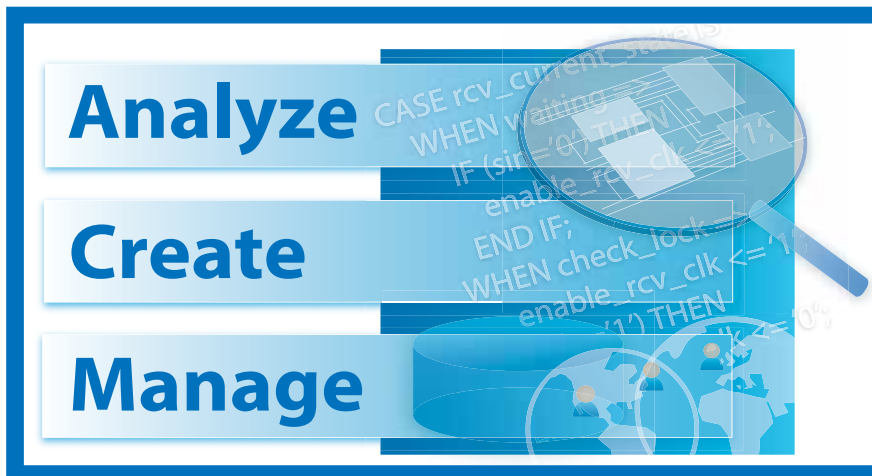


Accelerating Productivity

D A T A S H E E T



Major Benefits:

- Assists engineers in analyzing, assessing, and visualizing complex RTL designs
- Aids in design creation with a suite of advanced design editors
- Provides built-in interfaces to other EDA and version management solutions
- Allows custom integration via Tcl API
- Forms a part of Mentor Graphics complete design solution for FPGA and ASIC development

HDL Designer Series — Analyze, Create, and Manage

Accelerating Productivity

Whether a team is creating a design from the ground up, or evaluating RTL for reuse, HDL Designer forms a part of Mentor Graphics complete design solution for FPGA and ASIC development. Helping engineering teams analyze, create and manage their complex designs, HDL Designer Series accelerates productivity and enables team-based design.

Analyze

HDL Designer Series assists engineers in analyzing, assessing, and visualizing complex RTL designs, providing tools enabling code integrity analysis, connectivity completeness analysis, HDL code quality assessment, and design visualization.

Code Integrity Analysis

Projects are often transferred to other engineers or design teams. The receiving engineers then have to make sense of design, discovering what has been done and what is left to be completed. Rather than being forced into the difficult and lengthy process of trying to compile the design into a simulator just to determine if there are syntax errors, missing libraries and files, HDL Designer Series will, in minutes, automatically comprehend the design hierarchy, highlight syntax errors, and point out missing or orphaned blocks.

Connectivity Completeness Analysis

Key to understanding a design is comprehending how various functional blocks are interconnected. The Interface-Based Design (IBD) editor in HDL Designer Series is an innovative tabular design editor that displays HDL code and block diagram as a spreadsheet describing the connectivity between design blocks. Engineers can dynamically switch the design view to show either the signals and connectivity across levels of hierarchy or as a traditional block diagram.

HDL Code Quality Assessment

Instead of relying on a subjective analysis of how good the project code is, HDL Designer Series analyzes code based on a selected design rule set. Detailed scoring metrics associated with these design rulesets provide an overall quality score, enabling engineers to identify potential problem areas as they design, as well as the ability to provide management with an objective, detailed analysis — enabling design groups to understand where more work is needed.

A standard part of HDL Designer Series is the inclusion of the Reuse Methodology Manual (RMM rev. 3.0), plus Xilinx and Altera design rule sets. In addition, HDL Designer Series supports customizable rule sets, allowing easy modification to fit a company's standards in RTL coding.

Design Visualization

To aid engineers in understanding design intent, HDL Designer Series comes equipped with an RTL-visualization engine. HDL code can be viewed as a block diagram or as a connectivity spreadsheet. State machines can be extracted and displayed graphically, either as a traditional bubble diagram or as a flow chart. With the ability to switch views from one context to the next, HDL Designer Series' design visualization capabilities enable engineers to fully explore their designs.

Once the design has been analyzed and visualized, this information can be quickly published with the included HTML documentation capability. The resulting interactive website can be easily updated as the design changes, helping all members of the team keep in sync.

Create

Hand-in-hand with code analysis is code creation. HDL Designer Series provides engineers with a suite of advanced design editors to facilitate development: interface-based design spreadsheets and a state-machine editor.

Along with the IBD and state-machine editor, HDL Designer Series includes a number of additional design editors: an EMACS/vi-compatible, HDL-aware text editor, block diagram, functional truth table, flow chart and algorithmic state-machine.

IBD Spreadsheets

In addition to displaying HDL code as a spreadsheet the Interface-Based Design editor in HDL Designer Series allows designers to edit and create designs within this connectivity view. This innovative methodology allows designers to quickly describe design hierarchy and rapidly define interconnect and interfaces. This critical design information can be easily communicated to other members of the design team.

State-Machine Editor

Besides providing an intuitive display and design environ-

ment, the state-machine editor permits designers to apply animations during simulation to facilitate verification of complex state machines.

Manage

In conjunction with design analysis and creation, design management is the third important task facing designers. Along with managing the design data, teams need to manage the project throughout the design flow. HDL Designer Series tackles the design management problem by providing the designer with:

- Interfaces to other design tools within the flow
- Data and version management solutions

Tool Interfaces

HDL Designer Series interfaces to other Mentor Graphics tools such as ModelSim or Precision Synthesis or to third-party tools via a Tcl API (for example, FPGA place and route), creating a toolset supporting the entire design flow.

Data and Version Management Solutions

Included in HDL Designer Series are customizable data management and analysis capabilities, enabling designers to selectively view, search, organize, and correlate design data - all improving the productivity of each individual engineer. Flexibility is key, and HDL Designer Series integrates with the leading version management systems — IBM® Rational® ClearCase®,

Microsoft® Visual SourceSafe, ClioSoft SoS™ — allowing companies to preserve their investment. Or designers can take advantage of the included version management utilities CVS and RCS.

Analyze, Create and Manage

HDL Designer Series increases the productivity of individual engineers while improving their ability to work as a team. Time is money, but so is data. HDL Designer Series helps designers, design teams and their companies save time and manage design data, thereby accelerating productivity.



For more information, visit our website at www.mentor.com/hdl designer

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