THE INTER SCHEDULING ALGORITHM FOR DYNAMIC CLOUD SERVER TRANSMISSION MANAGEMENT

S. Selvakumar
Department of Computer Science Engineering, Kalasalingam Academy of Research and Education, India

Abstract

In today IT world the cloud industry is one of the important web systems that are growing exponentially. The utility of an upscale server running on its core data system applications is proportional to the speed of the currently used omnipotent transmission server and it has become the eternal title of the argument of the various servers running in this order. There are thousands of forums, discussion boards and blogs on the Internet. Most of them are on one side. That means there is no point in guessing that they are in favor of cloud hosting in terms of its many benefits. But one has to make a small neutral comparison without being biased regarding cloud hosting. In this paper a scheduling algorithm is designed to guide the work of transmissions that take place on the cloud server. This scheduling is helpful to effectively run some work modules based on its applications.

Keywords:

Data System, Scheduling Algorithm, Cloud Hosting, Neutral Comparison

1. INTRODUCTION

The Probably the next big thing in the hosting world; this is relatively new, but has the potential to become the only solution for data storage and hosting in the future. In this case, the server is outsourced and run-on virtualized software [1]. There are very large data centers running on servers in a virtualized environment. Therefore, a server essentially builds multiple virtual servers [2]. To a user, these look like dedicated servers; however, in reality, they actually run on a large number of different servers [3]. So, it is basically on a dedicated server, but the user obviously does not know what hardware his / her server is currently running on. The two in terms of performance are very comparable. Dedicated servers are as fast as their cloud enemies; however, there is a “dirty” example in the case of dedicated servers [4].

Due to the large number of unwanted program files and temporary files running on the server, it is quite common to underestimate the time of a computer [5]. This may be the same with cloud servers, but leaving out a “dirty” example here, without cleaning that machine, without cleaning that machine, in a hassle-free manner on the same computer [6]. The biggest difference, of course, is the reliability feature even if one of the server crashes unexpectedly, your website / web application will not go down, data will be collected and restored from multiple computers that pop up.

This experiencing some performance issues and a slowdown in execution speed [7]. However, in the case of a dedicated server, it helps to make a backup, your website / web application goes directly to a server operation, the interim solution will not be available until the server is repaired, and will run again and again [8]. Virtual private servers, of course, provide a midway solution between the two and offer the benefits of a dedicated server at a significantly lower cost [9].

The industry has a long history of accumulating summary over summary. With server less computing, worrying about infrastructure, even the virtual type, becomes a thing of the past for developers [10]. Server less computing encourages developers to capture functions from the library and combine them, reducing the amount of original code that needs to be written. The AWS Lambda is a prime example of server less computing, but other clouds follow suit [11]. Features Microsoft Azure functionality and provides Google Cloud functionality. Containers guarantee all kinds of agility benefits, but they need to be managed and organized. The solution seems to be industrial settlement in Cabernets, which is supported by all the major public clouds. Cabernets are open source, so it can be set up on campus, but most customers are sure to choose it as a cloud service [12]. Also, the recent introduction of Amazon EC2 Container Scheduler Box proves that you can expect all kinds of related services to come out over time. These are the most advanced areas of technology [13]. For example, the public cloud is a natural place for computer-intensive analytics because you can rotate and rotate servers as needed, as well as utilize machine learning to realize results. The ever-changing, open source Hudoop/Spark ecosystem continues to add new projects, absorbing public clouds quickly and making services available to customers [14].

It is one thing to knock without purchasing, delivering, and maintaining computer, storage, and networking resources on campus [15]. That is the first-order value proposition of the cloud. Today, we are seeing the emergence of vast cloud ecosystems that are becoming platforms for the most exciting new technology. In the simplest sense of the cloud service the user can download them back to your computer, store your files and folders, manage them, perform simple actions or share disk space on a remote server, they can be used by anyone else. Roughly speaking, in fact it kind of a remote hard drive. The service varies greatly depending on the owner and can be used for free allotted space. On average, this figure is moving around 25-30 GB [10]. This is justified for storing music or video files which occupy a lot of business or space. When a company signs a cloud service agreement with a third party it gives all the information including confidential data which may be violated if it does not comply with the 100% confidentiality agreement. In this regard, it is recommended to use a private cloud to store confidential information on our own servers, where you can control the server directly [11].

