

Open-E & Stange Elektronik
& ICO Innovative Computer GmbH

HIGH-AVAILABILITY AND CUSTOMIZED IT SOLUTIONS: A TRUSTED PARTNERSHIP LEADING TO OUTSTANDING RESULTS



Summary

- **High Availability and Security:** Stange Elektronik relied on an active-passive cluster with 15-minute snapshots for optimal data availability and additional ransomware consequences protection.
- **Individual Consultation and Customized Hardware:** ICO provided precisely configured server solutions tailored perfectly to Stange Elektronik's requirements.
- **Modernization for Efficiency:** The legacy Open-E DSS V7 system was replaced with Open-E JovianDSS to improve performance, reduce response times, and enhance usability.
- **Flexibility and Expertise:** The collaboration between Stange Elektronik, ICO, and Open-E was marked by transparency, technical competence, and seamless integration – a rare quality in the IT industry.

Requirements and Objectives

About Stange Elektronik

Stange Elektronik is a medium-sized company developing hardware and software solutions for industrial control systems. With locations in Wiehl and Apfelstädt, the company employs 50 staff members, most of whom are engineers. Its products and services include individually developed process control systems that play a central role in automating production processes.

The Importance of Data Storage

Data storage is essential as Stange Elektronik's production and development processes depend on reliable IT infrastructures. **With over 60 Virtual Machines in use, data must be available at all times.** Ensuring uninterrupted operations is critical to maintaining the functionality of systems for customer projects.

Specific Challenge

Stange Elektronik faced the challenge of modernizing a data storage system that was over ten years old and no longer met growing demands. **Issues such as insufficient response time, aging hard drives, and increasing requirements for data availability and security resulted in the decision to switch to a more powerful system.** The customer also required a seamless transition to a flexible and robust solution without disrupting ongoing operations.

Key Requirements

- **High Availability:** A reliable active-passive cluster for uninterrupted processes.
- **Regular Snapshots:** 15-minute snapshots for quick access to historical data and additional security.
- **Performance Improvement:** Reduced response times and enhanced storage efficiency.
- **Easy Integration:** Compatibility with existing IT infrastructure and seamless deployment without production downtime.
- **Future-Proofing:** Scalability and flexibility to meet future demands.

Customer Feedback:

„The collaboration with Open-E and ICO was outstanding. Transparent communication and exceptional technical expertise impressed us across the board. The seamless integration of the High-Availability cluster solution not only met our requirements but also sustainably optimized our IT infrastructure. Flexibility and customized consultation are rare qualities nowadays, but they were perfectly delivered here.”



Martin Küchler, IT Manager , Stange Elektronik



Customized IT Solution

A customized IT solution with highly available active-passive cluster systems was developed and successfully implemented in close collaboration between Open-E and ICO. The solution includes two highly available systems with a gross storage capacity of 36 TB each, equipped with Open-E JovianDSS Product Licenses and extensions (32TB and 4TB), as well as the Advanced Metro HA Cluster Feature Pack. These systems form the foundation for an active-passive cluster that meets high demands for data security and availability.

The two cluster systems are housed in separate racks within Stange Elektronik's new server room. Thanks to the redundant power supply via independent UPS units and regular snapshot backups to a third external system, an additional layer of security is ensured. Snapshots are created every 15 minutes and transferred in real time to the third system, which is located in a different fire compartment on the company premises.

The Open-E JovianDSS software offers flexible storage management, high performance, and ease of use. The transition from the previous Open-E DSS V7 system to Open-E JovianDSS was seamless and resulted in significant improvements in response times and overall IT infrastructure performance. ICO accompanied the implementation, providing customized server solutions, including Supermicro motherboards, AMD EPYC CPUs, and Samsung SSDs, to create an optimal hardware foundation.

This solution enabled Stange Elektronik to fully meet its requirements for a future-proof, high-performance, and easily integrable data solution. The combination of technical expertise, innovative software, and flexible hardware made the project a complete success.

Results

- **Increased Availability and Data Security:** Thanks to the high-availability active-passive cluster and 15-minute snapshots, Stange Elektronik's IT infrastructure achieved a significant improvement in availability and data security.
- **Improved Performance:** The transition to the Open-E JovianDSS solution resulted in a substantial reduction in response times and optimized processing speed within the IT environment.
- **Flexibility and Future-Proofing:** The new storage solution provides a scalable and future-proof foundation that keeps pace with the company's growing demands and allows for seamless integration into existing processes.

