lightbits

Doing More with Less

Fortune 500 Software-as-a-Service (SAAS) Provider Increases Storage Reliability by 10X While Reducing Spend by 35%

Challenge

Scaling databases with highly scalable availability, efficient utilization and simple operation

Solution

Software-defined storage that enables separation of storage and compute for best utilization

Results

Direct-attached storage experience with disaggregation utilization benefit. Standard, simple, secure storage services on networks.

A large scale Software-as-Service (SaaS) provider was facing increasing demand for larger and more highly available databases as data and its efficient utilization, are key for offering better services and higher value to their customers.

They realized that meeting this demand would be nearly impossible without changing their storage approach. They needed a storage solution that achieves high performance, high availability, efficiency, scalability, and is easily managed, so that their services will always be available to provide the best user experience.

The SaaS provider turned to Lightbits™ LightOS® software-defined disaggregated storage to move their databases from Direct-Attached Storage (DAS) architecture to a disaggregated storage architecture and offer their customers better service availability and experience.

As a result, the SaaS provider improved their reliability by 10X, increased storage capacity utilization from 40% to 80% percent and reduced operating expenses by 35.6%, with LightOS compared to their DAS architecture.

> *"On standard server hardware, Lightbits out-performs the most expensive flash-array solutions we have in our infrastructure at a fraction of the cost while providing a delivery mechanism that provides universal access to our entire server-fleet with no compromises."* —Fortune 500 SaaS Provider

Overcoming Challenges Ahead

To handle growth, the main challenge the SaaS provider faces is scaling their databases in such a way that they always remain available while keeping their infrastructure cost in control.

- **Reliability**: Everything that can fail will fail. The underlying infrastructure must be able to support transparent failovers and rebuilds while protecting the applications from downtime and data loss.
- **Efficiency**: To meet increasing demand of high-performance databases, performance and latency must be optimized to deliver the best user experience.
- **Cost**: At large scale, SSDs are more expensive than the servers themselves cost. Capacity utilization and management of the storage must be frictionless to consume.

Partnering with Lightbits

Lightbits software-defined storage solution LightOS allows the SaaS provider to scale their database clusters without limits anywhere across their data centers while minimizing the management effort and running different environments including bare-metal services, virtual machines, and containerized workloads. Lightbits improves storage availability through data protection mechanisms such as in-line Erasure Coding (EC) to protect against SSD failures and cross-server replication to protect against server and rack level failures.

Installed on standard servers in large scale data centers, LightOS is optimized for I/O intensive compute clusters, such as Cassandra, MySQL, FDB, MongoDB, and time series databases. Lightbits unlocks the potential of a disaggregated high-performance end-to-end NVMe solution to maximize resource utilization and flexibility. No more managing a growing number of databases application servers with their underutilized silos of direct attached storage inhibiting simple and efficient cloud-scale architecture.

10X Higher Reliability	50% Increased Savings	35% Higher Efficiency
SaaS providers are protected against SSD failures, systems failures, and network failures while preventing application downtime and data loss.	In reference to DAS, SaaS providers can increase data center utilization, SSD endurance, and take advantage of wire speed compression.	SaaS providers can support more compute than storage with scalable performance and consistently low latency for the best user experience.