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CODE MONKEY
studios ltd

GPS Solution Provider Runs
the Metro High Availability Cluster
Powered by Open-E JovianDSS

Code Monkey Studios Ltd is a Software Solutions Company specializing in Location services chooses Open-E JovianDSS for their data storage solution. Code Monkey writes and runs solutions for companies around the globe, and hosts it all on their own DataCenter. In total, the company has around 100 000 devices reporting in every 30 seconds throughout the day with the location data.

Technical and business goals

· To create **a cost-effective solution** to centrally serve virtual machines.
· To prepare **a fast, reliable, and redundant storage** backed by SSDs.
· To create **a highly redundant, flexible, and easy** to use solution.
· To make a solution that **works together with VMware ESXi**.

open-e
JovianDSS

Hardware details

Configuration	
Server:	2 x Dell R720 Servers
Chassis:	2U
Motherboard:	Dell R720
Power supply:	2x 750W PSU
Processor:	2x Intel® Xeon® 2650 V24 Cores – 8 Threads
RAM:	256 GB DDR3 1866 Mhz
RAID:	Open-E Mirror Groups, no hardware RAID
HBA:	2 x H730P controllers
Network connection:	6 x 10GB NIC & 2 x 1Gb NIC
Boot:	2 x 200 GB SATA SSD Software RAID 1
Write Log:	None
Read Cache:	None

Storage configuration

JBOD:	11 x 1.92TB SAS & 5 x 3.84TB SAS JBOD
zPool:	10x 1.92 TB in Mirror Groups + 1x Hot Spare, 4x 3.84TB in Mirror Groups + 1x Hot Spare
iSCSI Multipathing:	R720 Server 1 2 x 10GB NIC Bond 1 – LACP 20GBPS – VLAN 14 – Connected to Switch 1 2 x 10GB NIC Bond 2 – LACP 20GBPS – VLAN 16 – Connected to Switch 2 R720 Server 2 2 x 10GB NIC Bond 1 – LACP 20GBPS – VLAN 14 – Connected to Switch 2 2 x 10GB NIC Bond 2 – LACP 20GBPS – VLAN 16 – Connected to Switch 1 2 x 10GB NIC in Active/Failover between hosts directly connected 2 x 1GB NIC in Active/Failover connected to independent switches for host management & file transfers out of our DataCentre network to our office on VLAN 9
Storage capacity:	16 TB

Software:

2x	Open-E JovianDSS Basic License
1x	Open-E JovianDSS Storage Extension 16TB
1x	Open-E JovianDSS Advanced Metro HA Cluster Feature Pack
2x	Premium Support - 3 Years from Open-E

Virtualization:

Hosts:	VMware ESXi
Virtualization device:	ESXi iSCSi software adapter - VMFS Datastores

Why Open-E?

After performing initial tests, the Code Monkey's Team was impressed with the ease and simplicity of the setup, as well as the **error-free usage of Open-E JovianDSS with VMware ESXi**. The fact that Open-E does not constrain the company to any specific hardware and allows to use commodity parts was also a huge plus. Code Monkey was able to implement a resilient storage solution of their choice which otherwise would be a costly operation when taking into account other vendors' offers.

Customer feedback

"When looking at the solutions from other vendors it was all tied into them, their service and support packages, and if anything went wrong, we would have to wait for them, there would be nothing we could really do.

In addition their costs were so much, we wouldn't be able to go for a hugely redundant solution, and we would be relying on the expensive support to sort our issues if any arose."

Tom Smith, Technical Director at Code Monkey

VMware Ready

One of the key objectives for Code Monkey was to find a cost-effective solution that works alongside VMware ESXi to centrally serve the virtual machines with fast, reliable, and redundant storage which was fully backed by SSDs.

Code Monkey is now able to **utilise all functions of VMware ESXi** which the company couldn't use before, such as DRS and quick migration of virtual machines between hosts. The host maintenance is quick and easy now as there is no need to wait for gigabytes of data to be migrated off hosts. The company is really happy with the performance results achieved by Open-E JovianDSS and they are really pleased to be able to use VMware ESXi to its fullest potential.

Metro High Availability Failover Cluster Solution

Initially, a single node of Open-E JovianDSS was prepared and ran flawlessly for 12 months without a single second of downtime. Since then **the company decided to upgrade a single node to a Metro High Availability Failover Cluster**, for the ultimate peace of mind. The new solution so far has been running without any issues as well.

Additionally, Code Monkey is no longer limited by the host storage capacity thanks to Open-E JovianDSS. Before implementing the Open-E solution, each host would need identical disk setups and plenty of disks to accommodate its normal workload on virtual machines plus additional space when there was a need to temporarily move virtual machines onto the host when placing other virtual machines offline for maintenance.

Currently, the company can have minimal disk capacity on all hosts, which moving forward, reduces costs as they don't need to populate expensive disks or high-end storage controllers in the Code Monkey's hosts.

Thanks to the Metro High Availability Failover cluster, in case of emergency, the second node can be used to begin the failover operation if there is a need to do so.

Customer feedback

"100% satisfied with the solution, the system stability is 100%, we have not yet had a second of downtime since we installed our first Open-E Server in April 2020, and since we upgraded this to be a Metro High Availability Failover cluster it would need multiple failures across multiple hosts to be in risk of being corrupted.

I love how we can move the storage from one node to another, and reboot the hosts if needed, it's really slick."

Tom Smith, Technical Director at Code Monkey

The biggest advantages

Management

Code Monkey is now able to **utilize functions of ESXi that were previously unavailable** for them such as DRS and quick migration of virtual machines between hosts.

Growth

The company is no longer limited by the host storage capacity. Before the implementation of Open-E JovianDSS, each host would need identical disk setups and lots of them to accommodate its workload of a virtual machine and additional space required for placing it offline.

Peace of mind

With a central storage solution, the company can be **rest assured that the storage won't become corrupt** or have a hardware issue and it should be easier to proceed with a failover operation in case ESXi host becomes corrupt.

Future plans

Code Monkey has already implemented the SOHO DSS V7 in the office as a simple scratch NAS for file transfers between PC's and VMware ESXI hosts.They are also going to implement the Metro High Availability Cluster in their New York Data Centre once they start to build that from 2 hosts.

Tom is also willing to recommend the Open-E solutions to the partners he works with since Open-E JovianDSS was a perfect match that allowed Code Monkey to fulfill their business goals.

VMware Ready™ Storage certified

✔ Storage Certification for VMware vSphere® 5.5, 6.0, 6.5, 6.7 and 7.0

✔ Works effectively with VMware infrastructures

✔ Advanced solutions with vSphere integrated and validated, including disaster recovery, multipathing, offload capabilities, High Availability clustering and storage management

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About Code Monkey

Code Monkey is a Software Solutions Company specialising in Location services. Services include GPS Tracking platforms for assets & vehicles, Mapping Solutions, Geocoding, and Routing services.

The company owns and runs its own infrastructure, outsourcing only the DataCenter component of where the systems are hosted.

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, and is the easiest to use and manage. Additionally, it is 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 37,000 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,
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