EMC ISILON SCALE-OUT STORAGE PRODUCT FAMILY

Unstructured data storage made simple

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

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. 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.

EXPAND IT…SIMPLY

With EMC Isilon scale-out network-attached storage (NAS), you can have massive room for growth—with up to 50 petabytes (PB) of capacity per cluster. 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.

ACCELERATE IT…SIMPLY

EMC Isilon storage provides you with the tools to dramatically increase workflow productivity and maximize the value of your enterprise applications and Big Data assets—allowing you to accelerate your business through faster time to money and new revenue opportunities.

PROTECT IT…SIMPLY

You don't entrust your most valuable assets to just anyone. EMC 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 failover and failback simplicity, to further increase the availability of your data for mission-critical applications.

SECURE IT…SIMPLY

Meeting regulatory compliance and corporate governance requirements is essential for most organizations today. Isilon solutions help you address these needs by providing flexible security options, including file system auditing and Data at Rest Encryption (DARE) with self-encrypting drives (SEDs). We also offer write once, read many (WORM) data protection to prevent accidental or malicious alteration or deletion and help you meet applicable regulatory requirements—including the stringent SEC 17a-4 rule. With Isilon, you can also provide secure role separation between storage administration and file system access, as well as authentication zones, to create secure, isolated storage pools for specific departments within your organization.
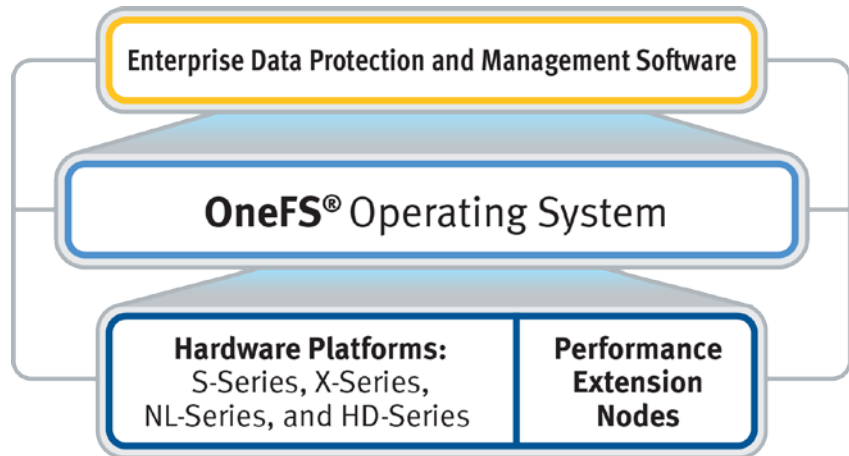
REDEFINE

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EMC ISILON ONEFS OPERATING SYSTEM POWERS SCALE-OUT STORAGE SOLUTIONS

The EMC 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, EMC 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.

EMC 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 FOUNDATION

As the volume and sources of data have expanded dramatically, traditional techniques to store and analyze information have proven to be too expensive and too slow to handle the massive data volumes modern enterprises produce and manage. With Isilon, you can streamline your storage infrastructure by consolidating large-scale file and unstructured data assets, eliminating silos of storage while providing the foundation for a scale-out data lake that supports traditional and next generation applications and workloads.

UNMATCHED AGILITY AND PERFORMANCE

Change is inevitable. That's why every EMC 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 as your business needs dictate. With Isilon, you can scale capacity to 50 PB and performance up to 3.75 million file operations per second, with over 200 gigabytes per second (GB/s) of aggregate throughput—all from a single file system.

To further accelerate performance, Isilon solutions incorporate innovative features like a scale-out flash tier that can provide over 700 TB of flash cache in a single cluster along with support for Microsoft SMB 3.0 Multi-Channel.

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 over 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 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 EMC 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.

SIMPLE INTEROPERABILITY

With Isilon, you can streamline your storage infrastructure by consolidating large-scale file and unstructured data assets, eliminating silos of storage. EMC Isilon scale-out NAS includes integrated support for a wide range of industry-standard protocols, including NFS, SMB, HTTP, FTP, OpenStack Swift-based Object access for your cloud initiatives and native Hadoop Distributed File System (HDFS). As a result, you can simplify workflows, accelerate business analytics projects, support cloud infrastructure initiatives, and get more value from your enterprise applications and data.

