Preface

We are rapidly heading towards a world in which the computing infrastructure will contain billions of devices, which will interact with other computing/communications devices that are carried or worn by users as they go through their daily routines. Such devices will provide data access to mobile users as they move within buildings, cities, or across the globe. This new infrastructure presents tremendous challenges for data management technology, including: huge scale; variable and intermittent connectivity; location and context-aware applications; bandwidth, power, and device-size limitations; and multimedia data delivery across hybrid networks and systems. Traditional data management technologies such as query processing, transaction management, workflow, business process management, and metadata management must all be reevaluated in this emerging environment. Furthermore, nontraditional issues such as the semantics of mobile data, location-dependent querying, broadcast and multicast delivery, and caching/prefetching techniques must all be addressed. The ability to track people as they move about their daily tasks raises serious issues of security and privacy.

This conference is the fourth in the Mobile Data Management series, focusing on the challenges and opportunities for the management of data in mobile, pervasive, and wearable computing. MDM 2000 and 2001 were in Hong Kong and MDM 2002 was in Singapore.

Eighty-seven papers were submitted to the conference from 23 countries and were subject to a rigorous review procedure. Every paper had three or four independent reviews. Twenty-one full papers and 15 short papers from both academia and industry were selected for publication in this volume of proceedings.

The papers in this volume discuss topics such as information and storage management, location management and tracking, location- and context-aware services, adaptation, and resource discovery.

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