

# DELL EMC ISILON SCALE-OUT NAS PRODUCT FAMILY

## Unstructured data storage made simple

### ESSENTIALS

- Simple storage and data management designed for ease of use
- Massive scalability of capacity and performance
- Unmatched storage efficiency, deduplication and compression to reduce costs
- Choice of All-Flash, Hybrid or Archive nodes
- Automated tiered storage to optimize resources
- Seamless cloud integration to lower costs
- Multiprotocol support for operational flexibility
- Resilient data protection for a highly available environment
- Robust security and compliance options
- Unlock your data capital with in-place data analytics

### IT'S NOT JUST DATA, IT'S YOUR BUSINESS

Dell EMC Isilon scale-out storage solutions are designed for enterprises that want to manage their data, not their storage. Our storage systems are powerful yet simple to install, manage, and scale to virtually any size. Isilon storage includes a choice of all-flash, hybrid or archive nodes to meet the most demanding business needs. And, unlike traditional enterprise storage, Isilon solutions stay simple no matter how much storage capacity is added, how much performance is required, or how business needs change in the future. We're challenging enterprises to think differently about their storage, because when they do, they'll recognize there's a better, simpler way—with Isilon.

### STORE IT...SIMPLY

With Isilon scale-out network-attached storage (NAS), you can eliminate storage silos, consolidate all your unstructured data and store petabytes of file data in a single data lake.

### EXPAND IT...SIMPLY

With Isilon, you can have massive room for growth with a choice of all-flash, hybrid, or archive storage. Go ahead. Take on more projects, perform more in-depth research, and serve up more data. You can scale both capacity and performance in about a minute to meet your specific business needs—all without any additional IT burden. An Isilon cluster can scale up to 252 nodes

### ACCELERATE IT...SIMPLY

Isilon storage provides you with the tools to dramatically increase workflow productivity and accelerate your enterprise file applications—allowing you to accelerate your business through faster time to money and new revenue opportunities.

### ANALYZE IT...SIMPLY

With native HDFS support and seamless integration with leading Hadoop vendors, Isilon provides a scalable and powerful platform to unlock your data capital, extract business value and gain a competitive edge.

### PROTECT IT...SIMPLY

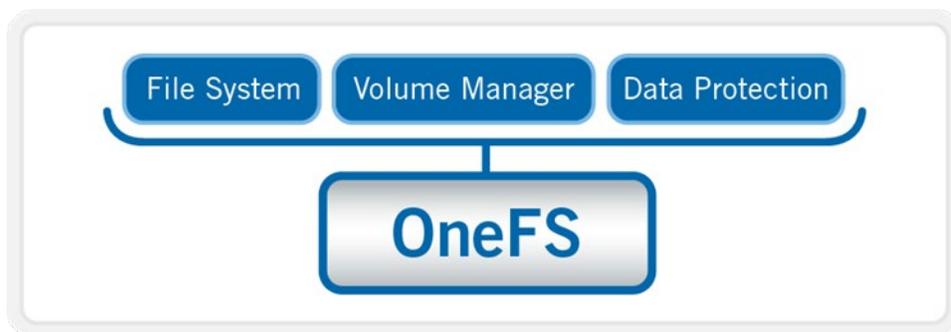
You don't entrust your most valuable assets to just anyone. Isilon storage solutions provide the highest levels of reliability, availability, and serviceability in the industry. For fast and efficient data backup and recovery, you can schedule snapshots as frequently as needed to meet your specific recovery-point objectives. For reliable disaster recovery protection, our storage solutions provide extremely fast data replication, along with push-button simple failover and failback to further increase the availability of your data for mission-critical applications.

