



## PRODUCT BRIEF

# SuperSSD™ Storage Solution featuring LightOS™ 2.0

Lightbits Labs LightOS is software-defined block storage bringing hyperscale efficiency and flexibility to all. It delivers composable, high-performance, scale-out and redundant NVMe/TCP storage that performs like local flash.

While software defined storage is desirable for its ability to lower cost by utilizing standard servers and components, a “do it yourself” approach is not for everyone.

For the ultimate in scalability, performance and convenience, Lightbits Labs is proud to offer SuperSSD: a pre-integrated, tested and certified combination of enterprise standard servers, NVMe drives, networking, LightField™ accelerator and LightOS software.

This ready-to-run solution allows rapid deployment of scalable, high performance cloud native storage.

## DEPLOY WITH CONFIDENCE

SuperSSD offers rich data services such as thin provisioning and compression yet performs like local NVMe flash. A single SuperSSD target server with drive and target server redundancy enabled can serve up to 3 million random 4K read IOPs and up to 800,000 random 4K write IOPs. The same server can provide up to 16GB/s of read bandwidth and up to 8GB/s of write bandwidth.

SuperSSD performs at local NVMe latencies even under load. SuperSSD delivers 4K IO response time averages of 200µs at over 2 million read IOPs and 300µs at nearly 600,000 write IOPs.

## WHY LIGHTBITS?



**Cloud native storage for cloud native applications**  
**Simplify high performance, low latency, scalable storage that boosts application performance while lowering cost**



This 2U, 24 SuperSSD platform comes in various pre-configured capacities with software and hardware support. It's the fastest and easiest way to get LightOS deployed, backed by world-wide warranty and support services.

## SUPERSSD KEY FEATURES

### Unmodified Software on Clients

- Standard NVMeoF 1.1 w/multipathing (ANA)
- Clients can connect to multiple clusters

### Clustered/Failover Storage Solution

- Distributed cluster management with fast failover and no single point of failure
- Cluster size: 3-16 servers
- 64K Volumes per cluster

### SuperSSD Cluster Performance

- 48 Million 4K Random Read IOPs
- 12.8 Million 4K Random Write IOPs
- 256 GB/s Read Bandwidth
- 128GB/s Write Bandwidth

### SuperSSD Cluster Latency

- $\leq 200\mu s$  average 4K Random Read @33.6 Million IOPs
- $\leq 300\mu s$  average 4K Random Write, 2X Replication @9 Million IOPs

### SuperSSD Cluster Capacity (8TB drives)

- 2.4PB Usable (2x replication, Elastic RAID, 2:1 compression)

### Storage Services

- Data reduction: Thin provisioning and Compression
- Elastic RAID for drive failure protection
- Volume replication (1x, 2x or 3x) per volume

### Node Management

- Replication and failover handling
- Network failures handling using NVMe/TCP multipath
- Non-disruptive (for 2x and 3x replicated volumes) cluster upgrades

