

Case Study:

Sycomp Storage Increases HPC Time-to-Results on Google Cloud for AI Enterprise Accelerating Scientific Discovery

About the Customer

An industry-leading artificial intelligence company, this Sycomp customer develops advanced artificial intelligence technologies to accelerate scientific discovery and innovation.

Industry: AI

Solution: Sycomp Storage Fueled by IBM Storage Scale on Google Cloud

Technology: IBM Storage Scale with Active File Management (AFM) and IBM Guardium with Application Data Encryption

Customer's Challenge

Facing significant obstacles arising from insufficient GPU resources, this industry leader in artificial intelligence (AI) development sought out a solution to improve their capability to innovate, scale and compete in market sectors that rely on high-performance computing (HPC), AI, and machine learning (ML).

The company needed the ability to process large AI jobs in Google Cloud using Google GPU nodes to expedite their AI training models and inferencing, supporting large language models and predictive analytics. Without extending their computing power, the organization faced significant risk to their continued growth and success in:

- Product development
- Time-to-market
- Operational efficiency
- Customer experience

The AI firm determined that they needed to maximize their GPU resources — either in the cloud or through on-premises infrastructure — and set out to partner with experts to architect a solution.



Google Cloud

IBM
Platinum Partner

The Sycomp Solution

The customer's search led them to Sycomp's team of HPC experts and engineers. The AI leader challenged Sycomp to deliver a cloud-optimized AI platform that could provide 1TiB per second of IO throughput to thousands of GPUs for a production workload.

To achieve this exceptional performance level, Sycomp's expert team recommended Sycomp Storage Fueled by IBM Storage Scale on Google Cloud. This production-ready solution is built on Google persistent storage and survives power outages and hardware issues without data loss or compromising performance. Leveraging Google's 200 Gbit-capable C3 systems and extreme persistent disk, the solution deployment included 3.5 PiB of Sycomp Storage capable of 750 GiB/sec throughput using NFS, with an expected 1.2 TiB/sec using Storage Scale native client.

Key Production Workload Results

1.2 TiB per second of IO throughput

"GCP's HPC and AI/ML customers demand amazing performance at competitive prices. By scaling to 1TB/s of low latency reads and dynamically accessing and synchronizing data with existing Google Cloud Storage buckets, the latest Sycomp Storage Fueled by IBM Storage Scale offering in the GCP Marketplace delivers a differentiated high-performance storage offering that can support the most critical and demanding workloads."

— Dean Hildebrand, Technical Director, Office of the CTO, Google Cloud



The Results

Sycomp Storage Powered by IBM Storage Scale on Google Cloud provided this AI customer with a fast, scalable, and cost-effective solution tailored for their data-intensive workloads. Sycomp Storage significantly accelerated time-to-results by delivering rapid checkpoint writes and enabled efficient archiving of checkpoints and result sets using a seamless integration with Google Cloud Object Store (GCS).

Leveraging the proven IBM Storage Scale parallel file system, the solution also offered secure, cost-effective, and automated deployment with a storage tiering platform optimized for Google Cloud, all deployable in just minutes. Combined with built-in automation and premium support ensured by 24/7 monitoring and management, Sycomp made the goal of optimized AI in cloud a reality for this customer.

The Key Benefits of Sycomp Storage on Google Cloud

Utilizing Sycomp's modern warehouses and integration centers to facilitate materials management through a "just-in-time" receiving model approach, this customer's data center integration deployments became more efficient and cost-effective. Sycomp manages documentation and acts as local storage capacity for product and inventory reclamation, streamlining the entire process for the customer's IT team.



Fast Deployment

Quickly burst to the cloud, deploy test clusters, or set up production systems in minutes.



Auto-Tiering

Automatically manage storage tiers to optimize both performance and cost.



High Performance

Support concurrent data access from thousands of virtual machines (VMs) or containers, with data access via NFS and the high-performance IBM Storage Scale client.



24/7 Premium Support

Continuous monitoring and management to ensure system reliability and performance.

About Sycomp

Sycomp is a global IT services and logistics provider with extensive expertise in cloud, data center, endpoint management and security solutions. Sycomp's diverse team of consultants and engineers deliver on the company's mission to tackle challenging global IT projects through its state-of-the-art integration and warehouse centers and global technology partnerships. Headquartered in the heart of Silicon Valley, California, Sycomp has successfully shipped, deployed and managed complex IT projects and supporting assets in more than 150 countries helping its Fortune 500 customers and global partners realize a world without boundaries. Visit sycomp.com for more information.

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