



ONTAP Data Management Software

Harness the power of the hybrid cloud

The Challenge

The need for digital transformation in the data center is putting pressure on many businesses to adapt. Distributed, dynamic, and diverse data require effective and efficient management. For today's data driven world, the data must be on-premises as well as in the cloud.

This demands a modern approach to data storage, because the old architectures no longer work. To make matters more complex, this new paradigm must be integrated into the existing environment using existing IT staff and yet somehow reduce costs.

The Solution

The ThinkSystem DM Series, powered by ONTAP data management software, solves customer's challenges by enabling business owners to harness the full potential that a storage solution has to offer. The DM Series will optimize, transform and protect a customer's data by offering a superior unified data management suite providing the capability to manage Block, File and Object data onboard the DM Series.

Having the capability to store data natively in an S3 object format or tier data to the cloud enables customers to implement the solution that is best for them, and they can do so with little effort or alteration to their current environment. Onboard data protection features such as encryption, asynchronous/synchronous replication and transparent failover will shield from any data loss and prevent disruption to data.

This leading software is simple to use and highly flexible, offering efficient storage, powerful data management features, and seamless cloud integration.

The software makes it easy to manage the flow of your data so that it goes wherever you need it, precisely when you need it, to make timely decisions that help your organization. ONTAP helps you overcome the challenges facing your data center by:

- Simplifying management and reducing costs
- Future-ready your data infrastructure with native hybrid cloud capabilities
- Turbocharging your enterprise applications

Premium and Fundamentals

There are two options for ONTAP for Lenovo customers:

- ONTAP Premium is ideal for customers who require systems with high availability, application aware snapshots and enhanced management capabilities.
- ONTAP Fundamentals will be a great option for someone who wants a unified storage solution with data efficiency features, snapshots and replication.

ONTAP Premium bundle is supported with all of our ThinkSystem DM Series offerings. In addition, [DM3000H](#) and [DM5000H](#) models also support ONTAP Fundamentals.



Simplify Management and Reduce Costs

Simplifying your processes will increase the overall efficiency of your staff, both for adding new workloads and managing the existing environment. With ONTAP Premium's common set of features across deployment architectures, complex tasks become simple.

Built in Application workflows enables business to quickly and efficiently provision storage for key workloads in less than 10 minutes. These workloads include SAP, SQL Server, Oracle, and virtual desktops and servers.

The ThinkSystem DM Series offers superior storage efficiencies. Inline data compression, deduplication and compaction work together to reduce your storage costs and maximize the data you can store. In addition, you can multiply your savings with space-efficient snapshot copies, think provisioning, replication and cloning technologies

Simple, Powerful Management

You get the flexibility to unify data management across your choice of storage architecture, whether DM Series systems or the cloud. You can add capacity seamlessly across both SAN, NAS and Object environments as your business grows.

You also gain the ability to merge all-flash and hybrid flash storage nodes into a larger storage cluster and connect them to the cloud. From there you can nondisruptively move and access your data from whichever nodes deliver the best combination of performance, capacity, and cost efficiency.

Future-Ready Your Data Infrastructure

ONTAP provides the flexibility you need to design and deploy the ideal storage architecture for your data center; one that matches your evolving business needs:

- All-flash and/or hybrid-flash systems
- Unified workloads
- Cloud Tiering: FabricPool
- In the cloud: ONTAP Cloud Volumes

You can consolidate NAS, SAN and Object workloads in any ONTAP environment with no performance impact on data services.

Maximize your investment protection with DM Series by transparently scaling SAN and NAS from a few terabytes up to 88PB. Clustering allows you to mix and match storage controllers: including different families, generations, and hybrid and All Flash. You can expand your environment with the latest hardware, without having to retire your older hardware. Plus, connect all of this to the cloud.

When it is time to retire a storage system, you can simply add in change the controller while keeping data in place on the existing disk shelves. Painful data migrations are a thing of the past with the seamless ability to cluster DM Series.

Integrated Data Protection

ONTAP provides Integrated Data Protection (IDP) to safeguard your operations and keep them running smoothly. You get near-instant backup and recovery, as well as efficient data reduction via Snapshot and SnapVault technologies for leading-edge business continuity and disaster recovery. ONTAP Premium also provides synchronous and asynchronous replication along with non-disruptive failover active-active cross site clusters. This will ensure zero data loss and zero downtime.