## SECURE IT...SIMPLY

Meeting compliance and governance requirements is essential for most organizations today. To address these needs, Isilon provides robust security options, including file system auditing and Data at Rest Encryption (DARE) with self-encrypting drives (SEDs). We offer write once, read many (WORM) data protection to prevent accidental or malicious alteration or deletion and help you meet regulatory requirements—including the stringent SEC 17a-4 rule. With Isilon, you can also leverage role-based access control (RBAC) options and, if needed, create isolated storage pools for specific departments within your organization. Isilon also offers SMB3 encryption, HDFS Transparent Data Encryption (TDE), Security and Technical Implementation Guide (STIG) hardening, CAC/PIV Smartcard authentication, multi-factor authentication and FIPS OpenSSL support for Federal government agencies and financial services businesses.

## Isilon OneFS Operating System Powers Scale-Out Storage Solutions

The Isilon OneFS operating system provides the intelligence behind all Isilon scale-out storage solutions. Through the fusion of OneFS, state-of-the-art engineering, and industry-standard enterprise hardware, Isilon provides a highly scalable, high-performance modular storage architecture that can grow with your business. OneFS can help you accelerate processes and workflows, while scaling easily to handle massive growth and providing the highest levels of data protection available. This is all provided in a storage solution designed for unmatched ease of use.



Isilon scale-out storage solutions, powered by the OneFS operating system, provide users with a broad range of options to meet their specific storage needs.

## SCALE-OUT DATA LAKE

As the volume and sources of data have expanded dramatically, traditional techniques to store and analyze information are too expensive and too slow to handle the massive data volumes modern enterprises produce and manage. With Isilon, you can gain a highly flexible and efficient storage infrastructure that expands your data lake from the edge to the core to the cloud. You can consolidate data, simplify management and eliminate inefficient storage silos while supporting a wide range of traditional and next-generation workloads and applications that previously used a number of different types of storage.

## Unmatched Agility and Performance

Change is inevitable. That's why every Isilon system is built to rapidly and simply adapt. OneFS allows a storage system to grow symmetrically or independently as more space or processing power is required. This allows you to scale your storage easily up to 252 nodes as your business needs dictate. With Isilon, you can scale performance from 250,000 file operations per second (IOPS) with a single chassis up to 15.8 million IOPS with a single cluster. You can also scale throughput from 15 gigabytes per second (GB/s) with a single chassis up to 945 GB/s of aggregate read throughput in a single Isilon cluster.

## Efficiency and Cost Savings

Orchestrated by OneFS, all components in an Isilon cluster work in concert to create a unified pool of highly efficient storage—with a storage utilization rate of up to 80 percent. With Isilon SmartDedupe data deduplication, you can further reduce your data storage requirements by up to 35 percent in environments with redundant data across multiple sources. The Isilon F810 all-flash platform also delivers up to 3:1 data compression to dramatically increase the effective storage capacity and density of your Isilon solution. The unmatched efficiency of Isilon storage systems means that less physical storage and space are required to house the same amount of data—reducing both initial capital outlay and ongoing costs. And, with the Isilon AutoBalance function, you can quickly and easily add nodes without downtime, manual data migration, or application logic reconfiguration, saving precious IT resources. And because Isilon storage is so easy to manage, it requires fewer IT resources for storage administration than traditional storage systems, which further reduces overall operating costs. Using CloudPools software you can lower costs by tiering cold or frozen data to a choice of public or private cloud options.

## Simple Interoperability

With Isilon, you can streamline your storage infrastructure by consolidating large-scale unstructured data assets thus eliminating silos of storage. Isilon includes integrated support for a wide range of industry-standard protocols, including Internet Protocols IPv4, and IPv6, NFS, SMB, HTTP, FTP and HDFS. As a result, you can simplify workflows, accelerate business analytics projects, support cloud infrastructure initiatives, unlock data capital and get more value from your enterprise applications and data.

## Enterprise Data Protection and Management Software

Massive stores of data present unique management challenges including disaster recovery, quota management and offsite replication. Isilon data protection and management software provides you with powerful tools that help you protect your data assets, control costs and optimize the storage resources and system performance of your big data environment.

