Challenge
For research data to be truly useful, it must be easy to access, share and manage without requiring expensive custom infrastructure. What organizations need is a modern research storage ecosystem that is easy to build and use, with a single interface for fast, reliable data transfer and sharing.

Benefits
• Enhances collaboration for researchers while reducing management burdens
• Saves time by simplifying the access and sharing of large amounts of data
• Increases data durability and integrity to ensure valuable data is protected

Solution
The combined solution of Globus® data management with the ActiveScale™ object storage system delivers a high-performance solution for research data storage that’s simple to deploy and easy to use. Researchers gain a uniform interface for accessing, moving and sharing data and administrators gain a cost-effective, scalable and durable solution they can deploy quickly to help their researchers innovate faster.

Research data ecosystems have grown highly complex, with collaborators from inside and outside the organization needing fast access to data. Researchers don’t want to have to wait for new accounts to be created or interfaces to be installed. They simply want flexible access to their data so they can move it and share it with those who need it.

To meet this challenge, most storage solutions are either too costly for organizations to acquire and operate, or too difficult to build and use. That’s why Globus offers a premium connector for the HGST ActiveScale object storage system, enabling researchers to easily integrate ActiveScale object storage into their storage ecosystem using the research data management tool they already know and use.

Proven, Simplified Research Data Management
Globus is the de facto standard system for research data management, used by thousands of researchers around the world. Globus provides a single, reliable tool to easily move, share, and publish data. The ActiveScale system provides high-performance storage that delivers predictable and consistent access to petabytes of data. With the combination of Globus and ActiveScale object storage, researchers can use the familiar Globus service interface to seamlessly move and share large amounts of data. All that’s required is an internet connection to initiate data sharing and transfers with the reliability and performance Globus is known for. Authentication and file movement is handled automatically, even for massive transfers, and for data sharing all you need is an email address. The solution can be installed and configured in minutes, and with the Globus platform APIs you can integrate these advanced data management capabilities into your own workflows and applications.

How It Works
The Globus Connect Server turns the ActiveScale system into an endpoint in the Globus storage universe, enabling all users with local accounts on that system to access, move and share their data via Globus. Although Globus Connect Server supports all POSIX®-compliant file systems, organizations are migrating their data to private cloud to take advantages of the data longevity and other benefits provided by object storage. Globus allows these diverse systems to be accessed in the same way, simply by installing the required connector.

Why Globus with ActiveScale
The integrated ActiveScale object storage with Globus solution solves your storage challenges with a performant, reliable and cost-effective system that’s easily accessible to all researchers and provides the following benefits:

• **Improves storage efficiency** by pooling redundant isolated storage resources under a single global namespace and freeing up high performance storage tiers by transparently moving infrequently accessed data to the ActiveScale system using automated lifecycle policies.
Accelerates workflow and collaboration to transform enormous amounts of information into insights that contribute to better research results. The ActiveScale system and Globus combine to deliver predictable performance, massive scalability and lower management complexity, making it easier for teams to collaborate boosting overall productivity.

Increases data durability and integrity at petabyte scale
ActiveScale object storage system helps ensure valuable data is protected and always available by delivering up to 17 nines durability and site-level fault tolerance in a multi-site configuration. Robust data integrity checks occur automatically and transparently protecting long-term archives; each object can tolerate up to 1000 bit-errors without data loss.

Simplifies installation and management
ActiveScale systems with Globus are easy to deploy. Simply add power and network connections and the ActiveScale system is ready to go; then sign up for a Globus subscription with the ActiveScale connector. The system self-protects and heals requiring significantly less IT intervention compared to traditional storage systems.

Conclusion
The data management and storage workload challenges faced by research organizations are daunting. Sensors, satellites, medical instruments and computer simulators create huge amounts of data that need to be efficiently processed, analyzed and stored for long periods of time. Data management solutions that combine the powerful Globus research data management service with ActiveScale object storage deliver the necessary usability, performance, scale and efficiency needed to address these enormous challenges.

To learn more about the ActiveScale system, visit: https://www.hgst.com/products/systems

Globus is a non-profit project from the University of Chicago. To learn more about Globus subscriptions and Globus low-cost connectors, visit: https://www.globus.org/subscriptions.