

# FIPA-OS Overview

<http://fipa-os.sf.net>

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# Schedule

- FIPA-OS in a Nutshell
- FIPA-OS & emorphia
- FIPA-OS Features
- Who is using FIPA-OS?
- How to use FIPA-OS

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# FIPA-OS in a Nutshell

- A 'reference implementation' of the FIPA open standard for agent interoperability
  - Enables adoption of FIPA without the need to implement the specifications
- **Open Source. Royalty Free for commercial use.**
- Component-based toolkit enabling rapid development of FIPA compliant agents.
- Supports the majority of the FIPA Experimental specifications
- Continuously improved as a managed Open Source project
- Developed using sound software engineering principals, e.g.
  - Design Patterns
  - Coding standard
  - Software reuse
- Started in August 1999, 14+ formal releases to date (40,000+ downloads)
- Easy to use and extend

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# FIPA-OS & emorpha

- emorpha manage the Open Source project
  - Generate formal releases
- FIPA-OS is developed/tested by emorpha & a growing list of contributors
  - See <http://fipa-os.sf.net/contributors.htm> for details
  - Defined process for contributors
- emorpha employ the initial developers of FIPA-OS from Nortel Networks

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# FIPA-OS Features

- API available for JDK1.1 and JDK1.2 (100% pure Java)
- Agent deployment for small footprint devices and PCs
- Integration with commercial database & messaging solutions
- Integration with JESS
- Suite of developer tools:
  - Automatic installer
  - Configuration Wizard
  - Agent Loader (manage start-up/shutdown of agents)
  - MessageSpy (provides graphical representation of messages exchanged)
  - IOTestAgent (manual debug tool for agent comms)
  - Task generator (reduces coding required)
  - DF GUI (visualises registered agents)
- Comprehensive documentation, including:
  - Developer's Guide
  - Range of Tutorials
- Runtime FIPA platform, including AMS & DF

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# Who is using FIPA-OS?

- Numerous European projects, including:
  - CRUMPET
  - SHUFFLE
  - PATTERNS
  - NGNi - SMONET
  - AgentCities
- Commercial organisations, including:
  - MITRE
  - Jefferson labs
  - Fiat
  - emorpha
- Universities around the world, including
  - University of Helsinki
  - University of Saskatchewan
  - University of Ottawa
  - Carleton University
  - Nottingham Trent, UK
  - QM-UL, UK
  - Czech Technical University
  - Unersidad Conplutense de Madrid
  - Informatics Institute of Computer Studies
  - Saarland University
  - University of York

