Evaluating Lustre Network Performance over InfiniBand and RoCE

Abstract

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With the increasing performance of Ethernet, the possibility of replacing an InfiniBand network with a RoCE-based Ethernet network has become more feasible. Currently, high-performance computing relies on highly parallel file network access to maximize computational performance. To accomplish this, a Lustre file system is often used alongside an InfiniBand network which provides the network speed required by many HPC applications. This project aims to evaluate the implementation difficulties and performance differences of replacing a traditional InfiniBand-based Lustre network with Ethernet that takes advantage of RDMA using RoCE.

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