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SECURE DATA TRANSFER AND REPEATED DATA FILTER REMOVE ALGORITHM IN CLOUD COMPUTING

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ABSTRACT

In the cloud environment, the implementation of resource management requires a processing resource to a higher ratio. Since there are different number of alternative computer capacity, resource scheduling is a complex task in a cloud computing environment. Program is one of the most important issues in the cloud computing environment. We will analyze the diversity of the scheduling algorithm, shows the various parameters. We, the management of disk space, please note that is an important issue in a virtual environment. In order to provide high-high-throughput and cost-effective, the scheduling algorithm, existing, however, they do not take into account the reliability and availability. Therefore, we are, there is a need to improve the removal of the filter algorithm (RDFRA) in the cloud duplicate data availability and reliability of the algorithm are repeated in the data transmission rate of the proposed method of calculating the filter is removed and the environmental data. Using this method reserved resources are reserved to deal with any sudden or unexpected traffic task. In order to verify the measurement method using Similar delays, lead time, energy efficiency, yield, variety etc. downtime. From the results section, this method is, it is clear that you are better than the existing research.

1. INTRODUCTION

In the case of the high-speed network, it has a joint venture terrible rise in the use of even e-commerce and thousands of queries from the Internet every day. Such cooling, large central processing knowledge that would increase by integrating servers and tons of thousands of different infrastructure as a network system and storage requirements. This commercial event has been referred to as cloud computing. Virtual knowledge center and the subscription-based service providing soaring, the application of the measures of the cloud side. Shown in the figure. Measurements cloud side functions shown in FIG. 1

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3 Cloud computing provides various services like a computer code (the SaaS in), as a service (PaaS) of the service, and service (the IaaS) such platforms [2], and alternative embodiments 3, i.e. private, public, and possible placement guard. While providing the suitability in the form of application service of PaaS as they want, the main applications of the SaaS type, offers an online computer code to shoppers. This allows the user by the vendor of the support tools, you can develop a programming language and abuse of their own computer code. Infrastructure, such as service (for IaaS) has been more proper management and processing, and provides storage, networking, and more complete cloud infrastructure units alternative computing resources.

