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EUROstor ES-8700CLB2U

The EUROstor ES-8700CLB2U is a 2U 24-SFF-Bay Cluster-in-a-box solution that provides high-availability in an active-active configuration. Combined with Open-E JovianDSS data storage software it is a perfect fit for mission-critical, enterprise-level storage applications. The system comes with two Intel® S2600TP Server Boards (one board per node), each supporting dual Intel® Xeon® processors in the E5-2600 v3 family.

Key features of the system:

• High-availability storage server for mission-critical, enterprise-level storage applications

• Fully redundant and fault-tolerant

• Supports hot swappable controller nodes and storage drives

• Two compute nodes, Active-Active configuration, each supporting two Intel® Xeon® Processors E5-2600 v3 Product Family and up to 512GB of DDR4 memory

• 10GbE, PCIe NTB or SAS link between nodes for communication and failover

• Built-in LSI SAS3x36R SAS expander per node

• Intel® Trusted Platform Module (TPM) header to support Intel® Trusted Execution Technology (TXT)

Both nodes process I/Os and provide simultaneous and balanced access to the logical devices, this way increasing overall cluster performance significantly. When a failover occurs, the secondary node automatically takes over the devices, client connections, and all processes and services of the system. This way, your data is protected from loss of revenue when access to data resources and critical business applications is disrupted. The EUROstor ES-8700CLB2U eliminates Single Points of Failures. As the system supports SSDs it allows faster access to data.

› Guaranteed data protection

› Enhanced storage performance

› Flexible scalability

› Simplified management

› High Availability

› Data integrity check

› Thin provisioning

› Tiered RAM and SSD Cache

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Guaranteed data protection

Datais your most important resource. This is why the Open-E JovianDSS-based EUROstor ES-8700CLB2U includes several mechanisms for data protection. 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.

Flexible scalability

The EUROstor ES-8700CLB2U will let you experience unlimited flexibility and minimize unappreciated downtime. Open-E JovianDSS 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 amount of disks which can be increased on the fly without effort by using thin provisioning. There are no limitations and you may easily control the total cost of ownership and expand your storage infrastructure as data grows.

EUROstor ES-8700CLB2U

Enhanced storage performance

Nowadays, enterprise storage has to provide big capacity while also being fast, affordable and include reliable support. This is exactly what EUROstor ES-8700CLB2U has to offer. Open-E JovianDSS-based EUROstor ES-8700CLB2U is an innovative hybrid storage system fusing the capacity of HDDs with the performance of SSDs in a single solution that offers high performance while lowering cost. Additionally, by leveraging capacity optimization technologies and advanced tiered SSD and RAM caching, EUROstor ES-8700CLB2U provides an overall efficiency boost and increased cache performance. On top of that, powerful tuning tools allow the system to optimize on I/O heavy databases or high throughput video editing equally well and predefined profiles save annoying testing time.

Simplified management

Managing Open-E JovianDSS and its extensive features is easy and intuitive compared to many competing solutions on the market. The WebGUI provides a quick overview and management of all storage resources and features. After extensive analyses of storage usage and user interaction the clicks per step in each functionality have been reduced to a minimum, i.e. in creating iSCSI targets or when expanding the size of your storage. This way, you are able to quickly and easily manage EUROstor ES-8700CLB2U with Open-E JovianDSS, barely involving actions of a storage administrator.

Active-active failover resource switching time test results

Total number of targets	Switching time [seconds]	Performance test results [passed/failed]
2	21	passed
10	24	passed
20	28	passed

High Availability solution functionality test results

Functionality test name	Functionality test results [passed/failed]
Manual Failover	passed
Automatic Failover triggering after network failure	passed
Automatic Failover triggering after shutdown test	passed
Automatic Failover triggering after reboot test	passed
Automatic Failover triggering after power-off	passed
Automatic Failover triggering after I/O test	passed

