PREFACE

This is the first issue of the *CiTR Technical Journal.* It contains all technical papers written by CiTR staff and published during the year of 1995. The journal covers a wide range of research results, including:

- theoretical research in distributed technology and telecommunication
- experience gained from software development projects in network and service management
- open standards contributions and analysis

CiTR is a leading-edge software company providing customer solutions in telecommunication network and service management, and in distributed systems and information systems. CiTR aims to provide to our customers innovative, open-standards based solutions which will not only satisfy the customer's business requirements but also survive inevitable technological evolution and migration. Our commitment to managed industrial research is always demonstrated in our software development practice. This journal further demonstrates our commitment to research and to innovation in solutions for our customers.

This journal consists of 10 papers.

Telecommunication Service Management was first presented at the OpenView Forum conference in June 1995 in Seattle, USA. The paper discusses how HP's OpenView technology can be used to provide service management functionality for the TMN environment. The paper was revised and appeared as the cover story in *Data Communications OpenView Advisor* in October 1995.

Integrating CORBA and TMN Environments is a revision of a presentation made by the authors to the 5th IEEE/IFIP Network Operations and Management Symposium in April 1996 in Kyoto, Japan. The paper was initially accepted in October 1995 and a version of it was presented to the Network Management Forum (NMF) SMART Ordering Group Meeting in London in October 1995. It was also presented to the Object Management Group (OMG) Telecommunication Special Interest Group in Brisbane in March 1996. The paper discusses different strategies for integrating CORBA technology with OSI technology to provide a distributed management environment for TMN networks and services.

Transactional Workflow for Telecommunication Service Management is a revision of a poster session presented by its authors to the 5th IEEE/IFIP Network Operations and Management Symposium in April 1996 in Kyoto, Japan. The paper was initially accepted in October 1995 and a version of it was presented in the Network Management Forum's SMART Ordering Group Meeting in London in October 1995. The paper discusses how workflow technology can benefit from transaction capability to produce a useful technology framework for telecommunication service provisioning and management.

Customer Network Management was published by *Data Communications International* in its October 1995 issue. The paper discusses issues and experiences in customer network management in the telecommunication industry. A further development of this research led to a paper presentation at the 5th IEEE/IFIP Network Operations and Management Symposium in April 1996 in Kyoto, Japan.

Distributed Transaction Processing Standards and Their Applications was published in the *Journal of Computer Interfaces and Standards* in 1995. The paper is a revised version of an expert contribution to the ISO IEC/JTC1 SC21 Working Group 3 Database Language Group in 1994. The paper discusses ISO OSI transaction processing technology and its applications in database and systems management.

A General Resource Discovery System for Open Distributed Processing was presented in the 3rd IFIP TC 6/WG 6.1 International Conference on Open Distributed Processing in Brisbane, February 1995. It was also included as a book chapter in *Open Distributed Processing—Experiences with distributed environments* published by Chapman & Hall.

An Openview Based ATM Network Management System reports the authors' experience in building ATM-based network management systems using HP's OpenView. The paper was presented at the OpenView Forum conference in June 1995 in Seattle, USA.

A Network Management System for the FASTPAC 2 Service reports the authors' experience in building the FASTPAC 2 network and service management system for Telstra. The paper was first published by the Institution of Engineers, Australia, and the Institute of Radio and Electronics Engineers in the *Journal of Electrical and Electronic Engineering*, Vol. 15, No. 2, June 1995.

An Architecture for Intelligent (Smart) Agents was first presented at the OpenView Forum conference in June 1995 in Seattle, USA. The paper discusses an architecture for intelligent agents in network management. The author also served as a panellist in a session on intelligent agent technology at the same conference.

On Deductive Databases with Incomplete Information was first published by the ACM Inc. in the *ACM Transactions on Information Systems*, Vol. 13, No. 3, July 1995. It contains the authors' early research in deductive databases.

Some papers involve co-authors from other organisations. I would like to thank them for agreeing to include their joint work in this journal.

I would like to thank all the authors for contributing their work to this journal. A lot of work from CiTR's Research and Development Group has gone into the production of this journal for which I would like to thank the full team. CiTR's Technical Communication Group, in particular, Erica Lee and Andrew Baker, provided the editing of the manuscripts and the design of the art work which made this journal possible.

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