

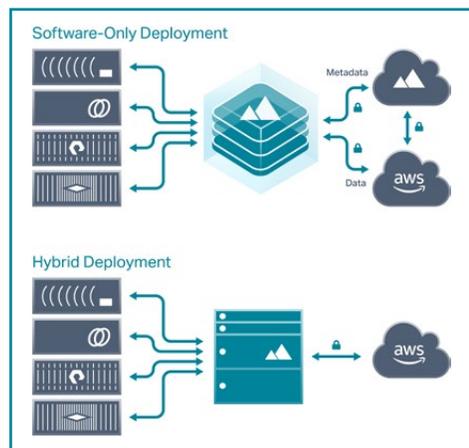


# NAS Backup: Igneous to Amazon Web Services

## Cloud-based data protection and flexibility at enterprise scale

In the face of exponential data-growth rates, legacy data-protection solutions are failing to keep up. At the same time, costs are escalating out of control and data centers are out of space. Today's data-centric organizations are increasingly turning to cloud services to meet many of their secondary storage needs, and are looking to find cost-effective data protection solutions that align with this shift in strategy.

Using a data-management plan that combines data protection from Igneous with the family of simple storage services (S3) from Amazon Web Services (AWS), enterprises can easily manage onsite and cloud-based backup operations via Igneous' intuitive web interface, reducing secondary storage, freeing up data center space for primary workloads, and streamlining operations. Igneous offers seamless AWS S3 interoperability – enabling a cost-effective backup solution to any AWS tier – with a few simple clicks.



Customers can choose a software-only model that uses AWS capacity exclusively, or a hybrid model that offers local storage with cloud replication.

## How It Works

DataProtect pairs a multi-threaded scan engine that can discover and index hundreds of thousands of files per second with a data-movement engine that organizes data into dozens of parallel streams that can use all provisioned network bandwidth between your NAS systems and your AWS cloud endpoint. During the entire process, Igneous uses a latency-awareness service that monitors overall NAS performance and adjusts itself automatically to protect production workloads. The net result is a backup solution that is uniquely positioned for enterprise NAS data protection at any scale, capable of running 24x7 without affecting business services.

The AWS S3 suite of storage tiers offers flexible solutions for storing business-critical data. Igneous DataProtect's core differentiation is its ability to leverage AWS's Glacier tiers directly while mitigating cost, enabling cloud-first backup for NAS data. With a data-protection solution that combines the features of Igneous and AWS, enterprises can keep up-to-date copies of their data in the cloud, enabling flexible backup options, easy recovery of lost data, and disaster-recovery strategies with endless configuration options.

Together, Igneous and AWS allow you to back up unstructured data stored on your primary NAS systems. Customers can adopt a software-only or hybrid deployment.

## KEY BENEFITS

A data-management strategy that combines the speed and performance of Igneous DataProtect with the flexibility of Amazon Web Services to provide cloud storage, all delivered as-a-service, offers the following benefits:

### Backup flexibility

With full support for any AWS storage tier, and with simple policy-driven data movement, DataProtect lets data owners control their backup settings to meet any RTO/RPO and get data out of the data center.

### Cloud interoperability, even at scale

Manage petabytes of data and billions of files, both locally and in the cloud. Since data movement from local backups to cloud-based storage tiers is automated and policy-driven, data moves seamlessly from Igneous to any defined AWS cloud target and tier.

### Operational simplicity

With an as-a-Service delivery model, Igneous remotely monitors system performance and service telemetry in customer data centers, letting customers focus on business operations without spending additional administrative cycles to manage and monitor backup, archive, and migration jobs.

## Agility and Choice with AWS S3

AWS offers a wide range of storage tier options, with each tier providing a specific combination of availability, performance and capacity. For enterprises looking to integrate cloud storage into their enterprise operations, AWS offers maximum flexibility at a global level, with set-it-and-forget-it simplicity.

