Ajit Pal Ajay D. Kshemkalyani Rajeev Kumar Arobinda Gupta (Eds.)

Distributed Computing – IWDC 2005

7th International Workshop Kharagpur, India, December 2005 Proceedings



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7th International Workshop Kharagpur, India, December 27-30, 2005 Proceedings



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General Chairs' Message

It all started as a small sapling, sowed in 1999, as the first workshop. Within a short span of time, it grew considerably in dimension, intensity, participation, and impact. IWDC is presently a recognized name among the symposia and conferences in the area of Distributed Computing and bears the testimony of serious works of the researchers and academics working in the area. One salient feature of IWDC is that it is held in the different academic centers of India and has acted as a great impetus in fostering research in the area of Distributed Computing in India. The Seventh International Workshop on Distributed Computing, IWDC 2005, is being held at the Indian Institute of Technology, Kharagpur, one of the premier technology institutes in India. Kharagpur is very conveniently placed out of the bustle of the big metropolis, yet in close proximity to Kolkata, a major city in India, thus providing an ideal environment for academic brainstorming. As the General Chairs of the conference, we extend to you a very hearty welcome to IWDC 2005.

Over the years, IWDC has retained its character of not being drowned in the magnitude of the conference and losing the scope of close interactions and academic discussions. We are sure that this year will be no exception . The Program Committee has painstakingly carried out the review process and has set up a program that is rich in content and quality. The Organizing Committee has put in all efforts to make the conference smooth sailing and provide you with a comfortable stay. Putting all the pieces together is not an easy task and the efforts would not have been successful without the benevolence of the sponsors.

We are thankful to our sponsors HP India Ltd., Tata Consultancy Ltd., Microsoft Research, Cappemini, and General Motors, for their generous support in making the conference a success. Our sincere thanks are due to the Program Chairs Ajit Pal and Ajay Kshemkalyani for their efforts in putting together an exciting program. We are grateful to the Keynote Chair Sajal Das for arranging five highquality keynote talks by eminent persons in this field. We are thankful to David Peleg, Walter Brooks, Taieb Znati, and Viktor Prasanna for delivering keynote talks in the conference. We thank L.M. Patnaik for agreeing to deliver the A.K. Choudhury Memorial Lecture at the conference this year. As in previous years, we have been able to set up a number of interesting and relevant tutorials. This has been made possible through the untiring efforts of the Tutorial Chairs Somprakash Bandyopadhyay and Archan Mishra. We are also grateful to Arup Acharya, R. Badrinath, Sajal K. Das, and Pradip K. Srimani for agreeing to present tutorials at the conference. Special thanks are due to our Publication Chair, Rajeev Kumar, who has put a tremendous amount of effort into compiling the final proceedings. We also thank the Finance Chair, Shamik Sural, for organizing financial support for the conference, and our Publicity Chairs, Abhijit Das, and Sandip Sen, for the great work they did in publicizing the event across the world.

VI Preface

We also thank all the members of the Organizing Committee, Arobinda Gupta, Ajit Pal, Shamik Sural, Indranil Sengupta, Abhijit Das, Dipankar Sarkar, Jayanta Mukhopadhyay, Pallab Dasgupta, Debasish Samanta, Soumya Ghosh, Arijit Bishnu, Pabitra Mitra, and Sudeshna Sarkar, for their efforts. We are grateful to the Indian Institute of Technology Kharagpur, and in particular to Prof. S.C. De Sarkar, Head, School of Information Technology and Deputy Director, IIT Kharagpur, for extending the logistic support to the conference. Prof. De Sarkar is also a member of the Steering Committee of IWDC. Last but not the least, we also thank Prof. Sukumar Ghosh, who is heading the IWDC Steering Committee, for his guidance and his continuous support and advice.

No academic meeting can achieve its desired end without the contributions of the authors, reviewers, and the participants. We extend our heartfelt thanks to all of them for making the event a success. We sincerely hope that this event will be a valuable addition to the Distributed Computing research endeavor.

December 2005

Anupam Basu Michel Raynal

Program Chairs' Message

On behalf of the Program Committee of the 7th International Workshop on Distributed Computing (IWDC) 2005, it is our great pleasure to welcome all of you to Kharagpur, India. Our goal has been to put together a rich technical program, including high-quality technical papers and state-of-the-art tutorials and invited talks.

The conference received 253 submissions in response to the call for papers. About 10% of the submissions were from Europe and the Americas, 41% from India, and 49% from the rest of Asia and Australia. The Program Committee, comprising 53 distinguished experts in the field, with the help of several external reviewers, provided very detailed and rigorous reviews in most cases, and we were able to obtain at least three reviews for almost every paper in a timely manner. Based on three weeks of intense deliberations over the reviews, 30 regular papers (12 pages each) and 35 short papers (6 pages each) were accepted for the program. This represents an acceptance rate of about 25.7%. Finally, for various reasons, a few additional papers were excluded, and 28 regular papers and 33 short papers were finally accepted for inclusion in the technical program, which has been organized in two tracks and is spread across 13 sessions. The program also contains four invited keynote papers and talks by David Peleg (Weizmann), Walter Brooks (NASA), Viktor K. Prasanna (USC), and Taieb Znati (U. Pittsburgh). The traditional A.K. Choudhury Memorial Lecture will be delivered by Lalit M. Patnaik (IISc). Tutorials on state-of-the-art themes will be given by R. Badrinath, Sajal Das, Arup Acharya, and Pradip K. Srimani.

We would like to express our sincere thanks to all whose efforts and participation have made this conference possible. Firstly, we thank all the authors who submitted their work to the conference. We are greatly indebted to the PC members and the external reviewers for submitting detailed reviews. We thank the Keynote Speakers for accepting our invitation. Thanks to Keynote Chair Sajal Das for organizing the invited talks from highly eminent researchers. We also thank the Tutorial Speakers for agreeing to provide a valuable service to the research community. Tutorial Chairs Somprakash Bandyopadhyay and Archan Mishra have organized a great tutorial program. Organizing Chair Arobinda Gupta not only organized all the hospitality and logistics down to the smallest detail but also played an important role in coordinating the paper review process.

Publication Chair Rajeev Kumar, as well as Arobinda Gupta, deserve special thanks for their painstaking efforts in editing the proceedings. Thanks to our student volunteers Plaban Bhowmick and Sushanta Karmakar who have put immense efforts into format checking and correcting the files to bring them to the present form. We also thank Anirban Sarkar for developing the Web pages and the online submission software, and for customizing it dynamically during the submission and review process.

VIII Preface

Once again we welcome all the delegates to the exciting technical program of IWDC 2005 and hope you enjoy the pleasant winter of Kharagpur in December.

December 2005

Ajit Pal Ajay Kshemkalyani

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