# Service Provider Selects NexentaStor for Scalability, Cost Savings, and Future-proof Investment

## Business Overview

Founded in 1994, regional water supplier Trinkwasserversorgung Magdeburg GmbH (TWM) is responsible for the purchase, production, processing, and transport of drinking water from deep aquifers to public utilities and associations, municipal utilities, and regional companies. TWM delivers water to six counties, serving more than 800,000 residents, including 338 towns and communities, businesses, and farms spread across 5,700 square kilometers. TWM ensures high availability and highly resilient water acquisition and delivery operations.

> *"An integrator offered a legacy storage-based solution, which cost more than €100,000. The Nexenta solution, however, implemented by Zstor, met budget parameters and offered all required features."*
>
> *—Rüdiger Maye, IT Manager, TWM*

## Challenges

Consolidating physical servers into VMware Virtual Machines saved money and resources. However, this project drove consolidation into a central data repository that increased the need for high availability and redundancy.

- Applications and corresponding data needed to be **protected** in sync. Virtualization approaches alone could not provide the complete solution.
- Legacy clustering bids exceeded **budget** for purchase and implementation.
- Due to TWM's high-volume operations, **performance** was critical.
- Existing backup solutions could not serve data and offer **site-to-site replication**.
- For disaster recovery, TWM specified that the processes must not rely on having a **highly trained IT staff** on hand.

## Solution Overview

TWM chose Zstor, an experienced Nexenta Partner in Germany, to implement a NexentaStor solution. TWM used Dell servers for VMware. Two Zstor cluster nodes and two Zstor disk arrays form the storage configuration. The data is stored on energy-efficient and compact 2.5" storage drives.

The system uses a mirrored ZFS RAID Z design (a type of RAID-5 redundancy that works at the ZFS pool level and affects all created file systems in the pool) to maximize performance for end users.

Future expansion with SSD drives also is built into the architecture. Storage is accessed via the Common Internet File System (CIFS) and Network Files System (NFS) protocols. In addition, the following Nexenta add-ons were implemented:

- High Availability (HA) Plug-in: The HA Plug-in enabled the NexentaStor implementation to be highly available. Recovery, in the event of a disaster, could either be automatic or manual. With the user-friendly Graphical User Interface (GUI), recovery now could be executed by non-IT personnel.
- Virtual Machine Data Center (VMDC): VMDC provided integration with VMware and management of the overall VM environment. With features such as unlimited VM cloning and the ability to replicate VMs, VMDC ensured that TWM maximized its virtualization investment.

## Solution Benefits

The use of ZFS technology offered significantly increased scalable storage environments, with a virtually unlimited number of snapshots and thin provisioning, improved data integrity, and ease of use so that no additional dedicated staff was needed.

The two implemented Nexenta add-ons ensured that hardware failures did not impact operations. In the event of disaster, the new recovery options that came with the new solution eased loss of data concerns. The new GUI allowed for non-IT personnel, without extensive training, to activate recovery.

The Virtual Machine Data Center provided the needed integration with VMware. Management of the environment became less expensive to implement and significantly easier to manage.

## Business Benefits

**Better Business:** Implementation of the solution led to improved performance for TWM's core operations: laboratory processes, testing, and reporting.

**Open-ended Scalability:** Nexenta helped TWM maximize its return on investment in virtualization with features such as unlimited VM cloning and VM replication.

**Recovery:** High Availability features of the solution provided protection so that hardware failures would not affect operations. These Disaster Recovery features gave TWM confidence in its ability to recover from a variety of disasters, without adding dedicated IT staff members.

**Overall Cost Savings:** The Nexenta solution saved TWM both time and money. It allowed the company to focus on its core functionalities, rather than worry about personnel, security, and future growth in the area of storage.

### System Configuration

- NexentaStor 3.0.5
- Nexenta HA Cluster Plug-in
- Nexenta VMDC Plug-in
- Supermicro Cluster Nodes 2HE 2,5"
- Supermicro JBODs 24 Disk Slots 2,5"
- Link Aggregation 4x 1GbE
- NFS shares to VMware ESX 4.1 hosts
- Oracle DB on NexentaStor




**Nexenta Systems, Inc.**
444 Castro Street, Suite 320, Mountain View, CA 94041 USA

**Phone:** + 001 877.862.7770 **Email:** www.nexenta.com **Facebook:** www.facebook.com/nexenta **Twitter:** twitter.com/nexenta