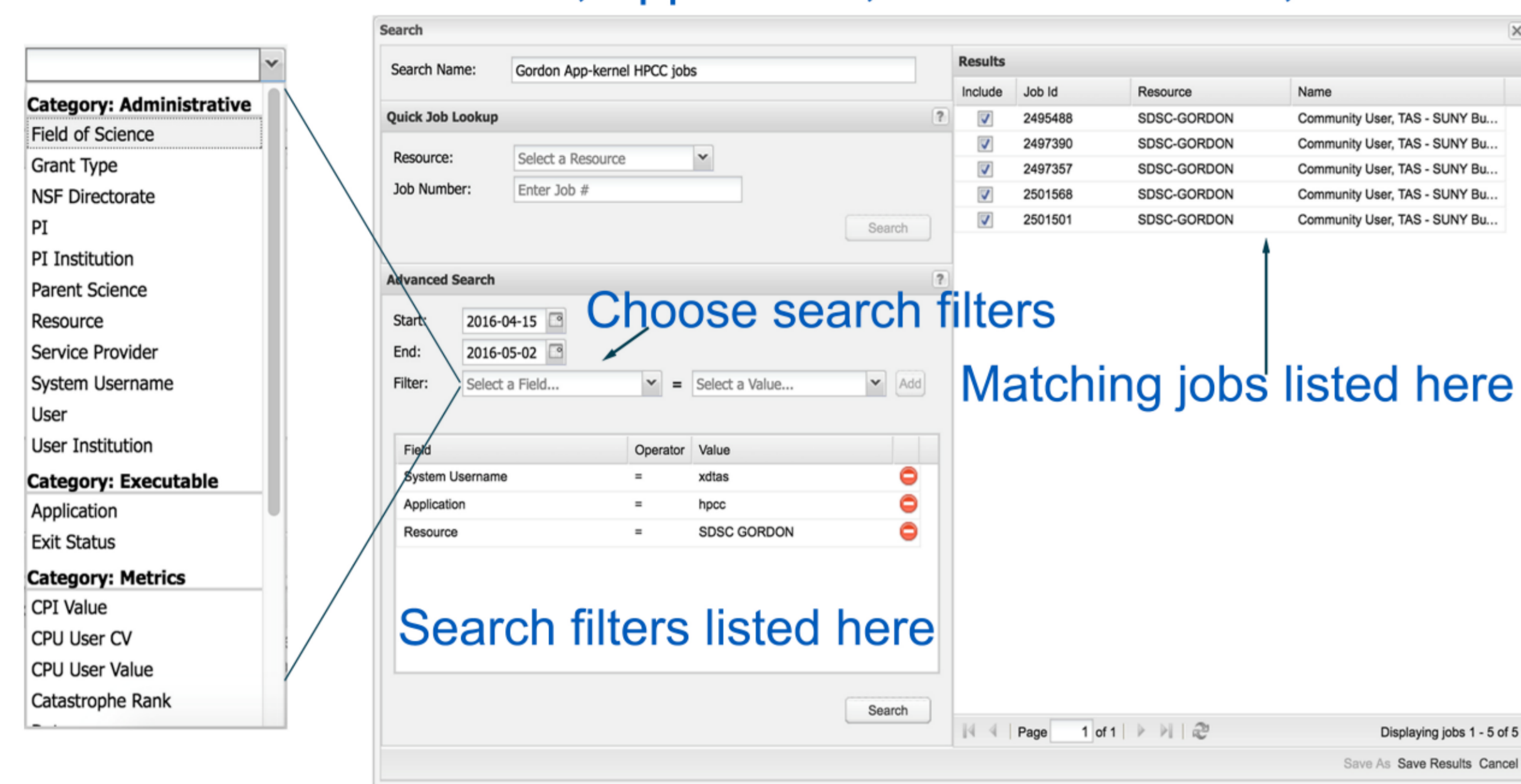


Open XDMoD Job Viewer: A Tool to Monitor Job Performance

Joseph P. White, Ryan Rathsam, Cynthia D. Cornelius, Robert L. DeLeon, Thomas R. Furlani, Steven M. Gallo, Matthew D Jones, Abani K. Patra, Jeanette M. Sperhac, Thomas Yearke, Jeffrey T. Palmer, Nikolay Simakov, Martins Innus, and Benjamin D. Plessinger
Center for Computational Research, State University of New York at Buffalo