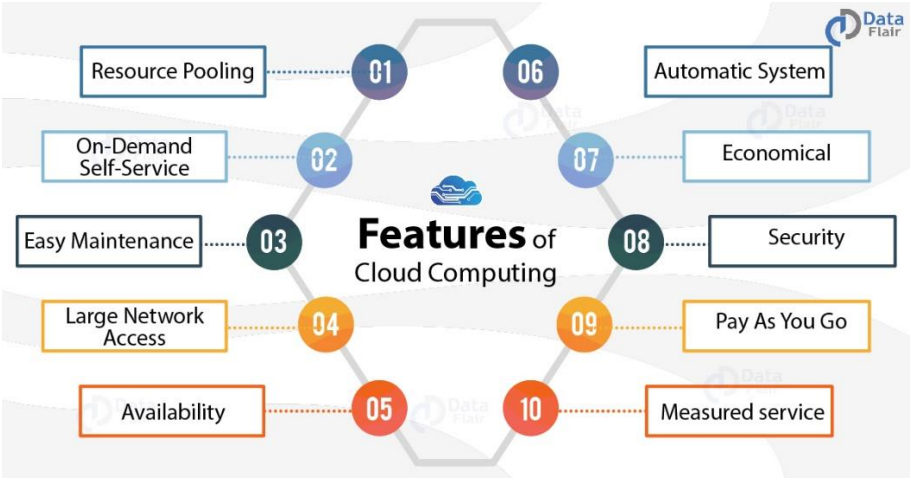

Fig 1: Features of cloud computing

https://www.google.com/search?q=features+of+cloud+computing&sxsrf=ALeKk009UO

The cloud may be a business model for computing, offering purchased resources and services on an on-demand rent basis. Only shoppers have to force payment of the amount that is really being used. To produce high yields, cloud providers leverage virtualization technology. Virtual [5-6], or computing of key technologies in the cloud, distributes physical resources and enables sharing of those resources. Share the same resources without the involvement of each choice, with the help of the user's virtual scope. In addition, it is used to deploy virtualization, which can be called Hypervisor Virtual Machine Monitor Method (VMM). It behaves like an associated package and care for all virtual machines associated with responsible choices. Computer resources, (CPU, memory, network) the user needs, the system management program generates virtual machines assigned to the user. VM range can be created within a single physical machine (PM). Once the requirements related to the VM hypervisor, as long as the VM is to be considered

a disadvantage on the virtual machine placement. VM placement may be a difficult drawback NP [8]. Appearance for VMs allows a very difficult task to host the right thing. VM Placement-The square measure requires two completely different states of clerical work to make new inputs to migrate virtual machines or VM locations. Sending a VM from one host to another called VM migration [8]. VM migration should be able to reduce the degree of migration thereby, reducing the migration of many things that reduce system performance management, server consolidation, load balancing, maintenance, server failure, And other hotspots are needed. VM is the main processing unit in the cloud. User applications running in virtual machines have dynamic resource requirements for these applications. Measures 3D (CPU, memory, and other information measures) Cloud-side resources. Therefore, the resources required by virtual machines may be their number and variety of completely different.

2. RELATED WORK

Ahmed Nahar quorum et al., 2015: the rapid expansion of business areas, and therefore does not rely on a in order to support this trend of expansion, it offers a different computer applications and services. In general, this is to achieve, provide proper environ- comments for running this application is done by introducing a physical network infrastructure. To change quickly the necessary services, resource requirements accordingly. In most cases, this is, there is a possibility that led to low utilization and high service costs, you may need to build a new physical network. There is becoming a problem, such as the increasingly popular overcome, promising approach has been referred to as a virtual data center network (of VDN).

Shower Gu et al., 2015: Cloud computing is very fast, with more and more data center, are being built every year of development. This, of course, leads to high power consumption. The most popular based on the use of resources of solutions, integration of virtual machine (VM). In fact, if we know, more power, to save the power consumption of each virtual machine. Therefore, considerable power consumption is measured each VM green cloud data center. What equipment is direct, it is not possible to measure the power consumption of each virtual machine, modeling method has been proposed. However, the current model is not sufficiently accurate resources in order to compete in multiple virtual machines on the same server.

Zhaoning Zhang et al., 2014: Services (of IaaS) infrastructure, such as, a user in order to meet their diverse computing needs, you can rent a cloud resource. Method of providing a large

number of for the dynamic requirements, immediately virtual machine (VM): Model paid after use; however, unusual technical problem clouds constitute a service provider computing IaaS of the user's computing? We resolve VMThunder, a new tool for virtual machine configuration, this challenge will download the virtual machine boot process and speed up VM images through the strategic integration of streaming media on-demand peer network (P2P) streaming media technology on the block, optimization with enhanced, such as the transfer of on-demand, read caching, snapshots and relay on the local cache.

Schwab Li et al., 2014: a virtual machine (VM) is assigned to multiple tenant's cloud data center critical infrastructure to provide efficient services and challenging questions. Quality tenants assigned to run in its own virtual machine to the network distance between the application and tenant virtual machine can service a large extent influence the tenant (QoS). In this study, we define and develop a multi-tenant cloud data center VM allocation, taking into account VM needs of different tenants, and to minimize the introduction of the distribution network target the sum of the diameter of the VM all tenants. Then, we propose a multi-tenant cloud data center based on multi knapsack problem (LP-MKP) tiered progressive resource allocation algorithms. Progressive multi-tenant VM allocation method LP-MKP multilevel hierarchical algorithm to efficiently handle the untreated tenants at each stage.

