

SKILL CAD

Accelerating Custom IC Layout

Company Overview

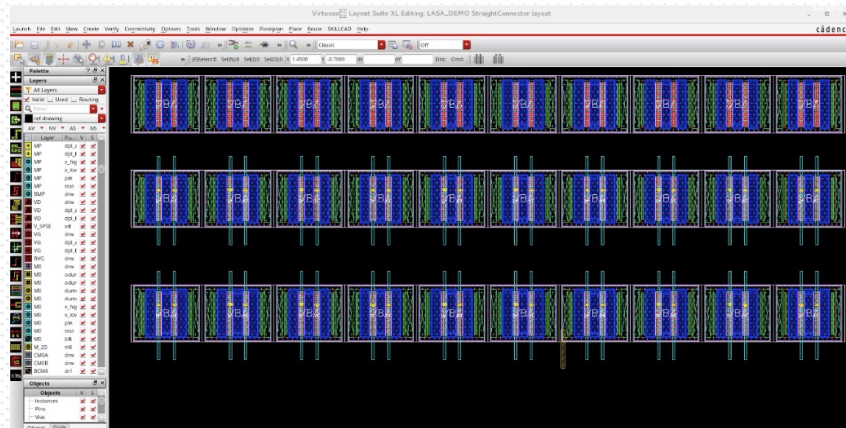
- Founded in 2007 to enhance productivity for Cadence Virtuoso layout designers, SkillCAD now has over 85 active customers and 120 plus commands.
- SkillCAD has been a Cadence Connection Partner since 2008.
- SkillCAD IC (LAS) works with Cadence Virtuoso Layout L, XL, GXL and EXL, supports IC5, IC6, IC12, IC18 and IC 20
- SkillCAD's business model has always been to provide functionality not offered by Virtuoso.
- Key patents to significantly reduces mouse clicks and improves productivity

IC Layout Automation Suite (LAS)

IC LAS is a collection of 120+ user guided layout and auto routing commands that can boost a layout teams productivity by an average of a day per week.

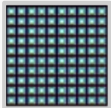
IC Layout Automation Suite Advanced (LASA)

IC LASA (Advanced) was developed to support advanced node design that require new coloring rules and track based routing. Processes supported (N7 - N3)

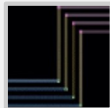


*Productivity increases depend on factors, such as design process and knowledge of the tools.

Types of commands we offer



Array



Bus Routing



Calculation &
Measurement



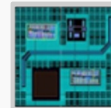
Connecting Metals
To Devices



Density Check



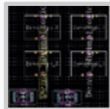
Device Placement



Dummy Fill



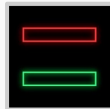
VEditor



Label



Layer Handling



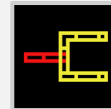
Metal Coloring



Metal Path &
Path Segment



Multi Part Path
& Guarding



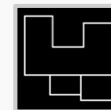
Net



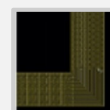
Pin



Shielding



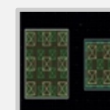
Shape Handling



Slotted Metal



Track Routing



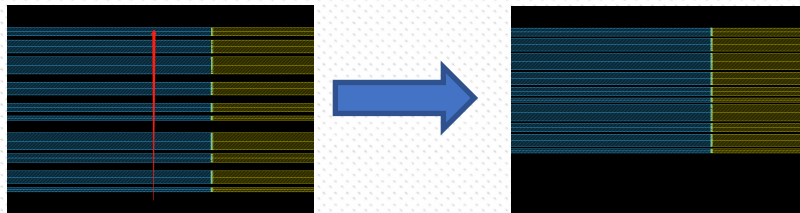
Via



Viewing

Patented V-Editor

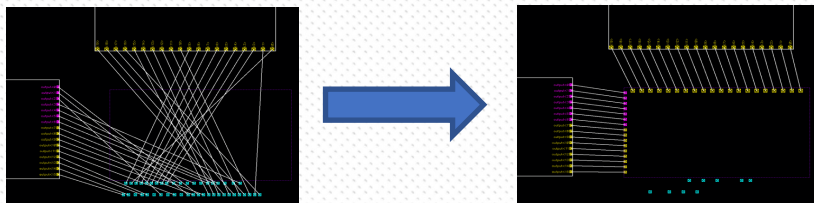
V-Editor introduces a revolutionary way of editing layouts by simply drawing a directional line (vector) instead of conventional clicks. It consolidates layout steps while maintaining design rule compliance into a single step, significantly minimizing the number of mouse clicks, or key-strokes.



V-Editor example ([vStretch](#)): moving 10 wires to minimum spacing by drawing a vector (2 clicks).

Pin Placement

Powerful pin placement and alignment commands make this tedious and time-consuming task easy. **Pins can be quickly placed and aligned to device pins, boundary edges, or routing metals (based on connectivity).**



A specialized pin placement function ([Align Pins to Neighbor](#)) allows pins to be aligned between circuit blocks, for maximum routing efficiency.