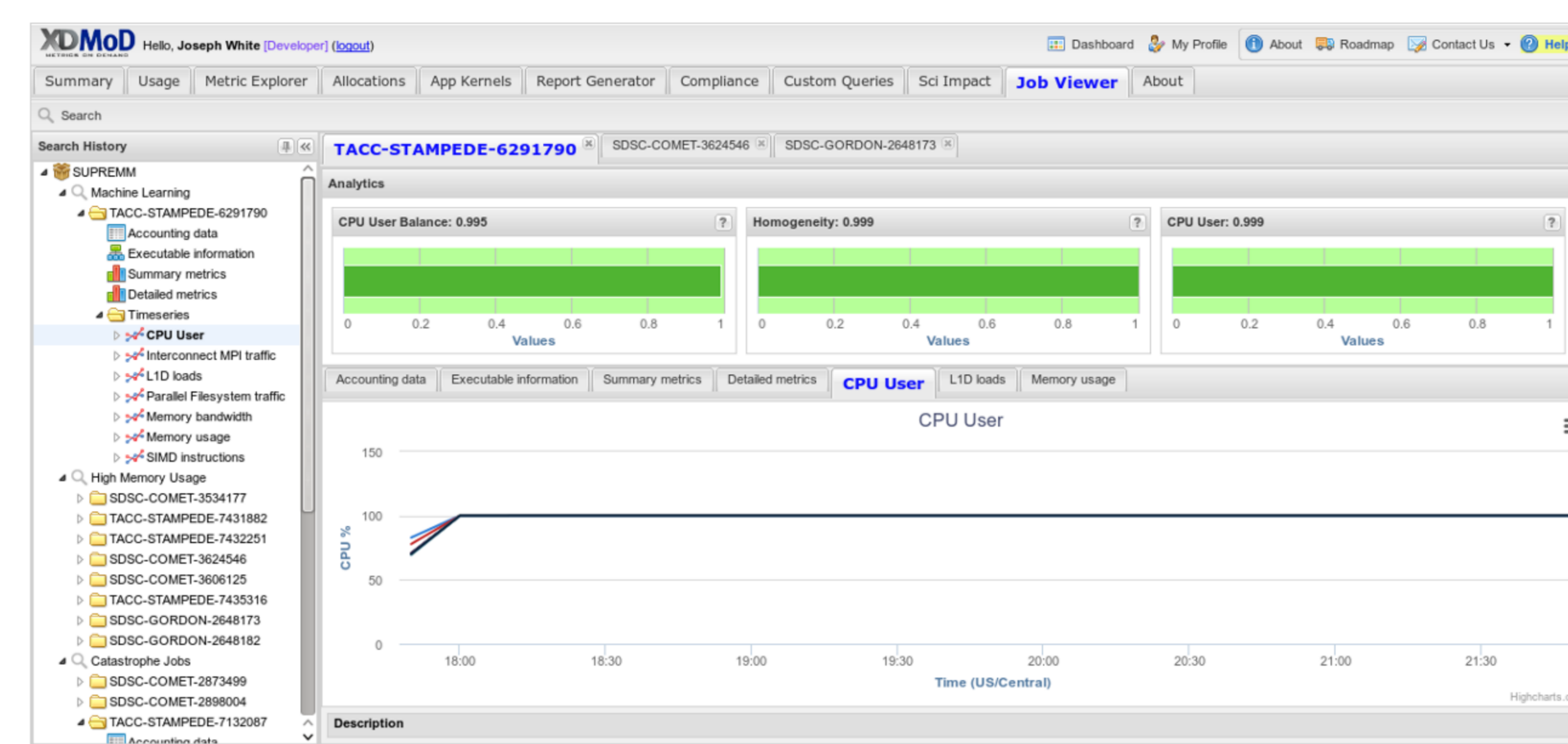
Open XDMoD is a web-based tool intended to provide HPC stakeholders with a variety of usage and performance data. One new feature of Open XDMoD is the Job Viewer that allows users and user support personnel to view detailed job-level performance information. The user can inspect detailed time-dependent performance data (obtained from performance co-pilot or an analogous utility) to determine how efficiently their job ran and, if performance was poor, to gain insight into possible causes of the problem and how to fix it. Here we provide basic information regarding the job-level performance data that is available through the Open XDMoD Job Viewer and how to use it to assess job performance.

