Regtify®

Register Management for Integrated Systems

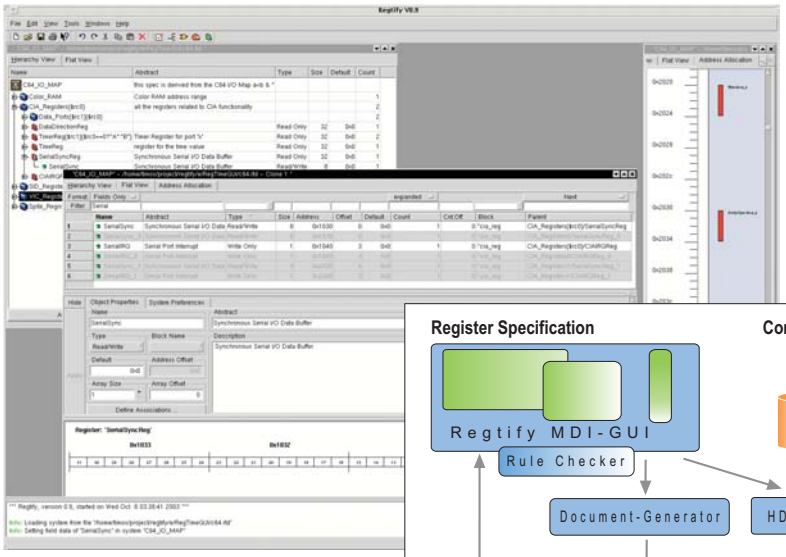
Specification, Documentation, Verification and Code Generation Support for HW/SW-Interfaces

Overview

Today's integrated systems often embed several 10000 micro-processor accessible register cells – controlling the functionality of IP-blocks, operating modes, monitoring incoming data, logic and operational states. Last minute changes, visualisation of the register attributes for hard and software engineers, flexible code generation and consistency between all register related files are the challenges Regtify was built for.

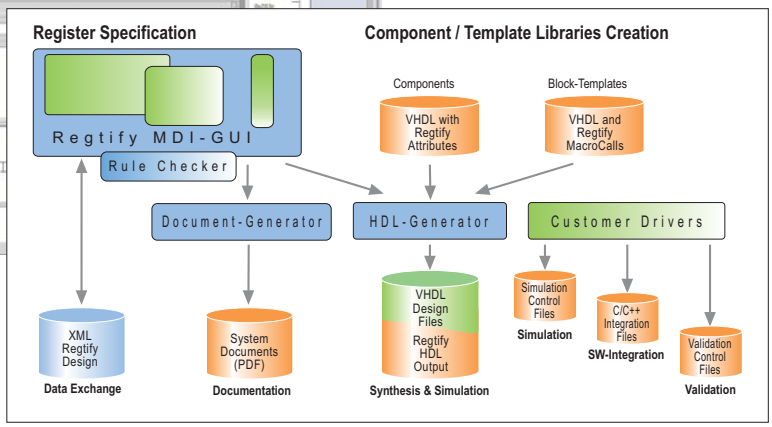
Regtify is the hub and engine to efficiently manage your registers and memory components within your integrated system – ASIC, FPGA or SOC.

Using an extremely flexible and user customisable approach, supported by a powerful GUI, Regtify is the ultimate choice for realising sophisticated register concepts.



Regtify's
Main window showing Hierarchical, Tabular and Address Allocation Views.
Based on its Multiple Document Interface Technology (MDI) Regtify provides optimal and controlled visualisation of the design specification.

Design Flow Diagram



Masses of Registers? Design-Spec Inconsistencies? Last Minute Changes?

Time to get **Regtify!**

Benefits

- **Facilitation** of register specification capturing, documentation, implementation and verification
- **Consistency** enforcement between specification and design due to single source
- **Faster synthesis** and improved routing with distributed register map approach
- **RAM-integration** support
- **Re-use support** throughout the design flow
- **XML standard** file format for easy access and exchange
- **User-customisable** VHDL code generation and driver support
- **Customer Rule-Checking** for register specifications

