



Advanced Storage Software for Cloud & Virtualization Data Center Services



Challenge:

Cloudlayer8 (CL8) is a state-of-the-art Tier-III data center and Cloud services provider from Cyprus. The company needed a new software solution for its configurations of two off-site backup server setups, one of which was already using a **Veeam Cloud Connect** solution and the other, using a **VMware VDC** solution. Their previously used data storage software solution was generating errors on a regular basis.

The main requirements for a software solution to be suitable included:

- Low latencies and high IOPS performance
- High Availability and load-balancing functionality
- Good price-performance ratio
- Support for Virtualization (VMware and Veeam)
- Convenient usage with easy data access
- Reliability and scalability of the software solution
- Platform-independence, use with commodity hardware

Due to their customers' evolving needs, CL8 keeps on adding new and innovative functionalities into what their solutions offer. That is why it became essential to find a software solution that would match the data center virtualization and advanced cloud features their company offered. This included compatibility with both of the VMware and Veeam software solutions that they used.

Furthermore, the software solution had to improve the work of the servers and provide data acceleration while also adapting to their servers' existing features. This had to be achieved using the solution's interoperability not only with HDD but also SSD, thus maintaining the existing operating capacity of the servers. To provide faster access to the data kept on the data storage solutions, the system had to be able to operate with low latencies and high Input Operations Per Second.

The CL8's servers were already being used as off-site backups of the clients' data. That is why they had to be highly protected from any potential corruption of the data or, in worst case scenarios, its loss. That's also why the data had to always be available. Due to that, the software solution had to provide both High Availability and a failover feature, making the data accessible on both nodes in a cluster even during hardware failure.

Solution:

Thanks to the company's previous experience with Open-E JovianDSS and its proven reliability, scalability, and price-performance ratio, the choice of the software solution was obvious.

Since the Pre-Deployment process included the transition of both active production servers from one software solution to the other, there was a need to keep the data on them available to customers without any downtime. With the assistance of Open-E engineers, the data was smoothly migrated to Open-E JovianDSS servers without any complications. Additionally, both the data storage solutions using the VMware Virtual Data Center and the Veeam Cloud Connect virtualization software were expanded to a second node, forming High Availability Clusters.

Since the systems started operating on Open-E JovianDSS, no more errors were recorded. The software solution has proven to work flawlessly with both CL8's VMware Virtual Data Center and Veeam Cloud Connect Offsite Backup Services. The systems gained additional performance thanks to being properly configured and ZFS' inherent file system characteristics.

CL8 was very impressed by how well Open-E JovianDSS worked, especially on the servers using VMware VDC. So much so, that after some time had passed, they requested the VMware VDC configuration's extension.



Customer Feedback

"Offering money-back guarantee SLAs for a data center is not easy, and reliable enterprise software is essential to have peace of mind!"

We've been using the Open-E JovianDSS system for more than a year. The product experience is very positive, as it is stable, easy to use, robust, and offers excellent performance. The High Availability Cluster has an outstanding price-performance ratio."

Theodosis Theodosiou, Business Development Manager

Hardware Details:

Configuration used for the VMware VDC (VMware Cloud Provider™ Program)

Configuration per cluster node

Server: SYS-2029U-TR4T

Chassis: CSE-219U2TS-R1K62P-TN20

Motherboard: X11DPU

Power supply: 1600W Redundant Power Supplies Titanium Level Certified

Processor: 2x Intel® Xeon® Silver 4215 8 cores/16 threads 2,50 – 3,50GHz

RAM: 256GB DDR4 2933 ECC (8x32GB) Micron 36ASF4G72PZ-2G9E2

RAID: 1x Intel® RAID modules RMS25CB080

HBA: 4x LSI SAS 9300-8E SGL, 8-Port ext. 12Gb/s SFF-8644, SATA + SAS

Network connection: 2x Broadcom NetXtreme E-Series P210TP, Dual-Port 10GBase-T, 1x 4-port 10GBase-T adapter Intel® XL710 and X557

Boot: 2x 240GB SSD (Mirrored – RAID 1)

Write-Log: RAM/SSD tiered Read Cache: RAM/SSD tiered

Configuration used for the Veeam Cloud Connect Offsite Backup Service

Configuration per cluster node

Server: SYS-2028U-TR4+

Chassis: CSE-219UTS-R1K02P-T

Motherboard: X10DRU-i+

Power supply: 1000W Redundant Power Supplies Titanium Level Certified

Processor: 2x Intel® Xeon® Processor E5-2667 v4 8 cores/16 threads 3.20 – 3.60GHz

RAM: 256GB DDR4 2657 ECC (8x32GB) SK Hynix HMA84GR7CJR4N-VK

HBA: LSI SAS 9300-8E SGL, 8-Port ext. 12Gb/s SFF-8644, SATA + SAS

Network connection: 4x Dual-Port 10GBase-T Intel® X540

Boot: 2x 240GB SSD (Mirrored – RAID 1)

Write-Log: RAM/SSD tiered Read Cache: RAM/SSD tiered

Storage Configuration:

Configuration used for the VMware VDC (VMware Cloud Provider™ Program)

| | |
|----------------------------|---|
| JBOD: | 4x SuperChassis 216BE2C-R741JBOD |
| SSD: | 96x Seagate Lange 3.8TB SAS 12Gb/s, 15mm, 1DWPD SSD |
| Zpool: | 12x Raid Z2 (8 Disks per group) |
| ISCSI Multipathing: | Active-Passive configuration |
| Storage capacity: | 352TB usable in one zpool |

Configuration used for the Veeam Cloud Connect Offsite Backup Service

| | |
|--------------------------|---------------------------------------|
| JBOD: | 2x SuperChassis CSE-946SE2C-R1K66JBOD |
| NL: | 90x Seagate 8TB 7.2k SAS 12Gb/s |
| Zpool: | 9x Raid Z2 (10 Disks per group) |
| SMB: | Active-Passive configuration |
| Storage capacity: | 518.68TB usable in one zpool |

Configuration used for the VMware VDC (VMware Cloud Provider™ Program)

2x Open-E JovianDSS Basic License

1x Open-E JovianDSS Storage Extension (Initially) 128TB

1x Open-E JovianDSS Storage Extension (Additionally) 256TB

1x Open-E JovianDSS Storage Extension (Additionally) 64TB

1x Open-E JovianDSS Storage Extension (Additionally) 32TB

1x Shared HA Cluster Feature Pack

2x Premium Support - 3 Years from Open-E

Configuration used for the Veeam Cloud Connect Offsite Backup Service

2x Open-E JovianDSS Basic License

1x Open-E JovianDSS Storage Extension 1PB

1x Shared HA Cluster Feature Pack

2x Premium Support - 3 Years from Open-E



About Cloudlayer8

With over 10 years of cumulative experience, cutting edge facilities, tailored made solutions and round-the-clock support, CL8 is designed to scale with business; offering unsurpassed reliability and peace of mind, and allowing to set up and optimise IT infrastructure and operations based on individual business needs. As the first independent, carrier-neutral, state of the art Tier-III Data Center in Cyprus, they pride themselves in providing a wide range of Data Center and Cloud services to the local and international markets.

For more information, visit: <https://cl8.com/about-us/>

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 that offers excellent compatibility with industry standards. It's also the easiest to use and manage. Additionally, it is one of the most stable solutions on the market and an 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 38,000 installations worldwide. It has received numerous industry awards and recognition. It also offers Open-E DSS V7.

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

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