

Simulation Standard

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Real-time DRC Verification by DRC Guard

DRC Guard Performs "real-time" DRC on Expert Layout Editor

DRC Guard's real-time design rule check (DRC) verifies entered or modified objects after the objects are edited. *DRC Guard* detects and flags violations in real-time, eliminating all errors by the time the design is complete.

In the past, DRC was executed once editing and modifications were already complete. Further changes necessitated another DRC, and so on until all violations were detected. The real-time DRC provided by ***DRC Guard*** checks for violations during the editing process, eliminating the need for several iterations of verification and editing.

The real-time DRC is useful not only for full-custom layout such as analog blocks, but also for the modification of auto-generated layout from a P&R tool. ***DRC Guard*** uses the same DRC rule files as ***Guardian DRC***. This reduces the setup effort and permits the use of complex DRC operations like layer derivations. In addition, ***DRC Guard*** reduces workload by choosing the necessary DRC commands from the target object's setup rule file and by executing as a background process. As a result, even extensive execution of long DRC scripts has little or no impact on layout design performance.

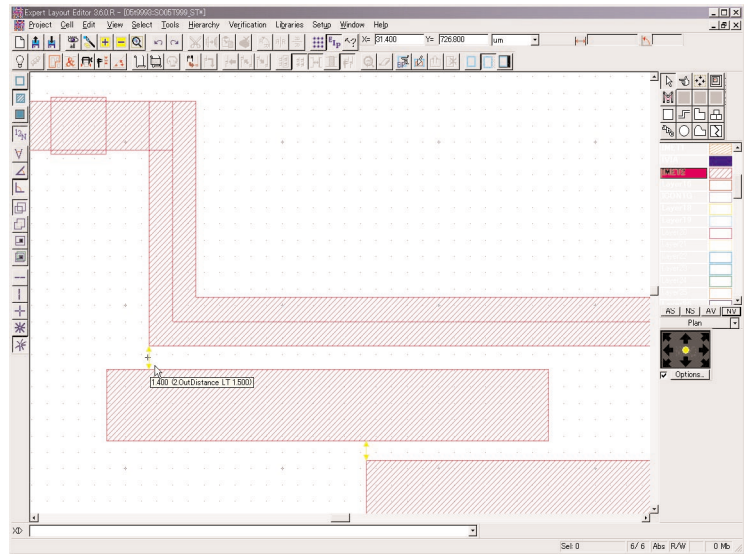


Figure 1. DRC Guard shows errors just after entering the object.

The latest version of ***DRC Guard*** features the "Critical Zone" detector that shows a user precisely how to modify an object in order to solve the detected DRC violation(s). Previous versions required the manual modification of objects based on a ruler or visual grid. Older ***DRC Guard*** version required a ***Guardian (Savage) DRC*** license in order to use more than ten DRC commands. A new, exclusive license is available so the new version is easier to rollout and introduce to new users.

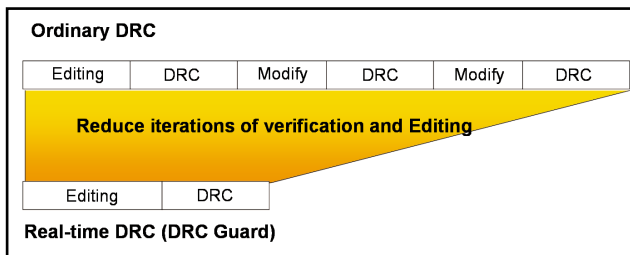


Figure 2.

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In the past, sharing DRC verification tools required setup on a network server, with limits to the number of available licenses and machine power. Users would often have to wait for an available license, or until network performance was good enough to permit a successful check run. This is a significant bottleneck to the development process. **DRC Guard** solves this problem by installing on the local workstation, which eliminates the queue and helps the user to easily manage the processing environment.

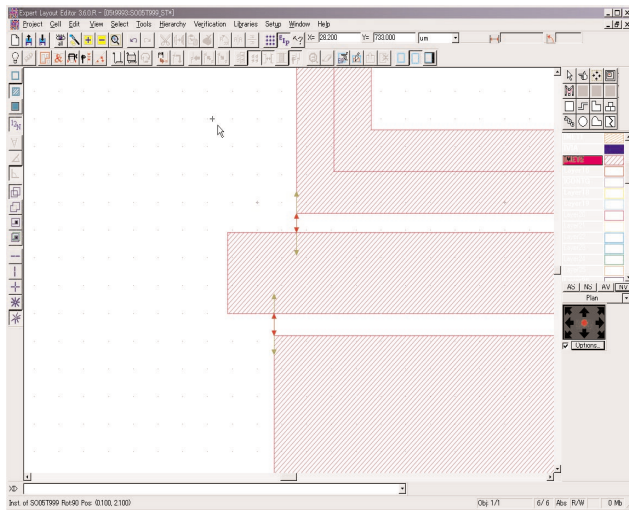


Figure 3. "Critical Zones" are indicated in the design.

The enhancements to **DRC Guard** dramatically reduce the time required to modify and verify a new design. Based on feedback from our customers and key players in layout design, Silvaco continues to develop new "real-time" verification applications that empower the designer and facilitates greater development productivity.

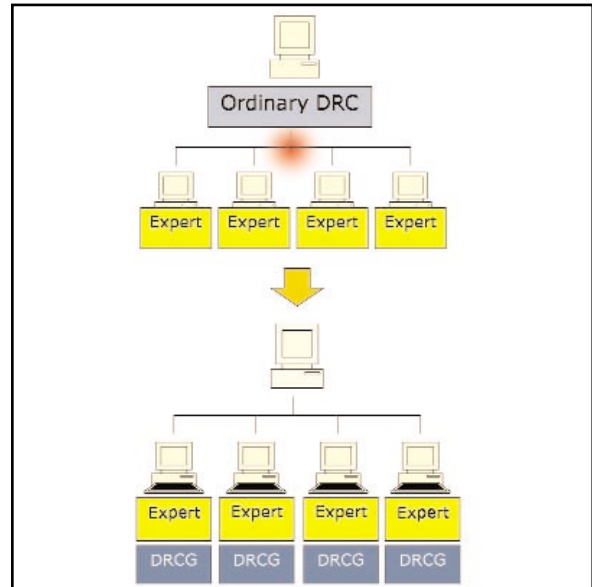


Figure 4. Eliminate the concentration of verification user.