Search for all jobs with given attributes:
User, Application, CPU User Value, etc.



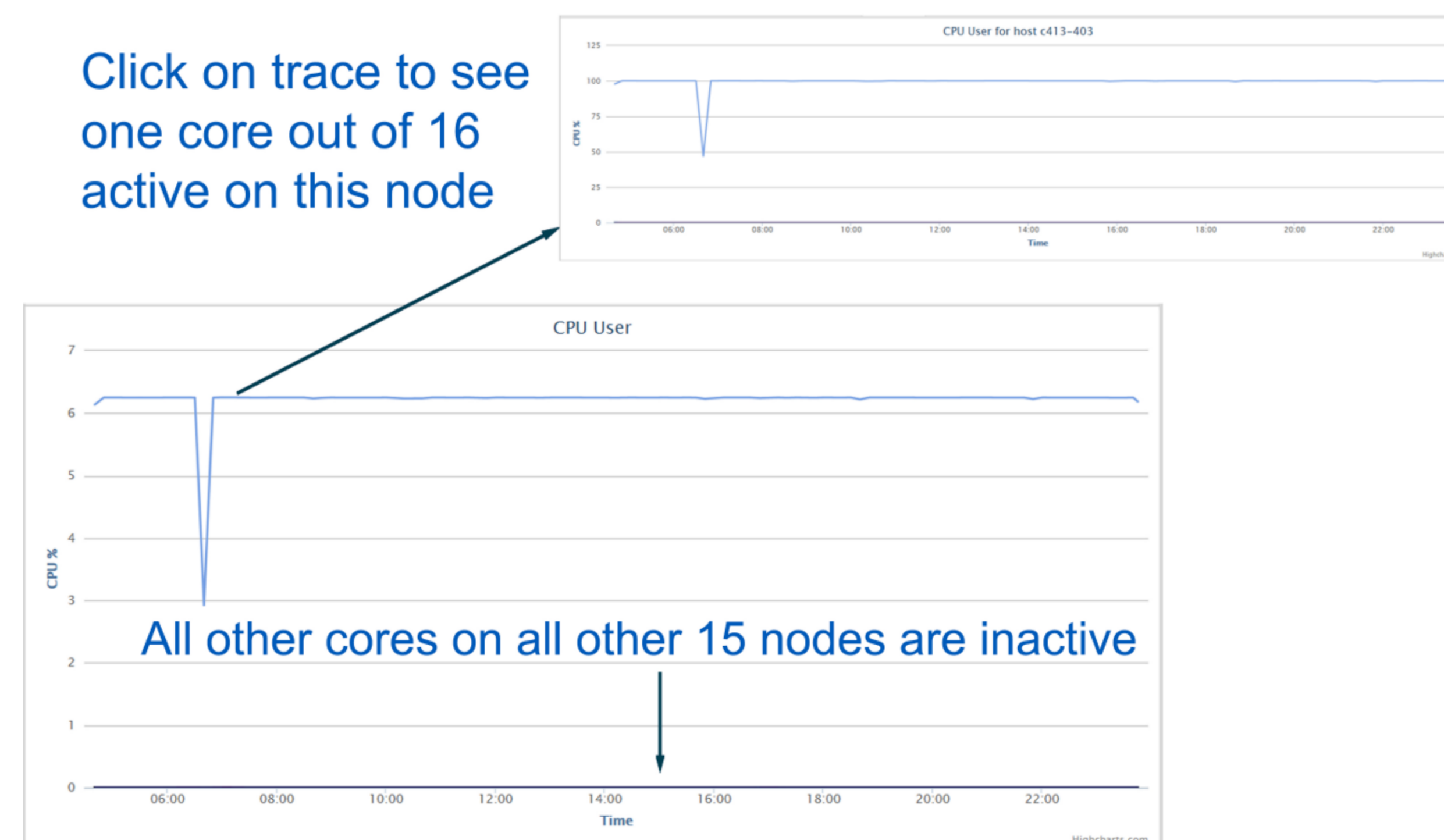
Search for jobs by number or by job criteria.

