

A cloud architecture with an efficient scheduling technique

Nawsher Khan; A. Noraziah; Tutut Herawan

Faculty of Computer Systems and Software Engineering
University Malaysia Pahang Lebu
Raya Tun Razak
Kuantan
Malaysia

ABSTRACT

Reliability, efficiency (in term of time consumption) and effectiveness in resources utilization are the desired quality attributes of Cloud scheduling system, the main purpose of which is to execute jobs optimally, i.e. with minimum average waiting, turnaround and response time. Replication provides improved availability, decreased bandwidth use, increased fault tolerance, and improved scalability. To speed up access, file can be replicated so a user can access a nearby replica. In this paper, we propose an architecture to convert Globally One Cloud to Locally Many Clouds. By combining replication and scheduling, this architecture will improve efficiency, accessibility, reliability, availability and scalability. In the case of failure of one sub cloud or one cloud service, clients can start using another cloud under “failover” techniques. As a result, no one cloud service will go down.

KEYWORDS:

Cloud Computing; Sub-Cloud; Replication; Scheduling

REFERENCES

1. Weiss: Computing in the Cloud. *ACM Networker* 11, 18–25 (2007)
2. Brantner, M., Florescu, D., Graf, D., Kossmann, D., Kraska, T.: Building a Database on S3. In: *The Conference Proceedings of the 2008 ACM SIGMOD International Conference on Management of Data*, pp. 251–263 (2008)
3. Moretti, Bulosan, J.: An abstraction for data-intensive cloud computing. In: *Proceeding of IEEE International Symposium Parallel & Distributed Systems (IPDPS 2008)*, pp. 1–11 (2008)
4. Buyya, R., Yeo, C.S.: Cloud computing and emerging IT platforms: Vision, hype, and reality for delivering computing as the 5th utility. *Future Generation Computer Systems* 25, 599–616 (2009)
5. Foster, Yong, Z., Raicu, I., Lu, S.: Cloud computing and grid computing 360-degree compared. In: *Proceeding of Grid Computing Environments Workshop (GCE 2008)*, pp. 1–10 (2008)