Keynote Address

A Business Case for Dependability
João Carreira (Critical Software SA, Portugal)

Session 1: Robustness and Fault Tolerance

Construction of a Highly Dependable Operating System .................................................. 3
Jorrit N. Herder, Herbert Bos, Ben Gras, Philip Homburg,
and Andrew S. Tanenbaum

Automatically Finding and Patching Bad Error Handling ................................................. 13
Martin Süsskraut and Christof Fetzer

Communication Integrity in Networks for Critical Control Systems .................................. 23
Anis Youssef, Yves Crouzet, Agnan de Bonneval, Jean Arlat,
Jean-Jacques Aubert, and Patrice Brot

Session 2A: Practical Experience Reports and Tools

A Fault Tolerant VoIP Implementation Based on Open Standards ............................... 35
Anand Gorti

Lessons Learned from the Deployment of a High-Interaction Honeypot .......................... 39
Eric Alata, Vincent Nicomette, Mohamed Kaâniche, Marc Dacier, and M. Herb

Session 2B: Fast Abstracts I
Session 3: Fault Injection

Temporal Characterization of Embedded Systems Using Nexus ................................................. 47
   Juan Pardo, José-Carlos Campelo, Juan-Carlos Ruiz, and Pedro Gil

Injection of Faults at Component Interfaces and Inside the Component Code: Are They Equivalent? ....................................................................................................... 53
   Regina Moraes, Ricardo Barbosa, João Durães, Naaliel Mendes, Eliane Martins, and Henrique Madeira

Panel 1: In Search of Real Data on Faults, Errors and Failures
Moderator:
Miroslaw Malek (Humboldt-Universität zu Berlin, Germany)
In Search of Real Data on Faults, Errors and Failures ............................................................... 65

Panellists:
The Hide and Seek Field Data Game ......................................................................................... 66
   Domenico Controneo (Università di Napoli, Federico II, Italy)
Measurement-Based Analysis: A Key to Experimental Research in Dependability .................. 69
   Zbigniew Kalbarczyk (University of Illinois Urbana-Champaign, USA)
Improving Access to Relevant Data on Faults, Errors and Failures in Real Systems.............. 71
   Dave Penkler (Hewlett-Packard, France)
Confidentiality and Real Errors: A Contradiction? ................................................................. 73
   Dieter Hein and Manfred Reitenspiess (Fujitsu Siemens Computers, Germany)

Session 4A: Hardware Implemented Fault Tolerance

SEU Mitigation Techniques for Microprocessor Control Logic............................................... 77
   Ganesh T. S., Viswanathan Subramanian, and Arun Somani

Fault-Tolerant Distributed Clock Generation in VLSI Systems-on-Chip................................ 87
   Matthias Függer, Ulrich Schmid, Gottfried Fuchs, and Gerald Kempf

Dynamic Derivation of Application-Specific Error Detectors and their Implementation in Hardware......................................................................................................... 97
   Karthik Pattabiraman, Giacinto Paulo Saggese, Daniel Chen, Zbigniew Kalbarczyk, and Ravishankar K. Iyer

Session 4B: Fast Abstracts II

Session 5: Student Forum
Panel 2: Education in Dependable and Resilient Computing – Meeting the Needs of the Information Society

Moderator:
Johan Karlsson (Chalmers University of Technology, Sweden)

Panellists:
Wolfgang Arendt (Chalmers University of Technology, Sweden)
Ricardo Jiménez-Peris (Universidad Politécnica de Madrid, Spain)
Luca Simoncini (Università di Pisa, Italy)
Paulo Veríssimo (Universidade de Lisboa, Portugal)

Session 6A: Dependable Storage and Services

Impact of WAN Channel Behavior on End-to-End Latency of Replication Protocols ................................................................. 109

Roberto Baldoni, Carlo Marchetti, and Antonino Virgillito

Customizable Service State Durability for Service Oriented Architectures ................................................................. 119

Xianan Zhang, Matti A. Hiltunen, Keith Marzullo, and Richard D. Schlichting

Storage Tradeoffs in a Collaborative Backup Service for Mobile Devices ................................................................. 129

Ludovic Courtès, Marc-Olivier Killijian, and David Powell

Rephrasing Rules for Off-The-Shelf SQL Database Servers ................................................................. 139

Ilir Gashi and Peter Popov

Session 6B: Fast Abstracts III

Author Index ........................................................................................................................................... 149