

# Dell PowerProtect Data Domain

Build your cyber resilient foundation on the #1 backup appliance. Fast, efficient and secure. At a low cost to protect.

## Why PowerProtect Data Domain

### Fast

- Shorter backup windows and up to 4x faster restores<sup>6</sup>
- Up to 2x faster replication<sup>6</sup>
- Instant access and instant restore of up to 118k IOPS for 64 concurrent VMs<sup>5</sup>

### Efficient

- The world's best data reduction<sup>7</sup>—typically 75:1 data reduction<sup>8</sup>
- Up to 80% less power consumed<sup>6</sup>
- 40% less rack space<sup>6</sup>
- Up to 61% lower total cost of ownership<sup>10</sup>

### Secure

- Multiple layers of Zero Trust security to ensure data immutability and integrity
- Isolate critical data to cyber recovery vault
- Up to 2.8x faster analytics in cyber vault<sup>11</sup>

### Broad portfolio and ecosystem

- Six models with 1 TB – 1.5 PB usable capacity in a single rack
- Additional 3 PB for long-term retention with Cloud Tier
- Backup software agnostic
- Seamless integration, fastest performance with Dell PowerProtect Data Manager
- Native integration with Dell PowerStore & Dell PowerMax

### The Data Domain Technology Difference

- All-flash and hard drive cyber resilience appliances
- DD Boost broad ecosystem support
- Data Invulnerability Architecture (DIA)
- Data Domain Replicator for creating a secure and reliable disaster recovery copy
- Transparent Snapshots for up to 5X faster VM backups<sup>12</sup> and 6X faster restores<sup>12</sup>
- Cloud Tier for long-term retention to public, private or hybrid cloud
- Disaster recovery to the cloud
- Dell AIOps proactive insights, analytics



The world's most secure foundation for cyber resilience.<sup>1</sup>

Build your cyber resilient foundation on the #1 Purpose-Built Backup Appliance.<sup>2</sup> Whether your data is on-premises or across multicloud—ensure cyber resilience wherever your data lives.

Built on the Data Domain Platform of data services, these target storage appliances are optimized for resilience—for performance, efficiency and security that simplifies operations, reduces risk and lowers costs. A broad partner and backup software ecosystem means seamless integration with existing environments.

# #1

Purpose-Built Backup Appliance<sup>2</sup>  
 Customer Satisfaction<sup>3</sup>  
 Security<sup>3</sup>  
 Total Cost-of-Ownership<sup>3</sup>  
 World's Best Data Reduction<sup>7</sup>

### Performance & Efficiency

Data Domain delivers the world's best data reduction. Meet Service Level Agreements (SLAs) and minimize impact to production with shorter backups and faster recovery, while reducing Total Cost of Ownership (TCO). All-flash storage delivers faster restore performance, while requiring significantly less power and space.

### Security

Data Domain helps advance your cyber resilience maturity with multiple layers of Zero Trust security. Features such as the Data Invulnerability Architecture (DIA), Hardware Root of Trust, Secure boot, encryption, retention lock, role-based access control, and multi-factor authentication help ensure the integrity and recoverability of your data. And, Data Domain appliances can be deployed in an isolated cyber recovery vault with independent management controls for tighter security—with up to 2.8x faster analytics in the cyber vault.

### Data Domain is #1 in customer satisfaction<sup>3</sup>

Over 15,000 customers use Data Domain appliances<sup>4</sup>, and for good reason. Its technology is proven and hardened. And, Dell's cyber resilience expertise delivers innovations that matter.

### CPU-centric architecture accelerates performance

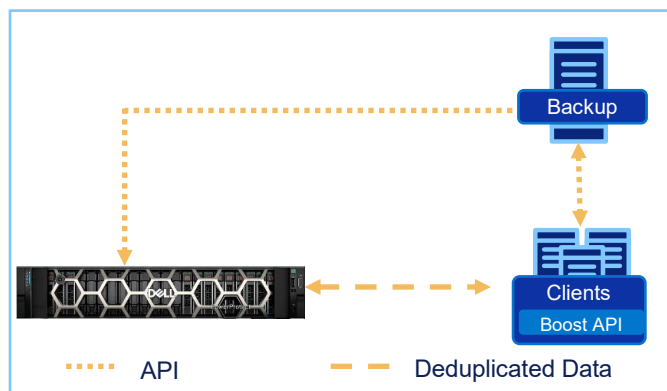
Data Domain appliances are built with a CPU-centric architecture. CPU and memory access is orders of magnitude faster than primary storage, including flash. A CPU-centric architecture enables advanced memory structures, predictive caching, and massively parallel high-speed streaming, that are not otherwise possible with general-purpose storage implementations.

