

# Slurm Solutions

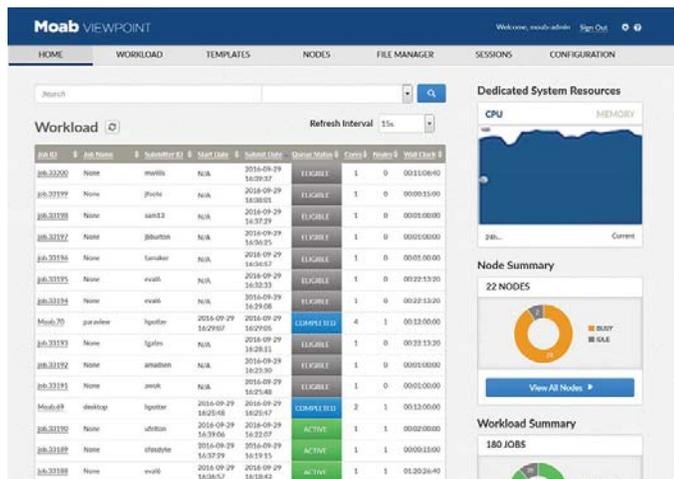
## Why Adaptive Computing on Slurm?

Adaptive Computing's enterprise solutions add the ease-of-use and extended capabilities that drive higher productivity and reliable efficiency on the Slurm scheduler. Organizations spend less time to get more work accomplished, gain insight and control over their workloads, and improve efficient utilization of their resources.

### Viewpoint: Ease-of-Use Job Submission Portal

Viewpoint is an easy-to-use job submission and management GUI designed to unify and simplify the submission experience for users and administrators. Viewpoint's ease-of-use makes it possible to expand an HPC user base to include even non-IT skilled personnel, in addition to increasing the productivity of every worker. These are just some of its capabilities:

- **Job Submission** – Submit and manage basic jobs with a point-and-click portal, in addition to the command line.
- **Application Templates** – Automate best-practices by pre-defining default values, hiding unnecessary options, and adding custom fields, thereby simplifying user submission.
- **Script Builder** – Replace the editable parts of the submission script with custom variables created in a visual script builder.
- **Job Details** – Gain insight into job status and reasons for failure through explanatory messages.
- **File Manager** – Navigate output files right from an internal browser (move, rename, delete, compress, download, etc.)



## Reporting & Analytics: Insight Drives Better Decisions and Efficiency

Adaptive Computing's Reporting & Analytics tool enables organizations to gain valuable insights by streaming resource usage and workload data into graph and chart-based reports, and then unifying reporting elements in personalized dashboards. This drives improved resource utilization and efficiency, better capacity planning, and greater alignment of resources to mission objectives. Organizations can create reports using the SQL query editor or take advantage of dozens of out-of-the-box reports such as the following:

- **Average Wait Times** - User, group, account, class & QoS
- **Job State Duration** - Idle, Starting, Running, Hold, etc.
- **Highest Requested** - Resources, partitions, features, etc.
- **Allocated/Utilized Resources** - User, group, etc.
- **Outage Impact** - Node state %'s per time period
- **Job Start Time Delay** - Identify wait times
- **Core Use Efficiency** - Per utilized node

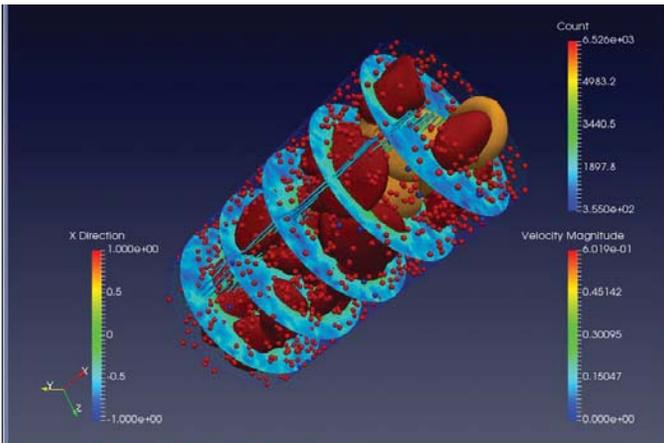


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## Remote Visualization: Higher Productivity & Reduced Resource Costs

Remote visualization is a key contributor to an organization's productivity. Organizations invest heavily in expensive resources and high-skilled individuals to achieve their production goals and then find that the resources go underutilized and the people are often less productive than desired.

