Guidelines for Specifying HPC Software

Executive Summary

This document describes the results of a task force convened to determine what types of system software and tools were sufficiently important to warrant implementation across multiple vendors and machine types. The group included representatives from a wide range of user sites, as well as from the software development groups at vendor sites. Together, they established key software requirements, identified priorities for different types of user organizations, and formulated the requirements into language suitable for direct inclusion in procurements and requests-for-bids.

The report is structured into four sections. The first discusses the formation and objectives of the task force and the processes used to arrive at consensus. Part 2 outlines the group's assumptions about how software will be specified on RFPs for parallel and clustered computers. In the next section, a tabular summary describes the requirements and the priority rank that was assigned to each. Part 4 presents the wording that is recommended for specifying each software element. Examples of how the requirements might be applied for various RFP scenarios, are in the appendices, which also provide vendor estimations of the level-of-effort required to develop and supply each requirement.

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