

Moab® HPC Suite - Grid Option

Overview

The Moab HPC Suite - Grid Option is a powerful grid-workload management solution that includes scheduling, advanced policy management, and tools to control all the components of advanced grids. Unlike other grid solutions, it connects disparate clusters into a logical whole, enabling grid administrators and grid policies to have sovereignty over all systems while preserving control at the individual cluster.

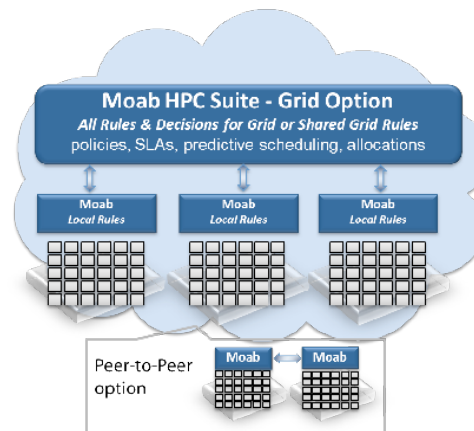
Moab HPC Suite - Grid Option has powerful applications that allow organizations to consolidate reporting; information gathering; and workload, resource, and data management. It delivers these services in a near-transparent way: users are unaware they are using grid resources—they know only that they are getting work done faster and more easily than ever before.

Moab HPC Suite manages many of the largest clusters and grids in the world. Moab technologies are used broadly across Fortune 500 companies and manage more than a third of the compute cores in the top 100 systems of the Top500 supercomputers. Adaptive Computing is a globally trusted ISV (independent software vendor), and the full scalability and functionality Moab HPC Suite with the Grid Option offers a single integrated solution that has traditionally made it a significantly more cost-effective option than other tools on the market today.

Components

The Moab HPC Suite - Grid Option extends the capabilities and functionality of the HPC Suite components to manage grid environments including:

- **Moab Workload Manager® for Grids**—a policy-based workload management and scheduling multi-dimensional decision engine
- **Moab Cluster Manager® for Grids**—a powerful and unified graphical administration tool for monitoring, managing and reporting tool across multiple clusters
- **Moab Viewpoint™ for Grids**—a Web-based self-service end-user job-submission and management portal and administrator dashboard



Moab HPC Suite - Grid Option can be flexibly configured for centralized, centralized and local, or peer-to-peer grid policies, decisions and rules. It is able to manage multiple resource managers and multiple Moab instances.

Benefits

- **Unified management** across heterogeneous clusters provides the ability to move quickly from cluster to optimized grid
- **Policy-driven and predictive scheduling** ensures that jobs start and run in the fastest time possible by selecting optimal resources
- **Flexible policy and decision engine** adjusts workload processing at both grid and cluster level
- **Grid-wide interface and reporting tools** provide view of grid resources, status and usage charts, and trends over time for capacity planning, diagnostics, and accounting
- **Advanced administrative control** allows various business units to access and view grid resources, regardless of physical or organizational boundaries, or alternatively restricts access to resources by specific departments or entities
- **Scalable architecture** to support peta-scale, high-throughput computing and beyond



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Grid Control with Automated Tasks, Policies, and Reporting

- Guarantee that the most-critical work runs first with flexible global policies that respect local cluster policies but continue to support grid service-level agreements
- Ensure availability of key resources at specific times with advanced reservations
- Tune policies prior to rollout with cluster- and grid-level simulations
- Use a global view of all grid operations for self-diagnosis, planning, reporting, and accounting across all resources, jobs, and clusters

Cluster Sovereignty and Trusted Sharing

- Guarantee that shared resources are allocated fairly with global policies that fully respect local cluster configuration and needs
- Establish trust between resource owners through graphical usage controls, reports, and accounting across all shared resources
- Maintain cluster sovereignty with granular settings to control where jobs can originate and be processed
- Establish resource ownership and enforce appropriate access levels with prioritization, preemption, and access guarantees

Increase User Collaboration and Productivity

- Reduce end-user training and job management time with easy-to-use graphical interfaces
- Enable end users to easily submit and manage their jobs through an optional web portal, minimizing the costs of catering to a growing base of needy user
- Collaborate more effectively with multicluster co-allocation, allowing key resource reservations for high-priority projects
- Leverage saved job templates, allowing users to submit multiple jobs quickly and with minimal changes
- Speed job processing with enhanced grid placement options for job arrays; optimal or single cluster placement

Process More Work in Less Time to Maximize ROI

- Achieve higher, more consistent resource utilization with intelligent scheduling, matching job requests to the best-suited resources, including GPGPUs
- Use optimized data staging to ensure that remote data transfers are synchronized with resource availability to minimize poor utilization
- Allow local cluster-level optimizations of most grid workload



Unify Management Across Independent Clusters

- Unify management across existing internal, external, and partner clusters—even if they have different resource managers, databases, operating systems, and hardware
- Out-of-the-box support for both local area and wide area grids
- Manage secure access to resources with simple credential mapping or interface with popular security tool sets
- Leverage existing data-migration technologies, such as SCP or GridFTP

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