

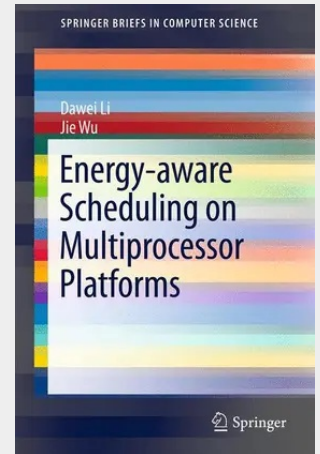
Energy-aware Scheduling on Multiprocessor Platforms

Multiprocessor platforms play important roles in modern computing systems, and appear in various applications, ranging from energy-limited hand-held devices to large data centers. As the performance requirements increase, energy-consumption in these systems also increases significantly. Dynamic Voltage and Frequency Scaling (DVFS), which allows processors to dynamically adjust the supply voltage and the clock frequency to operate on different power/energy levels, is considered an effective way to achieve the goal of energy-saving. This book surveys existing works that have been on energy-aware task scheduling on DVFS multiprocessor platforms. Energy-aware scheduling problems are intrinsically optimization problems, the formulations of which greatly depend on the platform and task models under consideration. Thus, *Energy-aware Scheduling on Multiprocessor Platforms* covers current research on this topic and classifies existing works according to two key standards, namely, homogeneity/heterogeneity of multiprocessor platforms and the task types considered. Under this classification, other sub-issues are also included, such as, slack reclamation, fixed/dynamic priority scheduling, partition-based/global scheduling, and application-specific power consumption, etc.

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53,49 €
49,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9781461452232
Medium: Buch
ISBN: 978-1-4614-5223-2
Verlag: Humana
Erscheinungstermin: 20.10.2012
Sprache(n): Englisch
Auflage: 2013
Serie: SpringerBriefs in Computer Science
Produktform: Kartoniert
Gewicht: 1182 g
Seiten: 59
Format (B x H): 155 x 235 mm

