

## CASE STUDY

# POWERFUL SOFTWARE STORAGE FOR DEMANDING SMALL FILE WORKLOADS

Quobyte's powerful software storage system enables a fast and flexible storage infrastructure that effortlessly deals with hundreds of millions of small files.



## Summary

**Needs/Challenges:** onOffice's storage infrastructure hit performance limits and required considerable manual intervention in order to keep up with capacity demands. Their demanding small file workload brought their storage setup to its knees.

**Solution:** Quobyte's Data Center File System

**Platform:** A hybrid system of fast SSDs and cost-efficient HDDs.

**Use Case:** SaaS product for the real estate and property management business

## Key Benefits

- Seamless integration with onOffice's existing infrastructure
- High-performance storage for the small file workload
- Fully automated for 24/7 operations without any maintenance downtime
- Automatic tiering: Quobyte moves "cold" data automatically and transparently to HDDs
- Performance scales linearly with added resources

“ After an easy installation, you can extend capacity as needed, rely on excellent performance, and extreme robustness – with everything wrapped into a single system. That's what storage has to be like today! Quobyte helps us take our business to the next level without further ado; we can just add resources without the planning overhead – a true competitive advantage! ”

**Stefan Mantl**  
CEO, onOffice

## onOffice – Property Management as a Service

onOffice is one of Germany's leading providers of property management solutions. Its SaaS solution onOffice Enterprise delivers everything today's property and real estate managers need to productively fulfill their clients' business needs. The product benefits from the expertise and experience of the company's more than 100 employees. As a result, onOffice solutions are tailor-made for anything real estate-related – and more; they're also used by prefab house manufacturers and banks. In addition to property management tools, onOffice also provides a content management system that's tailored to the marketing needs of today's real estate business. The CMS allows real estate agents to fine-tune the presentation of their offerings down to the last detail..

## From Patchwork to Complete End-to-End Storage Solution

onOffice used shared storage with NFS as the access point, but problems quickly arose. The team had to consult the storage administrators whenever there was an issue; significant waiting times were the norm and often the issue could only be tackled on a more global level instead of developing a custom solution to the problem at hand. Downtimes were unavoidable which



angered onOffice's customers. And the system had bottlenecks, too, and couldn't keep up with the constant data influx. Scaling the system by adding the much needed additional capacity was no easy feat. What's more, a further bottleneck in the form of an overloaded network connection brought NFS to a halt several times.

When researching and testing Quobyte, the onOffice team immediately found all their requirements satisfied and then some. Quobyte delivered a true end-to-end solution and did away with performance limits, scalability troubles, and downtimes.

## High Performance without Capacity Limits

Quobyte's Data Center File System was designed with high scalability in mind. To extend capacity and scale performance (linearly) simply add additional storage resources. Quobyte detects and integrates the new devices automatically. Re-balancing is optional and can either be started manually or automated based on your schedule (e.g. be run every night or only on weekends).

The Quobyte-based horizontal storage infrastructure eliminates all of onOffice's former issues. IOPS now scale linearly with added resources and cumbersome capacity planning is a thing of the past – no need for a bag of tricks to get the system to scale. Quobyte especially excels when it comes to dealing with onOffice's vast amount of small files. This enables onOffice to easily scale and grow rapidly. "With Quobyte we were able to seamlessly increase our storage capacity by more than 30% by simply adding additional nodes to the system," said Christian Küppers, storage admin at onOffice.

## Automatic Tiering Optimizes Storage Utilization

With Quobyte, onOffice can now use SSDs for speed and cost-efficient HDDs for capacity within the same system. They thus benefit from the best of both worlds. Quobyte's tiered storage solution optimizes utilization of the heterogeneous hardware setup: files which haven't been touched for some time will automatically and transparently be migrated from the "hot" and much used SSDs to the "cold storage" of hard disk drives. Users won't even notice a difference, because the HDD data can still be accessed with a latency of less than 20ms. OnOffice estimates that the Quobyte system cost them only one tenth as much as other vendors' systems with similar performance, capacity, and tiering capability – a significant savings indeed!

## Simple Installation and Fast Support

Installing Quobyte was done quickly: The Filoo team that helped onOffice with the setup already had experience with the software and was able to put the system into production in no time. A minor hiccup – one device would not initialize – was immediately resolved by Quobyte's support team. They even did one better: The Quobyte team identified an issue in the onOffice software, which, once corrected, further increased the overall storage performance.

*„Quobyte is an admin's dream! A quick setup, lands you with an easy-to-use- and manage storage infrastructure that's indestructable. Our performance limits evaporated into thin air and we can now scale out our storage to lofty sizes.“*

— Christian Küppers, Storage Administrator, onOffice

## Reliable Storage and Automated Management

Other major reasons for choosing Quobyte software storage were its fault tolerance and reliability. Quobyte protects data end-to-end with checksums, thus guaranteeing the data's integrity. The built-in monitoring allows for a great overview of the status of the storage system. The dashboard helps to drill down on the details to easily and quickly find any misbehaving hardware. Quobyte detects issues caused by faulty hardware and automatically removes defective devices from the storage system. The onOffice admins can then replace the hardware during planned maintenance; no more emergencies in the middle of night or interruptions of their well-deserved day off.



**Quobyte**<sup>®</sup>

Data Center File System.<sup>™</sup> Fast and Reliable Software Storage.

**Quobyte Inc.**

520 Great America Pkwy  
Suite 320  
Santa Clara, CA 95054  
info@quobyte.com  
650-564-3111