Timeseries plots available, for example CPU User

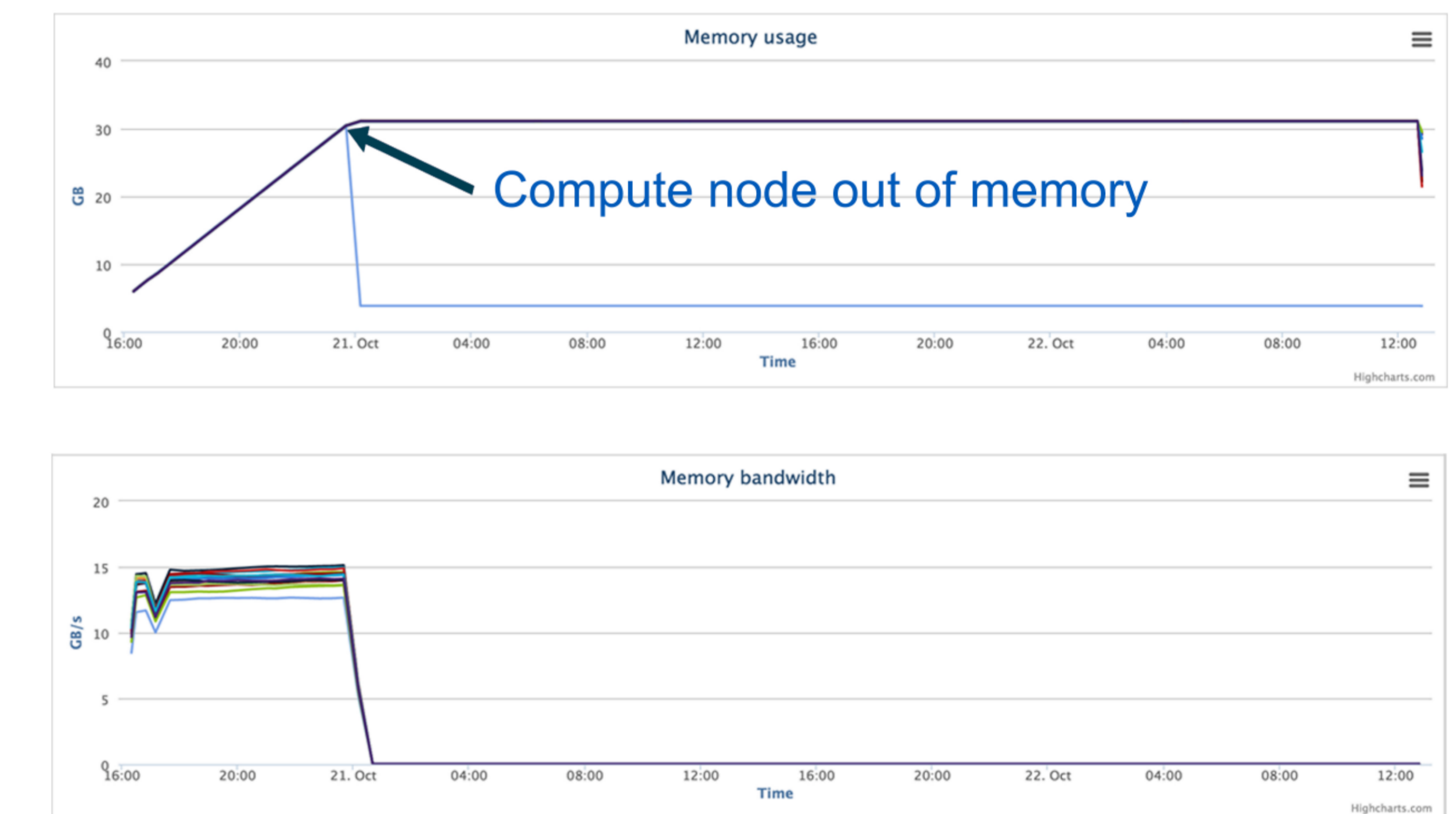


LAMMPS job classified by a machine learning algorithm. CPU user example of an efficient job in which the CPU cores are fully used throughout the job.

