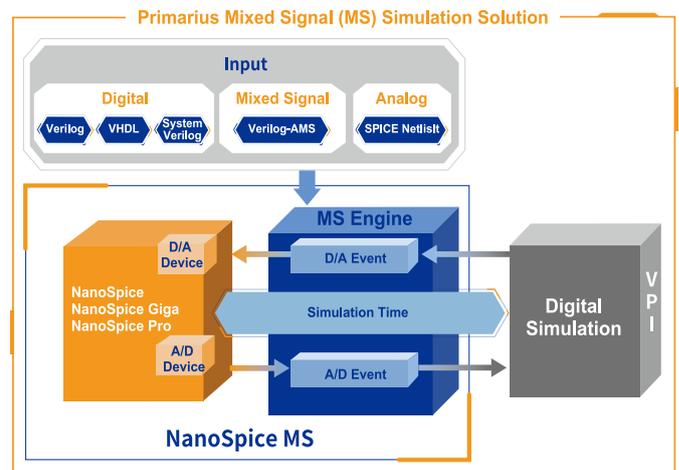


High Performance Mixed Signal Simulation Solution

Introduction

NanoSpice MS is a high-performance mixed-signal simulation solution developed based on the Primarius NanoSpice family of circuit simulators. NanoSpice MS adopts Verilog Programming Interface (VPI) and high-efficiency synchronization algorithms. It realizes real-time data exchange and co-simulation between NanoSpice circuit simulators and industry-standard HDL simulators to support Verilog, VHDL and System Verilog languages. With the performance advantage of NanoSpice circuit simulators, especially NanoSpice Giga and NanoSpice Pro, the NanoSpice MS solution significantly improves simulation and verification efficiency. It also delivers high-performance and large-capacity mixed-signal simulation.



Key Advantages

Simulation Acceleration

- Accelerate mixed-signal simulation speed and increase simulation capacity by leveraging the NanoSpice performance advantage in analog circuit simulation

Easy to Use

- Minimal setup effort allows users to switch from their existing flow to NanoSpice MS solution

Specifications

- Supports industry-standard HDL (Verilog/VHDL/SystemVerilog) simulators to enable mixed-signal simulation
- Leverages multi-core and multi-thread technology to accelerate simulation speed
- Supports VerilogAMS mixed-signal simulation flow
- Features a save-restore function to further accelerate mixed-signal simulation speed
- Automatically generates mixed-signal interface reports for user to easily debug interface issues

Application Examples

Case Type	Reference	NanoSpice MS	Speedup
CDR (Verilog on Top)	4h2min	10min	24X
DDS (SPICE on Top)	2h24min	1h15min	1.9X
PLL (SPICE on Top)	9h51min	5h46min	1.7X

Applications

- Mixed-signal circuit and system simulation
- PLL, Serdes, PMIC, MCU, Flash, and other SoC design