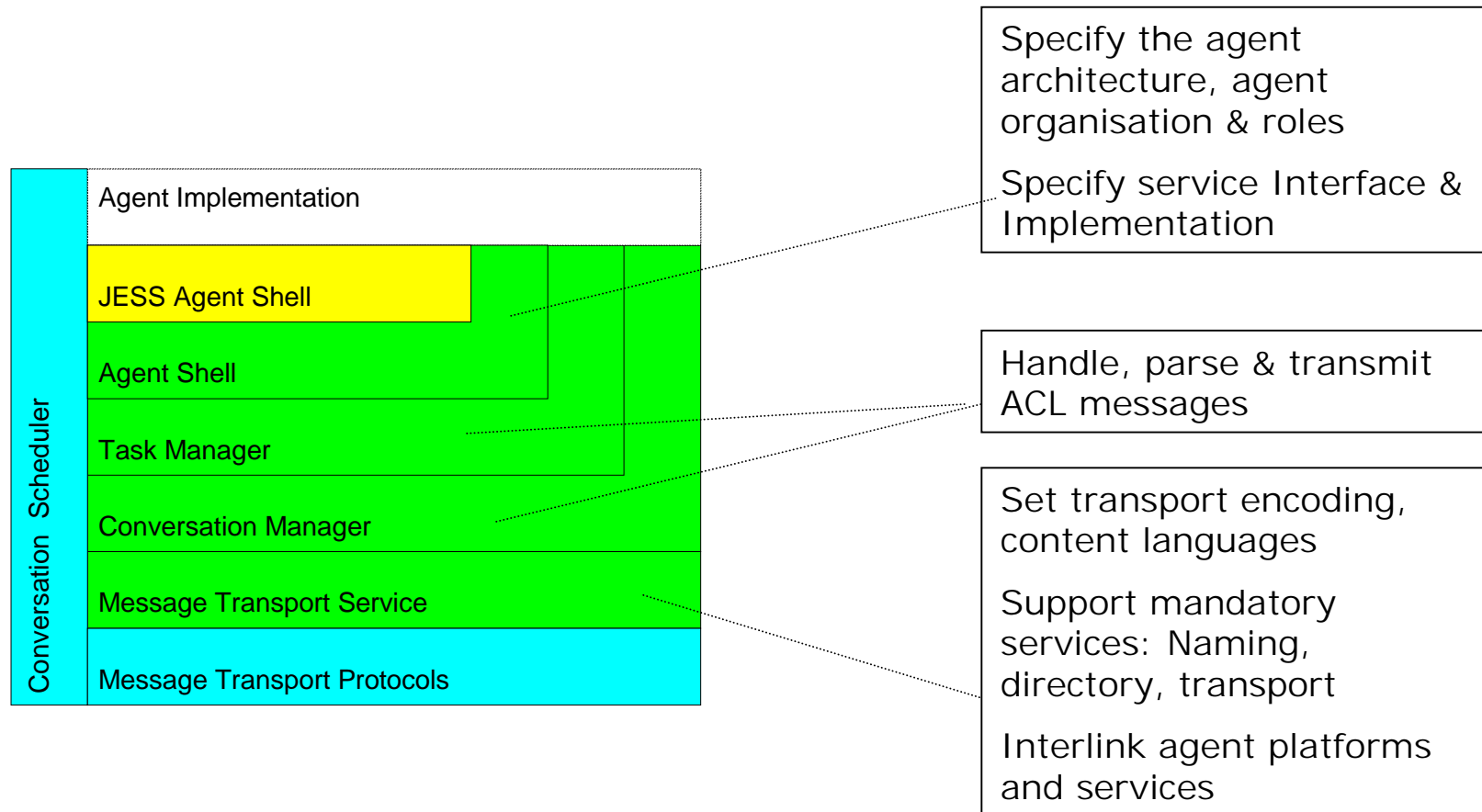
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# How to use FIPA-OS

1. Download from [fipa-os.sf.net](http://fipa-os.sf.net)
2. Run the Installer
3. Use Task Generator tool to produce skeleton tasks
  - All agents extend the AgentShell through the implementation of Tasks
4. Complete the domain specific tasks (Java coding)
5. Run & test your agent system with the Agent Loader

