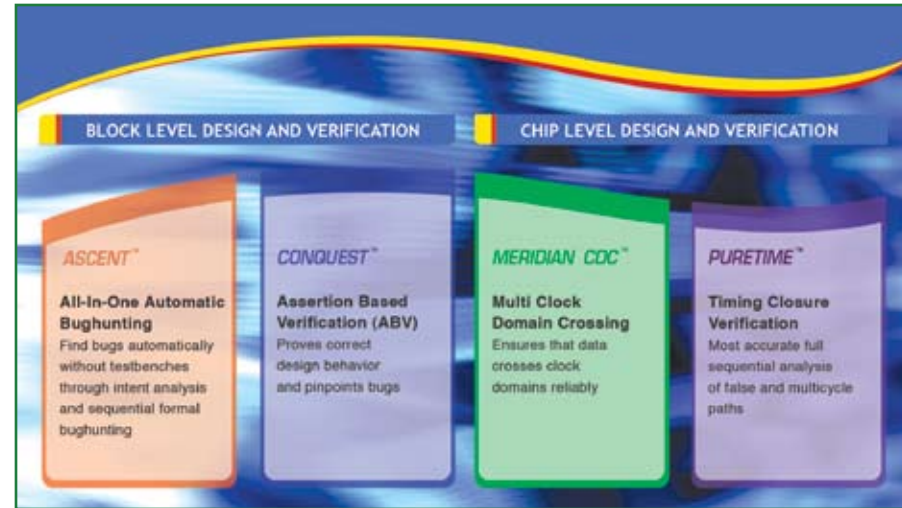




MERIDIAN CDC™ Verification

is a member of the broadest family of formal design solutions available only from Real Intent, Inc. The EnVision™ Family spans the spectrum from design, through implementation.



ASCENT

CONQUEST

MERIDIAN CDC

PURETIME

REAL INTENT

CORPORATE OVERVIEW

Real Intent is the leading provider of intent driven verification tools. The company is extending breakthrough analysis technology to critical problems encountered by design and verification teams worldwide. Real Intent's products dramatically improve functional verification efficiency for Application Specific Integrated Circuit (ASIC), system-on-chip, and Field Programmable Gate Array (FPGA) devices. Real Intent solutions deliver verification confidence to more than 40 electronics design houses across the globe.

BROAD PLATFORM SUPPORT

SUPPORTED	32-BIT	64-BIT
Red-Hat Enterprise Linux (RHEL)	✓	✓ (Opteron)
Solaris 8	✓	✓



MERIDIAN CDC™ Verification

Meridian CDC offers superior technology, guarantees 100% CDC Correctness, and achieves verification sign-off 4x faster.

Most designs today have asynchronous clock domains. Each clock domain crossing (CDC) interface must follow strict design principles for reliable operation. Verification of proper CDC design is not possible using traditional simulation and static timing analysis techniques. As a result, CDC verification tools are needed in the design flow.

Successful deployment of a CDC verification solution depends on:

- Minimizing design setup cost
- Complete coverage of potential error sources
- Fast verification turnaround
- Minimizing debug and sign-off costs
- Efficiently leveraging existing verification infrastructure
- Providing both RTL and gate level support

Meridian CDC is the only integrated verification solution that offers automatic design setup, comprehensive coverage for both structural and functional errors, fastest run-time performance, most user friendly reporting and debugging, seamless links to simulation, and complete verification

BENEFITS

- **Verify that data and control cross clock domains reliably**
- **Easiest-to-use CDC solution in the industry, template and assertion free**
- **Most accurate CDC analysis combining structural and functional results**
- **Highest performance for quick verification turnaround**
- **Complete CDC sign-off from RTL to netlist**

FEATURES

- **Automatic design setup from top level SDC constraints**
- **Automatic clock intent inference and analysis catches**
 - Clock and reset issues
 - Hazard/glitch potentials
 - Reconvergence
 - Loss of Correlation
- **Metastability-aware formal analysis verifies**
 - Control and data stability for all data transfer protocols
 - Gray code requirements
- **SimPortal enables dynamic CDC verification**



PRODUCTS

- **Ascent™ Automatic Formal**
- **Conquest™ Advanced Verification**
- **Meridian CDC™ Verification**
- **PureTime™ Exception Verification**



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EASE OF USE

Meridian's ease of use comes from multiple dimensions:

1. Meridian supports simulator command line arguments and can automatically create clock and reset setup from the top level design or the SDC/TCL constraints file. Meridian can be up and running on your design, and providing results within a matter of minutes.
2. Meridian supports a wide variety of synchronizer styles without the need for creating templates, saving time and effort.
3. Meridian's integrated formal analysis protects against the effects of metastability in your design. It offers highest precision results while checking CDC functionality of the design. It is assertion free and completely self contained, saving time and effort.
4. Meridian's user friendly reporting offers helpful guidance in pinpointing the errors quickly. Its flexible sign-off features ease the task of verification sign-off.
5. Meridian's SimPortal feature allows designers to verify CDC in the familiar dynamic simulation environment.

Meridian is the easiest to use CDC solution in the industry and can help achieve CDC sign-off 4x faster.

MULTIPLE STRATEGIES FOR BEST RESULTS

Meridian is the only integrated CDC solution in the industry that combines automatic clock intent analysis, functional analysis and links to simulation all in one package. Meridian's superior technology allows designers to use any or all of these strategies to guarantee complete CDC correctness.

