



Enhance data protection

HPE storage and HPE Complete Commvault software

Enterprise IT organizations are challenged by accelerating data growth and increasing reliance on data. These barriers require a fundamental rethinking of how data is protected and accessed. Hewlett Packard Enterprise and Commvault deliver an integrated, end-to-end data protection and data management solution to enhance business continuity and resilience.



Tiered data recovery strategy

A tiered data protection strategy includes three steps:

1. Use snapshots to create application-consistent, point-in-time copies of data. The fastest way to recover data is through snapshots.
2. Augment snapshot-based backups with an external disk-based deduplication solution and (optionally) tape for increased restore points and long-term retention.
3. Align different applications with the tiered protection strategy and manage a complete data lifecycle for application data.

As you strive to stay competitive, 24x7 operations are the new norm and tolerance for downtime is rapidly diminishing. Service-level agreements (SLAs) and uptime requirements are very stringent, forcing organizations to modernize protection and retention processes to align with business objectives. At the same time, rapid data growth, expanding virtual server deployments, and budgetary pressures are further complicating today's legacy backup and recovery methods. These dynamics, compounded by demands for faster, easier recovery, are straining already beleaguered data protection processes—and impeding IT transformation initiatives.

HPE all-flash storage arrays such as **HPE 3PAR StoreServ** and **HPE Nimble Storage, HPE StoreOnce systems**, and Commvault software deliver Tier 1 application resilience, reliable data protection, enhanced data recovery, and complete data management throughout the lifecycle to improve operational efficiencies.

A service-centered data protection approach

Doing business in the modern world requires uninterrupted service for users and customers. Data protection is no longer just about backing up and restoring data, but it's also about recovering business applications and restoring critical services for users. IT organizations need to shift from an infrastructure-centric view toward a more service-oriented approach to data protection. Implementing a tiered data protection and recovery strategy is fundamental to modernizing data protection.

Application-integrated snapshots

Organizations using traditional data backup methods have two choices: 1) back up all data but exceed backup windows because of the sheer volume of data or 2) back up a subset of data to meet backup SLAs but risk exposure to data loss.

Growing data volumes are driving organizations to adopt rapid, highly efficient storage snapshots as a vital first line of defense in protecting both physical and virtual applications, while traditional streaming backups are used for longer-term retention. However, storage snapshots and data protection operations are too often fragmented across different tools, creating inefficiency.

Commvault software technology combines complete data protection lifecycle management features with primary and secondary tiers of HPE storage. The combination of Commvault IntelliSnap® Technology with the native HPE 3PAR StoreServ and HPE Nimble Storage snapshot engine provides consistent point-in-time recovery copies for enterprise applications while incorporating hardware snapshots into the complete data protection process without requiring complex scripting. From the hardware snapshot, IntelliSnap Technology software indexes the contents and selectively vaults data to HPE StoreOnce for long-term retention.



HPE Complete Commvault software

The HPE Complete Commvault software is an industry-leading data protection and data management solution tightly aligned with HPE storage platforms, including HPE StoreOnce, HPE 3PAR StoreServ, and HPE Nimble Storage. It's also designed to support HPE servers such as HPE Apollo and **HPE ProLiant**. This single comprehensive data management platform gives you control, flexibility, and automation to streamline IT efforts and use data as a business asset. Features include:

- Data protection management regardless of where the data is located, extending across files, applications, databases, hypervisors, and clouds
- Data transfer between on-premises and cloud locations
- Policy management while maintaining compliance

Rapid recovery when you need it

For applications that have very low tolerance for downtime, rapid recovery and rollbacks from snapshots provide the ideal solution. IntelliSnap Technology combines a broad range of application awareness with the HPE 3PAR StoreServ and HPE Nimble Storage snapshot engine to provide reliable recovery of complex applications such as Microsoft® Exchange, Microsoft SQL Server, Oracle, and so on. Application-aware protection includes auto-discovery features that update protection coverage automatically when changes are made to an application environment. Protection is also hypervisor-aware and includes auto-discovery of virtual machines with automatic policy-based snapshot protection.