SnapLock software enables write once, read many (WORM) protected storage. This helps you meet stringent compliance and data retention policies. It also provides superior integration with popular applications and enterprise backup tools. Other IDP features include single processes for integrated and unified disk-to-disk backup and disaster recovery using VMware or Microsoft virtualization.

ONTAP's built-in Volume encryption feature offers simple and efficient protection for your at-rest data by encrypting any volume on the system. In addition, ThinkSystem servers provide industry-leading security features to block external security incursions at the hardware level.

Maximized Shared Storage Investments

Even if you have workloads or tenants with different performance, capacity, and security requirements, they can share a consolidated infrastructure to save you time and money. Plus the activity in one tenant partition cannot affect another. With ONTAP multitenancy, you can subdivide a storage cluster into secure partitions; each is governed by the rights and permissions you set.

Adaptive quality of service (QoS) automatically adjusts storage resource levels to respond to changes in workloads, while delivering consistent performance. This enables you to maintain high customer satisfaction, despite the changes.

Specifications

Feature	Function	Benefits
Data Reduction	Utilizes both data compaction, compression and deduplication to reduce the storage space needed for your data	Reduces the amount of storage that you need to purchase and maintain
Unified Data Management	Onboard management of Block, File and Object data	Flexibility to manage and store every type of data on one system and one management interface
FlexClone	Instantaneously creates file, LUN, and volume clones without requiring additional storage	Saves you time in testing and development and increases your storage capacity
FlexGroup	Enables a single namespace to scale up to 20PB and 400 billion files	Maintains consistent high performance and resiliency for compute-intensive workloads
FlexVol	Creates flexibly sized volumes across a large pool of disks and one or more RAID groups	Enables storage systems to be used at maximum efficiency and reduces hardware investment
MetroCluster	Combines array-based clustering with synchronous mirroring to deliver continuous availability	Maintains business continuity for critical enterprise applications and workloads
SnapMirror Business Continuity	Non-disruptive failover active-active cross site clusters. Based on existing SnapMirror Synchronous Replication.	Zero data loss, zero downtime. You do not have to failover the application. If there is a failure the application will continue to run and there will be no need to restart.
QoS (adaptive)	Easy setup of QoS policies; automatically adjusts storage resources based on work-load changes	Simplifies operations and maintains consistent workload performance within IOPS boundaries
RAID-TEC and RAID DP Technologies	Provides triple parity or double-parity RAID 6 implementation that prevents data loss	Protect your data without the performance impact of other RAID implementations
SnapCenter	Provides host-based data management of Lenovo storage for databases and business applications	Offers application-aware backup and clone management; automates error-free data restores
SnapMirror	Enables automatic, incremental asynchronous and synchronous data replication between Lenovo systems	Provides flexibility and efficiency to support backup, data distribution, and disaster recovery
SnapRestore	Rapidly restores single files, directories, or entire LUNs and volumes from any Snapshot copy backup	Instantaneously recovers files, databases, and complete volumes from your backup
Volume Encryption	Provides FIPS 140-2 data-at-rest encryption that is built into ONTAP	Easily and efficiently protect your at-rest data by encrypting any volume on DM Series system

Make a Simple Transition to ONTAP

ONTAP can streamline your storage operation. It enables you to:

- Use straightforward import processes from third-party storage to ONTAP
- Start fresh with Lenovo servers and storage and ONTAP

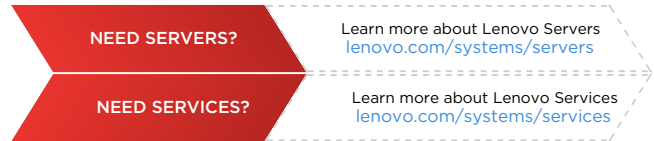
Our experts can help you plan and implement your transition to get the most from ONTAP right out of the box. You can use Lenovo Services or Certified Services Partners, or you can do it yourself by using proven ONTAP tools and processes.

Why Lenovo

Lenovo is the leading provider of x86 systems for the data center. The portfolio includes rack, tower, blade, dense and hyperconverged systems, and supports enterprise class performance, reliability and security. Lenovo also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle. Consistently ranked #1 in reliability and customer satisfaction, the Lenovo enterprise server, storage, and networking portfolio provides the hardware for businesses that never stand still.

For More Information

To learn more about ONTAP software, contact your Lenovo representative or Business Partner or visit lenovo.com/storage. To learn more about ThinkSystem DM Series unified storage systems, see the product guides at lenovopress.com/lp0941.



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