

Advance Program (Ver. I) for ISORC '99

The 2nd IEEE International Symposium on Object-oriented Real-time Distributed Computing

*May 2 – 5, 1999
Palais du Grand Large
35 407 Saint-Malo
France*

*Sponsored by
IEEE Computer Society TC
on Distributed Processing*

*In cooperation with
IFIP WG 10.4
OMG
INRIA*

(URL of ISORC'99 Web: <http://www.informatik.uni-ulm.de/rs/isorc99.html>)

Timetable (Tentative)

<p><u>May 3rd (Mon)</u> 8:00 - 8:45 Registration 8:45 - 9:00 Opening 9:00 - 10:00 Invited Talk 10:30 - 12:30 Analysis and Design I 12:30 - 14:00 Lunch 14:00 - 15:30 Middleware and Operating Systems I 16:00 - 17:30 Application 17:30 - 19:00 Panel I</p> <p><u>May 4th (Tue)</u> 9:00 - 10:00 Parallel Session 10:30 - 11:00 Panel Block 11:00 - 12:30 Panel II</p>	<p>12:30 - 14:00 Lunch 14:00 - 15:30 Middleware and Operating Systems II 16:00 - 18:00 QoS Assurance</p> <p><u>May 5th (Wed)</u> 9:00 - 10:00 Parallel Session 10:30 - 11:00 Panel Block 11:00 - 12:30 Panel III 12:30 - 14:00 Lunch 14:00 - 15:30 Resource Management 16:00 - 17:30 Analysis and Design II 17:30 - 17:45 Conclusion and Closing</p>
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Scope : The ISORC-99 is the second in ISORC series dealing with the emerging object-oriented real-time distributed computing (ORC) technology. The ORC is a rapidly growing young technological field. The ISORC reflects the increasing interest in this field which has outgrown the capacity of smaller workshops. The ISORC was created with the goal of becoming an exemplary symposium series with respect to the maintenance of an open symposium spirit encouraging the discussion of diverse views and new findings.

The main technical theme of the ISORC is how to extend the well established object-oriented computing technology, i.e., the technology that has prevailed the non-real-time business data processing field in the past decade, into the technologies that are effectively applicable to various classes of real-time applications.

Tentative Program

Monday, May 3rd, 1999

8:45 Opening

9:00 Invited Talk

(Jay Bayne : Johnson Controls)

10:00 –12:30

Analysis and Design I

Rogério de Lemos, Alexander Romanovsky
Exception Handling in a Cooperative Object-Oriented Approach

Stefan Leue, Gerard Holzmann
v-Promela: A Visual Object-Oriented Language for Spin

H. Kopetz, E. Fuchs, D. Millinger, R. Nossal
An Interface as a Design Object

M. Mortazavi, J. Connell
A Unified Process for the Integration of large Scale, Distributed Object-Oriented Real-Time Systems in Layered Architectures

14:00 – 15:30

Middleware and Operating Systems I

D. Beuche, A. Guerrouat, H. Papajewski, W. Schroeder-Preikschat, O. Spinczyk, U. Spinczyk
A PURE Family of Object Oriented Operating Systems for Deeply Embedded Systems

K. Kim, Masaki Ishida, Juqiang Liu
Middleware Architecture Supporting Time-Triggered Message Triggered Objects and an NT-based Implementation

S. Wohlever, V.F. Wolfe, B. Thuraisingham, R. Freedman, J. Maurer
CORBA-based Real-time Trader Service for Adaptable Command and Control Systems

16:00 – 17:30

Applications

W. Fleisch
Applying Use Cases for the Requirements Validation of Component-Based Real-Time Software

J. Axelsson
Holistic Object-Oriented Modeling of Distributed Automotive Real-Time Control Applications

R. Sinnott, M. Kolberg
Creating Telecommunication Services based on Object-Oriented Frameworks and SDL

17:30 – 19:00

Panel I: Current Practice and Future Research in Object Real-time Computing

Discussion will focus on what Object Technology can bring to deployed ORC systems, and in particular what (1) works now, and (2) "requires more research."

