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Sponsored by the

**Distributed
Intelligent Systems**

Technical Committee

Organizers

The JADE Board (Telecom Italia Lab, Motorola, Whitestein Technologies AG, Profactor Research GmbH, and France Telecom)

Time, Location, and Registration

To be announced. www.ieeesmc2004.tudelft.nl

About JADE

JADE (Java Agent DEvelopment Framework) is a software framework fully implemented in Java. It allows reducing the time-to-market for developing distributed multi-agent applications by providing a set of ready and easy-to-use functionalities that comply with the standard FIPA specifications and a set of tools that supports the debugging and monitoring phases. FIPA is the international standardization body for software agent technologies. (www.fipa.org)

JADE has been widely used over the last years by many organizations (both industrial and academic) in a variety of contexts: research projects, industrial prototyping, tutorials, and as a teaching support for agent-related courses in many Universities all over the world.

JADE is extremely versatile and its features and footprint can also fit the constraints of environments with limited resources, such as java-enabled mobile phone devices J2ME-CLDC MIDP 1.0. It has been also integrated into complex architectures such as .NET or J2EE where JADE becomes a service to execute multi-party proactive applications.

JADE is a free software distributed by TILAB, the copyright holder, in open source under the terms of the LGPL (Lesser General Public License Version 2). Since May 2003, the JADE Board supervises the management of the project.

The latest version of JADE is JADE 3.1, which has been released on 17 December 2003.

Tutorial Purpose

The aim of this tutorial is to provide a walk through all the main functionalities provided by JADE; a set of examples will show how to concretely use these functionalities to build agent-based applications.

Each participant will receive a CD with all the material used and needed for the course, in particular the JADE installation, the sources under the limitations of the LGPL license, the manuals, and all the examples and slides used in the course.

Intended Audience and Pre-requisites

The tutorial is aimed at software developers who are willing to learn and/or improve how to define and implement collaborative and distributed systems based on the software agent paradigm.

Important pre-requisites are a good knowledge of Java programming and a general knowledge of the software agent technology principles. It is recommended that attendees bring their personal notebook computers, with Java JDK 1.4 and PDF reader already installed.

Skills Gained

- Overview of the standard FIPA specifications and understanding of how to walk through all the various FIPA documents
- Usage of graphical tools to administer a JADE platform and to monitor and debug a JADE multi-agent system
- Development of JADE-based agents
- Ontology support in JADE and usage of the Protege plug-in
- Deployment of JADE agents on J2ME platforms and wireless terminals

Programme

The FIPA specifications (Monique Calisti)

- Introduction to Multi-agent systems and FIPA
- Walk through the FIPA documents
- The most relevant FIPA specifications (agent management, agent platform, envelope, AMS, DF, content language, ACL, interaction protocols, ontologies)

Using JADE (Fabio Bellifemine)

- What is JADE
- Main features of JADE
- How to install and use JADE
- Graphical tools to monitor and debug agent systems
- Configuring JADE

JADE for J2ME (Giovanni Caire)

- Brief introduction to J2ME/MIDP
- Main differences with J2SE version of JADE
- How to configure and run

Programming with JADE (Giovanni Caire)

- JADE Agents – the Agent class
- agent Tasks – the Behaviour class
- agent communication – the ACLMessage class
- yellow page service – the DFService class
- some advanced features

Demos and examples of applications (Alois Reitbauer)

About the Instructors

Fabio Bellifemine

Fabio L. Bellifemine is a senior project manager at the Department of Services and Multi-media of TILAB, Torino. He graduated in Computer Science from the University of Torino in 1988 and, prior to joining TILAB, until 1994 he held a researcher position at the Italian National Research Council. Since 1997, he is interested in the multi-agent system research and he is involved in the FIPA standardization body where he currently chairs the FIPA Architecture Board. In 1999 and 2002 he received a diploma from FIPA for its outstanding contribution to the activity. He is the leader of the JADE project and president of the JADE Board.

Monique Calisti

Monique Calisti is vice-president of the Research and Consulting group of Whitestein Technologies AG. She is currently responsible for Whitestein's participation and technical contribution to various national and international research projects and several activities (such as consulting, scientific editing, publishing, students' supervision). Currently, she is actively involved

in two European projects (IST 6th FP), AgentLink III and PALCOM, as wok package leader. Actively involved in FIPA, the standardization body for software agent technology, since 1998, she has been working in several technical working groups, acted as editor of the FIPA Content Language Library, and (since 2001) as a member of the FIPA Board of Directors and chair of the FIPA Image Committee. After her graduation from the University of Bologna (Italy) in Electrical Engineering in 1996, she obtained her first PhD in Telecommunication Engineering. She then attended the post-graduate School in Telecommunication Systems at the Swiss Federal institute of Technology of Lausanne (EPFL), before finally joining the Artificial Intelligence Laboratory of EPFL, where she obtained in 2001 a second PhD in Computer Science.

Giovanni Caire

Giovanni Caire received his Degree in Engineering at “Politecnico di Torino” in 1992. He joined CSELT in 1993 where he started working within the End-user Services division - Multimedia and Video Services department. He was engaged in several projects in the field of audio visual technologies and in particular he was the coordinator of the European project ATMAN that dealt with the trading of audio visual contents. Since 1998 his interest is in the field of intelligent agent technology. He has been actively participating in the design and implementation of the JADE agent development framework, in compliance with the FIPA Specifications. In 2001, within the scope of the European project LEAP, he leded the group that successfully accomplished the porting of JADE on wireless devices. Currently he is the Technical Leader in the JADE Board, an international organization with the mission of promoting the evolution and the adoption of JADE by the mobile telecommunications industry.

Alois Reitbauer

Alois Reitbauer received his degree in Software Engineering in 2002. He is working in the Multi-Agent Systems Group of Profactor Research in Austria. Before joining Profactor he was working as a systems architect for testing and monitoring systems for distributed applications. Additionally he has a background a consultant for training developers in novel technologies and methods. Alois is the technical coordinator of the EU research project MaBE, which aims at the development of an open infrastructure for distributed agent-based application development. He is also a member of the JADE Board and involved in FIPA standardization activities.

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