

Summary of the Scientific Report

COST Action: IC0801

COST STSM Reference Number: STSM-AT-105

Beneficiary: Elena del Val Noguera (PhD Student)

Host: Dr. Matthias Klusch

Period: 01-04-2010 To 30-06-2010

Purpose and results of the visit

The aim of the stay was to advance research in the area of the Agreement Technologies COST Action IC0801, Workpackage 2 "Semantics". The host institution, the German Research Center for Artificial Intelligence and more concretely the Group of Intelligent Information Systems and Agents, is a high quality research Group with International reputation in the areas of Semantic Web, Services and MAS areas.

During the research stay, the work of the PhD student was guided by the Dr. Matthias Klusch. Weekly, the ongoing work has been discussed and reviewed in a meeting with Dr. Matthias Klusch, Patrick Kapahnke and Stefan Warwas. The work was centered in 'Hybrid Planning': the integration of two kind of planners that collaborate within their capabilities in some portions of the plan in order to satisfy a goal. We have been working on a formal definition of 'Hybrid Planning' and a classification of different types of planner integration attending to different criteria.

In addition, a concrete example of 'Hybrid Planning' has been described. The example consists of the integration of BDI agents and a Semantic Composition Planner. The aim of this integration is to unify the ability of BDI agents to work in dynamic environments with the flexibility of a classical planner to adapt to new situations.

Future Collaboration

Currently, the PhD and the host researchers are working in an article that reports the results of the research performed during the stay. This report describes the concept of 'Hybrid Planning', presents a concrete example of Hybrid planning with the integration of BDI agent and Semantic Composition Planner and a use case scenario where the advantages of this integration are shown.