Click on trace to see one core out of 16 active on this node

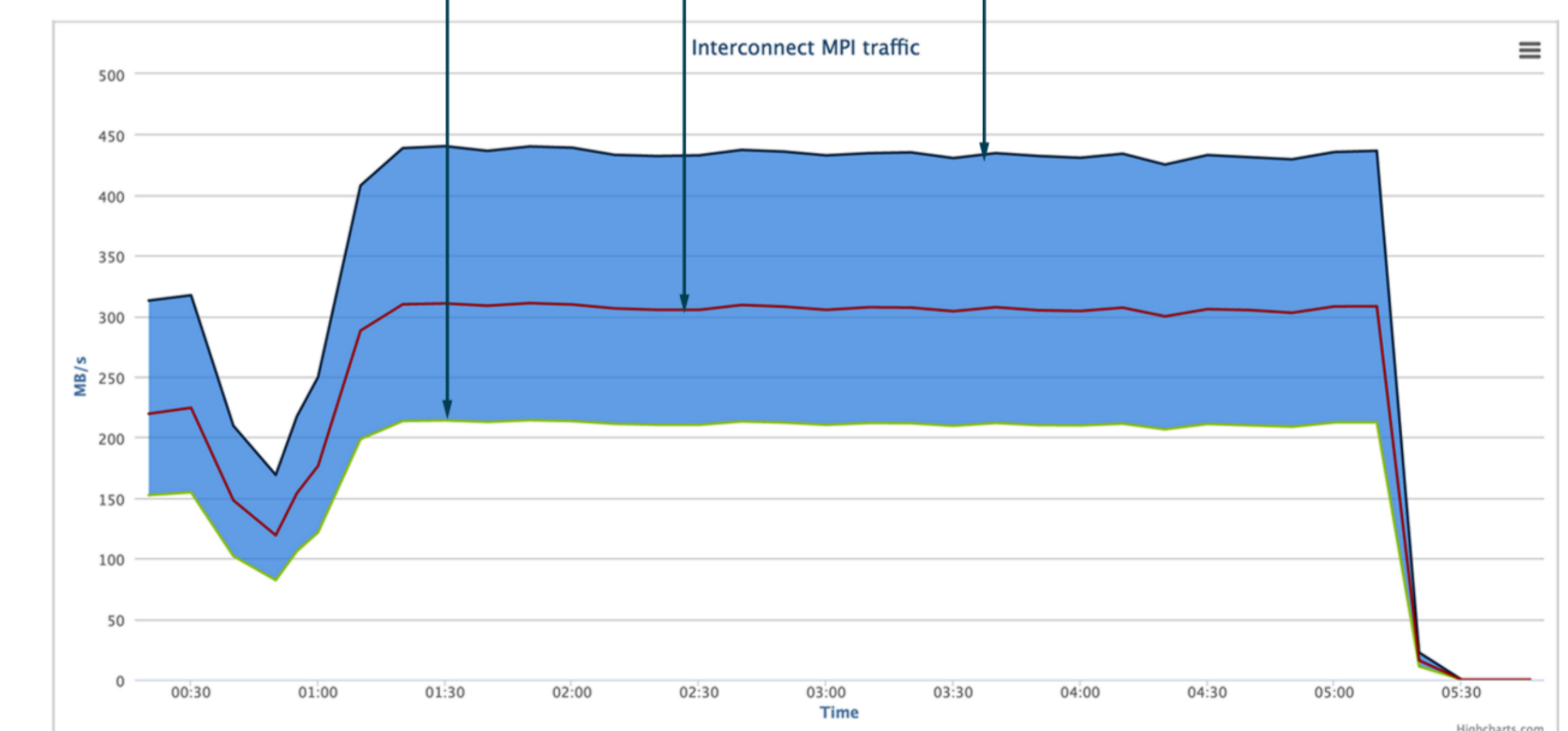


CPU user mode for an inefficient job. Only 1 core on 1 node was active - the other 255 cores across 16 nodes had 0% CPU utilization.



Memory usage and bandwidth data are available to aid in the diagnosis of issues related to memory allocation.

InfiniBand bandwidth for the assigned compute nodes
minimum median maximum



Job ran on 128 nodes. The envelope shows imbalance between I/O on different nodes.

Accounting and performance data for a job.

