Table of Contents

International Symposium on Distributed Objects and Applications — DOA’99

Preface ix
Organization Committee xi
Program Committee and Referees xii
Keynotes xiv

Keynote I
Que Sera Sera: The Coincidental Confluence of Economics, Business, and Collaborative Computing xiv
Michael Brodie (GTE)

Track I: Bindings
A Framework for Policy Bindings 2
Ø. Hanssen, F. Eliassen
StratO Sphere: Unification of Code, Data, Location, Scope, and Mobility 12
D. Wu, D. Agrawal, A. Abbadi

Track II: Agents
An Agent-based Search Engine based on the Internet Search Service on the CORBA 26
Y. Chang, H. Hsieh, S. Yuan, W. Lo
Using Mobile Agents for Parallel Processing 34
L. Silva, V. Batista, P. Martins, G. Soares

Track I: Database Aspects
PJ RMI: Remote Method Invocation for a Persistent System 44
S. Spence
The Data Network: A Distributed Object View of Dynamic Data Management 54
M. Machura

Track II: Database Aspects
A Model for Java/CORBA and OODBMS Distributed Architectures 68
L. Mazzucchelli
Distributing Mapping Objects with the Geospatial Information Database 77
M. Chung, R. Wilson, K. Shaw, M. Cobb

Track I: Fault Tolerance
Fault-Injection Experiments for Distributed Objects 88
P. Chung, W. Lee, J. Shih, S. Yajnik, Y. Huang
Multicast Group Communication for CORBA ____________________________________________________98
  L. Moser, P. Melliar-Smith, P. Narasimhan, R. Koch, K. Berket

Track II: Performance

High Performance Distributed Objects using Caching Proxies for Large Scale Applications_________110
  P. Martin, V. Callaghan, A. Clark

The Performance of a Real-time I/O Subsystem for QoS-enabled ORB Middleware____________________120
  F. Kuhns, D. Schmidt, D. Levine

Track I: Replication and Fault Tolerance

Failure Detectors as First Class Objects ________________________________________________________132
  P. Felber, X. Défago, R. Guerraoui, P. Oser

Pseudo-Active Replication of Distributed Objects in Wide-Area Networks __________________________142
  H. Higaki, K. Tanaka, M. Takizawa

Track II: Replication and Load Balancing

Quorum-based Locking Protocol for Replicated Objects ___________________________________________150
  K. Tanaka, H. Higaki, M. Takizawa

Load Distribution in a CORBA Environment ____________________________________________________158
  T. Barth, G. Flender, B. Freisleben, F. Thilo

Track I: Case Studies

Storage Access Coordination using CORBA ______________________________________________________168
  A. Sim, H. Nordberg, L. Bernardo, A. Shoshani, D. Rotem

DeepView: A Channel for Distributed Microscopy _______________________________________________176
  B. Parvin, J. Taylor, G. Cong

Developing a Global Standard for Interoperable Accounting Systems ____________________________183
  R. Barnett, T. Neple, J. Hassall

Track II: Interoperability

Interoperability of Java-based Applications and SAP’s Business Framework State of the Art and
Desirable Developments _________________________________________________________________190
  M. Aleksy, A. Korthaus

Enabling Flexible Cross-Version Interoperability from Distributed Services _________________________201
  T. Senivongse

Active COM: An Inter-Working Framework for CORBA and DCOM _________________________________211
  J. Daniel, B. Traverson, V. Vallee

Keynote II

A Distributed Object Web-Publishing Environment using CORBA __________________________________xv
  Al Issa (CNN, USA)