

Abstract

of attestation master's degree work

subject:

«Semantic data transferring in computational Grid»

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Actuality of work

At the boundary of different technologies usually there are new opportunities for developing information systems. As an example of such an interaction may be the use of Semantic Web technologies in the development of Grid applications. As the Grid and the Semantic Web - is a relatively new trend in IT industry. Grid paradigm emerged as a result of the interest of the scientific society uniting the various geographically distributed resources for solving scientific problems that require significant computing resources and high levels of resiliency. This technology has long gone beyond academic institutions and is gaining popularity, including the development of commercial software.

Besides a large number of advantages that have made the Grid paradigm so popular, it also has its disadvantages. One of these is a lack of understanding of what resources are available to us, their capabilities and how to use them. When developing applications in large-scale Grid system, it is difficult to determine whether there is a system something like that and whether we can use existing development, as well as what specific nodes in the system to send our task, to avoid unnecessary expectations and idle hardware . To solve these problems requires knowledge and methods for their treatment. The Semantic Web is just providing the tools for working with the knowledge, organized in the so-called ontology. Ontologies were widely spread in the problems of knowledge representation and knowledge engineering, semantic integration of information resources, information retrieval, etc. In the science of artificial intelligence ontology – a "specification of conceptualization domain" or simply, a document or file that formally defines the

relationship between terms. This kind of dictionary of domain concepts and a set of explicitly expressed by the predictions of the meaning of these concepts.

Tasks solved in work

The following tasks are solved in this master's work: review and analysis of ways and formats of saving, storing and transferring semantic data, features of semantic data transferring in Grid, resource finding, information searching and semantic data integration in computing Grid.

The purpose of work

The goal of this work is overview and analysis of semantic data transfer in computing Grid.

Scientific novelty

Научная новизна работы заключается в анализе методов и технологий передачи и обмена семантическими данными в Грид, так как эта технология является мощным инструментом для организации интеграции данных, поиска ресурсов и информации.

Recommendations to use

The actuality of the topic was grounded and the goal was reached in this work, particularly overview of methods of semantic data transferring and features of semantic data transferring in computing Grid were done in this work.

Conclusions

1. Analyzed methods of semantic data integration.
2. Analyzed methods of organization of semantic data exchanging in computing Grid.

3. The recommendations given for further usage of approaches to semantic Grid-services development.

Work consists of 103 pages, includes 16 illustrations and 2 tables. For preparation was used information from 23 different sources.

Keywords: semantic Grid, semantic Web, ontologies, web-services, semantic resource search.