

# High Availability with LINSTOR and DRBD

## Background

WEDOS (WEb hosting DOmains Servers) Internet a.s. was founded in 2010. They provide hosting services such as virtual private servers (VPS), domains, storage solutions and dedicated servers for companies and end-users. Although they are available to customers all over the world, their main client base is located in the Czech Republic. It is there that they have become the biggest hosting company within the country, and are currently building a second data center to help fit the growing needs of their customer base. The company currently has about 50 employees. Their main IT team consists of about 14 employees boasting 10-24 years of experience in the hosting field. The company prides itself on having a core business with no outsourcing needed. All of the components of their ecosystem are built internally.

## Business Challenge

WEDOS' former setup was based on PXE(LTSP) and Kubernetes and provided a fully automated environment. Overall, the system worked well. The best I/O results were seen with BeeGFS providing large shared drivers around the environment. However, due to unknown circumstances, the blades of the system rebooted randomly. Unfortunately, the logs provided no evidence as to why this occurred, and the situation became desperate. A mixture of upset customers and time consuming resynchronization demanded an urgent change of storage technology for the company.



At first, WEDOS set up our own storage architecture, but then found out there was a better answer to our problems. LINSTOR, ThinLVM, and DRBD are now the holy trinity of our current storage solution. LINBIT's solutions saved and stabilized our situation with industrial standard hardware.



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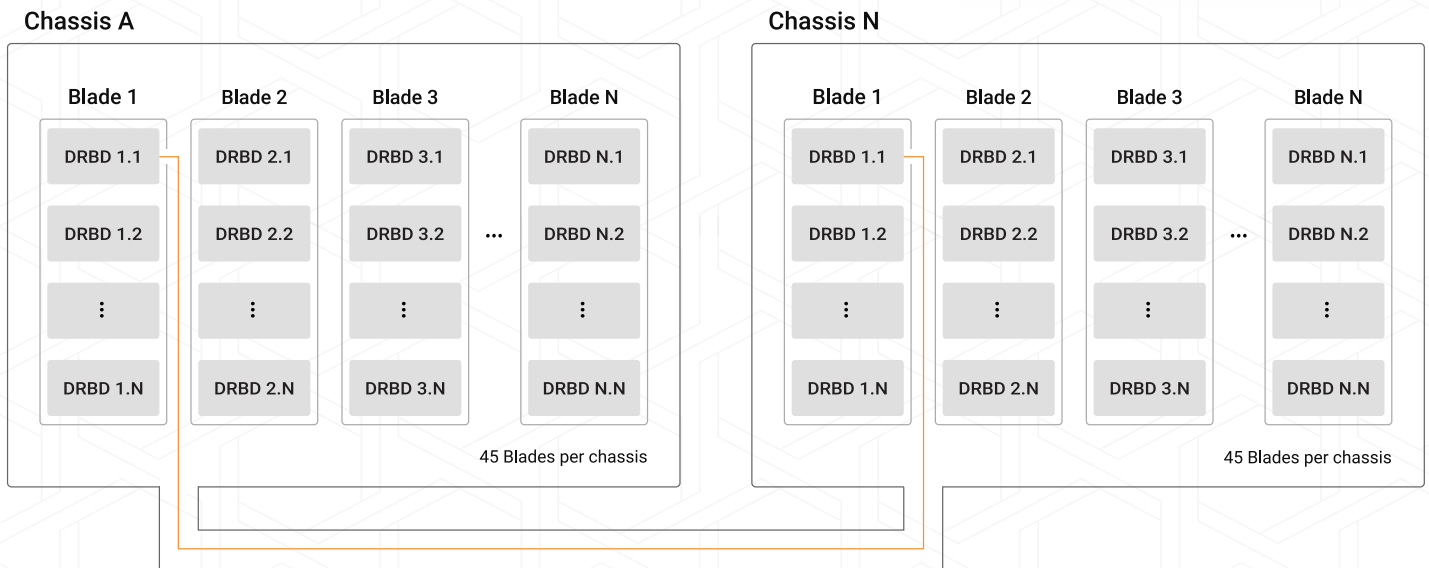
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## Solution

At first, WEDOS set up a DRBD® orchestration with iSCSI on their own, but then learned there was a much easier and much faster solution: LINSTOR®. WEDOS tested this thoroughly, and after yielding wonderful results, they now use LINSTOR for Kubernetes and OpenNebula. With LINSTOR, the use of ThinLVM and DRBD is simple; each volume is mirrored between different chassis. Each chassis contains 45 blades and all are connected with an 80Gbit (2x40Gbit with LACP). Every node within a chassis is connected with 20Gbit (2x10Gbit with LACP). WEDOS uses QoS to prioritize storage traffic. The OS boots from PXE and is cached to RAM, leaving the NVMe storage available for LINSTOR. This is the ideal structure for the company’s demand, while simultaneously providing the highest amount of uptime possible. As of March 2020, their LINSTOR cluster has 500 nodes and will continue to grow from there.

- **HA Solution**  
High Availability with DRBD, Pacemaker, and Corosync.
- **Price & Performance**  
Cost-effectiveness and established reliability on Linux.
- **DR Integration**  
Combines with AWS for Disaster Recovery.
- **Adjustable Solution**  
Data flexibility, scalability, and accessibility.



**DRBD** = DRBD vlume used by customer VM

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