



## EUROstor ES-8708XSS JDSS



The EUROstor ES-8708XSS JDSS is a high performance storage server that addresses the needs of enterprises aiming at a low-maintenance deployment of a flexible storage configuration. Combined with the proven ZFS- and Linux-based Open-E JovianDSS storage management software, the ES-8708XSS JDSS is perfectly suited for a variety of applications. Thanks to a long-term partnership between EUROstor and Open-E, users are given an opportunity to implement a reliable, highly efficient and innovative storage solution that offers:

- Great adaptability
- Tiered and all-flash storage systems
- High IOPS through RAM and SSD caching
- Superb expandability with EUROstor's high-density JBODs

Among the above mentioned advantages, the solution also enables Mirrored Shared Storage

setups, offering redundancy not only with the cluster heads but also with the JBODs connected.

Multiple host ports with up to 25 GbE avoid bottle-necks of data throughput.

As a Platinum Partner, EUROstor provides professional support with Open-E JovianDSS Certified Engineers who support users from the initial deployment to further configuration or daily maintenance tasks. The company offers the following advanced support options for ES-8708XSS JDSS:

- Next-business-day on-site service for hardware
- Up to 5 years of warranty
- 24/7 software support

EUROstor supports leading worldwide enterprises in managing and protecting their storage, accounting for more than 300 cluster installations up till now.

- › Guaranteed data protection
- › Enhanced storage performance
- › Optimal resource utilization
- › Flexible scalability
- › Data integrity check
- › Tiered RAM and SSD Cache
- › Data compression and in-line deduplication
- › Thin provisioning and unlimited number of snapshots

# ES-8708XSS JDSS

## Guaranteed data protection

Data is your most important resource. This is why the Open-E JovianDSS-based ES-8708XSS 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 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.

## Enhanced storage performance

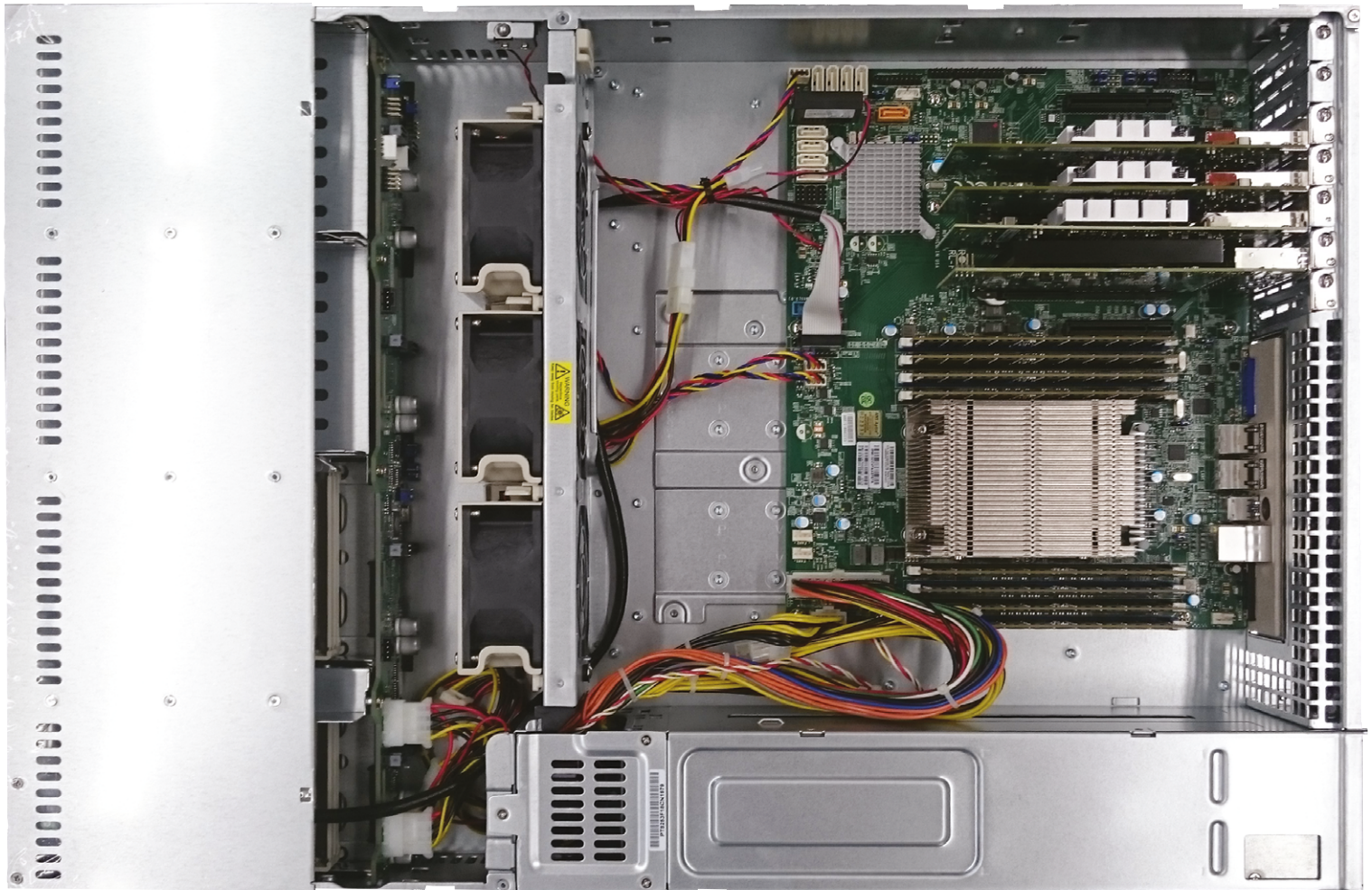
Nowadays, enterprise storage has to provide big capacity while also being fast, affordable and include reliable support. This is exactly what ES-8708XSS JDSS has to offer. Open-E JovianDSS-based ES-8708XSS JDSS is an innovative hybrid storage system fusing the capacity of HDDs with the performance of 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-8708XSS 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 and predefined profiles save annoying testing time. For highest throughput, the ES-8708XSS JDSS is additionally equipped with 25Gbit Ethernet cards by QLogic.