Old homes Lun Singh et al., 2015: Cloud computing is computing resources via the Internet to maintain, rather than emerging computing technologies for large-scale data center on the local computer. Rather than the spread of cloud computing, the demand for cloud resources has increased. Dynamic optimization, depending on the arrangement of the virtual machine on the physical host to the host resource usage (VM), infrastructure such as service data center.VM migration capabilities to provide load balancing, system maintenance and fault tolerance.

Aarti Viget people, in 2016 cloud computing in all areas of computing into full existence. With increasing use of the Internet cloud users Increased, the amount of data will increase the cloud. Cloud computing is a utility, such as with such these features, computing anywhere resource pool, virtualization, wage per use, such as various functions, have significant different main, such problems are such concern's fault tolerance, load balancing, availability, there is a need to focus in the same way many of the researchers is to effectively manage the data. Data also show that the wide and, in the database, for a total volume of distributed cloud that has been over-loaded. To perform the procedure, the local agent in the available space

of the virtual machine, the search space of neighbor, if it does not exist. Process ID, and the local agents, including local host ID, and virtual machine configuration to its neighboring agents and applications Dijkstra algorithm as the local host for processing search for a suitable virtual machine.

Christina Josephine people Terese, 2015: and the grid system of the heart like a cloud formed the concept of virtualization computing. Virtualization system efficiency depends largely on the efficiency of employment for the virtual machine to a suitable host technique. Evolutionary literature contains a number of ways Using a genetic algorithm to solve the problem of virtual machine, it has been assigned a large-scale class. In this paper, we propose a new method for assigning a virtual machine to use a method of family gene. This method thus provides room for further study, experimental analysis show that reducing the mobility and energy consumption.

Raj Sharma et al., 2018: Cloud computing provides practical IT of-oriented, offers a service to users allowed to pay them as they need. Cloud computing is an important enabler virtualization technology [4] In reality, the computing resources that the application use of the operating system across multiple instances, create and manage a wide variety. A major challenge in cloud computing, to optimize the management resources, is to improve the utilization rate. To overcome the shortcomings of the existing system, the cloud platform, to improve the new arrangements suggested efficiency. We propose the use of clustering K- means the task and the virtual machine (VM) optimized packet scheduling algorithm algorithms. The virtual environment of the application of the proposed classification system based on each You can machine use. For the same of, cloud simulator, it has been used in order to achieve the 3.0.3 framework and Java. This has become the observed credit-based scheduling algorithm, clustering K- means have been proposed, outweigh the experience to other job scheduling algorithms that are supported by similar results.

Doshi Chintan Ketankumar et al., 2015: Cloud computing is becoming the mode setting to solve infrastructure problems all IT industry. But booming demand cloud infrastructure significantly increases the energy consumption of data centers. With data center energy consumption increases, which leads to our high carbon emissions, which are harmful to the environment. In this context, indicators of energy efficiency and environmental action cloud service provider we consider the proposed resource procurement issues a green cloud service broker. Mechanism design method we use to determine the dynamic allocation and payment for

job submission. We conducted experiments, and displays the results of the comparison between energy consumption and greenhouse gas green cloud brokerage and decisions for allocating emissions and does not consider the green indicators into account.

A.I.Awad et al., 2015: The most important requirement in a cloud computing environment, the scheduling of the task plays an important role in the efficiency of the entire cloud computing facility. Means the tasks assigned scheduling most suitable cloud resources, time, cost, scalability, by performing the span of cosmetics, reliability, availability, throughput, and the like other aspects of resource utilization, various consideration matter parameters, it is.

