

DATASHEET

MunEDA WiCkeD™ Interface to: Berkeley Design Automation Analog FastSPICE™ Platform

MunEDA™ and Berkeley Design Automation have validated the interoperability of their products, WiCkeD™ and the Analog FastSPICE™ Platform (AFS), to accelerate the analysis and optimization of analog, RF and mixed-signal circuits by 5x-50x.

The combination of the AFS Platform and WiCkeD™ enables a very fast automatic compensation for process variations and parasitic influences, as well as the overall reduction of power consumption and noise in nanometer AMS/RF circuits that have little voltage headroom.

CUSTOMER BENEFITS

- Up to 50x faster circuit optimization and turnaround times
- Reduce design time & effort and improve design quality significantly
- Detect design failures before tape-out and going to fab
- Avoid expensive re-spins & re-designs; reduce fab-runs
- Achieve high design yield/robustness and profits

MunEDA WiCkeD™ Tool Suite for Circuit Design & Sizing

WiCkeD™ is a comprehensive and powerful software tool suite from MunEDA for the sizing including analysis, modelling, optimization, and verification of analog/mixed-signal circuit designs and IP libraries.



WiCkeD™ supports the circuit designer with interactive manual, semi- and fully-automatic tools to improve and optimize integrated circuits for functionality, performance, robustness, and yield.

Features

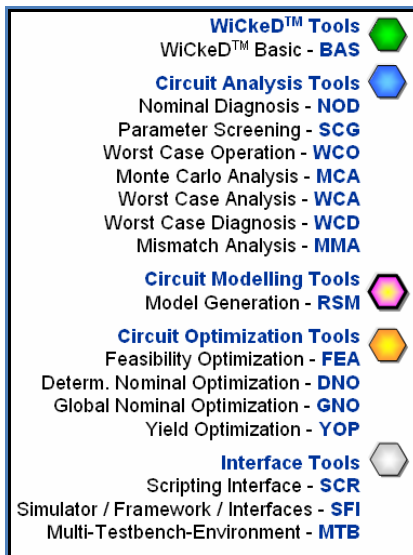
WiCkeD™ includes tools and methodologies for

- Topology Analysis & Constraint Management
- Specification-driven Performance Analysis & Optimization
- Response Surface Modelling
- Yield & Robustness Analysis, Diagnosis, and Optimization

WiCkeD can be operated either through a graphical interface or a user-programmable scripting interface (batch mode).

WiCkeD - improve circuit design performance and yield

WiCkeD offers several tools for enhanced circuit analysis, modelling, optimization, and verification.



MunEDA WiCkeD Tools Overview

These tools enable customers to reduce the design times of their analog/mixed-signal circuits and IP libraries and to maximize robustness, reliability, and yield. Starting with a basic design history WiCkeD delivers a powerful compilation of basic features that enables the circuit designer to do enhanced topology analysis, constraint setup and management.

Furthermore, it includes different analyses for circuit performance, parameter sensitivity, and correlation within a well-documented project.

WiCkeD Design Flow Integration

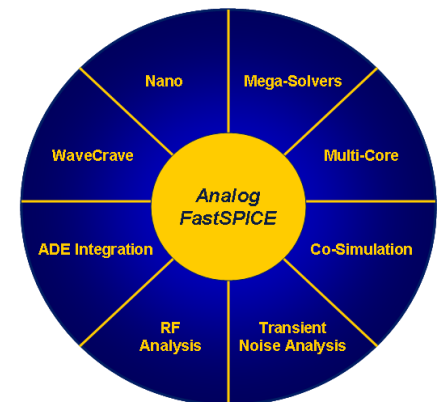
WiCkeD is integrated in the standard industrial EDA design environments and with SPICE Simulators of the main EDA Vendors.

APPLICATIONS

- IC sizing - performance & yield analysis, modelling, and optimization
- IP porting & reuse
- IP & technology migration
- Fab migration & consolidation
- Supports transistor-level and system-level circuit design

Berkeley Design Automation Analog FastSPICE™ Platform

The Analog FastSPICE Platform (AFS) is the industry's only unified verification platform for nanometer analog, RF, mixed-signal, and custom digital circuits. The AFS Platform combines foundry-certified nm SPICE accuracy, 5x-10x faster single-core performance than any other SPICE circuit simulator, >10M-element capacity, and the industry's only comprehensive silicon-accurate device noise analysis.



