The infrastructure we came from
In my function as storage engineer at SWITCH, I am responsible for all enterprise storage systems. In total we have hundreds of Terrabytes to manage and we use enterprise level hardware from a major vendor. SWITCH end-user applications, internal storage as well as personal files are handled via these systems.

Where we wanted to go
We were quite satisfied with our traditional solution but some of our machines were nearing end-of-life. [...] For cost reasons and greater flexibility in scaling we wanted to move forward and find a solution that does not depend on enterprise hardware anymore.

– Thorsten Kleindienst, Storage Engineer, SWITCH

How we implemented the solution
We created a simple setup by using Linux-VMs as NFS-Servers. The number of VMs can be scaled to accommodate growing capacity and throughput. SWITCHengines manages the crucial storage features without any additional effort. It provides redundant storage capacity, has mechanisms for detecting and replacing failing disks. This strongly minimizes the administration tasks for the maintenance of the system. The migration was undertaken in stages to minimize downtime for the users. We used parallel jobs to synchronize the data transfer. In total it took about two weeks to transfer the 150TB data with as little downtime as possible.

Although we understand that NFS-Server based on Linux VMs cannot compete with servers that are optimized for storage like NAS-server, we were positively surprised by the performance of our solution. For the data class that was stored on these servers the reliability was also totally acceptable.

Thanks to tools like Openstack-Ansible we achieved a very fast set-up including the creation of the VMs, NFS software installation and configuration within a few hours. This experience helped to convince us we had made the right decision.

Further information:
swit.ch/engines