



Dependable Computing and Fault-Tolerant Systems

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*Responsive
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With 96 Figures

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FOREWORD

For the second time the International Workshop on Responsive Computer Systems has brought together a group of international experts from the fields of real-time computing, distributed computing, and fault-tolerant systems. The two day workshop met at the splendid facilities at the KDD Research and Development Laboratories at Kamifukuoka, Saitama, in Japan on October 1 and 2, 1992. The program included a keynote address, a panel discussion and, in addition to the opening and closing session, six sessions of submitted presentations.

The keynote address "The Concepts and Technologies of Dependable and Real-time Computer Systems for Shinkansen Train Control" covered the architecture of the computer control system behind a very responsive, i.e., timely and reliable, transport system—the Shinkansen Train. It has been fascinating to listen to the operational experience with a large fault-tolerant computer application. "What are the Key Paradigms in the Integration of Timeliness and Reliability?" was the topic of the lively panel discussion. Once again the pro's and con's of the time-triggered versus the event-triggered paradigm in the design of a real-time systems were discussed. The eighteen submitted presentations covered diverse topics about important issues in the design of responsive systems and a session on progress reports about leading edge research projects. Lively discussions characterized both days of the meeting.

This volume contains the revised presentations that incorporate some of the discussions that occurred during the meeting. Since it is hardly possible to record the engaged discussions without interrupting the flow of the arguments during the event, the interested reader is invited to attend the Third Workshop on Responsive Systems, to be held in New Hampshire from September 28 to October 1, 1993, if he/she wants to get the full spirit of the meeting.

At this point we would like to express our gratitude to the members of the program committee who have carefully reviewed the submitted papers. We would also like to thank the General Chairman, Tohru Kikuno and Mirsolaw Malek for their expert guidance and dedicated support of the Program Committee. If the work can be measured by the number of e-mail interactions during the preparation of this meeting, here is a short statistics. There exchanged 161 messages between University of Texas at Austin and Osaka University for organization of

the workshop and 75 messages between Technical University of Vienna and Osaka University for determination of the technical program.

Last but not least, special thanks are due to staff members of *KDD R&D* Laboratories, especially Hironori Saito, for their endless efforts and dedication to making the workshop successful, Yukio Mohri, *NihonUnisysLtd.* for his outstanding job in the production of the workshop proceedings, and Hideki Yunitomo, a graduate student of Osaka University, for his excellent work in reformatting the papers for this volume.

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