Knowledge Management for Administration Processes*

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Abstract. In this paper we present the use of ontology for knowledge representation and handling for Administration Processes. Motivation has come from Pellucid (Platform for Organizationally Mobile Public Employees) is European Project IST-2001-34519, where we need to capture and capitalize employee's knowledge in an organization. This knowledge is then presented to other employees as they work on particular tasks. The Pellucid System is built on Multi-agent system, thus ontology is used also for communication between agents and for knowledge representation as well.

1 Introduction

Motivation for this article has come from the Pellucid project. Pellucid (Platform for Organizationally Mobile Public Employees) is European Project IST-2001-34519. The Pellucid System is particularly aimed to capture, record and capitalize the knowledge of current employees about their work in an organization [1]. This knowledge is then presented to other employees as they work on particular tasks.

Human knowledge is based not only on facts which are true or false but also on uncertain knowledge which is true or false partially. Several methods can be used to represent such knowledge, e.g. probability measures, fuzzy logic or computing with words [4]. Some methods are known to represent uncertain knowledge even in agent systems by e.g. extended FIPA-SL language; however, uncertain knowledge is still quite complicated and not understandable especially for the agents themselves. When using uncertain knowledge or knowledge where true and false facts are not strongly defined, computer systems cannot discover new facts in existing knowledge base using logical operators. This is known as a fundamental problem of contradictory knowledge in computer systems[5].

This is why knowledge base in the Pellucid consists only of strongly true facts. Such facts are structured and defined by ontologies. Using this solution, it is easier and more straightforward for agents to understand knowledge and to discover new knowledge from existing one. One could say that using such knowledge is not suffi-