MaNEA: A distributed architecture for enforcing norms in open MAS

Abstract

Norms have been promoted as a coordination mechanism for controlling agent behaviours in open MAS. Thus, agent platforms must provide normative support, allowing both norm-aware and non norm-aware agents to take part in MAS that are controlled by norms. In this paper, the most relevant proposals on the definition of norm enforcement mechanisms are analysed. These proposals present several drawbacks that make them unsuitable for open MAS. In response to these problems, this paper describes a new Norm-Enforcing Architecture aimed at controlling norms in open MAS. Specifically, this architecture supports the creation and deletion of norms on-line as well as the dynamic activation and expiration of instances. Finally, it can dynamically adapt to different scale MAS. The efficiency of this architecture has been experimentally evaluated and the results are shown in this article.