Acceleron Scale-Out NAS Storage
Product Specifications

ACCELERON SCALEOUT STORAGE ® B-SERIES

Acceleron ScaleOut Storage B100 is built on scale out storage file system and are designed with enterprise features and reliability at an entry- level cost. Available in one model, the Acceleron Scale Out-NAS. B100 provide unified NAS, PFS and object storage, and are available in single hybrid or all-flash configurations. The Acceleron SCALEOUT-NAS B100 offers excellent reliability and affordability for small and medium IT environments. B100 also support archival Object Storage System hardware appliance based on dedicated, native Object Storage system. The Acceleron SCALEOUT-NAS B100 offers highly reliable ***hyper convergence and web scale up features.***

The Acceleron SCALEOUT-NAS The system is based on distributed and scale out architecture, with scalable augmentation of both the nodes as well as storage, and across geographical locations

HYPERCONVERGED STORAGE

Acceleron SCALEOUT-NAS B100 comes with hyper converged storage and web scale features. User can scale up NAS/PFS/Object storage without affecting performance of existing storage by adding more storage SCALEOUT-NAS boxes as a cluster at no-extra provisioning cost.

FLASH ASSISTED PERFORMANCE

Acceleron SCALEOUT-NAS gives Solid-state performance by caching read and write. Acceleron SCALEOUT-NAS leverages RADOS to merge multi-layer DRAM and flash cache with high-density spinning disks: system RAM and SSDs are used to cache reads and writes while HDDs store the data.

STORAGE OPTIMIZATION

Acceleron SCALEOUT-NAS B100 maximizes storage efficiency by offering compression and thin provisioning at no extra cost. Before data is stored, Acceleron SCALEOUT-NAS B100 dynamically detects and compresses what it can and skips over any data too inefficient to be worthwhile.

UNLIMITED SNAPSHOTS AND REPLICATION

Most storage appliances require additional licenses for advanced features – but not Acceleron B100. Unlimited snapshots and replication and compression are some of its advanced features. OS-Series also support unlimited file version retention, restoration, and replication features too. Acceleron SCALEOUT- NAS B100 can be used as storage local storage, remote backup storage, or to the cloud for backups or disaster recovery.

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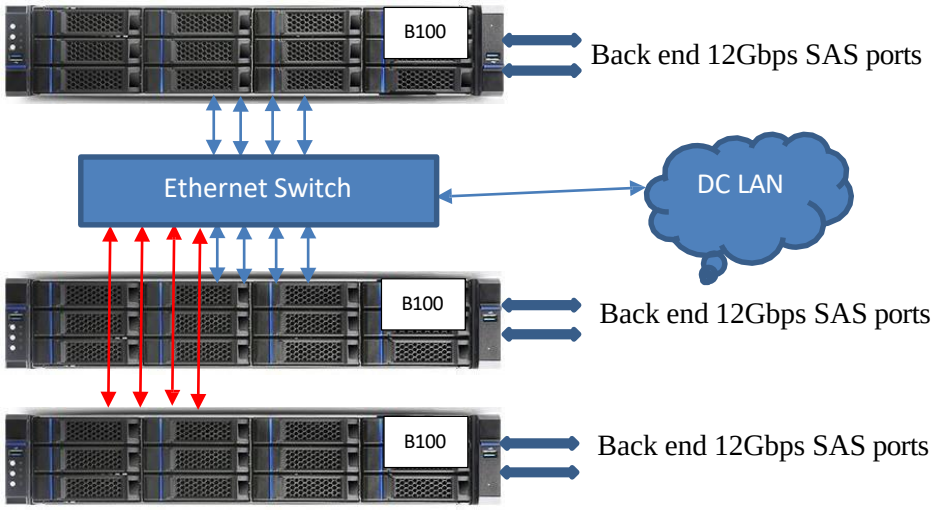

B100

B100 native object storage architecture provides data access natively to users as a NAS system with SMB, CIFS, NIFSv3/4, S3 and PFS protocols. B100 provides global namespace with true anywhere access and it is able to efficiently store PBs of data, billions of small files and large files. B100 uses erasure code to support RAIN features and it can provide 4 disks failure protection or 2 node protection irrespectively of the object size. Erasure coded pool help the object storage to self-heal in case of parity mismatch and no manual intervention should be required in case of the drive failures. Erasure coded pool provides balancing of the stored capacity across all nodes in the cluster to ensure even and efficient load distribution. In case of replication-based data redundancy approach, internal algorithm will rebalance the nodes for optimum distribution of the storage. The storage system provides rebalancing of data across all the nodes in the cluster when new nodes are added. B100 allows addition of nodes (for I/O) and disk systems (for capacity) without downtime in the cluster, object storage switch fabric will have design in advance based on future expansion requirements. Disk can be added to each node using Disk expansion enclosure using SAS interfaces of each node. Each node in the cluster should have same number of computing cores, number of disks, memory is preferred.