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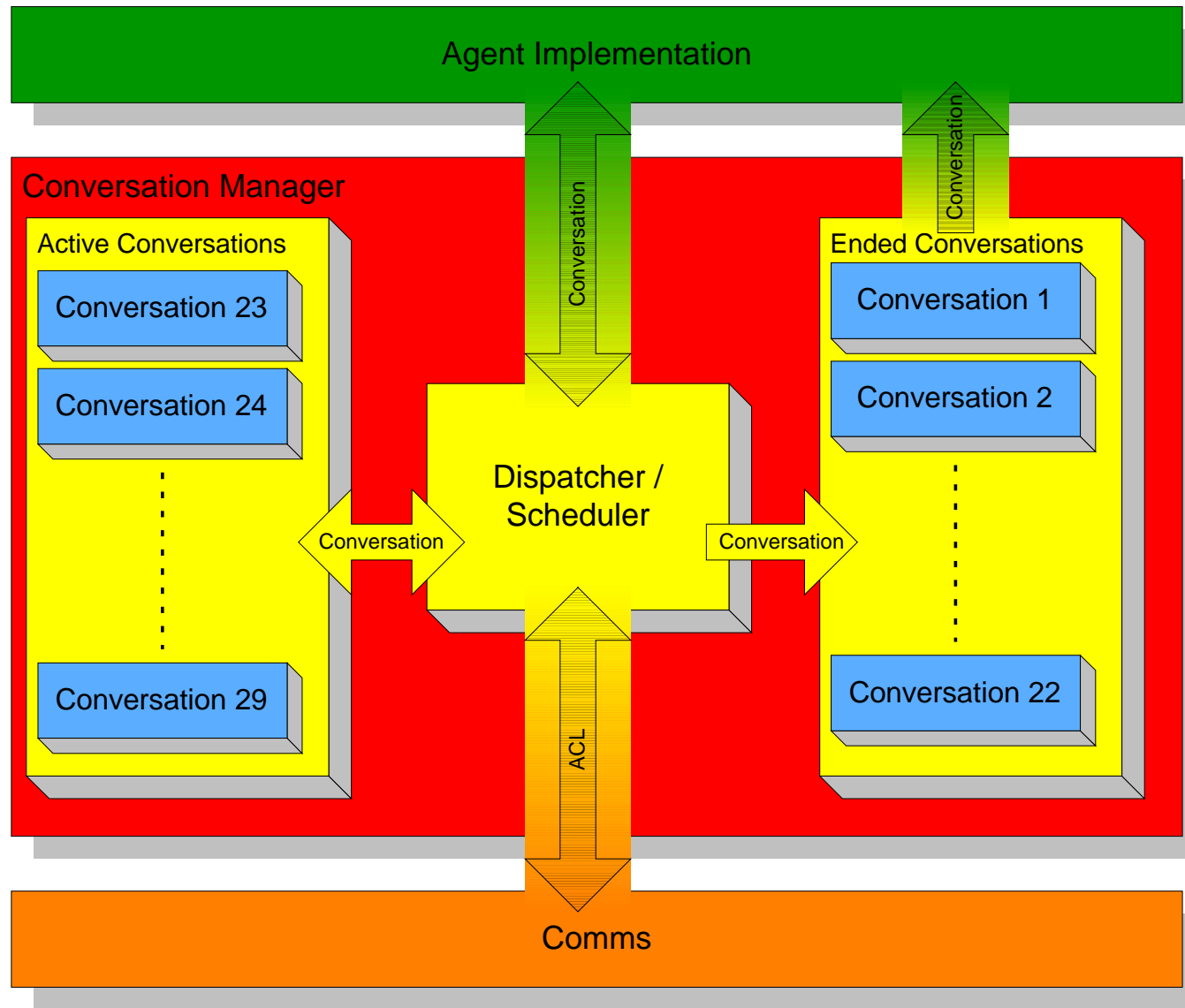
# Developing agents & services



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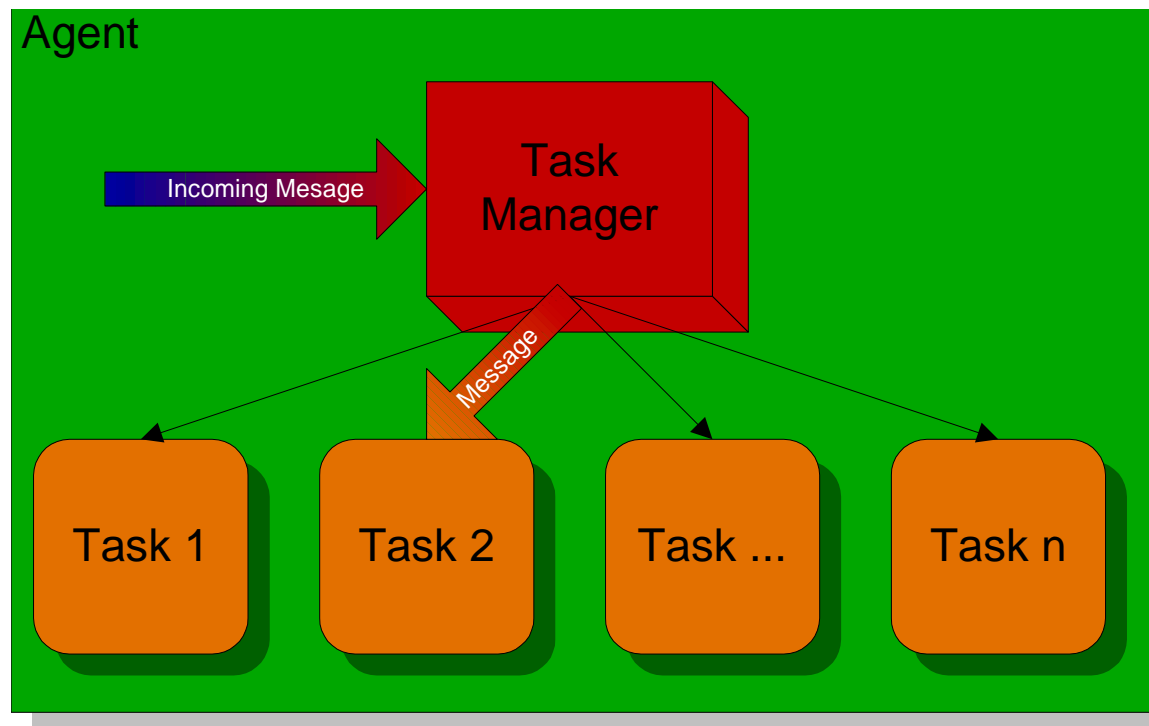
# FIPA-OS Conversation Manager



