UNIVA

Univa Grid Engine for Veloce

Workload scheduling and optimization combined with Veloce hardware emulation platform for accelerated design verification

HIGH CAPACITY, HIGH-SPEED, MULTI-APPLICATION EMULATOR

Accelerate block and full SoC RTL simulations during all phases of the design process

- Improve end product quality
- Increase verification cycles
- Reduce silicon spins
- Debug early in design process
- Lower total cost of ownership

ENTERPRISE-CLASS WORKLOAD SCHEDULING AND OPTIMIZATION

Optimize workload throughput and performance of applications, containers and clusters

- Improve workload throughput
- Increase utilization
- Accelerate time-to-results
- Decrease management costs
- Lower total cost of ownership

SIGNIFICANTLY REDUCE HARDWARE COSTS AND VERIFICATION TIME

The collaboration between Mentor Graphics and Univa accelerates workload throughput during the development cycle and provides pre-silicon testing and debug at hardware speeds, using real-world data, while both hardware and software designs are still fluid.

The Mentor Veloce emulation platform is the highest-capacity emulation platform on the market and enables complete functional verification of complex system-on-chip (SoC) designs. Its architecture allows the ability for global users to simultaneously run verifications remotely on the same machine.

Univa Grid Engine comes with a feature-rich set of policies that affect Emulator usage by jobs of varying needs. These policies can be grouped into several classes. Either they dynamically influence job priorities in order to achieve a certain usage ratio of Emulator resources from jobs, or they influence the resource selection order. Other policies, like resource quotas and access control lists, can restrict usage of predefined resources.

Combined Features and Capabilities:

- Higher job throughputs for Veloce emulation platform
- Jobs are queued for execution when the system is fully utilized
- Scheduling policies are applied to pending jobs to ensure fair or pre-defined usage patterns
- Allows reservations for jobs that require substantial emulator resources, thus avoiding job starvation
- Access control lists can be applied to emulators
- Reporting and accounting for usage of Veloce emulation platform through the Univa Grid Engine toolchain (qacct, dbwriter, and Unisight)
- Utilizes Univa Grid Engine's advanced feature set for job execution, job tracking, and job control
- Fine grained access control though ACLs and Resource Quotas.