## Optimal resource utilization

ES-8708XSS JDSS fully utilizes your storage resources thanks to many high-end features included in Open-E JovianDSS. These features are especially crucial when deploying virtual environments. With deduplication and compression you are able to virtually increase your storage size and use thin provisioning to easily grow physical storage capacity without downtime. More efficient use of disk space also allows for longer disk retention periods. Tiered caching will allow reaching high performance values from all disks which can be managed and monitored in ES-8708XSS JDSS. This server fully leverages hybrid storage, combining high performance and high capacity at an affordable price.

## Flexible scalability

The ES-8708XSS 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.



## Data compression and in-line deduplication

ES-8708XSS JDSS offers data compression for minimizing storage capacity usage and ultimately boosting performance and taking less space on your storage. Find resource-friendly compression protocols (lz4) with low system resource utilization at medium compression rates, but also protocols that are able to achieve very high rates for archiving or backup (as gzip-9). The in-line deduplication feature in ES-8708XSS JDSS removes redundant data and minimizes storage capacity usage. The software checks each block for redundancy in the system and if it finds a match the new block isn't written; instead, a shortcut leading to the original block is created. Such a system can reach a deduplication ratio of 3:1 or more, which means that if you place 3TB of data it will only use 1TB of physical disc space. This feature is especially interesting for highly repetitive data, i.e. in VDI, server virtualization or backup, where much higher deduplication ratios can be reached.