3. METRIALS AND METHOD

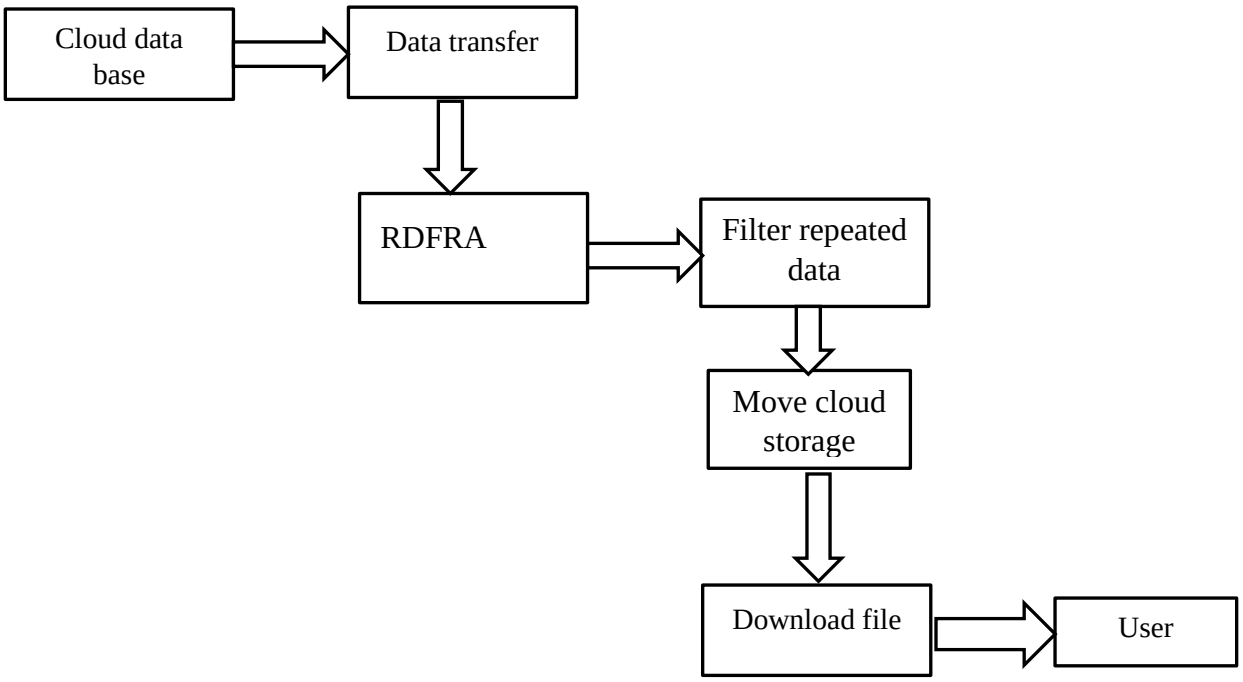

Fig.2: DATA FLOW DIAGRAM

Interesting model to in order to solve the problem of placement of virtual machines, it has been proposed in the literature. However, as far as we know, what of work tackle, does not put a complete network of the problem as a package? In this case, the model should provide duplicated data deletion placing filtering algorithm (RDFRA). To participate in the resettlement process of the overall performance of the best parties. In fact, this is not a sensible solution to the problem of virtual machines to meet their performance requirements caused to others the way. Taking into account the cost of resettlement is also an An important factor in such decisions, other factors such as such load balancing and QoS guarantee, is also important. This

is because they are located, is inefficient, it relies on after there is a VM PM each other or other virtual machines different PMs5 functions. Previous studies have also shown that the change will affect response time MIPS and MIPS increase the amount of VM reduce response time. Security improvements including transfer performance resource allocation process cloud.

4. RESULT AND DISCUSSION

The most common type of data used for evaluating intrusion detection methods is a KNN file 99 datasets. Therefore, the implementation of the proposed intrusion detection system of KNN, and counting bloom filter (CBF) in Java using the KNN file 99 datasets for evaluation. The Existing classifiers used to compare with the proposed method are KNN, and counting bloom filter (CBF). The Accuracy, False Positive Rate, AUC values of all the existing classifiers are compared with the recommended classifier values. Repeated Data Filter Remove Algorithm (RDFRA) include extraction and order recognition utilizing SDN edges to gather virtual system traffic from the cloud, cloud interruption location framework (CIDS), Xen's cloud stage provides the CBF model. The proposed framework endeavors to recognize assaults on the information plane and actualize them on the utility side. Even though this dataset doesn't reflect a genuine cloud condition, the proposed interruption recognition framework with the repeated data filter removal algorithm (RDFRA) model abilities as an IDS framework may give a gauge of this dataset.

