AGENT PLATFORM FOR KNOWLEDGE BASED INFORMATION SYSTEMS: ARCHITECTURE AND PERFORMANCE

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L'article présente et évalue la plateforme PASIBC *(Platformă Agent pentru Sisteme Informatice Bazate pe Cunoştinţe)*. La plateforme souscrit au modèle de plateforme d'agent de FIPA et utillise des ontologies et de RDF. Des résultats expérimentaux y compris des résultats comparatifs à la plateforme de JADE, sont alors présentés. Nous concluons que PASIBC ont des très bons résultats de performance et représentent une vraie solution pour les systèmes d'information basés sur la connaissance.

1. INTRODUCTION

An agent platform on which information systems can be built must provide certain services for intelligent agents running in heterogenic environments.

In the last decade a lot of agent platforms were developed. The large majority of these platforms were implemented based on Java technology that is promoted by the Sun Company. Some of them were already declared closed projects such as Mole [11]. Other well known Java based agent platforms are: Aglets [17], JADE [1] or D'Agents [6]. All these platforms inherit the Java disadvantages like lack of monitoring abilities of memory, CPU or network resources usage for each thread. The Java technology does not provide support for thread mobility. In addition all these platforms can provide execution support only for agents implemented in Java language and this can be a strong limitation. We consider that an agent platform should provide an execution environment regardless of the language of the agents' code.

The Microsoft .NET Framework can be used successfully for building distributed application [10]. This technology offers the possibility for obtaining agent platform with better performance results. By using this advanced technology agent platforms that provide execution environment for agents implemented in different languages can be built. Up-to-date no agent platforms that provide a full set of services and that can be used for building complex information systems have been implemented under the .NET Framework. One .NET based agent platform is the CAPNET platform [2], but it lacks the support for agent migration. All these are reasons to develop a novel platform coded under .NET.