2. LITERATURE REVIEW

The author [12] discussed about the free software, users can regain control of their computer. Proprietary software still exists, but there are free alternatives that allow many people to live well without it. However, we now face a new threat to our control over the system: software as a service. According to Stallman, we should condemn this as well. It has been expressed software refers to someone storing software on a server that allows users to perform certain computational tasks such as editing spreadsheets, translating texts, and managing emails; inviting users to use them. Users send their information to the server, which performs the requested task and finally sends the results to the user [13]. Also, about the servers take more control from users than proprietary software.

With proprietary software, users usually purchased the executable file, but not its source code. This makes it difficult for programmers to read the source code, so it is not possible to know exactly what the program actually does, and it is very difficult to adapt it to the needs of the user. It has been expressed in scheduling methods users do not even get the executable file: it is hosted on a server where users cannot view or access it. Therefore, it is impossible for them to know what they are actually doing and they will remove any possibility that they can change it [14]. The scheduling leads to detrimental effects equivalent to the malicious features often included in proprietary software. Some of the proprietary program “spyware”: the program sends information about the user activities, tastes and preferences to an unknown location [15].

An example of this is Microsoft Windows, which sends information about user activity to Microsoft. Windows Media Player and Real Player inform users everything they are playing. The author [16] discussed the proprietary software, scheduling does not require “stealth” code to retrieve user information. Instead, users must submit information in order to use those programs. This is similar to spyware: the server receives our information. Due to the nature of the sauce, you get it without any extra effort.

The author [17] discussed some proprietary programs may be “mismanaged” by the remote control of users' computers. For example, Windows has a back door, and Microsoft can force changes to any software installed on that computer. expressed the random scheduling provides the server operator with incredible power to change the software used and “fiddle” with user-submitted information. Again, no special code is required to do this.

3. PROPOSED METHOD

The proposed inter scheduling algorithm (ISA) is a multi-model user environment, which means no tools are needed to manage how to distribute them to different clients. Therefore, the private cloud can be built on existing infrastructure and resources in the company data center or on a new independent infrastructure provided by a third-party provider. The proposed scheduling algorithm focused the following three important parameters shown in following,

- ***Virtual Data management:*** A virtual private cloud has a separate environment in the public cloud, which allows it to carry out its workload independently of all other users of the public cloud. Even if the server is shared by other companies, virtual logic can ensure that the user computer resources are private.
- ***Cloud Hosting Management:*** In this case, the server is not shared with other companies. The service provider sets up the network, maintains the hardware, and updates the software, but the server is hired by a company.
- ***Data Accommodation Management:*** This was providing a hosting environment where providers can manage all aspects of the cloud for companies, including the implementation of other services such as identity storage and management.

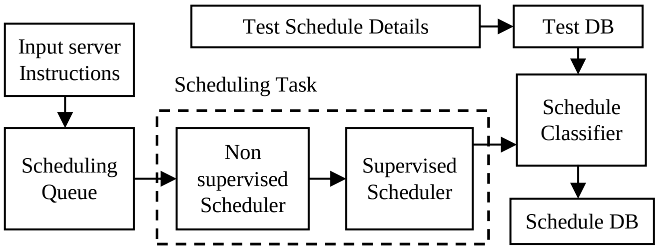

Fig.1. Proposed System design

- It will benefit from greater functional security on isolated networks without sharing resources
- It can improve the entire system performance.
- Almost complete level of customization.
- The key feature of a private cloud is that it has complete control over all this information and communication.
- It offers a wide variety of work modes, all components of the corporate cloud owned by a private network.
- The person in charge of the company can control all your security and, if necessary, allow you to publicly access the required components when needed.

In the private cloud scheduling, it is best suited for users who need direct control of technology for dynamic or unpredictable computer needs discussed in the Fig.1, where these are companies that usually have to meet strict internal security or external regulatory requirements.

