

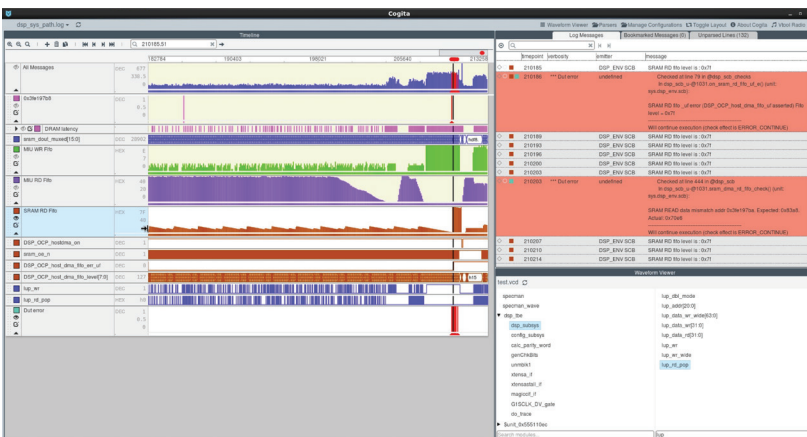


Introduction

Verification metrics confirm that ASIC pre-silicon debug process consumes at least 50% of the overall development effort.

Cogita is a novel data screening, processing, and visualization tool that targets ASIC and FPGA simulation-based debug. It uses human's inherited visual analysis capabilities, as well as sophisticated data mining techniques to dramatically accelerate simulation debug.

Cogita processes massive amounts of data from textual log files and waveform databases, and provides a clear visual root cause analysis, enabling engineers to quickly identify the problem.



Cogita's Benefits

- Assures efficient log-file debug, even if the log is cumbersome
- Displays the log messages on the simulation timeline, along with waveforms
- Reads and processes any log format
- Powerful search and screen functions that drastically outperform the traditional 'grep' and editor search options
- Powerful algorithms that help pinpoint the bug
- Accelerates debug by 3-5X

Contact the **Vtool team** to find out how Cogita can streamline your verification process, for faster, easier, more accurate chip verification.

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How Cogita Works

Traditionally, debug is done in stages. Error messages that describe failures serve as starting points for debugging a failing test, step by step. Engineers then make assumptions and validate them using the data from the log and waves. This continues to the point a failure root cause is found. This is highly time-consuming and produces unproductive debug cycles. Especially when only text and waveform viewers are being used.

Cogita is using the human ability of visual analysis, popping out the tests scenarios over a time-based graph. It uses powerful screening and searching features, and shows the log messages along with the waveforms, over a joint timeline, so that debug process is made efficient and fast.

In Cogita, the log file and waveform database are read into the tool. The configurable parser is creating an advanced database. The engineer then performs a series of search queries, each results in a time-based graph, which is called a player. Players are created from the log text itself so that debug process is made systematic, efficient and fast.



Feature List

Category	Feature
File Parser	Configurable parser that reads any log-file format: UVM/Specman simulation, LAB equipment, HW accelerators, etc.
	Export/Import saved parsers
Players	Create a new player from log text
	Sophisticated text search and screening functions
	Dynamic, easy to use functions such as Zoom, Duplicate, Delete, Move, etc.
Log Messages Panel	Import/Export Players Configuration
	Log messages are presented in a table
	Active log message based on the timeline cursor
Waveform Viewer	Bookmark log messages
	Supporting vcd, vpd, trn and fsdb formats.
	Waves are presented alongside with Players, enabling intuitive correlation between the two.

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