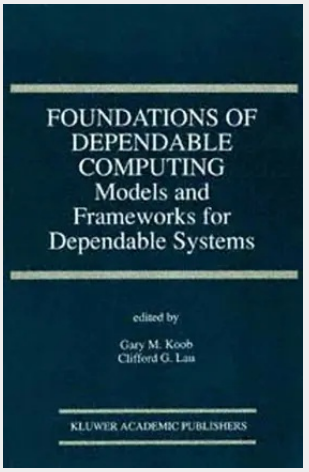
Koob / Lau

Foundations of Dependable Computing

Models and Frameworks for Dependable Systems



160,49 €
149,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780792394846
Medium: Buch
ISBN: 978-0-7923-9484-6
Verlag: Springer
Erscheinungstermin: 31.10.1994
Sprache(n): Englisch
Auflage: Erscheinungsjahr 1994
Serie: The Springer International Series in Engineering and Computer Science
Produktform: Gebunden
Gewicht: 1270 g
Seiten: 264
Format (B x H): 160 x 241 mm

presents two comprehensive frameworks for reasoning about system dependability, thereby establishing a context for understanding the roles played by specific approaches presented in this book's two companion volumes. It then explores the range of models and analysis methods necessary to design, validate and analyze dependable systems.
A companion to this book (published by Kluwer), subtitled , presents a variety of specific approaches to achieving dependability at the application level. Driven by the higher level fault models of , and built on the lower level abstractions implemented in a third companion book subtitled , these approaches demonstrate how dependability may be tuned to the requirements of an application, the fault environment, and the characteristics of the target platform. Three classes of paradigms are considered: protocol-based paradigms for distributed applications, algorithm-based paradigms for parallel applications, and approaches to exploiting application semantics in embedded real-time control systems.
Another companion book (published by Kluwer) subtitled , explores the system infrastructure needed to support the various paradigms of . Approaches to implementing support mechanisms and to incorporating additional appropriate levels of fault detection and fault tolerance at the processor, network, and operating system level are presented. A primary concern at these levels is balancing cost and performance against coverage and overall dependability. As these chapters demonstrate, low overhead, practical solutions are attainable and not necessarily incompatible with performance considerations. The section on innovative compiler support, in particular, demonstrates how the benefits of application specificity may be obtained while reducing hardware cost and run-time overhead.

Foundations of Dependable Computing: Models and Frameworks for Dependable Systems presents two comprehensive frameworks for reasoning about system dependability, thereby establishing a context for understanding the roles played by specific approaches presented in this book's two companion volumes. It then explores the range of models and analysis methods necessary to design, validate and analyze dependable systems. A companion to this book (published by Kluwer), subtitled Paradigms for Dependable Applications, presents a variety of specific approaches to achieving dependability at the application level. Driven by the higher level fault models of Models and Frameworks for Dependable Systems, and built on the lower level abstractions implemented in a third companion book subtitled System Implementation, these approaches demonstrate how dependability may be tuned to the requirements of an application, the fault environment, and the characteristics of the target platform. Three classes of paradigms are considered: protocol-based paradigms for distributed applications, algorithm-based paradigms for parallel applications, and approaches to exploiting application semantics in embedded real-time control systems. Another companion book (published by Kluwer) subtitled System Implementation, explores the system infrastructure needed to support the various paradigms of Paradigms for Dependable Applications. Approaches to implementing support mechanisms and to incorporating additional appropriate levels of fault detection and fault tolerance at the processor, network, and operating system level are presented. A primary concern at these levels is balancing cost and performance against coverage and overall dependability. As these chapters demonstrate, low overhead, practical solutions are attainable and not necessarily incompatible with performance considerations. The section on innovative compiler support, in particular, demonstrates how the benefits of application specificity may be obtained while reducing hardware cost and run-time overhead.

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)