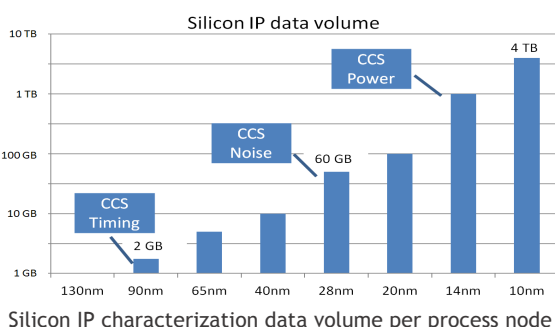


NEW FRACTAL WHITEPAPER CCSP CHARACTERIZATION DATA AND THE EXPONENTIAL GROWTH OF SILICON IP DATA VOLUMES

The amount of data that is needed to support the timing/power/signal-integrity validation of System-on-Chip designs has been increasing with every new technology node introduction. This causes significant headaches for CAD groups putting together state-of-the-art design flows that use the latest, best-in-class, performance verification tools to support tape-outs in new technology nodes. In particular qualification of the characterization data of silicon IP (libraries and hard macros) – where the design-data explosion is most pronounced – requires dedicated tools, compute resources and expertise. Where a few home-brewed scripts could do the job a few technology nodes ago, characterization data qualification now requires dedicated tools, such as Fractal Crossfire. This whitepaper illustrates this trend by using the Liberty CCSP format as a running example.

As IC manufacturing technology has progressed by following Moore's law, the amount of data necessary to characterize a piece of silicon IP for the different performance domains (timing, power, noise and reliability) has grown with it. This trend is illustrated in the diagram below:



For the full article please click on link below:

[click here to read new whitepaper](#)

CROSSFIRE UPDATES

Recently Crossfire has been improved in various areas:

- New Rules:
 - OCV formats cross-check presence of tables
 - Check that test_cell function and cell function are not equal.
 - Check that pg_pin is not an internal pin
 - Ignore define_cell_area and wire_load_selection
 - Liberty versus UPF
 - UPF add_port_state naming convention
 - Empty cell check
 - CCSP library level check
 - CCSP dynamic_current check
 - CCSP leakage_current check
 - CCSP intrinsic_parasitics check

BEST WISHES FOR 2016

In 2015 we managed to achieve our goals and established record high for company sales. We will continue to work closely with existing and new customers to add features and functionality to our Crossfire tools. That's why we are convinced that 2016 will be another great year for our company.

Of course business success is great but let's not forgets the important things in life. We wish you all a healthy and prosperous 2016; enjoy Christmas and New Year with family and friends.



ABOUT CROSSFIRE

Crossfire reports mismatches or modeling errors for Libraries and IP that can seriously delay an IC design project.

Library and IP integrity checking has become a mandatory step for a “state of the art” deep submicron design due to the following challenges:

- The sheer number of different views
- The complexity of the views (ECSM, CCS)
- The loss of valuable design time
- Time to market

Crossfire helps CAD teams and IC designers achieving a high quality of design data in a short time.

Crossfire assures that the information represented across the various views is consistent and does not contain anomalies.

CROSSFIRE USABILITY FEATURES

Graphical setup creation & run environment as well as batch runs

- Powerful hierarchical configuration language supporting macro functions
- Graphical debugging (message > double click > open relevant views)
- Graphical output filtering (zoom in on cells/formats/error-types)
- Waiving mechanism
- HTML and CSV reports
- Automatic setup generation
- Setup API

- Generic setups
- Parallel Parsing feature

CROSSFIRE INTEGRATION FEATURES

API for creating database independent checks, available in: Perl, Tcl and Python

Existing customer validation scripts can be integrated

Visualization messages/results from customer scripts (double click opens message)

CROSSFIRE INTERVIEW

Visualization and browsing of database contents

Opens e.g. LEF, GDS, CDB, OA and Milkyway views in a single window

CROSSFIRE DIAGNOSE

Diagnose is the Crossfire GUI designed for users that wish to only analyze Crossfire results. The setup and test definition sections of Crossfire are completely shielded from the user. The user can see, report, filter, waive and analyze the generated Crossfire messages.

ABOUT FRACTAL TECHNOLOGIES

Fractal Technologies is a privately held company with offices in Los Gatos, California and Eindhoven, the Netherlands. The company was founded by a small group of highly recognized EDA professionals.



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