The Cache Coherence Problem in Shared-Memory Multiprocessors. Software Solutions. Systems

Description: Almost all software solutions are developed through academic research and implemented only in prototype machines, thus leaving the field of software techniques for maintaining the cache coherence widely open for new research and development. This book is a collection of all the representative approaches to software coherence maintenance and includes a number of related studies in the performance evaluation field.

The illustrates state-of-the-art software solutions for cache coherence maintenance in shared-memory multiprocessors. It begins with a set of four overview of the cache coherence problem and introduces software solutions to the problem. The text defines and details static and dynamic software schemes, techniques for modeling performance evaluation mechanisms, and performance evaluation studies.

The book is intended for the experienced reader in computer engineering but possibly a novice in the topic of cache coherence. It also provides an in-depth understanding of the problem as well as a comprehensive overview for multicomputer designers, computer architects, and compiler writers. In addition, it is a software coherence reference handbook for advanced undergraduate and typical graduate students in multiprocessing and multiprogramming areas.

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