Abstract

The research focuses on handling temporal constraints in interaction protocols for multi agents systems. There is a dire need of standardized interaction protocols that can be used to handle timing aspects in real-time multi-agent systems negotiation. The most commonly used FIPA Protocol lacks the appropriate specification in this regard. In real time systems time constraints is the major responsibility for all of its task and goals. Agents require real time responses and must eliminate the possibility of massive communication among agents. The time specification of these real-time multi-agent systems (RTMAS) in which agents communicate with each other to achieve their goals within deadline will be of great value for their correct functioning. A high degree of dependability and predictability is expected from real time software agents. We will handle the timing aspects for real time multi-agent systems (RTMAS) negotiation. Standardized interaction protocols are used to support the communication between agents in RTMAS and this possible only via message passing. Timing parameters are introduced in proposed real time FIPA performatives through which message passing will be possible within specific time duration and this will enhance the performance of RTMAS. Two case study based real time applications specify the agents interaction with each other to accomplish their goals within timing deadlines. It is useful for complex message interaction in real time multi-agent systems (RTMAS).