OCSS: Ontology Cloud Storage System

Haytham Tawfeek al Feel, Mohamed Helmy Khafagy

Haytham Tawfeek al Feel · Information System Department · Fayoum University · Egypt
htf00@Fayoum.edu.eg

Mohamed Helmy Khafagy · Computer Science Department · Fayoum University · Egypt
mhk00@Fayoum.edu.eg
Abstract:
Cloud computing is considered a booming trend in the world of information technology which depends on the idea of computing on demand. Cloud computing platforms are sets of scalable data servers, providing computing and storage services. The cloud storage is a relatively basic and widely applied service which can provide users with stable, massive data storage space. Our research concerns with searching in content of different kinds of files in the cloud based on ontology; this approach resolves the weaknesses that existed in Google File System that depends on metadata. In this paper, we are proposing a new cloud storage architecture based on ontology that can store and retrieve files in the cloud based on its content. Our new architecture was tested on Cloud Storage Simulator and the result shows that the new architecture has better scalability, fault tolerance, and performance.

Keywords: Ontology-Cloud-Performance-Storage File System-Semantic Web

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Queue Weighting Load-Balancing Technique for Database Replication in Dynamic Content Web Sites

Prof. Dr. Ebada Sarhan* Prof. Dr. Atif Ghalwash* Mohamed Khafagy

* Computer Science Department, Faculty of Computers & Information, Helwan University, Egypt
* Computer Science Department, Faculty of Information Systems & Computer Science, 6th October University, Egypt
Abstract:

There is an ever increasing need for database replication in dynamic web sites to improve availability. However, the main problem in replication is load balancing. This paper presents new load balance technique to increase the performance of database replication in dynamic web depending on the type and weight of database server queue. We attempt at evaluation various load distribution policies, taking in account their ability to achieve good load balancing by using LBM (Load Balance Metric), and also their impact on performance by measuring the throughput. The telecommunication benchmark is used to compare the different policies of load balancing.

The telecommunication benchmark, a powerful benchmarking tool, is used to test up to fifty database replicas that will play a great role in the evaluation process which could be performed through measurements on a web site that follows the TPC-W specifications. The results show that the Queue weighting Load Balancing has maximum LBM and best throughput.

Keywords:
Replication, Availability, Fault Tolerance, Dynamic web site, Agent, Database

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[13] Oracle Database 10g: SQL Tuning 2006
Specification and Implementation of Dynamic Web Site Benchmark In Telecommunication Area

Prof. Dr. EBADA SARHAN* Prof. Dr. ATIF GHALWASH
* MOHAMED KHAFAGY

Computer Science Department, Faculty of Computers & Information, Helwan University, EGYPT
Computer Science Department, Faculty of Information Systems & Computer Science, 6th October University, 6 October, EGYPT
M_H_KHAFAGY@HOTMAIL.COM

Abstract:
Whenever we talk about the internet, it goes without question that web sites with dynamic contents such as (e-commerce, telecom etc.) are more substantial compared to static content web sites. So, the need of more benchmarks that will guide us in the research in this area must have features like minimum response time, fault tolerance, distribution, efficiency, flexibility, security and compatibility. This paper presents architecture, implementation and performance of new benchmarks for evaluating the performance of web sites with dynamic content.

We implement the TPC-W specification for building dynamic-content applications (C# and Oracle 10g Database). We also provided a client simulator that allows dynamic content web server to be driven with various workloads. This benchmark has the ability to study the clustering for dynamic contents, compare different application implementation methods, and study the effect of different workload characteristics on the servers’ performance.

Keywords : Dynamic sites, Benchmark, Telecommunication, Performance, Replication, response time
invokes oracle performance view that collects CPU, memory and I/O (input and output).

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References:
A Distributed Hashing Algorithm Based on Virtual Neighborhood Search and Retrieval

*Prof. Dr. Ebada Sarhan* Dr. Mohamed Belal* Mohamed Khafagy

Computer Science Department, Faculty of Computers & Information, Helwan University
Computer Science Department, Faculty of Information Systems & Computer Science, 6th October University

Abstract:

Dealing with a huge amount of data nowadays increase the need to distribute this data among cooperated servers in order to increase its availability and the performance of accessing and retrieving data. Rapidly growing networks implies that future files and database system are likely to be constructed as networked clusters of Distributed nodes and algorithms should be devised to work in this environment. In this paper we describe the design and implementation of an innovated distributed algorithm using arbitrary architecture. This algorithm spreads data across multiple nodes in network with an arbitrary and varying architecture. Using novel autonomous location discovery and searching algorithm that cooperates with the other nodes to uniformly distribute the data among the neighborhood instead of using a centralized algorithm. Performance results show that the innovated algorithm is superior to the extendable hashing Algorithm EH*[5] in the distributed environment based on several performance measurements.

Keywords: VH* (Virtual Neighborhood Distributed Hashing Algorithm), VH* Algorithm Description, Simulation and Results.


References: