

## Agent Platforms Overview

If you miss a specific agent platform in this list we are happy if you could add it. For this you only need to register at this Wiki and can then help improve the completeness.



JADE is a FIPA-compliant stable and efficient open-source agent platform that is developed by the TILAB. Jadex is build on top of JADE and therefore uses the basic JADE functionalities. JADE is widely used as well in research as in commercial projects and has a very active user and developer community.



JACK is the leading edge commercial BDI-agent toolkit. It represents a legal successor of PRS and dMars, but uses a intuitive language that extends the Java programming language with certain agent specific keywords. It is the first platform with support for capabilities and generic team structures, but does not yet support the FIPA-specifications.



The Living Systems Technology Suite (LS/TS) provides an industry-grade, Java-based foundation for the professional development and operation of products and solutions based on software agent technology and autonomic computing. LS/TS is compatible with your existing IT

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infrastructure. It seamlessly blends in, and adds the features and functionality required to design, build, and operate robust and well-performing business solutions that make use of the advanced properties of software agents and Multi Agent Systems (MAS), and autonomic computing.



[ADK](#)

The agent development kit (ADK) is a commercial agent platform that emphasizes the mobility and security aspects. It is used in several commercial projects especially for legacy system integration.



Cougaar follows a "Cognitive Agent Architecture" and is a DARPA-funded open-source agent platform, that offers special support for logistics problems. The platform is not FIPA-compliant.

[Cougaar](#)



[Cybele](#)

In today's growing market for agent-based solutions, CybelePro provides its users with a robust high-performance infrastructure for rapid development and deployment of large-scale, high performance agent-based systems. CybelePro is the commercial release of Intelligent Automation, Inc.'s Cybele agent infrastructure that has been used extensively by the government, industry and academia for applications such as military logistics, modeling, simulation and control of air and ground transportation, communication networks and a development of open systems.



[Soar](#)  
[SoarTechnology](#)

Soar is a general cognitive architecture for developing systems that exhibit intelligent behavior. Achieving human-level reasoning and decision-making for autonomous systems requires agents that are capable of reasoning through large volumes of knowledge. A key element is the ability to resolve conflicts, solve problems, and operate in ambiguous and uncertain situations in the same way as a human expert. At Soar Technology, we develop these agents for use in training systems, exploratory experimentation, and for embedded control of unmanned and robotic systems.

[Jason](#)

Jason is a fully-fledged interpreter for an extended version of AgentSpeak, a BDI agent-oriented logic programming language, and is implemented in Java. Using SACI, a multi-agent system can be distributed over a network effortlessly.



[Nuin](#)

A Java framework for building belief-desire-intention agents, with a particular emphasis on Semantic Web agents.



[Agent Factory](#)

Agent Factory has been developed as part of ongoing research at University College Dublin, that is concerned with the creation of "a cohesive framework that supports a structured approach to

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[3APL](#)

# 2apl

[2APL](#)

[Jackdaw](#)

[JAM](#)



[AgentBuilder](#)

[AgentBusinessForce](#)

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[MadKit](#)

[MadKit](#)

the development and deployment of agent oriented-applications.

3APL is a new kind of agent language, which claims to address a drawback of BDI-architectures, namely the missing support for goal deliberation. Currently it exists a 3APL agent interpreter, but no multi-agent platform is yet available.

2APL is an agent-oriented programming language that facilitates the implementation of multi-agent systems. At the multi-agent level, it provides programming constructs to specify a multi-agent system in terms of a set of individual agents, a set of environments in which they can perform actions, and the access relation between the individual agents and the environments.

Jackdaw is a robust and practical multi-agent framework built to support ubiquitous computing. It is an ideal vehicle for anyone developing IT applications involving high volumes of dynamic, real-world data and requiring a high performance, scalable, flexible architecture accessible by mobile users. Calico Jack undertakes relevant contract work and currently has a significant contract with Orange to develop a Jackdaw application.

JAM is a BDI-agent platform implemented in Java and represents the successor of the UMPRS System constructed by the University of Michigan. The framework is not further developed and is not FIPA-compliant.

AgentBuilder is an agent platform based on the notions of mental states, which comply to the agent language Agent-0 proposed by Shoham. The platform is KQML-compliant.

Our product RIDL is for multi-agent systems what C++ was for object-oriented systems. RIDL is a computer language that supports agents with the right keywords, concepts and language constructs. With RIDL, you no longer need to reduce your agents to objects. What's more, RIDL doesn't throw away the old. It is not because you have agents, that you no longer need objects. RIDL is unique in the way it blends agents and objects. When it comes to agent-oriented software engineering (AOSE), RIDL is to Java what C++ was to C.

FIPA-OS was one of the first open-source FIPA-compliant software frameworks. It is implemented in Java and uses a simple task-based approach as internal agent structure.

MadKit is a agent toolkit that realizes the AALADIN organizational model and does not restrict the internal usage of different agent architectures. It is currently not FIPA-compliant.

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[Grasshopper](#)

[April](#)



[DIET Agents](#)

# JIAC

[JIAC](#)



[SPARK](#)



[Lost Wax](#)



[SAGE](#)



[Semoa](#)

[A-Globe](#)

Grasshopper is an agent platform that is especially concerned with mobility and mobile devices. It complies to the MASIF and FIPA standards.

The April Agent Platform (AAP) is a lightweight FIPA-compliant agent platform that has been written in the Agent Process Interaction Language (April) and is FIPA-compliant.