SOFTWARE	FEATURE	DESCRIPTION
DELL EMC ISILON INSIGHTIQ	Performance management	Optimize your Isilon solution with innovative performance monitoring and reporting
DELL EMC ISILON SMARTPOOLS	Resource management	Implement a highly efficient, automated tiered storage strategy to optimize storage performance and efficiency
DELL EMC CLARITYNOW	Data management	Locate, access and manage data in seconds, no matter where it resides – across file and object storage, on-prem or in the cloud. Gain a holistic view across heterogeneous storage systems with a single pane of glass, effectively breaking down data trapped in siloes
DELL EMC ISILON SMARTQUOTAS	Data management	Assign and manage quotas that seamlessly partition and thin provision storage into easily managed segments at the cluster, directory, subdirectory, user, and group levels
DELL EMC ISILON SMARTCONNECT	Data access	Enable client connection load balancing and the dynamic NFS failover and failback of client connections across storage nodes to optimize the use of cluster resources
DELL EMC ISILON SNAPSHOTIQ	Data protection	Protect data efficiently and reliably with secure, near-instantaneous snapshots, while incurring little to no performance overhead, and speed the recovery of critical data with near-immediate on-demand snapshot restores
DELL EMC ISILON CLOUDPOOLS	Resource management	Seamless tiering of cold or frozen data to public or private cloud providers

DELL EMC ISILON SMARTDEDUPE	Data management	Increase efficiency and reduce storage capacity requirements by up to 35 percent with deduplication of redundant data across multiple sources
DELL EMC ISILON SYNCIQ	Data replication	Replicate and distribute large mission-critical data sets to multiple shared storage systems in multiple sites for reliable disaster recovery capability, and use push-button failover and fallback simplicity to increase data availability
DELL EMC ISILON SMARTLOCK	Data retention	Protect your critical data against accidental, premature, or malicious alteration or deletion with our software-based approach to WORM, and meet compliance and governance needs, such as SEC 17a-4 requirements
ASPERA FOR ISILON	Content delivery	Benefit from high-performance wide area file and content delivery

## Hardware Platforms: Flexible Product Lines

Isilon offers highly flexible scale-out storage solutions with precisely the right storage on a “grow-as-you-go” basis, eliminating the need for overprovisioning. Isilon hardware platforms are built on the innovative Isilon scale-out storage architecture—designed for simplicity, value, outstanding performance, and reliability.

Isilon hardware platforms allow you to consolidate and support a wide range of file workloads. With an ultra-dense, modular architecture that provides four Isilon nodes within a single 4U chassis, Isilon systems enables organizations to reduce data center space requirements and related costs by up to 75%. The Isilon platforms seamlessly integrate with existing Isilon clusters or can be deployed in new clusters.



Dell EMC Isilon F800



Dell EMC Isilon F810

## DELL EMC Isilon All-Flash Platforms

This Isilon all-flash storage systems combine extreme performance and scalability with massive efficiency and enterprise grade capabilities. Available in several configurations, Isilon F800 and F810 platforms deliver up to 250,000 IOPS and 15 GB/s bandwidth per chassis. The Isilon F810 also provides high-speed in-line data compression that delivers up to 3:1 efficiency, depending on your specific dataset and workload.

PRODUCTS	F800, F810
CAPACITY	F800: 96 TB to 924 TB per chassis F810: 230 TB to 924 TB per chassis (raw) with up to 3:1 data compression to expand effective storage capacity (Actual results vary by dataset)
STORAGE MEDIA	F800: 60 SSDs per chassis with choice of 1.6 TB, 3.2 TB, 3.84 TB, 7.68 TB or 15.36 TB SSD capacities F810: 60 SSDs per chassis with choice of 3.84 TB, 7.68 TB or 15.36 TB SSD capacities

### Use case examples

- Digital media: 4K, broadcast, real-time streaming, and post-production
- Electronic Design Automation: Design, simulation, verification, and analysis of electronic and mechanical systems design for manufacturability
- Life Sciences: Genomics DNA and RNA sequencing