## Data integrity check

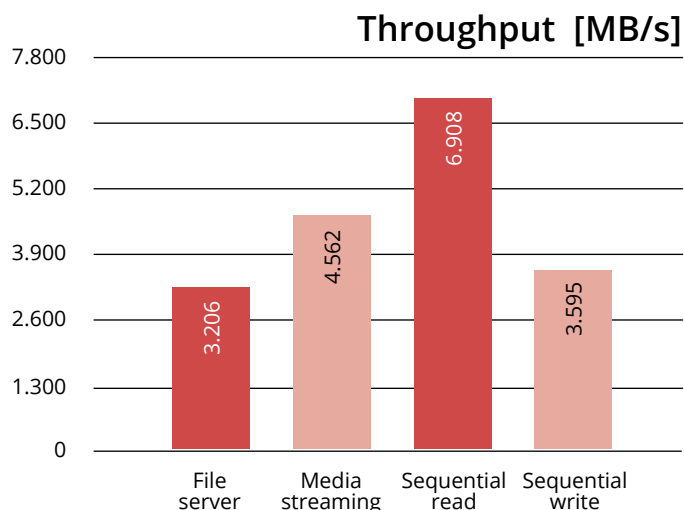
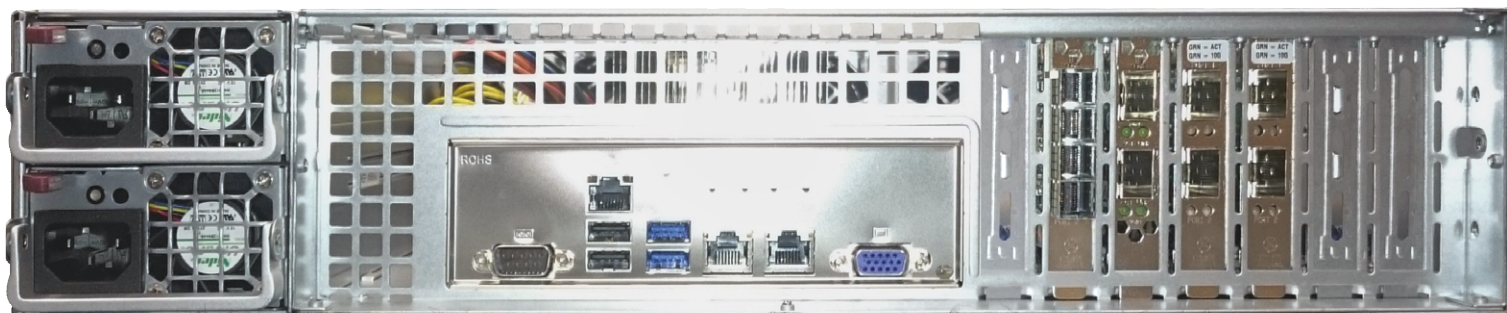
The ES-8708XSS JDSS storage system effectively detects data corruption, as even minor integrity violations could cause loss of data. ES-8708XSS JDSS ensures reliability by check-summing individual blocks of data and once faulty blocks have been detected they are automatically rewritten. If the same error 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.

## Thin provisioning and unlimited number of snapshots

ES-8708XSS JDSS uses thin provisioning to improve your storage utilization by allocating an exact amount of server 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. Also, every ES-8708XSS JDSS allows an unlimited number of snapshots – greatly simplifying backups, replications and data recreation in case of accidental deletes or viruses. Snapshots are a must-have option for effective disaster recovery scenarios. Schedule snapshots for months, weeks, hours or even minutes. With ES-8708XSS 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-8708XSS 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 SSD Cache. In ES-8708XSS JDSS data is always saved on HDDs and only Hot Data is stored in RAM and SSD to ensure data safety and increase performance.



# ES-8708XSS JDSS

## Hardware information

	Default configuration	Options
CPU	Intel® Xeon® Processor E5-1650 v4 @3.6GHz	Intel® Xeon® E5-1600 v4 or E5-2600 v4 Processor
RAM	8 x 16GB Samsung DDR4-2400 ECC REG	Up to 512GB
RAW capacity	352TB	Up to several Petabytes
HDDs	44 x Seagate ST8000NM0075	1-10TB NL SAS, SAS 10K, SAS 15K, SSD
Read cache	2 x 400GB Seagate ST400FM0243	Up to 3,2TB SSDs
Write log	2 x 200GB Seagate ST200FM0143	Up to 3,2TB SSDs
Hard drive interface	LSI/Avago 9305-16E SAS 12Gbit HBA	Additional HBAs
Network interface	QLE3442-CU Dual 10GbE and QL45212CU Dual 25GbE	Additional 10 or 25 GbE Ports
Form factor	2U 19" Head 4U 19" JBOD	-
Weight	Head: 16 KG JBOD: 35 KG	-
Power	Head: Redundant 740W Platinum JBOD: Redundant 1,280W Platinum	-
Fan	Head: 3 hot-swap fans JBOD: 5 hot-swap fans	-
Power consumption	Maximum: 850W	-

## 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.

## 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/>

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## 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.