Power innovation with AI-ready, performance-optimized ObjectScale

Key Features

- Enterprise-class object storage

- Flexible deployment options: all-flash turnkey appliance or software-defined (as an application or software bundle with Dell-supported Kubernetes)

- Starts with four nodes and scales out limitlessly

- S3 API-compatibility for streamlined application development

- Kubernetes-native containerized architecture

- Global replication for anywhere data access and fault tolerance

- Enterprise-grade data protection and security now including S3 bucket logging, consensus-based protection and self-encrypting drives

- Optimized for emerging workloads, supporting broad workload consolidation

- Available Dell ProDeploy, ProSupport and Data Migration services

Object storage is increasingly primary storage

More and more, organizations rely on object storage as primary storage for demanding high-growth workloads including AI, Generative AI, analytics and related cloud-native application development. Modern object storage options, including AWS S3, simplify the DevOps experience with a container-based, software-defined architecture backed by a popular automation platform, Kubernetes. But rather than using public cloud alone for the related tools and storage, many organizations are pivoting to a multicloud strategy—moving from "cloud to ground" with enterprise-class object storage on-premise in their data center.

Introducing ObjectScale XF960: The World's Most Powerful Object Storage Appliance Purpose-Built for Kubernetes[1]

Enterprise-class containerized object storage—your way

We've taken that experience to the next level by providing the latest ObjectScale software innovation as a fully integrated, turnkey solution. The ObjectScale XF960 is a powerhouse, all-flash appliance built on the latest generation of Dell PowerEdge and integrated, deployed and supported as one by Dell Technologies. Choose from a spectrum of flexible deployment options, all available via Opex/Capex pricing:

- **As an Application** – Dell manages the software, you deploy on Red Hat OpenShift

- **Software Bundle** – Dell manages the software and Kubernetes for you

- **XF960 Appliance** – Turnkey simplicity of a fully managed/supported Dell experience with powerful all-flash

Regardless of the deployment model you choose, your application teams can focus more on developing and running amazing code, training new data sets, reducing development cycles for in-demand projects like Generative AI, HPC and much more. You can enable generative AI models to tap into massive amounts of real- and near-time data, supporting use cases such as customer operations, content creation and management, software development and sales. Your teams get a virtually identical experience as public cloud but backed by stronger operational control, performance and security from Dell Technologies—the leader in object storage.

Unmatched performance at scale

Simplify software-defined: ObjectScale is the ideal data store for emerging workloads including generative AI, machine learning, analytics, IoT storage and media content delivery due to its scalability, flexibility and ease of use. Add high-performance, all-flash storage to the mix and ObjectScale can fuel the most data-hungry workloads with industry-leading performance.

Scale for growth: Built on a scale-out architecture, ObjectScale clusters expand from a few terabytes to petabytes and beyond without limits on the number of object stores, buckets or objects stored. Because ObjectScale is a software-defined architecture, it's easy to keep pace with exponential data growth, wherever it occurs. Clusters start as small as four nodes and can scale to exabytes. With ObjectScale, support workloads at public cloud-scale with the reliability and control of a private cloud infrastructure.

Multicloud-enabled

Go cloud-native faster: ObjectScale leverages the native orchestration capabilities of Kubernetes— scheduling, load-balancing, self-healing, resource optimization—to deliver enterprise-grade object storage in a simple, software-defined package. By running ObjectScale in your data center, you can provide S3-rich services on-prem, helping you control shadow IT while freeing developers to support CI/CD processes and agile methodologies in a self-service manner via Kubernetes APIs. The result is faster time-to-market, improved security, cost reduction and true data innovation.

Provide rich S3 APIs: S3 compatibility gives developers a familiar set of APIs from which they can modernize existing workloads and design the next generation of enterprise applications. ObjectScale delivers the latest S3 capabilities with ObjectScale Lock, IAM, Select, Event Notifications, Bucket Logging and ObjectScale Replication, enabling workloads previously built for the public cloud to run seamlessly in your data center.

Accelerate development cycles: ObjectScale XF960 features powerful PowerEdge server performance and full-stack NVMe connectivity for faster ingest/reads. Efficiently drive any size project from small to massive, including very large objects well beyond the AWS maximum object size.

Secure by design

Gain trusted technology: ObjectScale is built from the same codebase as Dell ECS and inherits its trusted, enterprise proven pedigree. As the leader in object security[1] and the first provider to deliver a commercial CAS-based system: EMC Centera, Dell Technologies has decades of experience in unstructured data storage. In fact, Dell Technologies has been recognized as a Leader in Gartner's distributed file systems and object storage Magic Quadrant for the 8th year running.[2]

Replicate and protect globally: ObjectScale Replication enables objects to be replicated anywhere you have an ObjectScale footprint, from the edge to a core data center. By replicating data across the environment, you can protect workloads from outages and share data with teams anywhere in the world. Native multi-tenancy provides resource isolation and secure access. Use ObjectScale Replication to fuel everything from dev/test sandboxes to globally distributed data lakes.

Apply comprehensive security and data protection: With intrinsic security features such as data-at-rest-encryption, self-encrypting drives, resource isolation, versioning, ObjectScale Lock and global identity and access management (IAM), ObjectScale safeguards data from cybersecurity threats, ransomware attacks and unwanted access. Numerous erasure coding schemes deliver fault tolerance that meets your unique data protection needs with low overhead. It's enterprise-ready on day 1.

