CASE STUDY

DRBD® for High Availability of Scientific Data

THE 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 data in their storage networks and runs about 300 compute nodes with 2500 cores.

THE BUSINESS CHALLENGE

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

THE SOLUTION

The Institute installed 2 Clusters in separate buildings on the Max Planck Campus in Stuttgart. All central infrastructure services are implemented as Xen-based virtual Linux or Windows machines running on these clusters. The following software components of the SUSE Linux Enterprise Distribution (SLES) are in use: • Pacemaker • Corosync • Clustered Logical Volume Manager (CLVM) • LINBITs DRBD®

The basis for the data replication is a Dual Primary DRBD® resource in which logical volumes are defined for the Xen-based 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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