



Intelligent HPC Workload Management

Adaptive Workload Optimization Pack **FOR HP CLUSTER PLATFORMS**

Harness the Full Potential of Your HP Cluster

You are investing in leading HP Cluster Platform technologies to enable and accelerate more competitive product designs, discoveries and research. But to get to more of those valuable discoveries faster and more efficiently, you also need optimized workload management for your cluster. And these tools need to integrate quickly and seamlessly with your HP cluster and management software so you can harness the full potential of your end-to-end HPC system.

The Adaptive Workload Optimization Pack provides everything you need to quickly and easily complete your HPC cluster in one integrated package. It provides all the capabilities to optimize your workload performance including comprehensive workload scheduling and management, industry-leading messaging passing interface (MPI), and seamless integration with HP Insight Cluster Management Utility (CMU) for reduced administration and improved control. The combination of an HP Cluster Platform and the Adaptive Workload Optimization Pack addresses all of the key challenges that can limit your HPC potential today and tomorrow. It provides the enterprise-ready HPC workload optimization you need to excel and compete including:

- Moab® HPC Suite – Enterprise Edition: providing comprehensive workload scheduling and management to optimize performance
- Intel MPI Library 4.1: enables optimal performance for applications on Intel® architecture-based clusters with industry leading latency
- HP Insight CMU Connector for Moab HPC Suite: for integrated management across jobs and node resources that reduces administration and improves control
- Direct vendor support: Adaptive Computing provides direct support for all three components to ensure the best support response and experience.

Completing your HP cluster with the Adaptive Workload Optimization Pack addresses all the key challenges that can limit your HPC potential today and tomorrow.

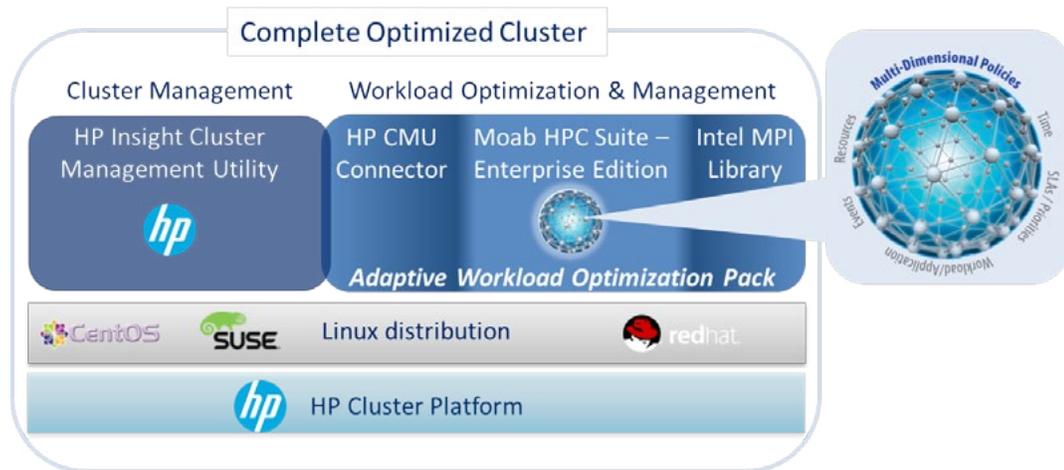
Enterprise-Ready Workload Scheduling and Management

While all HPC systems face challenges in workload demand, resource complexity, and scale, enterprise-level HPC systems face more stringent challenges and expectations. They have complex SLAs and priorities to balance in addition to maximizing job throughput and speed. Enterprise HPC systems must eliminate job delays and failures while improving resource utilization and management efficiency. To maximize productivity, they are required to make it easier to access and use HPC resources for users and better handle workload demand surges. Moab® HPC Suite - Enterprise Edition provides the enterprise-ready, comprehensive workload management that accelerates productivity, automates workload uptime, and consistently meets SLAs and business priorities for HPC systems. Its policy-based optimization includes capabilities such as:

- **Optimize throughput and utilization** to 90-99% with intelligent scheduling policies that pack workload and back fill around priority jobs and reservations
- **Complimentary SLA and priority policies** make sure the highest priority workload is processed first and resource reservation guarantees are met
- **Simplified job submission and management** via a web portal and advanced job arrays
- **Advanced scheduling and management of GPGPUs or Intel Xeon Phi™** co-processors for jobs
- **Usage accounting and budget enforcement** schedules resources in line with sharing agreements and usage budgets as well as reporting usage at user or group levels.
- **Dynamic cloning of nodes based on workload** OS requirements better meets demand while reducing administration and errors
- **Reduce power consumption and costs** with green policies that power nodes on and off based on workload
- **Fine-tuned allocation policies** maximize utilization and speed while preventing job errors
- **Admin dashboards and reporting tools** reduce workload management complexity, time and costs



Application Workload Optimization Pack FOR HP CLUSTER PLATFORMS



HP Insight CMU Integration for Streamlined Management

The Moab HP CMU Connector provides seamless integration between Moab HPC Suite – Enterprise Edition workload management and the HP Insight CMU management console and capabilities. This tight integration enables CMU management capabilities to be automated via policies and for the rich monitoring data in CMU to be used to power Moab policies to better optimize your system workload performance. The connector also enables key workload data and management actions to be integrated into the CMU management console for single point day-to-day administration with reduced time and enhanced system control. Admins can see jobs and reservations status integrated with the node management info. They can easily act on what they see from this single point such as draining jobs from nodes for maintenance or other integrated tasks.

Optimized Application Performance with Leading MPI

The Intel MPI Library 4.1 included in the Adaptive Workload Optimization Pack delivers flexible, efficient and scalable cluster messaging. It provides industry leading latency performance with scalability up to 120K processes. It enables you to develop applications that can perform optimally on Intel architecture-based clusters, like your HP Cluster Platform, and can run on multiple cluster interconnects chosen by the user at runtime.

Optimize Your Cluster Workload and Your Success

The Adaptive Workload Optimization Pack lets you easily optimize your workload performance to get the most out of your HP Cluster Platform investments. It is available on the full range of HP Cluster Platforms including HP Cluster Platform 3000, 4000, 3000/4000SL and HP Cluster Platform Express. With HP CMU to help you quickly install your cluster environment, the Adaptive Workload Optimization Pack completes the solution with you everything you need to quickly have applications and workloads running at peak throughput and to your SLA priorities. Optimizing your workload management helps drive to your organization's innovation and competitive advantage faster with the enhanced user productivity and HPC system efficiency it delivers. It enables you to harness the full potential of HPC for the success of your organization.

Contact your HP sales representative today to learn how the Adaptive Workload Optimization Pack can maximize the discovery and innovation results for your organization. More information on Adaptive Workload Optimization Pack is available at www.hp.com/go/awop. You can visit www.hp.com/go/clusters for more information on HP's complete cluster portfolio.

Contact a solutions advisor by phone or email, or visit our Web site today

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