Abstract

Master's Certification of

on:

Web service access in grid systems for modeling

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Urgency of work

Web technologies have played a significant role in free access and share Internet resources. Ordinary breakthrough in the way that leads us to the next generation Web, has long been expected of Grid technologies. They promise to provide connectivity resources, their interoperability on a fundamentally new level, despite the geographic limitations or heterogeneity of resources. Grid computing enables the sharing, selection, aggregation of geographically distributed, autonomous resources depending on their availability, capacity, cost and administrative policies, user requirements for quality and reliability and so on. Thus, the Web can be viewed as "information grid" and grid computing - as "expanded Web" to indicate that the Grid goes beyond pure information exchange, allowing the sharing of computer resources (CPU, memory, storage, network, software, precision equipment, etc.), not just information. Among the additional features that Grid can potentially offer compared with the web, you can specify at least the following: dynamic auto-updating and expansion, configuration, selection of resources, automated planning, knowledge synthesis of intelligent, automated solution for interoperability. However, claiming a place in the future Web, grid computing has to be agreed with web technologies not only from the conceptual side, but also technical.

The purpose of

The purpose of the research is the development of features of service-oriented architecture, analysis of existing web services and analysis platforms for their development on the example of building Web services access to the grid.

Problems solved

1. Studies of fundamental principles and service-oriented architecture;
2. Studies of the automated registration and finding relevant Web services through UDDI;
3. Studies of individual platforms for the development and integration of Web services;
4. Analysis of existing web services access to the grid;
5. Web-service access to the grid that takes into account the current problems of integration with various heart diseases.

Achieved results

Solving problems that put in work, the author defends:

- analysis and comparison of the basic approaches for creating Web services in the concept of a particular Web service;
- description of the features of registration and search (as well as automated search) of Web services;
- analysis of existing specifications, development and integration of Web services;
- The results of basic research platforms and tools to quickly and easily create Web services and their subsequent registration and life cycle support;
- analysis of major libraries that provide access to the grid using Web services;
- description of the placement, development and testing of Web service.

Scientific novelty

Scientific novelty of the work is that:

- analyzed and identified by an ideology of web service access to the grid;
- analyzes the main advantages and disadvantages of the existing platforms of web services;

- based on the analysis developed web service that takes into account the immediate shortcomings in the work of grid (in the context of integration with different middleware).

The practical value

The practical value of the work is that:

- the resulting analysis of the development platform web services can be used in further work on the development of SOA;
- the resulting web service can be used by different naukovtsiyamy and researchers who are forced to work immediately with several middleware.

Conclusions

Analyzed the basic components of web services and their relationship;

1. Disassembled the main stages and features of web publishing service repository services UDDI;
2. The developed analysis and recommendations to the choice of platforms to create and deploy Web services;
3. Described and analyzed access to library middleware using web services;
4. Developed web service access to grid, working directly with several middleware.

The work contains 92 p.. 19 figures, 14 sources.

Keywords: SOA, web services, GRID, middleware.