

National Center for Atmospheric Research Lustre Activities

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NCAR

Design Goals

- ❑ Push 10 gb/s over the TeraGrid
- ❑ Provide data service for NCAR's BlueGene/L
- ❑ Enable high availability
- ❑ Create a research platform for storage projects

Storage Cluster Details

- ❑ Research storage cluster purchased in Fall 2006
- ❑ 120 TB raw storage, ~100 TB usable
- ❑ 12 OSSs
 - ❑ Each with a 10 TB Xyratex F5402 4gb fiberchannel array
 - ❑ Server pairs cross-connected for failover
- ❑ 2 MDSs
- ❑ 1 Management server
- ❑ Force10 E1200 switch
 - ❑ Backend management VLAN
 - ❑ 9000 MTU
 - ❑ 10 gb/s WAN connections to TeraGrid, University of Colorado, and NOAA.

OSS Configuration

- ❑ Benchmarks showed 4 6-disk RAID5 configuration had highest throughput
- ❑ 3 LUNs dedicated to Lustre
- ❑ 1 LUN for testing
- ❑ Dual bonded gigabit ethernet
- ❑ Network tuned for high-latency/high-throughput

Activities

- ❑ Storage Benchmarking
- ❑ TeraGrid connectivity to all nodes
 - ❑ Lustre-wan / GPFS-WAN
- ❑ BlueGene/L setup
- ❑ Lustre 1.6 and Lustre Kerberos testing