B100 storage provides integration with Active Directory and LDAP servers.

Acceleron B100 Data Protection

Acceleron B100 has automatic and scheduled multi-layer data integrity checks ensure data consistency, while unlimited snapshots and clones make it is easy to implement a disaster protection strategy and to instantly roll back to a previous point-in-time. At the same time, a scheduled self-healing mechanism fixes malfunctions and automatically restores full data redundancy in the system. Even when a disk fails, the software-based spare function offers one disk to several RAID arrays, saving you money on extra hardware without compromising data safety

Storage Management

Acceleron B100 has management software (Web GUI, CLI) for configuring, managing & administering Object & file storage and associated functionalities including deployment, automation, provisioning, protection and continuous system monitoring, auditing, advanced remote diagnostics. Acceleron B100 support Web based, Email facility for remote services to report errors and warnings. It maintains transactional logs and support forwarding to log servers for auditing.

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Acceleron B100 Scalability

Acceleron B100 will let you experience unlimited flexibility and minimize downtime. Acceleron B100 uses a 128-bit file system that includes unlimited snapshots for easy backup, unlimited clones for easy duplication, unlimited capacity with volume sizes up to one Zetabyte, as well as unlimited number of disks which can be increased on the fly without effort by using thin provisioning and file systems can have the capability to grow online. There are no limitations and you may easily control the total cost of ownership and expand your storage infrastructure as data grow. It can be able to scale seamlessly across geographically dispersed data centers and supports site replication feature.

Read and Write Cache Operations

Acceleron B100 has support caching data read and write operations, write cache has RAID 1 (mirror) protection. Nodes should have the same cache configuration and for read cache, it is RAM is used whereas write cache is implemented with NVMe or SAS SSD disks. Acceleron B100 supports cache memory from 128GB to 1TB DDR4 RAM.

Disk Type Support

Acceleron B100 supports SSD, SAS & SATA/ NL-SAS disks and enclosures within same storage system. Acceleron B100 supports configurable hot spare support. User will be able to configure the homogeneous disks as hot spare for a storage disk cluster. Acceleron B100 support Global hot spare and it can be assigned to any disk cluster. There is a provision to define/ configure the required erasure code levels (M+N), M data nodes and N parity nodes global hot spare disks allocation.

Access Client Systems and Protocol Support

Acceleron B100 supports heterogeneous client operating systems on both block and file which include all popular flavors of Windows, Linux and virtualization hypervisors (VMware, Xen, Hyper-V, etc.). Acceleron B100 can be configured with NFS, SMB, CIFS, PFS, S3, HTTP and HTTPS protocols. It provides multiple levels of access control including role-based security and auditing and also support Active Directory and LDAP integration.
It also provides User/group/directory-based file system quotas with access controls. The storage system allow access to stored data for data analytics natively or via protocols like NFS/PFS/HTTP/S3/HTTPS.

High Availability

Acceleron B100 has high available internal configuration with No Single Point of Failure (NSPoF) architecture and redundancy features at all levels, controllers, hot swap power supplies, PDUs, cache, links between subsystems etc. Acceleron B100 provides Erasure coding mechanism for RAIN levels (M+N). Multiple redundant controllers in active-active mode with automatic fail over to each other in case of failure. The same controller pair should provide all the required functionality of NAS, PFS and Object Storage.