Efficiency and simplicity

Manage efficiently via the UI: IT operators can manage billons of objects, thousands of object stores and petabytes of data with low overhead using a centralized, intuitive GUI with built-in reporting and software updates. Numerous RESTful management APIs also enable easy integration into existing management and directory solutions. Storage clusters can be deployed in minutes and pushed to production or decommissioned at any time with a few simple clicks.

Enjoy the user experience: ObjectScale simplifies the deployment, day one operations, upgrades, performance tuning and ongoing support of enterprise object storage so you can focus more on innovation. Now, you can monitor the software environment, even across multiple locations, with one easy-to-use interface from CloudIQ.

Primary use cases

With rich S3 compatibility, enterprise-grade data protection features and a globally scalable architecture, ObjectScale is designed to support data-intensive applications and workloads.

GenAI, AI & ML: ObjectScale delivers performance at scale to support next-gen artificial intelligence and machine learning workloads, the next frontier for object storage. ObjectScale delivers datasets at high transfer rates to the most demanding CPU and GPU servers, exposing AI training algorithms to more data without introducing the complexity of HPC storage. Clusters can be scaled-out with ease to enhance performance and capacity linearly. Additionally, object tagging provides inference models with richer datasets from which to make smarter predictions.

Analytics: Execute lightning-fast queries on a performant ObjectScale data lake to gain operational insights at the speed your business demands. With the ability to deploy on NVMe-based, all-flash drives, storage performance is no longer a bottleneck. Custom tags add additional context to data for greater discoverability and faster results. S3a enables Hadoop workloads to directly read and write data to ObjectScale, replacing the need for complex HDFS cluster management.

Cloud-native web & mobile applications: ObjectScale is purpose-built for cloud-native applications. Featuring rich S3 compatibility for data access and Kubernetes APIs for container management, developers can integrate object stores into their CI/CD pipelines in a familiar, self-service manner, accelerating application development. Capable of scaling without limits, you can easily keep pace with data growth as applications expand in scope. ObjectScale Replication capabilities enable data to be distributed across any number of sites to promote fault tolerance and low-latency access.

Dev / Test: ObjectScale serves as the ideal sandbox for modern application development that requires S3. With automated provisioning and an integrated workload sizer, it's easy to deploy object stores and buckets. Multi-tenancy provides resource isolation while identity and access management (IAM) policies enable secure data access. Using ObjectScale, you can stand up object stores in minutes, decommission them when no longer needed or push them to production with a few simple clicks. Easily share data across development teams for greater collaboration and productivity.

Consolidated data lake/lakehouse: Store sensor telemetry, machine-generated logs and application data in an infinitely scalable, centralized data lake with ObjectScale. Deployable on all-flash or capacity-optimized media, you can choose the performance profile that best fits your workloads. Federate multiple sites together to eliminate data silos and provide anywhere access to data from core to edge to cloud. Tag objects to enhance analysis and make data more discoverable. Power data lake engines and analytics platforms from the likes of Starburst, Snowflake and Teradata.

Backup & archive: ObjectScale is a high-performance S3 backup target and cost-effective long-term archive. Featuring ObjectScale Lock for data immutability, data-at-rest-encryption (D@RE), global replication and erasure coding protection schemes, ObjectScale safeguards data from ransomware attacks and ensures resiliency from node or disk failures. It's business continuity at scale.

Dell Technologies Services for ObjectScale

You can count on a wide portfolio of choices to meet your services and support needs for ObjectScale. Highlights include the following:

- Our **Consulting Services** can help by assessing your environment and building a transformation plan that achieves measurable outcomes aligned to your corporate vision and strategy.
- **Our Deployment Services** can help your organization embrace new technologies by accelerating deployment and adoption so you can execute digital strategies and drive business outcomes.
- Dell Technologies Services can augment your in-house skills with consultants and technology experts enabling you to shift focus from day-to-day management to critical IT and business initiatives. This includes delivering:
  - **Support Services** that utilize our experts as well as AI, machine learning and deep learning to optimize performance while predicting, preventing and proactively resolving issues.
  - **Managed Services** to offload day to day IT operations by combining on-site and remote end-to-end management and operation of your infrastructure allowing your resources to focus on driving innovation.
  - And **Education Services** to help you upskill your teams by identifying knowledge and skills gaps and define a continuous learning strategy skills are up to date.
- Last but not least, Dell Technologies helps customers end-of-life technology responsibly. Whichever route you choose – and it could mean resale, recycle or return to lease – we ensure it's done securely with as little environmental impact as possible, through our **Data Sanitization and Asset Recovery Services**.

1. Based on available published specifications compared to Dell ObjectScale XF960 when configured with dual Intel processors with 32 cores each and 256GB memory, Sept. 2023.
2. Based on Dell analysis comparing ECS cyber-security software capabilities offered vs. competitive products, Oct. 2023.
3. Gartner, Inc. "Magic Quadrant™ for Distributed File Systems and Object Storage" by Chandra Mukhyala, Jeff Vogel and Julia Palmer, Nov. 1, 2023.

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