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DIAMOND

Diagnosis, Error Modelling and Correction for Reliable Systems Design

Instrument: Collaborative Project

Thematic Priority: Information and Communication Technologies



Articles in International Journals and Proceedings (Deliverable D5.3)

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CO	Confidential, only for members of the consortium (including the Commission Services)	<input type="checkbox"/>

Notices

For information, please contact Dr. Jaan Raik, e-mail: jaan@pld.ttu.ee

This document is intended to fulfil the contractual obligations of the DIAMOND project concerning deliverable D5.3 described in contract 248613.

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Table of Revisions

Version	Date	Description and reason	Author	Affected sections
1.0	January 28, 2013	Contents created	J. Raik	All

Author, Beneficiary

Jaan Raik, Tallinna Tehnikaülikool

Executive Summary

The document lists the scientific articles published within the DIAMOND project and provides general statistics about the publications.

List of Abbreviations

EU	- European Union
FP7	- European Union's 7 th Framework Programme
IST	- Information Society Technologies
URL	- Uniform Resource Locator

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1 Introduction

The document provides an overview of the scientific articles published within the European Union's 7th Framework Programme's collaborative research project FP7-2009-ICT-4-248613 DIAMOND - Diagnosis, Error Modelling and Correction for Reliable Systems Design. The online versions of many of these articles have been made available for download at the DIAMOND project web site URL: <http://fp7-diamond.eu/> under the “Publications” link.

In the following, general statistics of the DIAMOND’s scientific publications is provided. The deliverable ends with an Appendix providing the full list of DIAMOND publications.

2 Publication Statistics

The DIAMOND Description of Work estimated that at least 40 scientific articles will be published by the project consortium. At the end of the project the number of published works reached nearly twice of this goal: a total of 79 publications. In the following we will present the most important statistics of the DIAMOND scientific publications.

- **Publications by year**

The number of publications per year has been growing steadily throughout the project with the following distribution:

2010 - 23, 2011 - 25, 2012/13 - 31

- **Publications by type**

Most of the articles were presented at the conferences, symposia and workshops. However, despite of the long publication cycle, also 7 journal articles have been published by the consortium. The distribution of publications by type is as follows:

Book chapter – 5 (6.33%), journal – 7 (8.86%), conference/symposium – 44 (55.7%), workshop – 23 (29.1%)

- **Cooperation between partners**

A total of 25 publications were as a result of multiple DIAMOND partners contributing. This makes 31.6% of all the DIAMOND publications. The cooperative publications included TUT-TL (11 articles), Ericsson-LIU (10 articles), TL-LIU (2 articles), IBM-UNIB (1 article) and TUG-UNIB-TUT (1 article), respectively.

3 Conclusions

This deliverable reported the scientific articles published by the DIAMOND consortium. The total number of articles was 79 that almost twice exceeded the 40 article goal set in the beginning of the project. It is worth noting that more than 30% of DIAMOND publications have been co-authored by more than one consortium member, showing the stimulating effect of the project to international research cooperation.