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# FIPA-OS: Task Manager

- Separates agent 'tasks' into distinct objects
- Messages are automatically routed to the correct state
- Inter-task events are possible



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- supports the majority of the FIPA Experimental specifications
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Downloads & documentation available from:

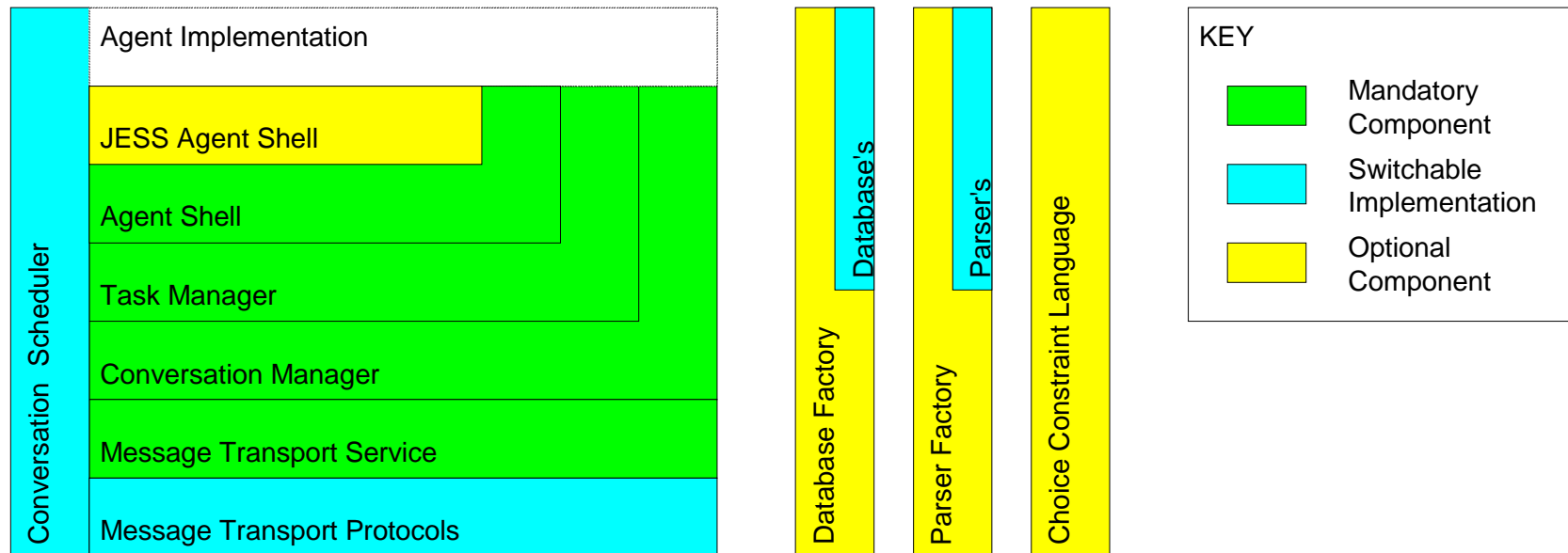
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# Backup

