Expert is a high performance hierarchical IC layout editor with full editing features, large capacity and fast layout viewing. Expert provides high level of design assistance with Schematic Driven Layout and parameterized cells (Pcells).

- Productive layout environment for analog, mixed-signal, RF, and digital layouts with integrated DRC/LVS/LPE and 3D based parasitic extraction
- ExpertViews is functionally the same product as Expert except for editing capability
- Fast GDSII file loading, editing, and viewing of extremely large databases
- Schematic Driven layout Improves TAT of custom layout design
- Offers powerful scripting capability
- Integrated with Calibre Interactive and Calibre RVE for physical verification using industry standard formats
- Expert Node Probing offers node highlighting for connectivity visualization. It highlights all layout objects electrically connected with the object you click
- Silvaco’s strong encryption is available to protect valuable customer and third party intellectual property
- Performs layout versus layout comparison (LVL)
- OpenAccess iPDK support
Fully customizable hotkeys, macros, toolbars, layers, colors, and stipplers can be directly imported from Virtuoso to give layout designers familiar and productive working environment.

**Productive Layout Environment**

- Fast loading of GDSII databases in excess of 10 Giga bytes in a matter of minutes — not hours
- Rapid pan and zoom with multiple windows through multi-level hierarchy — with bookmarks for tracking
- DRC assist allows designer to enable checking of certain design rules during editing operations; errors can be displayed and interactively corrected
- Real-time DRC rapidly validates layout “on the fly”
- Productive layout environment for analog, RF, microwave and digital circuits in CMOS, Bipolar, BiCMOS, SiGe, GaAs, InP and other unique processes
- Multi-window editing of full hierarchy with edit in place, grouping, search, and fast navigation with fewer mouse clicks
- Ideal for reticle creation and mask touch up
- Customizable hotkeys menu and command line for convenience of command invocation
- Integrated with Silvaco’s verification suite Guardian (DRC/LVS/NET) and parasitic extraction tool Hipex
- Tightly integrated with Silvaco’s field solver-based 3D RC extraction tool Clever

**Easy to Adopt and Use**

- Customizable hotkeys, macros, and toolbars emulate may be set to the look and feel of Virtuoso environment for layout designers
- Process Design Kits (PDKs) from foundries (including iPDKs) enable quick start-up of new design environments
- Informative, easily accessible online help for all menus and icons
- Linux and Windows availability enables wide deployment on economy workstations
- Simple installation process does not require consultants to set up environment
- Cross-platform floating license system available
- Drives wide selection of printers and plotters (HP, Gerber, Versatec) with multi-page tiling based on paper size

**Interoperable with Popular Design Flows**

- Directly reads Calibre and error reports for Result Viewing Environment (RVE)
- Technology file import from Virtuoso™ for layers, colors, stipplers, customizable hotkeys, macros, and toolbars
- Support legacy design formats such as GDSII and CIF, but also OASIS and OpenAccess
- Available on Solaris, Linux, and Windows (NT/2000/XP) with consistent, familiar interface
Expert’s Schematic driven layout capability with cross-probing between schematic editor Gateway.

All-Angle Features

- Wires and devices at 90 degrees, 45 degrees, or any angle
- Any angle rulers for accurate measurement
- Supports derived layers
- Command line input for all commands
- Supports edit-in-place, exploded view, and flattened data
- Data safety option maintains running log for undo

Versatile editor creates all-angle polygons for analog, RF, and microwave circuit elements, including inductors and power devices in CMOS, Bipolar, BiCMOS, SiGe, GaAs, SiC, InP, TFT, and other process technologies.

Powerful Layout Editor Functionality

- Netlist driven layout and parameterized cells (Pcells) generation using Javascript or Lisa scripting language
- Check-in, check-out library manager enables designers to simultaneously work on the same project across a network
- Autoscaling and resize feature minimizes process migration efforts
- Schematic Driven Layout improves TAT for IC custom layout design, with the cross-probing between Gateway schematic editor.
High Capacity: Expert loads large designs in excess of 10 Gigabytes in minutes – not hours. Enables fast panning and zooming of extremely large databases. Ideal for mask preparation and router touch up.

**Real-Time DRC Option**

- Real-time feedback for DRC errors while editing
- Tightly integrated into Expert
- Same ruleset of Guardian DRC

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**Expert Inputs/Outputs**

- GDSII, LEF/DEF, OASIS, .eld, .sld
- Lisa Scripting Language
- C/C++ API

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**SILVACO**

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