### Data Domain Operating System (DDOS)

DDOS is the intelligence that powers Data Domain. It provides the agility, security and reliability that enables the appliances to deliver high-speed, scalable, and industry-leading multicloud protection storage for backup, archive, and disaster recovery. DDOS integrates seamlessly with existing infrastructures, enabling ease-of-use with leading backup and archiving applications, including Dell PowerProtect Data Manager. When purchasing a new Data Domain appliance, you can consume DDOS as a subscription providing flexibility for deployment while minimizing upfront costs.

### Faster Backups with Source-Side Deduplication

Data Domain Boost (DD Boost) is a patented technology that allows deduplication to happen at the source—minimizing the amount of data that needs to be backed up. This reduces the impact to networks, clients, servers and to the Data Domain system. It delivers an advanced level of integration with backup applications and database utilities, enhancing performance and ease of



use.

Figure 1. DD Boost reduces impact to networks.

Dell also provides a DD Boost File System Plug-In (BoostFS) with DD Boost for even greater application support, which enables all the benefits of DD Boost for applications that use NFS cyber resilience. Rather than sending all data to the system for deduplication processes, DD Boost enables the backup server or application client to send only unique data segments across the network to the system.

Data Domain is backup software agnostic. This gives you choice to decide which backup software is right for you

as well as the flexibility to seamlessly plug Data Domain into your existing on-premises environments.

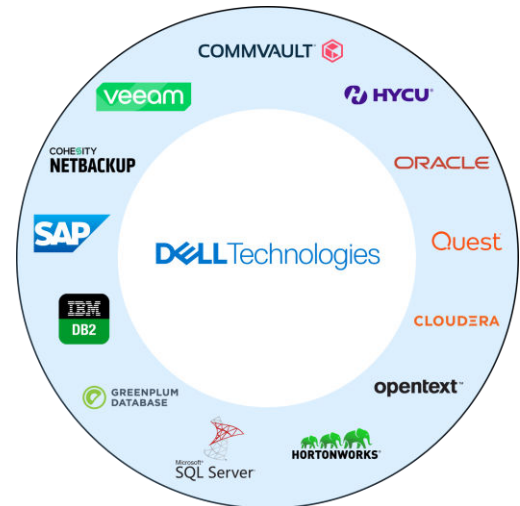


Figure 2. Data Domain Boost delivers advanced integration with a broad ecosystem of backup software and applications.

### All-flash and hard drive storage

Data Domain offers two storage options. Leverage the performance of all-flash drives to achieve faster restores, with a smaller space and power footprint—available with the Data Domain All-Flash appliance and Ready Node. Or, maximize cost-effectiveness and high storage capacity with hard drives for large data storage needs.

### Deduplication matters

Not all data deduplication is created equal. How it is implemented directly impacts backup and restore performance.

Industry-leading deduplication with Data Domain is done at the micro-level – delivering a more fine-tuned result. Segment sizes are small (8KB average), of variable length leveraging a sliding window in order to isolate changes, and is done inline and at high speed.

Because protection copies can represent up to 95% of an organization's data, it is important to reduce their storage footprint to the greatest extent possible.



Figure 3. Data Domain typically delivers up to 75:1 data reduction, significantly shrinking storage requirements.

A 15% improvement in deduplication rate (for example from 80% to 95%) can reduce the physical capacity required by up to 4x. Data Domain typically delivers 75:1 data reduction—for a right-sized solution that shortens backup windows, delivers faster replication, increases retention, and reduces total cost of ownership.

### Instant Access and Instant Restore

Instant Access and Instant Restore delivers high performance of VMs with up to 118K IOPS with the ability to instantly access up to 64 VMs simultaneously.

Instant Access and Instant Restore save time, minimizing mean time to repair (MTTR), by enabling instant access to data from the backup image on the included Data Domain SSD drives. It also saves primary storage space with the ability to manage data on the appliance itself and lowers cost by better utilizing the physical resources in both the cyber resilience and production environments.

