

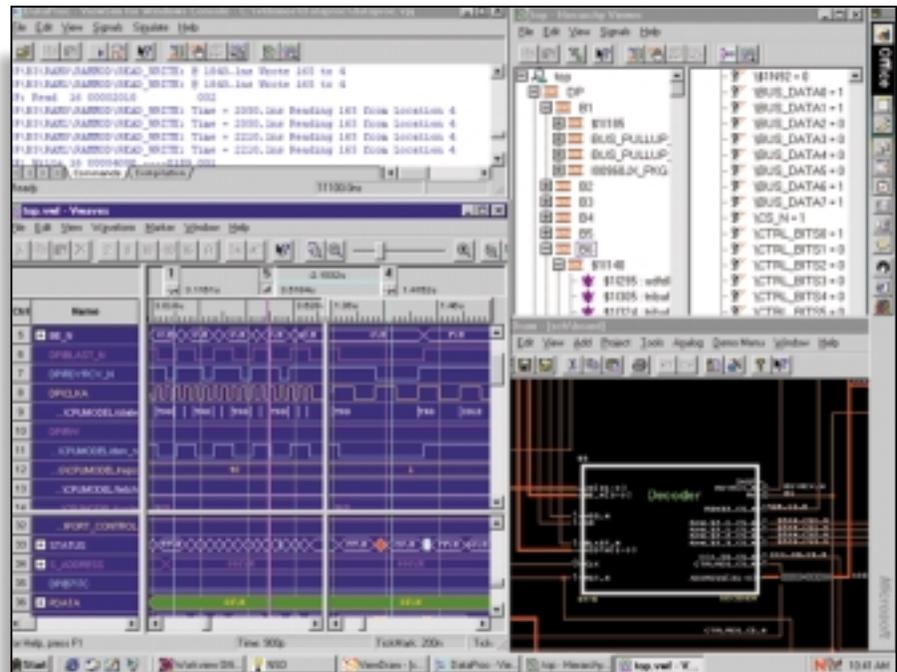


Fusion/ViewSim®

Interactive, Digital Simulation System

Highlights

- Complete, interactive verification tool allows for fast debug cycles
- Tight interaction with ViewDraw™ schematic capture tool reduces debugging time and makes the system easier to use
- Numerous certified FPGA libraries and standard part libraries give designers access to the libraries needed, reducing development costs
- Complete system simulation solution with support for mixed VHDL, Verilog, schematic and analog design
- Third-party integration for co-simulation with popular simulators including ViewAnalog™ and Saber
- Tightly integrated with Viewlogic's eProduct Designer™ on Windows and UNIX platforms
- Familiar, easy-to-use style based on standard Windows conventions. Full drag-and-drop supported between all windows



Product Overview

Fusion/ViewSim is Viewlogic's easy-to-use, high-performance, interactive, digital simulation system. Tightly integrated into the eProduct Designer environment, this powerful verification tool allows for quick analysis and debug of complex designs created as a schematic in ViewDraw, Viewlogic's schematic capture tool.

Fusion/ViewSim also supports design data represented as netlists and schematics imported from other systems, as well as various PLD representations. A wide variety of external models are supported, including Synopsys' SmartModels and hardware models.

In addition to extensive digital verification support, Fusion/ViewSim supports analog through co-simulation with analog simulators, including our own popular ViewAnalog product.

This variety of modeling types makes the Fusion/ViewSim simulation system truly superior. Unlike many other simulators, Fusion/ViewSim can mix and match these modeling techniques in any manner determined by the user. This allows for the support of any design methodology, as well as the ability to optimize simulation for performance and accuracy at any point in the design process.

Fusion/ViewSim: Viewlogic's simulation foundation

Fusion/ViewSim is an interactive, event-driven, digital simulator. Its extremely versatile evaluation mechanism uses a unique 28-state algorithm to assure high-speed and high-accuracy of structural designs. Fusion/ViewSim accepts a wide variety of input, including schematics, various industry standard netlist formats (such as EDIF), PLD formats (such as JEDEC), CUPL and ABEL. Designs represented in these forms can be mixed and matched within Fusion/ViewSim, and tied together through hierarchical blocks on the master schematic.

For modeling custom designs, Fusion/ViewSim offers an extensive set of built-in primitives, from switches and basic gates to complex functions such as multiplexers, flip-flops, RAMs and ROMs. Also included are a full set of timing checks, and advanced timing description methods that allow for the definition of pin-to-pin or path delays.



