EUROstor

open-e JovianDSS

EUROstor ES-8700 JDSS - HA SAS Shared Cluster

Benefit from scalable ZFS data storage with ES-8700 JDSS and Open-E JovianDSS. This software-defined storage solution is well-suited for a wide range of applications. It caters perfectly to the needs of enterprises that are looking to deploy a flexible storage configuration.

EUROstor and Open-E can look back on a strategic partnership of over a decade. As a partner with a Platinum partnership level, EUROstor has always been working hand in hand with Open-E to develop and deliver innovative data storage solutions.

In fact, EUROstor supports enterprises worldwide in managing and protecting their storage, with over 2,800 Open-E installations to date

By partnering with EUROstor and Open-E, you receive highly efficient and reliable storage solutions that offer:

- Great adaptability
- Tiered and all-flash storage systems
- High IOPS through RAM and SSD caching
- Superb expandability with EUROstor's high-density JBODs – without downtime

ES-8700 JDSS offers not only great features, but also great flexibility – thanks to its modular architecture.

- Guaranteed data protection
- Enhanced storage performance
- Flexible scalability
- Optimized for Data Centers
- High Availability
- Tiered RAM and SSD Cache
- Unlimited number of snapshots and clones
- Thin, Thick and Over-provisioning

Powerful EUROstor ES-8700 JDSS

Guaranteed data protection

Data is your most important resource. This is why the Open-E JovianDSS-based ES-8700 JDSS 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.

Optimized for Data Centers

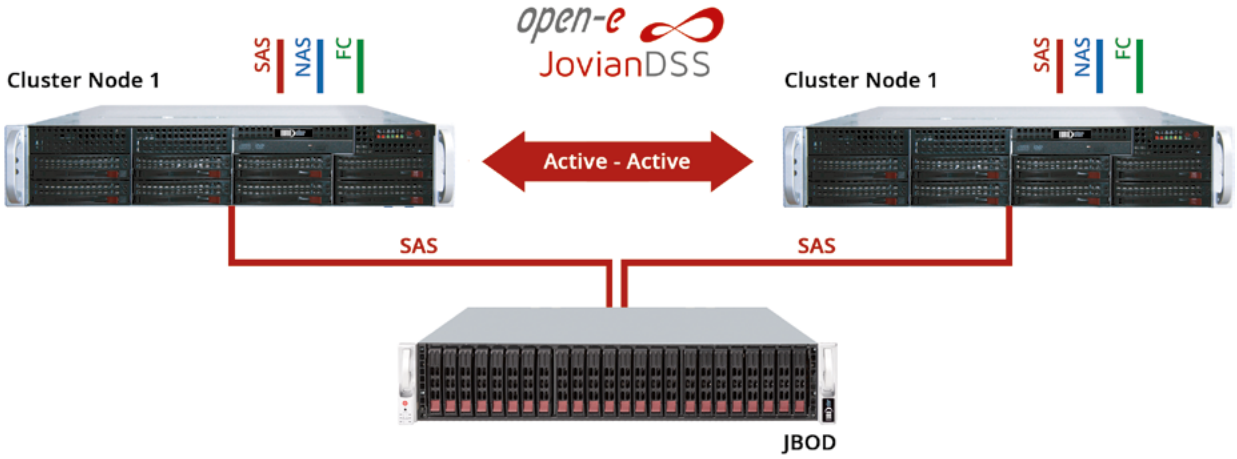
The ES-8700 JDSS is optimized for the modern data center, ready for compute-intensive applications that involve big data, intensive virtualization workloads and higher-density server configurations. It allows administrators an intuitive management of storage infrastructures and maintaining continuous operations during updates or refreshes. By choosing ES-8700 JDSS you benefit from flexible CPU power, Fibre Channel connections, networks running 1, 10, 25, 40, 50 or 100 Gb Ethernet, as well as knowledge and experience of EUROstor in ES-8700 JDSS and developing solutions specialized for datacenter.

Enhanced storage performance

Nowadays, enterprise storage has to provide big capacity while also being fast, affordable and include reliable support. This is exactly what ES-8700 JDSS has to offer. Open-E JovianDSS-based ES-8700 JDSS 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, ES-8700 JDSS 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.

Flexible scalability

The ES-8700 JDSS 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.



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

Certification notes:

That system was certified using QLogic QLE2672-CK Fibre Channel Adapter. Intel Ethernet Controller X722 provided in this system was used as Cluster management connection therefore we performed stability and compatibility tests on QLogic FastLinQ QL4100 only, confirming that this card will not pose any issues with Open-E JovianDSS.

High Availability, flexibility and efficiency for mission-critical environments

High Availability

The ES-8700 JDSS is a perfect option if you are looking to deploy a High Availability SAS Cluster setup with Fibre Channel (FC). With the Open-E JovianDSS High Availability Cluster Feature Pack the ES-8700 JDSS 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 one node to another without the clients noticing a timeout.

