



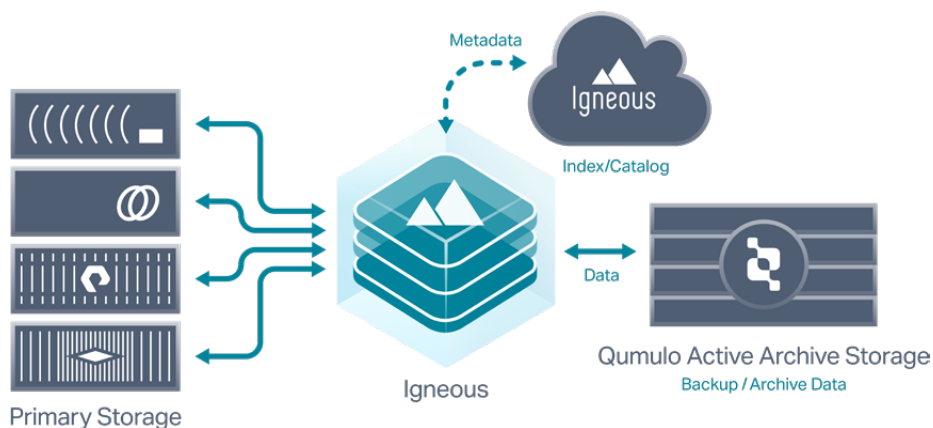
## Protecting and Managing Unstructured Data with Igneous and Qumulo Active Archive Storage

While many data-centric enterprises are turning to the public cloud for backup and archive storage, others have concerns that limit their ability to include cloud services in their data management strategy. Organizations whose internet connectivity doesn't offer enough bandwidth to support the amount of data involved may choose to continue with a local storage solution for backup/archive services. Other enterprises may find that cloud storage does not meet their defined recovery-time objective. For these enterprises, an unstructured data-management plan that leverages onsite storage remains the preferred approach.

To meet this need, Igneous and Qumulo offer a backup/archive solution that uses Igneous to manage data protection and archive services, with Qumulo Active Archive Storage™ providing the necessary onsite storage capacity. Together, Igneous and Qumulo can deliver scalable unstructured data protection on-premises, along with predictable management costs and enterprise data security.

### How It Works

Igneous DataDiscover™ provides a high-performance scanning engine that can discover and index billions of files per day, while Igneous DataProtect™ moves data at line speed from any NAS environment. Together, these services enable enterprise-wide visibility into overall data usage, archival of cold data to reclaim primary-tier storage, and comprehensive data protection at scale, all with as-a-Service simplicity.



Qumulo Active Archive Series delivers modular secondary file storage that scales to meet any capacity requirement, fitting up to seven petabytes of storage in a single 42U rack. Built using commodity hardware, Qumulo Active Archive's distributed file system architecture easily incorporates new nodes into existing capacity, adding throughput as it scales and offering better economics and better performance than other nearline storage platforms.

Enterprises that need to host backup/archive data onsite can use a combined Igneous and Qumulo solution for unstructured data discovery, data protection, and data archive. Igneous and Qumulo together enable rapid recovery that consistently beats cloud performance.

### BUSINESS BENEFITS

An unstructured data backup strategy that combines Igneous backup and archive capabilities with Qumulo Active Archive Storage delivers the following benefits:

**Data visibility.** Igneous DataDiscover presents a consolidated view of all unstructured data – including location and usage patterns – from any NAS system, even at petabyte scales. Once cold data is found, Igneous' optional click-to-archive feature can reclaim petabytes of tier-one storage with a few clicks.

**Data protection.** Through Igneous DataProtect's intuitive web portal – which unifies storage platforms, cloud platforms, and file-system protocols to a single management point – organizations can protect millions to billions of files, and terabytes to exabytes of data, with equal ease. With a Qumulo-based local target for backup data, Igneous also offers rapid time to recovery at petabyte scale.

**Scale and performance.** Engineered and built for any size environment, Igneous can scan and index hundreds of thousands of files per second to identify new and changed file data throughout the enterprise. Igneous also delivers line-speed data movement between source and target endpoints, enabling effective data protection in any size environment.

**As-a-Service simplicity.** Igneous remotely monitors applications in customer data centers, letting customers focus on business operations without spending additional administrative cycles to manage and monitor backup, archive, and migration tasks.