DIET Agents is a multi-agent platform that was developed as part of an EU project and was released as Open Source at the end of the project. The platform is developed to be lightweight, scalable, and robust and is targeted to peer-to-peer and/or adaptive, distributed applications that use bottom-up, nature-inspired techniques.

The goal of the JIAC project is to develop and support agent technology based on Serviceware frameworks, allowing telecommunications and telematics services to be quickly and effectively implemented and administered.

SPARK (SRI Procedural Agent Realization Kit) is a new agent framework, under development at the Artificial Intelligence Center of SRI International. SPARK builds on the success of its predecessor, PRS, and shares the same Belief Desire Intention (BDI) model of rationality. SPARK has been developed to support the construction of practical agent systems, and contains sophisticated mechanisms for encoding and controlling agent behavior. At the same time, SPARK has a well-defined semantic model that is intended to support reasoning about the agents' knowledge and execution.

Lost Wax have created one of the first systems specifically designed for the commercial enterprise. The Lost Wax Agent Framework provides a powerful and easy to use environment for the design, development and deployment of multi-agent systems. It has been designed from the start for scalability and allows the parallel execution of hundreds of agent processes distributed across multiple servers.

The SAGE project has the aim to develop a distributed decentralized, fault tolerant, scalable and lightweight agent platform according to the new FIPA specifications.

SeMoA stands for "Secure Mobile Agents". It is about developing an extensible and open server for mobile agents. The server is written in Java, and agents can be written in Java as well (JDK 1.3). The focus is on all aspects of mobile agent security, including protection of mobile agents against malicious hosts.

A-globe is an agent platform designed for testing experimental scenarios featuring agents' position and communication

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inaccessibility, but it can be also used without these extended functions. The platform provides functions for the residing agents, such as communication infrastructure, store, directory services, migration function, deploy service, etc. Communication in aglobe is very fast and the platform is relatively lightweight.



[AMETAS](#)

AMETAS is an acronym for Asynchronous MESSage Transfer Agent System. This emphasizes the basic philosophy of this system: Agents may only communicate by exchanging asynchronous messages. Method calls are not possible. We believe that this idea grants for the autonomy of agents. Therefore, agents are more than mobile programs.

[INDUS](#)

Indus is a software platform for Ubiquitous, Autonomic and Adaptive computing. The foundation of the Indus platform is a new object oriented programming language called INDUS that enables implementation of software agents and software components. The Indus platform thus enable modeling of any application as a set of concurrently executing agents that cooperatively execute tasks by coordinating with each other and composing/plugging components.



[ABLE](#)

ABLE is a Java framework, component library, and productivity tool kit for building intelligent agents using machine learning and reasoning. The ABLE research project is made available by the IBM T. J. Watson Research Center.



[Aglets](#)

[ACT-R](#)

Aglets is a Java mobile agent platform and library that eases the development of agent based applications. An aglet is a Java agent able to autonomously and spontaneously move from one host to another.

ACT-R is a cognitive architecture: a theory for simulating and understanding human cognition. Researchers working on ACT-R strive to understand how people organize knowledge and produce intelligent behavior. As the research continues, ACT-R evolves ever closer into a system which can perform the full range of human cognitive tasks: capturing in great detail the way we perceive, think about, and act on the world.



[Micro-Psi](#)

The MicroPsi agent architecture describes the interaction of emotion, motivation and cognition of situated agents, mainly based on the Psi theory of Dietrich Dörner. The Psi theory addresses emotion, perception, representation and bounded rationality, but being formulated within psychology, has had relatively little impact on the discussion of agents within computer science.

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[RETSINA](#)



[Practionist](#)

RETSINA is an open multi-agent system (MAS) that supports communities of heterogeneous agents. The RETSINA system has been implemented on the premise that agents in a system should form a community of peers that engage in peer to peer interactions.

PRACTIONIST (PRACTical reasONIng sySTem) is a new framework built on the Bratman's theory of practical reasoning to support the development of BDI agents in Java (using JADE) with a Prolog belief base. But it also aims at providing developers with a design and development CASE tool and a deployment environment for distributed multi-agent applications.

[Open PRS](#)

OpenPRS is an open source version of PRS (Procedural Reasoning Systems) / Propice. It is based on C-PRS and Propice which were themselves inspired from the Lisp PRS originally developed at SRI International. PRS has been used for a wide variety of application, from Mobile robot execution control to Space Shuttle operational procedure execution.

[AgentScape](#)

AgentScape is a middleware layer that supports large-scale agent systems. The rationale behind the design decisions are (i) to provide a platform for large-scale agent systems, (ii) support multiple code bases and operating systems, and (iii) interoperability with other agent platforms.



[CHAP](#)

The Common Hybrid Agent Platform (CHAP) is an open source project sponsored by Almende BV, a research company in Rotterdam, The Netherlands. CHAP serves as a framework for developing multi-agent systems (MAS) that bring together artificial entities and humans. Self-organization is something that can be observed in human behavior, and the CHAP agent systems attempt to improve the self-organization amongst people by exploring the accelerated interactions of communicating agents.

[Lisa](#)

Lisa is a platform for the development of Lisp-based Intelligent Software Agents. Lisa is a production-rule system implemented in the Common Lisp Object System (CLOS), and is heavily influenced by CLIPS and the Java Expert System Shell (JESS).



[Magentix](#)

Magentix a MultiAGENT platform integrated in LINUX is a Multiagent Platform developed in the C programming language on Linux. It offers the main support for developing Multiagent Systems (MAS). Magentix does not need any middleware between the Operating System (OS) and the Multiagent Platform. Features like scalability and performance are key issues taken into account in the design of this Multiagent Platform.