Unlimited number of snapshots and clones

Every Open-E JovianDSS-based ES-8700 JDSS allows an unlimited number of snapshots and clones – greatly simplifying back-ups, replications and data recreation in case of accidental deletes or viruses. Snapshots are read-only points-in-time and allow for easy roll-back. They are a must-have option for effective disaster recovery scenarios and in ES-8700 JDSS you may schedule snapshots for months, weeks, hours or even minutes. Whereas, a clone is a writable copy of a snapshot and allows to easily duplicate virtual machines and scale out for virtual networks instantly and without duplicating data.

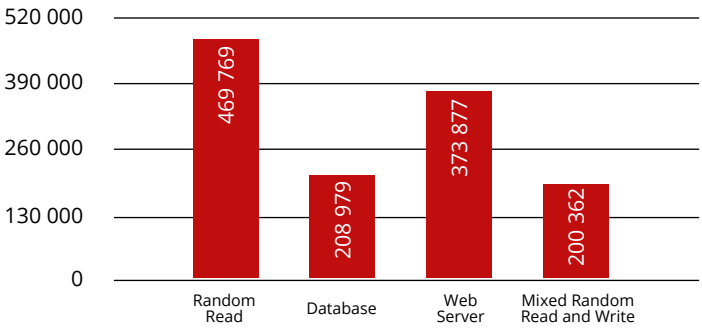
Thin, Thick and Over-provisioning

The ES-8700 JDSS uses thin provisioning to improve your storage utilization by allocating an exact amount of storage space at the required time. You'll eliminate the cost of unused storage space and never again have to pre-allocate storage up front and buy too much hardware. There is no need for evaluating storage requirements and taking the risk of rebuilding the entire system when it runs out of space. With ES-8700 JDSS it is easy to manage storage capacity and set notifications when physical space shrinks.

Tiered RAM and SSD Cache

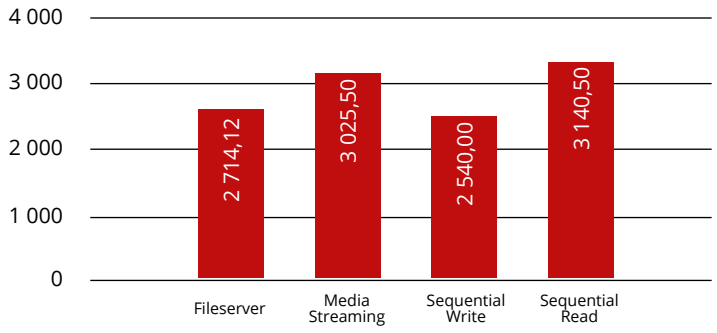
Open-E JovianDSS-based ES-8700 JDSS works as a tiered storage environment - dramatically speeding up access to frequently accessed files. It uses a caching algorithm to cache "often used" and "recently used" data separately, and provides the best performance for your storage by tiering hot data between RAM and SDD Cache. In ES-8700 JDSS data is always saved on HDDs and only Hot Data is stored in RAM and SSD to ensure data safety and increase performance.

IOPS



FC Active-Active

Throughput [MB/s]



FC Active-Active

Hardware details

Server heads ES-8708DA

For each of the 2 servers

	Default configuration	Options
Motherboard	Supermicro X11DPi-NT	-
CPU	1x Intel® Xeon® Silver 4112 CPU 2.60GHz	Intel® Scalable Processor Serie (up to 28 cores per CPU)
RAM	8x 16GB Micron MTA36ASF2G72PZ-2G6E1	Up to 2TB DDR4 RAM
Storage raw capacity	10TB	Scalable to Petabytes
Drive controller	1x LSI SAS 3008-8E Host Bus Adapter	-
Fibre Channel	2x QLogic QLE2672-CK Fibre Channel Adapter	32 Gbit/s Fibre Channel
Network interface	2x Intel® Ethernet Controller X722 for 10GbE 2x Marvell FastLinQ® QL41112HLRJ 10GbE Ethernet Adapter	More / other 1/10/25/40/50/100 GbE NICs
Form factor	2U	Different chassis sizes available
Power	2x 920W Redundant Power Supply	-

JBOD ES-8724JBR12A

	Default configuration	Options
HDD's	18x 600GB Seagate ST600MM0099	All certified SAS HDDs, NL-SAS HDDs, SAS SSDs
Read cache SSD's	2x 1.6TB Seagate XS1600LE10013	All certified SAS SSDs
Write log SSD's	4x 800GB Seagate XS800LE10013	All certified SAS SSDs
Form Factor	2U	Different chassis sizes available
Power	2x 1200W Redundant Power Supply	-

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, founded in 1998, is a well-established developer of IP-based storage management software. Its flagship product Open-E JovianDSS is a robust, award-winning storage application which offers excellent compatibility with industry standards, and is the easiest to use and manage. Additionally, it is of the most stable solutions on the market and undisputed price performance leader.
Thanks to its reputation, experience and business reliability, Open-E has become the technology partner of choice for industry-leading IT companies. Open-E accounts for over 30,000 installations world-wide and has received numerous industry awards and recognition, also with its product Open-E DSS V7.
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.