

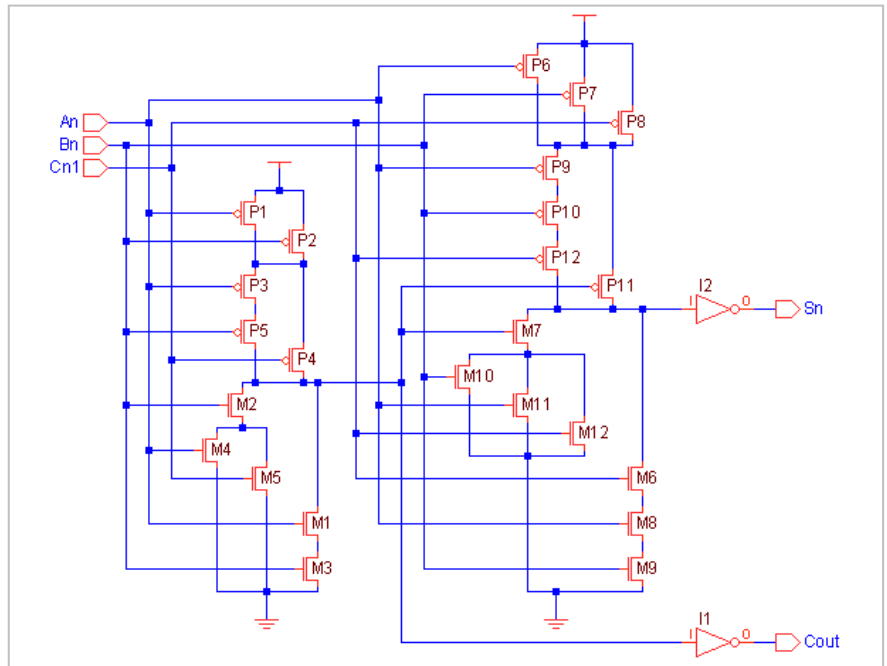
## T-engine™: A Transistor-Level Visualization Engine for EDA Tools

With the T-engine, Concept Engineering provides advanced visualization technology to EDA tool developers who create tools for the transistor-level.

When integrated with EDA tools the T-engine helps designers of ICs and SoCs visualize such critical information as circuit structures, timing data and signal values at the transistor-level, making fine-tuning for maximum performance easier and more accurate. T-engine makes it easier to understand the output from cell and IP-block characterization tools.

T-engine recognizes common device-level circuit patterns, and detects and analyzes serial/parallel circuit paths. It performs current flow analysis and logic flow analysis including both left-to-right flow and reverse-flow detection for feedback.

Place-and-route techniques developed by Concept Engineering produce clean transistor-level schematics for complex transistor designs. The schematic engine also supports a mix of transistor-level technology with gate-level or block-level technologies in a single schematic diagram.



- Transistor-level schematics from netlist connectivity data
- Easy integration into EDA tools through simple APIs
- Platforms: Qt, PyQt, Tcl/Tk, Windows, Java, JavaScript, wxWidget, Perl/Tk
- Schematics generated quickly, easy to read and can be extended incrementally
- Software components are production proven and highly customizable
- Two-way communication with host application for cross-probing etc.
- Automatic schematic generation from post-layout connectivity

## At a Glance

FEATURES	BENEFITS
Simple and robust API	Ensures easy integration and reliable applications
Production-proven software components	Performance and quality of application is very high
Highly customizable component	Widget and application fit together
Qt, PyQt, Tcl/Tk, Windows, Java, JavaScript, wxWidget	Easily fits into your existing software development flow
Proprietary algorithms	Result in easy-to-read schematics and short response times
On-the-fly schematic creation	Results in very high speed and capacity
Bi-directional communication between widget and application	Allows interaction with the application (e.g. cross-probing, highlighting, attribute display, ballooning)
Incremental schematic viewing	Allows interactive modification of schematic fragments
Windows, Linux and UNIX platform support	Application will work on almost any hardware platform
Built-in transistor and device-level symbols	Application works without symbol libraries
Symbol translation tools	Provide access to existing symbol libraries

## Widest Platform Availability

GUI Platform	NlviewQT	NlviewJA	NlviewJS	NlviewTK	NlviewMFC	NlviewWX
Supported GUI environment	Digia's Qt Framework 3, 4 and 5	Java SDK	Web Browser (HTML5 / ECMAScript 6)	Tcl/Tk 8.1 or later	Microsoft Foundation Classes	wxWidgets 2.42 or later
Available as	Class derived from QWidget	Component (AWT) JComponent (Swing)	JavaScript Library	Tk Widget	Class derived from CWnd	Class derived from wxWindow
Deliverable	Sources + Core Lib	Java Bean	JavaScript Sources	Tcl package Loadable extension	MFC Extension DLL and Sources + Core Lib	Sources + Core Lib
Customizable by	Qt Properties	Java Bean Properties Property Command	Property Command	Configure Options Property Command	Class Attributes Property Command	Property Command
API Interface	Class Methods and Signals / Slots	Component Methods and Event-Listeners	Object Methods and Callbacks	Tcl Commands and Callbacks	Class Methods and Notification Messages	Class Methods and Notification Messages
Printing	PostScript, PDF, SVG and Native Qt	PostScript, PDF, SVG and Native Java	PostScript, PDF, SVG	PostScript, PDF, SVG and Native Windows	PostScript, PDF, SVG and Native Windows	PostScript, PDF, SVG and Native wxWidgets

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