HA Cluster-in-a-Box solution for mission-critical environments

High Availability

The EUROstor ES-8700CLB2U is a perfect option if you are looking to deploy a High Availability cluster setup with NFS or iSCSI for storing business- critical data. With the Open-E JovianDSS High Availability Cluster Feature Pack the EUROstor ES-8700CLB2U ensures reliability and redundancy through failover in case of a failure. By using the cluster management software, all features related to the cluster setup can be quickly accessed and maintained - everything is in one place and guarantees ease of use for the storage administrator. Moreover, Open-E JovianDSS includes an independent Virtual IP (VIP) addresses feature. With this, VIPs can be used by multiple servers and flexibly switched at all times. When a hardware failure is detected, VIPs are automatically moved from the primary to the secondary node without the client servers noticing a timeout.
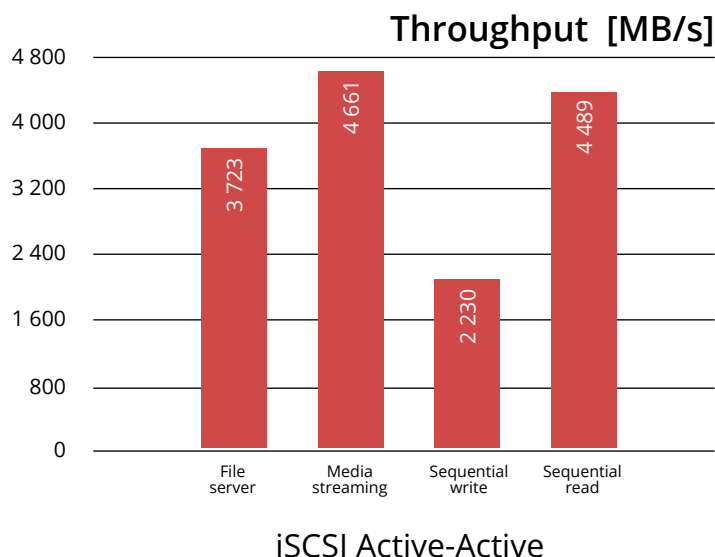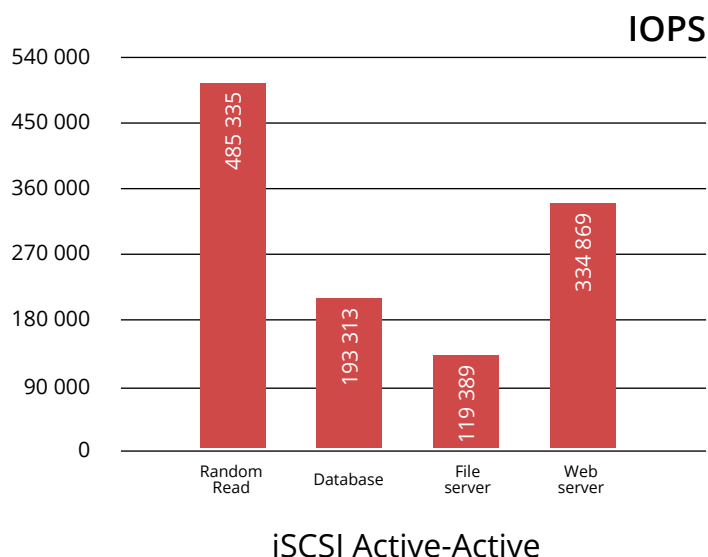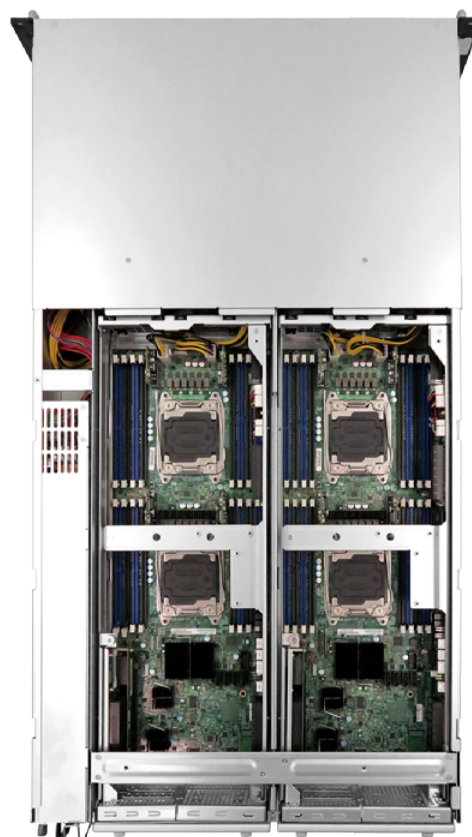
Data integrity check

