

TRANSPARENT PERFORMANCE MONITORING OF PRODUCTION COMPUTATIONAL MECHANICS JOBS

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Advanced computing centers around the world support a wide variety of research projects in computational mechanics. This talk discusses the evolution of a suite of tools appropriate for a wide variety of stakeholders for monitoring the performance of such projects on HPC resources. This suite includes hardware and operating system data collected with a tool called TACC Stats, a job metadata tool called Lariat, and data aggregation and presentation via XDMoD. The use of these tools together to automatically identify interesting or problematic computational mechanics jobs on TACC's supercomputing resources is described. Finally, we give case studies showing the evaluation, profiling, and optimization of some of these jobs.