The first strategy is automatic clock intent analysis. Meridian automatically infers CDC intent from the design and offers comprehensive analysis that identifies clock/reset issues, incorrect or missing synchronization, glitch potentials, reconvergence, structurally unsafe crossings and potential data/control crossings that need functional verification. This analysis is the fastest and most accurate available due to Real Intent's advanced correlation algorithms and the most complete support of crossing styles in the industry.

As a second strategy, Meridian integrated formal analysis exhaustively verifies crossing safety using Real Intent's metastability aware formal engine. Meridian formal offers superior capability over other solutions because:

1. Other solutions try to identify and verify data transfer protocols based on structural characteristics, which is often error-prone. Meridian ensures data transfer safety by verifying the underlying design principle that the CDC data bus must be a

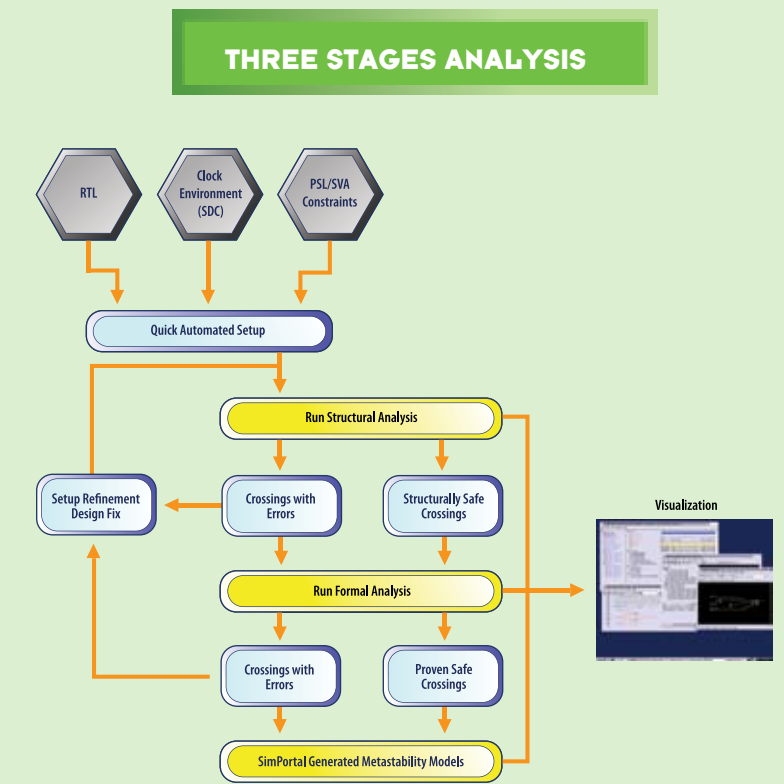
multi-cycle-path. This goes to the root cause of metastability problem and can be applied to any flavors of data transfer protocols.

2. Other solutions output assertions for general property checking tools. Meridian formal analysis is integrated. This leverages the automatic clock intent analysis results to produce a composite report at the end. This saves users time and effort in learning another tool and its interface. Meridian specialized metastability aware formal engine is architected to deal with behavior uncertainty in the design, compared to traditional formal analysis which is built to analyze steady state design behavior.

Meridian formal acts as a powerful filter to make the designer's sign-off task much easier.

For the third strategy, Meridian leverages existing simulation testbenches with SimPortal. SimPortal injects the effects of metastability into regression simulation, automates CDC sign-off and supports popular simulators. To protect from sign-off errors, Meridian SimPortal acts as an independent verification step for CDC issues signed off by the user.

Meridian guarantees CDC correctness through its superior technologies and enables faster verification sign off.

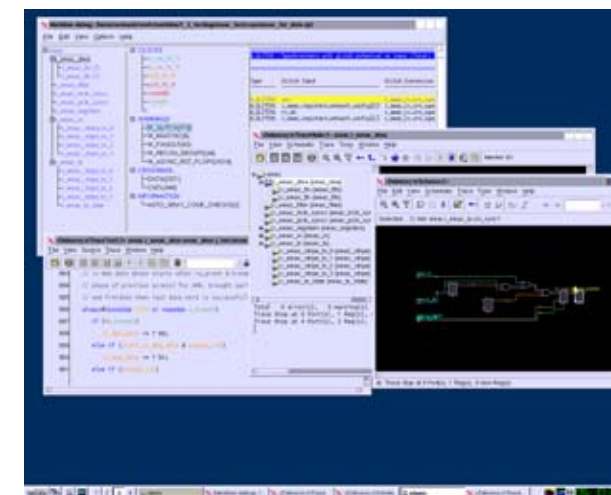


SMART REPORTING AND INTEGRATED GUI

Meridian smart reporting categorizes findings into errors, warnings and information to keep users focused on important issues. Helpful guidance and suggested actions help user pinpoint the source of the problems quickly. Formal analysis works off structural analysis results and produces a composite report that offers the highest level of precision.

Meridian verification comes with a powerful and integrated graphical interface. The GUI supports pruned schematic views that zoom in on just the relevant logic, to speed debugging. With a few mouse clicks, it directs users to the RTL source code that caused the problem. The graphical debugger is designed to enable users to start at the highest level of the problem description and to push deeper until the root cause is isolated. Meridian supports Springsoft Debussy or Verdi interface and OEM versions are available direct from Real Intent.

MERIDIAN USER INTERFACE



RTL AND NETLIST SUPPORT

It is well known that the synthesis process can introduce glitches. It can also optimize paths and retime the circuit. Therefore, CDC verification must not stop at RTL. Meridian CDC is the only product in the industry that supports both RTL and gate-level netlist for complete verification confidence and sign-off.