

Elisa Bertino · Stavros Christodoulakis
Dimitris Plexousakis · Vassilis Christophides
Manolis Koubarakis · Klemens Böhm
Elena Ferrari (Eds.)

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Advances in Database Technology – EDBT 2004

9th International Conference on Extending Database Technology
Heraklion, Crete, Greece, March 2004
Proceedings

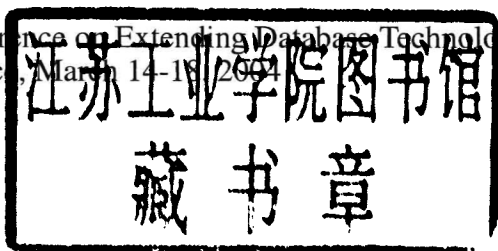


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Preface

The 9th International Conference on Extending Database Technology, EDBT 2004, was held in Heraklion, Crete, Greece, during March 14–18, 2004. The EDBT series of conferences is an established and prestigious forum for the exchange of the latest research results in data management. Held every two years in an attractive European location, the conference provides unique opportunities for database researchers, practitioners, developers, and users to explore new ideas, techniques, and tools, and to exchange experiences. The previous events were held in Venice, Vienna, Cambridge, Avignon, Valencia, Konstanz, and Prague.

EDBT 2004 had the theme “new challenges for database technology,” with the goal of encouraging researchers to take a greater interest in the current exciting technological and application advancements and to devise and address new research and development directions for database technology. From its early days, database technology has been challenged and advanced by new uses and applications, and it continues to evolve along with application requirements and hardware advances. Today’s DBMS technology faces yet several new challenges. Technological trends and new computation paradigms, and applications such as pervasive and ubiquitous computing, grid computing, bioinformatics, trust management, virtual communities, and digital asset management, to name just a few, require database technology to be deployed in a variety of environments and for a number of different purposes. Such an extensive deployment will also require trustworthy, resilient database systems, as well as easy-to-manage and flexible ones, to which we can entrust our data in whatever form they are.

The call for papers attracted a very large number of submissions, including 294 research papers and 22 software demo proposals. The program committee selected 42 research papers, 2 industrial and application papers, and 15 software demos. The program was complemented by three keynote speeches, by Rick Hull, Keith Jeffery, and Bhavani Thuraisingham, and two panels.

This volume collects all papers and software demos presented at the conference, in addition to an invited paper. The research papers cover a broad variety of topics, ranging from well-established topics like data mining and indexing techniques to more innovative topics such as peer-to-peer systems and trustworthy systems. We hope that these proceedings will serve as a valuable reference for data management researchers and developers.

Many people contributed to EDBT 2004. Clearly, foremost thanks go to the authors of all submitted papers. The increased number of submissions, compared to the previous years, showed that the database area is nowadays a key technological area with many exciting research directions. We are grateful for the dedication and hard work of all program committee members who made the review process both thorough and effective. We also thank the external referees for their important contribution to the review process.

In addition to those who contributed to the review process, there are many others who helped to make the conference a success. Special thanks go to Lida Harami for maintaining the EDBT 2004 conference Web site, to Christiana Daskalaki for helping with the proceedings material, and to Triaena Tours and Congress for the logistics and organizational support. The financial and in-kind support by the conference sponsors is gratefully acknowledged.

December 2003

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Converged Services: A Hidden Challenge for the Web Services Paradigm

Richard Hull

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The web has brought a revolution in sharing information and in human-computer interaction. The web services paradigm (based initially on standards such as SOAP, WSDL, UDDI, BPEL) will bring the next revolution, enabling flexible, intricate, and largely automated interactions between web-resident services and applications. But the telecommunications world is also changing, from isolated, monolithic legacy stove-pipes, to a much more modular, internet-style framework that will enable rich flexibility in creating communication and collaboration services. This will be enabled by the existing Parlay/OSA standard and emerging standards for all-IP networks, (e.g., 3GPP IMS). We are evolving towards a world of “converged” services, not two parallel worlds of web services vs. telecom services.

Converged services will arise in a variety of contexts, e.g., e-commerce and mobile commerce, collaboration systems, interactive games, education, and entertainment. This talk begins by discussing standards for the web and telecom, identifying key aspects that may need to evolve as the two networks converge. We then highlight research challenges created by the emergence of converged services along three dimensions: (1) profile data management, (2) preferences management, and (3) services composition. For (1) we describe a proposal from the wireless telecom community for giving services the end-user profile data they need, while respecting end-user concerns re privacy and data sharing [SHLX03]. For (2) we describe an approach to supporting high-speed preferences management, whereby service providers can inexpensively cater to the needs of a broad variety of applications and categories of end-users [HKL⁺03b,HKL⁺04]. We also discuss the issue of “federated policy management”, which arises because policies around end-user preferences will be distributed across multiple applications and network components [HKL03a]. For (3) we discuss an emerging technology for composing web services based on behavioral signatures [BFHS03,HBCS03] and a key contrast between web services and telecom services [CKH⁺01].

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