IntelliSnap Technology and the HPE storage snapshot engine also allow you to meet demanding business-critical application SLAs with scalable protection for recovery point and time objectives of minutes. This integration produces accelerated application-level recovery with granular protection and retention options.

Controlled data footprint

More data results in a growing backup footprint. Backing up all the data in a timely manner within stipulated backup windows and meeting recovery SLAs is a challenge in itself. Adding corporate-mandated retention requirements inflates the cost of data protection and complicates management efforts.

Although snapshots serve as the first line of defense, augmenting your protection with external backups provides more restore points, increases retention time, and mitigates risks resulting from corruption or storage array failure. Deduplication and high-performance backup and recovery are keys to controlling the data footprint and providing comprehensive protection.



HPE StoreOnce systems and HPE Complete Commvault software

HPE StoreOnce is a highly scalable disk-based deduplication solution designed to lower your backup footprint while delivering industry-leading backup and recovery speeds to meet or exceed SLAs. After the application snapshot is created on primary storage, Commvault software can back up the snapshot images to HPE StoreOnce for further protection.

HPE StoreOnce systems integrate tightly with Commvault CommServe through HPE StoreOnce Catalyst to enable movement of deduplicated data across the enterprise, from one HPE StoreOnce system to another. HPE StoreOnce Catalyst also allows some of the deduplication process to be off-loaded to the client. This leads to low-bandwidth transfers because only new data is transmitted to HPE StoreOnce. CommServe provides a single console to simplify data movement even further.

HPE StoreOnce supports network-attached storage and virtual tape library modes for Commvault software to store backup copies. Alternatively, if you have data sets such as encrypted data files that are less suited for deduplication, you can store those on nonduplicating HPE StoreOnce shares. This saves system resources while delivering faster backups and rapid recoveries. Ultimately you have more flexibility to balance storage efficiencies and performance.

With the integration of HPE StoreOnce and Commvault software, users can move backup data natively, reliably, and cost-effectively to the public, private, or hybrid cloud. This capability is delivered by HPE Cloud Bank Storage,* a feature of HPE StoreOnce, and results in long-term retention and reliable disaster recovery that is simple and efficient.

Reliable backups

HPE StoreOnce offers resilience and automation features to handle failovers and enable backups to complete despite any unexpected hardware failures. This approach to security keeps your business running and meets aggressive data protection SLAs.

Faster backup and recovery

HPE StoreOnce Catalyst offers faster backups compared to traditional disk-based backup targets because deduplication processing is distributed between Commvault media servers and the HPE StoreOnce system. But, the sole purpose of backups is to recover data quickly when needed. But it's not just about data recovery—business-critical applications need to be restored quickly as well. With HPE StoreOnce, data restores are almost as fast as backups, and Commvault software reduces downtime by using application-aware recoveries.

Automated disaster recovery with greater flexibility

For disaster protection of backup copies, HPE StoreOnce Catalyst and CommServe enable you to replicate backups to an HPE StoreOnce system at a secondary location using low-bandwidth replication, saving precious network bandwidth and associated costs. After backups are replicated, CommServe allows you to restore data from either local or remote backup copies on HPE StoreOnce.

* HPE Cloud Bank Storage support with Commvault software is a joint development targeted for Q1 CY2019. The development and timing of any product release, as well as any related features or functionality, are at the discretion of Commvault and HPE.



