



Intelligent HPC Workload Management

Upgrading from GOLD Allocation Manager to Moab Accounting Manager

More Efficient and Effective HPC Usage Accounting

Today's HPC sites need more powerful tools to ensure that each of your customer users and groups gets the appropriate amount of resources. You also need to better understand and manage that usage. You need better automation and enforcement of usage accounting. The needs of expanding numbers of users, departments, and even external groups using HPC systems are pushing accounting needs beyond the limits of what the simple open source GOLD allocation manager can support. These limitations and aging support for GOLD present the perfect opportunity for organizations to evaluate making the upgrade to the innovative next generation of usage accounting and budgeting that Moab® Accounting Manager provides. It delivers more efficient automation and reporting for usage accounting as well as more effective, granular controls for enforcing service levels and usage budgets. And because it is integrated and included in the Moab HPC Suite – Enterprise Edition, it provides a straightforward upgrade path for Moab customers as well as Maui and SLURM customers.

Automated Usage Accounting Just the Way You Need It

Upgrading to Moab Accounting Manager gives you the powerful capabilities you need to address today's challenges that GOLD does not provide. Innovations in tracking, enforcing and reporting on usage also reduce management burden and time with automated accounting including:

- Customized usage tracking and charging** to meet your specific organizations needs with the Native Allocation Manager Interface (NAMI) and Moab Accounting Manager. You can create custom between Moab and Moab Accounting Manager to use virtually any of the granular job record data in Moab to do different charging and tracking at different times. For instance, you could charge different rates based on the number of current jobs in the queue, for custom resource usage, or adjust for seasonal rates or discounts. GOLD does not provide this capability.

- Departmental usage accounting flexibility** enables admins to easily reflect their custom, granular organizational hierarchies such as organization, groups, cost centers, departments, business units, projects, etc. in the Moab Accounting Manager usage budgets, usage tracking reports, and usage charging structure. This overcomes the GOLD limitations of only basic cluster and project usage accounting to make usage accounting more automated, useful, and actionable.

- Reporting and charging for any granular item type** that has usage including jobs, granular specific resource components, or reservations. This lets admins automate and report back on all types of usage for more insights and transparency on usage and more accurate pay-for-use. This overcomes the GOLD limitations of reporting usage as just a single generic job.

- Support long-running jobs or reservations with periodic usage charges** so long-term jobs and reservations can be tracked or charged at intervals instead of just when the job or reservation ends as GOLD is limited to. This gives admins and users a more accurate view of their usage at any point in time and enables mapping to regular accounting periods. This innovation leverages new Moab HPC Suite 7.x enhancements.

- Role-based usage accounting access** so admins and users see only the usage information related to their designated role. This prevents awkward disclosures of other users and group usage that can cause management headaches. It also improves the usability of usage and budget reports for users and admins. GOLD does not offer this role-based access automation, but requires users and admins to manually request specific project or user usage accounting, which if not exactly correct can waste time and deliver frustrating "no privileges" messages.

Push beyond the limits of what the simple open source GOLD allocation manager can support. Moab Accounting Manager delivers more efficient automation and reporting for usage accounting as well as more effective, granular controls for enforcing service levels and usage.



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• **Auto generation of HPC System users into the accounting system** saves admin time and burden and speeds responsiveness to new users. Admins no longer have to spend the duplicate time pre-defining users before they could use the system as GOLD requires. You can have new user information from Moab job submissions flow right into the accounting system for instant, automated tracking.

• **Powerful, conditional charge rate controls** provide the flexibility to charge different resource rates for different type of resources, users, groups, service levels, or by usage amount. You can accurately and automatically charge for different Quality of Service, licenses, and other non-consumable resources such as telescopes or other equipment. It even provides easy to set conditional charge rate ranges so you can define rate modifiers based on usage amount ranges. This enables it to auto adjust for resource premiums, volume or special discounts, and multipliers to reflect the most accurate usage value. Itemized usage reports present breakdowns of these charges for transparency or pay-for-use chargeback. GOLD could only roughly mimic conditional charge rates and only for actual physical compute resources, with no conditional charge rate ranges capabilities.

• **Auto accounting events scheduling and notifications** in Moab Accounting Manager let you automate accounting tasks to reduce admin time and burden. You can schedule automatic accounting events to occur like periodic allocation fund/ budget deposits, allocation fund/budget resets, etc. It also provides a notifications view you control on events that have been successful or that failed and need attention.

• **Infinite allocation budgets or funds** let you showback for usage and do pay-for-use chargeback without enforcing any limits on users, groups, or projects. GOLD always enforces limits requiring admins to trick it with wild allocation budget amounts, or do constant adjustments.

• **Itemized charge reports** show users and admins the granular break-down of an individual charge to see which charge rates were applied and for what consumable or non-consumable resources usage to improve transparency to users or groups managing usage budgets or paying-for-use.

Long-term Product Support Keeps You Moving Forward

Upgrading to Moab HPC Suite 7.x with Moab Accounting Manager enables your organization to leverage new innovations and ROI enhancers. These enhancements further accelerate the productivity, extend the scalability, and enhance the integration of your HPC cluster. This includes enhancements like scalability improvements, more efficient job arrays, faster jobs with topology-based scheduling, Moab Web Services and expanded DB support for integration, and usage accounting and budgeting improvements. GOLD does not work with Moab versions beyond 6.1. Upgrading from GOLD to Moab Accounting Manager lets you keep moving forward with the latest efficiency and productivity innovations of 7.x and beyond and get more from your HPC system.

As of 2012, Adaptive Computing is no longer enhancing the open source GOLD product and support for it will also end in about a year in conjunction with end of support for Moab HPC Suite 6.1. Planning your upgrade to Moab Accounting Manager now ensures that you will be able to get the latest usage accounting advancements and the support you need that is also fully integrated with the Moab product line. You should also consider that GOLD solutions may no longer function correctly due to *perl* discontinued support for the *setuid* used by GOLD. GOLD will not work run on *perl* 5.12 or later. Customers using GOLD can easily make the upgrade from their GOLD solution to Moab Accounting Manager to overcome the *perl* change impact and get added value and ROI.

An Easy Upgrade Path

You have a straightforward and integrated upgrade path to give you fast access to the added value and capabilities in Moab Accounting Manager. Migration scripts are provided to ease upgrading from GOLD to the Moab Accounting Manager version appropriate for your Moab solution. They ensure your historical tracking, reports, charge rates and allocation funds all carry over seamlessly so you don't have to do any re-work. Contact us today to see how you can upgrade to Moab Accounting Manager in Moab HPC Suite – Enterprise Edition.

Contact a solutions advisor by phone or email,
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