

October 5, 2021



Quantum Redefines Long-Term Data Archiving with New Class of Storage and New Line of Fully Managed Object Storage Services

Breakthrough innovations bring hyperscale cloud technology and experience to wherever data lives, enable enterprises to maintain data sovereignty and control, and deliver low total cost of ownership, reducing cold storage costs by 80%

SAN JOSE, Calif., Oct. 5, 2021 /PRNewswire/ -- Quantum Corporation (NASDAQ: QMCO) today announced two breakthrough innovations aimed at organizations generating, storing, and managing huge amounts of data. Quantum is introducing ActiveScale Cold Storage, a new class of storage that combines advanced object store software with hyperscale tape technology to provide secure, highly durable, and extremely low-cost storage for archiving cold data. In addition, Quantum is offering a new line of fully managed Object Storage Services to bring the cloud experience to wherever data lives and accelerate digital transformation. These new offerings reduce cold storage costs by 80%, enable organizations to maintain control of their most valuable data assets, and unlock value in cold data over years and decades without expensive access fees.

"Quantum is fast becoming the world leader in hyperscale cold data storage solutions. We now provide solutions to many of the world's biggest hyperscale cloud providers that are on the forefront of building 'forever' cold data archives," said Jamie Lerner, chairman and CEO, Quantum. "The innovations announced today enable us to combine Quantum hyperscale tape architectures with Quantum software, package all of this technology as a cloud service that can be deployed anywhere and offer it to enterprises and cloud providers who are facing the same challenges as hyperscalers."

Massive data growth drives need for cold storage strategy

The world has entered a new era of data, as the quantity of unstructured data generated globally continues to grow exponentially. The gap between data growth and storage budgets is widening, and it is estimated that 60%¹ of the data generated will be "cold" – inactive data that must be stored, protected, and remain accessible for years or decades because of compliance requirements and the immense value it contains. With traditional storage architectures, most organizations don't have the budget, footprint or resources to handle this data explosion, forcing them to make operational or budget tradeoffs.

"Storage capacity in the enterprise is expected to grow by 30%¹ annually, driven by increased digitization and data-driven business initiatives," said Andrew Smith, research manager, Cloud Infrastructure Services, IDC. "It is estimated that 60%¹ of this data will be

cold, which is why we are seeing growing adoption of cold storage solutions and services. The right cold storage strategy can help enterprises manage the gap between data growth and infrastructure budgets, while addressing concerns around security and compliance."

¹Source: IDC InfoBrief, sponsored by Quantum, "Data Deluge: Why Every Enterprise Needs a Cold Storage Strategy", Doc. #US48119821, August 2021.

Introducing ActiveScale Cold Storage: A new class of object storage designed for cold data

To address this pressing challenge, Quantum is introducing ActiveScale Cold Storage – a new class of object storage designed for cold data, built on hyperscale architectures, and offered as-a-service from Quantum. ActiveScale Cold Storage combines object storage software with two-dimensional erasure coding and Quantum Scalar tape storage to create a new class of storage that is secure, highly durable, and extremely low-cost.



Highlights of ActiveScale Cold Storage include:

- **Industry's most advanced cold storage archive with new levels of performance, durability, and storage efficiency:** ActiveScale Cold Storage introduces a series of technical advantages that are not available in any other solution on the market today, including patent-pending two-dimensional erasure coding (2D EC) software and the highly available, scale-up and -out Quantum RAIL Architecture (Redundant Array of Independent Libraries). Quantum 2D EC encodes data within and across tapes, tape drives, tape libraries, and geo-dispersed data centers, simultaneously maximizing data access performance, data durability, and storage efficiency. 2D EC uses local reconstruction codes with tape drives so the system only requires a single tape to recover from nearly all types of tape and drive errors and requires far fewer hardware resources to write objects to tape. Writes are managed without impacting other object store tasks, delivering better performance and availability than all other tape-based solutions. Further, Quantum 2D EC technology delivers better data durability with less overhead – archives can be designed so customers can lose three tapes without losing any data, with overhead as low as 15%. In contrast, other solutions either offer only two-copy protection or very limited erasure coding policies that have greater risk of data loss and require more storage hardware.
- **Brings cloud archive services to wherever data lives; on-premises, third-party data centers, or hosted environments with multi-geo dispersed storage and hybrid-cloud capabilities:** ActiveScale Cold Storage can be deployed as a fully managed service at the customer's data center, at a third-party data center, or at a combination of the two to build geo-dispersed, hybrid cloud archive storage.

