



# ▶ The Expanding Role of Backup and Recovery in the Hybrid Enterprise

## 6 STRATEGIES TO PROTECT MODERN INFRASTRUCTURE – ON-PREMISES AND IN THE CLOUD

It's no secret. Today's changing infrastructure landscape coupled with unprecedented data growth, cloud-enabled workloads and Big Data are wreaking havoc on conventional approaches to backup and recovery. But as they do, they create more requirements for data protection. As a result, your backup strategies could never be more critical. Here are six strategies for data protection in a hybrid enterprise that will not only help solve your current data management challenges but also ensure that you're poised to meet future demands.



## ▶ ONE: ACTUALLY GET BACKUPS DONE WITHIN THEIR TIME WINDOWS

Most enterprise IT organizations today struggle to even finish backups at all. That is, often the backup jobs are not able to completely process full or even incremental file sets in the time window available. It can be shocking to learn the truth of how much critical corporate data is assumed to be backed up, but isn't actually protected.

It's clear to those on the ground what's going on. The amount of data to be backed up is growing exponentially, while resources (storage, network, servers) devoted to backup are constrained. Besides the amount of data, the locations and types of data have become more complex with an increasing number of applications, hybrid cloud infrastructure and virtualized servers. Even if it were possible to throw more hardware at the problem, that would not solve it. IT staff valiantly keep legacy backup systems going with manual work or scripting, which lowers their productivity – and worse, the backups are extremely hard to use for data recovery. Legacy backup tools just aren't up to the job.

Today's advanced data backup and recovery solutions, like Commvault® software, do a much better job of getting all of your data backed up in far less time, with fewer resource requirements. Because modern solutions have deeper knowledge of current enterprise applications, databases, and cloud platforms as well as physical and virtual environments and file systems, they enable rapid, consistent copying of that data, no matter where it resides.

Also of key importance is modern storage array snapshot technology, which creates nearly instantaneous application aware copies, drastically improving backup, and even more importantly, speeding recovery time. By implementing snapshots, you can execute against ever tighter SLAs, and when the snapshot process is coordinated with backup, you can get a protection copy created apart from product servers, reducing the impact to those resources. Commvault software solved the challenge of the management of those snapshot operations with each storage array using its own tools and processes, manual scripting and a lack of application-awareness. All of this means that backups actually get done and can truly be used for recovery which, after all, is the reason to backup in the first place.

## ▶ TWO: GET SMARTER ABOUT REDUNDANT DATA

The truth is that traditional backup systems do not minimize data redundancy well at all. Data is allowed to proliferate in multiple copies because it has conventionally been seen as safer and simpler in terms of backup logistics and storage just gets cheaper.

However, this leads to excessive demands on network, storage and management resources, especially in the hyper-data growth environment you face today. Target-based deduplication appliances were once seen

### Modern Snapshot Management: Enhancing Application Protection and Recovery

Read how to use a modern approach to data protection that uses your current disk array snapshot technology to eliminate the chaos of multiple tools and processes while increasing efficiency.

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Source-side deduplication can eliminate up to 90% of the data copied over the network, and cut the time required in as much as half.

IDC

*Quantifying the Business Value of Commvault Software: Worldwide Customer Survey Analysis, January 2016*



as a way to get rid of some of the extra copies, but they don't do anything to solve the network problem. The solution in a modern implementation is to eliminate redundant data at the source, and never transmit it over the network. Another area where deduplication adds value is for moving data to other locations, such as the cloud, for disaster recovery. Yes, you may have replication capability in legacy systems, as a costly extra. But it is resource-intensive or tied to specific hardware. Even worse, there is no granularity into the data you are moving, which again leads to a lot of waste and inefficiency. By only moving the changed data to other locations you can reduce the cost, time and resources required for replicating data to meet your recovery needs. Finally, legacy deduplication is limited in scale and siloed, so you aren't able to address it at a global level or in modern hybrid cloud infrastructures.

A modern data protection strategy enables far more intelligent handling of redundant data. It is global, comparing different sources of data, instead of operating in silos, to eliminate redundant copies of data and reduce storage costs. By managing redundant data at the source you can increase network efficiency while also having the capability to do it at the target in case you need to use that method for specific uses. It also should be a part of the replication process to further maximize efficiency and not have to be rehydrated to move that copy to other disk storage, tape, cloud or even cloud to cloud. Finally, all this should ensure that restores are still able to use the data wherever it came from and wherever it is stored, an important distinction in the era of cloud infrastructure to ensure a future-proofed data management strategy.

### ▶ **THREE: MOVE AWAY FROM POINT BACKUP TOOLS**

As the types and locations of the data we protect has grown, so has the number of backup tools proliferating the enterprise, each designed to address one particular type of data or environment. The classic examples are solutions to protect just physical and virtual servers, while others are emerging to support specific cloud environments, adding even more complexity on top of those that have popped up for specific applications or databases. These point products (or even homegrown scripts) have been cobbled together over time or deployed in silos and are usually difficult for anyone other than the person who rolled them out to operate. Worse? They are easily broken by new technology or configurations.

