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Sommario/riassunto	Over the last two decades, a major challenge for researchers working on modeling and evaluation of computer-based systems has been the assessment of system Non Functional Properties (NFP) such as performance, scalability, dependability and security. In this book, the authors present cutting-edge model-driven techniques for modeling and analysis of software dependability. Most of them are based on the use of UML as software specification language. From the software system specification point of view, such techniques exploit the

standard extension mechanisms of UML (i.e., UML profiling). UML profiles enable software engineers to add non-functional properties to the software model, in addition to the functional ones. The authors detail the state of the art on UML profile proposals for dependability specification and rigorously describe the trade-off they accomplish. The focus is mainly on RAMS (reliability, availability, maintainability and safety) properties. Among the existing profiles, they emphasize the DAM (Dependability Analysis and Modeling) profile, which attempts to unify, under a common umbrella, the previous UML profiles from literature, providing capabilities for dependability specification and analysis. In addition, they describe two prominent model-to-model transformation techniques, which support the generation of the analysis model and allow for further assessment of different RAMS properties. Case studies from different domains are also presented, in order to provide practitioners with examples of how to apply the aforementioned techniques. Researchers and students will learn basic dependability concepts and how to model them using UML and its extensions. They will alsogain insights into dependability analysis techniques through the use of appropriate modeling formalisms as well as of model-to-model transformation techniques for deriving dependability analysis models from UML specifications. Moreover, software practitioners will find a unified framework for the specification of dependability requirements and properties of UML, and will benefit from the detailed case studies.