High level of services in Cloud Infrastructure

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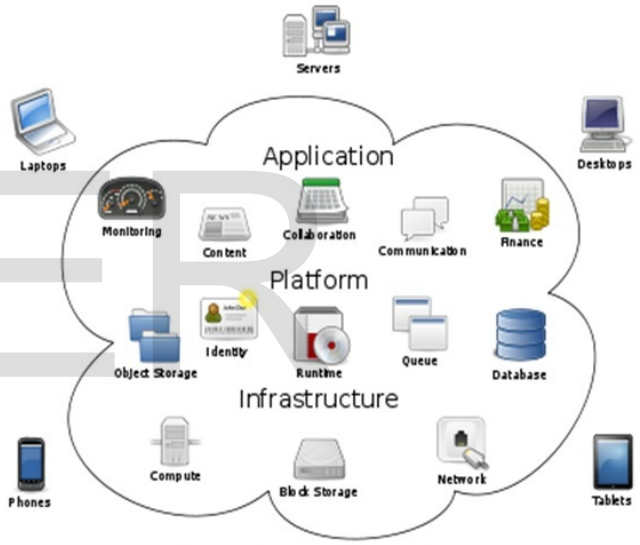
Abstract— The quality of service is the major issue in every field, but in the cloud the resource are scattered in different places so it has to be assured that the delay should be less the consumption of bandwidth should be less wasted the response time should be less, all the resources work properly whenever something is needed it should provide high class of services. The main factor that effects the quality of services should take into account so the problem will be rectified and the best services should be given.

Index Terms— Cloud Computing, Cloud Database Security, Cloud Security, Cloud Infrastructure, Software as a service (SAAS), Infrastructure as a service (IAAS), Platform as a service (PAAS).

1. INTRODUCTION

Cloud computing is the service which is called on demand service. The cloud infrastructure is relying on the three main services Software as a service (SaaS) which provides software as a service to any organization, second main service is infrastructure as a service (IaaS), which provide a whole infrastructure as a service, the final is platform as a service (PaaS) which provides the other user to full fill their work without investing much. The cloud is rising day by. The Microsoft, Amazon, Google and rake space are the giants of the clouds. There are other types of different clouds, public cloud is the property of service provider which is used publically, private cloud is the cloud in which it is a property of any company, and hybrid cloud is he blends of the public and the private cloud. There are drawbacks of computing the major issues are the security, resource management and the monitoring of the resources. There are flaws in security system that security is loss either from the user side which can cause them in the dispersion of the data. The resource monitoring is also the major issue because till now there is no such feasible techniques to completely resources monitoring and how to cut short the cost issue. More issues arises that are no standardization in the cloud mean no standard rules and regulation to deploy with the cloud. The cost issue is also becoming major issue because every region varies the cost services.



Cloud Computing

2. LITERATURE REVIEW

[1] The cloud environment is very difficult to understand due to different type of architecture and design, demand the distance that covered by the resources to fulfill the needs. To overcome these types of characteristic writer proposed a new technique which is known as DDOPS (Dual Direction Operation).This technique provides parallel processes to make better use of the available resources more conveniently, while it did not required any particular control. From this we can say this that balancing of load is automatically handled when parallel processing takes place. So the work load from the different side handled until the work is done by both ends. This type of technique is very

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much feasible for the different type of environment where resources are different from one another. This technique is good for load balancing and makes the operation fast. This technique is good balancing. In this technique the acknowledgement is reduced to very much for the coordination of the servers .the servers are grouped and given a particular task which they fulfilled parallel technique. In this each server will do its own work and to ask the client that what to do and when to do. They process and completed their task. They don't have to wait for the instruction from the user. When the servers work in a group they automatically adjust themselves and they automatically minimized the load and the task has been completed very fast. This technique is feasible for the LAN WAN and cloud environment.