4. RESULTS AND DISCUSSION

The proposed Inter Scheduling Algorithm (ISA) was compared with the existing Task scheduling and resource allocation (TSRA), Dynamic task scheduling algorithm (DTSA), Static task scheduling heuristic approach (STSH) and a modified priority preemptive algorithm (MPPA). It is a necessary component to upgrade or integrate the platform migration server and storage infrastructure or to integrate data-intensive applications such as databases, data warehouses and large-scale projects for data lakes and virtualization.

Platform migration can occur within HDD or STD-based systems or within cloud storage systems. Migration systems are broad and dynamic projects, with enhanced potential for significant market effects. Such threats must be minimized by planning and implementing an end to the restructuring migration cycle. Not all data transfers are generated from a single fabric. Specific migration involves the transfer of information by suspects, information, device, server and business processes.

4.1 MIGRATION MANIPULATION

It migrates the information during update storage technology. The goals of updated technologies are higher efficiency and improved scaling information processing functionality.

Table.1. Comparison of Migration manipulation

Task	TSRA	DTSA	STSH	MPPA	ISA
100	75.95	79.37	67.78	75.14	92.52
200	77.62	80.50	70.71	76.40	94.99
300	79.57	80.85	72.25	78.29	95.79
400	81.56	82.80	74.28	79.49	96.99
500	84.14	83.57	75.18	71.05	97.63
600	86.13	83.95	77.15	82.80	98.89
700	88.15	85.08	78.62	83.73	99.89

4.2 MIGRATION SCHEDULING DATABASES

Migration may involve the transfer of information on-prime, or to the cloud within systems such as transferring data from one domain to another.

Table.2. Comparison of Migration scheduling database

Task	TSRA	DTSA	STSH	MPPA	ISA
100	77.54	73.30	69.03	74.50	93.69
200	79.17	75.04	70.61	75.92	94.98
300	79.65	77.38	72.81	77.18	95.99
400	80.94	78.19	74.44	79.17	96.88
500	83.05	80.48	75.58	81.64	97.25
600	84.54	82.41	77.78	83.08	98.89
700	86.35	84.14	78.93	84.80	99.26

4.3 RELOCATION OF APPLICATIONS

Information relocation involves the transfer of data inside information, for example, the transition from MS Office on-site in the cloud to Office 365. This includes switching from one accounting service to another, such as switching from one accounting site to another.

Table.3. Comparison of Relocation applications

Task	TSRA	DTSA	STSH	MPPA	ISA
100	67.65	77.40	69.19	75.51	91.69
200	69.14	79.37	71.61	77.71	93.68
300	69.94	80.50	72.02	78.51	94.88
400	72.27	81.71	73.62	79.18	95.36
500	73.28	82.08	75.94	80.61	96.79
600	73.92	83.61	77.19	81.70	97.95
700	74.58	84.11	79.92	82.18	98.72

4.4 CLOUD MIGRATION

The data transfer from a site to a server or from client to computer. This form of data transfer is not the same as cloud backup. data transfer is a different process of transferring data from the source system to fill the current context.

Table.4. Comparison of Cloud migration

Task	TSRA	DTSA	STSH	MPPA	ISA
100	76.28	81.04	76.59	82.94	92.95
200	76.61	82.54	77.18	84.81	93.99
300	77.95	83.65	78.16	85.64	94.12
400	79.09	84.03	79.37	86.55	95.08
500	80.14	85.04	80.51	87.47	94.65
600	81.07	86.11	81.37	88.72	94.94
700	82.09	87.06	82.37	89.80	95.81

4.5 WEB SERVICES INTEGRATION

By its very nature, cloud computing technology can be integrated very easily and quickly with the rest of the applications, whether developed internally or externally.

Table.5. Comparison of Web service Integration

Task	TSRA	DTSA	STSH	MPPA	ISA
100	68.52	72.62	67.49	78.92	89.27
200	68.19	71.12	66.90	77.05	88.23
300	66.85	70.01	65.92	76.22	88.10
400	65.71	69.63	64.71	75.31	87.14
500	64.66	68.62	63.57	74.39	87.57
600	63.73	67.55	62.71	73.14	86.71
700	62.71	66.60	61.71	72.06	86.27

4.6 QOS SCHEDULING RATE

Cloud computing infrastructure offers more adaptability, complete disaster recovery and reduced downtime. 100% cloud computing infrastructure does not require any hardware installation. The beauty of cloud computing technology is its simplicity and the fact that it requires very little investment to get started.

