



*How breakthroughs begin.™*

Solution Brief

# Isilon Clustered Storage Solutions for Content Delivery & Telco Providers



# Solutions for Content Delivery & Telco Providers

## Isilon Clustered Storage: Performance Breakthroughs for Content Delivery and Telco Providers

*We see it around us everyday—an explosion of audio, video, multi-media and text-based data being delivered and consumed interactively across the Internet and other content distribution networks. For companies involved in the creation and delivery of this content, the difference between success and failure can hinge on their ability to effectively store and rapidly distribute content to end-users and partner companies.*

*Isilon's award-winning family of IQ clustered storage systems combine Isilon's unique OneFS® operating system software with the latest advances in industry-standard hardware to deliver modular, pay-as-you-grow, enterprise-class storage systems—enabling CDNs and Telco Providers to transform data into information, and information into breakthroughs.*

### Industry Leading Scalability for Commercial CDNs —up to 2.3 PB in a Single File System

Media and content delivery businesses are rushing to take advantage of a fresh appetite for high-quality content in a range of bit rates and formats. One-size-fits-all storage solutions are failing to address the unique needs of this file-based data. What's required is guaranteed performance under heavy loads—as well as simplified scaling for growing data stores. Isilon IQ® was built from the ground up for industry-leading scalability, providing up to 96 nodes in a single cluster and up to 2.3 petabytes in a single file system—allowing content providers to easily meet the demand.

### Powerful Performance, Pinpoint Control

Adding Isilon IQ clustered storage as a near-line storage solution enables customers to achieve extremely high levels of performance, with up to 20 GB/second throughput. Isilon IQ clustered storage solutions also provide a single file system where all nodes are actively receiving and distributing content. This makes it exceptionally easy to throttle and scale performance as content delivery needs shift. Content providers can accommodate different customer quality of service standards by assigning 'zones' of bandwidth to different cluster nodes. As their content delivery needs grow, they can simply scale the job out over more nodes in the cluster to transfer files. As their content delivery needs shrink during off-peak hours, they can simply scale the job back and run transfers across fewer Isilon nodes, which can then be reassigned to other media projects.

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.

### Unmatched Reliability, Better Quality of Service

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

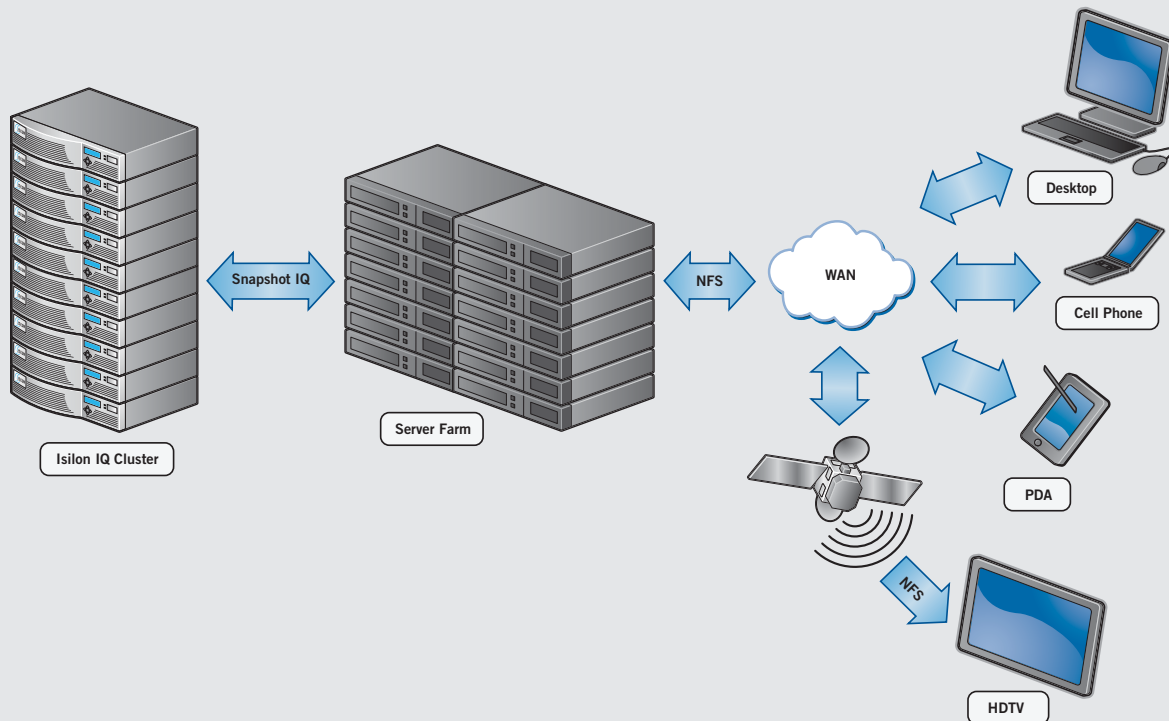
Isilon IQ represents a flexible solution that meets the unique storage requirements for the production, content delivery and archiving of vast libraries of digital assets. No other network storage solution meets these requirements and is as simple to set up and administer. What's more, as the cluster begins to fill up, administrators can simply add another node to increase capacity. Often, the new node can be brought online in as little as 60 seconds. With Isilon IQ, one person can now manage petabytes of data.

