

DRBD® for High Availability of Scientific Data

BACKGROUND The Computer Service Group of the Max Planck Institute for Solid State Research in Stuttgart (Germany) runs the Institute's central mail, print, software, backup and web servers. The group is also responsible for nine servers providing department specific services and operates High Performance Computing Clusters.

All these services are provided by Linux servers and computing nodes. In total, the group hosts 230 TB of data on their storage networks and runs about 300 computer nodes with 2500 cores.

BUSINESS CHALLENGE The main challenges for the group are to ensure the seamless online availability and the long-term achievement of scientific data. These tasks are described in the rules of good scientific practice of the Max Planck Society (MPS).

SOLUTION The Institute installed 2 Clusters in separate buildings on the Max Planck Campus in Stuttgart. All central infrastructure services running on these clusters are implemented as Xenbased virtual Linux or Windows machines. The software components of the SUSE Linux Enterprise Distribution (SLES) that are in use are as follows:

- Pacemaker
- Corosync
- Clustered Logical Volume Manager (CLVM)
- LINBITs DRDB®

The basis for the data replication is a Dual Primary DRBD® resource in which logical volumes are defined for the Xenbased Vms.

“DRBD® is perfectly integrated with the components of the SUSE Linux Enterprise Distribution and it gives us enough flexibility for software and hardware maintenance without service interruption.”

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