[2] The writer try to explain the improvement of network distribution of resources marked the main problem which has take into account for further research. The writer has described the distribution of resources for cloud computing which is basically based on tailored active measurement. The main theme of this technique can be consider by the following factors that include the network design, the specific routes of the traffic for incoming and outgoing, and the changing in the resources or needs of the user gradually time by time, plays a vital role for the future work. Tailored Measurement rely on the computing resources and storage resources. Due to the variable nature of networks the allocation of the resources at a particular time on the basis of tailored active method will not remain optimal. Due to variable nature of cloud it possible that the resources any increases or decreases for this we have to optimize the changing in the user requirement either offline or online, resource connectivity ,the change in the routes of traffic the design of the network .By the study of this paper the existing ways for resource allocation in cloud computing we cannot say that this model is optimal for allocation, many more techniques will be required to full filled the need properly, The major problem in that is that one cannot say how much traffic user will be increased in the future no one knows exactly the numbers it is changing with the passage of time, For this we have to make the performance model more active more predictive to find the solution of the optimal resource allocation.

[3] The writer emphasize on the new technique that how to avoid the wasting of the resources in cloud computing. The model for this is called as two fold model. Firstly in this we have to adopt the distributed architecture where resource management is separated into independent tasks, each of the task is controlled by the independent terminal agents that are connected together in such a way that they share some or all of the system's memory and input output resources and connected with the data centers. The independent terminals also knows as node agents will performed the configuration in parallel by the help of multiple criteria decision which takes place with the help of PROMETHEE technique. The primary goal of this technique is to avoid wasting the resources. The process should avoid high response time and over utilization. The second technique will select suitable configuration technique with respect to the criteria. The criteria will define the quality solutions. The method adopted in this technique should be much flexible. By this technique the complexity is decrease and the scalability is increased. This approach is very much feasible than any other technique.

[4] Adopting cloud services there are numerous amounts of risks that are taking place. The main problem is the availability of the resources and the loss of the data integrity. Enterprises required high availability of the resources. The writer has addressed the model for the secure cloud services for the enterprises. The model name is called Governance model. The governance model basically rely on the policy model, which includes the policies of cloud services, it includes data policies which controls the data structures, logical model, physical model data definition where the data is now when this all operation runs in the end we have all the results about the data. A services policy includes service directories which includes the information of the services running. Business policies management tells how web services and cloud based services work. Then governance model contain operational model which include authentication, authorization, and audit. It includes monitoring of the transactions generation of graphs and reports. Adaption and metadata repository also plays a vital role in the operational model. The management model contains policy management which holds generic policy ontology (GPO) which defines the main concepts that are used in policy specification. Application specification ontology (ASO) which defines the ideas that used in cloud environment. Policy repository (PR) contains policies and policy specification services (PSS).Security management model privacy, access. Service management model contains service directory, delivery, errors and exceptions management, risk management control. The governance model is become a industrial standard, because it provides feasibility, optimality. Basically now a day the cloud governance model become the standard and fulfills the needs of enterprise.

[5] The writer proposed a quality enhancing technique which will monitors at SAAS level and will be available to all the user of the cloud virtually in the same manner. The writer name the technique monitoring as a service (MONAAS).
The main key points are

- ⇨ The major theme is to provide high reliability to the business processes
- ⇨ It will gather all the data sequence form to which it help in continuous monitoring.
  This technique is available for all the users running simultaneously.
- ⇨ The necessary information will be given to the MONAAS with the help of CBR and CEP
- ⇨ The reliable processing techniques or stream monitoring will be taken by CEP
- ⇨ The confidentiality of message content will be given by the SRT 15
- ⇨ Each routing technique are efficient and on time

It has two major operations

- ⇨ Service provider operation which will be responsible for registration and SLA updates
- ⇨ Service user operations which only can do registration

Main components of operations

- ⇨ SLA analyzer
- ⇨ Domain Information
- ⇨ KPI Meter
- ⇨ CA

[6] In this paper the delay will be discuss. The delay is experimented between the systems that are located the different part of the world. It will define the particular work done by the particular machine in a particular time and the number of delays which will be occurred, those all will be latterly calculated and mutually shows the results. It is helpful to guarantee the better quality in service level agreement. The results of both are not same.
To achieve the same results two techniques are proposed which will measures the high level of services.

