

HGST Maximizes Savings With Object Storage Management Suite

Commissioned by HGST, a Western Digital brand.

Situation

New applications such as those driven by big data, social media, and mobile devices are driving unparalleled growth in data creation. The explosion in data creation resulted in storage being the largest contributor to most IT budgets. In addition to production data growing from 30% to 100% per year, data is kept active longer in the lifecycle as analytics looks for trends, opportunities, and competitive advantage. There is a steady decline in storage cost per GB, but this is more than offset by the growth of data. In addition, storage management costs are two to three times the cost of hardware. With IT budgets being effectively flat, the net result is an increased workload on administrators.

The mismatch in storage management efforts required versus available resources results in a higher risk of human error, or preventable hardware or software caused events. This increase in events results in increased downtime, time-consuming problem identification and resolution, and lower overall customer satisfaction. Without sufficient administrative resources, management staff is left to guess on future capacity and performance requirements. These guesses at future storage needs are most often inaccurate, which creates an environment that is inefficient and risky. A more cost-effective storage solution, along with an efficient, proactive management platform, is needed to address data growth, meet service level agreements, and maximize administrative resources.

HGST Active Archive System

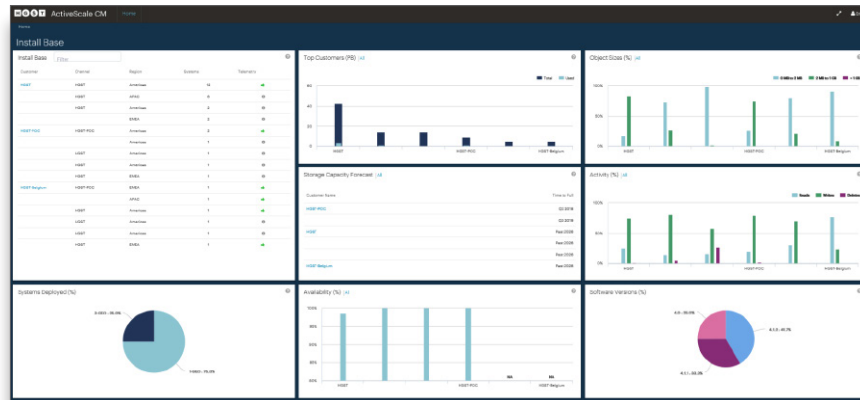
A significant portion of data within the enterprise is unstructured and accessed infrequently. This reference data does not require the transactional performance (or cost) of primary storage. Backup and recovery, private and hybrid clouds, media streaming, big data analytics, storing healthcare and life sciences information and content services are examples of workloads that generate or utilize significant amounts of reference data that, once stored, is typically not re-written. Object storage has become the preferred storage target for these archives of unstructured data. Object storage differs from traditional file storage in that it is stored in a flat address space with the metadata, or “data about the data,” being flexible in length and content, and co-resident with the object. There is no hierarchy or nesting of one object placed inside of another. This approach provides for richer metadata, more detailed than what is available in a file system. This richer metadata improves information relativity for analytics and enables a more granular search capability. Object storage is the simplest and most cost-effective of the approaches to storing data. The HGST Active Archive System provides object storage from 672TB to over 35PB of capacity, addressing even the largest cloud-scale environments. The Active Archive System comes with everything required; presenting an S3 compliant object interface that can easily integrate with existing S3-aware applications.

HGST Object Storage Management Suite

The Active Archive solves the Capex side of the storage cost equation, but data must still be efficiently and effectively managed. Systems need to be configured, upgraded and monitored for overall health and events. In addition, since the storage environment is not static with data continuously added, systems need to be optimized to meet current and future resource requirements. The HGST Object Storage Management Suite, consisting of the HGST System Management and ActiveScale Cloud Management CM, are purpose-built, dedicated storage management tools for the Active Archive System designed to maximize resources, simplify day-to-day operations, and identify action through detailed analysis.

HGST System Management

HGST System Management runs on all HGST Archive Systems managing the real-time aspects of the system including installation, configuration, changes, and recovery from hardware failures. It also supports monitoring and enables upgrades and expansions of the system. HGST System Management implements erasure coding, encryption, automatic data scrubbing, verification, repair, and optimization. When launching System Management, a dashboard provides the administrator with a glance at a view, providing system health, including capacity consumption and redundancy status.



ActiveScale™ CM: Cloud Management

ActiveScale CM is software that compliments HGST System Management, retrieving operational information from all object storage systems to analyze and create reports from this data. These reports give the administrator insights on how to optimize the object store and proactively respond to future events. For example, one can detect periods of peak utilization of the object storage systems and verify the corresponding performance statistics. Alternatively, one can identify the buckets with the largest number of objects or highest-used storage capacity. In addition, ActiveScale CM analyzes the ingested data and can correlate multiple events with each other. Above is an example of the ActiveScale CM dashboard. Available at a glance is the capacity per system, read/write workloads, object sizes, availability metrics, and the storage capacity forecast. The forecast empowers management staff to meet future capacity requirements without adding unnecessary resources.

Key Benefits

The Object Storage Management Suite translates into a number of advantages for the data center deploying object storage.

- **Simple** – ActiveScale can integrate with leading object store implementations including OpenStack, Swift, and Hadoop S3a. File store access via the gateway enables the use of object storage without the need to change applications or data access processes. The time-consuming and largely ineffective practice of capacity planning can be skipped since real usage models are calculated based on real consumption history.
- **Affordable** – ActiveScale requires no additional licensing or hardware to operate. Intuitive dashboards quickly pinpoint health and potential problems to streamline problem resolution and lower administrative effort, freeing IT from manual, inefficient monitoring. The prevention of problems leads to SLAs being met, contributing directly to the bottom line. The accurate capacity forecasting enables adding only the resources necessary to meet upcoming requirements.

- **Intelligent** – The analysis of the data informs the administrator of possible issues and gives them the opportunity to respond proactively and avoid downtime, a shortage of capacity, or performance resources.
- **Flexible** – By using the cloud to store and analyze data, administrative staff has flexibility on where and how to access ActiveScale CM data. ActiveScale delivers anytime, any device, and anywhere access to information.

EMA Perspective

Although object storage provides a cost-effective approach to storing the massive growth in unstructured data, the sheer volume of data threatens to overwhelm administration, resulting in increased downtime, inefficient use of resources, and lower overall costs. The HGST Object Storage Management Suite makes real-time management and predictive analysis easier, freeing up IT resources to improve the infrastructure and address business-focused IT projects. The business impact of the software suite expands beyond administration, enabling more aggressive service level recovery objectives. Performance, customer satisfaction, business results, operational efficiency, availability, and end user productivity are all improved while delaying or lowering capital expense. The combination of Active Archive hardware and ActiveScale software makes the difference in maximizing the benefits of object storage in the datacenter. Reference data can now be stored at a fraction of the cost of primary storage without compromise.

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About EMA

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