Guest Editors’ Introduction:
The Status of IEEE Std 1500—Part 2

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You are looking at Part 2 of the IEEE Design & Test special issue on the status of IEEE Std 1500. The first issue, published in January/February 2009, could contain only a maximum of six articles, which was insufficient space to publish all the good articles that we had received and that had survived Design & Test’s rigorous review procedure. Hence, in front of you is Part 2, containing another three articles. And, unlike the quality of many sequels that Hollywood produces in response to the success of its products, the contents of this Part 2 are at least as good as what we published in Part 1!

The first article, “Automating IEEE 1500 Core Test—An EDA Perspective” by Krishna Chakravadhanula and Vivek Chickermane, describes an automated test synthesis methodology and tool suite that combines support for IEEE-1500-wrapped cores and test data compression hardware in a production environment. The article presents experimental results for various cores. Two other EDA perspectives on IEEE 1500 can be found in Part 1 of our special issue on IEEE 1500.

In “Are IEEE-1500-Compliant Cores Really Compliant to the Standard?,” Alfredo Benso et al. address the issue of compliance verification. They present a verification component that can be added to an overall SoC verification framework, based on a commercial verification tool suite. For another IEEE-1500 verification article, refer to Part 1 of this special issue.

The last article is “Test Data Volume Comparison: Monolithic vs. Modular SoC Testing” by Ozgur Sinanoglu et al. The authors show, through theoretic analysis as well as with experimental data on industrial SoCs, that the modular SoC testing enabled by IEEE 1500 reduces overall test data volume significantly when compared to monolithic testing. This benefit is due to the fact that modular testing allows each core to be tested with only those test patterns it specifically requires, instead of a global maximum determined by the hardest-to-test core.

With these three articles, we conclude our double special issue. We hope that Part 2 will earn just as good a reception as was the case for Part 1.

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