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Bringing Telecommunication Services to the People – IS&N '95

Third International Conference
on Intelligence in Broadband Services and Networks
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Preface

This book contains the Proceedings of an International Conference (IS&N95) addressing the technologies required for the effective engineering of telecommunications service software - a discipline which is called *Service Engineering.*

A key enabler for applications addressing the future needs of the 'information society' is the deployment of an integrated telecommunications service infrastructure which can support multi-media, multi-party, interactive and distributive communications. This telecommunications service infrastructure needs to operate across heterogeneous fixed and mobile networks and hide the complexity of the underlying network technologies from the users of this infrastructure, be they telematic applications or human users. Major constituents of the telecommunications service infrastructure are the distributed processing software systems which implement the communications services and provide the control and management of the underlying networks.

In the increasingly competitive environment developing for telecommunications services, new services will need to be conceptualised, and created rapidly and cost-effectively in response to user requirements. To meet this challenge, service engineering has now emerged as a new engineering discipline. As such it is strongly related to software engineering, adapting the appropriate best practices from that discipline. In particular, Object-Orientation and Open Distributed Processing, are being adopted to meet the needs of the new telecommunications services market place.

Many of the papers in the book reference the results of a group of RACE* projects which have been undertaking research and development in the area of *Intelligence in Services and Networks (IS&N).* However, it is not solely the purpose of this book to record the results of the RACE IS&N projects. Many of the selected papers describe related work in other programmes (in particular, TINA), together with a contribution from Australia. The scope of the work is extensive and complex, and all interested parties need to share their experiences and converge to a common understanding, if the goal of "*openness*" is to be achieved.

This scope of the IS&N area in RACE includes:

Service Architecture - defining and validating a framework architecture which can be used to constrain and support the design of re-usable, interoperable components of user and management communication services. An open distributed processing object-oriented architecture, embedding concepts of IN and TMN, is the goal of this work.

Usability - addressing user requirements for advanced telecommunications services, usability aspects of existing and new services, and design guidelines to ensure usability of any and every new service.

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* Further information about the RACE and ACTS programme can be obtained from the European Commission DG XIII-B/BU9 Rue de la Loi, 200 B-1049 Brussels Belgium. e-mail: aco@postman.dg13.cec.be tel: +32 2 296 3415 fax: +32 2 295 0654

Communications Management - the evolution of a standardised TMN reference configuration with particular emphasis on service management (including the management of IN services) and its relationship with network management, inter-domain management, and customer access to service and network management facilities.

Advanced Communication Service Concepts - in particular, the definition of Personal Service Communication Space (PSCS) which encompasses facilities for personal mobility, advanced UPT, and personalised call management.

Security of telecommunications services - the development of validated specifications, guidelines and technology for practical and effective information security for the realisation and operation of advanced telecommunications-based applications and services.

Service Creation - definition and validation of processes, methods, and tools for the development of telecommunications service software.

RACE is a collaborative, pre-competitive research and development programme into advanced telecommunications technologies in Europe, partially funded by the European Union. The RACE programme, which started in 1987, is coming to an end in 1995, to be followed by the ACTS programme. The theme for ACTS is *"making it work"* with the focus of the IS&N related activities on validating new service engineering concepts in the context of user-driven experiments and trials of advanced telecommunications services. Whilst RACE has been a predominantly European programme, ACTS recognises the global nature of telecommunications services, with participation from non-European countries and active encouragement of linkage between ACTS related trials and similar trials in other countries.

The presentation of these papers at IS&N95 led to the crystallisation of concepts and methodologies on issues and technologies for future development of the global telecommunications service environment. Some of these issues will be tested in the forthcoming ACTs programme. It is expected that the next conference in this series will report on further advances in this exciting field.

The book is a result of a call for papers for the conference, which resulted in a total of 88 contributions received for evaluation. A careful selection process has resulted in 44 full papers and 8 poster papers presented at the conference and printed in this book. Introductions to the topics are provided by the session chairmen, who were active in editing the technical material for their sessions.

The editors would like to thank all contributors and session chairmen for their effort and co-operation, which has made this book possible. A special thank you goes to Allison White who was vital in bringing the papers together into a common format.

Mario Campolargo
Anne Clarke
Nikos Karatzas

August 1995

List of Referees

Serious and detailed reviews are an essential foundation for the quality of the papers selected. The reviewers for the papers presented in this book have fulfilled their role diligently. It is therefore a great pleasure to thank them as well as the authors for their efforts.

Marco de Alberdi
Gordon Allison
Anne Clarke
Chris Condon
Keith Dickerson
Phil Fisher
Panos Georgatsos
Carmelita Goerg
David Griffin
Carsten Gym
Nick Hine
Kersten Keil
Malcolm Key
Ulf Larsson
Joanna McCaffrey
Patrick McLaughlin
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