

ABSTRACT

master's degree attestation work

on a theme:

"Development of the accounting system for Ukrainian National Grid"

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Actuality of work

The accounting system is an important component of the Grid system, which is intended for tracking and collection of information about the user's consumption of resources and gives the possibilities for creation of statistical reports on the basis of the obtained data and their presentation for a further analysis on the basis of that politics of allocation of resources can be formed, to come true effective administration, realized economic model of Grid and perfection of mechanisms of safety. Ukrainian National Grid does not have the effective system that would satisfy accountability requirements of infrastructure, that is why it is impossible to lay down presentation of integral picture of the user's consumption of the resources. Therefore actual enough is a problem of development and deploying of the modern accounting system for Ukrainian National Grid, that satisfy all requirements and necessities of infrastructure.

The purpose of work

The purpose of work is development of the accounting system for Ukrainian National Grid taking into account features constructions of infrastructure and requirements that is pulled out to such systems, and construction of effective mechanism for presentation of information about consumption of Grid Resources to parties concerned in accordance with their roles and duties in an infrastructure.

The problems solved in this paper

1. Research of accounting as a process of management, analysis and storage of information. Determination of the Grid resources that is subject to the accounting.
2. Analysis of requirements that behave to the accounting system, functioning in Grid environments.
3. Research of features of the existent accounting systems, analysis of their advantages and defects.
4. Research of features of Ukrainian National Grid's infrastructure and construction of effective model of accounting, which should satisfy her requirements.
5. Development of program that is intended for representation of information of the resource consumption to Grid's users on the different detailing levels and in accordance with rights for access.

The results achieved

Solving the problem posed in the paper, the author defends:

- results of research of accounting in the Grid systems and its place among similar processes.
- results of analysis of requirements, that is pulled out to the accounting systems for realization of the effective functioning in the up-diffused, heterogeneous and protected Grid environment.
- research results of features of construction and functionality of the accounting systems, developed and deployed by Grid projects, and analysis of their advantages and defects.
- research results of construction features of Ukrainian National Grid's infrastructure for development and deploy of modern accounting model.

- program for presentation of integral picture of consumed Ukrainian National Grid's resources and detail view of information to the persons, which are intended in management and administration of Grid Resources.

The scientific novelty of the work

The scientific novelty of the work lies in the fact that:

- studied and analyzed possibilities of development and deploying of mechanisms for realization of effective accounting within the Ukrainian National Grid's infrastructure for satisfaction of requirements in presentation of both general and detailed picture of the user's resource consumption.
- tool for presentation of information of the resource consumption by users of Ukrainian National Grid was developed.

The practical value of work

The practical value of work consists in that :

- the possibility of development and deployment of the valuable accounting system in Ukrainian National Grid was experimentally investigated and proven.
- program for presentation of information of the resource consumption and number of submitted jobs by users of Ukrainian National Grid was developed.

Conclusions

1. The importance of accounting for realization of effective administration of Grid resources, forming of politics of their distribution, perfection of

mechanisms of safety and exception of abuses, and also for realization of economic model of Grid resources' consumption was analyzed.

2. Requirements to functional possibilities and safety of the accounting system in Grid environments was analyzed.
3. The model of accounting for Ukrainian National Grid, that, at further development, will allow to build an integral view of infrastructure's resource consumption, that will provide possibility for realization of effective administration and management was developed.
4. The program for presentation of information of the resource consumption of Ukrainian National Grid was developed

The work contains 121 p., 25 fig., 43 sources.

Keywords: Grid resources, accounting, usage record, Grid job, accounting system, middleware, APEL, ARC, SGAS LUTS, JURA, accounting portal.