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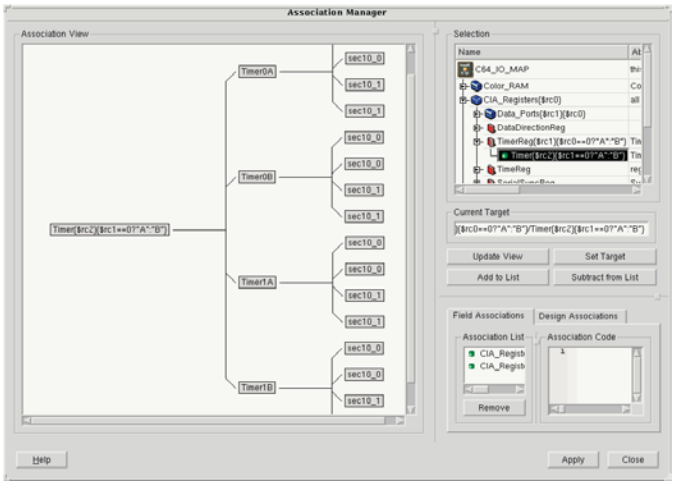
Association Manager **for Register Interdependencies**

Registers often affect other registers in a regular way, e.g. mask registers disable interrupt event registers or composite registers collect information of registers in a downward hierarchy.

Regtify's Association Manager addresses these tasks by offering an algorithmic or graphical method with visualisation support to eliminate further need of manual RTL-coding.



Customisable Templates and Drivers

The utilisation of templates for code generation gives the user full control over the generated code. The driver feature allows customers to automatically generate special purpose files in almost any desired format for extended utilisation of the register design information.

Features and Benefits

Specification

- Powerful GUI with Hardware/Software Views
- Address Allocation Browser
- Registers,RAMs,IF-Support
- Object Array Support
- Association Management
- Specification Checkers
- Filter Options

Code-Generation

- Generic Template Approach
- Customisable Driver Support
- VHDL / Verilog (on Request) / System C support
- Centralised/Distributed Topology

Data-Exchange/Access

All Data stored in XML
User Programmable Import (2Q/05)

Documentation-Generation

Hyperlinked PDF

Availability

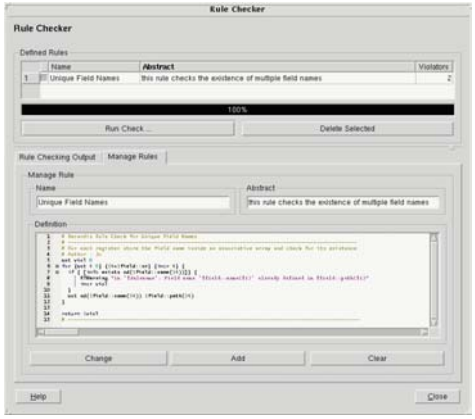
Solaris,Linux
Windows

Document Generation

Regtify generates a set of documents in PDF format. These documents feature hyperlinks which allow fast navigation. There is a tabular and hierarchically organised document similar to the views in the Regtify GUI. In addition, a memory map document is generated for a quick overview of allocated address space.

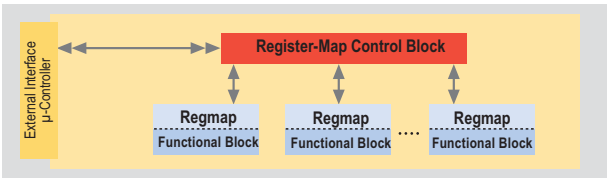
Rule Checking **for Group,Register and Field Attributes**

Imagine several thousands of registers in your design, all manually specified. Since making mistakes is part of the human nature, error detection is essential.
Regtify's rule checking feature allows you to write your individual compliance checks for your register map specifications according to your guidelines.



Distributed and Centralised Topology

Storing all register within one centralised block is often not an option since its consumption of synthesis time and routing resources is critical. Therefore Regtify uses a distributed register-map concept. Centralised topologies are supported as well.



Address Allocation Browser

Specifying a huge integrated system requires also overview over available address spaces and their utilisation.
Regtify supports this with its unique Address Allocation Browser, providing a graphical representation of the address space and an easy perceptible overview of your register distribution.

Recardis Customer Services

Migrating to a new design flow is never a simple task.

Recardis therefore offers

- Product Training,
- Template and Driver creation support
- Consultancy services
- Special Software Adaptations

for a successful deployment of Regtify.

For more information on **Regtify**

www.recardis.com, please contact info@recardis.com or call us at ++49-911-300-1554