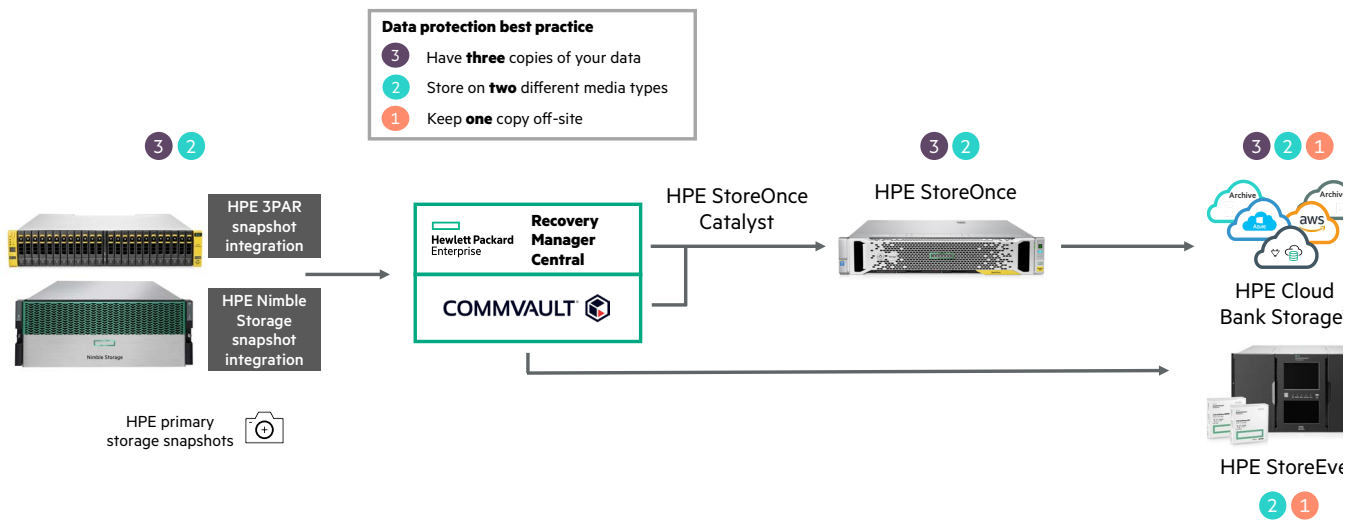


Figure 1. The 3-2-1 rule to protect against ransomware attacks with HPE and Commvault: three copies of data, two copies on two different types of media, and one copy off-site.

Long-term retention of data on tape

If you need to retain backups for extended periods of time to satisfy compliance requirements, there is no better medium than tape. Commvault software integrates with HPE StoreEver tape libraries to deliver seamless archiving and retrieval of backups. With features such as write once, read many (WORM), encryption, and proactive monitoring of media and drives, **HPE StoreEver** provides the right balance of economics, durability, and reliability needed for long-term backup retention. Commvault software complements HPE StoreEver with sophisticated tape lifecycle management, including the ability to inventory and track tapes that are sent off-site for long-term storage.

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Private Backup-as-a-Service with HPE GreenLake featuring HPE storage and HPE Complete Commvault software

HPE GreenLake is a consumption-based IT model that spans the entire lifecycle of the data protection environment. It combines the simplicity, agility, and economics of the public cloud with the security features and performance benefits of an on-premises environment. This comprehensive solution:

- Reduces the risk of investing too much or too little in IT infrastructure
- Aligns backup environment growth strategy to organizational demands
- Monitors usage in order to provision additional capacity ahead of demand
- Assists with solution deployment integration

HPE GreenLake provisions eligible hardware, software, and services to create an on-premises backup solution. It is consumed like a cloud service by purchasing front-end terabytes. As a result, there is less demand on back-end infrastructure such as storage, management servers, and software.

HPE Apollo servers and Commvault HyperScale software

HPE Apollo 4000 systems provide a high-density platform with efficient rack-scale compute, storage, networking, power, and cooling for your most demanding high-performance computing, massive data analytics, and object storage workloads. This platform is ideal for Commvault HyperScale software to expand and transform software-defined capabilities. The HPE Apollo 4200 server and HPE Apollo 4510 system are purpose-built for large-scale deployments with several options to streamline acquisition, deployment, management, and support tasks. By leveraging HyperScale software, you can improve return on investment by reducing the complexity, cost, and risk over traditional, scale-up solutions.



A tailored data protection strategy

As you continue on your IT modernization journey, data protection and recovery are a critical component. The one-size-fits-all routine doesn't work anymore. It's important to develop a data protection strategy that aligns with your business objectives.

HPE is a trusted partner to help you meet your goals. HPE 3PAR StoreServ, HPE Nimble Storage, HPE StoreOnce, and Commvault backup software offer end-to-end data protection to safeguard your data and improve business resilience.

Learn more at

[**hpe.com/storage/storeonce**](https://hpe.com/storage/storeonce)

[**hpe.com/us/en/storage/data-protection-solutions.html**](https://hpe.com/us/en/storage/data-protection-solutions.html)



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