

## **Abstract**

Master Degree

on theme

"Research decomposition problems in cloud computing"

by

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### **The actuality**

Cloud computing is a promising direction, which is developing rapidly. At the program level cloud environments represent a virtual machine, the number of them user takes on lease. These virtual machines can be united to perform parallel computations. Given the competition in the market cloud services and possibility to pay only for consumed power the cloud computing is very beneficial. That's why decomposition of tasks into cloud computing is the actual problem.

### **The purpose**

The objective is to research the efficiency of decomposition problems in cloud computing.

### **Solved problems**

1. Feasibility study of parallel tasks in cloud computing.
2. Research MapReduce paradigm in PaaS Google App Engine.
3. Research using API Task Queue in PaaS Google App Engine for decomposition.

### **Achieved results**

- compare the most popular cloud services.
- results of using MapReduce paradigm in PaaS Google App Engine for computations

- results of the use of API Task Queue PaaS Google App Engine for computations.

### **Scientific novelty of the work**

The scientific novelty of the work is:

- found out using API Task Queue PaaS Google App Engine for solving problems that can be paralleled.
- obtained practical results of the MapReduce paradigm and API Task Queue in PaaS Google App Engine for decomposition problems.

### **The practical value of the work**

The practical value of the work is that:

- experimentally researched MapReduce paradigm and API Task Queue in PaaS Google App Engine for decomposition of practical problems.

### **Conclusions**

1. Analyzed the most popular cloud services.
2. Experimentally researched MapReduce paradigm in PaaS Google App Engine for decomposition problems.
3. Experimentally researched API Task Queue in PaaS Google App Engine for decomposition problems.

Research contains 98 pages, 18 images, 24 references.

**Keywords:** cloud computing, decomposition, MapReduce, Task Queue, Google App Engine.