Chair: Richard Soley (or Michel Gien)

Panelists:

- Bill Foote (Sun Microsystems)
- Doug Locke (Lockheed Martin)
- Doug Jensen (Mitre Corporation)
- Jean-Bernard Stefani (France Telecom)
- Gary Donnan (Alcatel)

Tuesday, May 4th, 1999

9:00 – 10:00

Parallel Session

Tools and Services

A. A. Hanish, T. S. Dillon
A Tool for Object-Oriented Dynamic Modeling

T. Nishiyama
Using a Process Warehouse Concept, A Practical Method for Successful Technology Transfer

I. Kogiku, M. Katayama, T. Hoshiai

Sense: A Service Navigation System linked to a Real-time Advertising Distributed Service

Modeling and Evaluation

Y. Matsui, S. Kihara, A. Mitsuzawa, S. Moriai, H. Tokuda
An Extensible Object Model for QoS Specification in Adaptive QoS Systems

L. Bacellar
Quantitative Evaluation of Distributed Object-Oriented Programming Environment For Real-Time Applications

A. Bondavalli, I. Majzik, I. Mura
Automated Dependability Analysis of UML Designs

10:30 – 12:30

Panel Block

J. Rufino, P. Verissimo, G. Arroz
Embedded Platforms for Distributed Real-Time Computing: Challenges and Results

11:00 – 12:30

Panel II: Object Techniques for Resource Constraint Architectures

Discussion will focus on timing and dependability for the external constraints and on all types of scarce resources usually encountered in Embedded Systems for the implementation constraints. Key issues will be compositionality, scalability, modeling techniques and evaluation techniques.

Chair: Dieter Hammer (Eindhoven Uni. Netherland)

Panelists:

- Mehmet Aksit (Twente Uni. Of Technology)
- Greg Bollella (IBM)
- Dieter Hammer (Eindhoven University of Technology)
- Edwin de Jong (Hollands Signal)
- Sjir van Loo, (Philips Research)

- Julien Maisonneuve (Alcatel Corporate Research)

14:00 – 15:30

Middleware and Operating Systems II

M. Gergeleit, E. Nett, C.E. Pereira, L.B. Becker, A.P. Flores
An Integrated Environment for the Complete Development Cycle of an Object-Oriented Real-Time System

J. Kaiser, M. Mock
Implementing the Real-Time Publisher/Subscriber Model

A. Polze, J. Richling, J. Schwarz, M. Malek
Towards Predictable CORBA-based Web-Services

16:00 – 18:00

QoS Assurance

T. Kanazuka, H. Higaki, M. Takizawa
Quality-based Compensation of Multimedia Objects

S. Chatterjee, B. Sabata, M. Brown
Adaptive QoS Support for Distributed, Java-based Applications

D. Le Tien, O. Villin, C. Bac
Resource Managers for QoS in CORBA

R. Schantz, J. Zinky, D. Karr, D. Bakken, J. Megquier, et al.
An Object-level Gateway Supporting Integrated Property Quality of Service

Wednesday, May 5th

9:00 – 10:00

Parallel Session

Software Architecture

T. Nakajima
A Framework for Building Environment-Aware Software

T. Usländer, Francois-Xavier Lebas
OPERA: A CORBA-based Architecture Enabling Distributed Real-Time Simulations

J. Maisonneuve, S. Chabridon
The PERCO Platform

Fault Tolerance

T. Kamiya, S. Kusumoto, K. Inoue
Prediction of Fault-proness at Early Phase in Object-Oriented Development

R. Balsoni, S. Bonamoneta, C. Marchetti
Implementing Highly Available WWW Servers based on Passive Object Replication

P. D. Ezhilchelvan, S. Shrivastava
Enhancing Replica Management Services to Tolerate Group Failures

10:30 – 12:00

Panel Block

P. Carriere, J.-F. Hermant, G. Le Lann
In Pursuit of Correct Paradigms for Object-Oriented Real-Time Distributed Systems

11:00 – 12:00

Panel III: Which models and architectures of distributed real-time computing systems suit which application areas?

Chair: Gerard LeLann (Inria, France)

Panelists:

- Emmanuel Fuchs (Thomson-Airsys)
- Kane Kim (UC Irvine)
- Hermann Kopetz (Technical University of Vienna)

- Tom Lawrence (US Air Force, Rome Lab.)

- Gerard Le Lann, (INRIA)

- Laurent Leboucher (CNET)

14:00 – 15:30

Resource Management

V. Kalogeraki, P.M. Melliar-Smith, L.E. Moser
Using Multiple Feedback Loops for Object Profiling, Scheduling and Migration in Soft Real-Time Distributed Object Systems

C. Montez, J. Fraga, R. Oliveira, J.-M. Farines
An Adaptive Scheduling Approach in Real-Time CORBA

E. Anceaume, G. Cabillic, P. Chevochot, I. Puaut
A Flexible Run-time Support for Distributed Dependable Hard Real-time Applications

16:00 – 17:30

Analysis and Design II

L. Thomas, T. Lambolais, R. Lesieur
Architectural Techniques for the Description and Validation of Distributed Real-Time Systems

B. Selic
Protocols and Ports: Reusable Inter-Object Behavior Patterns

A. Silberman, A. Stoyen, K. Sundaram
The Use of Task Graphs for Modeling Complex System Behavior

17:30 – 17:45

Conclusion and Closing

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