

# What's working in HPC: Investigating HPC User Behavior and Productivity

**Title:** [What's working in HPC: Investigating HPC User Behavior and Productivity](#)

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**Abstract:** Productivity in High Performance Computing (HPC) systems can be difficult to define, complicated by the sometimes competing motivations of the people involved. For example, scheduling policies at many centers are geared toward maximizing system utilization, while users are motivated only by the desire to produce scientific results. Neither of these motivating forces directly relates to the common metric widely put forward as a measure of merit in HPC: high code performance as measured in floating-point operations per second (FLOPS).

This paper evaluates some factors contributing to the net gain or loss of productivity for users on today's HPC systems, and explores whether or not those factors are accurately being accounted for in the way systems are evaluated and scheduled. Usage patterns are identified through job logs and ticket analysis, and further explained with user surveys and interviews. This paper reveals insight into productivity on current HPC systems, where user's time is spent, what bottlenecks are experienced, and the resulting implications for HPC system design, use and administration.

**Reference:** @article{wolter2006s, title={{What's working in HPC: Investigating HPC user behavior and productivity}}, author={Wolter, N. and McCracken, M.O. and Snavely, A. and Hochstein, L. and Nakamura, T. and Basili, V.}, journal={CTWatch Quarterly}, volume={2}, number={4A}, year={2006} }