OPEN-E JOVIANDSS
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ENTERPRISE CLASS STORAGE OS
FOR EVERY BUSINESS
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CTT Zero One Blue J24S-D

CTT's Zero One Blue J24S-D is the top model of the Zero One Blue storage range. The server is a flexible solution, suitable for a wide range of storage environments and applications. Additionally, the Zero One Blue J24S-D is configured for maximum IO rates and high performance.

Suitable applications for the Zero One Blue J24S-D:

- VDI
- Web server
- File server
- Media streaming

Storage systems which are tailored to customer needs – this is CTT's speciality. And only high-quality hardware is used for the Zero One Blue J24S-D, including the latest Intel® CPU generation. At the same time, the solution offers an optimal price-performance ratio.

The partnership between CTT and Open-E started back in 2000 which is why the company is a specialist for Open-E storage solutions. Benefit from the combined forces of both companies with the Open-E JovianDSS certified Zero One Blue J24S-D!

- > Enhanced storage performance
- > Optimal resource utilization
- > Flexible scalability
- > Simplified management
- > Data integrity check
- > Tiered RAM and SSD Cache
- > Data compression and in-line deduplication
- > Thin provisioning and unlimited number of Snapshots

Enhanced storage performance

Nowadays, enterprise storage has to provide big capacity while also being fast, affordable and include reliable support. This is exactly what Zero One Blue J24S-D has to offer. Open-E JovianDSS-based Zero One Blue J24S-D 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, Zero One Blue J24S-D 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.

Optimal resource utilization

Zero One Blue J24S-D 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 Zero One Blue J24S-D. This server fully leverages hybrid storage, combining high performance and high capacity at an affordable price.

Flexible scalability

The Zero One Blue J24S-D 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.

Simplified management

Managing Open-E JovianDSS and its extensive features is easy and intuitive compared to many competing solutions on the market. The Web-GUI 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 Zero One Blue J24S-D with Open-E JovianDSS, barely involving actions of a storage administrator.

Data integrity check

The Zero One Blue J24S-D storage system effectively detects data corruption, as even minor integrity violations could cause loss of data. Zero One Blue J24S-D 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.