Table 1. Implementation parameter used in the proposed method

Processed Parameter	**Value processed**
No. of Classifiers	4
Type of data	Datasets for IDS in cloud
Name of dataset	KDD Cup 99 datasets
Service provider	CSP

Where KDD is Knowledge Discovery and Data Mining dataset. The KDD Cup 99 dataset contains 5 million preparing information records and 2 million test information records. 10% of the records were utilized in this work, specifically 494021 preparing information records and 311029 test information records, to assess the RDFRA classifier. By expelling just the test information, 292300 test records were acquired. Every record of 41 unique highlights and is named as either ordinary or attack. These assaults can be grouped into four sorts: DOS, tests, R2L, and U2R. In above table 1, the defined values and classification analysis parameters are shown for the proposed work. The efficiency of classification using Repeated Data Filter Remove Algorithm (RDFRA) classifier has been analyzed and the results are shown below in the detailed tables and graphs.

4.1. Classifier Performance:

Classifications such as KNN, and counting bloom filter (CBF) provide low accuracy associated with other ratings. These are grouped into high-precision classifications. The goal is to maintain a low False Positive Rate (FPR), needed to include either Gaussian Naive Bayes (GNB) or Quadratic Discriminant Analysis (QDA) in every combination of classifier used in all the models. It also is useful in containing any of them but maintaining less FPR. Performance

evaluation of several classifiers combined with model towards determining the best possible combination classifiers. Repeated Data Filter Remove Algorithm (RDFRA). For classification in the proposed work for intrusion detection outperforms the existing classifiers in the cloud environment.

TABLE 2. Classifier Performance

Classifier	Cloud Data Storage in %,	Data transfer %	Data deletion in %
KNN	76.65	2.801	0.8087
CBF	97.87	0.7	0.8090
RDFRA	***99.68***	***0.13***	***0.8098***

The proposed Revised Equality Constraints Based on CBF classification method performs a 99.68% accuracy than the existing methods. The False Positive Rate is 0.13, which is the level of distinguishing non-attack as an attack, which is surprisingly lower than the current game plans. The zone under a Classifier is 0.8096, how much model is equipped for recognizing attack classes. The exhibition of different classifiers, for example, KNN, and counting bloom filter are inadequate when contrasted and the proposed technique.

•True Positive (TP): Expected to be positive, actual positive

• True Negative (TN): actual negative expected to be negative

• Bogus Positive (FP): Expect a real negative to be sure

• False Negative (FN): The real positive expected to be negative.

•Accuracy (ACC): The proportion of genuine qualities to add up to perceptions, determined as follows:

$$ACC = \frac{TP + TN}{N}$$

The below graph fig.3. Elucidates the performance valuation of classifiers. The strategic classifier performance is higher when comparing to the existing methods.

