

Real-Time Systems

Design Principles for Distributed Embedded Applications

"This book is a comprehensive text for the design of safety critical, hard real-time embedded systems. It offers a splendid example for the balanced, integrated treatment of systems and software engineering, helping readers tackle the hardest problems of advanced real-time system design, such as determinism, compositionality, timing and fault management. This book is an essential reading for advanced undergraduates and graduate students in a wide range of disciplines impacted by embedded computing and software. Its conceptual clarity, the style of explanations and the examples make the abstract concepts accessible for a wide audience."

Janos Sztipanovits, Director

E. Bronson Ingram Distinguished Professor of Engineering

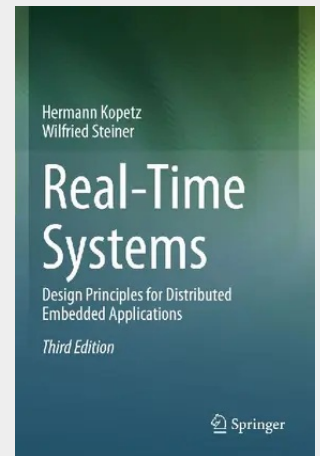
Institute for Software Integrated Systems

Vanderbilt University

Real-Time Systems focuses on hard real-time systems, which are computing systems that must meet their temporal specification in all anticipated load and fault scenarios. The book stresses the system aspects of distributed real-time applications, treating the issues of real-time, distribution and fault-tolerance from an integral point of view. A unique cross-fertilization of ideas and concepts between the academic and industrial worlds has led to the inclusion of many insightful examples from industry to explain the fundamental scientific concepts in a real-world setting. Compared to the Second Edition, new developments in communication standards for time-sensitive networks, such as TSN and Time-Triggered Ethernet are addressed. Furthermore, this edition includes a new chapter on real-time aspects in cloud and fog computing.

The book is written as a standard textbook for a high-level undergraduate or graduate course on real-time embedded systems or cyber-physical systems. Its practical approach to solving real-time problems, along with numerous summary exercises, makes it an excellent choice for researchers and practitioners alike.

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58,84 €

54,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783031119941

Medium: Buch

ISBN: 978-3-031-11994-1

Verlag: Springer

Erscheinungstermin: 25.09.2023

Sprache(n): Englisch

Auflage: Third Auflage 2022

Produktform: Kartoniert

Gewicht: 639 g

Seiten: 406

Format (B x H): 155 x 235 mm