VIEWLOGIC

Efficient memory use coupled with unlimited capacity in Fusion/ViewSim allows most designs to be simulated on desktop workstations. Larger designs can be moved to network servers for additional memory space and processing performance.

Wide availability of models

Because model availability is so crucial to simulation, Viewlogic offers the most comprehensive set of modeling options in the industry. From our own extensive set of off-the-shelf SSI, MSI, and LSI components, to industry standard model suppliers like Synopsys' Logic Modeling Group, we can supply the models you need for your complete system verification needs. With the unique integration of our simulation environment with other simulators, you can add custom models and simulators, as you need them. The Fusion environment supports the addition of Verilog modules with Fusion/VCS integration, VHDL modules with Fusion/SpeedWave™ integration, and SPICE models with ViewAnalog integration.

Tight integration: the key to quick iteration times

No matter how fast a simulator might be, getting your design verified quickly depends on iteration time. This involves simulation preparation, the actual simulation, results reviewing, problem identification, and design update. This process requires tightly integrated tools that share information automatically. Fusion/ViewSim is integrated into Viewlogic's open framework environment, which provides superior Inter-Tool Communication (ITC). This allows for waveforms and schematics to be cross-probed so that a user can select a signal in one view and see the corresponding data in another view. ITC also allows the designer to display simulation values on a schematic in real-time, which further eases the debug task. This integration dramatically speeds debug time, allowing for more iterations of a design in a shorter time.

Ease of use and advanced debugging capabilities

Viewlogic's tools are all designed to be as easy-to-use as they are powerful. They provide a consistent and intuitive user interface across all tools which is easy to learn, but does not restrict the advanced user. Complex operations are reduced to menu selections and button clicks, while still giving the user access to advanced capabilities.

Flexible output results viewing allows for faster debug cycles. Fusion/ViewSim supports both ViewTrace™ for analog and digital waveforms and Vwaves for high-performance digital waveform viewing.

Fusion/ViewSim supports a flexible stimulus and command language for easy control of testbench execution.

Comprehensive FPGA support

As FPGA technology becomes more widely used, the demands it places on a simulation environment increase. Viewlogic knows these issues, and we work closely with the leading FPGA vendors to supply complete FPGA design solutions. Our design kits include vendor-approved libraries, delay calculators, and back annotation capability for both pre- and post-layout delays, so you know that your design will work once it is built.

Popular Platform Support

Fusion/ViewSim runs on a wide variety of hardware platforms from PCs to the fastest workstations. This allows users to mix a variety of hardware for optimal design and allows access to the proper price/performance platform for the size of the simulation being done. All data and files can be freely interchanged among platforms.

Features

Tight integration with ViewDraw

- reduces debug time
- makes the system easier to use

Tight integration with VHDL and Verilog Simulators

- Co-simulate with Fusion/Speedwave for VHDL
- Co-simulate with Fusion/VCS for Verilog

Supports wide variety of models

- supports fast and accurate modeling of digital designs
- provides access to analog simulators for mixed A/D simulation
- provides access to external models for complete board/system simulation
- 28 internal logic states for structural designs
- highly accurate algorithms that correctly handle bus contention and other problematic logic
- improved handling of unknowns for more accurate results

Complete, interactive debugger

- allows for faster debug cycles
- flexible output result viewing
- Vwaves for high-performance digital waveform viewing
- ViewTrace for analog and digital waveforms
- ASCII data and messages routed to the screen

- complete file I/O for capture of data for future use
- configurable monitor window

Flexible stimulus and command language

- test fixtures can use graphical waveforms, command language, VHDL, or any combination

Efficient memory usage and no capacity limits

- allows for large designs to be simulated in small physical memory
- handle larger designs by just expanding memory and disk

Advanced timing capabilities provides for highly accurate modeling, such as ASIC libraries and numerous certified FPGA libraries

- gives users access to the libraries they need
- reduces costs for developing FPGAs

Runs on a wide variety of hardware platforms: PCs to fastest workstations

- allows user to mix a variety of hardware for optimal design
- allows access to the proper price/performance platform for the size of the simulation being done
- all data and files can be freely interchanged among platforms types

Integration with back-end physical layout tools

- forward and backward annotation of delays for maximum accuracy

Specifications

Library availability

- >18,000 part TTL type libraries bundled with the simulator
- direct access to complete Synopsys' Logic Modeling SmartModel® Library
- direct access to Synopsys' Logic Modeling LM-family of hardware modelers
- import PLDs via ABEL, CUPL, and JEDEC files



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