CLOUD DATA STORAGE

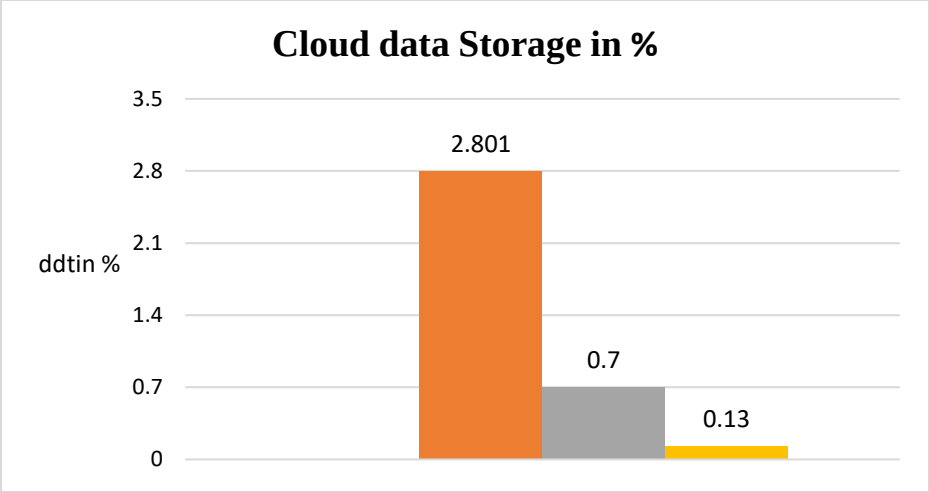

Fig.3: Comparison of Classifiers in False Positive Rate in %.

The above graph fig.3, the performance comparison of the accuracy of classifiers were shown. The classifier performance is higher when comparing to the existing methods. The accuracy of Revised Equality Constraints Based Lagrange's Multiplier-cbm is 99.68%. Other existing methods compared with the proposed method are KNN, and counting bloom filter.

For distinguishing non-attack as an attack, False Positive Rate is the level of which is astoundingly lower than the current techniques. The below diagram fig.4. Shows the presentation examination of the FPR of classifiers. The False Positive Rate is very low when contrasting with contemporary techniques. The FPR of Repeated Data Filter Remove Algorithm is 0.13. Other existing methods compared with the proposed method are KNN, and counting bloom filter

False Positive Rate: $FPR = \frac{FP}{FP + TN}$

DATA TRANSFER RATE

Area Under ROC Curve is the capability of a method to distinguish between classes. The above graph fig.5. Indicates the performance comparison of AUC of classifiers. The proposed classifier False Positive Rate is low when comparing to the existing methods. The FPR of Revised Equality Constraints Based Lagrange's Multiplier-CBM is 0.13. %. Other existing methods compared with the

proposed method are KNN, and counting bloom filter.

4.2. DATA DELETION:

The Time complexity of the existing method and proposed methods are shown graphically in the time complexity graph. The proposed method is consuming very less time than the current approach. The existing process consumes 93.1secs to detect the attack, and the proposed method consumes 63.3secs for detecting the attacks. Therefore the proposed way is highly efficient in time complexity.

