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Soggetti	Computer communication systems Software engineering Programming languages (Electronic computers) Computer programming Operating systems (Computers) Computer Communication Networks Software Engineering/Programming and Operating Systems Programming Languages, Compilers, Interpreters Programming Techniques Software Engineering Operating Systems Aufsatzsammlung
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Formal Reasoning about Fault Tolerant Systems and Protocols -- Graphical Modelling for Simulation and Formal Analysis of Wireless Network Protocols -- Reasoning about System-Degradation and Fault-Recovery with Deontic Logic -- Temporal Verification of Fault-Tolerant Protocols -- Design and Verification of Fault-Tolerant Components -- Dynamically Detecting Faults via Integrity Constraints -- Fault Tolerance: Modelling in B -- Event-B Patterns for Specifying Fault-Tolerance in Multi-agent Interaction -- Formal Reasoning about Fault

Tolerance and Parallelism in Communicating Systems -- Formal Development of a Total Order Broadcast for Distributed Transactions Using Event-B -- Model-Based Testing Using Scenarios and Event-B Refinements -- Fault Tolerance in System Development Process -- Recording Process Documentation in the Presence of Failures -- DREP: A Requirements Engineering Process for Dependable Reactive Systems -- Documenting the Progress of the System Development -- Fault Tolerance Requirements Analysis Using Deviations in the CORRECT Development Process -- Fault Tolerant Applications -- Step-Wise Development of Resilient Ambient Campus Scenarios -- Using Inherent Service Redundancy and Diversity to Ensure Web Services Dependability.

Sommario/riassunto

The growing complexity of modern software systems makes it increasingly difficult to ensure the overall dependability of software-intensive systems. Mastering system complexity requires design techniques that support clear thinking and rigorous validation and verification. Formal design methods together with fault-tolerant design techniques help to achieve this. Therefore, there is a clear need for methods that enable rigorous modeling and the development of complex fault-tolerant systems. This book is an outcome of the workshop on Methods, Models and Tools for Fault Tolerance, MeMoT 2007, held in conjunction with the 6th international conference on Integrated Formal Methods, iFM 2007, in Oxford, UK, in July 2007. The authors of the best workshop papers were asked to enhance and expand their work, and a number of well-established researchers working in the area contributed invited chapters in addition. From the 15 refereed and revised papers presented, 12 are versions reworked from the workshop and 3 papers are invited. The articles are organized in four topical sections on: formal reasoning about fault-tolerant systems and protocols; fault tolerance: modelling in B; fault tolerance in system development process; and fault-tolerant applications.