

Viso analyzes the electrical properties of RC parasitic networks which crucially impact circuit behavior in nanometer processes. These parasitics affect circuit gain, delay, maximum clock rate, cross-coupling, level of ESD protection and other critical circuits, which can cripple a design. Viso's parasitics-focused approach enables quick analysis of interconnects in order to pinpoint problems. Viso also provides timing estimation and accurate comparison of different extracted netlists.

Viso seamlessly integrates into existing design verification flows after the LPE tool (layout parasitics extraction).

Parasitics Focused Analysis

Viso reads extracted netlists from any extraction tool and then visualizes the extracted netlist into geometrical shapes providing deep insight into the netlist. Key features of Viso include:

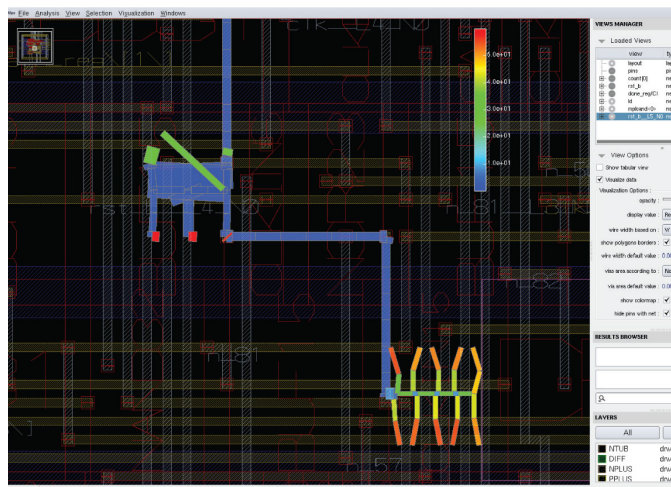
- Pin to pin equivalent R or RC Delay calculation
- NET to NET C reporting•Detailed layer contribution to total R, RC Delay, NET to NET C
- Power MOS dedicated analysis : Rdson, Ciss, Coss, Crss, EM
- RC delay distribution, EM
- DSPF cut NET and isolated pin detection
- Resistance / Voltage map
- Detection of dangling sections
- Net comparisons with support for differential signaling
- Resistance path-tracing
- Huge capacity (can handle > 100G netlists or very large power NETs)
- S/Y/Z parameters calculation
- Powerful "What-if" functionality
- Overlay of GDSII on top of parasitic data

Inputs

- DSPF, SPEF
- LEF, DEF
- SPICE parasitic netlists
- OA extracted views

Example

Analysis of parasitics of a net and visualization with underlying layout view.



Example

PowerGrid analysis of DC current with 2D and 3D representation.



Output

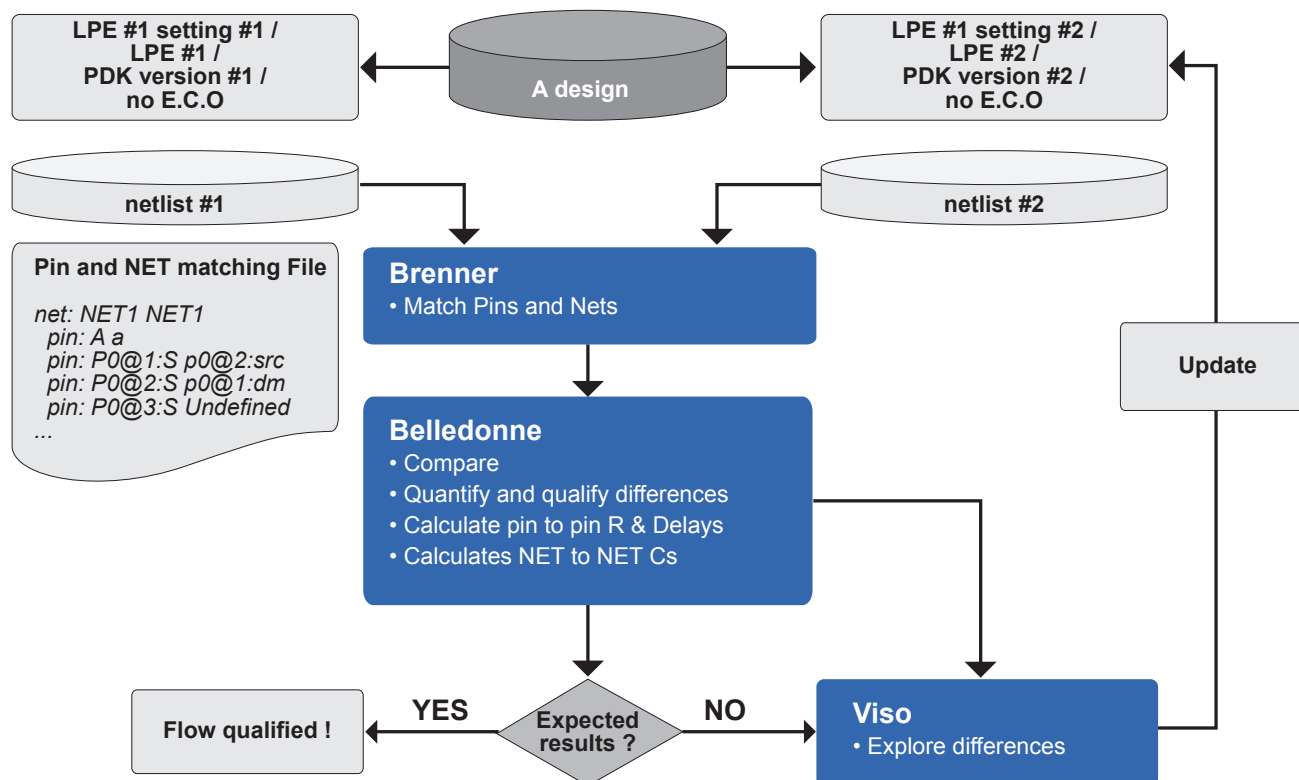
- ASCII results (TSV/CSV)
- 2D and 3D visualizations in dedicated GUI

LPE qualification Flow

- A straightforward connection has been made between Brenner, Belledonne and Viso to execute the "LPE qualification flow" to quickly detect (Brenner and Belledonne) and explain (Viso) differences between two extracted netlists (see flow below).

Supported Platforms

- Red Hat Enterprise Linux 5, 6: x86, x86_64
- SuSE Enterprise Linux 11: x86, x86_64



LPE qualification flow.

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