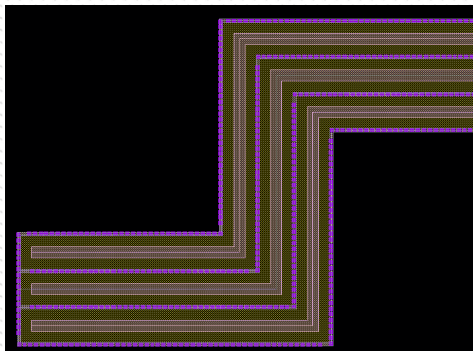
Correct and Optimized by Construction

Widths, spacings, and other design rules are known to the SkillCAD commands.

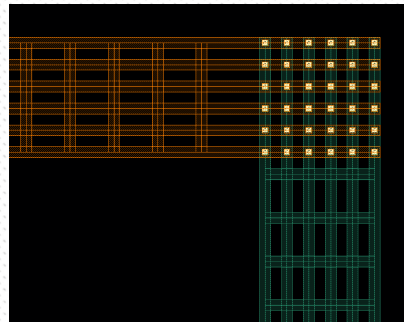
This enables our commands to correctly construct complex layout objects according to the design rules.

This significantly improves layout designers productivity while reducing costly design iterations.

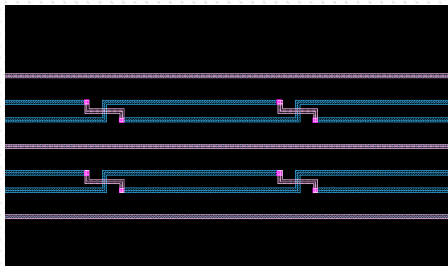
Automation is required for advanced nodes to support the number and complexity of design rules



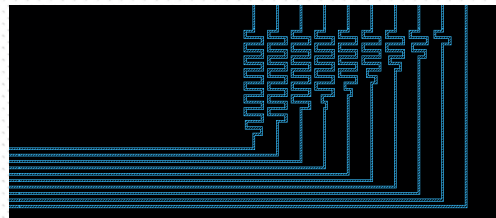
An Example of [100% shielded bus](#)



An Example of [Mesh bus routing](#)



An Example of [differential pair routing](#)



An Example of [same resistance/length routing](#)

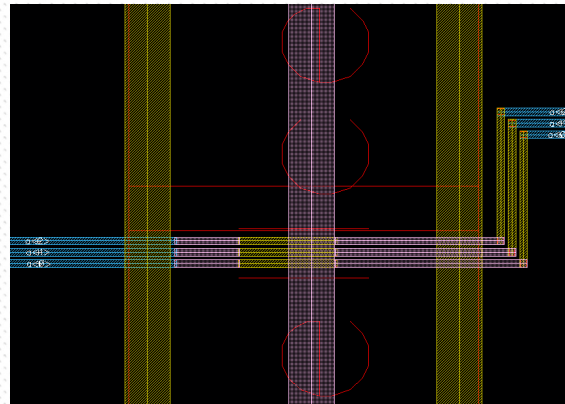
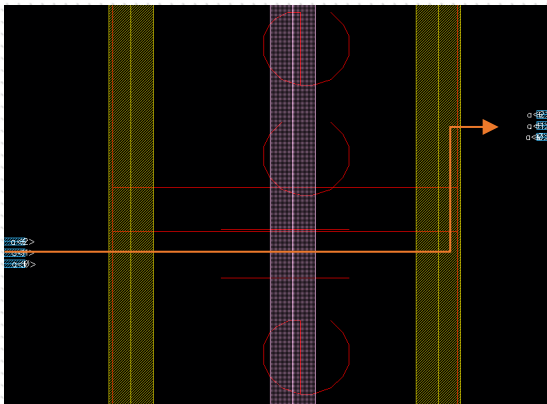
Routing

SkillCad's routing commands are extremely powerful yet easy to use.

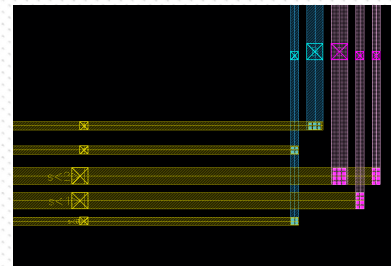
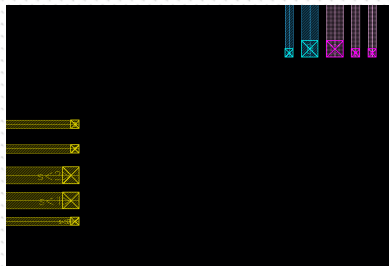
SkillCad's Routing commands automate and simplifies usage

- Placing and stacking vias when changing metal layers.
- Setting the metal width to match the connecting pins or metals.
- routing large buses is as easy as routing a single metal layer.

There are 5 main routing commands, with over 200 sub-routines and parameters to automate routing and editing.



Example of [stepRouter \(Bus\)](#): user guided bus auto-routing over a block (Just by 4 clicks)



Example of [BusConnect](#): Connecting bus based on the connectivity (Just by 4 clicks)

Over 85 companies use SkillCAD

SkillCAD on average provides a **30-50%** increase in Virtuoso layout designers productivity.

SkillCAD has over **120** correct by construction commands that have significantly increased productivity and reduced our time to tape-out.

SkillCAD's commands improve productivity and layout quality by reducing complex functions to a few simple commands.

SkillCAD seamlessly integrated with our Virtuoso flow, our layout designers were using IC (LAS) the day it was