EMC Isilon solutions readily integrate with your VMware® environment and incorporate VMware VAAI and VASA APIs to increase virtualization performance and simplify the management of your virtualized IT environment. These levels of interoperability help you leverage your large data assets more flexibly with a broad range of applications and workloads, and across a diverse IT infrastructure environment.

ENTERPRISE DATA PROTECTION AND MANAGEMENT SOFTWARE

Massive stores of data present unique management challenges, including disaster recovery, quota management, and offsite replication. EMC 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.

EMC ISILON INSIGHTIQ™	Performance management	Maximize the performance of your Isilon scale-out storage system with innovative performance monitoring and reporting tools
EMC ISILON SMARTPOOLS®	Resource management	Implement a highly efficient, automated tiered storage strategy to optimize storage performance and efficiency
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
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
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
EMC ISILON FOR VCENTER	Data management	Manage Isilon functions from VMware vCenter®
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
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 failback simplicity to increase the availability of mission-critical data
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 stringent 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

EMC ISILON HARDWARE PLATFORM: FLEXIBLE PRODUCT LINES

EMC Isilon offers highly flexible scale-out storage solutions with precisely the right storage on a "grow-as-you-go" basis, eliminating the need for forecasting or overprovisioning. EMC Isilon hardware platforms are built on the innovative Isilon scale-out storage architecture—designed for simplicity, value, outstanding performance, and unmatched reliability. Our platform offerings include flexible product lines that can be combined in a single file system and volume, providing application consolidation tailored for your specific business needs.

EMC ISILON S-SERIES NODES

The EMC Isilon S-Series answers the need for high–performance primary storage, purpose built for high-transactional and IOPS-intensive applications. The S-Series combines unmatched IOPS performance with high efficiency and an ultra-low overhead scale-out NAS package. With SSD technology for file system metadata and file-based storage workflows, the S-Series delivers additional performance gains for metadata-intensive operations while improving overall latency.

EMC Isilon S200

EMC Isilon S210

CURRENT PRODUCTS	S200, S210
CLUSTER CAPACITY*	16.2 TB to 4.15 PB
DENSITY*	7.2 TB, 14.4 TB, 21.6 TB, or 28.8 TB per node

*Based on non-SSD configuration

Use case examples

- Digital media: broadcast, real-time streaming, rendering, and post-production

- Electronic Design Automation: Design, simulation, verification, and analysis of electronic and mechanical systems, design for manufacturability

- Life Sciences: DNA and RNA sequencing, genomics, and large-scale microscopy environments

"With Isilon, we've been able to grow a single file system to nearly a petabyte in less than a year while still maintaining the data throughput necessary to power our workflow and advance our research."

Matthew Trunnell
Manager of Research Computing, Broad Institute

EMC Isilon X200

EMC Isilon X400

EMC Isilon X410

EMC ISILON X-SERIES NODES

The EMC Isilon X-Series, our most flexible and comprehensive storage product line, strikes the right balance between large capacity and high-performance storage. The highly versatile X-Series is an ideal solution for high-throughput and high-concurrency applications. With SSD technology for file system metadata and file-based storage workflows, the EMC Isilon X-Series significantly accelerates namespace-intensive operations. To meet rigorous data security and compliance requirements, Isilon also offers Data at Rest Encryption (DARE) with self-encrypting drive (SED) options with the X-Series platform.

CURRENT PRODUCTS	X200, X400, X410
CLUSTER CAPACITY*	18 TB to over 20 PB
DENSITY*	X200: 12 TB, 24 TB, or 36 TB per node
	X400 and X410: 36 TB, 72 TB, 108 TB, or 144 TB per node

*Based on non-SSD configuration

Use case examples

- Business analytics: Hadoop workflows

- Large-scale home directories: Windows®, Linux, and UNIX® data environments

- Healthcare: PACS medical imaging

- Digital media: broadcast, post-production, and digital intermediate (DI)

- Internet/Web 2.0: online video, audio, and image serving; Web analytics

- Electronic design automation: design team collaboration, design libraries, tool scripts, and design implementation databases

"Despite the fact that we have nearly one petabyte of data, the EMC Isilon OneFS operating system is so easy to manage, we don't need a dedicated storage administrator. Aside from the cost savings, we're able to free up our IT people to focus on other initiatives, such as our virtualization infrastructure."