Hardware Details

System A

Chassis	2x 2U SM SAS Storage 12Gb 24x 2.5
Motherboard	2x Supermicro H12DSI-NT6 2x SP3
CPU	4x AMD EPYC 7252 8/16 Kerne 3,1 GHz
RAM	8x 32GB DDR4 FSB3200 288-pin REG x4 2R
Data Drives	20x 3,84TB Samsung SSD PM1643a SAS (Netto: 22,93 TB, 2-Way-Mirror)
RAID Controller	2x Broadcom HBA 9400-8i Tri-Mode
Networking	2x Intel PCI-E 10Gb CNA 2x RJ-45
Capacity	36TB brutto pro System

System B

Chassis	19" Gehäuse RM-238-08 2HE 12Gbps
Motherboard	Supermicro H12SSL-NT 1x SP3
CPU	AMD EPYC 7252 8/16 Kerne 3,1 GHz
RAM	1x 32GB DDR4 FSB3200 288-pin REG x4 2R
Data Drives	6x 20TB WD Ultrastar DC HC560 SATA (Netto: 60TB, 2-Way-Mirror)
Cache Devices	500GB Samsung SSD 970 EVO Plus M.2 NVMe
RAID Controller	Broadcom 9361-8i 8Port 12Gb/s PCI-E
Networking	Not specified
Capacity	60TB gross, net through mirroring approx. 30TB

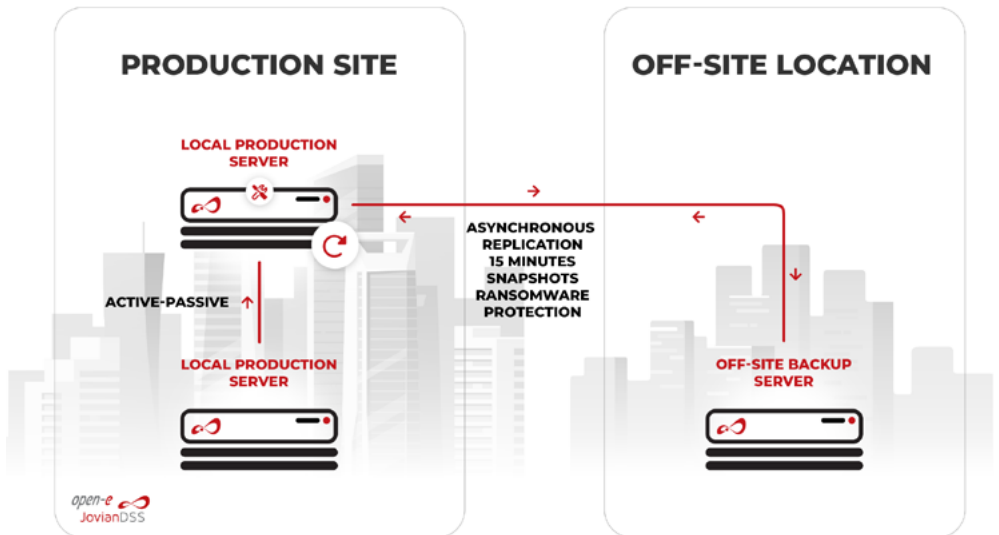
Data Storage Configuration

High Availability	Advanced Metro HA Cluster with synchronous mirroring
Redundancy	2-way mirroring for maximum data security
Zpool	Configured with RAID-Z (mirror) for performance and failover protection

Data Storage OS Licences

Open-E JovianDSS Licences	2 x Open-E JovianDSS Product License 0TB 2 x 32 TB Open-E JovianDSS Storage Extension 2 x 4 TB Open-E JovianDSS Storage Extension 2 x Open-E JovianDSS Advanced Metro HA Cluster Feature Pack 2 x 1 Year Standard Support
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High Availability Cluster + On & Off-Site Data Protection = Maximum Data Security



The key features of Open-E JovianDSS that optimally meet the requirements of Stange Elektronik are summarized as follows:

- > **High Availability:** Active-passive cluster with automatic failover
- > **Snapshot Management:** 15-minute snapshots for data security
- > **Scalability:** Flexible storage expansions possible
- > **Performance:** Optimized response times and speed
- > **User-Friendliness:** Simple and intuitive management
- > **Data Security:** Protection against data loss and ransomware

Are you interested in a similar solution?

Contact us for a non-binding consultation.

About Open-E

Founded in 1998, Open-E is a leading developer of IP-based storage management software. Its flagship product, Open-E JovianDSS, is a robust storage application known for its excellent compatibility with industry standards and ease of use and management. Furthermore, it is one of the most stable solutions on the market, offering an optimal price-performance ratio. Thanks to its reputation, experience, and reliability, Open-E is a valued technology partner for leading IT companies. Open-E has over 40,000 installations worldwide and has received numerous industry awards. For more information about Open-E, its products, and partners, visit www.open-e.com

About ICO

ICO Innovative Computer GmbH is an IT company with over 40 years of experience specializing in the development and distribution of servers, storage solutions, industrial PCs, panel PCs, embedded systems, barcode scanners, and POS systems. With certified quality management according to DIN EN ISO 9001:2015, ICO offers customized IT solutions for various industries. For more information, visit www.ico.de

About Stange Elektronik

Founded in 1976, Stange Elektronik GmbH is a medium-sized company specializing in the development and production of innovative automation and control technology. Its product range includes program controllers, automation devices, fieldbus connections, sensors, and software solutions. In addition, Stange Elektronik provides comprehensive services such as modernizing heat treatment plants and process engineering consulting. For more information, visit www.stange-elektronik.com

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