- **Standard**, providing durable, high-performance-low-latency storage for frequently accessed data
- **Standard – Infrequent Access**, providing comparable availability and performance, but for infrequently-used data
- **One Zone – Infrequent Access**, which offers similar availability and performance to S3 Standard-IA without the additional availability zones
- **Glacier**, used for data that will be rarely accessed once uploaded and can be stored offline until needed, with configurable time-to-first-byte options that can range from minutes to hours
- **Glacier Deep Archive**, which supports long-term retention and preservation of data that may only be accessed once or twice per year, with up to 12 hours' time-to-first-byte

Igneous includes native support for all AWS storage tiers, and can be configured to write directly to any tier by specifying it in the Igneous backup policy. Regardless of which tier is needed for a specific use case, Igneous delivers policy-driven backup services – leveraging both onsite and cloud storage as appropriate – from a single intuitive web portal.

## As-a-Service Backup Simplicity with Igneous

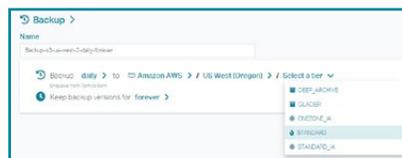
Igneous DataProtect simplifies and automates data protection operations, even at multi-petabyte scales with billions of files. With native support for any file protocol (including object storage), support for all NAS systems, and AWS storage, DataProtect simplifies backup operations for even the largest enterprises.

Igneous is the only backup solution that includes full API integration with Dell EMC Isilon™, NetApp FAS™, Pure Storage FlashBlade™, and Qumulo QF2™, leveraging each platform's specific capabilities for export and share discovery, snapshot management, file-system security, and data-path management for optimal throughput and backup performance.

## Policy-Driven Flexibility for any Use Case

With Igneous' powerful, flexible backup capabilities, data owners and administrators can create data-protection policies that leverage Igneous' own data-movement engine and AWS S3 to meet any requirement, such as:

- Remote sites backing up to different AWS regions and tiers
- Flexible deployment options – software-only via virtual machine or hybrid deployment with cached on-premises storage
- Scalable backup with single-pane-of-glass management even for large data-center deployments
- Dual-write policies to split backup between different locations.



Intuitive backup policies let you select any AWS tier as a direct target.

## About Igneous

Igneous delivers the industry's only as-a-Service solution for unstructured data management, giving data-centric enterprises visibility, protection, and data mobility at scale. Igneous' API-enabled, cloud-native solution combines all unstructured data-management services, letting organizations tap the value of their unstructured data while reducing risk and optimizing IT resource utilization.

**Igneous: The right data, in the right place, at the right time.**

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## BACKUP FEATURES

- API integration with Dell EMC Isilon, NetApp, Pure Storage FlashBlade, and Qumulo QF2
- Seamless support for all other NAS systems, including VAST Data™, WekaIO™ Matrix™, IBM™ Spectrum Scale™, Quantum™ StorNext™, Panasas™ ActiveStor™, Hitachi™ HNAS™
- Support for NFS, SMB/CIFS, object, GPFS, and Lustre protocols
- Multi-protocol permission recognition on select storage platforms using 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
- Restore back to NAS with all metadata and file permissions intact
- Write-Once-Read-Many (WORM)
- End-to-end compression for throughput and storage efficiency
- Immutable objects with versioning
- Comprehensive activity logging and audit trails

## CLOUD-TIERING FEATURES

- Lifecycle management across Igneous and AWS, enabling version control and expiration of old data
- Direct and native integration with all AWS storage tiers
- Efficient movement of data to cloud storage that minimizes ingress and egress transaction costs
- Replication between Igneous and cloud storage for offsite redundancy
- Direct-to-cloud backup and archive for software-only Igneous deployments, and as appropriate for hybrid environments
- Search both onsite and cloud-based datasets, with enforced file permissions, to enable self-service restore operations

Visit [igneous.io](http://igneous.io) for more information, and to register for a live demo of Igneous' data management services