## Policy Flexibility for Any Use Case

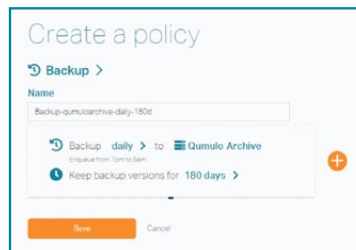
Igneous DataProtect enables data owners and administrators to create data-protection policies that leverage Igneous' data-movement engine and Qumulo's scalability to meet any requirement, including:

- **Scalable backups**, in which Igneous instances can be added to support any size environment. Each instance is capable of moving data at line speed without impacting production performance, and all instances are managed from a single portal.
- **Backup and archive flexibility**, through intuitive policies that enable granular control of backup frequency, backup target, and data retention.
- **Data immutability**, ensuring data integrity and enabling versioning for all backup and archive datasets.

## Simple Efficiency with Qumulo Active Archive Series

Qumulo's Active Archive Series storage is built from the latest standard hardware components, including a Xeon-D system-on-a-chip in a sleek 1U chassis, that provides:

- **Data density**, offering up to 7PB of raw storage per 42U rack, and scalable in 144TB or 168TB increments per 1U node.
- **Data and service resiliency** through its modular architecture that eliminates single points of failure.
- **Industry-standard components** that streamline the deployment process and eliminate vendor lock-in.



Igneous can write directly to Qumulo Active Archive Storage. Backup and archive policies can be applied to individual directories or to entire NAS systems, and any level in between.

## Find and Manage File Data Anywhere

Igneous simplifies data visibility, data protection, and data archival, even in exabyte-sized environments with hundreds of billions of files and heterogeneous NAS platforms. Its powerful data movement engine can protect and archive data from any NAS system, to any public cloud platform, or to onsite Qumulo Active Archive storage. Igneous enables frictionless visibility, backup, and archive for even the largest enterprises.

Igneous is also the only solution that includes full API integration with Dell EMC Isilon, NetApp, Pure Storage FlashBlade, and Qumulo file storage – leveraging each platform's specific capabilities to enable export discovery, backup-related snapshot initiation, file-system security, and data-path management – for optimal throughput and backup performance.

Delivered as-a-Service, Igneous also simplifies service and platform management. We manage and monitor end-to-end service availability and performance, freeing up organizations and IT staff to focus on core business services.

### About Qumulo

Qumulo hybrid cloud file storage delivers real-time visibility, scale and control of data across on-prem and cloud. Qumulo customers understand storage at a granular level; programmatically configure and manage usage, capacity and performance; and are continuously delighted with new capabilities, 100-percent usable capacity and direct access to experts.

To learn more, visit [www.qumulo.com](http://www.qumulo.com).

### About Igneous

Igneous is the SaaS data management solution for file-intensive environments. Data-centric enterprises trust Igneous to provide visibility, protection, and movement at scale. Igneous' API-enabled, cloud-native solution combines all data management functions, allowing organizations to fully tap the value of their unstructured data while reducing risk and optimizing IT resources.

**Igneous: Petabytes today, exabytes tomorrow.**

Find out more at [igneous.io](http://igneous.io)

### BACKUP FEATURES

- API integration with Dell EMC Isilon, NetApp, Pure Storage FlashBlade, and Qumulo
- Seamless support for all other NAS systems, including VAST Data™, WekaIO™ Matrix™, IBM™ Spectrum Scale™, Quantum™ StorNext™, Panasas™ ActiveStor™, Hitachi™ HNAS™
- Support for multi-protocol permission recognition in mixed-mode storage
- Highly-parallel data movement and scan operations without impact to production workloads
- Baseline and then "incremental forever" backups run quickly and efficiently
- "Virtual full" restore interface presents complete view of data at any point in time
- End-to-end compression for throughput and storage efficiency
- Immutable objects with versioning
- Comprehensive activity logging and audit trails

### ARCHIVE FEATURES

- One-click or API archive initiation
- Automated archive job management
- Archive datasets at the system, export, or directory level
- Read-only metadata access via NFS to archived data
- Search to restore archived data via direct download, or restore to primary NAS
- Index archived data on ingest

### Contact Igneous

To learn more about Igneous and about our unstructured data-management solutions, contact us:

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