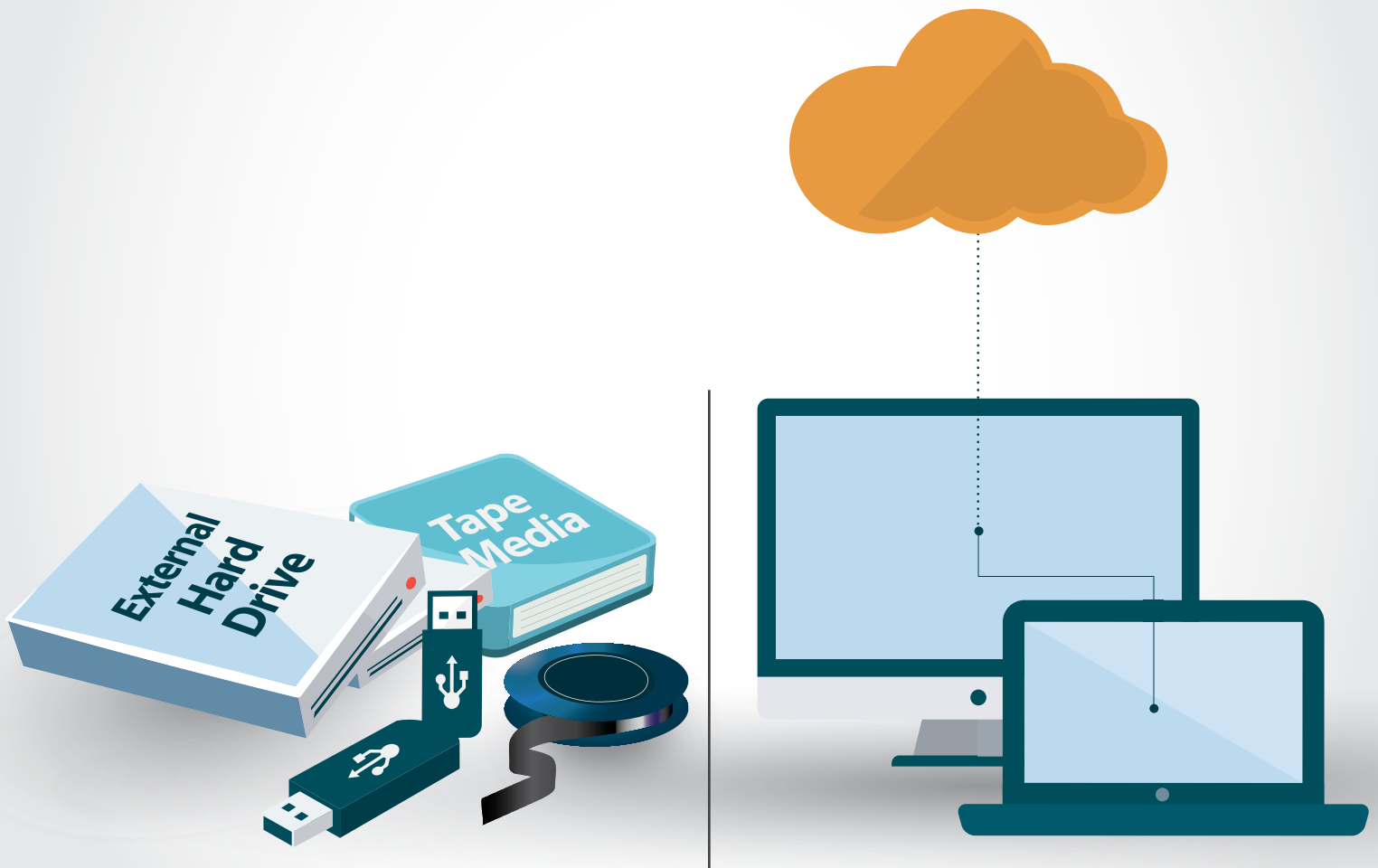




# ON-PREMISE VS OFFSITE BACKUP

AN EXAMINATION OF THE TWO MOST COMMON BACKUP STRATEGIES



*"Unfortunately, backup is like insurance: no one thinks much about it until they actually need it."*<sup>1</sup>  
— Chris Gleeson, Network Engineer, University of Maryland



# THE \$100 MILLION MOVIE HOLLYWOOD ALMOST DELETED

Like most stories in Hollywood, this one has a happy ending. But it almost didn't.

Here's the incredible true story. A major film company was well into production on an animated movie, when someone on the 150-person crew entered a network command incorrectly, which began deleting all of the files — representing tens of millions of dollars and months of work. Within minutes, 90% of the movie's assets were gone. And that's not even the worst part.

The worst part was that **the company did not have a continuous backup system in place.**

Fortunately, a technical director on the film had been working from home (after giving birth to her son), and she had a server in her house loaded with all of the movie's files. So she and the CTO hopped into her car — later called the "\$100 Million Volvo" — brought her server to the office, restored the files to the main network, and saved the day.<sup>2</sup>

The company? Pixar. The movie they almost lost to backup neglect? *Toy Story 2*.