Modern data protection solutions provide all the features (and even more) of your individual backup tools, but in a single, unified platform, which makes it much simpler to license and manage. Better still, a platform like this is designed to be ready for future demands, whether they be new technologies, demands from the business, or sources of data to secure. With true application and platform awareness, modern data protection can manage cloud and virtual infrastructure seamlessly across multiple hypervisors and cloud platforms while automating and streamlining operations over the entire VM lifecycle from provisioning to protection to decommissioning.

**“By 2018, 50% of organizations will augment with additional products or replace their current backup application with another solution, compared to what they deployed at the beginning of 2015.”**

**GARTNER INC. “GARTNER MAGIC QUADRANT FOR DATA CENTER BACKUP AND RECOVERY SOFTWARE”**

*by Dave Russell, Robert Rhame, Pushan Rinnen. June 2016*

## ▶ FOUR: AUTOMATE AND SECURE YOUR BACKUP ENVIRONMENT

IT organizations automate their backups to some extent, but are often hampered by the limited capabilities and/or lack of integration of the various point backup tools in use. Whenever a staff member has to manually configure or verify backups, or has to spend time managing or working with backups, the efficiency of the organization is diminished and the risk of incomplete backups increases. This is further exacerbated by the added complexity of hybrid infrastructure as organizations now have additional infrastructure from which to monitor, manage and maintain their data.

The next important strategic imperative for modernizing your data protection is to properly automate and secure the backup environment – regardless of its mix of physical and cloud infrastructure. With modern data protection solutions, a single infrastructure and interface is provided to fully automate and centralize management of backup and recovery that is scalable, easily adaptable and can use pre-defined policies to drive operations. A modern solution also has built-in data security, including encryption, both in flight and at rest. Also important is role-based access, so protected data can only be accessed by those that are supposed to, without adding more point products to manage.

## ▶ FIVE: BE ABLE TO RECOVER WHEN THE TIME COMES

It's very likely that an IT organization that has trouble getting backups completed in limited time windows will probably have trouble recovering data when the time comes. Taking aside the obvious (that it was not backed up), recovery using point tools is a lot like putting together a 5000 piece puzzle which is missing pieces. It's a slow process, only to find you can't complete the picture.

But it doesn't matter how well your backup process works if you can't recover data fast and efficiently.

Consider modern data protection solutions, such as Commvault software, to provide the flexibility to maintain backup data on different tiers of storage to meet different retention and recovery needs. You can easily store some application-aware snapshots near the original data for quick restoration, move older backups off to less-costly storage tiers or the cloud, and retain some data for as long as you are required to. In addition, it can provide the flexibility of different recovery needs – do you need to roll back a whole database this time, and next time granularly recover a single email or attachment without having to hunt and peck for it across multiple backup jobs? Finally, it can open this all up to end users for self-service restores for better user productivity and so IT doesn't have to use their valuable time on these routine tasks. All of this occurs from one content-aware indexed store with multiple, secure ways to get into it, including a web portal, mobile app and native integration into applications such as Outlook, VMware and Windows File Explorer.

Commvault software increases backup success rates to an average of 90% while reducing data protection costs as much as 50%.

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*Quantifying the Business Value of Commvault Software: Worldwide Customer Survey Analysis, January 2016*

## ▶ SIX: PREPARE FOR THE FUTURE WITH AGILITY AND CHOICE

The ability to respond rapidly to changing business requirements is a top directive for any IT organization. This demand for agility is driving rapid adoption of private, public and hybrid cloud infrastructure. The problem, as IT organizations combine clouds in their infrastructure, becomes more complex, and the risk of losing data, whether due to unplanned downtime or a catastrophic event, increases. Egress fees, time to recover and data complexity all make recovery an immense, unforeseen challenge, even – perhaps especially – in the era of the cloud. Simply put, IT organizations require a means to protect their data, regardless of where it's stored, to maintain the agility benefits they've worked hard to achieve. This means eliminating vendor lock-in and ensuring data portability from on-premises to hybrid and cloud environments, from cloud-to-cloud and back again. Only then, can IT organizations be truly future-ready while remaining agile.

Modern, cloud-based data management solutions, such as Commvault software, enable IT to protect data without sacrificing agility. For example, you can continue to maintain a highly dynamic data center or private cloud with the confidence that it can be recovered at any time because the cloud-based data management solution eliminates the need to manually replicate the data center to a secondary site. Using a single platform, recovery efforts are simplified and systems can be back up and running quickly after any disaster or unplanned downtime event. Perhaps most importantly, you can retain the ability to move data between on-premises and cloud repositories as business demands change. Data is protected and recoverable regardless of where it lives. You can also change service providers as needed to optimize convenience and cost. True portability is enabled so that regardless of where you want to store your data now, or in the future, you're not locked in to a specific provider or architecture. Data can be easily migrated between clouds, or to a private cloud and back again with ease.

### Turn Your Cloud Strategy into an Operational Reality

View this infographic to see how to get to the cloud faster, reduce risk during the transition and automate more processes in the cloud.

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▶ To learn more about Commvault software, and how it will enable your modern data protection strategy, visit [commvault.com](https://commvault.com).

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