### Easy To Grow, Easy To Own

Isilon IQ combines a modular, self-contained system with a distributed, content-optimized file system to deliver unique features and functionality specifically for content delivery environments—from the highest performance Tier-1 applications to Tier-2 enterprise archive and disk-to-disk backup. Powered by OneFS, now in its fifth generation, 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 less than 60 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 CDN and Telco Providers with the power to transform their critical digital assets into business breakthroughs.



## Customer Success



Research Channel, a leading organization dedicated to digitally broadcasting scientific, medical and educational video to universities and corporations around the world, uses a 10 terabyte Isilon IQ cluster for delivery of streaming video programs over the Internet. Research Channel also uses Isilon IQ to store digital video for HDTV, digital cable, standard television and radio broadcasts.

***"Prior to Isilon, we had individual pockets of storage, no central management tools and a lot of heartache and wasted people time from our administrators running around. Now we have a 10 terabyte Isilon IQ cluster that stores a range of file-based data for Internet, standard television, HDTV and radio. The best part is it takes far less than one admin to manage it."***

***—James DeRoest, Director of Streaming Media Technologies, ResearchChannel***



Ascent Media uses Isilon IQ clustered storage at its R!OT Santa Monica facility to provide some of the most technically advanced digital audio and video post production services for leading film studios, broadcasters and television producers.

***"Isilon IQ's scalability, simplicity of management and cost effectiveness all come together to provide a very compelling package, one that ensures painless deployment of NAS storage, with no compromise to performance."***

***—Phil Mendelson, Chief Technology Officer, Ascent Media Creative Services Group***



Clear Channel Communications, Inc. (NYSE:CCU) has deployed Isilon IQ at multiple locations in North America and Europe as the primary storage platform for its radio station Websites, creative services groups and corporate e-mail archiving. Clear Channel, a global leader in media and entertainment, is using Isilon IQ and Isilon's SyncIQ™ replication software to streamline its file-based storage, power the 24x7 operation of more than 1,100 radio station Websites, replicate files between multiple data centers in North America and Europe for disaster recovery purposes and archive its corporate e-mail.

***"Given the global nature of our business, we are constantly looking for cost-effective methods to streamline our workflow and enhance the services we deliver. We are amazed by the simplicity and performance of Isilon IQ as well as the ease with which we are able to replicate files between data centers using SyncIQ. Isilon's products offer significant cost savings, allow us to add capacity without downtime and ultimately enable us to better concentrate on what matters most—delivering compelling programming to our hundreds of millions of listeners and viewers."***

***—Greg Robinson, Solution Architect for Clear Channel Communications***

## 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 datasets 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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