



How breakthroughs begin.™

Solution Brief

Isilon Clustered Storage Solutions for Manufacturing Companies



Solutions for Manufacturing Companies

Isilon Clustered Storage: Shortening Time-To-Market and Providing Other Breakthroughs for Manufacturing Companies

As unstructured data such as 3-D models, CAD, simulation, manufacturing schematics and test data increase in size and importance, they are straining traditional storage systems designed primarily for structured data. Isilon's award-winning family of clustered storage systems are designed to meet these increasing new demands.

Combining the fifth generation of Isilon's unique OneFS® operating system software with the latest advances in industry-standard hardware, Isilon delivers modular, pay-as-you-grow, enterprise-class storage systems—enabling manufacturing companies to transform data into information, and information into breakthroughs.

Industry Leading Scalability—up to 2.3 PB in a Single File System

For any organization that deals with large, unstructured CAD, simulation and multimedia content, a new type of storage infrastructure is required that is designed with unstructured content in mind. And as the cost of product development grows in relation to the availability of computing power and storage, many manufacturers are discovering that the Isilon IQ architecture not only provides a competitive edge, but will satisfy the potential terabyte capacities required to meet the increasingly complex manufacturing and testing processes of the future.

Isilon IQ easily meets the challenge—delivering industry-leading scalability with up to 96 nodes in a single cluster and up to 2.3 petabytes in a single file system.

Powerful Performance

As the competitive pressure mounts to bring products to market faster, many manufacturers need to conduct exhaustive tests, which in turn generate many terabytes of data. By using Isilon IQ® clustered storage, manufacturers can eliminate multiple islands of storage, collect and store huge amounts of test data on one unified system and provide extremely fast access to all file-based data for its engineers and analysis applications. Isilon IQ delivers unmatched aggregate throughput from a single file system with performance up to 20 GB/second.

In addition, Isilon IQ Accelerator-x platform extension nodes enable single stream performance of up to 400 MB/second, concurrent performance of up to 700 MB/second and delivery of over 26,000 transaction I/Ops. The result is an acceleration of the manufacturing testing workflow, lower costs, and ultimately a faster time to market for products.

Unmatched Reliability

Isilon IQ ensures that data is always available, easily withstanding the loss of multiple disks or entire nodes without users losing any content. With Isilon, all files are striped across multiple nodes within a cluster, and no single node stores 100% of any file. If a node fails, all other nodes in the cluster still deliver 100% of the files without interruption.

Easy to Use, Easy to Manage

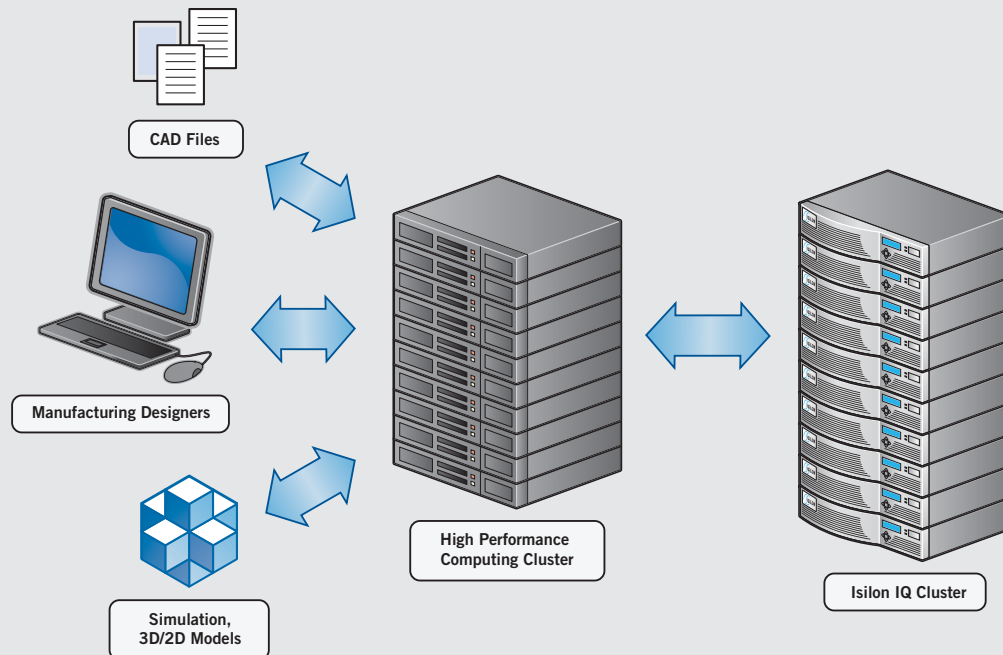
For design, manufacturing and testing processes, the use of the Isilon IQ cluster can dramatically cut management time while improving workflows for staff. With Isilon, one person can now manage petabytes of data. What's more, as the cluster begins to fill up, simply add another node to increase capacity. Often, the new node can be brought online in as little as 60 seconds.

Easy To Grow, Easy To Own

The Isilon IQ clustered storage product line addresses the full spectrum of storage needs—from the highest performance Tier-1 applications to Tier-2 enterprise archive, disk-to-disk backup and disaster recovery. Powered by OneFS, the Isilon IQ family of products creates a single pool of expandable storage that is easy to install and grow—once racked, a 10, 50 or 100+ terabyte cluster takes less than 10 minutes to configure and set up, and capacity can be added on the fly in seconds with no downtime. Isilon IQ enables customers to maximize their budgets by easily expanding storage on a modular pay-as-you-grow basis.

