Lower Your Data Domain Costs with a Modern, Cost-Effective, Scale-Out Solution

Key Benefits

- Unlimited scale
- Native data immutability
- Superior storage efficiency and data resiliency
- Nondisruptive upgrades
- Flexible hybrid cloud data mobility
- Ransomware protection

Data Domain is purpose-built for storing, replicating, and compressing backup datasets, and relies on an architecture based on standalone, scale-up appliances. As your backup infrastructure grows, you will need larger and more numerous appliances to satisfy capacity demands.

To overcome the limitations of Data Domain's legacy architecture and reduce your backup infrastructure costs and complexity, you need a more modern, scale-out, and flexible solution.

Differences between Scale-up and Scale-out	
Scale-up	Scale-out
1. Expansion constrained to individual controllers	1. Each node provides additional compute, network and storage
2. Controller is a single point of failure	2. No single point of failure
3. Disruptive upgrades	3. On-line hardware and software upgrades

Current Market Challenges

Today, customers are no longer concerned about recoveries from tape. Tape has been relegated from recovery media to long-term retention media. Nightly downtime windows are no longer possible for production apps, and periodic full backups are no longer the norm. The data center has evolved. No matter if applications rely on a private cloud, public cloud or are delivered via a Managed Service Provider, businesses now require the agility to support any workload in all these environments. Along the way, data centers have moved away from layered servers, storage, and networking to converged infrastructures first—and now to hyperconverged solutions. The data protection world too has moved from weekend full backups to Change Block Tracking (CBT), enabling incremental-forever backups. Users have come to expect instant access to their data no matter how big the dataset is. More importantly, deduplication has become a mainstream feature. Today's enterprises require data protection solutions that accelerate business agility without increasing costs.

Data Protection Challenges with Data Domain

Since its launch in the early 2000's, the Data Domain innovation wheel has slowed. Meanwhile, IT infrastructure has dramatically transformed due to the emergence of hyperscale companies that have demonstrated a better way to build and operate IT infrastructure using distributed, scale-out architectures - as opposed to siloed appliances - on commodity hardware. Enterprises embarking on their digital transformation journeys are adopting hyperconverged scale-out platforms over purpose-built backup target like Data Domain for a multitude of reasons.
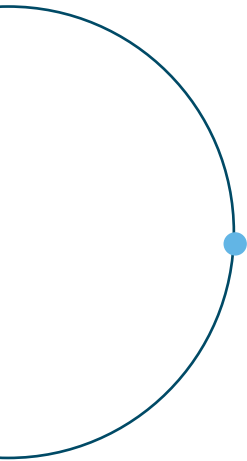
- **Not Software-Defined**. For the mid- and high-end, Data Domain can only be purchased as a dedicated stand-alone physical appliance. Data Domain Virtual Edition (a virtual machine) cannot scale to meet datacenter requirements.

- **Inefficient Dedupe**. Dedupe across active Data Domain controllers or VEs is not possible. The disks within each must be uniform, so new technology cannot be pooled with existing technology.

- **Cannot Share Capacity Across Appliances** due to Data Domain's controller-based architecture. Appliances must be over-provisioned to ensure readiness for growth, which increases TCO.

- **Price Per TB Varies**. The larger the appliance the higher the cost per TB.

- **Expensive, Time-Consuming and Complex Upgrades**. For updates and appliance upgrades, blackout windows must be scheduled, and forklift upgrades are necessary.

- **Limited to Backup**. Data Domain does not provide the ability to manage data from diverse workloads beyond backup applications.

- **Does not Simplify Backup Infrastructure**. Data Domain cannot schedule, manage, catalog, initiate restores or provide visibility into your backups. Backup infrastructure remains incredibly complex, requiring media servers, master servers, cloud gateways, and storage–each with their own UI for management, sizing requirements, and more.

- **Lacks Native Cloud Integration**. Data Domain was built before the emergence of the public cloud and does not provide native cloud integration support. A cloud storage gateway offering is available, but only offers limited functionality with respect to long-term archival.

- **Vulnerable to Threats**. Data Domain does not provide the robust cyber threat and ransomware defense and detection required by organizations today.

Cohesity Hyperscale Scale-Out Platform

Cohesity Data Cloud is a software-defined scale-out platform that dramatically simplifies how data is managed and secured. Designed for massive scale, Cohesity Data Cloud is a multicloud solution that leverages the design principles of cloud hyperscalers to scale and meet the growing demands of the enterprise. It creates a single environment that helps ensure data is protected, secure, available, movable, and searchable for insights. No matter where Cohesity Data Cloud is deployed—at the edge, in the data center, or in the cloud—all instances can be managed by the singular Helios user interface. With Cohesity, you can solve five major challenges: data protection, data security, data mobility, data access, and data insights.