Dell EMC Isilon H600



Dell EMC Isilon H5600



Dell EMC Isilon H500



Dell EMC Isilon H400

## DELL EMC Isilon Hybrid Platforms

Isilon hybrid platforms include Isilon H600 and H5600 for high performance, Isilon H5600 and H500 for a versatile balance of performance and capacity, and Isilon H400 to support a wide range of enterprise file workloads. With SSD technology for caching, Isilon hybrid systems offer additional performance gains for metadata-intensive operations. A mix of SAS and SATA drives provides optimum cost benefits while meeting performance and capacity needs.

PRODUCTS	H600, H5600, H500, H400
CAPACITY	H600: 72 TB to 144 TB per chassis H5600: 800 TB per chassis H400 and H500: 120 TB to 480 TB per chassis
STORAGE MEDIA	H600: 120 SAS drives (600 GB, 1.2 TB) per chassis H5600: 80 SATA drives (10 TB) per chassis H400, H500: 60 SATA drives (2 TB, 4 TB, or 8 TB) per chassis

### Use case examples

- Digital media: broadcast, real-time streaming, rendering, and post-production
- Enterprise File Services: Home directories, File shares, group and project data
- Life Sciences: DNA and RNA sequencing and large-scale microscopy
- Analytics: Big data analytics, Hadoop and Splunk log analytics



Dell EMC Isilon A200



Dell EMC Isilon A2000

## DELL EMC Isilon Archive Platforms

Isilon archive platforms are designed to provide highly efficient and resilient archive storage. Isilon A200 is an ideal active archive storage solution that combines near-primary accessibility, ease of use, and capacity. Isilon A2000 is designed for high density, deep archive storage.

PRODUCTS	A200, A2000
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CAPACITY	A200: 120 TB to 480 TB per chassis A2000: 800 TB per chassis
STORAGE MEDIA	A200: 60 SATA drives (2 TB, 4 TB, or 8 TB) per chassis A2000: 80 SATA drives (10 TB) per chassis (A2000)

### Use case examples

- Deep archives: for large-scale, archiving data storage that offers unmatched efficiency to lower costs
- Disaster recovery: disaster recovery target for organizations requiring an economical, large-capacity storage solution
- File archives: for economical storage and disk-based access to reference data to meet business, regulatory and legal requirements

## World-Class Support Services Maximize the Value of Your Investment

Feel confident. We know that outstanding support is essential to the continued success of your business. That's why investment in an Isilon scale-out storage solution is backed by a global team of support experts who are ready to respond to any disruption to your storage environment.

We understand that responding to problems after they occur is no longer enough. Potential issues must be anticipated and prevented to ensure the highest possible performance, data availability, and operational efficiency. That's the role of Dell EMC Support Services. We're here for you even before you need us.

## Comprehensive Breakthrough Storage Solutions

Through the winning combination of the groundbreaking Isilon OneFS operating system, high-performance industry-standard hardware, and powerful data and storage management software, Isilon provides a complete portfolio of innovative storage solutions that drive business value for customers by optimizing mission-critical applications, workflows, and processes. Isilon storage enables enterprises and research organizations worldwide to manage large and rapidly growing amounts of data in a highly scalable, easy-to-manage, and cost-effective way.

Our innovative scale-out storage solutions—built for agility, simplicity, and value—provide both a tiered storage approach for specialized needs and the ability to unify digital workflows into a single high-performance, and highly scalable shared pool of storage. Every easy-to-manage Isilon solution is designed to accelerate workflow productivity and reduce capital and operational expenditures, while seamlessly scaling storage in lockstep with the growth of mission-critical data.

## TAKE THE NEXT STEP

Contact your Dell EMC sales representative or authorized reseller to learn more about how Isilon scale-out NAS storage solutions can benefit your organization.

[Shop Dell EMC Isilon](#) to compare features and get more information.



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