2011 Latin-American Symposium on Dependable Computing
LADC 2011

Table of Contents

Message from the General Chair ........................................................................................................vii
Message from the Technical Program Co-chairs ...........................................................................ix
Organizing Committees .........................................................................................................................x
Reviewers .............................................................................................................................................xiii

Invited Lecture
GENESYS - A Cross-Domain Architecture for Dependable Embedded Systems .............................1
Hermann Kopetz

Technical Sessions

Session 1: Distributed Algorithms
Byzantine Fault-Tolerant Deferred Update Replication ........................................................................7
Fernando Pedone, Nicolas Schiper, and José Enrique Armendáriz-Iñigo
A Simple Snapshot Algorithm for Multicore Systems ........................................................................17
Damien Imbs and Michel Raynal
Enhancing Fault Tolerance of Distributed R-Tree ............................................................................25
Mathieu Valero, Luíca Arantes, Maria Potop-Butucaru, and Pierre Sens

Session 2: Security
On the Reliability and Availability of Systems Tolerant to Stealth Intrusion .....................................35
Luis T. A. N. Brandão and Alysson Bessani
Detection of Attacks in Wireless Mesh Networks ............................................................................45
Anderson Morais and Ana Cavalli
Benchmarking the Security of Web Serving Systems Based on Known Vulnerabilities ..................55
Naaliel Mendes, João Duraes, and Henrique Madeira
Session 3: Diagnosis and System Dependability
Energy-Aware Test Connection Assignment for the Diagnosis of a Wireless Sensor Network .................................................................65
   Andrea Weber, Alexander Robert Kutzke, and Stefano Chessa
Resource Optimization and Energy Saving in Clusters Using Virtualization ..........................................................74
   Marcus Vinicius Azevedo, Andre Felipe Monteiro, and Alexandre Sztjanberg
Exception Handling for Service Component Architectures ..........................................................84
   Douglas Siqueira Leite, Cecilia Mary F. Rubira, and Fernando Castor

Session 4: Fault Injection: Practical Experience Reports and Tool
On Selecting Representative Faultloads to Guide the Evaluation of Ad Hoc Networks .................................94
   Jesús Friginal, David de Andrés, Juan-Carlos Ruiz, and Pedro Gil
Collecting, Analyzing and Archiving Results from Fault Injection Experiments ....................................100
   Jean Arlat and Regina Moraes
J-SWFIT: A Java Software Fault Injection Tool ........................................................................106
   Bruno Pacheco Sanches, Tânia Basso, and Regina Moraes

Session 5: Software Dependability: Assessment and Verification
RACME: A Framework to Support V&V and Certification ..........................................................116
   Andrea Ceccarelli, Lorenzo Vinerbi, Lorenzo Falai, and Andrea Bondavalli
Architecture-Based Criticality Assessment of Software Systems ..........................................................126
   Domenico Cotroneo, Antonio Pecchia, Roberto Pietrantuono, and Stefano Russo
Validation of Exception Handling in the Development of Dependable Component-Based Software Systems .................................136
   Jeferson Ferreira, Eliane Martins, Cecilia M. F. Rubira, and Patrick H. da Silva Brito

Session 6: Distributed Systems
A Self-Manageable Group Communication Protocol for Partially Synchronous Distributed Systems ........................................146
   Raimundo José de Araújo Macêdo, Allan Edgard Silva Freitas, and Alírio Santos de Sá
Load Balancing for Internet Distributed Services Using Limited Redirection Rates ....................................156
   Alan Massaru Nakai, Edmundo Madeira, and Luiz E. Buzato
Timing Analysis of Leader-Based and Decentralized Byzantine Consensus Algorithms ..........................166
   Fatemeh Borran, Martin Hutle, and André Schiper

Author Index ........................................................................................................................................176