### Secure, Efficient Replication for Reliable Recovery

Data Domain Replicator (DD Replicator) provides automated, policy-based, network-efficient, and encrypted replication for disaster recovery and multi-site backup and archive consolidation. DD Replicator software asynchronously replicates only compressed, deduplicated data over the WAN. Cross-site deduplication further reduces bandwidth requirements when multiple sites are replicating to the same destination system.

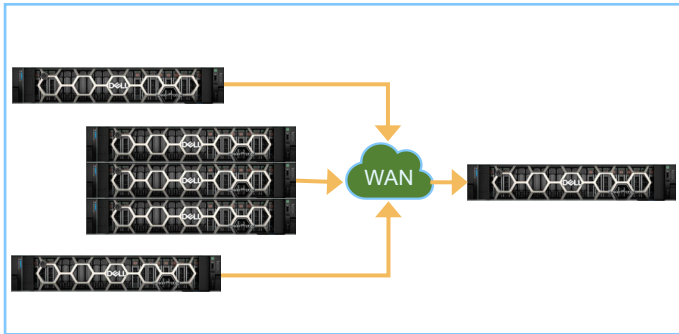


Figure 4. DD Replicator creates a secure and reliable offsite copy.

This improves network efficiency across all sites and reduces daily network bandwidth requirements making network-based replication fast, reliable and cost effective. To meet a broad set of DR requirements, DD Replicator provides flexible replication topologies, such as full system mirroring, bi-directional, many-to-one, one-to-many, and cascaded.

### Seamless integration

Data Domain integrates easily with existing infrastructures, enabling ease-of-use with leading backup applications, and offers superior performance in conjunction with Data Manager.

Data Domain can simultaneously support multiple access methods including NFS, CIFS/SMB, VTL, NDMP and DD

Boost. All applications and utilities can be supported in the same Data Domain appliance at the same time to enable greater protection storage consolidation. A system can present itself as a file server, offering NFS or CIFS access over Ethernet; as a virtual tape library (VTL) over Fibre Channel; as an NDMP tape server over Ethernet; or as a disk target using application specific interfaces like DD Boost. DD VTL is qualified with leading open systems and IBMi enterprise backup applications.

With Storage Direct Protection, you can increase backup performance and efficiency for Dell storage, including Dell PowerStore and Dell PowerMax.

### Comprehensive cyber resilience

Data Domain delivers powerful built-in security features for cyber resilience wherever your data lives—with multiple layers of Zero Trust security.



Hardware Root of Trust and Secure boot protects the boot process and establishes trustworthiness. Retention lock prevents deletion or changes to your data for a configurable set time period. Role-based access control allows different levels of access via assigned user roles for various levels of expertise within the organization. Multi-factor authentication grants users access only after successfully authenticating the user with multiple methods. Plus, Data Domain offers inline encryption of data at rest as well as encryption of in-flight data.

Data Domain can be deployed in an isolated cyber recovery vault with independent management controls for tighter security. Over 2,700 PowerProtect Cyber Recovery customers (and counting) use PowerProtect appliances in their cyber recovery vault<sup>13</sup>.

The vault is not an additional data center, but rather a secure storage environment located at the production or corporate data center, public cloud, or with a third-party solution provider. Intelligence through AI-based machine learning and analytics with CyberSense enables recoverability.

### Data Invulnerability Architecture

Data Domain appliances are designed as the storage of last resort—providing you with the confidence that you can always reliably recover your data. The Data Invulnerability Architecture is built into DDOS and Data Domain appliances to provide the industry's best defense against data loss. Inline write and read verification protects against and automatically recovers from data

integrity issues during data ingest and retrieval while RAID-6 and hot spares protect against disk failure.

Capturing and correcting I/O errors inline during the backup process eliminates the need to repeat backup jobs, ensuring backups complete on time and satisfy service-level agreements (SLAs). In addition, unlike other enterprise arrays or file systems, continuous fault detection and self-healing ensures data remains recoverable throughout its lifecycle on Data Domain.

### Seamless VMware VM Backups Without Disruption

Available with Dell PowerProtect Data Manager, Transparent Snapshots delivers unique VMware VM cyber resilience and ensures availability of all your VMs at scale, without business disruption. Transparent Snapshots simplifies and automates VM image-level backups and enables backing up VMs without the need to pause the VM during the backup process. The result is significantly reduced impact on VMs, especially large, high-change-rate VMs.