Table.6. Comparison of QoS Scheduling rate

Task	TSRA	DTSA	STSH	MPPA	ISA
100	77.15	76.26	74.89	86.35	94.53
200	75.66	74.29	72.47	84.15	92.54
300	74.86	73.16	72.06	83.35	91.34
400	72.53	71.95	70.46	82.68	90.86
500	71.52	71.58	68.14	81.25	89.43
600	70.88	70.05	66.89	80.16	88.27
700	70.22	69.55	64.16	79.68	87.50

4.7 RISK MANAGEMENT

With faster and lower risk implementation. Applications in cloud computing technology will be available in weeks or months, even with significant amounts of customization or integration. If a user has a problem with their computer (it was stolen, infected with a virus, or they do not have access to it at the moment) they can access their information instantly, from any other computer, anywhere in the world.

Table.7. Comparison of risk management

Task	TSRA	DTSA	STSH	MPPA	ISA
100	75.69	78.56	83.78	83.43	90.67
200	76.02	80.06	84.37	85.30	91.68
300	77.36	81.17	85.35	86.13	91.84
400	78.50	81.55	86.56	87.04	92.80
500	79.55	82.56	87.70	87.96	92.37
600	80.26	83.49	88.81	89.29	93.57
700	81.56	84.49	89.51	90.37	93.73

4.8 SCHEDULING INGO-SHARE

Sharing information is very easy in Cloud Scheduling. The users can create documents simultaneously and collaboratively using Google Docs or a similar solution. They can share files using Drop box or Ubuntu One and more.

Table.8. Comparison of scheduling ingo-share

Task	TSRA	DTSA	STSH	MPPA	ISA
100	73.39	76.26	87.18	86.17	89.76
200	73.72	77.76	87.77	88.04	90.80
300	75.06	78.87	88.75	88.87	90.93
400	76.20	79.25	89.96	89.78	91.89
500	77.25	80.26	91.10	90.70	91.46
600	77.96	81.19	92.21	92.03	92.70
700	79.26	82.19	92.91	92.90	92.81

Scheduling Security. Spyware and viruses that appear on the web may be stopped and computers compromised or disabled among other features before administrators and users infiltrate your personal network. On the other hand, if we take into account that 60% of company information is found in insecure systems; 10 out of 10 notebooks are stolen 1 month after purchase; 60% of Pen drive owners say they have lost their device, and it good to have information stored in the cloud, but not inside a computer.

Table.9. Comparison of scheduling security

Task	TSRA	DTSA	STSH	MPPA	ISA
100	74.65	68.52	79.62	77.73	90.50
200	76.28	70.26	81.20	79.15	91.79
300	76.76	72.60	83.40	80.41	92.80
400	78.05	73.41	85.03	82.40	93.69
500	80.16	75.70	86.17	84.87	94.06
600	81.65	77.63	88.37	86.31	95.10
700	83.46	79.36	89.52	88.03	95.87

4.9 AUTOMATIC UPDATES

Auto-updates that do not adversely affect information technology resources. If we upgrade to the latest version of the application, we will be forced to spend time and resources (which we do not have) to recreate our customizations and integrations. Cloud computing technology does not force you to decide between updating and retaining your work because those customizations and integrations are automatically protected during the update.

Table.10. Comparison of auto updates

Task	TSRA	DTSA	STSH	MPPA	ISA
100	73.27	68.99	77.27	74.54	90.66
200	73.16	69.01	77.10	74.27	90.16
300	73.14	69.89	77.83	74.57	90.28
400	76.24	72.72	81.17	78.08	93.51
500	77.44	74.04	81.90	79.40	93.89
600	78.05	74.87	82.79	79.94	94.46
700	78.46	75.27	82.87	80.24	94.16

5. CONCLUSION

The Scheduling methods are generally seen as very busy. The significance of this is that these methods are gaining more and more importance as it enables even the work that is currently not possible in Asia to be done later or as if the work currently completed was completed later. Based on this emphasis some important work is done based on the applications of different users and we can analyze those jobs and explain how they were executed. The proposed ISA was compared with the existing TSRA, DTSA, STSH and MPPA. This proposed scheduling can be done on many different data based on the various favorable methods currently in place.