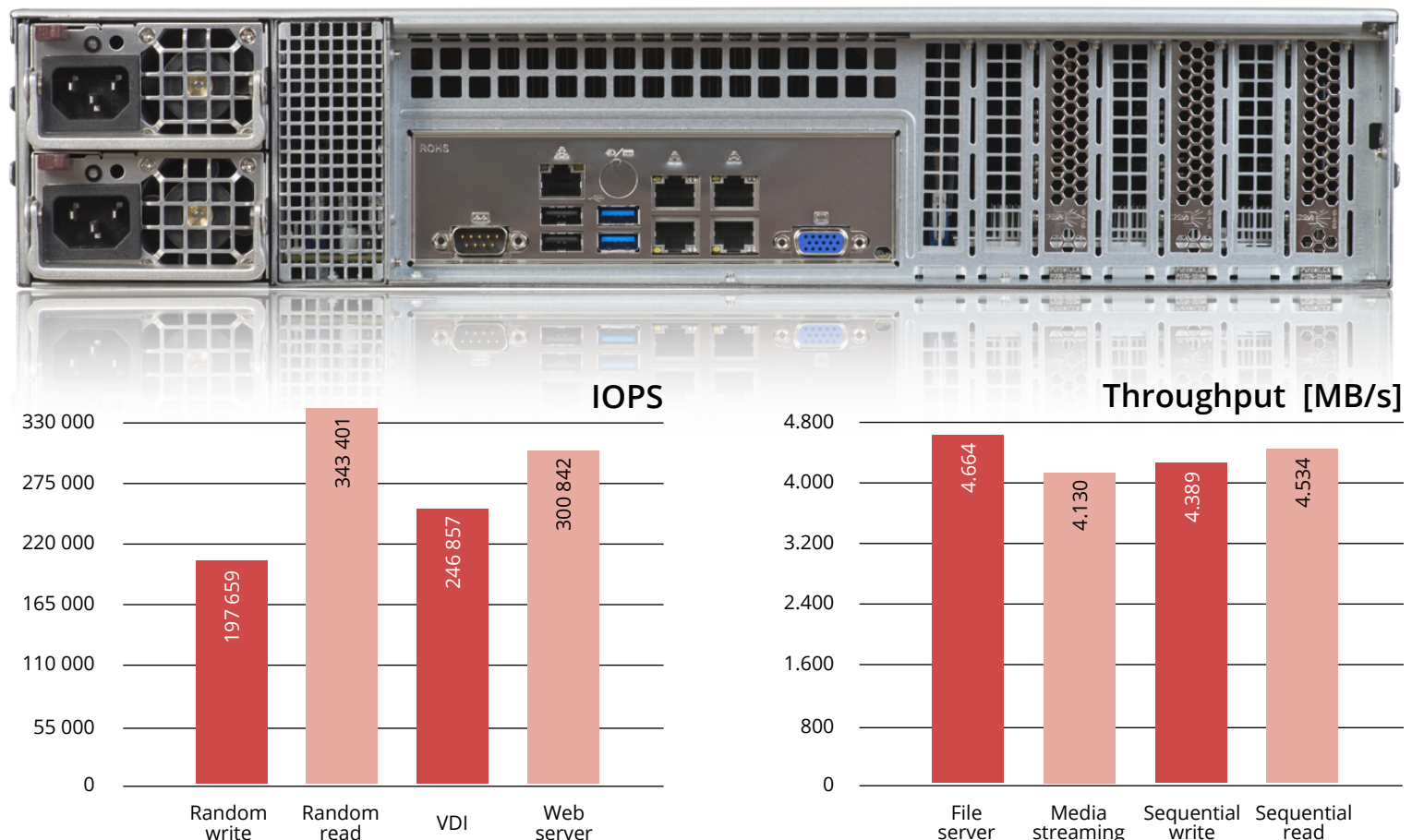## Data compression and in-line deduplication

The Zero One Blue J24S-D offers data compression tor 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 back-up (as gzip-9). The in-line deduplication feature in Zero One Blue J24S-D 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.

Thin provisioning and unlimited number of snapshots

The Zero One Blue J24S-D 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 Zero One Blue J24S-D 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 Zero One Blue J24S-D it is easy to manage storage capacity and set notifications when physical space shrinks.

Tiered RAM and SSD Cache

The Open-E JovianDSS-based Zero One Blue J24S-D 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 Zero One Blue J24S-D data is always saved on HDDs and only Hot Data is stored in RAM and SSD to ensure data safety and increase performance.

IOPS

	IOPS
Random write	197 659
Random read	343 401
VDI	246 857
Web server	300 842

Throughput [MB/s]

	Throughput [MB/s]
File server	4.664
Media streaming	4.130
Sequential write	4.389
Sequential read	4.534

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Hardware information:

	Default configuration	Options
CPU	2 x Intel® Xeon E5-2690v4	2 x Intel® Xeon E5-2600v3/v4 family
RAM	256GB DDR4	Up to 3TB DDR4
RAW capacity	36TB	-
Read cache	4 x 200GB	-
Write log	2 x 200GB	-
Hard drive interface	SAS 12Gb/s	-
Network interface	4 x 10GbE	-
Form factor	2U rack	-
Weight	27kg	-
Power	920W redundant	-
Fan	3 x 80mm	-

About CTT Computertechnik AG

CTT Computertechnik AG was established in 1979 and has almost 40 years of professional experience with data storage systems. We are a customer-oriented family business providing a wide range of custom-built storage, server and desktop solutions as well as hardware components to retailers, business enterprises and education and government organizations. Our close cooperation with many renowned hardware manufacturers, and the expertise of our engineers enables us to provide state-of-the-art solutions at attractive terms.

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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.