### Long-term retention in cloud

Data Domain can tier deduplicated data to any supported object storage provider for long-term retention using Cloud Tier. Cloud Tier supports an extensive ecosystem of cloud and on-premises object storage solutions, including AWS S3, Azure, Google Cloud Platform, Alibaba Cloud, Wasabi, Dell ObjectScale, and others to deliver long term retention of backup data at reduced costs.

### Cloud disaster recovery

Data Domain, in conjunction with supported PowerProtect Data Manager software, provides orchestrated and automated cloud disaster recovery. Cloud Disaster Recovery integrates with AWS and Azure native cloud operating environments, along with their associated VMware and Government Cloud offerings.

### Data Domain as a virtual appliance

Leverage all the power of Data Domain in a software-defined storage appliance for cyber resilience. PowerProtect Data Domain Virtual Edition is a virtual appliance that can be deployed in-cloud and on-premises. It is fast and simple to download, deploy and configure. You can be up and running in minutes.

Data Domain Virtual Edition can be deployed on-premises on any standard hardware, converged or hyper-converged, and runs in VMware vSphere, Microsoft Hyper-V, and KVM. Data Domain Virtual Edition is also certified with VxRail and Dell PowerEdge servers. An assessment tool can be run during deployment to check the underlying infrastructure and ensure it meets recommended requirements. A single

on-premises Data Domain Virtual Edition instance can scale up to 256TB on-premises.

For cloud deployments, Data Domain Virtual Edition increases transactional and operational efficiencies and provides significant cost savings by providing the ability to write protection data into the cloud object storage directly.

Data Domain Virtual Edition in-cloud provides up to 384TB per instance in the cloud and offers the same experience in-cloud and on-premises. Easily download Data Domain Virtual Edition from public cloud marketplaces to protect applications running in any supported cloud environment, including AWS, Microsoft Azure, Google Cloud, AWS GovCloud, Microsoft Azure Government Cloud, Alibaba Cloud, and VMware Cloud.

Within Data Domain Virtual Edition, capacity can easily be distributed between virtual and on-premises systems and can scale in increments of 1TB allowing you to grow capacity as the business demands. Data Domain Virtual Edition maintains the core DDOS features and includes DD Boost, DD Encryption and DD Replicator. Multiple instances of Data Domain Virtual Edition can be centrally managed through PowerProtect Data Domain Management Center (DDMC).

### Operational simplicity

Data Domain is very simple to install and manage resulting in lower administrative and operational costs. Administrators can access DDOS through command line over SSH or through DD System Manager, a browser-based graphical user interface.

Multiple Data Domain appliances can be managed and monitored through a single interface, DDMC. Customizable dashboards provide visibility into aggregate status, status by geo, and the ability to drill-down to system-level details.

DDMC can provide insights into current and projected capacities at the system level allowing for enhanced forecasting and capacity management. Simple programmability as well as SNMP monitoring provides additional management flexibility. DDMC offers a pre-check option before scheduling a DDOS upgrade to make sure your environment is compatible with the update. Once the precheck is complete you can schedule upgrades for multiple appliances as opposed to one-to-one updates.

Configuring multiple Data Domain appliances is simple with DDMC by allowing you to create and apply configuration templates to your appliances.

With cyber attacks and threats on the rise, DDMC can provide compliance alerts when a system's configuration is out of compliance. In the event of a DDOS upgrade failure the appliance will automatically default back to the

previous OS release minimizing system downtime and allowing for continuous backup operations.

In addition, Data Domain has automatic call-home reporting that provides email notification of complete system status to Dell support and a selected list of administrators. This non-intrusive alerting and data collection capability enables proactive support and service without administrator intervention, further simplifying ongoing management.

Data Domain is integrated with Dell AIOps which provides proactive insights and performance analytics across supported storage, cyber resilience, and hyper-converged products through one UI.

### Subscribe to Data Domain appliances with greater convenience

Dell APEX subscriptions provide the ultimate choice and consistency for building a foundation for cyber resilience. Tailor capabilities and services according to your needs. We deliver exactly what you want, available as-a-Service

and on your schedule. Simply pay for what you use each month – all on your terms. Gain the confidence that you can recover from the unexpected, and experience unparalleled simplicity, agility, and control with Dell APEX.