Cohesity Data Cloud

One simple environment to secure and manage your data. No matter where your data is.
Take advantage of Cohesity-managed, self-managed, or partner-managed offers.
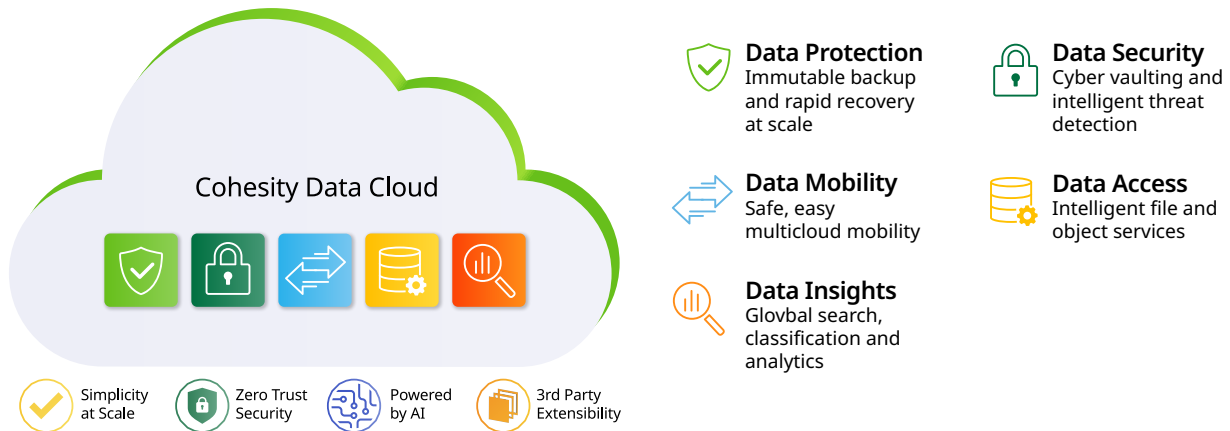

Data Protection
Immutable backup and rapid recovery at scale

Data Security
Cyber vaulting and intelligent threat detection

Data Mobility
Safe, easy multicloud mobility

Data Access
Intelligent file and object services

Data Insights
Glovbal search, classification and analytics

Cohesity Data Cloud

Simplicity at Scale | Zero Trust Security | Powered by AI | 3rd Party Extensibility

Figure 1: Cohesity Data Cloud

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> "The core of our business isn't backing up data, it's managing the data so we are poised to be as competitive as possible when our club steps out on the field. Data is crucial to our business and our future, and our IT team strives to give our baseball staff the upper edge. Cohesity has allowed us to simplify and transform our data management environment, protecting more than 350 TB of data, leveraging the cloud and saving costs while moving away from legacy infrastructure. At the end of the day, we trust Cohesity to protect our most valuable data assets."
>
> – **David Woolley,** Sr. Director, Network Operations, <u>San Francisco Giants</u>

Manage Backup Data and More

Cohesity was founded with the vision of modernizing data centers by consolidating backups, archives, file shares, object stores, and data used in analytics, and radically simplifying how organizations manage their data and unlock limitless value. Cohesity provides a single pane of glass approach to management of capacity-centric use cases.

SmartFiles is a Cohesity data service that runs discretely on our Data Cloud platform. It is a software-defined unstructured data management solution offering seamless and massive scale. Designed from the ground up with simplicity and scale in mind, SmartFiles reduces the critical planning required to pick the right hardware and allows you to scale linearly and move to a pay-as-you-grow model, thereby reducing TCO from day one. Based on Cohesity Data Cloud's scale-out architecture, SmartFiles eliminates single points of failure, and natively maintains high availability. With each node added, it brings more compute, capacity, and network bandwidth to meeting the growing demands of the enterprise.

SmartFiles is commonly leveraged as a backup target with leading third-party enterprise backup solutions, allowing customers to easily deploy within their existing backup environments and improve their

TCO. The TCO benefits multiply when the solution is leveraged to support additional use cases, such as data protection, file and object services, archiving, and analytics. In such cases, it is possible to reduce total cost of ownership by as much as 51% or more.

With a scale out enterprise-class architecture, dramatic data reduction based on global deduplication and compression, as well as non-disruptive upgrades, SmartFiles provides customers scalability and high availability with lower TCO. Its support for unlimited fully hydrated snapshots allow fast restores without eliminating the need for reconstructing the data blocks from fragmented backup/dedupe copies.

