

Overview

iCOCOA is a semantic-based service oriented middleware targeting open, decentralized, pervasive computing environments.

iCOCOA has been developed and tested in the context of ambient intelligence for the home environment and of Systems of Systems (SoS).

iCOCOA integrates the following features:

- iCOCOA follows the Service Oriented Architecture (SOA) paradigm, and more specifically employs the Web Services technology.
- iCOCOA extends base Web Services middleware by featuring awareness of service semantics besides plain syntactic service interfaces.

- iCOCOA supports semantic service discovery, composition and execution.

In more detail, iCOCOA supports the four following stages of the life cycle of a semantic service:

1. Semantic service specification.
2. Semantic service discovery.
3. Semantic service composition.
4. Service execution.

The iCOCOA middleware prototype is based on the Java language and uses the following software:

- The [Jena](#) library (open source)
- The [X-Stream](#) library (open source, under BSD license)
- The [Axis](#) library (open source)

Contributors

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Supporting Grants

- [IST Amigo](#) -- Ambient Intelligence for the networked home environment
- Thalès-Carroll DYONISOS -- Dynamic organization and instantiation of systems-of-systems

Related Research Projects

- [Semantic Services for Ambient Intelligence](#)

Downloads

- The iCOCOA middleware is an open-source software freely distributed under the terms of the [GNU Lesser Public License \(LGPL\)](#).

Documentation:

- iCOCOA Middleware User Guide ([PDF](#))
- iCOCOA Middleware Software Developer Guide ([PDF](#))
- iCOCOA Tutorial ([PDF](#))
- iCOCOA Tutorial Examples (binaries) ([ZIP](#))
- iCOCOA Tutorial Examples (sources) ([ZIP](#))

Software:

- iCOCOA binaries v1.1 - without required libs ([ZIP](#) , 875KB)
- iCOCOA source code (part 1 - libraries sources) v1.1 ([ZIP](#) , 17.6MB)
- iCOCOA source code (part 2 - repository sources) v1.1 ([ZIP](#) , 44.8MB)
- Document that explains the organisation of the source code ([PDF](#) , 368KB)