

Foreword

As computing has become more and more an integral part of our daily business and personal lives, the trend of ubiquitous computing will transform the way in which businesses will work and collaborate. The well-known fact of a huge community of users on the Internet (1,100 million users as of March 2007) will be complemented by at least one order of magnitude higher (10,000 millions of artificial users) instantiated by machines, sensors and things connected to the Internet. More precise data will be generated and accumulated that enable completely new business scenarios for the future. The fact of being connected to that universe of human users and artificial users will speed up decisions in business (real-time enterprise) and enable those who can master the infrastructure and the application services on top of the infrastructure to be more competitive than others. Application fields from logistics to e-health, from supply-chain management and manufacturing to public security will benefit from the fact that the “Internet of Things” and the “Internet of People” converge using an “Internet of Services” architecture.

I would like to congratulate Professor Mühlhäuser and Dr. Gurevych for their comprehensive overview of ubiquitous computing scenarios, real world examples and architectural blueprints that combine the various elements into insights into the vision of how the virtual world will interact with the physical world. I would also like to thank my colleagues from SAP Research and the SAP senior executives who have been supporting the research program of “smart items,” which has produced many excellent results over the last eight years that are also reflected in this book.

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Joachim Schaper received his Diploma (1988) and PhD (1995) from the Technical University of Karlsruhe. Since 1989, he worked for Digital Equipment Corp. in their European Research Center, CEC Karlsruhe. He became the manager of that center, which in turn became part of SAP AG Corporate Research (1999). In 2001, Schaper took over additional responsibilities as a founding manager of the Corporate Research Groups at SAP Labs France and SAP Africa. From 2003 to 2005, he managed the SAP Research Center in Palo Alto and a research group in Montreal. A vice president of EMEA, Schaper is responsible for all research activities of SAP in Europe, Middle East, and Africa, reporting to the head of corporate research and to the executive board. His research interests comply with the topics investigated in the SAP research groups on e-learning, smart items, mobile computing, and technology for application integration and advanced customer interfaces.