

JARYBA, LLC

SmartSuspend 2.0 Validated Integration with Oracle Grid Engine 6.2



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Achieve 100% Cluster Utilization

Jaryba SmartSuspend is a Linux-based cluster workload management solution that enables priority-based job suspension.

Company Overview

Jaryba, LLC provides software for maximizing the utilization of hardware and software assets in datacenters, while maintaining the desired application quality of service.

Jaryba's SmartSuspend 2.0 uses a system-call abstraction layer between the application and the operating systems. The combination of Jaryba's SmartSuspend 2.0 and Oracle Grid Engine 6.2 allows for lower-priority jobs to be suspended, freeing resources for higher-priority jobs. SmartSuspend can be easily deployed into existing datacenter or cloud environments and achieve high cluster utilization with no modification to the environment's applications.

Integration Overview

Integrating Jaryba SmartSuspend 2.0 with Oracle Grid Engine 6.2 allows you to leverage the powerful suspend and resume capabilities of SmartSuspend, while using the familiar Oracle Grid Engine interface to submit and monitor jobs.

SmartSuspend integration lets you:

- Preempt lower-priority work without work loss
- Manage expensive software licenses
- Reduce or remove dedicated interactive user slots
- Reclaim interactive slots during off hours
- Eliminate micromanagement of project job queues

Integration Details

Oracle Grid Engine provides a preemptive scheduling feature that allows pending high-priority jobs to take resources away from running jobs of a lower-priority. To keep the integration as simple and transparent as possible, SmartSuspend takes advantage of Oracle Grid Engine's subordinate queue configuration, and uses SmartSuspend technology for handling the underlying job suspension and resumption operations.



Validated Integration

Oracle Enterprise
Manager

Through the Oracle PartnerNetwork, partners with validated integrations are able to provide customers with standards-based product integrations, tested and validated by Oracle. Customers benefit from improved risk management and smoother upgrade capability, leading to a lower total cost of ownership and greater overall satisfaction.

Availability

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The Oracle Grid Engine queue can be specified as:

- Preemptive—Jobs in a preemptive queue can suspend jobs in any subordinated queue.
- Preemptible—Jobs in a preemptible queue can be suspended by any job in a preemptive queue on the same host.

Oracle Grid Engine's integration script `ssroge.sh` is included in the SmartSuspend software distribution.

SmartSuspend has added a preemptive queue called `highp.q` and a preemptible queue called `lowp.q` using the following queue configurations:

highp.q configuration:

```
qname highp.q
```

```
subordinate_list lowp.q
```

lowp.q configuration:

```
qname lowp.q
```

```
starter_method /usr/share/smartsuspend/ssroge.sh
```

```
suspend_method /usr/share/smartsuspend/ssroge.sh -s
```

```
resume_method /usr/share/smartsuspend/ssroge.sh -r
```

Oracle Grid Engine can suspend jobs using either of the following methods. One method is to submit jobs in the `lowp` queue to be automatically suspended by Oracle Grid Engine. The other method to suspend, resume, or kill a job can be done with the following standard Oracle Grid Engine commands as well:

- `qmod -s <job_id>`
- `qmod -us <job_id>`

Test Environment

Jaryba Environment

SmartSuspend 2.0

Oracle Environment

Oracle Grid Engine 6.2

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