

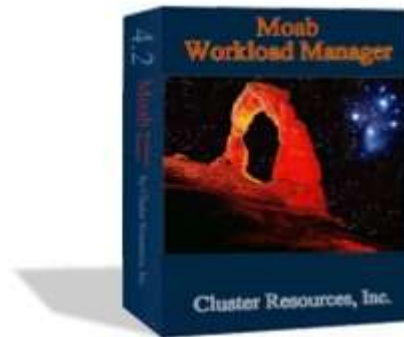


Cluster Resources, Inc.TM

Center for HPC Resource Management and Scheduling, Copyright © 2000-2004

MOAB WORKLOAD MANAGER TM 4.2

PRODUCT FLYER



Overview:

Moab Workload Manager is our next generation cluster scheduler. Moab has all the functionality that was available in Maui Scheduler, but uses a significantly improved integration architecture. Moab Workload Manager's architecture allows for dynamic management of resources, incorporation of additional resource types such as licenses, file spaces of SANs, NASs and tape drives, as well as new communication interfaces that allow for rapid integration with in-house and 3rd party applications. Moab Cluster ManagerTM and Moab Access PortalTM are two new applications from Cluster Resources, Inc. that take advantage of this new integration architecture. Part of the Moab Cluster Suite, these applications turn the tasks of monitoring and managing your cluster as well as end-user workload submission and management from what for some is an intimidating challenge to an easy to understand experience that empowers you with industry leading flexibility and control of your resources.

Moab Workload Manager, as an intelligent policy engine allows organizations to both optimize and manage resource usage to match precisely to their own particular needs. From fairly managing consumption between competing parties to achieving significant savings on current and future hardware and network expenditures through system optimization. Through a large array of scheduling policies, dynamic priorities, extensive reservations, fairshare and other policy types you can move your organization from resource chaos to control for clusters of a few processors to multi-teraflop supercomputers.

Benefits:

- Focus resources on your organization's priorities
- Manage the complexities of sharing and scheduling shared resources
- Save on hardware and network expenses by optimizing resource utilization by an additional 35%
- Ensure quality of service guarantees for key projects and enforcement of service level agreements
- Inter-operate with custom built and 3rd Party applications to manage license usage, partitioning of resources, operating systems and applications, as well as other resource and task oriented environments



Cluster Resources, Inc.

Center for HPC Resource Management and Scheduling, Copyright © 2000-2004

New Features:

Moab Workload Manager extends the capabilities of base resource management systems by adding the following features:

- Manage Consumable Floating Resources
 - *Example:* License management, file system space management for SANs, NASs, Tape Drives, etc.
- Multiple Resource Managers may reside on a Single Node – Use one resource manager that is best at managing licenses, use another to manage system resources, all on the same node
- XML Interface – Easily communicate/interact with scheduler data through an XML interface
- Application Library Support – Empower your application to query or interact with the scheduler using either a socket protocol or a C API
- Supports New Management Applications – Use Moab Cluster Manager to simplify, speed and improve your ability to administer your clusters
- Native Resource Manager Interface – Use your locally built resource manager in addition to industry options
- Dynamic Reservation Support – Reservations may be enlarged, migrated, etc., without resubmitting the job
 - *Example:* Dynamically modify ACL's, timeframes or allocated resources
- Dynamic Job Support – Attributes of idle and active Job workloads may be dynamically modified
- Dynamic Node Support – Node resources may be automatically modified to optimize workflow
 - *Example:* Install a new OS, change the resource manager, file system or applications on the node
- Task level Scheduling – Full DAG Support to allows integrated support of both batch and task based workloads
- Job Submission using Resource Ranges – Submit a range of resource needs in order to allow the optimization of resources based on the jobs added flexibility, and permit jobs to run under a broader range of conditions
- Multi-requirement Jobs Support – Support multiple independent types of resource requests within a single job
 - *Example:* Dedicate certain resources to a master node, and others for the compute nodes, or select a visualization-centric set of nodes and along with the required set of compute nodes all for a single job
- High Availability Fallback – Set a secondary fail over node for the scheduler to respond to server or network failures; Automatically revert back to the primary/master node once auto-detection discovers that services have been restored
- Encryption of Client Input and Peer Service Interfaces
- Ease of use through full documentation and Man pages
- Advanced Grid Support
- Scales to thousands of CPUs, tens of thousands of jobs and multi-teraflop clusters

Supported Resource Managers:

- TORQUE Resource Manager™
- OpenPBS
- PBS Pro
- LoadLeveler
- Load Sharing Facility (LSF)
- Bproc/Scyld
- Scalable System Software (SSS-RM)
- Sun Grid Engine (SGE)*
- Sun Grid Engine Enterprise Edition (SGEE)*

*Limited Support

Supported Platforms:

- Linux
- AIX
- OSF/Tru-64
- Solaris
- HP-UX
- IRIX
- Other Unix Platforms
- Mac OS X and some earlier versions