Table of Contents

Keynotes
Chair: Hideo Aiso

Java and the Emerging Technology
Ken Urquhart

Transcopyright: A Simple Legal Arrangement for Sharing, Re-use, and Republication of Copyrighted Material on the Net
Theodor Holm Nelson

Session A-1: Distributed Programming Languages/Systems
Chair: Mario Tokoro

Building Secure and Reliable Network Applications
Kenneth P. Birman

HORB: Distributed Execution of Java Programs
Satoshi Hirano

Performance of the MESSENGERS Autonomous-Objects-Based System
Munehiro Fukuda, Lubomir F. Bic, Michael B. Dillencourt

Session A-2: Distributed Objects Environments
Chair: Mikio Aoyama

Engineering Component-Based Systems with Distributed Object Technology
Kurt Wallnau, Edwin Morris, Peter Feiler, Anthony Earl, Emile Litvak

Local Class Name Space Facility for Worldwide Object-Oriented Distributed Systems Environment
Toshihiro Nishioka, Yoichi Hamazaki, Michiharu Tsukamoto

A Component-Oriented Architecture to Design Multimedia Services on a Distributed Platform
Lidia Fuentes, Jose Maria Troya
Session B-1: Cooperative Computation
Chair: Hideyuki Nakashima

Teamwork via Team Plans in Intelligent Autonomous Agent Systems...... 106
Lawrence Cavedon, Anand Rao, Liz Sonenberg, 
Gil Tidhar

WISH: A Web Information Sharing System Accessible via the WWW...... 122
Hiromi Mizuno, Hideyuki Fukuoka

Organic Programming for Cooperative Computation..................... 133
Hideyuki Nakashima

Session B-2: Collaboration Support Systems
Co-Chairs: Ken-ichi Okada, Jonathan T. Grudin

Emerging Groupware Successes in Major Corporations: Studies of 
Adoption and Adaptation........................................... 142
Jonathan Grudin, Leysia Palen

An Approach toward Fits Evaluation between Organizational 
Culture and Groupware................................................ 154
Toshihiko Yamakami

A Realization of a Reflection of Personal Information on Distributed 
Brainstorming Environment..................................... 166
Kunihiko Fujita, Susumu Kunifuji

Session B-3: Collaborative Media
Chair: Yoshifumi Masunaga

A Hybrid Approach to Multimedia Database Systems through 
Integration of Semantics and Media-Based Search ................. 182
Wen-Syan Li, Kasim Selçuk Candan, Kyoji Hirata, 
Yoshinori Hara

The Universal B-tree for Multidimensional Indexing: General 
Concepts................................................................. 198
Rudolf Bayer

Spatial Views and LOD-based Access Control in VRML-object 
Databases............................................................. 210
Masaki Kamiura, Hiroaki Oiso, Keishi Tajima, 
Katsumi Tanaka
Session B-4: Novel Distributed Applications
Chair: Jiro Tanaka

Metacomputing and Data-Intensive Applications ........................................ 226
Paul Messina

Architectural Issues of Database Systems in Advanced Computer Networks ........................................ 237
Shojiro Nishio, Masahiko Tsukamoto

Aglets: Programming Mobile Agents in Java ........................................ 253
Danny B. Lange, Mitsuru Oshima, Günter Karjoth, Kazuya Kosaka

Session C-1: Internet and Protocols
Chair: Kilnam Chon

WWW Cache Management and Its International Deployment ................. 267
Suguru Yamaguchi, Ken-ichi Chinen, Hiroyuki Inoue

VINES: Distributed Algorithms for a Web Based Distributed Network Management System .................. 281
Glenn Mansfield, Elias P. Duarte Jr., Masako Kitahashi, Shoichi Noguchi

An Algorithm for Cost-Delay Balanced Trees and Its Application to Wide Area Network Multicast ................. 294
Pavlin I. Radoslavov, Takehiro Tokuda

Session C-2: Distributed System Platform
Chair: Hideyuki Tokuda

Server Initiated Delivery of Multimedia Information ................. 309
Robert J. Kummerfeld

Dynamic Loadable Object Support for Real-Time Mach Kernels .......... 318
Satoshi Moriai, Hideyuki Tokuda

A Micro-kernel for Isochronous Video-Data Transfer .................. 334
Masaaki Iwasaki, Tadashi Takeuchi, Masahiko Nakahara, Shouji Nakamura, Takahiro Nakano, Kazuyoshi Serizawa, Shihoko Taguchi
Session C-3: Mobile Computing
Chair: Tadanori Mizuno

Metaspaces and Mobile Computing: Promises and Challenges ............... 350
Eric G. Manning, Shahadat Khan, Rodger Lea,
Gholamali C. Shoja, Michael M. J. Zastre

Position Locking: Handling Location Dependent Queries in Mobile
Computing Environment ...................................................... 363
Budiarto, Kaname Harumoto, Masahiko Tsukamoto,
Shojiro Nishio

Robust Host Mobility Supports for Adaptive Mobile Applications......... 379
Akihiro Hokimoto, Tatsuo Nakajima

Session C-4: Application Gateways
Chair: Masaya Nakayama

Access Control for Inter-Organizational Computer Network
Environment ................................................................. 394
Masato Terada, Yuko Murayama, Glenn Mansfield

The World Wide Shell Based on the Object-Stacking Model ............... 410
Yasushi Shinjo

DeleGate: A General Purpose Application Level Gateway ............... 426
Yutaka Sato, Yoichi Hamazaki

Author-Index ................................................................. 443