### Future-Proof Program



Data Domain participates in the Dell Technologies Future-Proof Program. The program gives our customers additional peace of mind with guaranteed satisfaction and investment protection through a comprehensive set of world class technology capabilities and programs for future technology changes.

### Backed by the power of Dell Technologies

Dell offers one-stop convenience to Data Domain customers, with leading end-to-end solutions and ecosystem partners, global services and secure supply chain and a strong channel and direct salesforce.

### Comprehensive PowerProtect Data Domain portfolio

	All-Flash Ready Node	DD3410	DD6410	DD9410	DD9910	DD9910F
Max Throughput (DD Boost)	Up to 56.4 TB/hr	Up to 20.7 TB/hr	Up to 67 TB/hr	Up to 83.1 TB/hr	Up to 130 TB/hr	Up to 130 TB/hr
Logical Capacity <sup>14</sup>	Up to 11 PB	Up to 2 PB	Up to 19.2 PB	Up to 57.6 PB	Up to 112.5 PB	Up to 40.8 PB
Usable Capacity	220 TB	8 TB – 40 TB	12 TB – 256 TB	192 TB – 768 TB	576 TB – 1.5 PB	272 TB – 544 TB
Usable Capacity with Cloud Tier	N/A	N/A	Up to 768 TB	Up to 2.3 PB	Up to 4.5 PB	N/A

### Software-defined: Data Domain Virtual Edition Scales up to 384 TB usable capacity

<sup>1</sup>Based on internal analysis, October 2025. The foundation for cyber resilience is offered by a family of Dell PowerProtect Data Domain appliances that deliver a comprehensive, trusted and unique collection of capabilities, including: secure supply chain, Zero Trust maturity, immutability, managed detection and response, durability, chain of trust, secure remote access card, secure period.

<sup>2</sup>Based on revenue from the IDC 3Q25 Purpose-Built Backup Appliance (PBBA) Tracker

<sup>3</sup>Based on Dell Technologies analysis. Compared to VAST, Pure Storage, NetApp, and HPE backup appliances. Compared to Veeam, Cohesity, Rubrik, and Commvault data protection software. Using double-blind, competitive benchmark Net Promoter Score (NPS) data gathered by third-party commissioned by Dell, August 2025.

<sup>4</sup>Based on Dell internal analysis, December 2024.

<sup>5</sup>Based on Dell internal testing comparing a Dell PowerProtect DD9910 appliance vs. a PowerProtect DD9900 appliance, February 2024. Actual results may vary.

<sup>6</sup>Based on Dell internal testing comparing a PowerProtect Data Domain DD9910 appliance vs a PowerProtect Data Domain All-Flash DD9910F appliance, both configured at similar capacity. April 2025. Actual results may vary.

<sup>7</sup>Based on Dell analysis of the purpose-built backup appliance market and available max average deduplication ratios. December 2025.

<sup>8</sup>Based on Dell internal testing and field telemetry data, December 2025. Actual results may vary.

<sup>9</sup>Based on Dell internal testing comparing a PowerProtect Data Domain DD9910 appliance vs a PowerProtect Data Domain All-Flash DD9910F appliance, both configured at similar capacity. April 2025.

<sup>10</sup>Based on Omdia (previously ESG) review commissioned by Dell, "The Economic and Operational Benefits of the Dell PowerProtect Portfolio", January 2026. Actual results will vary.

<sup>11</sup>Based on Dell Technologies internal testing of CyberSense analytics performance to validate data integrity in a PowerProtect Cyber Recovery vault comparing PowerProtect DD9910 appliance vs PowerProtect DD9910F appliance at similar capacity. Actual results may vary, April 2025.

<sup>12</sup>When comparing PowerProtect Data Manager 19.19 with Transparent Snapshots restore performance to PowerProtect Data Manager 19.19 with VADP restore performance. Based on Dell internal testing and analysis, June 2025.

<sup>13</sup>Based on Dell Technologies analysis, January 2026.

<sup>14</sup>Logical capacity based on typically 50:1 data reduction (Data Domain All-Flash Ready Node, Data Domain Virtual Edition, DD3410) and typically 75:1 data reduction (DD6410, DD9410, DD9910, DD9910F). Actual capacity & throughput depends on application workload, deduplication, and other settings.



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