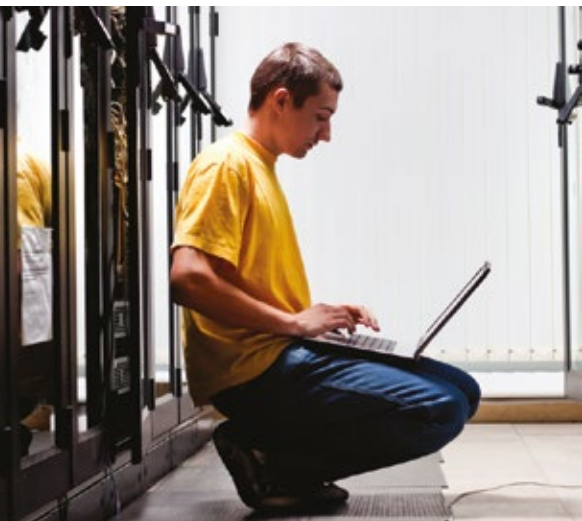


DIA achieves unmatched performance and improves customer satisfaction



Up to 320,000 IOPS and down to \$2.3/GB usable
(software&hardware)



DIA Software

DIA Software Inc. is Turkey's business cloud software developer. Established in 2004, DIA is offering online business software for different industries. The company also provides telecom services to SMB businesses through DIA Cloud and has thousands of users worldwide.

"We are very happy with StorPool. Performance is impressive and expansion is as simple as adding an additional node. Furthermore, all this is offered with a professional support team who also advises you on all aspects - from hardware selection to private cloud software solutions."

Ümit Öztosun,
Founder & CTO

Business Impact

- TCO decreased substantially, while profit margins increased.
- Easier scalability - Scaling became as easy as adding new drives and new nodes.
- Time saving - the new storage solution is intuitive and easy to operate.
- Increased simplicity - managing the storage system is easier than ever before.
- Downtime virtually disappeared, which lead to increase in customer satisfaction.

Tech Impact

- Performance – DIA's main usage scenario is similar to heavy workload OLTP (online transaction processing) and sync random writes is of critical importance to the company. On similar hardware StorPool is 30-40 times faster in sync random writes compared to rival Ceph for example.
- Efficiency – Ceph OSD rebuilding caused converged systems' load to increase dramatically. In contrast StorPool has low CPU usage and fixed amount of RAM usage.
- Simplicity and compatibility – StorPool is intuitive and can be managed with minimal training.

"Storpool allows enterprises to use inexpensive commodity hardware for building expandable converged systems. In our opinion this provides the best building block for computing systems." - Umit said.



COMPANY

DIA Software Inc.

INDUSTRY

SaaS, Cloud hosting

CUSTOMERS

2000+ customers, 5000+ users

WEBSITE

www.dia.com.tr

IT STACK

- Linux
- StorPool Storage
- OpenNebula - Cloud Management System

STORAGE SOLUTION

- StorPool SSD Hybrid - full copy of data on SSD and redundant copies on HDD
- 2 redundant 10 GBit Ethernet networks
- 320 000 IOPS

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Challenge

Limited performance is a common reason for companies to change their storage. This was DIA's case as well. After evaluating a number of options, DIA trusted StorPool as its storage provider. The test results were the highest compared to other alternatives, including local storage, GlusterFS, ZFS and Ceph.

Umit, DIA's CTO explains the pain points that led to the final decision: *"We were running on bare-metal servers. We were using local RAID 10 BBWBC disk systems. We first started with SAS disks and later switched to all SSD solutions. We had custom data migration and backup systems to manage this bare-metal configuration. However, as the number of servers grew, management and lack of flexibility became a problem. Our initial experiments with building a private cloud were promising but we needed a shared storage system. In our experience hardware storage solutions are expensive to build and run, so we started looking into software defined storage solutions."* As many other IT companies, DIA first turned to the available open source solutions – Ceph, ZFS and GlusterFS. They were not happy with the results. For file storage GlusterFS was a good option, but when it came to sync writing disk images – it wasn't fast enough. ZFS was not scale-out and flexible and created silos of storage. Ceph is believed to be a good for block storage, but when DIA ran tests on similar hardware with both Ceph and StorPool, StorPool outperformed Ceph by an order of magnitude.

The Solution

StorPool implemented a converged system, running both storage and compute. The initial deployment was just 4 servers, connected to a redundant 10 Gbit Ethernet network with 2x10 GE Mellanox switches. DIA's start capacity requirement was only 7 TB of total usable space, distributed between all servers. As DIA needed all-SSD level of performance StorPool implemented the "StorPool Hybrid" system, which keeps a full copy of data on SSD and redundant copies on HDDs to get the best of both - hundreds of thousands of IOPS and lower cost. When DIA need to grow capacity they simply upgrade to bigger drives or add more drives/servers to the StorPool cluster. The two 10GE networks provide redundancy and increased performance as they serve as two separate networks doubling the throughput and doing multipathing and load balancing.

The Results

DIA now has a high-performance shared storage system for their private cloud which can scale-out as they need more capacity. The previous system used bare-metal hardware, which provided high performance but inflexible management. Now they enjoy the best of both worlds - the performance of an All-SSD system with the flexibility and scalability of a high end storage solution.

Return on investment (ROI)

Because DIA didn't need a lot of capacity initially they invested in servers and network, which can handle several times more capacity, but bought smaller drives to keep the investment low. They achieved starting price of \$3.2/GB usable and \$1.4/GB logical. To expand the capacity and performance they will just add more or larger drives to the system. In this way their price per GB falls with any GB they store. When fully utilized the system will have a price of approximately \$2.3/GB usable and \$0.99/GB logical and a price of \$0.09/IOPS.

According to Umit "Software-defined storage is the new 'storage'. StorPool offers superior performance at affordable prices, backed by a professional team."