage migration solution options:

- **Amazon Simple Storage Service (S3) API:** This option adds Amazon S3 as a storage location option to your existing storage management console. With a few clicks, so you can direct data to AWS for S3 storage.

- **AWS Storage Gateway:** You can use standard storage interfaces and a virtual or physical appliance gateway to transfer data to AWS over an Internet virtual private network (VPN) or dedicated network connection. The gateway compresses data and sends only updates to the cloud to minimize storage and network costs.

- **AWS DataSync:** Use this data migration option to copy large datasets from your site to AWS using your Internet bandwidth; the service handles encryption, network optimization, and data integrity validation to speed migration time and keep data secure while in transit.

- **AWS Snow Family:** This option enables offline data migration. AWS sends you one or more physical devices on which you save data destined for AWS. Then you physically ship the appliance back to AWS, and AWS moves the data into the cloud where you and your users can access it. Filling up multiple devices in parallel, possibly from different locations, accelerates the data migration process, so you're up and running in the cloud faster.

6. Protect your data and applications

A data backup strategy is essential to making sure your company can withstand, recover, and minimize the impact of a security breach, outage, or disaster. You should define which data to back up, how often to back it up, and a way to monitor backups and recovery processes to make sure they work when needed. You can use the AWS Backup cloud service, for example, to protect both the data you store in AWS and data you store on premises, as well as AWS Elastic Disaster Recovery for protecting and recovering on-premises and cloud-based applications. In addition, centralization and automation of policy-setting and data management enable you to minimize data loss and comply with regulatory and business data security and privacy rules.

CHAPTER 6:

Advantages of using AWS

Businesses in all industries and of all sizes can extend their onsite storage, backup, and archiving to AWS. AWS offers the industry's most extensive range of cloud storage services to accommodate any business data. When you work with AWS, you benefit in several ways.

- **Real savings you can see and measure:** Using an AWS cloud service reduces costs by an average of 31 percent[4] while increasing efficiency. Because every business is different, making it hard to predict your exact savings, we offer free tools and calculators to assess your costs and measure your migration return on investment (ROI). These tools eliminate guesswork and help you identify new savings opportunities.

- **Capacity that grows as you need it:** AWS automatically adjusts cloud capacity to meet demand while only charging you for what you use. In this way, we make sure you have space to grow without paying for more than you need. We constantly monitor activity to balance loads, automatically scaling storage up or down to meet fluctuations in demand and reduce costs.

- **Optimum cloud security and resiliency:** AWS meets the stringent requirements of the world's most security-sensitive organizations. AWS participates in many security assurance programs and regulatory certification programs, and we

4. IDC, **"Fostering Business and Organizational Transformation to Generate Business Value with Amazon Web Services,"** February 2018.

apply our substantial expertise to protecting your data. AWS further reduces the risk of unplanned outages, data loss, and inaccessibility by maintaining data centers all over the world with automatic backup and failover procedures in place. Businesses using AWS report reducing unplanned downtime by an estimated 69 percent compared to operating their own storage solutions.[5]

- **Support through best-in-class partners, programs, and training:** With AWS, help is always close at hand for planning and managing your cloud migration. We have thousands of AWS-certified partners and consultants available to provide you with premier service—no matter your budget. We also offer a free, comprehensive library of self-paced training courses and a range of skill certifications, workshops, and immersion days to help you and your staff learn how to make the most of your AWS cloud services.

5. Nucleus Research, **"Understanding the Value of Migrating from On-Premises to AWS for Application Security and Performance,"** June 2020.

Ready to learn more?

Cloud data storage and protection services from AWS let you build a future-proof foundation for storing, backing up, archiving, and securing your growing data. The on-demand, limitless availability of AWS cloud storage capacity gives you operational agility and economies of scale that aren't possible when building your own IT infrastructure.

Spending the time and money to procure, test, deploy, and manage on-site equipment could put your business at a disadvantage, particularly if your competitors have adopted cloud-flexible capabilities. Cloud services free up time and resources for business innovation. They also allow you to affordably weather the unpredictability of market conditions, supply chains, and seasonal economic patterns with resources that are always available when you need them. These are the reasons cloud migration is the number one IT priority in smaller businesses.

AWS is here to support you wherever you are in your cloud journey. Let us help you drive business growth, affordably scale your operations, and serve employees and customers in new, more reliable ways.

Learn more about cloud storage or **contact the AWS Sales team.**