

SIEMENS DIGITAL INDUSTRIES SOFTWARE

Solido Crosscheck IP validation

Benefits

- Improves final quality of silicon through IP data integrity
- Enables a comprehensive IP validation framework essential for IP production workflows
- Speeds up time-to-tape-out by identifying potential IP issues early in the flow

Features

- A complete framework for IP validation including checking, reporting, waiving, and data visualization
- Design- and technology-agnostic IP QA covering most design views in IC design flows
- Comprehensive validation coverage through 300+ in-view and cross-view built-in checks

Summary

Design IP is a key component of silicon production flows and helps accelerate design cycle time. IP has many different views (logical, physical, timing, SPICE, etc.) that must be validated standalone and across design views.

Solido™ Crosscheck software provides a comprehensive IP quality assurance (QA) framework for the validation of all IP, regardless of type or technology.

Using Solido Crosscheck, users benefit from an expanding list of customer-driven in-view and cross-view checks, covering front-end and back-end design views for IP production and integration workflows. Aside from having a rich set of built-in checks, Solido Crosscheck is also highly customizable, providing a set of APIs for enabling custom checks and reports. It also includes utilities to ease the process of setup creation and maintenance. Solido Crosscheck includes GUI tools for viewing and debugging across different design views.

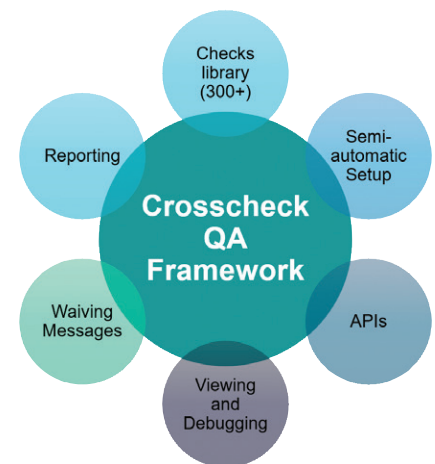


Figure 1: Solido Crosscheck QA framework overview.

Features *continued*

- APIs for enabling custom formats, checks and reporting
- IP QA rule deck enables supplier and integrator QA handshake on validation requirements and reporting

Comprehensive in-view and cross-view IP validation

Solido Crosscheck provides in-view and cross-view IP validation for most design views used in IP production and integration workflows, including:

- Front-end views: Verilog/VHDL, .lib, SDF, UPF/CPF, Test, ATGP
- Back-end views: LEF/DEF/GDS2, Oasis, Plib, OpenAccess
- Simulation and schematics: multiple SPICE formats and binary DB schematics
- Other views such as IBIS, LVLIB, IP-XACT, etc.

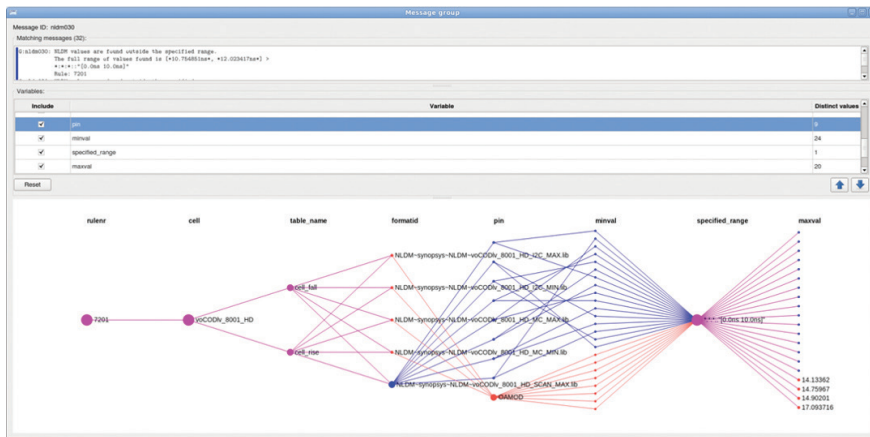
Solido Crosscheck has 300+ checks today, with additional checks continuously added by customer request.

In addition, custom formats and user-defined checks are also supported through a custom check API.

Reporting, visualization, and debugging

Solido Crosscheck includes a full set of capabilities to report and visualize validation results.

In addition to user-friendly HTML and CSV standard reports, Solido Crosscheck users can also utilize customizable templates and API access to the results database to create custom reports tailored to their requirements.



Figures 2 and 3: Bottleneck analysis of validation results allows users to identify areas of violations with high impact to overall IP production readiness.

Solido Crosscheck allows users to temporarily waive issues found with a provided reason so that known issues can be set aside while still preserving the QA accountability to address those later.

A built-in IP viewer allows users to examine source data such as layouts, netlists and timing models. The tool also includes visualization methods for QA results, such as graphical analysis of pass/fail/waive outcomes, enabling users to quickly identify areas of violations with high impact to overall IP production readiness.

IP QA handshake with QA exchange deck

Designing an advanced system-on-chip (SoC) relies on the capability of successfully integrating pre-designed IP blocks obtained from different suppliers (internal or external) over multiple releases.

An effective qualification handshake between IP provider and integrator is needed to ensure IP validation requirements and results are fully aligned between both sides of the workflow.

The QA exchange deck from Solido Crosscheck forms the foundation of QA checks during IP production sign-off and in-coming IP inspection, providing a QA handshake for communicating requirements and reporting validation results between IP suppliers and integrators.

Solido Crosscheck is a complete IP QA framework

With a comprehensive set of QA checks covering most design views and formats, a full suite of capabilities for reporting, visualization and debugging, as well as a widely-supported QA exchange deck, Solido Crosscheck provides a complete QA framework for today's IP production and integration methodologies.

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