

# Development of an automatic registry of errors and queries in a large enterprise

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## Abstract

Each company that provides online services is interested in maintaining the quality of these services, because in a competitive environment, customers have the choice to use those services that work faster, better and without interruption. When working with corporate clients, the parties draw up an agreement on the level of service provision, in case of violation of the conditions of which the company providing the service is obliged to compensate for the damage caused.

*Keywords:* Information technology, information system.

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## 1 Introduction

As a company grows, its corporate IT infrastructure becomes more complex to support and vulnerability, the number of system administrators and support staff grows, so the use of cloud computing is becoming an increasingly popular alternative to its own data center. Of course, the protection of user personal data and the security of company data is one of the main goals of a successful business, but most leaders of cloud service providers guarantee this at the documentary level. It is also possible to create your own corporate cloud environment, access to which will be possible only for company employees.

With the growing popularity of the approach, which consists in dividing a large corporate service into smaller micro-services, the configuration and monitoring of each of them becomes more complicated. To deploy a monolithic application, you only need to create and maintain one launch script, however for each microservice you need to write your own program to create an image, upload it to the server and start the service itself, which greatly complicates the support of the system.

## 2 General

The development of an automatic registry of errors and requests will ensure the creation of a distributed system for analyzing the quality of services of the corporate IT infrastructure, automatically manage the resources that are provided to the services, create reports for predicting the cost of infrastructure and provide users with the ability to perform analytical queries to the data.

This system should simply and conveniently integrate with all cloud providers and with any companies own IT infrastructure.

To achieve this goal it is necessary:

- consider the advantages and disadvantages of deploying and supporting services in containers, in a virtual environment and on individual company servers;
- to define the concept of "quality of service", to

characterize the quality of service;

- give an overview of existing solutions in the field of analysis of quality indicators of cloud IT infrastructure services, an automatic registry of errors and requests;
- develop a system for managing the functionality of IT infrastructure;
- develop a subsystem for collecting service quality indicators;
- create a custom web application for managing and monitoring errors and services in the corporate IT infrastructure.

The first step in developing a system for analyzing service quality indicators is to create a module for monitoring and maintaining them.

Next, it is necessary to calculate the total amount of resources at each point in time on historical data, and then build an analytical model for forecasting these indicators for the future.

Having received the value of the amount of computing resources in the next period of time, you can easily compare it with the total number of reserved resources and get a decision on the need to register new servers to provide resources for all running services.

## 3 Conclusions

Currently, there are three main competitors on the market offering similar functionality. The main disadvantages of these analogues are that these solutions are created by popular cloud service providers, and therefore the service is integrated with only one cloud service provider.

A system for analyzing the quality of services and an automatic registry of errors and requests is easily integrated into the existing cloud-based corporate IT infrastructure. This system gives users the ability to conveniently access data from a corporate data warehouse, allows you to build and run analytical models, create reports based on historical data and perform interactive data requests.