

SOFTWARE AGENT AND CLOUD COMPUTING: A BRIEF REVIEW

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ABSTRACT

The merging of interests between Cloud applications which necessary require an intelligent software agent with elastic, dynamic, with independent behavior ability and multi-agent systems that need consistent distributed infrastructures can be resulted with new effective applications and systems. Cloud computing services offered by using large-scale infrastructures with elastic services and high-performance capability since these resources could be adjusted to end user and application needs. Cloud systems and infrastructures are offered by a service-oriented interface that provides computing resources using X-as-a-service model to introduce cloud services on the pay-per-use model. Agent-based system is significant for the improving the use of software agents for boosting cloud service composition, service discovery, negotiation mechanism and several domains. Integrating these two computing paradigms enables cloud-computing systems to become more elastic, autonomic, and intelligent service's capability. Meanwhile, scalable systems with high-performance on the cloud are capable of providing MASs with a consistent and large-scale computing infrastructure on which to execute large-scale systems with flexibility. The significant of this paper is introducing and discussing potential benefits of integration multi-agent technology with Cloud computing systems. This reviewing will lead having in attention the aim of developing high-performance and sophisticated applications with intelligent using software agents and Cloud paradigm.

Keywords: Software Agent; Cloud Computing; Multi Agent Systems; Cloud Systems.

INTRODUCTION

Cloud computing offer scalable and elastic services with high performance to a huge number of customers such as providers and end users (Armbrust et al., 2010). Cloud computing is considered as a big step into the distribution technologies' arena by providing innovative Internet services, which consider as complementary to the distributed computing functions which provided by Grid computing, P2P networks, and Web 2.0, which enrich of development cloud applications and interfaces (Armbrust et al., 2010; Carlin & Curran, 2012). Actually, Cloud infrastructure provides large-scale resources and services with high-performance that are automatically adapted to ending users and application necessities. Nowadays, Cloud systems are mainly nominated for hold increasingly demanding computing resources with providing a huge data-storage using a pay-per-use model. With these benefits are combined of possibly solving