Appendix: The Full List of DIAMOND Articles

Publications 2010

1. Hanno Hantson, Jaan Raik, Maksim Jenihhin, Anton Chepurov, Raimund Ubar, Giuseppe di Guglielmo, Franco Fummi, "Mutation analysis with high-level decision diagrams", *11th Latin American Test Workshop (LATW)*, Punta del Este, Uruguay, March 28-31, 2010.
2. Dimitar Nikolov, Urban Ingelsson, Virendra Singh and Erik Larsson, "On-line techniques to adjust and optimize checkpointing frequency", *IEEE International Workshop on Reliability Aware System Design and Test (RASDAT 2010)*, Bangalore, India, January 7-8, 2010.
3. Dimitar Nikolov, Urban Ingelsson, Virendra Singh and Erik Larsson, "Estimating error-probability and its application for optimizing Roll-back Recovery with Checkpointing", *5th IEEE International Symposium on Electronic Design, Test & Applications (DELTA 2010)*, Ho Chi Minh City, Vietnam, January 13-15, 2010.
4. Raimund Ubar, Sergei Devadze, Jaan Raik, Artur Jutman, "Parallel X-Fault Simulation with Critical Path Tracing Technique", *Proceedings of the IEEE/ACM Design, Automation and Test in Europe Conference and Exhibition (DATE)*, Dresden, Germany, 8 - 12 March, 2010.
5. Raimund Ubar, Dmitri Mironov, Jaan Raik, Artur Jutman, "Structural Fault Collapsing by Superposition of BDDs for Test Generation in Digital Circuits", *Proceedings of the International Symposium on Quality Electronic Design (ISQED)*, San Jose, USA, March 22-24, 2010.
6. Taavi Viilukas, Jaan Raik, Maksim Jenihhin, Raimund Ubar, "Constraint-based Test Pattern Generation at the Register-Transfer Level", *The IEEE International Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS 2010)*, Vienna, April 14-16, 2010.
7. Andre Süllflow, Görschwin Fey, Rolf Drechsler, "Using QBF to increase accuracy of SAT-based debugging", *The IEEE International Symposium on Circuits and Systems (ISCAS)*, Paris, France, 30 May - 2 June, 2010.
8. R.Ubar, D.Mironov, J.Raik, A.Jutman, "Fault Collapsing with Linear Complexity in Digital Circuits", *The IEEE International Symposium on Circuits and Systems (ISCAS)*, Paris, France, 30 May - 2 June, 2010.
9. Roderick Bloem, Alessandro Cimatti, Karin Greimel, Georg Hofferek, Robert Könighofer, Marco Roveri, Viktor Schuppan, Richard Seeber, "RATSY - A new Requirements Analysis Tool with Synthesis", *22nd International Conference on Computer Aided Verification (CAV 2010)*, Edinburgh, UK, July 15-19, 2010.
10. Dimitar Nikolov, Erik Karlsson, Urban Ingelsson, Virendra Signh, and Erik Larsson, Mapping and Scheduling of Jobs in Homogeneous NoC-based MPSoC, *The 10th Swedish System-on-Chip Conference (SSoCC)*, Kolmården, Sweden, May 2010.
11. Mudassar Majeed, Daniel Ahlström, Urban Ingelsson, Gunnar Carlsson, and Erik Larsson, "Efficient Embedding of Deterministic Test Data", *The 10th Swedish System-on-Chip Conference (SSoCC)*, Kolmården, Sweden, May 2010.
12. Farrokh Ghani Zadegan, Urban Ingelsson, Gunnar Carlsson and Erik Larsson, "Test Time Analysis for IEEE P1687", *IEEE 19th Asian Test Symposium (ATS 2010)*, Shanghai, China, December 2010.
13. Mudassar Majeed, Daniel Ahlström, Urban Ingelsson, Gunnar Carlsson and Erik Larsson, "Efficient embedding of deterministic test data", *IEEE 19th Asian Test Symposium (ATS 2010)*, Shanghai, China, December 2010.
14. Dimitar Nikolov, Mikael Väyrynen, Urban Ingelsson, Erik Larsson, and Virendra Singh, "Optimizing Fault Tolerance for Multi-Processor System-on-Chip", *Design and Test Technology for Dependable Systems-on-chip*, Raimund Ubar, Jaan Raik, Heinrich Theodor Vierhaus (Eds.), 2010, Hardcover, ISBN: 978-1-6096-0212-3.
15. Robert Könighofer, Georg Hofferek, Roderick Bloem: "Debugging Unrealizable Specifications with Model-Based Diagnosis", *Haifa Verification Conference 2010*, October 05-07, 2010, Haifa, Israel.
16. Jaan Raik, Urmas Repinski, Raimund Ubar, Maksim Jenihhin, Anton Chepurov, "High-Level Design Error Diagnosis Using Backtrace on Decision Diagrams", *28th Norchip Conference*, 15-16 November 2010, Tampere, Finland.
17. Jaan Raik, Urmas Repinski, Maksim Jenihhin, Anton Chepurov, "High-Level Decision Diagram Simulation for Diagnosis and Soft-Error Analysis", *Design and Test Technology for Dependable Systems-on-chip*, Raimund Ubar, Jaan Raik, Heinrich Theodor Vierhaus (Eds.), 2010, Hardcover, ISBN: 978-1-6096-0212-3.

18. Sergei Kostin, Raimund Ubar, Jaan Raik, "Macro Level Defect-Oriented Diagnosability of Digital Circuits", *12th Biennial Baltic Electronics Conference (BEC 2010)*, October 4-6, 2010, Tallinn, Estonia.
19. Uljana Reinsalu, Jaan Raik, Raimund Ubar, "Register-Transfer Level Deductive Fault Simulation Using Decision Diagrams", *12th Biennial Baltic Electronics Conference (BEC 2010)*, October 4-6, 2010, Tallinn, Estonia.
20. Görschwin Fey, André Süßflow, Rolf Drechsler, "Towards Unifying Localization and Explanation for Automated Debugging", *International Workshop on Microprocessor Test and Verification (MTV)*, Austin, Texas, 2010
21. Alexander Finder, Görschwin Fey, "Evaluating Debugging Algorithms from a Qualitative Perspective", *Forum on Specification & Design Languages (FDL)*, Southampton, 2010
22. Andre Süßflow, Rolf Drechsler, "Automatic Fault Localization for Programmable Logic Controllers", *Formal Methods for Automation and Safety in Railway and Automotive Systems (FORMS/FORMAT)*, Braunschweig, 2010
23. A. Tšertov, A. Jutman, S. Devadze, "Testing Beyond the SoCs in a Lego Style". In *Proc. of IEEE East-West Design & Test Symposium (EWDTS'10)*, St. Petersburg, Russia, Sept. 17-20, 2010, pp. 334 - 338

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24. Georg Hofferek, Roderick Bloem - "Controller Synthesis for Pipelined Circuits Using Uninterpreted Functions" - *Ninth ACM/IEEE International Conference on Formal Methods and Models for Codesign (MEMOCODE 2011)*
25. Robert Könighofer, Roderick Bloem - "Automated Error Localization and Correction for Imperative Programs" - *Proceedings of 11th International Conference 2011 Formal Methods in Computer Aided Design (FMCAD 2011)*
26. Matthias Schlaipfer, Georg Hofferek, Roderick Bloem - "Generalized Reactivity(1) Synthesis without a Monolithic Strategy" - *Haifa Verification Conference 2011 (HVC'11)*, Dec 06-08 2011, Haifa, Israel
27. Robert Könighofer, Georg Hofferek, Roderick Bloem - Debugging formal specifications: a practical approach using model-based diagnosis and counterstrategies. - *International journal on software tools for technology transfer (STTT)*, 2011.
28. Alexander Finder, André Süßflow, Görschwin Fey, "Latency Analysis for Sequential Circuits", *GI/GMM/ITG Workshop Testmethoden und Zuverlässigkeit von Schaltungen und Systemen (TUZ)*, Passau, 2011
29. Raik, J; Rannaste, A; Jenihhin, M; Viilukas, T; Fujiwara, H; Ubar, R (2011). Constraint-Based Hierarchical Untestability Identification for Synchronous Sequential Circuits. *Proceedings of IEEE European Test Symposium*, (1 - 6).IEEE Computer Society Press 3.1.
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