The EUROstor ES-8700CLB2U storage system effectively detects data corruption, as even minor integrity violations could cause loss of data. EUROstor ES-8700CLB2U ensures reliability by check-summing individual blocks of data and once faulty blocks have been detected they are automatically rewritten. If the same error is found several times the data blocks are moved to different parts of the HDD. Each read/write is checked automatically plus you can schedule to perform checks on not accessed blocks. All actions are done in atomic writes to ensure consistency of your data and to reduce data loss, even during power cuts.

Tiered RAM and SSD Cache

The Open-E JovianDSS-based EUROstor ES-8700CLB2U works as a tiered storage environment - dramatically speeding up access to frequently accessed files. It uses a caching algorithm to cache "often used" and "recently used" data separately, and provides the best performance for your storage by tiering hot data between RAM and SDD Cache. In EUROstor ES-8700CLB2U data is always saved on HDDs and only Hot Data is stored in RAM and SSD to ensure data safety and increase performance weeks, hours or even minutes. With EUROstor ES-8700CLB2U it is easy to manage storage capacity and set notifications when physical space shrinks.

Thin provisioning

The EUROstor ES-8700CLB2U uses thin provisioning to improve your storage utilization by allocating just the exact amount of server space at the time it is required. You'll eliminate the cost of unused storage space and never again have to pre-allocate storage up front and buy too much hardware. In EUROstor ES-8700CLB2U there is no need for evaluating storage requirements and take the risk of rebuilding the entire system when it runs out of space. With this system it is easy to manage storage capacity and set notifications when physical space shrinks. This is a highly scalable solution – just add physical disks as your data grows.

IOPS

Random Read	485 335
Database	193 313
File server	119 389
Web server	334 869

iSCSI Active-Active

Throughput [MB/s]

File server	3 723
Media streaming	4 661
Sequential write	2 230
Sequential read	4 489

iSCSI Active-Active

Hardware details

	Default configuration	Options
CPU	Intel® Xeon® Processor E5-2690 v3 2.60GHz	Any Intel® Xeon® E5-26xx v4
RAM	128GB DDR4 ECC REG	Max. 1,024GB per compute node
HDDs	ST1000NX0333 P/N: 1FN201 Firmware Version: E002	Disks up to 2TB, SSDs up to 3.8TB
Raw capacity	18TB	Up to 92TB per system, more with JBODs
Hard drive interface	SAS	-
Network interface	10GbE	More / other 1/10/25/40/100Gbit NICs
Form factor	2U	-
Weight (gross)	41kg (Chassis/PSU/Slide rail)	-
Power	Idle: 342,9 Load: 933,0	-

EUROstor

EUROstor has been a manufacturer of storage systems for more than 12 years. Originally manufacturing RAID systems, today the main part of the product portfolio are server based systems, acting as flexible storage servers, tailor-made for the customers' needs.

Solutions range from small file servers and CCTV storage to high available storage clusters, scale-out clusters and cloud solutions.

EUROstor is located in Filderstadt near Stuttgart (Germany) sells to professional end users all over Europe, SMBs, universities and research institutes and data centers.

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About Open-E

Open-E is a well-established developer of IP-based storage management software. Open-E JovianDSS and Open-E DSS V7 are robust, award-winning enterprise storage applications which offer excellent compatibility with industry standards, and are the easiest to use and manage. Additionally, they are some of the most stable solutions on the market and undisputed price/performance leaders. Open-E accounts for over 27,000 installations world-wide and has received numerous industry awards and recognition. Thanks to our reputation, experience and business reliability, Open-E has become the technology partner of choice for industry-leading IT companies.

For further information about Open-E, its products and partners, visit http://www.open-e.com/

About the Open-E JovianDSS Server Certification

Open-E JovianDSS delivers software-defined storage which results in a wide variety of different hardware requirements such as performance range, capacity capability, and connectivity. To ensure compatibility and robust storage environments, all selected partners offer storage systems which are tested, benchmarked and certified by Open-E. This way, customers are able to use solutions that require exceptional security and redundancy, without compromising performance.