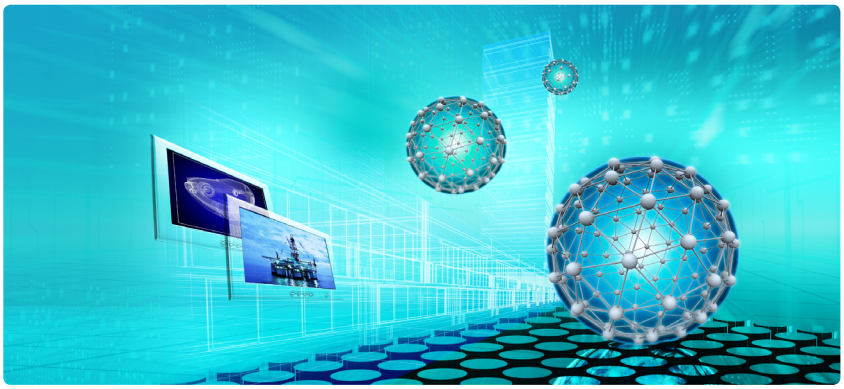
Intelligent HPC Workload Management



# Moab® HPC Suite ENTERPRISE EDITION AND HP CLUSTER MANAGEMENT UTILITY

## Unleash the Potential of HPC with Moab HPC Suite™ Enterprise Edition and HP Cluster Management Utility

Adaptive Computing and HP now provide customers joint dynamic capabilities for creating self-optimizing HPC environments that leverage their HP hardware and HP Cluster Management Utility capabilities. Moab HPC Suite™ - Enterprise Edition now uses the rich HP Cluster Management Utility (HP CMU) resource data to optimize and automate workload and resource decisions. Moab then initiates dynamic resource management and provisioning actions through HP CMU to acclerate productivity, automate uptime, auto-enforce SLAs, and provide cloud-ready HPC management.

While Moab® works with most resource management tools, the rich, real-time monitoring and management data and provisioning capabilities of HP CMU coupled with the patented intelligence engine of Moab HPC Suite - Enterprise Edition create a powerful solution that addresses the key challenges limiting HPC potential today.

## Moab HPC Suite - Enterprise Edition

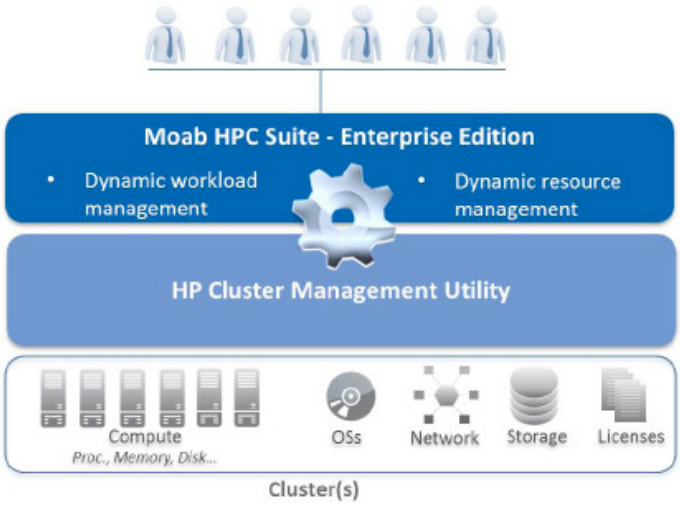
Moab HPC Suite - Enterprise Edition overcomes the challenges of meeting changing workload demands by dynamically adapting the resources to the requirements of user workloads, streamlining processes, enforcing SLAs and achieving organizational objectives.

Moab HPC Suite- Enterprise Edition provides an extension of the core capabilities of Moab HPC Suite - Basic Edition (policy-based management, self-optimizing scheduling, intelligent resource allocation, and unmatched scalability) by adding these essential adaptive capabilities for HP CMU:

- Auto discover new nodes for scheduling workloads
- Optimize utilization to 90-99% with intelligent scheduling policies based on real-time node information
- Ensure service level and resource fairshare requirements are met with powerful SLA policies
- Easier submission, management, and control of job arrays
- Advanced scheduling and management of GPGPUs for jobs
- Integrate automation and decisions across existing middleware (HP CMU, Nagios, FlexLM, etc.)
- Initiate application-optimized provisioning to meet workload requests
- Initiate cloning of nodes to meet workload job and reservation requests
- Reduce power consumption and costs with green policies that power nodes on and off based on workload
- Dynamically configure and install a mix of cluster operating environments to meet workload needs

## HP Cluster Management Utility

HP Cluster Management Utility simplifies the management and rapid deployment of large Linux clusters and groups of clusters. HP CMU's flexibility and friction-less interface enables optimal workload performance and reduced administrative costs.