## CONTINUOUS DATA BACKUP IS MISSION-CRITICAL

You know your data is vital to your business's health and operations. But you might be unsure about the right system for you. This paper will examine the two primary strategies today for data backup and recovery — cloud-based backup and onsite-storage solutions — and weigh the strengths and weaknesses of each.





# AN EXAMINATION OF ON-PREMISES DATA BACKUP

Traditionally, “data backup” has meant a business’s computer files, applications and other digital content stored onsite, in the company’s offices, using some form of physical and removable storage media — backup tapes and disks, typically.

## ADVANTAGES

Often the primary reason a business continues with onsite data-backup solutions such as tapes and disks is the comfort level with such processes. Many companies understandably take the “This is how we’ve always done things” approach for backing up important data.

For a business that has not experienced any of the problems to which an onsite backup infrastructure makes them vulnerable — forgetting to replace tapes and writing over key data, theft of backup media from a server room, or simple backup-disk failure — these onsite storage solutions might continue to make good business sense.

Indeed, there are other advantages of on-premises backup solutions:



### Fast recovery times

Because the stored backup media are maintained onsite, IT staff can quickly grab a tape, disk or other form of physical storage drive and load the lost data back onto the company’s main servers and networks.



### Low cost

The hardware for an on-premises backup infrastructure (hardware and software) can be costly — but those one-time capital costs can often be offset over the long-term because in-house backup does not require the same monthly fees a business would pay to back up its data offsite.



### Portability

Although the physical infrastructure of onsite backup systems is often cumbersome, the removable media that backs up the data, such as tapes, are relatively easy to manage.





## DISADVANTAGES

But on-premises backup has its drawbacks. Indeed, many of these can prove catastrophic to a business backing up mission-critical data in-house.



### Hardware failure

A survey of small and mid-sized business IT professionals from Spiceworks Market Insights found that among businesses that had experienced data loss (45% of all respondents), 54% attributed the loss due to hardware failure. These are the disks and tapes that comprise a business's onsite backup solution.



### Hidden costs

On-premises backup infrastructure can have many overlooked costs. These typically include the significant time IT personnel must dedicate to physically manage data backups, as well as the data's vulnerability to theft (which represents a significant percentage of all data loss for businesses), and the substantial costs of losing all data to a flood or other disaster.



### Failed recoveries

In most cases where a business backs up its data onsite, the business stores one copy of the backed-up data, usually on a tape. In rare cases a business might maintain two copies — both onsite. What happens if the office suffers a flood, fire or other disaster? Because they have no offsite duplication of the data, the business will find it difficult if not impossible to recover its data and restore operations in a timely manner.





# AN EXAMINATION OF CLOUD BACKUP SOLUTIONS

A newer solution for data backup and recovery is cloud-based backup, also called online backup, where a third-party service provider automatically transmits a business's data over the Internet to *redundant, offsite, secure data centers*, where the business can retrieve that data at any time, securely, online.

## ADVANTAGES

For a whole host of reasons, many businesses are moving their data backup and recovery infrastructure to third-party experts who manage the data in the cloud. This offers businesses a number of considerable advantages over managing their data in-house.



### Reliability

With cloud backup, a business's data is automatically transmitted to multiple offsite locations. Even if data at one facility were compromised, the business could *still* immediately retrieve it from the secondary location. For this reason, the best cloud backup providers can guarantee 100% data recovery from any loss at any time of day or night.



### Security

Many businesses fear sending proprietary data over the Internet, but in reality moving their data to a cloud backup solution actually makes that data *more* secure than if left onsite. The best cloud backup services first encrypt data on the business's own servers, before they begin transmission over the Internet for secure storage in the cloud.



### Accessibility

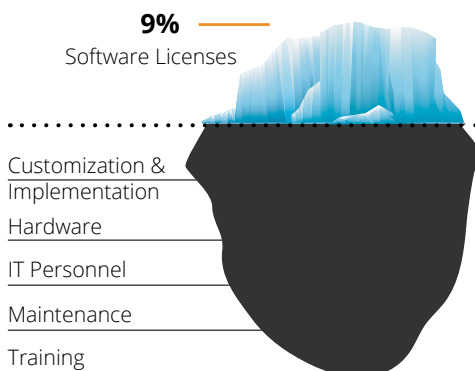
Another advantage of cloud backup is that a business's employees can access their data through the cloud provider from any networked device, any time of day. Imagine a business prevented from entering its offices after a disaster prevented from entering its offices after a disaster? This could mean the difference between being able to continue its operations or shutting down temporarily. And if the inaccessibility was prolonged, could the business survive?



### Total cost of ownership

Finally, a cloud backup solution actually costs less over the long-term. Moving data backup to the cloud means a business will no longer need to invest in disks, tapes, drives, backup servers or other hardware and software to manage backup in-house. It also means the business can eliminate the costs to maintain and repair this hardware, renew its backup-software licenses, and continually buy more tapes, disks and other removable storage media.