Breakthroughs Begin With Isilon

The Isilon product line is comprised of the Isilon IQ 1920, 3000, 6000, 9000 and 12000 platform nodes; the Isilon EX 6000, EX 9000, EX 12000 and Isilon IQ Accelerator-x extension nodes; and licensable software applications such as SyncIQ™, SnapshotIQ™, SmartConnect™, SmartQuotas™ and Aspera for Isilon IQ. This set of flexible and innovative products define new industry standards by delivering a single file system that scales to 2.3 petabytes of capacity, up to 20 GB/second of throughput and supports high-performance InfiniBand® for low-latency, high-bandwidth intracluster communication—providing companies in the manufacturing industry with the power to transform their critical digital assets into business breakthroughs.



Customer Success



Pratt & Whitney, a United Technologies Company (NYSE: UTX), is a global leader in the design, manufacture and support of aircraft engines, gas turbines and space propulsion systems and uses Isilon IQ clustered storage as the primary storage system for its gas turbine engine test facilities. Isilon IQ enables Pratt & Whitney to enjoy significant increases in productivity and collaboration. By unifying the test results from previously disparate data sources into one large single pool of storage, Isilon clustered storage has enabled Pratt & Whitney to greatly improve the efficiency, speed and cost of its engine test operations.

In addition, to bring its products to market and achieve certification with myriad government agencies, Pratt & Whitney conducts exhaustive engine tests, which generate many terabytes of engine test data each year. Due to the extremely high bandwidth requirements of its tests, which can record more than 100,000 samples per second, Pratt & Whitney previously used a custom aeronautical storage system, but one that proved to be

difficult to manage and did not provide file-based access to its data sets. The switch to Isilon IQ clustered storage enabled Pratt & Whitney to eliminate multiple islands of storage, collect and store its engine test data on one unified system, and provide extremely fast, file-based access to all data for its engineers and analysis applications.

“The use of clustered storage produces meaningful improvements in our jet engine testing, Isilon IQ has enabled us to streamline our testing analysis and appreciably reduce costs while maintaining our uncompromising commitment to safety and quality.”

—Dr. Zbigniew Grabowski, engineering information technology program manager for Pratt & Whitney

Isilon IQ Clustered Storage

The Isilon IQ family of clustered storage systems was designed from the ground up to meet the needs of data-intensive enterprises and high-performance computing environments. By combining Isilon's OneFS® operating system software with the latest advances in industry-standard hardware, Isilon delivers modular, pay-as-you-grow, enterprise-class clustered storage systems.

- Isilon's OneFS distributed file system creates a single, shared global namespace
- First and only truly symmetrical clustered storage architecture
- System can scale from 4TB–2.3PB in a single file system
- Unmatched aggregate throughput from a single file system with up to 20 GB/second
- Single stream performance of more than 400 MB/second, concurrent performance of 700 MB/second and over 26,000 transaction I/Ops
- Industry leading, high availability for clustered storage systems
- Powerful, easy-to-use Web-based management
- 60-second scaling of both capacity and performance
- Built-in, automatic application/client connection load balancing
- Industry-standard protocol support (NFS, CIFS, HTTP, FTP, NDMP, SNMP, LDAP, ADS, NIS)

Isilon also offers a robust suite of clustered storage software applications that optimize data protection and management:

SyncIQ™

Enterprises increasingly need to distribute large, mission-critical data sets to multiple shared storage systems and teams in multiple locations. SyncIQ replication software is the industry's only policy-based file replication system designed exclusively for clustered storage, combining a rich set of policies for creating and scheduling storage replication jobs with innovative bandwidth throttling and cluster utilization capabilities.

SnapshotIQ™

Isilon Systems introduces a true breakthrough in snapshot technology that provides a uniquely simple, scalable and flexible way to enable enterprise-class protection and user-driven data recovery for clustered storage. With the ability to support an unlimited number of snapshots within a highly-scalable single pool of clustered storage and up to 1,024 snapshots within any single directory, SnapshotIQ represents a significant advancement over traditional snapshot technology.

SmartQuotas™

SmartQuotas quota management software delivers quotas and thin provisioning technology for clustered storage and provides data-intensive enterprises with an unparalleled solution for optimizing the value of their storage resources. SmartQuotas enables businesses to simply and flexibly manage storage resources across their entire organization—with both hard quotas and thin provisioning capability—to support growing storage demands with minimal resources.

SmartConnect™

Isilon Systems' exclusive SmartConnect software application allows IT Managers to meet the demands of an always-on, 24x7x365 world by ensuring the highest levels of performance and industry leading high availability. With intelligent client connection load balancing and failover support, SmartConnect represents a breakthrough in optimizing clustered storage performance and availability.

Aspera for Isilon IQ

Aspera and Isilon have partnered to provide a solution for quickly transferring the largest files across wide area networks or directly to end-users, independent of network conditions or distance. Files of any type—video, audio, images or other large, rich media files or file-based data—can be rapidly transferred without impacting other network traffic, while scaling to speeds that meet growing business demands.

About Isilon Systems

Isilon Systems is the worldwide leader in clustered storage systems and software for file-based data, enabling enterprises to transform data into information—and information into breakthroughs. Isilon's award-winning family of IQ clustered storage systems combines Isilon's OneFS operating system software with the latest advances in industry-standard hardware to deliver modular, pay-as-you-grow, enterprise-class storage systems. Isilon's clustered storage solutions speed access to critical business information while dramatically reducing the cost and complexity of storing it.



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