Organizations will avoid having to purchase high-end desktops for all their knowledge workers, instead sharing systems with expensive licenses or GPUs. They also avoid overbuying on their network, since they will have reduced much of the file transfer requirements between the desktops and back end servers.



## Nitro: 100x Faster Throughput

Nitro is a highly powerful, yet simple task launching solution. Instead of requiring individual job scheduling, Nitro enables high-speed throughput on short computing jobs by scheduling only once for a large set of jobs. At 500 tasks/second/core, Nitro has the power to put high throughput into your computing system and is ready to handle any volume of workload.

- **Enables** 100x faster throughput on short jobs
- **Supports** thousands to billions of tasks in HTC or SOA
- **Removes** launch speed bottlenecks

## Accounting: Resource Usage Efficiency from Users

As users and organizations receive feedback about their usage or even get charged for it, their usage behavior inevitably changes to drive improved overall efficiency. This add-on is an easy-to-use accounting management system that allows showback and chargeback for usage tracking and charging for resource or service usage in virtually any computing environment.

- Track usage per user, group, project, or account
- Pre-pay or pay-as-you-go models
- Charge rates per resource, action, or quality of service
- Lien-based model
- Enforce budgets

**Accounts** | **Allocations** | **Charges** | **ChargeRates** | **Events** | **Funds**

Beginning Balance: 0.00  
Total Credits: 905000.00  
Total Debits: -2018.00  
Ending Balance: 897984.00

**Credit Detail:**

Object	Action	Instance	Time	Amount	Balance
Fund	Deposit		2015-01-13 12:20:36	600000.00	600000.00
Fund	Deposit		2015-01-13 12:20:43	300000.00	300000.00
Fund	Deposit		2015-01-13 12:20:49	100000.00	100000.00
Fund	Deposit		2015-01-13 12:20:52	100000.00	100000.00
Total:					1800000.00

**Debit Detail:**

Object	Action	Instance	Account	User	Machine	Time	Amount	Balance
UsageRecord	Charge	128	Engineering1	User1		2015-01-13 12:25:58	-8.40	399991.60
UsageRecord	Charge	129	Engineering2	User3		2015-01-13 12:26:47	-76.80	399223.20
UsageRecord	Charge	130	Engineering1	User2		2015-01-13 12:27:08	-76.80	398456.40
UsageRecord	Charge	131	SpecialProjects	User6		2015-01-13 12:28:00	-38.40	99961.60
UsageRecord	Charge	132	SpecialProjects	User6		2015-01-13 12:28:16	-38.40	99923.20
UsageRecord	Charge	133	Finance	User8		2015-01-13 12:29:13	-76.80	99846.40
UsageRecord	Charge	134	Engineering1	User2		2015-01-13 12:30:33	-19.20	398665.60
UsageRecord	Charge	135	Engineering2	User4		2015-01-13 12:31:19	-19.20	299504.00
UsageRecord	Charge	136	SpecialProjects	User6		2015-01-13 12:32:23	-57.60	99865.60
UsageRecord	Charge	137	Engineering1	User1		2015-01-13 12:34:25	-138.00	398329.60
UsageRecord	Charge	138	Engineering2	User5		2015-01-13 12:35:20	-38.40	299865.60
Total:								2008702.40

## Open Platform: Ease-of-Use Driven Productivity for all Clusters

Adaptive Computing is committed to bring best-of-breed solutions to popular scheduler platforms. This allows organizations to experience a unified submission, management, and reporting experience regardless of scheduling choices.

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

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