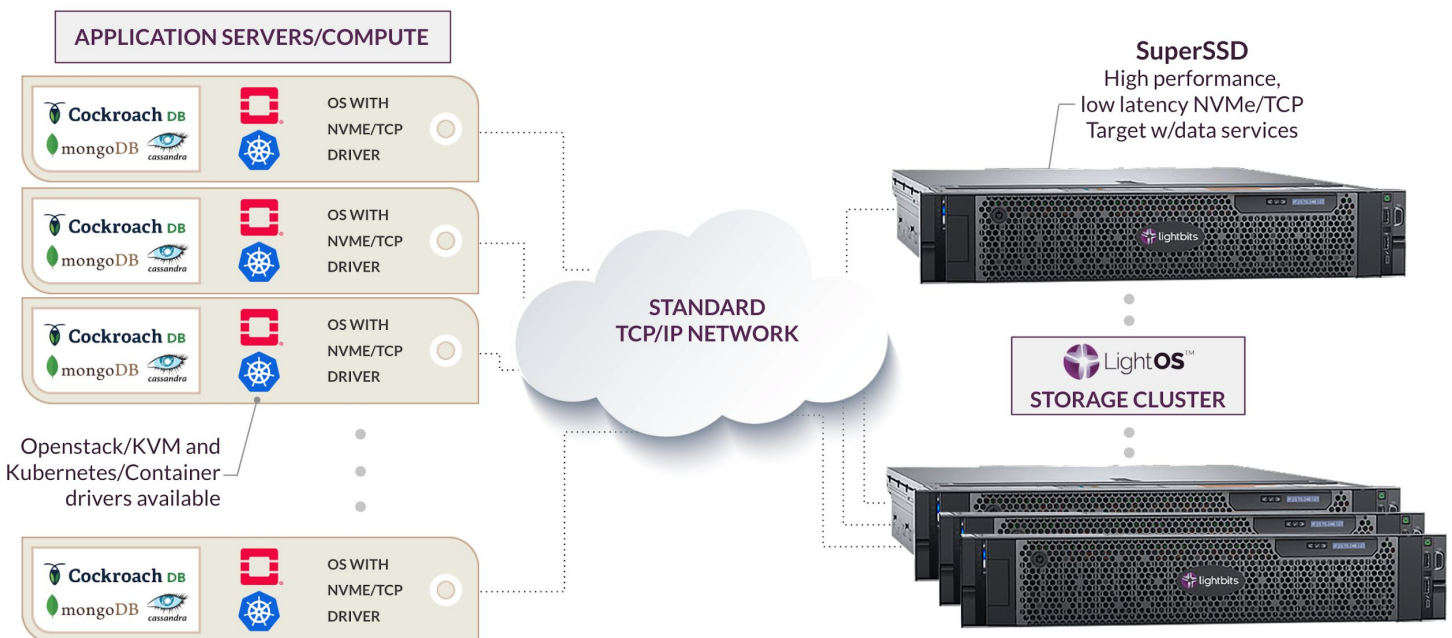
### Application Environment Support

- Kubernetes v1.13, v1.15 and above via CSI
- Openstack Queens, Rocky & Stein via Cinder
- Bare Metal
- Ansible playbooks for RPM based Linux distributions

### Management

- RESTful API
- CLI support for scripts and monitoring
- Prometheus Metrics and Alerts
- Pre-configured Grafana dashboards

## SUPERSSD CLUSTER TOPOLOGY



Overview of a Cloud Native Database deployment utilizing SuperSSD NVMe/TCP targets for database storage

## SUPERSSD AND LIGHTOS BENEFITS



Composable: Simple Scaling and Deployments



Fast Application Deployment and Load Balancing



Improved Utilization and TCO

## SUPERSSD AND LIGHTOS APPLICATIONS



Visual Effects and Video Processing



Latency and Performance Sensitive Databases



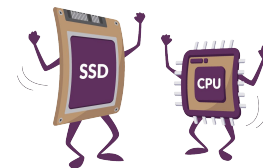
Latency Sensitive High Transaction Workloads



Cloud Services IaaS, PaaS, SaaS

|                      |  |
|----------------------|--|
| Platform             | Lightbits SuperSSD   |
| Server Configuration | Dell R740xd, 2U 24 NVMe  |
| CPU                  | Dual Intel Xeon 5120 @2.2GHz or 6132 @2.6GHz                     |
| Capacity Options     | 64, 128 or 192 TB of NVMe flash                                  |
| SSD Storage          | Up to 24 NVMe 2.5" drives  |
| Connectivity         | Dual 100 Gb Ethernet   |
| Protocol             | NVMe™/TCP  |
| Support/Maintenance  | Perpetual license with 3 years hardware and software, extendable |

To learn more, please visit our website, [www.lightbitlabs.com](http://www.lightbitlabs.com)  
 To contact our team, email us at [info@lightbitlabs.com](mailto:info@lightbitlabs.com)



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