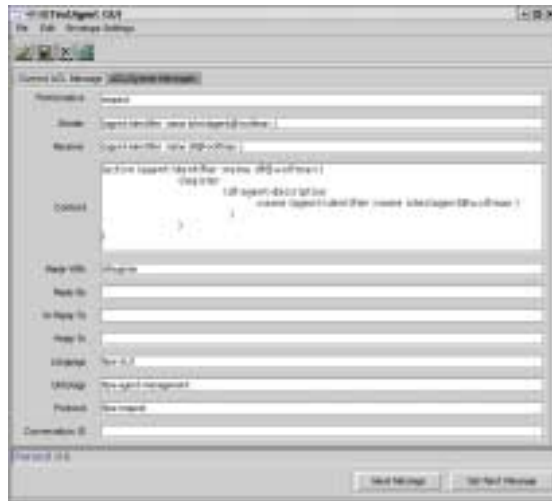
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# High Level Architecture of FIPA-OS Agent Shell



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# FIPA-OS Tools



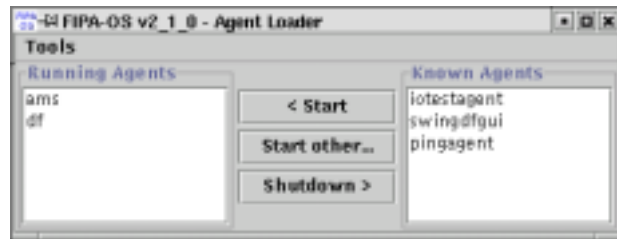
IOTestAgent



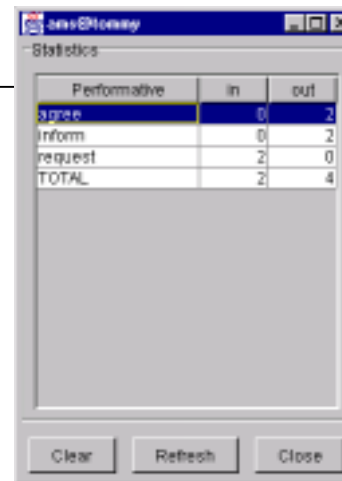
FIPA-OS



DFGUI



Agent Loader



Message Spy



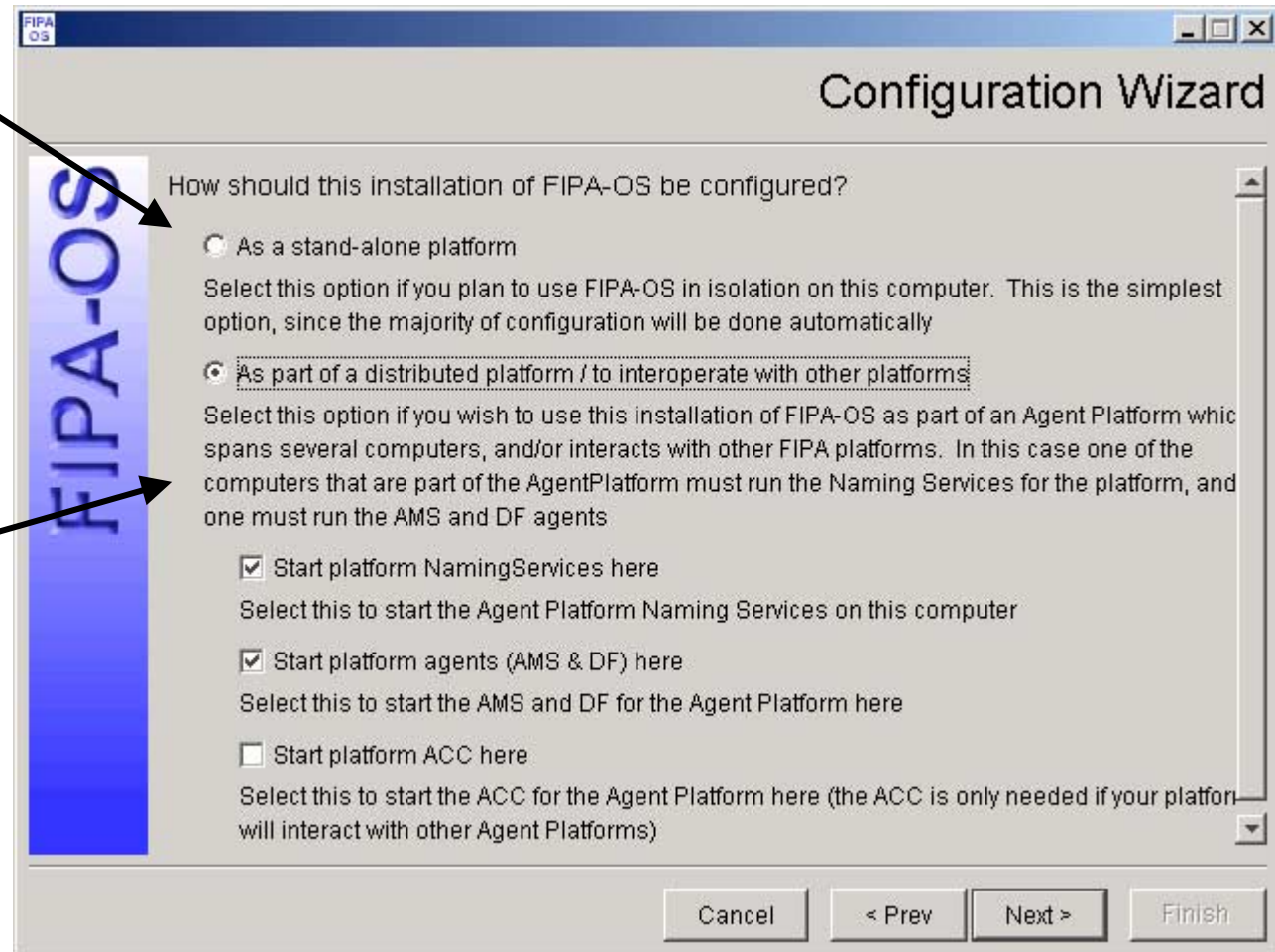
Task Generator

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# Configuration Wizard

Stand-alone for simple development

Distributed platform for serious development



