

Hardware Verification with C++

A Practitioner's Handbook

By Mike Mintz and Robert Ekendahl

Written by two verification engineers, *Hardware Verification with C++: A Practitioner's Handbook* is a four-part tour of how to perform hardware verification using object-orientated techniques. This handbook goes beyond hype and theoretical discussions to show fully implemented examples, all provided as open-source code on the companion CD.

Part I makes the case for C++, and shows a standard verification system using object-oriented programming (OOP).

Part II presents two open-source C++ libraries that enable efficient verification with C++ — Teal, a C++ to Verilog interface, and Truss, a standard verification framework.

Part III focuses on OOP with examples from real verification projects.

Part IV puts it all together showing complete block-level and system-level verification systems.

Both a learning and a reference tool, *Hardware Verification with C++: A Practitioner's Handbook* gives you everything you need to do hardware verification with C++ apart from a simulator—all provided as open-source on the companion CD.

"The handbook provides a clear understanding of object-orientated programming, and how it applies to hardware verification. It is clear to me that C++, together with Teal and Truss, could form a strong platform for the next generation of hardware verification."

— Dr. Stanley Hyduke, CEO of Aldec, Inc.

"With this book I feel confident I can constitute a verification team that could make good use of C++ for verification, with all the positive results I would need for success. That is a breakthrough!"

— Bob Fredieu, VP of Research and Development and Cofounder, Assertive Design

"Teal let us hit the ground running and focus on developing our intellectual property instead of simulation infrastructure. After two successful ASIC projects, we couldn't be happier with its quality, completeness and compactness."

— Bennet Ih, ASIC Verification Lead, SigmaTel Imaging Systems Group

"Hardware verification complexity has grown to be a software effort, requiring advanced techniques such as OOP. With clear techniques and examples, this handbook guides the reader through the complexities of using OOP to create testbenches. Regardless of what language you use, this book will help sharpen your skills."

— Chris Spear, Verification Consultant, Synopsys, Inc., Author of SystemVerilog for Verification

springer.com



Hardware Verification with C++
A Practitioner's Handbook

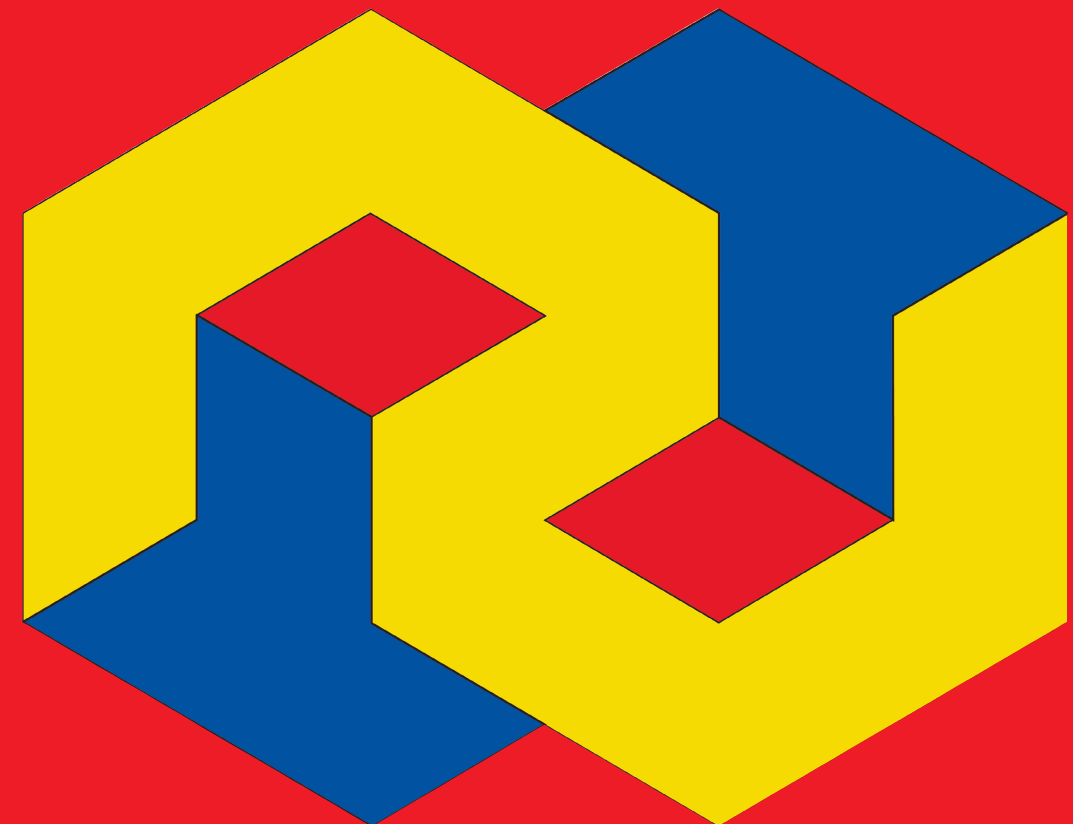
Mintz / Ekendahl

Mike Mintz

Robert Ekendahl

Hardware Verification with C++

A Practitioner's Handbook



EXTRA
MATERIALS
extras.springer.com



 Springer