HGST Active Archive System

Simplicity at Scale™

For data centers battling massive data growth, flat budgets and limited IT resources, the HGST Active Archive System is a ready out-of-the-box object storage system that transforms silos of data storage into cloud-scale *active archives*. For data that requires long-term retention with easy and fast retrieval, the Active Archive System provides unprecedented levels of accessibility, scalability, simplicity and affordability.

Highlights

- **Simple to Deploy** – Power and network connections are all that is needed
- **Limitless Scale** – Increase capacity and performance in line with data growth
- **Highest Resiliency** – 15 nines data durability, with the ability to survive a data center outage
- **Best TCO** – Lowest acquisition cost, power/TB, highest capacity and density

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Use Cases

- **Cloud Service Providers**
  - Storage as a Service
  - Infrastructure as a Service
- **Media and Entertainment**
  - Live video archive
  - On-demand catalog
  - Cloud DVR
- **Healthcare and Life Sciences**
  - Genome data banks
  - Electronic medical records
  - Medical imaging

Simple to Install and Use

The HGST Active Archive System has removed all the challenges of architecting, purchasing and operating white-box cloud storage solutions by delivering a fully integrated rack-level system that can be up and running in minutes. Each unit is vertically integrated with object storage software, networking, servers and storage in an industry standard 42U rack. Simply roll into place, connect the power, configure the network connections and the system is online, presenting an S3-compliant object interface that can easily integrate with existing S3-aware applications. Now businesses can focus their resources on growing revenue instead of managing the infrastructure.

Limitless Scalability with Linear Performance Scaling

The system is based on a fully integrated modular architecture that starts at 4.7 petabytes of raw storage in a single rack and has limitless scale-out. As storage requirements grow, simply add additional storage racks to increase the available capacity and performance. Each rack delivers up to 3.5GB per second throughput to the clients and the aggregate available performance scales with additional capacity. A single system can scale from one data center to many geographically dispersed locations and each Active Archive System can be added on-demand with the same simplicity and scale. IT staff don't have to buy ahead of consumption or suffer through the problems of forklift upgrades to add more available capacity.

Highest Availability with Unbreakable Durability

Guaranteed data availability and data integrity are essential ingredients for a world-class cloud infrastructure. With patented BitSpread® technology, the Active Archive System is unmatched in both data durability and performance. At greater than 15 nines data durability– one in a quadrillion chance – the system achieves best cloud service provider guarantees and beyond. The self-healing design ensures strong consistency of all data written to the system and for data centers that span multiple locations, the Active Archive System can survive an entire data center outage and still guarantee continuous availability of customer data.

Compelling TCO compared to DIY

With Active Archive Systems, businesses and IT organizations no longer have to weigh the risks of a public cloud data breach against the cost to build an internal private cloud. Through vertical innovation and integration, HGST has delivered a system that rivals the scale and cost of traditional cloud infrastructure. Starting with total storage capacity required, by reliably distributing data across multiple data center, the need for expensive replica copies is eliminated, saving up to 60% in extra storage costs. In addition, for geographies where real estate is a premium, the innovative design delivers the highest capacity per square foot in the industry. Utilizing patented helium-filled hard drives, the system draws 60% less power and cooling than white-box alternatives. The breakthrough cost and simplicity of installation and commissioning ensures that IT time can be directed to activities that generate value for the business.

HGST
a Western Digital company

Product Specifications	Per Rack
Model #	SA7000
Configuration	
Object storage capacity[1] (raw)	4.7PB
Maximum object size	16TB
Maximum number of objects	1.8B
Erasure coding (spread width/ disk safety)	18/5
Performance	
Client throughput performance	3.5GB/s per rack
Reliability	
Tolerance	1000 bit errors per object
Data durability	15 9s (99.9999999999999%)
Availability (hrs/day x days/wk)	24x7
Upgrade	Rolling upgrades
Connectivity	
Protocols	S3 (NFS/SMB via NAS gateway)
Client connectivity	60Gbps/rack (6x10Gb/s)
Physical size	
Rack size height x width x depth mm (in)	2041mm x 600mm x 1025mm (82.52" x 23.622" x 40.354")
Weight kg (lbs)	1020 (2250)
Power	
Power supply	Redundant intelligent PDUs
Power consumption – typical (W)	7890
Power consumption – max (W)	10484
Environmental	
Cooling	Redundant high efficiency fans in the system
Temperature range	20° to 35°C de-rated 2% per 1000 feet altitude increase
Humidity	8% to 90% (non-condensing)
Compliance	FCC/ICES-003, CE, VCCI, CISPR 22, CISPR 24, KN22, KN24, EN60950-1 2nd Edition, UL60950-1 2nd Edition
BTUs	26,922 BTU/hr (Typical) 35,773 BTU/hr (Max)
Carbon footprint	0.0047 Metric Tons of CO2 (Typical) 0.0062 Metric Tons of CO2 (Max)

[1] One MB is equal to one million bytes, one GB is equal to one billion bytes, one TB equals 1,000GB (one trillion bytes) and one PB equals 1,000TB when referring to storage capacity. Usable capacity will vary from the raw capacity due to object storage methodologies and other factors.