

# Applying Saaty's Multicriterial Decision Making Approach in Grid Resource Management

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## ABSTRACT

In the presentation we consider combining ontologically demarcated information with Saaty's Analytic Hierarchy Process (AHP) for the multicriterial assessment of offers during contract negotiations. The context for the proposal, is provided by the Agents in Grid (AiG) project, which aims at development of an agent-based infrastructure for resource management in the Grid. In the AiG project, software agents representing users can either (1) join a team and earn money, or (2) find a team to execute a job. Furthermore, agents form teams, managers of which negotiate with clients and workers terms of collaboration. Here, ontologically described contracts (Service Level Agreements) are the results of autonomous multi-round negotiations. Therefore, taking into account relatively complex nature of the negotiated contracts, multicriterial assessment of proposals plays a crucial role. The AHP method measures how well does an offer serve the objective of a decision maker. Here, we propose how the AHP method can be used to assess ontologically described contract proposals in the AiG use case.