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### A simple and affordable cluster toolkit, HP CMU is used to:

- Configure, install and update Linux cluster operating environments
- Monitor cluster activity in real time 'at a glance' with zoom-out display
- Remotely manage resources
- Maintain image repository for back-up and cloning

### HP CMU's Powerful GUI

HP CMU ships with a complete Java GUI for remote management of the cluster, and a command-line interface (CLI) for simple interactive and/or scriptable cluster management from the head node. CMU provides central access to all nodes in the cluster in several ways including access to the OS of a node to a parallel distributed shell over all nodes. The GUI provides a multi-window broadcast capability that displays OS or serial console activity from a selected group of nodes, and broadcasts commands from a single keyboard session. With a few mouse clicks in the GUI or a single command in the CLI, HP CMU can shut down, boot up, reboot, or power off any selection of nodes.

The HP CMU GUI displays real-time monitoring of selected metrics from some or all nodes in an intuitive and uniquely scalable design. The primary advantage of HP CMU's monitoring GUI is a single system view of the cluster. The monitored data of all individual compute nodes displays in a single pie view, providing the administrator with a comprehensive picture of the entire cluster's behavior.

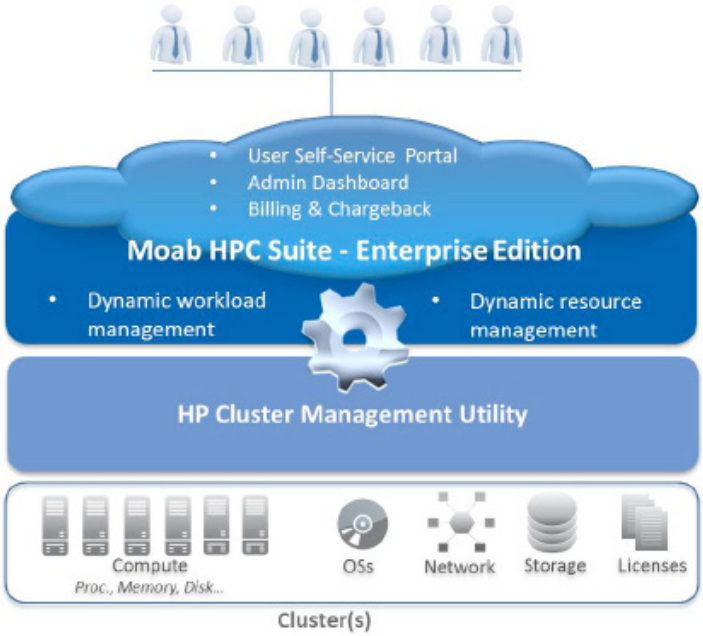
### Your HPC Cloud – Build it now with Moab and HP CMU

With Moab HPC Suite- Enterprise Edition and HP CMU, you can now leverage the benefits of cloud in your traditional HPC environment with built in dynamic management and optional cloud capabilities that Moab and HP CMU together can provide including:

- Self-service portal for end users
- Ability to place jobs on other remote clusters if demand requires with Moab Grid Suite add-on option
- Dynamic provisioning within current clusters of multiple node OSs to meet workload needs
- Automated chargeback or showback for the cost of resource usage to users and groups
- Optimized cluster performance

### Winning Combination for Full Cluster Management and HPC Cloud

HP and Adaptive Computing bring their collective HPC cluster management and HPC cloud capabilities for your HPC needs. Learn more by going to www.adaptivecomputing.com/solutions/partnersolutions-hp, by visiting www.adaptivecomputing.com or calling +1-801-717-3700.





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

North America, Latin America +1 (801) 717.3700
Europe, Middle East, Africa +44 (0) 1483 243578
Asia, Pacific, Japan, India +65 6597-7053
Email: solutions@adaptivecomputing.com
www.adaptivecomputing.com

**Corporate Headquarters**
1712 S. East Bay Blvd. Suite
300 Provo, Utah 84606



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