

# ORACLE GRID ENGINE 6.2 UPDATE 5



THE INDUSTRY'S MOST  
WIDELY USED WORKLOAD  
MANAGEMENT SOLUTION

## FEATURES

- Extreme scalability – up to 63,000 cores per master
- Sophisticated scheduler with advanced scheduling policies and resource reservation
- Dynamically resize clusters based on service level objectives
- Data-aware support for running Apache Hadoop workloads
- Lease resources from cloud service providers to manage peak workloads
- Accounting and reporting console for detailed usage analysis and billing

## BENEFITS

- Higher average utilization
- Higher workload throughput
- Shorter time to results
- Lower management costs
- Lower overall cost of ownership

*Oracle Grid Engine is the most widely deployed workload management solution in the industry and offers unmatched scalability. On top of a rich set of advanced scheduling capabilities and the flexibility to adapt to any computing environment and application workload, Oracle Grid Engine offers comprehensive support for the cloud computing model.*

### Maximize Value, Minimize Costs

The typical enterprise data center has an average utilization rate of roughly 15%-25%. On average, three quarters of the resources in an enterprise data center are sitting idle, costing upkeep but bringing no value to the enterprise. Instead of allowing those machines to sit idle, the Oracle Grid Engine workload management product helps tear down application silos and extract the maximum value from resource investments. With Oracle Grid Engine, workloads are efficiently shared across machines in the data center, maximizing the value of data center resources.

The Oracle Grid Engine product is a powerful and flexible workload scheduler that maximizes resource value within the context of defined business rules. Using Oracle Grid Engine's rich set of enterprise-class scheduling policies, administrators can ensure that workload is scheduled in a way that will bring the most business value. These advanced scheduling policies enable different organizations with varying application workloads to share resources fairly, resulting in higher utilization and greater flexibility.

Introducing the Oracle Grid Engine product into the IT environment can also increase application and overall data center availability. By abstracting end users from the specific machines processing the workload, machine failures can be taken in stride. When a machine fails, the workload it was processing can be requeued and rescheduled. While the machine remains down, new workload is scheduled around that machine, preventing end users from ever noticing the machine failure.

In addition to the Oracle Grid Engine product's rich scheduling and workload management capabilities, it also has the ability to share resources among fixed services, such as between two Oracle Grid Engine clusters, resulting in even higher overall data center utilization. Included in this capability is the ability to reach out to a private or public cloud service provider to lease additional resources when needed. During peak workload periods, additional virtual machines can be leased from a cloud service provider to augment the on-site resources. When the workload subsides the leased cloud resources are released back to the cloud, minimizing the costs. Such *cloud bursting* capabilities allow an enterprise to handle regular and unpredictable peak workloads without resorting to purchasing excess additional

equipment that may not be needed during off-peak periods.

### **Oracle Grid Engine 6.2 update 5**

The latest release of Oracle Grid Engine is the Oracle Grid Engine 6.2 update 5 product. On top of the enterprise-class scalability and rich feature set of the Oracle Grid Engine 6.2 product, update 5 adds a series of important features.

#### **Apache Hadoop Integration**

The Oracle Grid Engine 6.2 update 5 product reduces the cost of running Apache Hadoop applications by enabling them to share resources with other data center applications, rather than having to maintain a dedicated cluster for running Hadoop applications. In addition, the Oracle Grid Engine product's advanced features, such as its rich scheduling policies and accounting database greatly reduce the cost of managing Hadoop applications. Apache Hadoop is "a powerful tool designed for deep analysis and transformation of very large data sets."

#### **Cloud Bursting**

Using the Oracle Grid Engine 6.2 update 5 product, additional resources can be automatically provisioned from the Amazon EC2 service to process peak application workloads. Access to on-demand cloud resources reduces the need to provision data center capacity according to peak demand, which in turn reduces the data center's operating costs.

#### **Topology-aware Scheduling**

The Oracle Grid Engine 6.2 update 5 product is able to schedule applications that are sensitive to CPU topologies to maximize their performance, cutting execution times in some cases by over 50%.

#### **Power Conservation**

The Oracle Grid Engine 6.2 update 5 product can automatically manage the power settings of idle systems during off-peak hours, thereby reducing their power consumption and driving down the overall data center operating costs.

#### **Improved Preemption**

With the Oracle Grid Engine 6.2 update 5 product, the mechanism used for job preemption has been improved and refined, making it more flexible and more efficient. The net result is that the Oracle Grid Engine 6.2 update 5 product is able to achieve even higher levels of data center utilization than before when job preemption is configured.

#### **User-controlled Job Throttling**

Users of the Oracle Grid Engine 6.2 update 5 product now have the ability to specify concurrent execution limits on the jobs they submit. For users submitting large parametric jobs, this feature enables the Oracle Grid Engine scheduler to share resources more fairly among users, resulting in better overall efficiency and shorter time to results.

**RELATED PRODUCTS AND SERVICES**

Oracle Grid Engine is the most widely deployed workload management solution in the industry, with unmatched scalability and a rich set of advanced scheduling capabilities, as well as comprehensive support for the cloud computing model. The following additional products and services from Oracle complement well the Oracle Grid Engine product.

**RELATED PRODUCTS**

The following additional products are available from Oracle

- Oracle Enterprise Manager
- Oracle Enterprise Manager Ops Center
- Oracle HPC ClusterTools

**RELATED SERVICES**

The following services are available from Oracle Support Services:

- Update Subscription Services
- Product Support Services

**Supported Platforms**

The Oracle Grid Engine 6.2 update 5 product is supported on the following platforms:

Master Host	Compute Host
Solaris 8, 9, 10 on SPARC Solaris 9, 10 on x86 Solaris 10 on x64	Solaris 8, 9, 10 on SPARC Solaris 9, 10 on x86 Solaris 10 on x64
Linux kernel 2.4-2.6 on x86/x64 (glibc at least 2.3.2)	Linux kernel 2.4-2.6 on x86/x64/ia64 (glibc at least 2.3.2)
	Microsoft Windows <ul style="list-style-type: none"> <li>• 2000 Server SP3</li> <li>• 2000 Professional SP3</li> <li>• Server 2003</li> <li>• Server 2003 Release 2</li> <li>• Server 2008</li> <li>• XP Professional SP1</li> <li>• Vista Enterprise</li> <li>• Vista Ultimate</li> </ul>
	Mac OS X 10.4, 10.5 on x86 Mac OS X 10.4 on PPC
	AIX 5.1, 5.3, 6.1
	HP-UX 11.0+ (32-bit & 64-bit)

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For more information about [insert product name], please visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.



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