- ⇨ Active Monitoring
  It will rely on the traffic, packets which will be included in the system.
- ⇨ Passive monitoring
  It is the observation of existing traffic included jumpy movements.

It is not easy to find the mutual relation between two methods. The delays varies with the passage of time sometime delay increase and decrease so hard to understand. It is not possible to find out complete relation among the particular criteria, Sometimes throughput increases and delay decreases
[7] In this paper writer proposed a reliable technique regarding to enhancing a quality in cloud. Whenever user take resources it should be cleared and reliable resources to achieve the highest peak of good quality. The reliability is achieved by data mining algorithms which is called portioning around medoids (PAM).The workflow is changing gradually because the resources are not of one type so it create much uncertainty to scheduling the resources.
The data mining algorithm is divided into three major parts
⇨ The data monitors will checking the is providing by the service providers
⇨ These all data will be collected in the database named quality at the time of registration of the cloud
⇨The data in database are processed by the reliable mechanism such as algorithm, then we get the highest level of services.

[8] The paper will describes the sketch and the evaluation of third party design service level agreement, configuration, managing and the designing the best of the resources and the services. The design is too much dynamically efficient that fulfill the high level of services in cloud customer application and hosted on cloud. The basics are packed in service level agreement which are hosted on some platform. In this we will use load balancer which will divided load into different resources and will check the service quality either it is delivering or not. If the all agreement which is packed in the service level agreement not works properly then it will be reconfigured. The SLA will performs the following activities.

- ⇨ Negotiation
  The home user contract the service quality which will be provided to it, and the end of the services in regulated manner.
- ⇨ Observation
  It will done all the activity like providing reliability, portability any failure occurs during the provider of services.
- ⇨ Rehabilitation

When the something goes wrong or any error occur then this phase brings back the services in to track as were going.

- ⇨ Ending
  It will simply ends the services and the resources are free.

[9] Paper will facilitate for the private cloud. It will tells the high level of services mechanism at virtually foundation. The paper will facilitates us with the low cost virtually video streaming.Virtuall environment depends on the following factors such as storage, memory, processing, and less wastage of resources.

To fulfill the multimedia facilities in any particular organization many features are considered, security, integrity and managing the resources should be considered in the design.

The architecture of Media Cloud computing will rely on the storage, the software's that are using the networking devices they are uses and virtually machines and the management of resources.

The client access the services from different types of devices that are using different type of networks. The main theme is to attain the optimization of bandwidth and the end to end wait should be less.

The designs is divided in to 3 layers

Infrastructure layer: which include whole design of high level of services management.

Platform layer and the service layer. The main problem which arrives is that different users are accessing the net by different devices which support different type of technologies like Wi-Fi, wimax.Each device has different type of capacity to accessing the bandwidth.

[10] This writer tells an approach for targeting at the best managing the distributed elements of computing in the present Internet in which some agents with large computational independent and ability for the public to compute are coming into existence, such as the newly born data centers in the present Cloud computing environments. Both user experience and the resource usage are considered quantitative analysis and the best level of service providing. Covering the rapid enhancement of the problem's solution space, this paper defines an effective approach. In distributed infrastructure many components are scattered in the different places. So different tasks are from the different agents nodes and finally it sends to the receiver node or agent. The writer categorized the components into major categories, the properties of the computation which full fill the task is in first category, all the work is packed into one main node. The second property is the nature of the particular task that runs distributed environment. To take the particular result we have to optimize the both the properties of the environment. This technique is fulfilling by the particular algorithms.