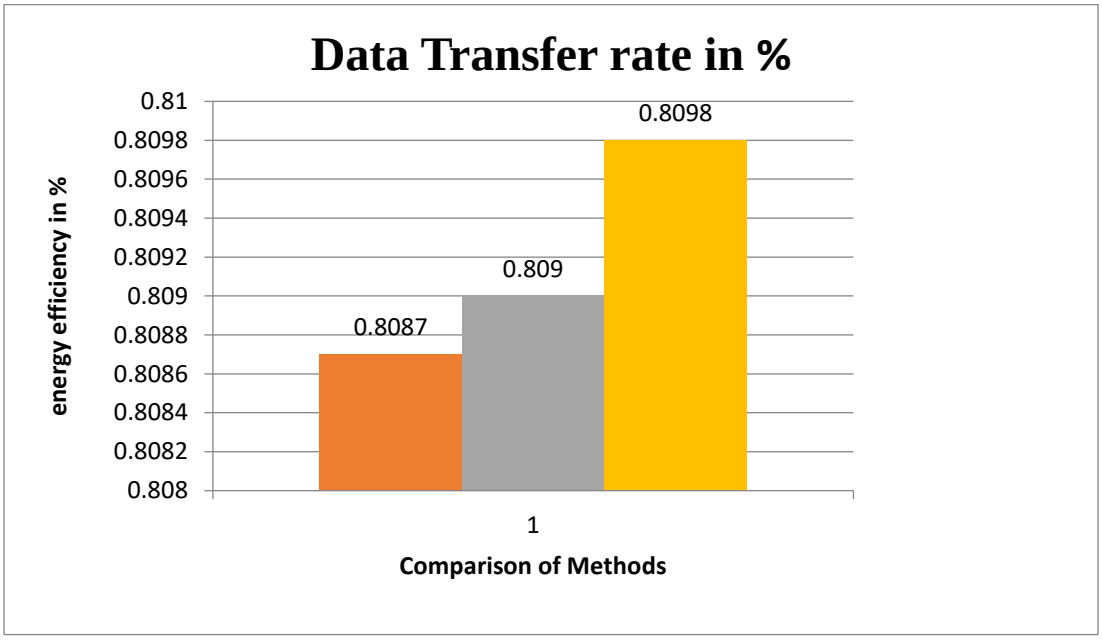

Fig.4: Data transfer rate in %

5. CONCLUSION

This load sharing in a virtual machine, in order to establish the purpose of performance RDFRA qualitative analysis, then realized with the Java language in the cloud. Here the main stress is given on studies of heterogeneous resources load balancing algorithm with clouds, followed by Scalability, other algorithms in the cloud with respect to homogeneous or heterogeneous and process migration study computing. Also in previous research, the changes, to improve the response time, shows that the influence on reducing response time MIPS RDFRA. Image size for RDFRA, upon achieving bandwidth, then no significant effect on the reaction time of the discovery, it remains constant these parameters were studied. However, in a cloud when the

length of the long-versus-host bandwidth was observed pattern, wherein the response time in a manner commensurate increase. Reducing downtime of the various methods using a modified procedure is achieved in as a result.

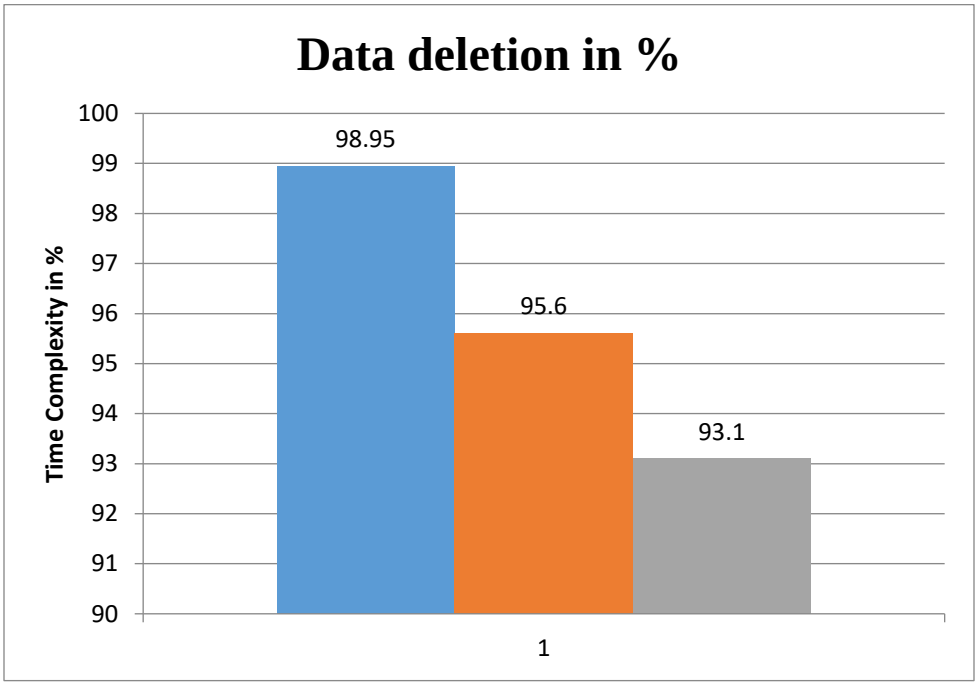

Fig.5: Data deletion in %

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