The April Agent Platform
Features and Summary

Dr Luigi Ceccaroni
Dr Jonathan Dale
Network Agent Research Group
Fujitsu Laboratories of America

John Knottenbelt
Department of Computing
Imperial College of Science, Technology and Medicine

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Introduction

• What is the AAP?
• April and the InterAgent Communications Model
• Features
• Communication Model
• Platform Organization
• AAP in Use
• Downloading
What is the AAP?

- A FIPA-compliant agent platform
- Provides services to facilitate the development and deployment of agents on the Internet
- Primary purpose is a platform for research and experimentation in agent technology and deployment
- Intended to be used by anybody interested in agents, not only researchers
- Written in the April programming language and using the ICM communications infrastructure
April and the ICM

- April is designed for multi-agent systems:
  - Distributed symbolic programming
  - Extensible language (macro layer)
  - Higher-order programming (can treat code as data and pass it from one process to another over the Web)
  - Pattern based language (patterns are an extension and a simplification of Prolog unification)
  - Process oriented language (loosely connected processes which interact via message passing only)

- InterAgent Communications Model (ICM) is a distributed message passing system:
  - Message encoding
  - Delivery and routing
# Features of the AAP

## FIPA Experimental Specifications (FIPA 2000)

### Parsers
- FIPA ACL Parser
- FIPA SL Parser (SL0/1/2)
- XML
- XML Namespaces
- RDF(S)

### Platform Services
- **Transports**
  - HTTP
  - ICM
- **Platform Services**
  - AMS (white pages)
  - DF (yellow pages)
  - MTS (transport service)
- **Ontologies**
  - Frame descriptors

### General
- **Services**
  - Ping Agent (AC Network)
  - Platform Query Agent (for AMS and DF)
- **Sample Agents / Services**
  - Weather Service
  - Weather Query Agent
- **Coming soon**
  - DAML+OIL
  - DAML-S
  - ISO KIF
Communication Model in the AAP

InterAgent Communications Model

- AMS Server
- DF Server
- AMS Agent
- DF Agent
- Non-FIPA ACL Agent

Protocols:
- HTTP Protocol
- SMTP Protocol
- XML Protocol
- Other Protocol
The AAP in Action

• Being used in the Agentcities.RTD network:
  – To build various domain services such as:
    ▪ Weather
    ▪ Cinema
    ▪ Hotel
    ▪ Restaurant
    ▪ Taxi
  – The Evening Organizer application for San Francisco

• Being used in by Imperial College London:
  – The implementation for one of the London cities
  – Basis for a personal profiling system for Personal Agents (ratings and reviews services)

• Being used by Fujitsu:
  – Basis for a pervasive computing infrastructure (location and context-aware services)
Conclusions

• AAP built on a principle of modularity which gives flexibility and extensibility
• Not built on one technology philosophy; can integrate different standardization efforts and technology support
• Services are abstracted through agent wrapping which provides easier integration with legacy systems
• April is an advanced programming language with is expressly designed for building distributed systems
Download Details

• Distribution contains:
  – Core platform components and agents
  – Documentation
  – Sample agents and services

• Open source license (GNU Public License)
  – Collaborative open source project

• Available on SourceForge.net:
  http://www.sourceforge.net/projects/networkagent