[11] The cloud is new computing environment which provides same access to wide area distributed resources. The writer proposed a new technique for the cloud which achieve the best same level of cost and performance. The writer gave the name to this theory is game theory. The game model is the blend of the physical locations and the channels that are available for the resources. It shows main properties of the physically present and the channels accessible between the task and resources, and gives stress and make scheduling relationship between resources standing nearby. The logic of the game model has been driven from the scheduling algorithm, which gives the best solution for the available resources that are scattered in physically nearby. The game model contains two types of agents, which is known as the resource services agent, and the task agents. The service model will define the economic factors that are lying resources of cloud computing. Task agents will show the entire cloud request that is requested by the user to fulfill the need. The game theory model gives the best level for completing task, make acceleration of the resource.

3. CRITICAL EVALUATION

Lit. Ref.	Focused Area	Technique Used	Merits	Limitations
[1]	Resource management	Dual Direction operation DDOPS	The approach is efficient load balancing. It reduces the acknowledgement. It is useful for dual direction operations. It is suitable for balancing in WAN & LAN. It is useful for the different types of systems	It is not useful for the homogeneous systems. It is not suitable in static delay method.
[2]	Resource management and monitoring	Tailored active measurement.	This will help out the future predictions. It will tell us the problem in the large scale networks. It is suitable for same type of system	It did not cover heterogeneous infrastructure. This is not the proper measurement tool. Due to increase in traffic the prediction is not easy
[3]	Resource management	PROMETHEE technique	We achieved the scalability by this technique. It is more useful in the large data centers. It reduces the complexity It is useful in distributed environment. We can easily add remove process	It is not feasible in centralized environment. It is not applicable in static allocation. It is tougher to handle
[4]	Resource management and utilization	Policy model	It is a basically a pre-requirement technique. It provides consistency, predictability and performance. Its main theme is the providing the best service quality	It fulfill the need but not full need. The model is costly model. It is referred as a marketing packages. This model become commercial standard
[5]	Quality of Service	Monitoring as a Service (MONAAS).	Powerful service which provides equal services to all users. Implemented for the monitoring in advance level	Costly technique. Complex technique
[6]	Monitoring the latency	Active Monitoring Passive monitoring	It is good technique. It is not very complex	It is time taking.it is costly
[7]	Quality of Service	Portioning around Medoids (PAM)	It provides the feasible solution accelerate the process speed. It reduces the time of task done	It is complex technique.it is time taking technique
[8]	Quality of Service	Third Party Design	The system provides the reliability. Guaranteed the high level of availability of	It has specific scenario. Single user

			resources. It will provides the fault tolerance facility .	can be facilitates by this technique
[9]	Quality of Service	Virtual Streaming	It is cost effective. It provides new streaming techniques	It is complicated
[10]	Quality of Service	Quantitative Analysis	The technique is very fast. Cost and time are of high rate	Complex calculations are involved.
[11]	Resource Service Management	Game Theory	It provides the feasible solution accelerate the process speed. It reduces the time of task done	Very complex mathematical calculations are involved. Expensive approach.

4. CONCLUSION

Resource savings in the cloud is very much important due to this we can cut our cost and earn profit. Many researchers have proposed their ideas to complete quality of service to overcome cost and other factor. There is many techniques developed for measuring the quality of service and attain the highest level of services but there are many more to come for attain the highest level of services because the cloud nature is predictable and the number of users are increasing day by day Due to increase in the usage of internet the users are increases very fast for this we have only a limited resources and bandwidth but users are not limited, so in the future this techniques will help us to some extent will be obsolete and we have to define the perfect techniques. There is lot of working is necessary for the future to make the cloud ideal, I have studied all the techniques, Hence this research will produce a comparative study of the previous research work done regarding highest level of services.

5. FUTURE WORK

There are still many ways to find out feasible and optimal ways for exact high level of services technique, and best case scenario for the best services provided techniques. We don't get the exact ideal value through which we can say that this the most suitable process for this technique. Many work remaining for the betterment of the highest level of services. In the future i will proposed a new frame work for the achieving the highest level of services.

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