

Why Univa for EDA?

- Proven in EDA: We know EDA, and so do our products.
- Comprehensive, continuous optimization: Our products find better ways to use all your resources, all the time.
- Automation: Make manual provisioning and configuration a thing of the past.
- Unique features: Checkpointing and live migration are a reality in Univa-managed environments.
- Cloud-ready: With Univa you have the foundation you need to expand to the cloud when your business is ready.

For more information,
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EDA Challenges

In the highly competitive business of semiconductor business, getting to market quickly is paramount. Engineers are under extreme pressure to design, test, and deliver results in tight timeframes, and the challenges that can hinder this process include:

- Complexity and scale of environment: Frequent additions of new applications, architectures, management tools, systems, users, projects and devices make the system difficult to manage.
- Ever-increasing workload and demand for capacity: The amount of workload that needs to pass through the environment doubles every 2 years, so companies need to get twice as much throughput every other year.
- Underutilized resources: Resources like multi-core systems, large-memory machines, parallel file servers and costly application licenses go underutilized much of the time.
- Time and accuracy pressures: Getting maximum utilization out of compute infrastructure and licenses means more simulations can be run and thus the better the chance to achieve first time right silicon.

Univa's Proven Solution

Univa enables EDA organizations to create a more efficient environment where all resources are optimized.

Our UniCloud product was designed to support the unique requirements of an EDA environment, from providing a framework to optimize the utilization of computing infrastructure to the details of interacting with the EDA license servers. In addition, our team – from executives to engineers – have strong backgrounds in the technology that powers many EDA environments. Combine this with our unparalleled ability to optimize along with our management capabilities for virtual and cloud environments, and you've got a solution vendor with no rival.

UniCloud provides transparent operation while retaining end user autonomy – so the user stays in control but is less involved with the underlying infrastructure. This enables engineers to focus on their core competencies rather than on IT. Univa also helps EDA organizations reduce the time lapse from design concept to delivery with increased computational capacity and reduced management complexity.

Key Solution Features

- Policy-based provisioning: UniCloud's policy engine applies rules to place jobs on the most appropriate infrastructure profile – bare metal or virtualized, internal or external – based on the requirements of the application or user.
- Checkpointing / job restart: Now engineers don't have to worry about outages or crashing ruining 2-3 week simulation runs. UniCloud can prioritize workload based on necessity (without residual impact) and create snapshots of long-running jobs to enable resurrection. With Univa, your job will finish in the timeframe you expected, period.
- Live migration: UniCloud can leverage scarce, idle resources (like large memory machines) while keeping that resource available for its intended function. UniCloud can dynamically move a job to a machine with more memory once the job starts, to access SWAP, and can load-balance workload after dispatch (so, no more "fire and forget") – all without impact to users.

Univa for Electronic Design Automation

Value and Benefits

- Engineers benefit from maximized compute capacity:
 - Support expanded simulations
 - Boost productivity for key applications
 - Support expanded simulations
 - Avoid product spins
- IT benefits from optimized resource utilization:
 - Meet increasing demand
 - Make better use of "reserved" resources
 - Reduce waste
 - Avoid data center buildout
 - Retain budget for new projects

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- An additional benefit here is in creating a "Green" strategy for the data center – UniCloud can move all jobs to a minimal number of machines to facilitate shutting down portions of a data center.
- Better dispatch characteristics: Grid Engine offers faster dispatch, better fair and license prioritization.
- Support for virtualization: Univa can help you take advantage of virtualization – some customers have seen over 80% cost reduction when Univa products are coupled with virtualization implementations.
- Cloud-readiness: UniCloud can add compute nodes by securely bursting to external computing environments on demand. UniCloud can also support multiple global data centers with transparent integration with external (or internal) virtual clusters. With Univa, when your business is ready for cloud, your technology will be, as well.

Unique Benefits for EDA

Optimize Utilization and Productivity

- Get more power out of existing hardware resources
- Support increased size and complexity of workload
- Avoid product spins by supplying the extra capacity needed to ensure accuracy

Maximize Application Performance

- Dynamically allocate applications based on resource availability, location and other parameters
- Continually monitor application characteristics and initiate infrastructure automatically, improving performance levels
- Enable checkpointing to minimize work loss

Simplify the Computing Environment

- Eliminate manual provisioning
- Enable IT to respond quickly to changing business needs that require adjustments to the infrastructure
- Streamline workflow to make better use of existing resources
- Abstract environment complexities away from the end user
- Provide the centralization, visibility and control to achieve a higher level of productivity

Reduce Infrastructure Total Cost of Ownership (TCO)

- Ensure maximum utilization of expensive resources
- Keep larger costs under control
- Free up budget to spend in more value-added areas of the design process
- Minimize application TCO as license utilization is optimized

About Univa

Univa, the Data Center Optimization Company, is the leading provider of optimization and management software for traditional, dynamic and cloud data centers. Our award-winning products are used by Global 2500 companies to improve resource sharing, amplify the efficiency of people and processes, and increase application and license utilization. Univa offers the industry's broadest, most innovative and integrated product set for managing shared, high-demand data center resources. From workload management to policy-driven provisioning across physical, virtual and cloud resources, only Univa provides a proven combination of enterprise-class capabilities, industry expertise, and community sponsorship. Univa is headquartered in Lisle, Illinois with offices worldwide. Visit us at www.univa.com.