Solution can configure the system with multiple ways, one of the more used configurations supports simultaneous 2 controller/Node Failure without data unavailability or data loss. provides 4 disks failure protection or 2 node protection irrespectively of the object size

Object Management

B100 has Object storage management support. B100 provides content protection by allowing more than one copy of data for selected objects through mirroring or other means. The system provides versioning for files that will be edited, for potential use in recoveries. System allows to set policies to enable or disable versioning at bucket level. It supports “deletion/ reclaim” of the objects which get deleted through application or by virtue of retention policy. B100 have metadata-driven policies to automate placement, protection, availability at object, tenant, or system levels and set retention and expiration. It maintains the authenticity and integrity of the objects and protect against corruption or tampering using digital cryptographic hash keys such as MD5 for S3 storage. The storage can enable data to be stored with standard and custom metadata. It allows the creation of custom metadata fields for objects and ingest data by manual means, through application and programmatically by scripts.

LAN Management

Acceleron B100 give dedicated management Ethernet port for management for the storage. It supports Ethernet Trunking and link aggregation for both management and Datapath Ethernet interfaces.

B100 Node Hardware Specifications	
Form factor	• 2U/4U, 19" rack mount • Dimensions (WxDxH) – 438 x 658 x 88.9/178 (mm)
Processor subsystem	• Intel Xeon/AMD Processors upto 290W **(Configured at Purchase)** • From 16GB Up to 1TB RAM **(configured at purchase)**
Number of Controller Node available in the storage system using switches	• Min 3 Nos of nodes for storage high availability and Controller redundancy • Number controllers /Nodes are configurable at purchase time
Max Per Node Physical Storage	• 2U Form factor: 360TB for SSD/NLSAS, 50TB for SAS per node • 4U Form factor: 720TB for SSD/NLSAS, 100TB for SAS per node
Cache	• SAS SSD/NVMe SDD based Cache support • Replicated Cache disk support
Front Control	• Power button • System reset button
Front End I/O Ports	• 4 x 10Gbps/25Gbps/40Gbps Ethernet or • 2 x 100Gbps Ethernet
Back end I/O Ports	• 4 x SAS 12Gbps ports
Replication ports	• 2 x 1Gbps Ethernet
Disk Redundancy Level Support	• Erasure coding Support (M, N). (**Configured at purchase**)
Visual Indicators	• Power • UID • LAN activity • HDD status
Drive bays	• 2U Form factor- 12 x 3.5" or 24 x 2.5" SAS/SATA **(configured at purchase**) per node • 4U Form Factor -36 x 3.5" or 48 x 2.5" SAS/SATA **(configured at purchase**) per node
Hot spare	• Industry standard Hot spare support
Active-Active Controllers Configured in HA	• In 3 Node configuration the nodes are in Active-Active configuration
Total Configurable Cache	• Minimum 64GB cache on each controller
Power	• 2 (1+1) CRPS (80+ Platinum)
Cooling	• 80 x 25/38mm internal fans
Temperature	• Operating: 10°C to 35°C (50°F to 95°F) • Non-operating: -40°C to 70°C (-40°F to 158°F)
Weight	• 15Kg
Operating System	• Linux

B100 Software Specifications	
Storage Architecture	• HDD + SAS SSD R/W Cache • SAS/SATA SSD + NVMe R/W Cache
Storage Technology	• SATA • SAS • NL-SAS • SSD • NVMe
Read Cache Technology	• RAM
Write Cache Technology	• SAS SSD/NVMe SSD
Enterprise File System	• NAS File Systems • Object File System • PFS File System
Data Management	• Snapshots • Replication • Rollback • Clones • Mirroring • Erasure Coding (M, N)
Data Reduction	• Thin Provisioning • Compression • Clones
Access Protocol	• iSCSI • NFSv3 &NFSv4 • CIFS, SMB • HTTP • HTTPS • S3 • Rest API • PFS
Software Compatibility	• Clients: Unix, Linux, Windows, VMware, FreeBSD, MacOS
Replication Software support	• Asynchronous Replication Support • Additional Asynchronous Replication license required • Replication software support to same Acceleron SCALEOUT-NAS B100 cluster only
High Availability	• No Single point of Failure with Non-Disruptive replacement of Hardware • The Storage provide Non-disruptive Firmware /Microcode upgrade
Encryption	• Encryption at rest and TLS
Data Compression	• In-line data compression supported
IPv6 Support	• Yes

Remote Replication	• Support replication capabilities between the DC, DR and Near DR
Internet Data Protection	• Intrusion Prevention System (IPS)

Acceleron Labs Pvt. Ltd.
www.acceleronlabs.com