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Soggetti	Cooperating objects (Computer systems) Embedded computer systems Computers, Special purpose Operating systems (Computers) Electronic digital computers - Evaluation Cyber-Physical Systems Embedded Systems Special Purpose and Application-Based Systems Operating Systems System Performance and Evaluation Temps real (Informàtica) Sistemes incrustats (Informàtica) Processament distribuït de dades Llibres electrònics
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	The Real-Time Environment -- Simplicity -- Global Time -- Real-Time (RT) Model -- Temporal Relations -- Dependability -- Real-Time Communication -- Power and Energy Awareness -- Real-Time Operating Systems -- Real-Time Scheduling -- System Design -- Validation -- Internet of Things -- Cloud and Fog Computing.

Sommario/riassunto

"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.