

Homework 4

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Introduction

I have decided to pursue another topic for my final project. I'm switching to "Measure the performance capability of a large cloud system". Conducting a project on this topic would be interesting as the advancement of cloud computing is rapidly increasing. Resulting in the emerge of various cloud services from different organizations. Thus, the need to evaluate and measure their performance is crucial as it represents the future of computing.

Research Paper Annotated Bibliography

[1] This paper shows a recent tendency of organizations to shift to cloud computing in terms of collecting and processing data indicating that cloud computing is the future of computing. The authors have presented security issue in the paper which is a major issue in cloud computing and propose some solutions.

[2] The paper offers a full quantitative results of Amazon's EC2 cloud service for all of its resources: CPU, Storage, Memory, caches, network, throughput, etc. This paper is a good resource for a full spectrum of pros and cons of cloud computing capabilities.

[3] This paper is a bit old as it was published in 2009, but it provides a useful open cloud testbed (OCT). OCT excel in manage millions of small streams and small amounts of information as well as extremely large data sets and very high volume data streams. This testbed could be one of the test used to evaluate performance in my project.

[4] This paper has proposed a new cloud performance metrics in terms of efficiency and productivity. This new metric is focusing on response time and throughput rather than completion time of individual tasks. This performance metrics could be used in my project as one of the evaluating metrics

[5] As cloud computing maximize the resource utilization at reduced service cost, most of cloud serves uses 3 major elastic scaling techniques: scale out, scale up, and mixed scaling. The paper explores all optimization opportunities by feed-in elastic resource. Some of those optimizations could be chosen to be used in my project.

[6] The focus of this paper is to evaluate the performance of the largest commercial cloud (Amazon EC2, GoGrid, ElasticHosts, and Mosso) by preforming real scientific computing workloads of Many-Task Computing. The overall usefulness of cloud computing to scientific community. This paper has a good source of quantitive measurements of cloud services.

[7] The authors of this paper are investigating the financial aspect of cloud computing as the performance is highly dependent on the price for most cloud services. They provided a web site that compare your needs of computation power with the price provided. This is a great resource to be used in my project to make comparisons from the financial aspect.

[8] Conducting a high-performance computing on Windows Azure Platform and compare it with other competing services. Introduce a new metric to measure the efficiency of Cloud Computing platforms in terms of performance and price which could be used in my project.

[9] The paper provides a summer of the contemporary challenges and issue cloud computing entails. Some of the issues are constantly connectivity, Privacy and security, etc. Also, the paper describes the benefits and the characteristics of cloud computing. This paper is going to be a good source of analysis and background information for my project.

[10] The authors of this paper take a step further in the area of cloud computing by implementing a software agents for improving Cloud resources and service management and discovery. Agent-based Cloud computing provide Intelligent, flexible, and autonomic cloud services. This paper has a good background literature for the future of cloud computing.

[11] As cloud systems are often shared by multiple users, applications running inside the cloud are more likely to get resource contentions, software bugs, and hardware failures. In this paper, the authors present accurate anomalies prediction and prevention validation to cope those anomalies.

[12] This paper is a bit old as it was published in 2009, but it provides a useful open cloud testbed (OCT). OCT excels in manage millions of small streams and small amounts of information as well as extremely large data sets and very high volume data streams. This testbed could be one of the tests used to evaluate performance in my project.

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