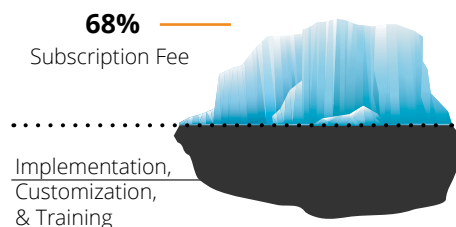
## On-Premises



### Ongoing Costs

- Apply Fixes, Patches, Upgrade
- Downtime
- Performance Tuning
- Rewrite customizations
- Rewrite integrations
- Upgrade dependent applications
- Ongoing burden on IT
- Maintain/upgrade hardware
- Maintain/upgrade network
- Maintain/upgrade security
- Maintain/upgrade database

## Cloud Computing



### Ongoing Costs

- Subscription fee
- Training
- Configuration





## DISADVANTAGES

Of course, cloud backup isn't without its own drawbacks as well.



### Backup speeds can be slower

Because data backed up onsite, onto physical media, doesn't need to be transmitted over any network, that data can be backed up quickly. (Imagine copying a file stored on a USB drive to your computer.) When data is backed up to the cloud, however, after being encrypted that data is then sent over a secure Internet connection — meaning the entire process can take a bit longer. (Now imagine copying the file from your USB drive to your computer, and then *emailing* it to a colleague.)



### Recovery requires an Internet connection

Again, a key distinction between onsite and cloud-based backup solutions is the need for an Internet connection for any cloud solution to be useful. Whereas a business can recover data from a backup disk or tape onsite (assuming the data was backed up properly), data backed up to the cloud will require Internet access to retrieve. A business opting for cloud backup, therefore, must ask itself, "If a disaster strikes, will our team have an Internet connection that allows them to access our mission-critical data in the cloud?"



### Third-party involvement

Including third parties in the chain of custody for their data is a concern primarily for businesses in heavily regulated industries and for organizations (law firms, brokerage houses) whose data often consists of highly sensitive information. Hosting data backup in the cloud means that another organization will be housing and protecting that data. This is why the best cloud providers guarantee the data they back up will remain confidential, even from their own staff. Some cloud providers also use encryption and other data security measures to ensure that no unauthorized personnel outside the business — and not even the technical support staff at the cloud backup company itself — will be able to view the data.





### CONCLUSION

Both on-premises and cloud-based backup solutions offer unique benefits and challenges. The most effective solution for one business might not be optimal for another. Before selecting how you will protect one of your most mission-critical assets, therefore, we recommend you conduct a thorough investigation of both data-backup methodologies — to learn how each approach’s benefits, costs, risks and impacts to your personnel will affect your operations. Your data is too important to make this decision before being fully informed.

Component	Tape	KeepItSafe
Reliability	<ul style="list-style-type: none"> <li>• Prone to human error and mechanical failure</li> <li>• Susceptible to damage by environment and improper handling</li> </ul>	<ul style="list-style-type: none"> <li>• Delta blocking for instantaneous restore</li> <li>• 24/7 live support</li> </ul>
Cost	<ul style="list-style-type: none"> <li>• Expensive overhead in transporting and handling tapes</li> <li>• New hardware costs as data increases</li> </ul>	<ul style="list-style-type: none"> <li>• All data is compressed and de-duplicated</li> <li>• Prioritize your data sets based on importance to business operations</li> </ul>
Ease-of-us	<ul style="list-style-type: none"> <li>• Labor intensive</li> <li>• Hardware maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Automated set-and-forget backups</li> <li>• Organization wide visibility and control of all corporate data</li> </ul>
Security	<ul style="list-style-type: none"> <li>• Risks of theft while data is in transit to off-site storage facility</li> <li>• Locally-stored backup media is vulnerable in disaster recovery efforts</li> </ul>	<ul style="list-style-type: none"> <li>• 256-bit AES Encryption in-flight and at-rest</li> <li>• Redundant Tier-IV Data Centers</li> </ul>
Scalability	<ul style="list-style-type: none"> <li>• Limited to tape drive capacity</li> <li>• Difficult to meet standards set by industry regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Flexible agentless architecture</li> <li>• Integrated replication</li> </ul>





# INTRODUCING KEEPITSAFE

For more than a decade, KeepItSafe has been a world leader in compliant cloud backup, disaster recovery and endpoint protection — serving more than 40,000 corporate customers, across four continents, and protecting more than 50 petabytes of mission-critical data every year.

We offer a premium, white-glove service for cloud backup, recovery and business continuity — and we are among the only global recover providers awarded ISO 27001 certification for information security management

Visit our website, [www.KeepItSafe.com](http://www.KeepItSafe.com), to learn more about our industry-leading solutions for cloud backup, disaster recovery and endpoint protection.



Or contact us anytime to schedule your free Network Evaluation and Data Protection Assessment, as well as to begin a free trial of our solution.

**888 965 9988**

[info@keepitsafe.com](mailto:info@keepitsafe.com)

## Sources:

1. **EdTech Digest:** <https://edtechdigest.wordpress.com/2015/02/05/to-the-cloud/>
2. **TheNextWeb:** "How Pixar's Toy Story 2 Was Deleted Twice"