SmartFiles Differentiators

Compared to Data Domain, SmartFiles lowers complexity around planning, budgeting, and execution. Its consistent pricing allows customers to grow linearly from a cost point of view, with a consistent cost per TB across any number of nodes. Growth doesn't have to translate to pain, complexity, and an obligation to manage multiple clusters. With Cohesity, you no longer need to pay more per TB as your data grows, and you can manage environments large or small from a single management interface.
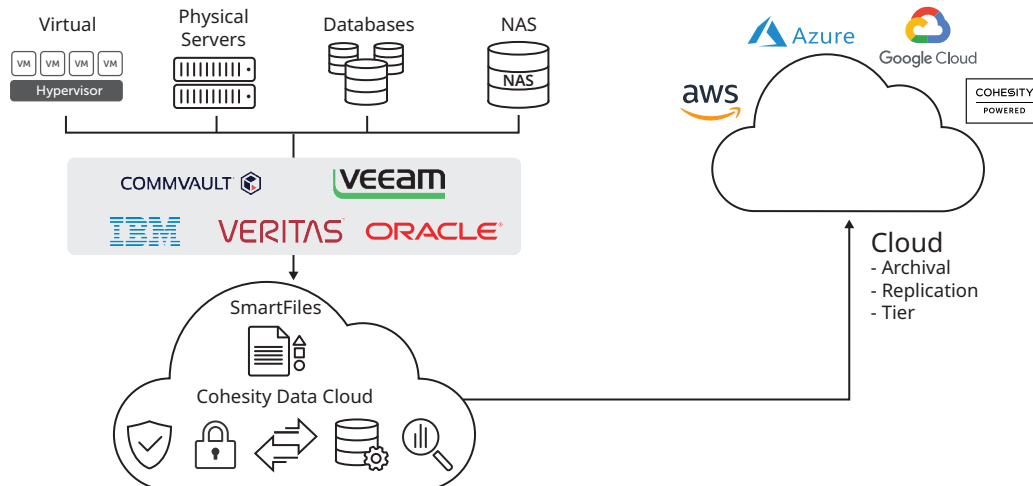
Figure 2: SmartFiles: Scalable and Immutable Backup Target

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SmartFiles Feature	Description
Software-Defined	No dependence on proprietary hardware. Deploy SmartFiles on-premises on qualified x86 appliances from Cisco, HPE, Dell, Lenovo and Cohesity, or in the public cloud.
Massively Scalable	Right-size your Cohesity environment from day one, with no overprovisioning, and then scale out over time as your needs expand. Upgrade transparently with no impact to your production systems.
Natively Multiprotocol	Built-in support for S3, SMB, and NFS allows seamless integration with existing backup solutions.
One User Interface	Manage and search 100s of nodes globally, and Petabytes of data.
Hybrid Cloud Flexibility	Optimize costs with intelligent replication, tiering and long-term archival to Amazon Web Services, Microsoft Azure, or Google Cloud. No need for bolt-on cloud gateways.
Dramatic Data Reduction	Up to 96x or more with global variable-length sliding window deduplication and compression. Deduplication is performed globally across all nodes to maximize space efficiency.
Highly Availability	Data is distributed across nodes and racks to ensure continued data availability, even in the case of a complete node or rack failure.
Ransomware Protection	Detect ransomware and malicious attacks with ML-based anomaly detection and integrated anti-virus.
Enterprise-Class Data Protection	Software-based encryption with FIPS-certification for both data at rest and in-flight, unlimited immutable snapshots, RBAC, multifactor authentication, and more.
Compliance	Satisfy stringent compliance requirements with cost-effective long-term retention, audit trails, and powerful analytics.
Flexible Geo-Replication	Off-site data protection and disaster recovery.
Do More with Data	Put your backup data to use for dev/test workflows and take advantage of a Marketplace app ecosystem of integrated 3rd party applications for search, audit, compliance and cyberthreat detection.
Cohesity DataProtect Converged Data Protection	Start by using SmartFiles with your existing backup software. Transition to converged data protection when you are ready. Cohesity DataProtect simplifies backups and attains predictable recovery. Protect a wide range of data sources, from leading hypervisors, traditional and modern databases, traditional and SaaS applications, unstructured data on NAS, physical, and more. DataProtect also provides a comprehensive defense against ransomware attacks.

A Better Way to Manage and Secure Data

Designed for on-premises, hybrid cloud and multicloud environments, Cohesity SmartFiles is a modern solution that brings simplicity and agility to enterprises. It enables Data Domain customers to realize cost savings from the point of initial installation and eliminates over-provisioning while simplifying deployment and management, and it immediately lowers total cost of ownership.

The option to adopt Cohesity DataProtect software for backup and recovery not only accelerates cost savings, but also provides instant access to your data for analytics.

Now is the time to move away from complex and expensive legacy solutions and modernize with Cohesity.

Make your vision for modern unstructured data management a reality with Cohesity.

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