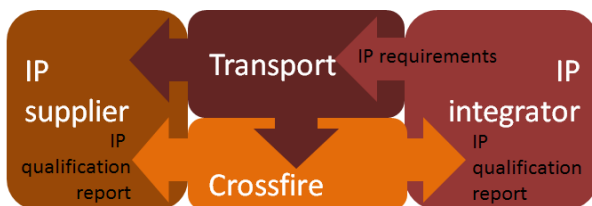


### CROSSFIRE TRANSPORT “MUST HAVE” FOR INCOMING INSPECTION

When talking to customers an important reason to start using Crossfire compared to existing internal solution is our Transport feature.



An IP qualification handshake between IP provider and integrator is made possible by the introduction of Fractal Transport. Transport lets IP integrators capture their IP quality requirements in a formal way that is not tied to any particular IP provider or instance. IP providers may use Transport as part of their IP design flow, for qualification reporting and as a basis for standardization discussion with IP integrators. By inserting Crossfire and Transport into the IP design flow, IPs will be designed for qualification from day 1. Transport and Crossfire enable SoC designers to drag-and-drop a new IP release into an existing SoC design without the risk of introducing new design schedule delays because of unexpected quality issues.

Transport describes what is required of a piece of IP for it to be dragged and dropped as-is into an existing SoC design under-construction. The IP integrators will use the Transport formalism to specify their needs on the following aspects of IP qualification:

- IP completeness: Which databases and models are required?
  - Is there a CCSP model for all process corners?
  - Are supply pins properly labeled in the GDSII
- IP integrity: Are the various models intrinsically consistent?

- Are the timing or power trends in accordance with temperature or output-load?
- Are all cell and terminal names properly reflected in all databases?
- IP integration: Is the IP compatible with the design-tools used?
  - Are routing pins available at the right pitch and metal-layer?
  - Are clock-domains appropriately represented?

Read the [Transport White Paper](#) online!

### CROSSFIRE UPDATES

Recent Crossfire improvements:

- New Rules and Features:
  - Check to ensure that all Liberty library names are unique
  - Pin touching check
  - Check if table values across bits from a bus are within tolerance levels
  - CCSN voltage range check
  - LVF versus NLDM two-way table dependency check added
  - LEF parser upgrade from v5.8-p003 to v5.8-p018

### FRACTAL AT DAC, BOOTH 939

Of course, Fractal will again participate at DAC in 2017. DAC will be in Austin, Texas June 18-22

[www.dac.com](http://www.dac.com)





## 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.

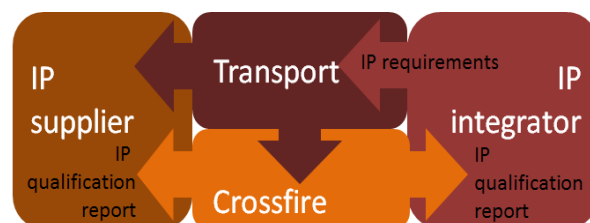
## CROSSFIRE USABILITY FEATURES

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

## FRACTAL TRANSPORT

Transport™ serves as an input format to Crossfire, describing what checks Crossfire needs to execute on which IP databases, as specified by the IP integrator.



**Fractal Crossfire and Transport**

Read the [Fractal White Paper](#) online!

## 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 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 wish, 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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