John Lowell Wofford
Director of IT Services, Center for Computational Biology and Bioinformatics Columbia University

EMC Isilon NL400

EMC ISILON NL-SERIES NODES

The EMC Isilon NL-Series is designed to provide cost-effective, highly scalable nearline storage. To achieve this, the NL-Series combines high density and efficiency with massive capacity capabilities. The result is a highly economical scale-out storage solution at an extremely attractive price per TB of capacity and a low overall TCO. Isilon also offers data at rest encryption (DARE) with self-encrypting drive (SED) options with the NL-Series to meet rigorous data security and compliance requirements.

CURRENT PRODUCTS	NL400
CLUSTER CAPACITY	108 TB to 31.1 PB
DENSITY	36 TB, 72 TB, 108 TB, 144 or 210 TB per node

Use case examples

- File archives: for economical storage and rapid disk-based access to reference data to meet business and legal requirements (for example, financial services, insurance, email, and general file data archiving)

- Disaster recovery: when combined with Isilon SyncIQ replication software, the NL-Series is a proven solution for organizations whose multisite replication strategy requires an economical, high-capacity storage device to be located remotely

- Disk-to-disk backup: can be combined with deduplication technology from other industry providers to deliver a highly scalable, reliable, easy-to-manage, and economical disk-based backup target

EMC ISILON HD-SERIES NODES

The Isilon HD-Series is designed to provide enterprises with a highly efficient and resilient scale-out storage platform for unstructured data that can scale to over 50 PB in a single file system. With massive scalability, robust data protection options and a high density footprint that lowers operating costs by 50%, the Isilon HD-Series is ideal for Big Data storage needs including deep archiving solutions.

EMC Isilon HD400

CURRENT PRODUCTS	HD400
CLUSTER CAPACITY	1.06 PB to 50.9 PB
DENSITY	354 TB per node

Use case examples

- Deep archives: for large-scale, high density, deep archiving data storage that offers unmatched efficiency to lower costs and provides robust data protection and security options

- Disaster recovery: provides a highly efficient disaster recovery target for organizations requiring an economical, large-capacity storage solution

- Enterprise data lake foundation: can be combined with Isilon S-Series, X-Series, and NL-Series nodes to provide a highly efficient Big Data storage solution that can support a broad range of traditional and next-generation workloads with a single Isilon cluster

EMC Isilon A100 Backup Accelerator

EMC Isilon A100 Performance Accelerator

EMC ISILON A-SERIES ACCELERATOR NODES

EMC Isilon A-Series accelerator nodes allow you to easily scale performance to meet the specific needs of your business without adding capacity.

EMC Isilon A100 Backup Accelerator—The Isilon A100 Backup Accelerator is purpose built to accelerate the data backup process. This is especially important for organizations facing shrinking backup windows that have the potential to negatively impact business productivity. The Isilon A100 Backup Accelerator integrates easily into an existing Isilon cluster, and supports leading Network Data Management Protocol (NDMP) data backup software products. Each A100 Backup Accelerator node supports multipathing and can drive multiple uncompressed LTO-5 and LTO-6 tape drives while supporting both two-way and three-way NDMP to meet your specific data backup requirements.

EMC Isilon A100 Performance Accelerator—The Isilon A100 Performance Accelerator integrates seamlessly into any Isilon storage cluster to quickly increase processing power, memory, bandwidth, and parallel read/write access capabilities. With the A100 Performance Accelerator, you can reduce latency and increase concurrent read throughput for a cached data set, while gaining the ability to scale performance independent of capacity. Isilon A100 Performance Accelerator nodes provide an aggregate throughput of 1,100 MB/s per node and allow you to accelerate cluster operations, including disk and node rebuilds, file striping, and file-based replication.

EMC 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 EMC Support Services. We're here for you even before you need us.

COMPREHENSIVE BREAKTHROUGH STORAGE SOLUTIONS

Through the winning combination of the groundbreaking EMC Isilon OneFS operating system, high-performance industry-standard hardware, and powerful data and storage management software, EMC 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 EMC sales representative or authorized reseller to learn more about how EMC Isilon scale-out storage solutions can benefit your organization.

Also see our solutions in the EMC Store at https://store.emc.com/isilon.

CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller, visit www.emc.com, or explore and compare products in the EMC Store.

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