ActiveScale's architecture enables both active and cold storage infrastructures to be deployed at a single-site, two-sites using data replication, or three sites using 3GEO Dynamic Data Placement (DDP). Data buckets can also be migrated and replicated between ActiveScale and public cloud environments in support of hybrid cloud environments.

- **Uses S3 Standard and S3 Glacier Storage Classes for Broad ISV Application**

Compatibility: ActiveScale Cold Storage uses AWS S3 APIs, the Glacier Storage Class, and Lifecycle Policies to store, migrate, and restore objects to and from the cold data archive. Applications and services that use the AWS S3 Glacier Storage Class can leverage the same API to read and write data to ActiveScale Cold Storage. These include applications such as the Quantum StorNext File System, Quantum CatDV Asset Management Software, leading backup applications, many data management and archiving applications, and more. This new offering builds on the robust ecosystem of applications certified with Quantum ActiveScale today to provide many options for customers to move data to cold storage.

- **Unlimited, independent scalability of both active and cold data classes**

ActiveScale Cold Storage is based on ActiveScale object storage software, which provides unlimited scalability of both active and cold data classes in a single namespace, at consistent levels of availability and performance at scale with no rebalancing. No other object store system on the market provides the levels of scale, durability, and flexibility now offered by this solution.

- **Reduces cold data costs by 80% by bringing hyperscale tape technology to enterprise:**

ActiveScale Cold Storage is based on low-cost, high-density Quantum Scalar tape storage, leveraging the same technology used by leading cloud storage providers as the basis for their cold storage services. Tape is much less expensive than disk and requires much less power and cooling in a datacenter, which is why it is the preferred technology for long-term data archiving. ActiveScale Cold Storage combines advanced object storage software with two-dimensional erasure coding and high-density rack-based tape storage hardware that includes many innovations born out of large hyperscale tape archives. These Quantum tape storage systems include fundamental advancements in serviceability for all system components, can be deployed quickly in modular configurations, and monitored 24x7 using the same AIOps software used to manage over 30 exabytes of tape storage in hundreds of data centers around the world.

"Tape is rightly the preferred cold storage technology used in hyperscale environments because it is low cost, secure, and environmentally friendly. Until now, using it as part of an on-premises object storage system was impossible," said Bruno Hald, general manager, Secondary Storage, Quantum. "ActiveScale is now the industry's first and only on-premises object store system with an integrated cold storage class based on tape technology. In short, this means it dramatically lowers costs, consumes little power, and reliably stores data for decades."

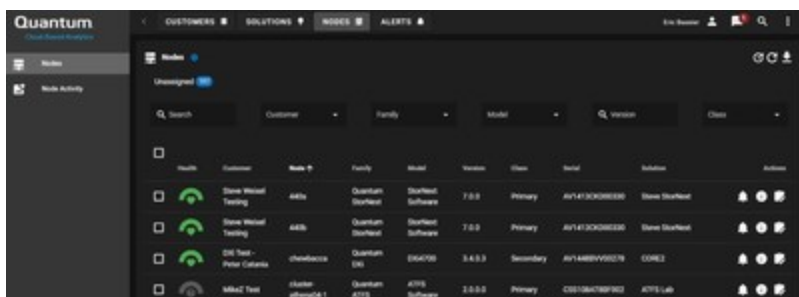
New Object Storage Services: Bringing the cloud experience to wherever data lives and accelerating digital transformation

To deliver this technology easily and affordably as a fully managed service, Quantum is introducing a new line of Object Storage Services. Quantum Object Storage Services provide scalable private and hybrid cloud storage solutions for active and archived data sets, from petabytes to exabytes. Quantum is introducing two classes of service – for active and

cold data – with a simple all-inclusive two-tier pricing model as shown below.

Object Storage Services	For Active Data	For Cold Data
Data Retrieval Time	Milliseconds	Minutes
How is data accessed	S3 Standard Class	S3 Glacier Class
Durability	15 9's	15 9's
List Price	\$0.015 per GB per month No data access fees	\$0.003 per GB per month No data access fees

These services are delivered efficiently using a combination of Quantum expertise and technology like Quantum's AIOps software, Cloud-Based Analytics (CBA), and the recently introduced Service Delivery Platform, MyQuantum. CBA software is used today to monitor thousands of systems worldwide, capture telemetry data, and use predictive analytics to assist in system maintenance and to reduce downtime. It will be used by the Quantum services organization to help deliver these services and can be made accessible to partners and customers to monitor their environment as well.