REFERENCES

[1] K. Dasgupta, B. Mandal, P. Dutta and J.K. Mandal, “A Genetic Algorithm (GA) based Load Balancing Strategy for Cloud Computing”, *Procedia Technology*, Vol. 10, pp. 340-347, 2013.

[2] S. Ahirrao and R. Ingle, “Scalable Transactions in Cloud Data Stores”, *Journal of Cloud Computing*, Vol. 4, No. 1, pp. 21-34, 2015.

[3] Shahin Vakilinia, Behdad Heidarpour and Mohamed Cheriet, “Energy Efficient Resource Allocation in Cloud Computing Environments”, *IEEE Access*, Vol. 4, pp. 8544-8557, 2016.

[4] A. Shimpy and Jagandeep Sidhu, “Different Scheduling Algorithms in Different Cloud Environment”, *International Journal of Advanced Research in Computer and Communication Engineering*, Vol. 3, No. 9, pp. 1-16, 2014.

[5] P. S. Pawar, M. Rajarajan, S. Krishnan Nair and A. Zisman. “Trust Model for Optimized Cloud Services”, *IFIP Advances in Information and Communication Technology*, Vol. 374, pp. 97-112, 2012.

[6] Dzmitry Kliazovich, Johnatan E. Pecero, Andrei Tchernykh, Pascal Bouvry, Samee U. Khan and Albert Y. Zomaya, "CA-DAG:Modeling Communication-Aware Applications for Scheduling in Cloud Computing", *Journal of Grid Computing*, Vol. 12, No. 3, pp. 1-17, 2015.

[7] T. Dillon, C. Wu and E. Chang, "Cloud Computing: Issues and Challenges", *Proceedings of 24th IEEE International Conference on Advanced Information Networking and Applications*, pp. 27-33, 2010.

[8] T. Anderson, L. Peterson, S. Shenker and J. Turner, "Overcoming the Internet Impasse through virtualization", *Computer*, Vol. 38, No. 4, pp. 34-41, 2005.

[9] N.M.M.K. Chowdhury and R. Boutaba, "Network Virtualization: State of the Art and Research Challenges", *IEEE Communications Magazine*, Vol. 47, No. 7, pp. 20- 26, 2009.

[10] K.S. Rashmi, V. Suma and M. Vaidehi, "Enhanced Load Balancing Approach to Avoid Deadlocks in Cloud", *International Journal of Computer Applications*, Vol. 6, No. 2, pp. 31-35, 2012.

[11] A. Kaur and N. Bansal, "Cross-Breed Job Scheduling for Reducing the Server Load using RBAC at Cloud", *International Journal of Advanced Research in Computer Science and Software Engineering*, Vol. 3, No. 5, pp. 1-13, 2013.

[12] G.U. Devi and G. Supriya, "Encryption of Big Data in Cloud using De-Duplication Technique", Research *Journal of Pharmaceutical Biological and Chemical Sciences*, Vol. 8, No. 3, pp. 1103-1108, 2017.

[13] P. Puzio, R. Molva, M. Onen and S. Loureiro, "Perfect Dedup: Secure Data Deduplication", *Proceedings of International Conference on Data Privacy Management and Security Assurance*, pp. 150-166, 2015.

[14] R. Shobana, K.S. Shalini, S. Leelavathy and V. Sridevi, "DeDuplication of Data in Cloud", *International Journal of Chemical Sciences*, Vol. 14, No. 4, pp. 2933-2938, 2016.

[15] Jun-Ho Lee, Min-Woo Park, Jung-Ho Eom and Tai-Myoung Chung, "Multi-Level Intrusion Detection System and Log Management in Cloud Computing", *Proceedings of International Conference Advanced Communication Technology*, pp. 552-555, 2011.