Berkeley Design Automation Analog FastSPICE™ Platform (AFS Platform)

AFS Platform Features

The AFS Platform is a single executable that uses advanced algorithms and numerical analysis to rapidly solve the original device equations and full-circuit matrix without any approximations. It includes licenses for AFS Nano SPICE simulation, AFS circuit simulation, AFS Transient Noise Analysis, AFS RF Analysis, and AFS Co-Simulation.

The AFS Platform can simulate post-layout circuits with over 10 million elements without any compromise in accuracy. This is important for selective corner characterization of top-level circuits.

AFS MCP

The Multi-Core Parallel (AFS MCP) enables up to 16 simultaneous corner, sweep, or Monte Carlo iterations using multiple cores on the same machine. AFS MCP speeds up characterization by up to 50x relative to a single-core traditional SPICE simulator.

AFS Device Noise Analysis

AFS RF provides full-spectrum periodic noise analysis for periodic circuits like oscillators, switched-cap filters, phase detectors, and charge pumps. AFS Transient Noise Analysis provides “golden” results that correlate to within 1 to 2 dB of silicon measurements.

Support

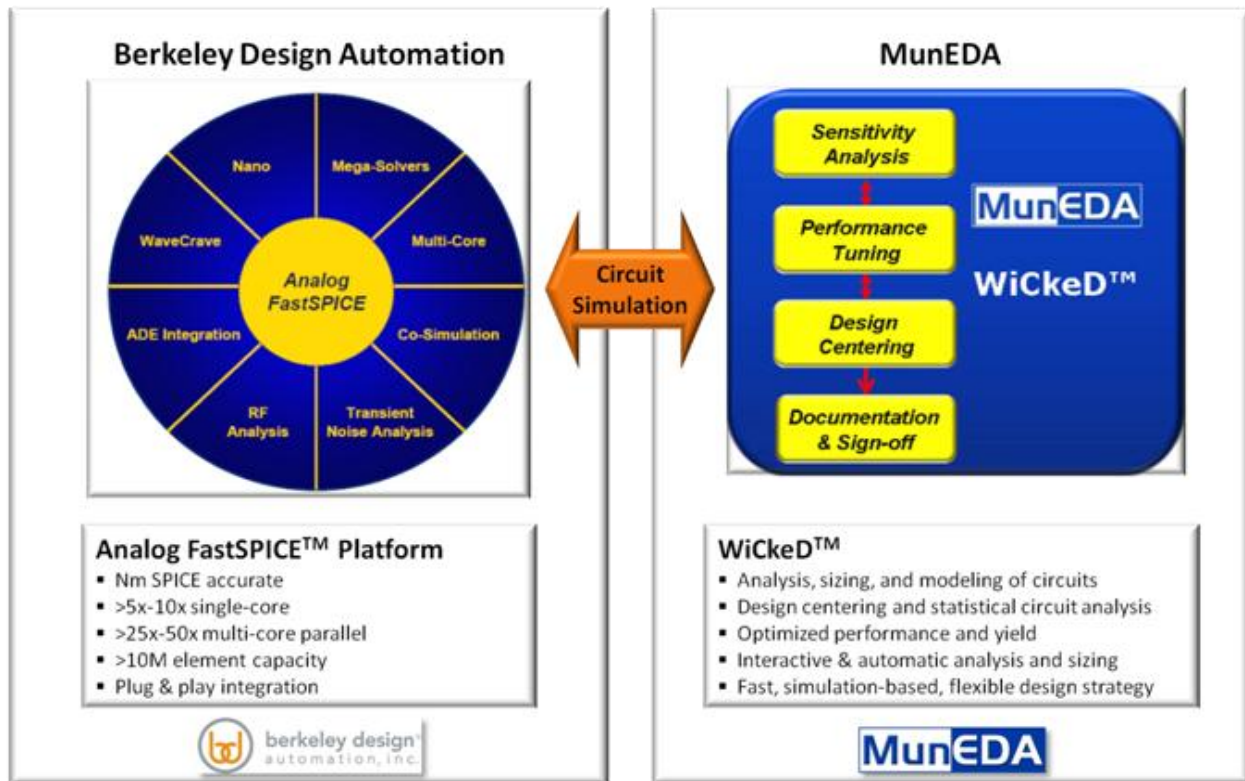
- Linux, SUN Solaris®
- Documented API (Tcl/Tk, Python)
- Export/Import Interfaces (Matlab, R, SPlus, VerilogA, VHDL-AMS)

Berkeley Design Automation, Inc.

For support of mentioned Berkeley Design Automation products please contact www.berkeley-da.com

MunEDA

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**Unprecedented Accuracy and Performance Enable
5x-50x Faster Circuit Optimization**