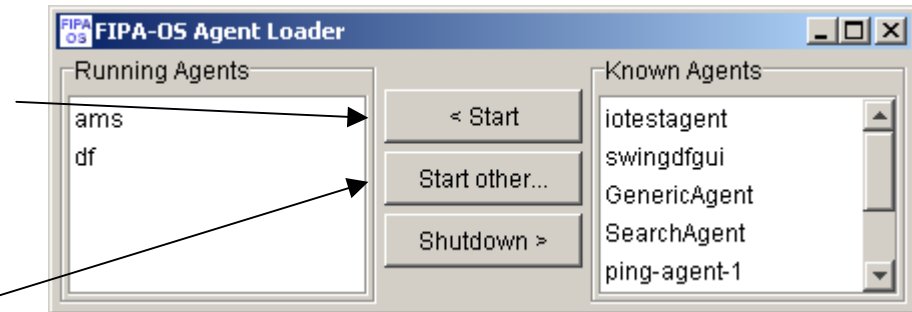
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# Starting Up

- By starting the Agent Loader, the platform agents (DF, AMS) will start up
- New agents can be started by selecting them in the right list, and clicking “Start”
- Unlisted agents can be started by selecting “Start other...”

- **Exercise**

- Install and Configure FIPA-OS using the Wizard for a ‘stand alone platform’
- Install the Tutorial agents
- Start-up the platform using the AgentLoader (StartFIPA-OS)



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