Customers can access the AIOps software by logging into MyQuantum. This modern online portal is designed with the customer in mind, making it easy to interact with Quantum products and services now and in the future. This one-stop portal enables customers to easily manage their products and contracts end-to-end including product registration, updating to latest product versions, requesting support and managing cases, downloading trials, demos, and purchases, and renewing contracts. Customers subscribing to fully managed services such as these Object Storage Services will access their Customer Dashboard summarizing account activity and system statistics.

"Large enterprises and web-based service providers are looking for greater agility, more financial flexibility, and greater leverage from outsourced services to accelerate transformative digital initiatives," said Rick Valentine, senior vice president and chief customer officer, Quantum. "Quantum Object Storage Services is the industry's first and only as-a-service solution for on-prem and hybrid active archiving and cold storage. Customers will realize lower costs and greater control of their data, and can pursue data enrichment, monetization, and value creation projects that were previously not possible due to cost constraints."

"We continue to see a huge uptick in demand for infrastructure, a move from legacy systems to innovative technology, a journey ViON began over two decades ago when we introduced ViON Storage Services," says Ray McCay, vice president, Solution Sales for ViON. "Adopting this new offering from Quantum is the next logical step in that journey, and we're

delighted to now be able to offer cold storage services to our clients. With Quantum, our customers benefit from both best in-class-technology and an unbeatable ViON industry and implementation expertise."

ActiveScale Cold Storage and Quantum's new Object Storage Services will be generally available in the first quarter of 2022. Discover more:

<https://www.quantum.com/cold-data-storage>

<https://www.quantum.com/object-storage-services>

<https://www.quantum.com/object-storage>

<https://quantum.gallery.video/portal2/category/videos/virtual-briefings>

About Quantum

Quantum technology, software, and services provide the solutions that today's organizations need to make video and other unstructured data smarter – so their data works for them and not the other way around. With over 40 years of innovation, Quantum's end-to-end platform is uniquely equipped to orchestrate, protect, and enrich data across its lifecycle, providing enhanced intelligence and actionable insights. Leading organizations in cloud services, entertainment, government, research, education, transportation, and enterprise IT trust Quantum to bring their data to life, because data makes life better, safer, and smarter.

Quantum is listed on Nasdaq (QMCO) and the Russell 2000[®] Index. For more information visit www.quantum.com.

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Forward-Looking Statements

The information provided in this press release may include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 ("Exchange Act"). These forward-looking statements are largely based on our current expectations and projections about future events and financial trends affecting our business. Such forward-looking statements include, in particular, statements about the anticipated benefits and features of ActiveScale Cold Storage and Object Storage Services and our business prospects, changes and trends in our business and the markets in which we operate, including the cold data storage market.

These forward-looking statements may be identified by the use of terms and phrases such as "anticipates", "believes", "can", "could", "estimates", "expects", "forecasts", "intends", "may", "plans", "projects", "targets", "will", and similar expressions or variations of these terms and similar phrases. Additionally, statements concerning future matters and other statements regarding matters that are not historical are forward-looking statements. Investors are cautioned that these forward-looking statements relate to future events or our future performance and are subject to business, economic, and other risks and uncertainties, both known and unknown, that may cause actual results, levels of activity, performance or

achievements to be materially different from those expressed or implied by any forward-looking statements.

These forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected, including without limitation, the following: the need to address the many challenges facing our business; the potential impact of the COVID-19 pandemic on our business, including potential disruptions to our supply chain, employees, operations, sales and overall market conditions; the competitive pressures we face; risks associated with executing our strategy; the distribution of our products and the delivery of our services effectively; the development and transition of new products and services and the enhancement of existing products and services to meet customer needs and respond to emerging technological trends; whether the market for cold storage develops as anticipated and whether our products meet the developing needs of this market; and other risks that are described herein, including but not limited to the items discussed in "Risk Factors" in our filings with the Securities and Exchange Commission, including our Form 10-K filed with the Securities and Exchange Commission on May 26, 2021 and our Form 10-Q filed on August 9, 2021. We do not intend to update or alter our forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law or regulation.

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The logo for Quantum, featuring the word "Quantum" in a bold, blue, sans-serif font. A small registered trademark symbol (®) is located at the end of the word.

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