Contribution ID: **32** Type: **Oral Presentation**

The Impact of the UNIX Scheduler on IO Dominated Applications

Tuesday, 15 March 2016 16:00 (30 minutes)

The kernel scheduler of a LINUX system is responsible for reordering and optimising requests for access to storage, be it spinning disks or SSDs. Since disk seek and read times are one of the slowest part of computing operations, this scheduling is essential to maintain performance on any modern computing system. In this paper, we look at the performance of different schedulers under a range of conditions, including heavy I/O, single stream performance and multi stream sequential and random access.

Summary

In this paper we look at the optimisation of IO Performance on a LINUX based RAIDed filesystem by tuning the kernel scheduler and associated parameters. We demonstrate that the default scheduler does not perform well on these systems when under heavy I/O load and recommend settings for RAID6 systems based on the configuration used at the RAL Tier 1.

Primary author: Mr DE WITT, Shaun (Science and Technology Facilities Council)

Co-authors: Dr LAHIFF, Andrew (STFC); Mr VASILAKAKOS, George (STFC); Mr APPLEYARD, Robert (STFC)

Presenter: Mr DE WITT, Shaun (Science and Technology Facilities Council)

Session Classification: High Throughput & Supercomputing Systems and their Integration Session

Track Classification: High Throughput & Supercomputing Systems and their Integration