

Lustre Performance on a Terascale DTS 4000 System

Summary:

A series of performance tests were performed on a Terascale DTS 4000 installed on the Hyperion test bed at Lawrence Livermore National Laboratory. The DTS 4000 solution consisted of a redundant metadata solution, Object store servers, and storage arrays.

The metadata solution was setup and run in an active –passive configuration with 12 TB of shared storage space.

The active – passive setup is standard for the DTS 4000 and insures high availability of the metadata solution. 4 Object Store Servers (OSS) were setup in standard active –active pairs with InfiniBand connectivity to the client nodes and a separate direct connect InfiniBand connection to the storage arrays.

The storage arrays were standard DTS 4000 configurations including 2 LSI Engenio 7900 storage controllers driving 117 TB of disk storage.

Compute cluster clients were part of the Hyperion environment. They were 2 socket Nehalem processors based servers with 12 GB ram and DDR InfiniBand connections.

The software environment included a version 1.6.7 based Lustre installation and the Terascale Management solution.

Performance Results:

Using the open source IOZone suite of tests, the DTS 4000 solution with 4 OSS delivered up to 5.3 GB/sec of throughput or **2.65GB/sec per OSS pair**.

